FINANCE COMMITTEE

MARCH 6, 2019

7:00 pm

ROLL CALL

PUBLIC COMMENT

COMMUNICATIONS

From: Dan Kookan, Purchasing Manager
Re: Purchase of NPD Ammunition (Value: $77,924); Department: 150 Police; Fund: Ammunition and Supplies Account

From: Dan Kookan, Purchasing Manager
Re: Landfill Gas Expansion Project FY19 (Value: $28,700); Department: 168 Solid Waste; Fund: Bond

From: Dan Kookan, Purchasing Manager
Re: Setback Barrier Wall Change Order #6 (Value: $164,655); Department: 168 Solid Waste; Fund: Bond

From: Dan Kookan, Purchasing Manager
Re: 2019 Paving Program – Arterial Roadways Construction (Value: $6,853,473); Department: 160 Admin/Engineering; Fund: Bond and Trust

From: Dan Kookan, Purchasing Manager
Re: 2019 Paving Program – Local & Collector Roadways (Value: $4,350,642); Department: 160 Admin/Engineering; Fund: Bond and Trust

From: Dan Kookan, Purchasing Manager
Re: 2019 CIPP Lining Project (Value: $2,825,135); Department: 169 Wastewater; Fund: Bond

From: Dan Kookan, Purchasing Manager
Re: 2019 Sewer Replacement Construction (Value: $1,001,888); Department: 169 Wastewater Fund: Bond

From: Dan Kookan, Purchasing Manager
Re: Pavement Management Engineering Services (Value: $462,435); Department: 169 Wastewater Fund: Bond

UNFINISHED BUSINESS – None

NEW BUSINESS – None

RECORD OF EXPENDITURES

GENERAL DISCUSSION

PUBLIC COMMENT

REMARKS BY THE ALDERMEN

NON-PUBLIC SESSION

Request(s) to meet in Non-Public Session

ADJOURNMENT
February 28, 2019
Memo #19-120

TO: MAYOR DONCHESS
FINANCE COMMITTEE

SUBJECT: PURCHASE OF NPD AMMUNITION (VALUE: $77,924)
DEPARTMENT: 150 POLICE; FUND: AMMUNITION AND SUPPLIES ACCOUNT

Please see attached communications from Karen A. Smith, Business Manager dated February 14, 2019 for the information related to this purchase.

Pursuant to § 5-84 Special purchase procedures A. (3) Purchases which can be procured through cooperative intergovernmental purchase agreements with other governmental jurisdictions.

The Nashua Police Department and the Purchasing Department recommend the award of this purchase in the amount of $77,924 from Eagle Point Gun/TJ Morris & Son of Thorofare, NJ.

Respectfully,

Dan Koozen
Purchasing Manager

Cc: K Smith A Lavoie
Intradepartmental Communication

To: Dan Kookan, Purchasing Manager

From: Karen A. Smith, Business Manager

Subject: Nashua Police Department ammunition and supplies

The below request is to purchase ammunition. The State of NH contract #8002360 awarded to Eagle Point Gun/TJ Morris & Son is effective through October 31, 2020.

<table>
<thead>
<tr>
<th>MAKE</th>
<th>MODEL</th>
<th>CALIBER</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speer</td>
<td>53824</td>
<td>9 MM</td>
<td>124 GRN TMJ LAWMAN CLEANFIRE</td>
<td>170 cases</td>
<td>$33,090.50</td>
</tr>
<tr>
<td>Federal</td>
<td>AE223N</td>
<td>.223</td>
<td>62 GRN FMJ</td>
<td>110 cases</td>
<td>$15,831.20</td>
</tr>
<tr>
<td>Federal</td>
<td>LE223T3</td>
<td>.223</td>
<td>62 GRN Tactical Bonded</td>
<td>37 cases</td>
<td>$8,682.79</td>
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<tr>
<td>Speer</td>
<td>54266</td>
<td>9 MM</td>
<td>147 GRN Gold Dot II Hollow Point CCI</td>
<td>12 cases</td>
<td>$4,620.00</td>
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<tr>
<td>Federal</td>
<td>BC223NT5A</td>
<td>.223</td>
<td>55GRN no lead frangible</td>
<td>20 cases</td>
<td>$7,673.00</td>
</tr>
<tr>
<td>Federal</td>
<td>XMBC13200</td>
<td>12GA</td>
<td>8 Pellet frangible 00 Buck Ballisticlean</td>
<td>18 cases</td>
<td>$4,367.88</td>
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<tr>
<td>Federal</td>
<td>BC9NT3</td>
<td>9 MM</td>
<td>100 grn no lead frangible RNT ballisticlean</td>
<td>10 cases</td>
<td>$3,658.90</td>
</tr>
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</table>

TOTAL: $77,924.27

The Nashua Police Department recommends purchasing the ammunition order from Eagle Point/TJ Morris & Son of Thorofare, NJ under the NH state contract. Funding is available in the Police Ammunition and Supply account General Fund budget.

Sincerely,

Karen A. Smith
Business Manager
STATE OF NEW HAMPSHIRE
Department of Administrative Services
Division of Procurement and Support Services
Bureau of Purchase and Property
Concord, New Hampshire 03301

NOTICE OF CONTRACT

DATE: October 26, 2018

CONTRACT: AMMUNITION – Speer & Federal

CONTRACT NO.: 8002360

NIGP CODE: 680-0400

CONTRACTOR: EAGLE POINT GUN CONTRACTOR# 166490
1707 THIRD STREET
THOROFARE NJ 08086

CONTACT PERSON: THOMAS J. MORRIS III

TELEPHONE. NO.: 856-848-6945
FACSIMILE. NO.: 856-384-2938
E-MAIL: majorlt.morrisiii@comcast.net

EFFECTIVE FROM: November 1, 2018 through October 31, 2020

DELIVERY:
Orders are to be tailgate delivered F.O.B. Destination to any point within the State of New Hampshire. Inside or expedited shipping will have additional freight charges. No surcharges, regulatory charges, custom/duties, special charges, or fuel charges of any kind will be allowed as an add-on to orders.

FEDERAL LAW:
It will be the responsibility of the Contractor to comply with all federal regulations and procedures regarding all sales and transactions made as a result of this RFP and any resulting contract.

TAX EXEMPT CERTIFICATE:
All prices are to be offered less Federal Excise Tax. A Tax Exemption Certificate will be furnished to the Contractor upon request to the using agency.

ABILITY TO PROVIDE:
Successful Contractor must be capable of providing each State of New Hampshire agencies and eligible participants with their entire requirements of the items required in this contract without any delay or substitution.

ORDERING PROCEDURE:
State agencies will place their orders by electronic order entry, by e-mail, by facsimile, or they may establish a standard delivery order. Eligible participants will utilize their own individually established ordering procedures.

QUESTIONS: Loretta Rozin, Purchasing Manager
PHONE: 271-0579 E-MAIL: Loretta.Rozin@nh.gov

AUDITS AND ACCOUNTING:
The Contractor shall allow representatives of the State of New Hampshire to have complete access to all records for the purpose of determining compliance with the terms and conditions of this contract. At intervals during the contract term, and prior to the termination of the contract, the Contractor may be required to provide a complete and accurate accounting of all products and quantities ordered by each agency and institution and by political sub-divisions and authorized non-profit organizations.
ELIGIBLE PARTICIPANTS:
Political sub-divisions (counties, cities, towns, school districts, special district or precinct, or any other governmental organization), or any nonprofit agency under the provisions of section 501c of the federal internal revenue code, are eligible to participate under this contract whenever said sub-division or nonprofit agency so desires. These entities are autonomous and may participate at their sole discretion. In doing so, they are entitled to the prices established under the contract. However, they are solely responsible for their association with the successful Vendor. The State of New Hampshire assumes no liability between the successful Vendor and any of these entities.

ESTABLISHMENT OF ACCOUNTS:
Each State of New Hampshire agency must have its own individual customer account number. There will be instances where sub-sections of an agency will need their own individual customer account number. Should any State of New Hampshire agency place an order under the contract, the successful Contractor agrees to establish an account within three (3) working days from the date the order is placed. However, there must be no delay in any shipment; the agency must receive the items ordered in accordance with the delivery time required under the “Delivery Time” section of this contract, as if an account already exists for them.

RETURNED GOODS:
The Contractor must resolve all order and invoice discrepancies within five business days from notification. Products returned due to quality issues, duplicate shipments, over-shipments, etc. must be picked up by the successful Contractor within five business days of notification with no restocking or freight charges, and must be replaced with specified products or the agency will be refunded/credited for the full purchase price. Unauthorized substitutions for any products are not allowed. Standard stock products ordered in error by the State of New Hampshire must be returned for full credit within fifteen days of receipt. Products must be in re-salable condition (original container, unused) and there will be no restocking fee charged for these products. The using agency will be responsible for any freight charges to return these items to the Contractor.

CONTRACTOR’S BALANCE OF PRODUCT LINE ITEMS
The items in each category include the items most commonly purchased by State of New Hampshire agencies, and will be used for award purposes. During the term of contract, the state may purchase other items in relation to the contract description from the successful Contractor’s Balance of Product Line. All items ordered will include all shipping/charges as specified above in Contract Prices. Balance of Product Line discount is 10% off List Price.

MINIMUM ORDERS:
There will be no minimum order whether in item quantity or dollar value associated with this contract. Orders of case lots only.

INVOICING:
Invoicing shall be done to the Agency Remit Account on the basis of each order completed. Invoices shall clearly indicate the quantity, description, packaging, date delivered, and contract price. Invoicing for eligible participants will be in accordance with their individual requirements.

TERMINATION:
The State of New Hampshire shall have the right to terminate the purchase contract at any time by giving the successful Vendor a thirty (30) day written notice.

PRICING IS BASED ON PRICE PER 1000 ROUNDS – ORDERS WILL BE PLACED BY ROUNDS PER CASE.

SECTION #1 - SPEER BALANCE OF PRODUCT LINE IS 10% DISCOUNT FROM SPEER LIST PRICE SCHEDULE

<table>
<thead>
<tr>
<th>ITEM</th>
<th>MFG/PART #</th>
<th># ROUNDS PER STD CASE</th>
<th>PRICE PER 1000 ROUNDS</th>
<th>DELIVERY TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>.357 Sg Lead Free</td>
<td>SPEER 53368</td>
<td>1000</td>
<td>418.83</td>
<td>30-180 DAYS</td>
</tr>
<tr>
<td>.357 Sg 125 gr., JHP</td>
<td>SPEER 54234</td>
<td>1000</td>
<td>400.05</td>
<td>30-180 DAYS</td>
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<tr>
<td>.357 Sg 125 gr., TMJ-Reduced Lead</td>
<td>SPEER 54232</td>
<td>1000</td>
<td>240.55</td>
<td>30-180 DAYS</td>
</tr>
<tr>
<td>.357 Sg 125 gr., TMJ</td>
<td>SPEER 53919</td>
<td>1000</td>
<td>258.49</td>
<td>30-180 DAYS</td>
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<tr>
<td>.40 S&amp;W 180 gr., TMJ Std</td>
<td>SPEER 53632</td>
<td>1000</td>
<td>224.78</td>
<td>30-180 DAYS</td>
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<tr>
<td>.40 S&amp;W 180 gr., TMJ Reduced Lead</td>
<td>SPEER 53660</td>
<td>1000</td>
<td>239.72</td>
<td>30-180 DAYS</td>
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<tr>
<td>9mm 124 gr., TMJ, Brass Case, Reduced Lead</td>
<td>SPEER 53624</td>
<td>1000</td>
<td>194.65</td>
<td>30-180 DAYS</td>
</tr>
<tr>
<td>ITEM</td>
<td>MFG/PART #</td>
<td># ROUNDS PER STD CASE</td>
<td>PRICE PER 1000 ROUNDS</td>
<td>DELIVERY TIME</td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
<td>-----------------------</td>
<td>-----------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>.357 Sig 125 gr. FMJ</td>
<td>FEDERAL AE35752</td>
<td>1000</td>
<td>245.49</td>
<td>30-180 DAYS</td>
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<tr>
<td>.357 Sig 125 gr. JHP</td>
<td>FEDERAL P3575HGT1</td>
<td>1000</td>
<td>366.98</td>
<td>30-180 DAYS</td>
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<td>.40 S&amp;W 180 gr. FMJ, Std</td>
<td>FEDERAL AE40R1</td>
<td>1000</td>
<td>237.01</td>
<td>30-180 DAYS</td>
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<tr>
<td>.40 S&amp;W 180 gr. FMJ Reduced Lead</td>
<td>FEDERAL AE40N1</td>
<td>1000</td>
<td>265.40</td>
<td>30-180 DAYS</td>
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<tr>
<td>.40 S&amp;W 180 gr. Hydra</td>
<td>FEDERAL P40HS1G</td>
<td>1000</td>
<td>293.61</td>
<td>30-180 DAYS</td>
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<td>.223 55 gr., JSP Soft Point</td>
<td>FEDERAL T223A</td>
<td>500</td>
<td>523.22</td>
<td>30-180 DAYS</td>
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<tr>
<td>.223 55 gr., FMJ</td>
<td>FEDERAL AE223</td>
<td>500</td>
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<td>30-180 DAYS</td>
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<td>9mm 147 gr., JHP</td>
<td>FEDERAL 9MS</td>
<td>1000</td>
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<td>9mm 115 gr., FMJ, Std</td>
<td>FEDERAL AE9DF</td>
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<td>30-180 DAYS</td>
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<td>9mm 124 gr., FMJ, Brass Case, Reduced Lead</td>
<td>FEDERAL AE9N1</td>
<td>1000</td>
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<td>30-180 DAYS</td>
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<td>.45 230 gr. JHP</td>
<td>FEDERAL 450</td>
<td>1000</td>
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<td>30-180 DAYS</td>
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<tr>
<td>.45 230 gr. FMJ Std</td>
<td>FEDERAL AE45A</td>
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<td>30-180 DAYS</td>
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<tr>
<td>.45 230 gr. FMJ, Reduced Lead</td>
<td>FEDERAL AE4SN1</td>
<td>1000</td>
<td>355.82</td>
<td>30-180 DAYS</td>
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<tr>
<td>.22 LR Std Velocity, Rimfire</td>
<td>FEDERAL 711B</td>
<td>5000</td>
<td>45.556</td>
<td>30-180 DAYS</td>
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<tr>
<td>12 Ga., Rifled Slugs, 1 oz.</td>
<td>FEDERAL F-127-RS</td>
<td>250</td>
<td>393.20</td>
<td>30-180 DAYS</td>
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<tr>
<td>12 Ga., 00 Buck &amp; 9 Pellets 2-3/4</td>
<td>FEDERAL LE-127-00</td>
<td>250</td>
<td>419.40</td>
<td>30-180 DAYS</td>
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<tr>
<td>12 Ga., #4, Low Brass</td>
<td>FEDERAL H-121-3</td>
<td>250</td>
<td>265.04</td>
<td>30-180 DAYS</td>
</tr>
<tr>
<td>12 Ga., Slugs, Low Recoil</td>
<td>FEDERAL LE-127-RS</td>
<td>250</td>
<td>419.40</td>
<td>30-180 DAYS</td>
</tr>
<tr>
<td>12 Ga., Buckshot, Low Recoil</td>
<td>FEDERAL LE-32-00</td>
<td>250</td>
<td>419.40</td>
<td>30-180 DAYS</td>
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<tr>
<td>.308 Boat Tail JHP</td>
<td>Federal GM308MB</td>
<td>200</td>
<td>710.10</td>
<td>30-180 DAYS</td>
</tr>
</tbody>
</table>

SECTION #2 - FEDERAL BALANCE OF PRODUCT LINE IS 10% DISCOUNT FROM FEDERAL LIST PRICE SCHEDULE
February 28, 2019
Memo #19-121

TO: MAYOR DONCHESS
    FINANCE COMMITTEE

SUBJECT: LANDFILL GAS EXPANSION PROJECT FY19 (VALUE: $28,700)
          DEPARTMENT: 168 SOLID WASTE; FUND: BOND

Please see the attached communication from Jeff Lafleur, Solid Waste Department Superintendent dated
January 31, 2019 for the information related to this contract.

§ 5-83. Professional services. In the purchase of accounting, architectural, auditing, engineering, legal,
medical and ambulance services and purchases of independent professional consultant services for
personnel, data processing, actuarial, planning, management and other comparable purchases
competitive bidding shall not be required. Competitive bidding is required in the procurement of insurance
agents and consultants.

The Solid Waste Department Superintendent, Board of Public Works (January 31, 2019 meeting) and the
Purchasing Department recommend the award of this contract in an amount of $28,700 to Sanborn Head
and Associates, Inc. of Concord, NH.

Respectfully,

[Signature]
Dan Kooker
Purchasing Manager

Cc: J Lafleur  L Fauteux
City of Nashua, Public Works Division

To: Board of Public Works  Meeting Date: January 31, 2019
From: Jeff Lafleur, Superintendent
       Solid Waste Department

Re: Landfill Gas Expansion Engineering Services

Motion B: To approve the engineering services with Sanborn Head and Associates, Inc. in an amount not to exceed $28,700 for the 2019 landfill gas system expansion. Funding will be through Department 168 Solid Waste; Fund: Bond; Activity: Landfill Gas Expansion FY19.

Discussion: The Solid Waste Department is going through the process of designing and going out to bid for the next phase of the landfill gas system expansion. Sanborn Head is the lead engineering firm for all constructions phases with direction of the Solid Waste Department. The quote includes Design and Bid documents, Construction oversite, and CQA report/record drawing preparation for submittal to DES.

Sanborn Head and Associates (SHA) is the City’s primary engineering consultant for landfill and solid waste related issues, including landfill gas management, design and construction.

The City also utilizes SHAs Landfill Gas Management Suite (LFGMS) software program to assist us with monitoring, managing, operating the landfill gas collection and control system at the Four Hills Landfill. The data collected in LFGMS is included in tri-annual monitoring reports submitted to NHDES and is required by the Standard Operating Procedures/Enhanced Monitoring Procedures Plan approved by NHDES.

As such, they have a thorough understanding of the issues and requirements of the Four Hills facility and other closed City landfills, and provide consistent, high quality engineering and consulting services to the department in a timely manner. They have demonstrated superior abilities relative to regulatory reporting, permitting, design and construction oversight. Therefore, they are considered a sole source for these services.

The Solid Waste Superintendent and the Environmental Engineer recommend awarding Sanborn Head and Associates of Concord, NH the contract for these services.
December 21, 2018

Sent via email

Mr. Jeff Lafleur
Superintendent
Nashua Division of Public Works, Solid Waste Department
840 West Hollis Street
Nashua, NH 03062

Re: Scope of Engineering Support Services
2019 GCCS Design & Construction-Phase Services
Four Hills Landfill
Nashua, New Hampshire

Dear Jeff:

Sanborn, Head & Associates, Inc. (Sanborn Head) appreciates the opportunity to provide this scope of engineering services to the City of Nashua (City) relative to the 2019 expansion of the gas collection and control system (GCCS) at the Four Hills Landfill. The scope of services presented herein is based on communication with the City regarding the engineering services needed to support this effort.

SCOPE OF SERVICES

Task 1 – Design & Bid Phase Services

For this task, Sanborn Head will prepare documents to support the 2019 expansion of the GCCS. Our services will include:

- Preparing construction drawings, signed and stamped by a professional engineer licensed in the State of New Hampshire, which will include:
  - A cover sheet;
  - A plan-view drawing depicting the existing Phase I and Phase II GCCS in relation to the most recent site topography available to Sanborn Head;
  - A plan-view drawing depicting the proposed 2019 GCCS expansion components (including a proposed well schedule); and
  - Details illustrating the proposed vertical wells, collection trenches, surface collectors, and pipe connections, as required.

- Preparing technical specifications for the proposed 2019 GCCS expansion that describe the construction materials, installation requirements, and construction quality control requirements.

- Preparing Bid Item Definitions for the proposed GCCS components.

- Preparing an itemized Schedule of Values and Opinion of Probable Construction Cost for the 2019 GCCS expansion.
Sanborn Head will provide two (2) paper copies of the above-listed documents to the City and assumes that the City will prepare and submit the Type II Permit Modification Application to the New Hampshire Department of Environmental Services (NHDES). Once the project is approved by NHDES, Sanborn Head will be responsible for the following:

- Attending a pre-bid meeting at the Four Hills Landfill to review the project with potential bidders;
- Providing responses to requests for information (RFIs) from potential bidders regarding design intent, materials, and material testing; and
- Preparing addenda, if required.

Sanborn Head assumes that bid results will be tabulated by the City.

Task 2 – Construction Phase Services

Under this task, Sanborn Head will perform construction-phase engineering services in support of the installation of the GCCS components depicted on the construction drawings and technical specifications approved by NHDES. This effort will include:

- Preparing for and attending a pre-construction meeting at the Four Hills Landfill to review the project and proposed construction timeline with the selected contractor. We assume that the City will prepare the agenda and meeting minutes for this meeting.
- Reviewing contractor submittals for conformance with the specifications for the project.
- Providing proposed pipe alignments to the contractor for stake-out in the field by the Contractor's surveyor.
- Updating the well schedule for the project based on ground surface elevations recorded by the contractor's surveyor at the time of construction.
- Performing limited construction observation services to document the installation of critical GCCS components for conformance with the drawings and technical specifications approved by the NHDES. We assume two site visits per week, with each visit averaging about 4 hours, and a 6-week duration for the project (12 site visits total). While on site, Sanborn Head's representative will meet with representatives of the City and the contractor, observe construction (including material testing performed by the contractor), take photographs, and document the observations. We understand that a representative of the City will observe construction activities and material testing when Sanborn Head is not on site.
- Preparing bi-weekly construction summaries for the NHDES. Based on a projected 6-week duration of construction, we anticipate preparing no more than three (3) bi-weekly reports.
- Performing a final site walk-thru with the City to evaluate the completeness of the contractor's work and conformance with the construction documents, and if necessary, generating a punch-list of items to be completed by the contractor prior to Sanborn Head signing off on substantial completion of the project.
It is our understanding that as-built survey of the constructed components will be facilitated by the contractor and provided to Sanborn Head in AutoCAD format (i.e., .dwg).

**Task 3 – CQA Report & Record Drawings Preparation**

Following completion of construction, Sanborn Head will be responsible for the following:

- Preparing a Construction Quality Assurance (CQA) Report for the project. The CQA Report will address the construction activities observed by Sanborn Head and the City, test results, and variations in construction relative to the drawings and specifications, if any. The statements presented in the CQA Report will be limited to the extent of our observations, our understanding of the City’s observations and documentation, and our review of submittals and test results. The CQA Report will be signed and sealed by a professional engineer licensed in the State of New Hampshire. Two paper copies and an Adobe Acrobat (i.e., .pdf) electronic copy of the report will be issued to the City.

- Preparing Record Drawings for the Project. The Record Drawings will be based on as-built documentation and survey provided to Sanborn Head by the contractor. The Record Drawings will be included as an attachment to the CQA report.

**BUDGET ESTIMATE AND BASIS OF BILLINGS**

The estimated budget for each task under this scope of services is provided in the table below and is based on the estimated time commitment required to complete the services described above in addition to expenses associated with printing, mileage, and tolls. We will invoice based on actual accrued time and expenses in accordance with the enclosed Schedule of Fees. We will not perform services beyond those defined herein without first receiving written authorization from the City.

<table>
<thead>
<tr>
<th>Task</th>
<th>Task Description</th>
<th>Estimated Budget</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Design &amp; Bid Phase Services</td>
<td>$9,700</td>
</tr>
<tr>
<td>2</td>
<td>Construction Phase Services</td>
<td>$14,000</td>
</tr>
<tr>
<td>3</td>
<td>CQA Report &amp; Record Drawings Preparation</td>
<td>$5,000</td>
</tr>
</tbody>
</table>

**SCHEDULE**

Sanborn Head is available to begin working on this project following written authorization to proceed from the City.

**TERMS OF ENGAGEMENT**

We understand that the City will issue a new Contract for Professional Services and a Purchase Order to Sanborn Head for the scope of services and budget estimate described herein.

Thank you for the opportunity to submit this scope of services. We look forward to working with you on this project. Please contact us should you require additional information.
Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Ryan L. Clay, P.E.
Project Manager

Eric S. Steinhauser, P.E., CPESC, CPSWQ
Principal

RLC/ESS:r1c

Enclosed: Schedule of Fees

P:\3000\3066.16\Project Control\2019 GCCS Services Proposal\20181221 2019 GCCS Services Scope.docx
SANBORN HEAD

SANBORN, HEAD & ASSOCIATES, INC.
Schedule of Fees
City of Nashua

Senior Vice President $208
Vice President $198
Project Director $186
Senior Project Manager $159
Project Manager $148
Senior Project Engineer/Geologist $130
Project Engineer/Geologist $122
Engineer/Geologist $111
Supervising Technician $99
Senior Engineering Technician $90
Engineering Technician $83
Support Staff $72

Subcontractors and Outside Services Cost plus 10%
Other Direct Expenses Cost plus 10%

Hourly rates will be charged for time worked on the project and for the time required for travel between the office and the meeting or project site. Local travel will be at IRS allowed rates.

Overtime hours will be charged using the hourly rates listed above.

Hourly rates for expert witness testimony, including preparation time, and other special services such as corporate acquisition due diligence studies that generally require a dedicated commitment of senior staff, will be provided upon request.
February 28, 2019
Memo #19-122

TO: MAYOR DONCHESS
FINANCE COMMITTEE

SUBJECT: SETBACK BARRIER WALL CHANGE ORDER #6 (VALUE: $164,655)
DEPARTMENT: 168 SOLID WASTE; FUND: BOND

Please see the attached communication from Jeff Lafleur, Solid Waste Department Superintendent dated January 31, 2019 for the information related to this contract.

Pursuant to § 5-78 Major purchases (greater than $10,000) A. All supplies and contractual services, except as otherwise provided herein, when the estimated cost thereof shall exceed $10,000 shall be purchased by formal, written contract from the lowest responsible bidder, after due notice inviting bids.

The Solid Waste Department Superintendent, Board of Public Works (January 31, 2019 meeting) and the Purchasing Department recommend the approval of this change order in an amount of $164,655 to Northeast Earth Mechanics, Inc. of Pittsfield, NH.

Respectfully,

[Signature]
Dan Kookan
Purchasing Manager

Cc: J Lafleur     L Fauteux
City of Nashua, Public Works Division

To: Board of Public Works  
Meeting Date: January 31, 2019

From: Jeff Lafleur, Superintendent  
Solid Waste Department

Re: Change Order #6 to contract with Northeast Earth Mechanics, Inc.

A. Motion: To approve Change Order #6 to the contract with Northeast Earth Mechanics, Inc. (NEM) to continue construction of the residential setback barrier wall in the Phase II Landfill in the amount of $163,912. Funding will be through Department: 168 Solid Waste; Fund: Bond; Activity: Soil Wall.

Discussion: NHDES Solid Waste Rules prohibit placement of municipal solid waste within 500 feet of a residential structure. The Four Hills lined expansion landfill (Phase I & II) was designed and constructed with the footprint of the landfill encroaching the 500-foot setback limit to residences on Farmwood Drive to the west and Pioneer Drive to the east. In order to comply with the residential setback rule, a barrier must be constructed within the footprint of the landfill to prevent waste from being placed in the setback. The barrier wall must be expanded continually as waste elevations in the landfill increase.

In May 2014 the City solicited bids for construction of Phase I of the soil wall under IFB0593-050514. Six contractors submitted bids for the project with Northeast Earth Mechanics (NEM) being the lowest bidder:

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Bid results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast Earth Mechanics</td>
<td>$163,727.50</td>
</tr>
<tr>
<td>Morello Construction</td>
<td>$167,337.50</td>
</tr>
<tr>
<td>Daniel T. Ladd Site Work</td>
<td>$203,300.00</td>
</tr>
<tr>
<td>Project Resource Group LLC</td>
<td>$234,054.00</td>
</tr>
<tr>
<td>Greene &amp; Russell, Inc.</td>
<td>$266,000.00</td>
</tr>
<tr>
<td>SCS Field Services</td>
<td>$297,405.00</td>
</tr>
</tbody>
</table>

Under the original contract in the amount of $163,727.50 Northeast Earth Mechanics (NEM) began initial construction in July 2014 of the western residential setback barrier wall in the Phase II/Stage I landfill. Per the NHDES approved scope of work and contract executed June 10, 2014, NEM established a compacted soil foundation over the primary liner drainage sand and placed four lifts of concrete waste blocks on the foundation.

Change Order #1 in the amount of $163,912 provided for the continued construction of the western wall to an elevation of 260 feet in the Phase II/Stage I landfill.
Change Order #2 in the amount of $164,340 continued construction of the western wall into the Phase II/Stage II landfill up to an elevation of 260 feet.

Change Order #3 in the amount of $291,932 allowed for initial construction of the eastern setback barrier wall, and continued construction of the western setback wall to an elevation 268 feet. To construct the eastern setback wall, NEM established the compacted soil foundation over the primary liner drainage sand and placed concrete waste blocks on the foundation up to elevation 258 feet.

Change Order #4 in the amount of $199,763 continued construction of the western setback wall from elevation 268 feet to elevation 276 feet. The change order also included the purchase of 250 extra blocks to be used in the next phase of wall construction.

Change Order #5 in the amount of $83,392 continues construction of the eastern setback wall from the existing elevation of 258 feet to elevation 276 feet. The height increase is needed to keep pace with waste filling activities in the Phase II landfill. This phase of wall construction will utilize the extra 250 concrete blocks purchased under Change Order #4.

Change Order #6 in the amount of $164,655 continues construction of the western setback wall from elevation 276 feet to elevation 284 feet.

It is the recommendation of the Solid Waste Superintendent to continue construction of the Set Back Barrier Wall with NEM. They have provided reasonable, consistent pricing and quality construction services for each completed phase of this project. Upon approval of Change Order #6, the total cost of the contract is $1,230,721.
### Schedule of Values - Bid Items

**November 2018 Concrete Block Residential Setback Wall Construction**  
**Four Hills Landfill**  
**Nashua, New Hampshire**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Construction Items</th>
<th>Estimated Quantity (w/units)</th>
<th>Bid Unit Prices ($/units)</th>
<th>Extended Prices ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$24,000.00</td>
</tr>
<tr>
<td>2</td>
<td>Furnish and Install Concrete Blocks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>West Wall Elevation 276 ft. to Elevation 284 ft.</td>
<td>630</td>
<td>LF</td>
<td>$150.00</td>
</tr>
<tr>
<td>3</td>
<td>Furnish and Install Wall Lining</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>West Wall Elevation 276 ft. to Elevation 284 ft.</td>
<td>630</td>
<td>LF</td>
<td>$48.50</td>
</tr>
<tr>
<td>4</td>
<td>Survey</td>
<td>1</td>
<td>LS</td>
<td>$15,600.00</td>
</tr>
</tbody>
</table>

**Total Bid Price**: $164,655.00

- A 100% Performance Bond and 100% Payment Bond, in the amount equal to the Contract Award, will be required to be posted.

- Submission of a project specific health and safety plan that conforms to all applicable OSHA requirements is required. This plan shall be adhered to by CONTRACTOR’S employees while on site and during performance of the specified work.

**CONTRACTOR**: Northeast Earth Mechanics, Inc

**AUTHORIZED SIGNATURE**: Rodney Stueckman  
**DATE**: 12/19/2018

**EMAIL ADDRESS**: Rodneyss@neearth.com

**PHONE**: 603-365-6284  
**FAX**: 603-435-7951
<table>
<thead>
<tr>
<th>Project: SETBACK BARRIER WALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>VENDOR: NORTHEAST EARTH MECHANICS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PURCHASE ORDER: 114148</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORIGINAL VALUE $163,727.00</td>
</tr>
<tr>
<td>AMENDED VALUE $327,639.00 $163,912.00 CO-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PURCHASE ORDER: 124820</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMENDED VALUE $490,979.00 $163,340.00 CO-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PURCHASE ORDER: 132344</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMENDED VALUE $782,911.00 $291,932.00 CO-3</td>
</tr>
<tr>
<td>AMENDED VALUE $982,674.00 $199,763.00 CO-4</td>
</tr>
<tr>
<td>AMENDED VALUE $1,066,066.00 $83,392.00 CO-5</td>
</tr>
<tr>
<td>AMENDED VALUE $1,230,721.00 $164,655.00 CO-6</td>
</tr>
</tbody>
</table>
CHANGE ORDER

No. 6

PROJECT: Four Hills Landfill Residential Setback Barrier Wall Construction

OWNER’S CONTRACT NO: IFB0593-050514

DATE OF ISSUANCE: February 15, 2019 EFFECTIVE DATE: Upon City Approval

OWNER: City of Nashua, NH

OWNER’s Purchase Order NO.: 132344

CONTRACTOR: Northeast Earth Mechanics, Inc.

You are directed to make the following changes in the Contract Documents: Description, Purpose of Change Order, and Justification. Attachments: (List Documents supporting change)

Description: To continue construction of the western Residential Setback Barrier Wall - from elevation 276 feet to elevation 284 feet at the City of Nashua’s Four Hills Landfill

Attachment: Northeast Earth Mechanics, Inc. Schedule of Values – Bid Items, dated 12-19-2018
## Summary

<table>
<thead>
<tr>
<th>CHANGE IN CONTRACT PRICE:</th>
<th>CHANGE IN CONTRACT TIMES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Contract Price</td>
<td>Original Contract Times</td>
</tr>
<tr>
<td>$163,727</td>
<td>Ready for final payment: September 10, 2014</td>
</tr>
<tr>
<td>Net changes from previous Change Orders</td>
<td>Net change from previous Change Orders</td>
</tr>
<tr>
<td>$903,339</td>
<td>Ready for final payment: December 15, 2018</td>
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<tr>
<td>Contract Price prior to this Change Order</td>
<td>Contract Times prior to this Change Order</td>
</tr>
<tr>
<td>$1,067,066</td>
<td>Ready for final payment: December 15, 2018</td>
</tr>
<tr>
<td>Net Increase (decrease) of this Change Order</td>
<td>Net Increase (decrease) of this Change Order</td>
</tr>
<tr>
<td>$164,655</td>
<td>Ready for final payment: December 15, 2019</td>
</tr>
<tr>
<td>Contract Price with all approved Change Orders</td>
<td>Contract Times with all approved Change Orders</td>
</tr>
<tr>
<td>$1,231,721</td>
<td>Ready for final payment: June 1, 2019</td>
</tr>
</tbody>
</table>

**RECOMMENDED:**

By: ____________________________

Project Manager

(Authorized Signature)

Date: ____________________________

**ACCEPTED:**

By: ____________________________

Contractor

(Authorized Signature)

Date: ____________________________

**APPROVED:**

By: ____________________________

Mayor Jim Donchess

Owner

(Authorized Signature)

Date: ____________________________
February 28, 2019
Memo #19-123

TO: MAYOR DONCHESS
FINANCE COMMITTEE

SUBJECT: 2019 PAVING PROGRAM – ARTERIAL ROADWAYS CONSTRUCTION (VALUE: $6,853,473)
DEPARTMENT: 160 ADMIN/ENGINEERING; FUND: BOND AND TRUST

Please see the attached communication from Stephen Dookran, P.E., City Engineer, dated February 28, 2019 for information related to this purchase.

Pursuant to § 5-78 Major purchases (greater than $10,000) A. All supplies and contractual services, except as otherwise provided herein, when the estimated cost thereof shall exceed $10,000 shall be purchased by formal, written contract from the lowest responsible bidder, after due notice inviting bids.

The City Engineer, Board of Public Works (February 28, 2019 meeting) and the Purchasing Department recommend the award of this contract in an amount of $6,853,473 to Brox Industries of Dracut, MA.

Respectfully,

[Signature]
Dan Kooker
Purchasing Manager

Cc: S Dookran L Fauteux
City of Nashua, Public Works Division

To: Board of Public Works

Meeting Date: February 28, 2019

From: Stephen Dookran, P.E., City Engineer

Engineering Department

Re: 2019 Paving Program – Arterial Roadways
Construction

B. Motion: To approve the construction contract for the 2019 Paving Program - Arterial Roadways to Brox Industries, of Dracut, MA in the amount of $6,853,472.96. Funding will be through: Department: 160 Admin/Engineering; Fund: Bond and Trust; Activity: Paving.

Attachment: 2019 Paving Program – Arterial Roadways Paving List

Discussion: The 2019 Paving Program has been divided into two sections:

- Arterial Roadways
- Local and Collector Roadways

The paving program was divided to attract bids from a broader range of paving contractors since the scope of the work is different for the two types of roadways. It has also been divided to hopefully have two separate contractors to share the 23 miles of work.

The 2019 Paving Contract for Arterial Roadways is expected to pave approximately 11.6 miles of streets. The contract uses repair methods such as shim, overlay, milling and reclamation. It also includes replacing obsolete and broken drainage and sewer castings.

The contract was advertised on January 17, 2019. Three contractors attended the mandatory pre-bid meeting and they submitted bids on February 12, 2019 and are listed below:

- Brox Industries, Inc. of Dracut, MA $6,853,472.96
- Newport Construction Corporation of Nashua, NH $7,685,165.20
- Continental Paving Inc., Londonderry, NH $7,995,896.45

Brox Industries, Inc. of Dracut, MA at a bid price of $6,853,472.96 is the qualified low bidder. Brox has completed many years of annual paving for the City, and has done many large projects for the NHDOT. Brox is capable of completing this project to our satisfaction.
## 2019 PAVING PROGRAM - ARTERIAL ROADWAYS (Deferred List)

<table>
<thead>
<tr>
<th>Street Name</th>
<th>From</th>
<th>To</th>
<th>Road Length</th>
<th>Deferred Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allds Street</td>
<td>Main St</td>
<td>East Hollis St</td>
<td>5,084</td>
<td>July 15, 2019</td>
</tr>
<tr>
<td>Amherst Street-1</td>
<td>Somerset Pkwy</td>
<td>Deerwood Dr</td>
<td>4,129</td>
<td></td>
</tr>
<tr>
<td>Amherst Street-2</td>
<td>Deerwood Dr</td>
<td>400'S of Cellu</td>
<td>3,063</td>
<td>June 1, 2019</td>
</tr>
<tr>
<td>Amherst Street-3</td>
<td>400'S of Cellu</td>
<td>City Line</td>
<td>2,980</td>
<td></td>
</tr>
<tr>
<td>Canal Street-1</td>
<td>Main St</td>
<td>Orange St</td>
<td>452</td>
<td></td>
</tr>
<tr>
<td>Canal Street-2</td>
<td>Orange St</td>
<td>Howard Ct</td>
<td>890</td>
<td></td>
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<tr>
<td>Canal Street-3</td>
<td>Howard Ct</td>
<td>Amory St</td>
<td>1,893</td>
<td>May 15, 2019</td>
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<tr>
<td>East Hollis Street (EB)-6</td>
<td>East Hollis</td>
<td>Bridge St EB</td>
<td>460</td>
<td>July 15, 2019</td>
</tr>
<tr>
<td>East Hollis Street (WB)-7</td>
<td>Bridge Street WB</td>
<td>E. Hollis</td>
<td>702</td>
<td>July 15, 2019</td>
</tr>
<tr>
<td>East Hollis Street-2</td>
<td>Marshall St</td>
<td>Allds St</td>
<td>1,143</td>
<td>July 15, 2019</td>
</tr>
<tr>
<td>East Hollis Street-3</td>
<td>Allds St</td>
<td>Temple St</td>
<td>802</td>
<td>July 15, 2019</td>
</tr>
<tr>
<td>East Hollis Street-4</td>
<td>Temple St</td>
<td>East Hollis EB</td>
<td>841</td>
<td>July 15, 2019</td>
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<tr>
<td>East Hollis Street-5</td>
<td>East Hollis EB</td>
<td>Crown St</td>
<td>896</td>
<td>July 15, 2019</td>
</tr>
<tr>
<td>Kinsley Street-1</td>
<td>Main Dunstable Rd</td>
<td>Ritter St</td>
<td>5,363</td>
<td>June 15, 2019</td>
</tr>
<tr>
<td>Kinsley Street-2</td>
<td>Ritter St</td>
<td>Hanover St</td>
<td>527</td>
<td>June 15, 2019</td>
</tr>
<tr>
<td>Lake Street-2</td>
<td>Almont St</td>
<td>Linwood St</td>
<td>597</td>
<td></td>
</tr>
<tr>
<td>Lake Street-3</td>
<td>Linwood St</td>
<td>Pine St</td>
<td>1,835</td>
<td>July 15, 2019</td>
</tr>
<tr>
<td>Lake Street-4</td>
<td>Pine St</td>
<td>Vine St</td>
<td>915</td>
<td></td>
</tr>
<tr>
<td>Lake Street-5</td>
<td>Vine St</td>
<td>Main St</td>
<td>1,401</td>
<td></td>
</tr>
<tr>
<td>Main Dunstable Road 2</td>
<td>FE Everett Turnpike</td>
<td>Kinsley St</td>
<td>1,433</td>
<td></td>
</tr>
<tr>
<td>Main Dunstable Road 3A (NB)</td>
<td>West Hollis St</td>
<td>Main Dunstable Rd 3B (548'S of West Hollis St)</td>
<td>776</td>
<td></td>
</tr>
<tr>
<td>Main Dunstable Road 3A (SB)</td>
<td>West Hollis St</td>
<td>Main Dunstable Rd 3B (548'S of West Hollis St)</td>
<td>548</td>
<td></td>
</tr>
<tr>
<td>Main Dunstable Road 4</td>
<td>Conant Rd</td>
<td>Main Dunstable Rd 3B</td>
<td>3,042</td>
<td></td>
</tr>
<tr>
<td>Main Dunstable Road 5</td>
<td>Gregg Rd</td>
<td>Whitford Rd</td>
<td>6,168</td>
<td></td>
</tr>
<tr>
<td>Pine Hill Road-1</td>
<td>Indian Rock Rd</td>
<td>Blue Hill Ave</td>
<td>6,460</td>
<td>July 15, 2019</td>
</tr>
<tr>
<td>Spit Brook Road-1</td>
<td>EB Tara Blvd</td>
<td>Newcastle Dr</td>
<td>1,295</td>
<td></td>
</tr>
<tr>
<td>Spit Brook Road-2</td>
<td>WB Tara Blvd</td>
<td>Newcastle Dr</td>
<td>1,293</td>
<td></td>
</tr>
<tr>
<td>Spit Brook Road-3</td>
<td>Newcastle Dr</td>
<td>175'E of Whitegate</td>
<td>1,042</td>
<td></td>
</tr>
<tr>
<td>Spit Brook Road-4</td>
<td>175'E of Whitegate</td>
<td>D.W. Highway</td>
<td>668</td>
<td></td>
</tr>
<tr>
<td>West Hollis St - 2B(East of Turnpike)</td>
<td>Simon St</td>
<td>Dead End (House #385)</td>
<td>1,143</td>
<td></td>
</tr>
<tr>
<td>West Hollis St - 3 (West of Turnpike)*</td>
<td>Simon Street</td>
<td>Panther Drive</td>
<td>3,500</td>
<td></td>
</tr>
</tbody>
</table>

LENGTH 11.62

Note:
- Limits of West Hollis St 3 has been revised. The new limits are Simon Street to Panther Drive (3,500ft)

**Deferred Streets**

Select arterial streets have been deferred (to corresponding date shown in the table) due to underground utilities conflict.

These streets will be available to the contractor once the underground utility concerns have been addressed.
2019 Paving Program
Arterial Roadways

Construction Specifications
and
Contract Documents

Prepared By:
City of Nashua, New Hampshire
Division of Public Works
Engineering Department

January 2019
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4. PERFORMANCE AND PAYMENT BONDS, CERTIFICATE OF LIABILITY INSURANCE........................................................................

5. AGREEMENT ....................................................................................................................

6. GENERAL CONDITIONS ..................................................................................................

7. SUPPLEMENTARY CONDITIONS ...................................................................................

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   B. Notice to Proceed
   C. Change Order
   D. Certificate of Substantial Completion

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DIVISION 1

INVITATION TO BID
January 30, 2019

IFB0660-020719
2019 PAVING PROGRAM
ARTERIAL ROADWAYS

ADDENDUM #1

Information in this document becomes a part of the original Invitation to Bid.

Addendum #1 is being issued to transmit an updated Bid Form Schedule of Values and to respond to questions received from potential bidders.

All other aspects of the original document remain the same.

Please sign below to indicate receipt of this additional information and include this page with your IFB submittal.

Thank you.

Danielle Greenberg
City of Nashua
Purchasing Agent II
greenberdg@nashuahn.gov

Addendum #1 received and incorporated into our submittal for IFB0660-020719.

Please sign and include this addendum in your proposal package.

[Authorized Signature]
Stephen M. Brox, President
February 11, 2019
(Date)

Brox Industries, Inc.
(Name of Firm)
Addendum #1 is being issued to transmit an updated Bid Form Schedule of Values and to respond to questions received from potential bidders.

**Update Bid Form Schedule of Values**
An updated form is attached to this Addendum. Bidders must use the updated form.

The following revisions have been made to the form:

**Item 618.6 Uniformed Officers** has been revised. The value of the allowance has been filled in. Bidders shall carry the allowance identified in their bids.

**Item 618.7 Flaggers** has been revised to change the unit to “Hours”.

**Item 619.1 Maintenance of Traffic**
The quantity has been revised to correct an error. The quantity is 1 Lump Sum.

**Item 900 Liquid Asphalt Adjustment** has been revised. The value of the allowance has been filled in. Bidders shall carry the allowance as identified in their bids.

**Clarification and Responses to Questions**

1. What unit will be used for measurement and payment for Item 304.33 Crushed Aggregate for Shoulders?

   Upon review of the concerns expressed by potential bidders, the City is revising the unit for measurement and payment of this item.

   The unit for this item shall be Ton.

2. Will contract drawings be provided for bidders?

   Contract drawings will not be provided for bidders. Worksheet drawings will be provided to the successful bidder prior to the start of work.

   The worksheet drawings will show limits of work and the basis for estimating milling, paving and reclamation quantities.
3. Will the City take all millings and surplus reclaim material at the landfill?

   Yes.

4. A potential bidder requested that City consider using a single 2” lift in lieu of the specified .75” shim and 1.25” wearing course.

   The City has considered this suggestion and will implement this suggestion on this contract to pave arterial roadways.

   The paving specification is being revised as described below to facilitate use of a single 2” lift in areas where 2” mill and overlay is the specified treatment.

5. A potential bidder recommended that Amherst Street be added to the list of streets where high strength pavement will be used.

   The City has considered this recommendation and has decided not to change the specification for Amherst Street.

6. A clarification was requested regarding whether the City may remove streets or portions of streets from the contract.

   Attention is called to Supplementary Conditions/Prosecution of Work Section 1. Description of Work. The City may remove and/or add streets or portions of streets to the contract.

7. A concern was expressed with the specified maximum hourly rate for flaggers.

   The City has reviewed this concern and is removing the limit on the flagger rate.

**Revision to Pavement Specifications**

Section 3. Pavement Mix of the Supplemental Conditions/Prosecution of Work is entirely replaced with the following:

3. **PAVEMENT MIX**

   NHDOT certified mix designs are required for all pavement.

   Unless specified to be “high strength”, wearing course pavement shall be 75 gyration with PG 64-28 and a maximum aggregate size of ½ inch.

   High strength wearing course pavement shall be 75 gyration with PG 76-28 (High Strength Mix) and maximum aggregate size of ½ inch.
High strength wearing course pavement shall be used on the following roadways:

- East Hollis Street
- Canal Street
- Kinsley Street

Base and binder courses shall be 75 gyration with PG 64-28 and maximum aggregate size of 3/4 inch.

The following course thicknesses shall be used:

2” Mill and Overlay
2” wearing course.

3.5” Mill & Overlay
1.5” wearing course over 2” binder course.

Reclamation
1.5” wearing course over 3.5” binder course.

- END -
February 6, 2019

IFB0660-020719

2019 PAVING PROGRAM ARTERIAL ROADWAYS

ADDENDUM #2

Information included in this document becomes a part of the original IFB.

If you are submitting a paper bid, please sign below to indicate receipt of this additional information and include this page with your bid submittal. If you are submitting a bid via Bid Express please be sure to acknowledge the addendum on the website before submitting your bid.

ADDENDUM 1 is being issued to provide additional information and extend the bid due date. Please see the attached document for further detail.

All other aspects of the original document remain the same.

Failure to acknowledge the addendum will result in the bid submittal being disqualified.

Sincerely,

Danielle Greenberg
City of Nashua – Purchasing Agent II
greenbergd@nashuanh.gov

Addendum #2 received and incorporated into bid submittal for IFB0660-020719. Please sign and include this addendum in your bid package.

(Authorized Signature)
Stephen M. Brox, President
February 11, 2019
(Date)

Brox Industries, Inc.
(Name of Firm)
<table>
<thead>
<tr>
<th>Street Name</th>
<th>From</th>
<th>To</th>
<th>Road Length</th>
<th>Deferred Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allis Street</td>
<td>Main St</td>
<td>East Hollis St</td>
<td>5,084</td>
<td>July 15, 2019</td>
</tr>
<tr>
<td>Amherst Street-1</td>
<td>Somerset Pkwy</td>
<td>Deerwood Dr</td>
<td>4,129</td>
<td></td>
</tr>
<tr>
<td>Amherst Street-2</td>
<td>Deerwood Dr</td>
<td>400'S of Cellu</td>
<td>3,063</td>
<td>June 1, 2019</td>
</tr>
<tr>
<td>Amherst Street-3</td>
<td>400'S of Cellu</td>
<td>City Line</td>
<td>2,980</td>
<td></td>
</tr>
<tr>
<td>Canal Street-1</td>
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<td>Main Dunstable Rd 3B</td>
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<td>Gregg Rd</td>
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<tr>
<td>Spit Brook Road-4</td>
<td>175'E of Whitegate</td>
<td>D.W. Highway</td>
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<td>West Hollis St - 2B(East of Turnpike)</td>
<td>Simon St</td>
<td>Dead End (House #385)</td>
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<tr>
<td>West Hollis St - 3</td>
<td>Simon Street</td>
<td>Panther Drive</td>
<td>3,500</td>
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</tbody>
</table>

**Note:**

* Limits of West Hollis St 3 has been revised. The new limits are Simon Street to Panther Drive (3,500ft)
Addendum #2 is being issued to transmit additional information about the bid.

Deferred Streets
Select arterial streets have been deferred due to underground utilities conflict. The deferred dates are listed in the attached table. These streets will be available to the contractor once the underground utility concerns have been addressed.

Revised Limits - West Hollis Street – 3 (West of Turnpike)
The work limit of West Hollis Street-3 (West of Turnpike) has been revised and the new limit extends from Simon Street to Panther Drive.

Bid Due Date Extended
In light of this new information, the bid due date has been extended. The new bid due date will be February 12, 2019 (Tuesday: 3:00PM).

- END -
February 7, 2019

IFB0660-020719

2019 PAVING PROGRAM
ARTERIAL ROADWAYS

ADDENDUM #3

Information in this document becomes a part of the original Invitation to Bid.

Addendum #3 is being issued to transmit information about the change to Article 20 of “Instructions for Bidders”:

Article 20.01 shall be deleted in entirety and replaced as follows:

Revised Article 20.01 Provisions concerning retainage and Contractors’ rights to deposit securities in lieu of retainage are set forth in the Contract Agreement, Article 6.02 Progress Payments; Retainage.

All other aspects of the original document remain the same.

Please sign below to indicate receipt of this additional information and include this page with your IFB submittal.

Thank you.

Danielle Greenberg
City of Nashua
Purchasing Agent II
greenbergd@nashuanh.gov

Addendum #3 received and incorporated into our submittal for IFB0660-020719.

Please sign and include this addendum in your proposal package.

Authorized Signature: Stephen M. Brox, President

February 11, 2019
(Date)

Brox Industries, Inc.
(Name of Firm)
January 17, 2019

INVITATION TO BID

2019 Paving Program
Arterial Roadways

IFB0660-020719

The City of Nashua, Division of Public Works, is seeking bids for the FY2019 Paving Program - Arterial Roadways. The scheduled work is located in various areas throughout the City of Nashua and consists primarily of pavement overlaying, pavement milling with overlay, and pavement reclamation.

The City of Nashua reserves the right, for the Street Paving portion of the contract, to substitute streets of a similar nature or to add additional streets subject to contract amendment process.

Contractor shall ensure that its activities and activities of its employees are in strict compliance with Protection Agency, all applicable federal, state and local statutes, ordinances, regulations and rules, including without limitation, the Federal OSHA of 1970, as amended and the standards and regulations issued hereunder, and all other statutes, ordinances, regulations, rules, standards and requirements of common law in relation to industrial hygiene and safety, and the protection of health and the environment.

The City of Nashua would like to emphasize the importance of construction work zone safety. The City of Nashua has adopted the provisions of the Manual on Uniform Traffic Control Devices (MUTCD) for work zone safety. Unless otherwise indicated in this contract, the contract shall follow the requirements of the MUTCD at all roadway construction work zones.

The anticipated Commencement date for the contract is on or about March 20, 2019. Project will begin once a written “Notice to Proceed” is issued.

Completion times for the project will be as follows:

Substantial completion shall be by October 15, 2019. Substantial completion occurs when all paving is complete.

Contract completion shall be by October 31, 2019.

The City is now accepting submittals electronically via Bid Express. A Digital ID will be required for this bid. Please review the attachments, Bid Express Vendor Guide and Vendor Set-up Guide for more information. If a Bidder chooses to submit a paper copy, they must be submit one (1) original and two (2) copies c/o Central Purchasing, 229 Main Street, Room 128, Nashua, NH, 03061, in sealed envelopes clearly marked “IFB0660-020719 FY2019 Paving Program - Arterial Roadways”. Regardless of the method of submission, bids must be received no later than 3:00 pm on Thursday, February 07, 2019. Bids will be opened and publicly read at that time. Results showing all bidders’ identities and their respective bid amounts will be available on our website, www.nashuanh.gov, under Services; Bid Opportunities; Bid Results, (Refer to Document IFB0660-020719), within twenty-four (24) hours after the opening.
A MANATORY pre-bid conference will be held at 10:00 am, Thursday, January 24, 2019 at the City of Nashua Division of Public Works, 9 Riverside Street, Nashua, NH 03062. You or your representative(s) are required to attend this meeting if you intend to submit a bid. The meeting is an opportunity for the City of Nashua to overview the project and objectives, and participants to request additional information directly from City of Nashua staff managing or participating in the project.

Beginning Thursday, January 17, 2019 bid documents will be available electronically from the City of Nashua website: www.nashuanh.gov, under Services, Bid Opportunities; Current Bids; (Refer to Document IFB660-020709). Please note paper copies will not be available.

No bid documents are available at the Central Purchasing.

Bids must be submitted in the format provided and address the items specified in the bid package.

Delivery of the Bids shall be at the Vendor’s expense. The time of receipt shall be considered when a Bid has been officially documented by the Department, in accordance with its established policies, as having been received at the location designated above. The City of Nashua accepts no responsibility for mislabeled mail. Any and all damage that may occur due to shipping shall be the Vendor’s responsibility.

Postmarks or other timestamps will not be accepted in lieu of actual delivery. The firm can use whatever delivery mechanism it chooses as long as it remains clear that the firm is responsible for submissions prior to the date and time.

The City of Nashua assumes no liability for the payment of costs and expenses incurred by any bidder in responding to this request for bids. All bids become the sole property of the City of Nashua. This request for bids is not a contract and alone shall not be interpreted as such but rather serves as an instrument through which bids are solicited.

The project timeline is as follows:

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<thead>
<tr>
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<th>Date</th>
<th>Time/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid Documents</td>
<td>Thursday, January 17, 2019</td>
<td>On City of Nashua Website Only</td>
</tr>
<tr>
<td>Mandatory Pre-bid Meeting</td>
<td>Thursday, January 24, 2019</td>
<td>10:00 am DPW Engineering 9 Riverside Street, Nashua, NH</td>
</tr>
<tr>
<td>Deadline for Questions to be submitted in writing</td>
<td>Monday, January 28, 2019</td>
<td>12:00 NOON</td>
</tr>
<tr>
<td>Answers/clarifications posted</td>
<td>Friday, February 01, 2019</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Bid Due</td>
<td>Thursday, February 07, 2019</td>
<td>3:00 pm Purchasing Department</td>
</tr>
</tbody>
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Vendors are encouraged to submit questions via email; however, the City of Nashua assumes no liability for assuring accurate/complete email transmission/receipt and is not responsible to acknowledge receipt. Inquiries must be submitted in writing, citing the IFB title, IFB number, Page, Section, and received no later than Monday, January 28, 2019 at 3:00 pm to

Mandeep Gill
Senior Staff Engineer
Email: GillM@nashuaNH.gov
The City of Nashua will consider all timely-received questions and requests for change and, if reasonable and appropriate, will issue an addendum to clarify or modify this IFB. Answers to vendor submitted questions and other addenda will be posted under document IFB0660-020719 on the City of Nashua website; www.nashuanh.gov, under Services; Bid Opportunities; Current Bids; (Refer to Document IFB0660-020719) no later than Friday, February 01, 2019 at 3:00 pm.

The City of Nashua may reject any or all of the bids on any basis and without disclosure of a reason. The failure to make such a disclosure shall not result in accrual of any right, claim or cause of action by any unsuccessful bidder against the City of Nashua. The City of Nashua reserves the right to waive any irregularities when the public interest will be served thereby. The City of Nashua also reserves the right to negotiate any change or amendment in any bid without soliciting further bids if the action is necessary for the best interest of the City of Nashua.

All bids are binding for ninety (90) days following the deadline for bids, or until the effective date of any resulting contract, whichever is later.

The successful bidder must maintain the following lines of coverage and policy limits for the duration of the contract. Any subcontractors used by the successful bidder are subject to the same coverage and limits and is a subcontractor of the successful bidder and not the City of Nashua. It is the responsibility of the successful bidder to update Certificates of Insurance during the term of the contract. Liability limits are as follows:

- **General Liability:** $1,000,000 per Occurrence  
  $2,000,000 Aggregate

- **Motor Vehicle Liability:** $1,000,000 Combined Single Limit

*Coverage must include all owned, non-owned and hired vehicles.*

- **Workers’ Compensation Coverage** according to Statute of the State of New Hampshire:  
  $100,000 / $500,000 / $100,000

**The City of Nashua must be named as an additional insured on all liability certificates.**

All bidders and subcontractors at every tier under the bidder will fully comply with NH RSA Chapter 281-A, “Workers’ Compensation”.

It is the responsibility of the Contractor to submit to the City of Nashua certificates of insurance for the Contractor and all other subcontractors prior to the start of the project. It is the responsibility of the Contractor to provide the City of Nashua with updated certificates of insurance for the Contractor and all subcontractors 10 days prior to the expiration of coverage. The City of Nashua may, at any time, order the Contractor to stop work, suspend the contract or terminate the contract for non-compliance. All subcontractors are subject to the same insurance requirements as the Contractor.

No bid will be considered unless accompanied by a bid security in the form of a Bid Bond, in an amount not less than five percent (5%) of the Total Bid Price.

The successful Contractor will be required to post a 100% Performance Bond and a 100% Payment Bond in an amount equal to the Contract Award.

Cost of bond premiums to be included in the Lump Sum Bid Proposal.

The City of Nashua is exempt of all taxes. All bids must be FOB Nashua, NH. All bidders must comply with all applicable Equal Employment Opportunity laws and regulations.

Pursuant to NRO 5-78 (F), the Purchasing Manager shall not solicit a bid from a contractor who is in default on the payment of taxes, licenses or other monies due the City of Nashua. Therefore, this bid request is void as to anyone who is in default on said payments.
The City of Nashua supports the concept of purchasing products that are biodegradable, can be or have been recycled, or are environmentally sound. Due consideration will be given to the purchase of such products. If you are bidding on any such products that qualify, please so indicate in a cover sheet by item number and description.

Sincerely,

Danielle Greenberg  
City of Nashua, NH  
Purchasing Agent II  
greenbergd@nashuannh.gov
DIVISION 2

INSTRUCTIONS FOR BIDDERS
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INSTRUCTIONS FOR BIDDERS

ARTICLE 1  DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

A. Bidder – The individual or entity who submits a Bid directly to OWNER.

B. Issuing Office – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

C. Successful Bidder – The lowest responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER’s evaluation as hereinafter provided) makes an award.

ARTICLE 2  COPIES OF BIDDING DOCUMENTS

2.01 Bidding Documents are available electronically City’s web site, www.nashuanh.gov, under Services; Bid Opportunities; Current Bids. Hard copies are not available.

2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

ARTICLE 3  QUALIFICATIONS OF BIDDERS.

3.01 To demonstrate Bidder’s qualifications to perform the Work, each Bidder must submit a completed Construction Contractor’s Qualification for Engineered Projects.

ARTICLE 4  MANDATORY PRE-BID CONFERENCE

4.01 A MANDATORY pre-bid conference will be held on the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid. Representatives of OWNER and ENGINEER will be present to discuss the Project. OWNER will transmit to all prospective Bidders of record such Addenda, as OWNER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 5  SITE AND OTHER AREAS

5.01 The Site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

ARTICLE 6  INTERPRETATIONS AND ADDENDA

6.01 All questions about the meaning or intent of the Bidding Documents are to be directed to ENGINEER. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda and posted on the City of Nashua website. Deadlines for submission of questions can be found on the project timeline contained within the Invitation for Bids. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
6.02 Addenda may also be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER. Bidders are requested to sign each Addenda issued to indicate receipt of this additional information and must include the signed cover page with Bidders bid submittal. It is the Bidder’s responsibility to determine from the City website if Addendas have been issued.

**ARTICLE 7  BID SECURITY**

7.01 A Bid must be accompanied by Bid security made payable to OWNER in an amount of five percent (5%) of Bidder’s maximum Bid price and in the form of a Bid Bond (on form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.

7.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 10 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of seven days after the Effective Date of the Agreement or 91 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

7.03 Bid security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

**ARTICLE 8  CONTRACT TIMES**

8.01 The number of calendar days within which, or the dates by which, the Work is to be (a) substantially completed and (b) also completed and ready for final payment are set forth in the Agreement.

**ARTICLE 9  LIQUIDATED DAMAGES**

9.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

**ARTICLE 10  SUBCONTRACTORS, SUPPLIERS AND OTHERS**

10.01 Each Bidder must submit a completed List of Subcontractors on the Form furnished with the completed Bid Form. The apparent Successful Bidder, and any other Bidder so requested, shall within seven days after the Bid opening submit to OWNER supplemental information in the form of an experience statement with the pertinent information regarding similar projects and other evidence of qualification of each Subcontractor, Supplier, person or organization if requested by OWNER or ENGINEER. IF OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution and OWNER may consider such price adjustment in evaluating Bids and making the contract award.

10.02 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving
of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Article 6.06 of the General Conditions.

10.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom CONTRACTOR has reasonable objection.

**ARTICLE 11 PREPARATION OF BID**

11.01 The Bid Form is included with the Bidding Documents.

11.02 All blanks on the Bid Form and Bid Schedule(s) must be completed by printing in ink or typed and the Bid signed. A bid price shall be indicated for each Bid item listed therein.

11.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

11.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown below the signature.

11.05 A bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.

11.06 A Bid by an individual shall show the Bidder’s name and official address.

11.07 A Bid by a joint venture shall be executed by each joint ventured in the manner indicated on the Bid Form. The official address of the joint venture must be shown below the signature.

11.08 All names must be typed or printed in black ink below the signatures.

11.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.

11.10 The address and telephone number for communications regarding the Bid must be shown.

11.11 The Bid shall contain evidence of Bidder’s authority and qualification to do business in the state where the Project is located. Bidder’s state contractor license number for the state of the Project, if any, must also be shown on the Bid Form.

**ARTICLE 12 BASIS OF BID; EVALUATION OF BIDS**

12.01 *Unit Price*

A. Bidders shall submit a Bid on a unit price or lump sum basis for each item of Work listed in the Bid schedule.

B. The total of all estimated prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for each item. The final quantities and Contract Price will be determined in accordance with paragraph 11.03 of the General Conditions.
C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

12.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowance, if any, named in the Contract Documents as provided in paragraph 11.02 of the General Conditions.

ARTICLE 13 SUBMITAL OF BID

13.01 The City of Nashua website provides a copy of the Bidding Documents, applicable drawings or specifications, a sample contract for execution, and a submission packet. The submission packet includes the Bid Form, the Construction Contractor’s Qualification Statement, the Bid Schedule of Values, and signed cover page of each OWNER issued Addendum. Each prospective Bidder must complete and submit all submission package documents and accompany the submission with the Bid Bond.

13.02 A bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation “BID ENCLOSED.” A mailed Bid shall be addressed to City of Nashua Purchasing Department, 229 Main Street, Room 128, Nashua, NH, 03061.

ARTICLE 14 MODIFICATION AND WITHDRAWAL OF BID

14.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

14.02 If, within twenty-four hours after Bids are opened any Bidder files a duly signed written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, OWNER may, in its sole discretion, choose to not accept the Bid and return the same to Bidder. Thereafter, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 15 OPENING OF BIDS

15.01 Bids will be opened at the time and place indicated in the advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids through posting on the City’s website.

ARTICLE 16 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

16.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.
ARTICLE 17  AWARD OF CONTRACT

17.01 OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced or conditional Bids. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsive. OWNER may also reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder. OWNER also reserves the right to waive all informalities not involving price, time or changes in the Work and to negotiate contract terms with the Successful Bidder.

17.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

17.03 In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

17.04 In evaluating Bidders, OWNER will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

17.05 OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers individuals, or entities to perform the Work in accordance with the Contract Documents.

17.06 If the Contract is to be awarded, OWNER will award the Contract to lowest Bidder whose evaluation by OWNER indicates to OWNER that the award will be in the best interests of the Project.

ARTICLE 18  CONTRACT SECURITY

18.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER’s requirements as to Performance and Payment Bonds and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it must be accompanied by such Bonds.

ARTICLE 19  SIGNING OF AGREEMENT

19.01 When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents, which are identified in the Agreement attached thereto. The Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER, including the Performance and Payment Bonds and the Certificate of Insurance. Within 10 days thereafter, OWNER shall deliver one fully signed counterpart to Successful Bidder with a complete set of drawings with appropriate identification.

19.02 A fully executed City of Nashua Purchase Order will accompany the fully signed counterpart to successful Bidder.
ARTICLE 20  RETAINAGE

20.01 The OWNER shall not retain a portion of progress payments on this contract.

ARTICLE 21  APPEAL BY BIDDERS

21.01 Any bidder may appeal a pending bid award prior to award by OWNER. The appellant must:

A. Submit a written protest to the OWNER's Purchasing Manager within five (5) workdays after the bid opening.

B. Describe, in the written protest, the issues to be addresses on appeal.

C. Post, with the written protest, a bond with a surety meeting the requirements of General Condition 5.02 authorized to do business in this state or submit other security in a form approved by OWNER who will hold the bond or security until a determination is made on the appeal.

D. Post the bond or other security in the amount of 25% of the total dollar value of the appellant's bid, up to a maximum bond or other security amount of 250,000.00.

E. Not seek any type of judicial intervention until OWNER has rendered its final decision on the protest.

21.02 OWNER will stop award actions until after the OWNER’s Purchasing Manager has responded in writing to the protest. If the appellant is not satisfied with the response, the appellant may then protest to the Board of Public Works, who will render a final decision for the OWNER. No bid protests will be heard by the Board of Public Works unless bidder has followed the appeal process.

21.03 If an appeal is granted, the full amount of the posted bond or security will be returned to the appellant. If the appeal is denied or not upheld, a claim may be made against the bond for expenses suffered by the OWNER because of the unsuccessful appeal.

21.04 OWNER is not liable for any costs, expenses, attorney's fees, loss of income, or other damages sustained by the appellant in a bid process.
BID FORM

PROJECT IDENTIFICATION: 2019 Paving Program- Arterial Roadways

CONTRACT IDENTIFICATION AND NUMBER: IFB0660-020719

THIS BID IS SUBMITTED TO: City of Nashua
Central Purchasing
229 Main Street, City Hall
Room 128
Nashua, NH 03061-2019

1.01 The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.01 BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 60 days after the day of Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

3.01 In submitting this Bid, BIDDER represents, as set forth in the Agreement, that:

A. BIDDER has examined and carefully studied the Bidding Documents and the following Addenda, receipt of all which is hereby acknowledged.

<table>
<thead>
<tr>
<th>Addendum No.</th>
<th>Addendum Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/30/19</td>
</tr>
<tr>
<td>2</td>
<td>2/06/19</td>
</tr>
<tr>
<td>3</td>
<td>2/07/19</td>
</tr>
</tbody>
</table>

B. BIDDER has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. BIDDER is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. BIDDER has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by BIDDER, and safety precautions and programs incident thereto.
E. BIDDER does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

F. BIDDER is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

G. BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

H. BIDDER has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that BIDDER has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to BIDDER.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of the Work for which this Bid is submitted.

4.01 BIDDER further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any individual or entity to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

5.01 The requirements of the New Hampshire Revised Statutes Annotated shall apply to this project. The BIDDER is responsible for compliance with all applicable statutes. The entire set of the Revised Statutes Annotated is available online at:

http://gencourt.state.nh.us/rse/btml/indexes/default.html

6.01 BIDDER will complete the Work in accordance with the Contract Documents for the following prices:

SEE ATTACHED BID SCHEDULE

A. Unit Prices have been computed in accordance with paragraph 11.03.B of the General Conditions.

B. BIDDER acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents.

7.01 BIDDER agrees that the Work will be substantially completed and completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
7.02 BIDDER accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.

8.01 The following documents are attached to and made a condition of this Bid:

A. Bid Form;
B. Bid Bond;
C. A tabulation of Subcontractors, Suppliers and other individuals and entities required to be identified in this Bid; and
D. Construction Contractor's Qualification Statement.

9.01 Communications concerning this Bid shall be addressed to:
(Contractor's mailing address to be filled in by Bidder)

Norman Saucier  Cell # (978) 815-2964
Brox Industries, Inc.
1471 Methuen Street
Dracut, MA 01826

10.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

Submitted by:
Name of Organization  Brox Industries, Inc.
Name of Individual  Stephen M. Brox
Title  President
Address  1471 Methuen Street
         Dracut, MA 01826
Telephone  (978) 454-9105

Submitted to:
Name  City of Nashua Central Purchasing
Address  229 Main Street - City Hall - Room 128
         Nashua, NH 03061-2019
Telephone  (603) 589-3120
SUBMITTED on  February 12, 2019
If BIDDER is:

An Individual

Name (typed or printed): __________________________

By: ____________________________________________ (SEAL)

Doing business as: ________________________________

Business address: ________________________________

Phone No.: ______________________________________ Fax No.: __________________

A Partnership

Partnership Name: ________________________________ (SEAL)

Date and State of Organization ____________________________

Names of Current General Partners

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Type of Partnership

☐ General  ☐ Publicly Traded  ☐ Limited  ☐ Other (describe): __________________________

By: ____________________________________________ (Signature of General Partner – attach evidence of authority to sign)

Name (typed or printed): __________________________

Business address: ________________________________

Phone No.: ______________________________________ Fax No.: __________________
A Corporation

Corporation Name: Brox Industries, Inc. (SEAL)

Date and State of Incorporation: Incorporated in the State of MA in 1982

List of Executive Officers

Name | Title
---|---
Stephen M. Brox | President
Cecilia Nickerson | Clerk
Henry Hyder III | Assistant Clerk

Type (General Business, Professional, Service, Limited Liability): Construction Corporation

By: 
(Signature -- attach evidence of authority to sign)

Name (typed or printed): Stephen M. Brox
Title: President (Corporate Seal)
Attest: Cecilia Nickerson
(Signature of Corporate Secretary)

Business Address: 1471 Methuen Street
Dracut, MA 01826

Phone No.: (978) 454-9105 Fax No.: (978) 805-9719

Date of Qualification to do business is December 1946

A Joint Venture

Joint Venture Name: N/A (SEAL)

Date and State of Organization:

Name, Address and Form of Organization of Joint Venture Partners: (Indicate managing partner by an asterisk *)

Bid Form BF 5 of 8
By: ____________________________  
(Signature of joint ventured partner — attach evidence of authority to sign)

Name (typed or printed): ____________________________
Title: ____________________________
Business Address: ____________________________

Phone No.: ____________________________  Fax No.: ____________________________

Address for receipt of official communications:

(Each joint ventured must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above).
LIST OF SUBCONTRACTORS
(to be submitted with bid)

The name and address of each subcontractor who will be paid at least five percent (5%) of the prime contractor's total bid shall be listed below. To be deemed a responsive bid, this form must be submitted even if no subcontractors are required to be listed. In that case, the bidder should state "None" (or similar language stating that no subcontractors need to be listed) in the space below. (Refer to General Condition 6.09.H)

<table>
<thead>
<tr>
<th>Name</th>
<th>Address of Subcontractor</th>
<th>Portion of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garrity Asphalt Reclaiming</td>
<td>22 Peters Rd., Bloomfield, CT 06002</td>
<td>3%</td>
</tr>
<tr>
<td>Tango Construction, Inc.</td>
<td>134 Crawford St. Fitchburg, MA 01420</td>
<td>5%</td>
</tr>
</tbody>
</table>

Bid Form
LIST OF SUBCONTRACTORS 
(to be submitted after bid opening)

Within two hours after the completion of the opening of the bids, the general contractors who submitted the three lowest bids must provide a list of each subcontractor who will provide labor or a portion of the work or improvement to the contractor for which the subcontractor will be paid an amount exceeding one percent (1%) of the prime contractor's bid or $50,000, whichever is greater, and the number of the license issued to the subcontractor. **If a general contractor fails to submit such a list within the required time, the bid shall be deemed not responsive.** To be deemed a responsive bid, this form must be submitted even if no subcontractors are required to be listed. In that case, the bidder should state "None" (or similar language stating that no subcontractors need to be listed) in the space below. (Refer to General Condition 6.09.H.)

<table>
<thead>
<tr>
<th>Subcontractor/Address</th>
<th>Dollar Value and description of work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garrity Asphalt Reclaiming</td>
<td>$207,354.00 Micro-Milling</td>
</tr>
<tr>
<td>22 Peters Road, Bloomfield, CT 06002</td>
<td></td>
</tr>
<tr>
<td>Tango Construction, Inc.</td>
<td>$361,980.00 Structures</td>
</tr>
<tr>
<td>134 Crawford Street, Fitchburg, MA 01420</td>
<td></td>
</tr>
</tbody>
</table>
BID BOND
PENAL SUM FORM

BIDDER (Name and Address):
Brox Industries, Inc.
1471 Methuen Street
Dracut, MA 01826-5439

SURETY (Name and Address of Principal Place of Business):
Fidelity and Deposit Company of Maryland
1299 Zurich Way, 5th Floor
Schaumburg, IL 60196-1056

OWNER (Name and Address):
City of Nashua, NH
Central Purchasing 229 Main Street City Hall Room 128
Nashua, NH 03061-2019

BID
BID DUE DATE: February 12, 2019
PROJECT (Brief Description Including Location):
IFB0660-020719 2019 Paving Program - Arterial Roadways

BOND
BOND NUMBER: N/A
DATE: (Not later than Bid Due Date): February 7, 2019
PENAL SUM: Five Percent of Amount Bid
(Words) 5% (Figures)

IN WITNESS WHEREOF, Surety and Bidder, Intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause the Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

Brox Industries, Inc. (Seal)
Bidder’s Name and Corporate Seal

By:
Signature and Title
Stephen M. Brox, President

Attest:
Signature and Title
Deborah MacCallum, Contract Admin.

SURETY

Fidelity and Deposit Company of Maryland (Seal)
Surety’s Name and Corporate Seal

By:
Signature and Title Donna M. Planeta, Attorney-In-Fact
(Attach Power of Attorney)

Attest:
Signature and Title Lorina Garcia, Witness

Note: (1) Above addresses are to be used for giving required notice.
(2) Any singular reference to Bidder, Surety, OWNER or other party shall be considered plural where applicable.
1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to OWNER upon default of Bidder the penal sum set forth on the face of this Bond.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract Documents.

3. This obligation shall be null and void if:

3.1. OWNER accepts Bidder's bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract Documents, or

3.2 All bids are rejected by OWNER, or

3.3 OWNER fails to issue a notice of award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5 hereof).

4. Payment under this bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from OWNER, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of and any and all defenses based on or arising out of any time extension to issue notice of award agreed to in writing by OWNER and Bidder, provided that the time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid Due Date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in paragraph 4 above is received by Bidder and Surety, and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notice required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent or representative who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of the Bond conflicts with any applicable provision of any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer or proposal as applicable.
ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by MICHAEL BOND, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint Donna M. PLANETA, Joshua SANFORD, Aimee R. PERONDINE, Aiza LOPEZ, Danielle D. JOHNSON, Michelle Anne McMAHON, Saykham CHANTHASONE and Noah William PIERCE, all of Hartford, Connecticut, EACH its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: any and all bonds and undertakings, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 9th day of July, A.D. 2018.

ATTEST:

By: 
Assistant Secretary
Joshua Lecker

By: 
Vice President
Michael Bond

State of Maryland
County of Baltimore

On this 9th day of July, A.D. 2018, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, MICHAEL BOND, Vice President, and JOSHUA LECKER, Assistant Secretary, of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Constance A. Dunn, Notary Public
My Commission Expires: July 9, 2019

POA-F 083-91850A
CONSTRUCTION CONTRACTOR'S QUALIFICATION STATEMENT

1. On Schedule A, attached, list major engineered construction projects completed by this organization in the past five (5) years. (If joint venture, list each participant’s projects separately).

2. On Schedule B, attached, list current projects under construction by this organization, (If joint venture, list each participant’s projects separately).

3. Name of Surety Company and name, address, and phone number of agent.
   Fidelity & Deposit Company of Maryland
   Agent: Willis Towers Watson  10 State House Square, Floor 11  Hartford, CT 06103
   Erin L. Kiernan Sr. Client Manager  (860) 241-4428

4. Is your organization a member of a controlled group of corporations as defined in I.R.C. Sec. 1563?
   ☐ Yes  ☑ No
   If yes, show names and addresses of affiliated companies.
   N/A

5. Furnish on Schedule C, attached, details of the construction experience of the principal individuals of your organization directly involved in construction operations.
   Please See Attached

6. Has your organization ever failed to complete any construction contract awarded to it?
   ☐ Yes  ☑ No
   If yes, describe circumstances and provide details on attachment.
   N/A

7. Has any Corporate officer, partner, joint venture participant or proprietor ever failed to complete a construction contract awarded to him or her in their own name or when acting as a principal of another organization?
   ☐ Yes  ☑ No
   If yes, describe circumstances and provide details on attachment.
   N/A

8. In the last five years, has your organization ever failed to substantially complete a project in a timely manner?
   ☐ Yes  ☑ No
   ☐ Yes  ☑ No
   If yes, describe circumstances and provide details on attachment.
   N/A

CQ - 1 of 7
9. Does your organization now have any legal suits or arbitration claims pending or outstanding against it or any officers?

☐ Yes ☒ No

If yes, describe circumstances and provide details on attachment.

10. Has your organization had a contract partially or completely terminated for default (cause) within the past five years?

☐ Yes ☒ No

If yes, describe circumstances and provide details on attachment.

11. List the licensed categories of work that your company normally performs with its own workforce. Highway Construction, Sitework, Paving, Excavation, Milling, Cold Planing, Sidewalk & Curbing Pavement

12. If required, can your organization provide a bid bond for this project?

☒ Yes ☐ No

13. What is your approximate total bonding capacity?

☐ $500,000 to $2,000,000

☐ $2,000,000 to $5,000,000

☐ $5,000,000 to $10,000,000

☒ $10,000,000 or more

14. Describe the permanent safety program you maintain within your organization. Use attachment if necessary.

Please See Attached

15. Furnish the following information with respect to an accredited banking institution familiar with your organization.

Name of Bank: Citizens Bank
Address: 25 Mall Road, Suite 203
Burlington, MA 01803
Account Manager: Marc J. Lubelczyk, Sr. Vice President
Telephone: (781) 565-2239

CQ - 2 of 7
SAFETY SUMMARY FORM FOR JANUARY 1, 2011

COMPANY NAME: BROX INDUSTRIES, INCORPORATED
COMPANY ADDRESS: 1471 METHUEN ST., DRACUT, MA 01826
N.H. LOCATIONS OF REPORT: HUDSON, HOOKSETT, ROCHESTER, MILFORD
CONTACT PERSON: VICTOR L. GOULET, SAFETY DIRECTOR
PHONE NO: (978) 805-9740
S.I.C. CODE: 1611, 1429, 1442, 2951, 7538, 7699
6531, 4959 & NAICS 551114
NUMBER OF EMPLOYEES: 180
FEDERAL I.D. NO.: 04277 2247

1.) LIST POTENTIAL SAFETY AND HEALTH HAZARDS OF YOUR COMPANY.

EMPLOYEES AT PLANTS WORKING ON OR AROUND HEAVY EQUIPMENT AND
MACHINERY HAVE POTENTIAL FOR FAT. I.S, MUSCLE STRAIN, CAUGHT IN, CRUSHING OR
"STRUCK-BY" TYPE INJURIES. ALL PLANTS AND EQUIPMENT ARE GROUNDED AND/OR
GFCSI’S ARE USED FOR PROTECTION FROM ELECTRICAL HAZARDS. HIGHWAY PAVING
OPERATIONS ARE EXPOSED TO PUBLIC TRAFFIC, HEAVY EQUIPMENT AND VARIOUS
WEATHER CONDITIONS.

2. WHO IS RESPONSIBLE FOR YOUR INSPECTIONS AND HOW OFTEN ARE THEY DONE?

THE COMPANY SAFETY DIRECTOR CONDUCTS UNANNOUNCED MONTHLY (AT
LEAST), DOCUMENTED INSPECTIONS AT ALL PLANTS AND JOBSITEs. THE COMPANY
ALSO UTILIZES OUTSIDE SAFETY/HEALTH CONSULTANTS TO CONDUCT FORMAL,
DOCUMENTED SAFETY INSPECTIONS OF MATERIAL PROCESSING PLANTS AND THE
VARIOUS PAVING AND CONSTRUCTION PROJECTS. A LOSS CONTROL CONSULTANT
FROM OUR WORKERS' COMP INSURANCE PROVIDER INSPECTS EACH PLANT AT LEAST
ANNUALLY AS WELL AS VARIOUS CONSTRUCTION AND PAVING SITES. THESE ARE ALSO
DOCUMENTED, AND SUPERVISORS ARE RESPONSIBLE TO RESPOND IN WRITING AS
WHAT AND WHEN CORRECTIONS WERE MADE FOR EACH SAFETY DEFICIENCY. BROX
SUPERVISORS ARE REQUIRED TO CONDUCT SAFETY INSPECTIONS OF THEIR WORK
LOCATION AT LEAST ONCE PER SHIFT AND DOCUMENT THEIR FINDINGS AND THE
CORRECTIVE ACTION TAKEN. ALL DOCUMENTATION OF PLANT AND JOBSITE
INSPECTIONS ARE FORWARDED TO THE COMPANY SAFETY DIRECTOR. MINING
OPERATIONS ARE INSPECTED BY MSHA ONCE OR TWICE A YEAR. MA DEPT. OF LABOR
PERFORMS A COMPLIANCE ASSISTANCE INSPECTION OF OUR DRACUT, MA PLANTS. ALL
EQUIPMENT OPERATORS AND TRUCK DRIVERS ARE REQUIRED TO PERFORM A PRE-
DRIVING/OPTION INSPECTION OF THEIR VEHICLE OR EQUIPMENT. THIS
DOCUMENTATION IS SENT IN TO THE PLANT MANAGER OR EQUIPMENT MAINTENANCE
DIVISION DAILY.
3. LIST THE MEMBERS OF YOUR COMPANY'S JOINT LOSS MANAGEMENT COMMITTEE BY NAME AND JOB TITLE. PLEASE INDICATE WHICH MEMBERS REPRESENT THE EMPLOYER AND THOSE WHICH REPRESENT EMPLOYEES, IDENTIFY CHAIRPERSON.

* MANAGEMENT MEMBERS (SUPERVISORY)
E. STEVENSON (CHAIRMAN), PROJECT MANAGER, RE/PCS DIVISION
D. THOMPSON, PLANT MANAGER, MTL. DIV.
M. SHEEHAN, SUPERVISOR, CONTRACTING DIV.

* EMPLOYEE MEMBERS (NON-SUPERVISORY)
R. PERETTI, PLANT OPERATOR, MTL. DIV. (LABOR REP.)
D. ROMA, FOB SALES, SALES/MARKETING DIV.
D. ARSENAULT, LABORER, CONTRACTING DIV. (LABOR REP.)

V. GOULET, SAFETY DIRECTOR (COMMITTEE ADVISOR)

4. SPECIFY YOUR EMERGENCY RESPONSE PROCEDURES.

EXITs ARE MARKED AND EMERGENCY PHONE NUMBERS ARE POSTED BY THE PHONES AT ALL LOCATIONS. SUPERVISORS ARE REQUIRED TO CONDUCT EMERGENCY PROCEDURE TRAINING FOR NEW EMPLOYEES, IF PROCEDURES CHANGE AND AT LEAST ANNUALLY.

EMPLOYEES ARE INSTRUCTED TO MEET IN THEIR PARTICULAR WORK LOCATION'S DESIGNATED AREA WHERE A HEAD COUNT WILL BE DONE BY THE DESIGNATED PERSON. OTHER DESIGNATED PERSONS WILL CALL FOR THE NECESSARY ASSISTANCE AND STAND BY TO DIRECT EMERGENCY PERSONNEL AS THEY ARRIVE. TRAINING DOCUMENTATION MUST BE TURNED IN TO THE COMPANY SAFETY DIRECTOR.

5. IDENTIFY PERSON (S) BY NAME AND TITLE RESPONSIBLE FOR SAFETY AND HEALTH INSTRUCTION FOR YOUR EMPLOYEES AND YOUR JOINT LOSS MANAGEMENT COMMITTEE.

V. GOULET, SAFETY DIRECTOR
N. SAUCIER, CONTRACTING MANAGER
L. MELLO, CONTRACTING SUPERVISOR
W. KAATZ, CONTRACTING SUPERVISOR
M. SHEEHAN, CONTRACTING SUPERVISOR
J. LABRAINEY, CONTRACTING SUPERVISOR
S. MOYNIHAN, EQUIPMENT SUPERVISOR
J. BROSKI, EQUIPM. FOREMAN
D. PERRY, DRACUT MA PLANT MANAGER
D. THOMPSON, HUDSON NH PLANT MANAGER
R. FORCIER, IPSWICH MA PLANT MANAGER
(#5 CONTINUED...)

P. JACKSON, MARLBORO MA PLANT MANAGER
W. CARROLL, MERRIMAC MA PLANT MANAGER
D. CLUFF, ROCHESTER / HOOKSETT NH PLANT MANAGER
E. STEVENSON, RE/PCS DIV. SUPERVISOR
S. NEWTON, GRADING SUPERVISOR
L. VALENTE, GRADING FOREMAN
E. WELCH, PAVING SUPT.
F. RAWSOON, PAVING SUPT.
R. VILAMARIM, PAVING SUPT.
B. KENNEDY, PAVING FOREMAN
J. SHEA, PAVING FOREMAN
M. BUCUZOZO, TRUCKING SUPERVISOR
C. NICKERSON, CONTROLLER
M. REILLY, SALES/MARKETING DIVISION MANAGER
G. MACKENZIE, CONTRACTING DIVISION MANAGER
D. PERRY, MATERIALS DIVISION MANAGER
G. HALL, RE/PCS DIVISION MANAGER

6. IDENTIFY PERSON (S) BY NAME AND TITLE QUALIFIED TO TAKE CORRECTIVE ACTIONS ON SAFETY AND HEALTH HAZARDS.

S. BROX, PRESIDENT & ALL OTHERS LISTED IN QUESTION #5 (ABOVE)

7. INDICATE YOUR PROCEDURES TO ASSURE COMPLIANCE WITH SAFETY AND HEALTH STANDARDS BY SUBCONTRACTORS.

OUR SUBCONTRACTOR'S SPECIFIC SAFETY REQUIREMENTS ARE OUTLINED IN OUR CO. SAFETY BOOKLET AS WELL AS OUR SUBCONTRACT AGREEMENT. THE COMPANY SAFETY DIRECTOR CONDUCTS REGULAR SAFETY INSPECTIONS OF THE SUB'S PROJECTS AND COMPLETES A FOLLOWUP REPORT WHICH ARE SENT TO THE COMPANY CEO. BROX'S SUPERVISOR ADDRESSES EACH NOTED VIOLATION WITH THE SUB'S SUPERVISOR ON THE DAY OF THE INSPECTION. THE BROX SUPERVISOR ON EACH PROJECT IS TO ADVISE THE SUB OF ANY SAFETY OR HEALTH ISSUES AS THEY ArISE.

OUR WORKERS' COMP CARRIER AND OUR SAFETY CONSULTANTS ALSO INSPECT AND REPORT THEIR FINDINGS OF INSPECTIONS AT VARIOUS PROJECTS. SUES ARE ADVISED THAT SERIOUS SAFETY OR HEALTH PROBLEMS ARE TO BE CORRECTED AS SOON AS POSSIBLE OR THEY MAY BE REMOVED FROM THE JOB SITE.
8. SUMMARIZE YOUR DISCIPLINARY POLICY WITH REGARD TO VIOLATIONS OF YOUR SAFETY AND HEALTH POLICIES.

VERBAL WARNING AND INSTRUCTION IS GIVEN AT FIRST AND FURTHER VIOLATIONS MAY RESULT IN WRITTEN REPRIMAND, SUSPENSION AND/OR TERMINATION FROM EMPLOYMENT.

9. SUMMARIZE YOUR POLICY FOR PROVIDING ADEQUATE RESOURCES DEDICATED TO SAFETY.

BROX INDUSTRIES IS COMMITTED TO ENSURING A SAFE AND HEALTHY ENVIRONMENT FOR EMPLOYEES. THIS IS AN ONGOING PROCESS BY WHICH THE COMPANY PROVIDES SAFETY AND HEALTH TRAINING (AT ALL "LEVELS") SPECIFIC TO EACH WORK AREA. ALL NECESSARY PERSONAL PROTECTIVE EQUIPMENT IS PROVIDED EXCEPT FOR THE REQUIRED SAFETY TOE SHOES FOR WHICH EMPLOYEES ARE REIMBURSED $40.00/YR BY THE COMPANY. SCHEDULED MEDICAL SURVEILLANCE IS CONDUCTED AND THE COMPANY PERFORMS PRE-EMPLOYMENT, POST ACCIDENT, REASONABLE CAUSE AND RANDOM DRUG TESTING ON ALL EMPLOYEES.

10. HOW ARE EMPLOYEES PROVIDED ACCESS TO YOUR SAFETY AND HEALTH POLICIES?

ALL EMPLOYEES RECEIVE AND SIGN FOR A COPY OF THE CURRENT CO. SAFETY BOOKLET AND SAFETY ORIENTATION FOR NEW EMPLOYEES IS PROVIDED BY THE COMPANY SAFETY DIRECTOR AND THEIR SUPERVISOR. SAFETY AND HEALTH INSTRUCTION ARE ALSO PROVIDED THROUGH WEEKLY SAFETY MEETINGS, "PAYCHECK BULLETIN" ARTICLES, THE MINUTES OF THE "BROX SAFETY MANAGEMENT TEAM" MEETINGS ARE POSTED FOR ALL EMPLOYEES AND AN ANNUAL 8 HOUR SAFETY SEMINAR IS CONDUCTED BY THE COMPANY FOR EMPLOYEES EVERY SPRING.

SIGNATURE OF PERSON COMPLETING FORM:

[VICTOR GOULET, SAFETY DIRECTOR, BROX INDUSTRIES, INC.]

June 1, 2012

DATE
I hereby certify that the information submitted herewith, including any attachment is true to the best of my knowledge and belief.

Brox Industries, Inc.

By: [Signature]
    Stephen M. Brox

Title: President

Dated: February 7, 2019
Schedule A – List of Major Engineered Construction Projects Completed in the Past Five (5) Years

<table>
<thead>
<tr>
<th>Name, Location and Description of Project</th>
<th>Owner</th>
<th>Design Engineer</th>
<th>Date Completed</th>
<th>Contract Price</th>
<th>Reference/Contact &amp; Address &amp; Phone</th>
</tr>
</thead>
</table>

Please See Attached - Thank You
**Schedule B – List of Current Projects Under Construction**

<table>
<thead>
<tr>
<th>Name, Location and Description of Project</th>
<th>Owner</th>
<th>Design Engineer</th>
<th>Contract Price</th>
<th>Amount Completed</th>
<th>Date of Scheduled Completion</th>
<th>Reference/Contact &amp; Address &amp; Phone</th>
</tr>
</thead>
</table>

Please See Attached - Thank You
Schedule C - Construction Experience of Principal Individuals Involved in Construction Operations

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Date started with this organization</th>
<th>Date started working in construction</th>
<th>Prior positions and experience in construction</th>
</tr>
</thead>
</table>

Please See Attached - Thank You
CERTIFICATE OF VOTE

At a regularly called meeting of the Board of Directors of Brox Industries, Inc. held on October 3, 2018 it was voted that any one of the following named individuals, STEPHEN M. BROX, President and Treasurer, CECILIA NICKERSON, Assistant Treasurer and Clerk and HENRY HYDER III, Assistant Clerk, on behalf of this corporation, are hereby authorized to execute bids, contracts and bonds in the name and behalf of said corporation, and affix its corporate seal thereto; and such execution of any contract or obligation in the corporation's name on its behalf by such STEPHEN M. BROX, under seal of the company, shall be valid and binding upon the corporation.

A TRUE COPY,

ATTEST:

[Signature]

CECILIA NICKERSON
Clerk of the Corporation
1471 Methuen Street
Dracut, MA 01826

I HEREBY CERTIFY that I am the Clerk of BROX INDUSTRIES, INC. and that STEPHEN M. BROX is the President and Treasurer of said corporation and that the above vote has not been amended or rescinded and remains in full force and effect as of this date.

[Signature]

CECILIA NICKERSON

Dated: October 3, 2018
# MAJOR CONTRACTS COMPLETED WITHIN THE LAST FIVE YEARS

<table>
<thead>
<tr>
<th>Contract Amount</th>
<th>Class of Work</th>
<th>When Completed</th>
<th>Location &amp; Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>$16,109,427</td>
<td>HWY CONSTR, COLDPLANNING, SURFACING, SUPERPAVE WATERPROOF &amp; BRIDGE DECKS</td>
<td>Mar-17</td>
<td>MASS DOT - DISTRICT G #702940</td>
</tr>
<tr>
<td>$6,025,044</td>
<td>TERMINAL REBAB &amp; TAXIWAY IMPROV. P-401 WARM MIX</td>
<td>Aug-17</td>
<td>SUB TO-DANIEL O'CONNELL-HANSCOM AIRFIELD</td>
</tr>
<tr>
<td>$1,653,731</td>
<td>MACHPAVE-401, QUALITY CONTROL, PROFILOGRAPH</td>
<td>Aug-17</td>
<td>SUB TO-DW WHITE-LAWRENCE AIRPORT</td>
</tr>
<tr>
<td>$3,492,407</td>
<td>EMER RESPONSE, ROADWAY REPAIR, COLDPLANNING, HMA, WINTER MAINTENANCE</td>
<td>Mar-17</td>
<td>MASS DOT - DISTRICT #4 84495</td>
</tr>
<tr>
<td>$5,902,697</td>
<td>COLDPLANE, MACHPAVE HI-STRENGTH, OPEN-GRADED, STRUCTURES, &amp; APPURTENT</td>
<td>Nov-16</td>
<td>NHDDOT - DISTRICT 4 #61664 &amp; 40194</td>
</tr>
<tr>
<td>$5,678,470</td>
<td>REHABILITATION OF RUNWAY 4L-22R, P-401 WARM MIX &amp; LATEX MOD</td>
<td>Nov-16</td>
<td>SUB TO - JF WHITE - LOGAN AIRPORT RUNWAYS</td>
</tr>
<tr>
<td>$553,296</td>
<td>RECLAIM, COLDPLANE, PAVING &amp; APPURTENANCES</td>
<td>Jun-17</td>
<td>TOWN OF METHUEN, MA 2016-2017</td>
</tr>
<tr>
<td>$1,880,076</td>
<td>RECLAIM, COLDPLANE, PAVING, STRUCTURES, CURBING, CONC RAMPS, HANDPAVE</td>
<td>Jun-17</td>
<td>TOWN OF IPSWICH, MA 2015-2016</td>
</tr>
<tr>
<td>$1,330,267</td>
<td>COLDPLANE, MACHINEPAVE, SURFACE, BRIDGEDECKS, QC/QA</td>
<td>Sep-17</td>
<td>SUB TO SPS NE-CONLEY TERMINAL</td>
</tr>
<tr>
<td>$683,610</td>
<td>MICROMILL, RECLAIM, &amp; SUPERPAVE, WARM-MIX, BERM, HANDPAVE.</td>
<td>Jun-17</td>
<td>SUB TO SPS NE - BRIDGE REPLACEMENT /BIKEWAY MASS #90047</td>
</tr>
<tr>
<td>$8,766,491</td>
<td>COLDPLANE, UBTO, SURFACE TEXTURING, SUPERPAVE, AND APPURTIRE</td>
<td>Feb-16</td>
<td>MASS DOT - RTE 3 BURLINGTON-TYNGSBORO #81581</td>
</tr>
<tr>
<td>$1,860,228</td>
<td>COLDPLANE, SUPERPAVE, QC/QA, WATERPROOF BRIDGE DECKS, LOOPS , &amp; APPURT</td>
<td>Jul-16</td>
<td>MASS DOT - RTE 38 TEWKSBURY #85583</td>
</tr>
<tr>
<td>$5,158,678</td>
<td>TERMINAL REBAB &amp; TAXIWAY IMPROV. P-401 WARM MIX</td>
<td>Dec-15</td>
<td>JF WHITE - LOGAN AIRPORT RUNWAYS</td>
</tr>
<tr>
<td>$934,669</td>
<td>MICROMILL, HMA FRICTION COURSE, TRAFFIC SIGNALS, LOOPS, DRIVES &amp; W/C RAMPS</td>
<td>Sep-16</td>
<td>MASS DOT - RTE 113 LOWELL #86200</td>
</tr>
<tr>
<td>$6,069,648</td>
<td>MICROMILL, SUPERPAVE BRIDGES &amp; HIGHWAY, LATEX MOD, WARM MIX</td>
<td>Jun-16</td>
<td>SUB TO SPS NE-495 @RTE 3 LITTLETON #75501</td>
</tr>
<tr>
<td>$1,302,761</td>
<td>MACHPAVE CITY STREETS, QC/QA, PAVE PATCH, CURBING, STRUCTURES &amp; APPURT</td>
<td>Nov-15</td>
<td>CITY OF WOBURN, MA 2015</td>
</tr>
<tr>
<td>$1,238,851</td>
<td>COLDPLANE AND MACHPAVE CITY STREETS, PAVE PATCH STREETS, LOOPS, PAVE MARKINGS</td>
<td>Aug-16</td>
<td>TOWN OF WAKEFIELD, MA 2014 W/R-OVER-VER</td>
</tr>
<tr>
<td>$2,275,375</td>
<td>COLDPLANE, MACHPAVE STREETS, PAVE PATCH STREETS, LOOPS, PAVE MARKINGS</td>
<td>Dec-15</td>
<td>CITY OF MANCHESTER, NH COLDPLANE &amp; RESURFACE</td>
</tr>
<tr>
<td>$15,471,625</td>
<td>COLDPLANE, BRIDGEDECKS, SUPERPAVE QC/QA, OPEN GRADED &amp; APPURT</td>
<td>Sep-15</td>
<td>MASS DOT - RTE 495 BELLINGHAM 72308</td>
</tr>
<tr>
<td>$19,310,566</td>
<td>COLDPLANE, BRIDGEDECKS, SUPERPAVE QC/QA, OPEN GRADED &amp; APPURT</td>
<td>Sep-15</td>
<td>MASS DOT - RTE 495 HAVERHILL 72943</td>
</tr>
<tr>
<td>$16,764,896</td>
<td>COLDPLANE, BRIDGEDECKS, SUPERPAVE QC/QA, OPEN GRADED &amp; APPURT</td>
<td>Sep-15</td>
<td>MASS DOT - RTE 93 WILMINGTON TO WOBURN 77675</td>
</tr>
<tr>
<td>$1,318,731</td>
<td>EMER RESPONSE, ROADWAY REPAIR, COLDPLANNING, HMA, WINTER MAINTENANCE</td>
<td>Apr-15</td>
<td>MASS DOT - DISTRICT #4 73146</td>
</tr>
<tr>
<td>$943,628</td>
<td>COLDPLANE, HMA - BASE, INTERMEDIATE, SURFACE QC/QA</td>
<td>Jul-15</td>
<td>SUB TO J. TROPEANO - MASS DOT- ARLINGTON/MAHCUEN</td>
</tr>
<tr>
<td>$2,066,237</td>
<td>RUNWAY REHABILITATION, COLDPLANE, WARM MIX ASPHALT-LOGAN AIRPORT</td>
<td>Dec-14</td>
<td>JF WHITE - LOGAN AIRPORT RUNWAYS</td>
</tr>
<tr>
<td>$1,406,930</td>
<td>RECLAIM, COLDPLANE, PAVING, STRUCTURES, CURBING, CONC RAMPS, HANDPAVE</td>
<td>Aug-15</td>
<td>TOWN OF IPSWICH, MA 2012-2015</td>
</tr>
<tr>
<td>$4,286,548</td>
<td>COLDPLANE, RECLAIM, MACHPAVE, STRUCTURES, GUARDRAIL &amp; APPURT</td>
<td>Sep-15</td>
<td>NHDDOT - DISTRICT 4 25295/29219</td>
</tr>
<tr>
<td>$800,647</td>
<td>COLDPLANE, RECLAIM, MACHPAVE, HANDPAVE</td>
<td>Sep-15</td>
<td>AMER EXC - TOLEND ROAD, DOVER, NH</td>
</tr>
<tr>
<td>$2,247,600</td>
<td>COLDPLANE, RECLAIMING, RESURFACING, STRIPING &amp; APPURT</td>
<td>Sep-15</td>
<td>CITY OF NASHUA, NH 2014 PAVING PROGRAM</td>
</tr>
<tr>
<td>$6,390,829</td>
<td>COLDPLANE, BRIDGEDECKS, SUPERPAVE QC/QA, OPEN GRADED &amp; APPURT</td>
<td>Jul-14</td>
<td>MASS DOT - RTE 2 CONC-LITTLETON #72876</td>
</tr>
<tr>
<td>$4,287,103</td>
<td>COLDPLANE, BRIDGEDECKS, SUPERPAVE QC/QA, OPEN GRADED &amp; APPURT</td>
<td>Aug-14</td>
<td>MASS DOT - RTE 495 WESTFORD #72268</td>
</tr>
<tr>
<td>$1,319,812</td>
<td>MICRO-MILL, RESURFACE (SUPERPAVE), TRAFFIC SIGNALS &amp; APPURT</td>
<td>Sep-14</td>
<td>MASS DOT - MIDDLETOWN #76735</td>
</tr>
<tr>
<td>$693,170</td>
<td>TAXIWAY REHABILITATION, WARM MIX ASPHALT-LOGAN AIRPORT</td>
<td>Apr-14</td>
<td>DOW CO - TERMINAL 47 LOGAN AIRPORT</td>
</tr>
<tr>
<td>$352,732</td>
<td>EMER RESPONSE, ROADWAY REPAIR, WINTER MAINTENANCE</td>
<td>Jun-14</td>
<td>MASS DOT - DISTRICT 4 (REPAIR) #72422</td>
</tr>
<tr>
<td>$632,662</td>
<td>HWY CONSTRUCTION, BASE, BINDER, &amp; TOP &amp; APPURT</td>
<td>Nov-13</td>
<td>SUB TO ET &amp; L , BRIDGE REHAB, LAWRENCE, MA</td>
</tr>
<tr>
<td>$530,503</td>
<td>RECLAIM, COLDPLANE, PAVING &amp; APPURTENANCES</td>
<td>Jun-14</td>
<td>TOWN OF MATHUEN, MA 2013-2014</td>
</tr>
</tbody>
</table>
## MAJOR CONTRACTS COMPLETED WITHIN THE LAST FIVE YEARS

<table>
<thead>
<tr>
<th>Contract Amount</th>
<th>Class of Work</th>
<th>When Completed</th>
<th>Location &amp; Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>$488,019</td>
<td>PAVING &amp; APPURTENANT</td>
<td>Jun-14</td>
<td>TOWN OF SALISBURY, MA 2013</td>
</tr>
<tr>
<td>$725,363</td>
<td>TRAFFIC SYSTEM UPGRADE, RESURFACING &amp; APPURTENANT</td>
<td>Sep-14</td>
<td>NH DOT - RTE 125 EPPING #25188</td>
</tr>
<tr>
<td>$534,457</td>
<td>COLDPLANE, RESURFACE &amp; APPURT</td>
<td>Nov-13</td>
<td>BUSBY - TOWN OF SALEM, NH</td>
</tr>
<tr>
<td>$956,069</td>
<td>ROADWAY PREP &amp; EXCAVATE, BASE MAT'LS, COLDPLANE, RESURFACE &amp; APPURT</td>
<td>Nov-13</td>
<td>TOWN OF SALEM, NH 2013</td>
</tr>
<tr>
<td>$431,769</td>
<td>COLDPLANE, PAVING &amp; APPURTENANCES</td>
<td>Nov-13</td>
<td>BUSBY-FIDELITY INVESTMENTS</td>
</tr>
<tr>
<td>$4,560,236</td>
<td>COLDPLANE, BRIDGDECKS, SUPERPAVE QC/QA &amp; APPURT</td>
<td>Jul-13</td>
<td>MASS DOT-195 DANVERS-PEABODY #69786</td>
</tr>
<tr>
<td>$2,202,834</td>
<td>MICRO-MILL, RESURFACING &amp; APPURT INSIDE TUNNELS</td>
<td>Sep-13</td>
<td>ZOPPO-MASS DOT-PRUDENTIAL TUNNEL</td>
</tr>
<tr>
<td>$3,858,916</td>
<td>MICRO-MILL, RESURFACE (SUPERPAVE), &amp; APPURT</td>
<td>Aug-13</td>
<td>MASS DOT - MASS PIKE (WESTON) #73649</td>
</tr>
<tr>
<td>$1,755,494</td>
<td>HWY CONSTRUCTION, COLDPLANEING SURFACING &amp; APPURT</td>
<td>Jun-13</td>
<td>MASS DOT-DISTRICT 4, #65439</td>
</tr>
<tr>
<td>$4,221,843</td>
<td>HWY CONSTR, PAVE MILLING, SURFACING &amp; APPURT, EMER RESPONSE</td>
<td>Jun-13</td>
<td>MASS DOT-DISTRICT 6, #68304</td>
</tr>
<tr>
<td>$348,652</td>
<td>PAVING &amp; APPURTENANCES</td>
<td>Jun-13</td>
<td>TOWN OF METHUEN, MA 2011/2012</td>
</tr>
<tr>
<td>$335,562</td>
<td>PAVING &amp; APPURTENANCES</td>
<td>Jun-13</td>
<td>CITY OF HAVENHILL, MA 2012</td>
</tr>
<tr>
<td>$1,680,448</td>
<td>PAVE MILLING, STRUCTURES, SURFACING &amp; APPURTENANCES</td>
<td>Jun-13</td>
<td>TOWN OF WAKEFIELD, MA 2010-2012</td>
</tr>
<tr>
<td>$3,757,329</td>
<td>TAXIWAY REHABILITATION-LOGAN AIRPORT</td>
<td>Sep-13</td>
<td>SUB TO - JF WHITE CONTRACTING CO.</td>
</tr>
<tr>
<td>$2,085,332</td>
<td>COLDPLANE, RESURFACE (BONDED WEARING COURSE), &amp; APPURT</td>
<td>Aug-13</td>
<td>NH DOT - MILFORD - MERRIMACK #22633</td>
</tr>
<tr>
<td>$1,049,723</td>
<td>COLDPLANE, RESURFACE, STRUCTURES, &amp; TRAF SIGNALS, &amp; APPURT</td>
<td>Sep-13</td>
<td>NH DOT - SALEM, #22512</td>
</tr>
<tr>
<td>$672,487</td>
<td>COLDPLANE, RESURFACE (MILL &amp; FILL), &amp; APPURT</td>
<td>Sep-13</td>
<td>NH DOT - WINDHAM-LONDONDERRY #22094</td>
</tr>
<tr>
<td>$1,162,998</td>
<td>COLDPLANE, RECLAIM, SUPERPAVE, STRUCTURES &amp; APPURT</td>
<td>Nov-12</td>
<td>TOWN OF GOFFSTOWN, NH 2012</td>
</tr>
<tr>
<td>$401,608</td>
<td>PAVE MILLING, STRUCTURES, SURFACING &amp; APPURTENANCES</td>
<td>Sep-13</td>
<td>CITY OF DOVER, NH 2013</td>
</tr>
</tbody>
</table>
State of New Hampshire

Department of State

CERTIFICATE

I, William M. Gardner, Secretary of State of the State of New Hampshire, do hereby certify that BROX INDUSTRIES, INC. is a Massachusetts Profit Corporation registered to transact business in New Hampshire on May 03, 1989. I further certify that all fees and documents required by the Secretary of State's office have been received and is in good standing as far as this office is concerned.

Business ID: 141358
Certificate Number: 0004071420

IN TESTIMONY WHEREOF,
I hereto set my hand and cause to be affixed the Seal of the State of New Hampshire,

this 2nd day of April A.D. 2018.

[Signature]
William M. Gardner  Secretary of State
REFERENCES

Commonwealth of Massachusetts
Department of Transportation
District #4
519 Appleton Street
Arlington, MA 02174
Attn: Paul Stedman, District Director
(617) 648-6100

Town of Dracut, MA
833 Hildreth Street
Dracut, MA 01826
Attn: Mike Buxton
(508) 957-0411

Town of Methuen, MA
41 Pleasant Street (Searles Building)
Methuen, MA 01844
Attn: Raymond DiFiore
(978) 794-3223

City of Dover, NH
288 Central Avenue
Dover, NH 03820
Attn: Doug Steele
(603) 516-6450

Town of Amherst, NH
P.O. Box 960
Amherst, NH 03031
Attn: Bruce Barry
(603) 673-6041

Town of Hudson, NH
2 Constitution Drive
Hudson, NH 03051
Attn: Kevin Burns
(603) 886-6018

State of New Hampshire
Department of Transportation
Bureau of Construction
P.O. Box 483, Hazen Drive
Concord, NH 03302
Attn: Theodore Kitsis, Administrator
(603) 271-3734

Town of Andover, MA
36 Bartlett Street
Andover, MA 01810
Attn: John Canavan
(978) 623-8200

Town of Newburyport, MA
1 Perry Way
Newburyport, MA 01950
Attn: Tony Furnari
(978) 465-4463

Town of Rowley, MA
139 Main Street
Rowley, MA 01969
Attn: Mr. Leavitt
(978) 479-3528

City of Nashua, NH
165 Ledge Street
Nashua, NH 03061
Attn: Lori Barrett
(603) 593-3320

Town of Salem, NH
33 Geremonty Drive
Salem, NH 03079
Attn: Dave Wholley
(603) 234-1917
# PAVING EQUIPMENT LIST

<table>
<thead>
<tr>
<th>Description</th>
<th>Type</th>
<th>Quantity</th>
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<tr>
<td>Pavers</td>
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<td>CAT 1055E</td>
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<td>CAT AP655D</td>
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<td>Roadtec RP 195</td>
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<td>Intelligent Compaction Set Ups</td>
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<td>Screening Plants</td>
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<td>Tack Distributor Trucks</td>
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<td>Tack Wagons</td>
<td>Hot Boxes</td>
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<td>Wirtgen W500 Trimmers</td>
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<td>Rollers/Compactors</td>
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<td>Static (8 – 12 Ton)</td>
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<td>Rubber Tired (15 Ton)</td>
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<td>Bituminous Curb Machine</td>
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<td>Sweepers</td>
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<td>Flo-Boy</td>
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<td>Small Tag Along</td>
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<td>Tri-Axle Tractor</td>
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<td>10 Wheelers</td>
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<td>Tractors</td>
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<td>Skid Steers</td>
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<td>Backhoes</td>
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<td>Cherry Pickers</td>
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<td>Arrow Boards</td>
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<td>Message Boards</td>
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<td>Light Towers</td>
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<tr>
<td>Chain and Cut-Off Saws</td>
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<tr>
<td>Hand Compactors</td>
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<tr>
<td>Air Compressors</td>
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<tr>
<td>Various Other Assorted Small Equipment</td>
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<tr>
<td>NAME</td>
<td>PRESENT POSITION</td>
<td>YEARS OF EXPERIENCE</td>
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<tr>
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<tr>
<td>Stephen M. Brox</td>
<td>President &amp; CEO, Division Mgr/Asst. Treasurer, Clerk</td>
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<tr>
<td>Cecilia Nickerson</td>
<td>Clerk</td>
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<tr>
<td>Robert J. Costa</td>
<td>Paving Support Manager</td>
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<tr>
<td>Greg MacKenzie</td>
<td>Division Mgr/Contracting, Division Mgr/Engineer PCS &amp; RE</td>
<td>27</td>
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<tr>
<td>Erik Stevenson</td>
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<tr>
<td>Mark J. Nikitas</td>
<td>Division Mgr/Sales/Marketing</td>
<td>29</td>
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<tr>
<td>Douglas Perry</td>
<td>Division Mgr/Materials</td>
<td>26</td>
</tr>
<tr>
<td>Norman Saucier</td>
<td>NH Area Manager</td>
<td>42</td>
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<tr>
<td>Victor Goulet</td>
<td>Corporate Safety Director</td>
<td>25</td>
</tr>
<tr>
<td>Michael Sheehan</td>
<td>Project Superintendent</td>
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<tr>
<td>William Kaaz</td>
<td>Project Superintendent</td>
<td>59</td>
</tr>
<tr>
<td>Chuck Wasyliak</td>
<td>Project Manager-Paving</td>
<td>32</td>
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<tr>
<td>Ted Brown</td>
<td>Project Superintendent</td>
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<td>Scott Bennett</td>
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<td>John Tamagnini</td>
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<tr>
<td>Thomas Finn</td>
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<tr>
<td>Kevin Dimambro</td>
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<td>Vincent Venturo</td>
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<td>Joseph Gasbarro</td>
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<td>Nathan Hoitt</td>
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<td>Item No.</td>
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Addendum 1 (issued 01/30/19)

City of Nashua, New Hampshire  
Division of Public Works  
IFB0660-020719  
Schedule of Values - Major & Arterial Roads

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Estimated Quantity</th>
<th>Units</th>
<th>Item Description</th>
<th>Unit Price in Figures</th>
<th>Total Price in Figures</th>
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<td>641</td>
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<td>900</td>
<td>150,000</td>
<td>ALLOWANCE</td>
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<td>Asphalt Core, One Hundred Fifty</td>
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TOTAL BID PRICE IN FIGURES: $6,853,472.96

TOTAL OF BID ITEMS (words): Six Million, Eight Hundred Fifty Three Thousand, Four Hundred Seventy-Two

$6,853,472.96

Contractor: Brox Industries, Inc

Authorized Signature: [Signature]

Date: February 11, 2019

Address: 1471 Methuen Street, Dracut, MA 01826

Email: nsaucier@broxindustries.com
DIVISION 4

PERFORMANCE AND PAYMENT BONDS
CONSTRUCTION PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)
a (Corporation, Partnership or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Principal,

hereinafter called Surety, are held and firmly bound unto

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the total aggregate penal sum of

Dollars, $ $_________ )

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the __________ day of ________ 20 __, a copy of which is hereto attached and made a part hereof for the construction of:

____________________________________

____________________________________

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extension thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if the PRINCIPAL shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void: otherwise to remain in full force and effect.

PF - 1 of 2
PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the specifications accompanying same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time alteration or addition to the terms of the contract or to the WORK or to the specifications.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the Contract as so amended. The term "Amendment", wherever used in this BOND and whether referring to this BOND, the contract or the loan Documents shall include any alteration, addition, extension or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed ________ counterparts, each one of (number) which shall be deemed an original, this ______________ day of ______________ , 20 ___.

ATTEST:

By: ____________________________ (Principal) Secretary

(SEAL)

By: ____________________________ Witness as to Principal

(Address)

ATTEST:

By: ____________________________ Witness as to Surety

(Address)

By: ____________________________ (Surety)

(Address)

BY ____________________________ Attorney - in - Fact

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of New Hampshire
DIVISION 5

AGREEMENT
STANDARD FORM OF AGREEMENT

BETWEEN OWNER AND CONTRACTOR

THIS AGREEMENT is dated as of the ________ day of ____________ in the year 2019 by and between the City of Nashua, New Hampshire (hereinafter called OWNER) and ____ Brox Industries, Inc, and its successors, transferees and assignees together (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

1.01 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents.

ARTICLE 2 - THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

The scheduled work is located in various areas throughout the City of Nashua and consists primarily of pavement overlaying, pavement milling with overlay, and pavement reclamation.

ARTICLE 3 - ENGINEER

3.01 The Project has been designed by: Division of Public Works
Engineering Department
9 Riverside Street
Nashua, NH 03062

who is hereinafter called ENGINEER and who is to act as OWNER's representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Dates for Substantial Completion

The anticipated Commencement date for the contract is on or about March 20, 2019. Project will begin once a written “Notice to Proceed” is issued.

Substantial completion shall be by October 15, 2019. Substantial completion occurs when all paving is complete.

Contract completion shall be by October 31, 2019.
A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER ONE HUNDRED dollars ($100) for each calendar day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified in paragraph 4.02 for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER TWO HUNDRED dollars ($200) for each calendar day that expires after the time specified in paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

B. In the event that the CONTRACTOR fails to pay OWNER the specified liquidated damages amount within thirty (30) days of CONTRACTOR being notified of said damages, OWNER may deduct the amount of the assessed liquidated damages from the final payment or retention withheld pursuant to Article 14 of the General Conditions.

ARTICLE 5 - CONTRACT PRICE

5.01 Subject to additions and deductions by Change Order, the OWNER shall pay CONTRACTOR, in accordance with the Contract Documents, the Contract Sum of:

Six Million Eight Hundred Fifty-Three Thousand Four Hundred Seventy-Two and 96/100 Dollars

($6,853,472.96)

The Contract Sum shall include all items and services necessary for the proper execution and completion of the Work determined below:

A. for all Unit Price Work, an amount equal to the sum of the established Unit Price for each separately identified item of Unit Price Work times the estimated quantity of that item, as indicated in the attached Bid Schedule;

B. as provided in paragraph 11.03 of the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classification are to be made by ENGINEER as provided in paragraph 9.08 of the General Conditions. Unit prices have been computed as provided in paragraph 11.03 of the General Conditions.

ARTICLE 6 - PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.
B. Applications for Payment under this agreement shall be submitted as follows:

➢ Electronically via email to VendorAPInvoices@NashuaNH.gov

OR

➢ Paper Copies via US Mail to:

City of Nashua, City Hall
Accounts Payable
229 Main Street
Nashua, NH 03060

*Please do not submit invoices both electronically and paper copy.*

In addition, and to facilitate the proper and timely payment of applications, the **OWNER** requires that all submitted invoices contain a valid **PURCHASE ORDER NUMBER**

6.02  Progress Payments; Retainage

A.  *Progress Payments.* The **OWNER** will once each month make a progress payment to the **CONTRACTOR** on the basis of an estimate of the total amount of work done to the time of the estimate and its value as prepared by the **CONTRACTOR** and approved by the **ENGINEER**. All such payments will be measured by the schedule of values established in paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

B.  *Retainage.* The **OWNER** will retain a portion of the progress payment, each month, in accordance with the following procedures:

1. The **OWNER** will establish an escrow account in the bank of the **OWNER**’s choosing. The account will be established such that interest on the principal will be paid to the **CONTRACTOR**. The principal will be the accumulated retainage paid into the account by the **OWNER**. The principal will be held by the bank, available only to the **OWNER**, until termination of the contract.

2. Until the work is 50% complete, as determined by the **ENGINEER**, retainage shall be 10% of the monthly payments claimed. The computed amount of retainage will be deposited in the escrow account established above.

3. After the work is 50% complete, and provided the **CONTRACTOR** has satisfied the **ENGINEER** in quality and timeliness of the work, and provided further that there is no specific cause for withholding additional retainage no further amount will be withheld. The escrow account will remain at the same balance throughout the remainder of the project.

6.03  Final Payment

A. Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, **OWNER** shall hold 2% retainage during the 1 *(one) year* warranty period and release it only after the project has been accepted.

AG - 3 of 7
ARTICLE 7 - CONTRACTOR'S REPRESENTATIONS

7.01 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. CONTRACTOR has carefully studied all (if any): (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions and (2) reports and drawings of Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. CONTRACTOR is entitled to rely upon the general accuracy of the “technical data” as provided in paragraph 4.2 of the General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR’s purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site.

F. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.

G. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

H. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.

I. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

J. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.
K. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 8 - CONTRACT DOCUMENTS

8.01 Contents

A. The Contract Documents consist of the following:

1. The Contract Documents are defined in Article 1 of the General Condition as amended herein.

2. The following documents are incorporated by reference or otherwise indicated:

   a. New Hampshire Department of Transportation “Standard Specifications for Road and Bridge Construction”, latest edition, incorporated by reference or unless otherwise indicated.


ARTICLE 9 - MISCELLANEOUS

9.01 Terms

A. Terms used in this will have the meanings indicated in the General Conditions.

9.02 Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
9.03 Successors and Assigns

A. **OWNER** and **CONTRACTOR** each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

9.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon **OWNER** and **CONTRACTOR**, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

9.05 Choice of Law and Venue

A. This agreement shall be governed exclusively by the laws of the State of New Hampshire and any claim or action brought relating to this contract, the work performed or contracted to be performed thereunder, or referable in any way thereto shall be brought in Hillsborough County (New Hampshire) Superior Court Southern Judicial District or in the New Hampshire 9th Circuit Court—Nashua and not elsewhere.

---

**Address for giving notices to OWNER:**

Division of Public Works
Engineering Department
9 Riverside Street
Nashua, NH 03062

---

**Address for giving notices to CONTRACTOR:**

Norman Saucier
Brox Industries, Inc.
1471 Methuen Street
Dracut, MA 01826
IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed, initialed or identified by OWNER and CONTRACTOR or identified by ENGINEER on their behalf.

CITY OF NASHUA – OWNER

__________________________________________________________
James Donchess, Mayor City of Nashua

Date: ________________________

CONTRACTOR:

By: __________________________
   Brox Industries, Inc. (Authorized Representative)

Print Name: ________________________________

Date: ________________
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GENERAL CONDITIONS
ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. Addenda--Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the Bidding Requirements or the Contract Documents.

2. Agreement--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. Application for Payment--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. Asbestos--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. Bid--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. Bidding Documents--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. Bidding Requirements--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. Bonds--Performance and payment bonds and other instruments of security.

9. Change Order--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. Claim--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. Contract--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. Contract Documents--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications, the Drawings and the Purchases Order as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Field Orders, and ENGINEER's written interpretations and clarifications issued on or after the Effective Date Of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in
13. **Contract Price**—The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. **Contract Times**—The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER’s written recommendation of final payment.

15. **CONTRACTOR**—The individual or entity with whom OWNER has entered into the Agreement.

16. **Cost of the Work**—See paragraph 11.01.A for definition.

17. **Drawings**—That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. **Effective Date of the Agreement**—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. **ENGINEER**—The individual or entity named as such in the Agreement.

20. **ENGINEER’s Consultant**—An individual or entity having a contract with ENGINEER to furnish services as ENGINEER’s independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

21. **Field Order**—A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

22. **General Requirements**—Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. **Hazardous Environmental Condition**—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. **Hazardous Waste**—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. **Laws and Regulations; Laws or Regulations**—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. **Liens**—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. **Milestone**—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. **Notice of Award**—The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.
29. Notice to Proceed--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. OWNER--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. Partial Utilization--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. PCB's--Polychlorinated biphenyls.

33. Petroleum--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. Project--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the contract Documents.

35. Project Manual--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. Radioactive Material--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. Resident Project Representative--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. Samples--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. Shop Drawings--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. Site--Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to performed, including rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

41. Specifications--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

42. Subcontractor--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

43. Substantial Completion--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

44. Supplementary Conditions--That part of the Contract Documents which amends or supplements these General Conditions.
45. **Supplier**—A manufacturer, fabricator, supplier, distributor, material man, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. **Underground Facilities**—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. **Unit Price Work**—Work to be paid for on the basis of unit prices.

48. **Work**—The entire completed construction or the various separately identifiable parts thereof required to be provided in the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. **Written Amendment**—A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

### 1.02 Terminology

#### A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms "as allows," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

#### B. Day

1. The work "day" shall constitute a calendar day of regular working hours except Saturdays, Sundays and any legal holiday.

#### C. Defective

1. The word "defective," when modifying the work "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

#### D. Furnish, Install, Perform, Provide

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word "install," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or 'Provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, "provide" is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 Copies of Documents

A. OWNER shall furnish to CONTRACTOR up to 5 copies of the Contract Documents as are reasonably necessary for execution of the Work. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence on the day indicated in the Notice to Proceed

2.04 Starting the Work

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 Before Starting Construction

A. CONTRACTOR's Review of Contract Documents: Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. Preliminary Schedules: Within ten days after the effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. A preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. A preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and

3. A preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve
as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

C. Evidence of Insurance: Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.

2.06 Preconstruction Conference

A. Within 20 days after the Contract times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 Initial Acceptance of Schedules

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR’s full responsibility therefore.

2. CONTRACTOR’s schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.

3. CONTRACTOR’s schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 Reference Standards

A. Standards, Specifications, Codes, Laws, and Regulations
1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER’s Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Document.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

2. In case of discrepancy, calculated dimensions will govern over scaled dimensions, Drawings will govern over Standard Specifications, and Construction Specifications will govern over both Drawings and Standard Specifications. The CONTRACTOR shall take no advantage of any apparent error or omission in the Drawings or Construction Specifications, and the ENGINEER will be permitted to make such corrections and interpretations as may be deemed necessary to fulfill the intent of the Contract Documents.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. The provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. The provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment, or (ii) a Change Order; order    B. The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, by one of more of the following ways: (i) a Field Order; (ii) ENGINEER’s approval of a Shop Drawing or Sample; or (iii) ENGINEER’s written interpretation or clarification.
3.05 Reuse of Documents

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER’s Consultant, including electronic media editions. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER’s furnishing the Site, CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

B. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER’s interest therein as necessary for giving notice of or filing a mechanic’s or construction lien against such lands in accordance with applicable Laws and Regulations.

C. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

D. If corporate or private property interferes with the Work, CONTRACTOR shall notify, in writing, the OWNER’s of such property, advising them of the nature of the interference and shall arrange to cooperate with them for the protection or disposition of such property. CONTRACTOR shall furnish the ENGINEER with copies of such notifications and with copies of any agreements between the CONTRACTOR and the property OWNER’s concerning such protection or disposition.

E. CONTRACTOR shall take all necessary precautions for the protection of corporate or private property, such as walls and foundations of buildings, vaults, underground structures of public utilities, underground drainage facilities, overhead structures of public utilities, trees, shrubbery, crops, and fences contiguous to the Work, of which the Contract does not provide for removal. CONTRACTOR shall protect and carefully preserve all official survey monuments, property marks, section markers, and Geological Survey Monuments, or other similar monuments, until OWNER, or authorized Surveyor or agent has witnessed or otherwise referenced their location or relocation. CONTRACTOR shall notify the ENGINEER of the presence of any such survey or property monuments as soon as they are discovered.

F. CONTRACTOR shall be responsible for the damage or destruction of property of any character resulting from neglect, misconduct, or omission in its manner or method of execution or the non-execution of the work, or caused by defective work or the use of unsatisfactory materials, and such responsibility shall not be released until the work shall have been completed and accepted and the requirements of the Construction Specifications complied with.

G. Whenever public or private property is so damaged or destroyed, the CONTRACTOR shall at its own expense, restore such property to a condition equal to that existing before such damage or injury was done by repairing, rebuilding, or replacing it as may be directed, or the CONTRACTOR shall otherwise make good such damage or destruction in an acceptable manner. If the CONTRACTOR fails to do so, the ENGINEER may, after giving the CONTRACTOR notice in writing, proceed to repair, rebuild, or otherwise restore such property as may be deemed
necessary, and the cost thereof shall be deducted from any compensation due, or which may become due, the CONTRACTOR under its Contract.

4.02 Subsurface and Physical Conditions

A. Reports and Drawings:

1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized:

CONTRACTOR may rely upon the general accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER’s Consultants with respect to:

1. The completeness of such reports and drawings for CONTRACTOR’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. Any CONTRACTOR interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

C. Potential for Hazardous Materials:

Work may include excavation through, and removal of, soils potentially containing undocumented asbestos-containing or other hazardous materials. Should the CONTRACTOR, while performing work under this Contract, uncover hazardous materials, as defined in federal, state and local regulations, he/she shall immediately notify the Engineer. No further disturbance of the area shall occur until the Engineer has collected and analyzed a representative sample of the suspected material. The area shall be cordoned off and covered with 6-mil polyethylene sheeting and await further directions from the Engineer.

4.03 Differing Subsurface or Physical Conditions

A. Notice: If CONTRACTOR believes that any subsurface or physical conditions at or contiguous to the Site that is uncovered or revealed either:

1. Is of such a nature as to establish that any “technical data” on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. Is of such a nature as to require a change in the Contract Documents; or

3. Differs materially from that shown or indicated in the Contract Documents; or

4. Is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents; then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any
Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. ENGINEER’s Review: After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER’s obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER’S findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR’s cost of, or time required for, performance of the Work; subject, however, to the following:

   a. Such condition must meet any one or more of the categories described in paragraph 4.03.A; and

   b. With respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

   a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

   b. The existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and Contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR’s making such final commitment; or

   c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefore as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER’s Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 Underground Facilities

A. Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the OWNER’s of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. The cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

   a. Reviewing and checking all such information and data,
b. Locating all Underground Facilities shown or indicated in the Contract Documents.

c. Coordination of the Work with the OWNER’s of such Underground Facilities, including OWNER, during construction, and

d. The safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the OWNER of such Underground Facility and give written notice to that OWNER and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

3. CONTRACTOR shall notify the following underground utility locating service at least three full working days prior to beginning work: Dig Safe System, Inc. 1-800-344-7233.

A list of the major public utilities servicing the work area follows. The list indicates the name and telephone number of the responsible authority of the various utilities which should be notified if conflicts or emergencies arise during the progress of the work.

- **Electricity** – Eversource 1-800-662-7764
- **Natural Gas** – Liberty Energy 1-603-222-3705
- **Water** – Pennichuck Water Works 1-603-882-5191
- **Telephone** – Fairpoint Communications 1-603-645-3500
- **Cable TV** – Comcast 1-888-633-4266
- **Fire Alarm Cable** – Nashua Fire Department 1-603-594-3641

4. At points where the CONTRACTOR’s operations are adjacent to public and private utilities, CONTRACTOR shall not commence work until CONTRACTOR has made all arrangements necessary for the protection of utilities.

5. CONTRACTOR shall coordinate and cooperate with the OWNER’s of any underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.

4.05 Reference Points

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER’s judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall
make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

A. Reports and Drawings: Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized: CONTRACTOR may rely upon the general accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER’s Consultants with respect to:

1. The completeness of such reports and drawings for CONTRACTOR’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or

2. Other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. Any CONTRACTOR interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom CONTRACTOR is responsible creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefore as provided in paragraph 10.05.

F. If after receipt of such written a notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefore as
provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER’S own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’s Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.F shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual’s or entity’s own negligence.

H. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

**ARTICLE 5 - BONDS AND INSURANCE**

5.01 *Performance, Payment, and Other Bonds*

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR’s obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent’s authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 *Licenses Sureties and Insurers*

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverage’s so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

B. All Sureties and Insurance Companies shall be authorized to do business in the State of New Hampshire and shall have an A.M. Best rating of “A(FSC-VIII)” or better. In the event that the Insurer fails to maintain an A.M. Best rating “A(FSC-VIII)” or better, the CONTRACTOR shall immediately retain a Surety which does meet the above requirements.

5.03 *Certificates of Insurance*

A. CONTRACTOR shall deliver to OWNER 10 days prior to Work, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain.
5.04 CONTRACTOR’s Liability Insurance

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is required by OWNER which will provide protection from claims which may arise out of or result from CONTRACTOR’s performance of the Work and CONTRACTOR’s other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. Include as additional insured (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER.

2. The CONTRACTOR must maintain the following lines of coverage and policy limits for the duration of the contract. Any subcontractors used by the CONTRACTOR are subject to the same coverage and limits and is a subcontractor of the CONTRACTOR and not the OWNER. It is the responsibility of the CONTRACTOR to update Certificates of Insurance during the term of the contract. Provide coverage for not less than the following amounts or greater:

   General Liability
   $1,000,000 per Occurrence
   $2,000,000 Aggregate
   City of Nashua Additional Insured

   Motor Vehicle Liability *coverage must include all owned, non-owned and hired vehicles.*
   $1,000,000 Combined Single Limit
   Automobile Liability
   City of Nashua Additional Insured

   Workers’ Compensation Coverage according to Statute of the State of New Hampshire:
   $100,000 / $500,000 / $100,000

All bidders and subcontractors at every tier under the bidder will fully comply with NH RSA Chapter 281-A, "Workers’ Compensation".

It is the responsibility of the contractor to submit to the City of Nashua certificates of insurance for all subcontractors prior to the start of the project. It is the responsibility of the contractor to provide the City with updated certificates of insurance for the contractor and all subcontractors 10 days prior to the expiration of coverage. The City may, at any time, order the contractor to stop work, suspend the contract or terminate the contract for non-compliance. All subcontractors are subject to the same insurance requirements as the contractor.

3. Include completed operations insurance;

4. Include contractual liability insurance covering CONTRACTOR’s indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. Contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.03 will so provide);

6. Remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective Work in accordance with paragraph 13.07; and
7. With respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

C. CONTRACTOR agrees to maintain all required insurance coverage throughout the entire term of the contract. If CONTRACTOR does not maintain coverage throughout the entire term of the contract, CONTRACTOR agrees that OWNER may, at any time the coverage is not maintained by CONTRACTOR, order the CONTRACTOR to stop work, suspend the contract, or terminate the contract. CONTRACTOR further agrees, if applicable, as a precondition to the performance of any work under this contract and as a precondition to any obligation of the OWNER to make any payment under this contract to provide the OWNER with a certificate of a qualified insurer.

5.05 Property Insurance

A. CONTRACTOR must purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost of the Work. This insurance shall:

1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER’s Consultants and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

3. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that the materials and equipment have been included in an application for payment recommended by ENGINEER; and

4. allow for partial utilization of the Work by OWNER;

5. include testing and startup; and

6. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. CONTRACTOR shall be responsible for any deductible or self-insured retention. The risk of loss within the identified deductible amount will be borne by CONTRACTOR, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser’s own expense. OWNER shall not be responsible for purchasing and maintaining any property insurance specified in this paragraph 5.06 to protect the interests of CONTRACTOR, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions.

C. All the policies of insurance (and the certificates or other evidence of the policy) required to be purchased and maintained in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days after written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.

5.06 Waiver of Rights
A. CONTRACTOR intends that all policies purchased in accordance with paragraph 5.06 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered by the policy. All CONTRACTOR policies must contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insured or additional insured there under. CONTRACTOR waive all rights against OWNER each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused.

ARTICLE 6 - CONTRACTOR’S RESPONSIBILITIES

6.01 Supervision and Superintendence

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR’s representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 Labor; Working Hours

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER’s written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

C. The following list of streets will require prior approval to close a lane and may require flagging or police details and may have work time restrictions.

<table>
<thead>
<tr>
<th>Allds Street</th>
<th>East Hollis Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amherst Street</td>
<td>Henri Burque Hwy</td>
</tr>
<tr>
<td>Arlington Street</td>
<td>Kinsley Street</td>
</tr>
<tr>
<td>Bridge Street</td>
<td>Ledge Street</td>
</tr>
<tr>
<td>Broad Street</td>
<td>Main Dunstable Road</td>
</tr>
<tr>
<td>Broad Street Parkway</td>
<td>Main Street</td>
</tr>
<tr>
<td>Canal Street</td>
<td>Manchester Street</td>
</tr>
<tr>
<td>Central Street</td>
<td>Pine Hill Road</td>
</tr>
</tbody>
</table>

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6.03 Services, Materials, and Equipment

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 Substitutes and "Or-Equals"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. "Or-Equal" Items:

If in ENGINEER’S sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an “or-equal” item, in which case review and approval of the proposed item may, in ENGINEER’s sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. In the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole, and;
b. CONTRACTOR certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in ENGINEER’s sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an “or-equal” item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR’s achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. Substitute Construction Methods or Procedures:

If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER’s sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. Engineer’s Evaluation:

ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No “or-equal” or substitute will be ordered, installed or utilized until ENGINEER’s review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop drawing for an “or equal”. ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. Special Guarantee:

OWNER may require CONTRACTOR to furnish at CONTRACTOR’s expense a special performance guarantee or other surety with respect to any substitute.

E. ENGINEER’s Cost Reimbursement:

ENGINEER will record time required by ENGINEER and ENGINEER’s Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER’s Consultants for evaluating each such proposed substitute.
F. **CONTRACTOR's Expense**: CONTRACTOR shall provide all data in support of any proposed substitute or “or-equal” at CONTRACTOR’s expense.

**6.06 Concerning Subcontractors, Suppliers, and Others**

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER’s acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR’s own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.
6.07 Patent Fees and Royalties

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 Permits

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility Owner's for capital costs related thereto, such as plant investment fees.

6.09 Laws and Regulations

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR's primary responsibility to make certain the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in paragraph 10.05.

D. CONTRACTOR shall comply with all local laws, ordinances, and statutes, all provisions of the Revised Statutes Annotated, all provisions of the federal Davis-Bacon Act for projects with federal funding, and all regulations promulgated under either statute. Copies of the "City of Nashua Prevailing Wage Rates for Public Works", as determined by U.S. Department of Labor and "General Wage Determinations," as determined by the U.S. Department of Labor, are available for inspection at the City of Nashua Division of Public Works, 9 Riverside Street, Nashua, New Hampshire. If the provisions of the Davis-Bacon Act apply, all employees of the CONTRACTOR must be paid not less than the wage which is the greater of the Federal wage determinations. The hourly and daily rate of wages to be paid each class of mechanics and workers must be posted on the project site in a place generally visible to the employees.
E. If the Davis-Bacon Act applies, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of the CONTRACTOR’s employees or a payroll report. If the Davis-Bacon Act applies, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of any subcontractor’s employees or a payroll report for each subcontractor. The statement or report must include the CONTRACTOR’s certification of compliance with the requirements of the supplementary condition. CONTRACTOR agrees that failure to comply with the portion of this supplementary condition requiring CONTRACTOR to furnish a certified statement of wages or payroll report will, in addition to any other retention allowed under this contract or under state or federal law, allow the OWNER to unilaterally, without notice to CONTRACTOR, retain an amount of up to 10% from each progress payment until the OWNER determines CONTRACTOR has complied with the provisions of this supplementary condition.

F. If the Davis-Bacon Act applies to work to be performed under this contract, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of CONTRACTOR’s employees and for each of any subcontractor’s employees or a payroll report from CONTRACTOR and from each subcontractor. Each statement or report must include the certification by CONTRACTOR of compliance with the provisions of the Davis-Bacon Act.

G. Workers’ Compensation Coverage.

1. CONTRACTOR agrees as a precondition to the performance of any work under this contract and as a precondition to any obligation of the OWNER to make any payment under this contract to provide the OWNER with a certificate of a qualified insurer. CONTRACTOR agrees that notice of any lapse in coverage or nonpayment of coverage that the CONTRACTOR is required to maintain should be mailed to:

Risk Management
City of Nashua
229 Main Street
Nashua, NH 03060

2. CONTRACTOR agrees to maintain required workers’ compensation coverage throughout the entire term of the contract. If CONTRACTOR does not maintain coverage throughout the entire term of the contract, CONTRACTOR agrees that OWNER may, at any time the coverage is not maintained by CONTRACTOR, order the CONTRACTOR to stop work, suspend the contract, or terminate the contract. For each six-month period this contract is in effect, CONTRACTOR agrees, prior to the expiration of the six-month period, to provide another written request to its insurer for the provision of a certificate and notice of lapse in or nonpayment of coverage. If CONTRACTOR does not make the request or does not provide the certificate before the expiration of the six-month period, CONTRACTOR agrees that OWNER may order the CONTRACTOR to stop work, suspend the contract, or terminate the contract.

H. To be deemed a responsive bid, the list of subcontractor form must be submitted even if no subcontractors are required to be listed. Submittal is as follows:

1. Each bid submitted to any officer, department, board or commission for the construction of any public work or improvement must include:

   a. The name of each subcontractor who will provide labor or a portion of the work or improvement to the CONTRACTOR for which he will be paid an amount exceeding 5 percent of the prime CONTRACTOR’s total bid. Within 2 hours after the completion of the opening of the bids, the general contractors who submitted the three lowest bids must submit a list of the name of each subcontractor who will provide labor or a portion of the work or improvement to the CONTRACTOR for which he will be paid an amount exceeding 1 percent of the prime CONTRACTOR’s total bid or $50,000, whichever is greater, and the number of the license issued to the subcontractor. If a general CONTRACTOR fails to submit such a list within the required time, his bid shall be deemed not responsive.
b. A description of the portion of the work or improvement which each subcontractor named in the bid will complete.

2. The CONTRACTOR shall list in his bid the name of a subcontractor for each portion of the project that will be completed by a subcontractor.

3. A CONTRACTOR whose bid is accepted shall not substitute any person for a subcontractor who is named in the bid, unless:

a. The awarding authority objects to the subcontractor, requests in writing a change in the subcontractor and pays any increase in costs resulting from the change; or

b. The substitution is approved by the awarding authority and:

(i) The subcontractor, after having a reasonable opportunity, fails or refuses to execute a written contract with the CONTRACTOR which was offered to the subcontractor with the same terms that all other subcontractors on the project were offered;

(ii) The named subcontractor files for bankruptcy or becomes insolvent; or

(iii) The named subcontractor fails or refuses to perform his subcontract within a reasonable time or is unable to furnish a performance bond and payment bond.

I. If blasting or use of explosives is necessary for prosecution of Work, the CONTRACTOR shall provide the ENGINEER with a blasting plan in compliance with OSHA, State, and local regulations, laws, ordinances, and requirements. CONTRACTOR shall exercise the utmost care not to endanger life or property. CONTRACTOR shall be responsible for all damage resulting from the use of explosives. CONTRACTOR shall notify each property OWNER and utility company having structures or facilities in proximity to the site of the work of its intentions to use explosives. Such notice shall be given sufficiently in advance to enable the utility companies to take such steps as they may deem necessary to protect their property from injury.

6.10 Taxes

A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the OWNER or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such OWNER or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

B. Removal of Debris During performance of the Work:
During the progress of the Work CONTRACTOR shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. Cleaning:

Prior to Substantial Completion of the Work CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures:

CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

E. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’s Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such OWNER or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR’s performance of the Work.

6.12 Record Documents

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

B CONTRACTOR shall mark up one set of paper prints to show the As-built conditions. They shall include all the information shown on the Contract Drawings and a record of all deviations, modifications, or changes from those Drawings, however minor, which were incorporated in the Work, all additional work not appearing on the Contract Drawings and all changes which are made after final inspection of the Contract Work. These As-built marked prints shall be kept current and available on the job site at all times. All changes from the Contract Drawings which are made in the Work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. No construction work shall be concealed until it has been inspected, approved, and recorded. The As-built marked prints will be jointly inspected for accuracy and completeness by the ENGINEER’S representative and a responsible representative of the CONTRACTOR prior to submission of the monthly pay estimate. Failure to keep the As-built marked prints on a current basis shall be sufficient justification to suspend pay estimates. The drawings shall show the following information, but not be limited to:

1. The location of any utility lines or other installations of any kind or description known to exist within the construction area. The location includes dimensions of permanent features.

2. The location and identification of all surface installations within 100 feet of the construction work.

3. The location and dimensions of any changes within the building or structure.
4. Correct grade or alignment of roads, structures, or utilities if any changes were made from Contract Drawings.

5. Correct elevations if changes were made in site grading.

6. Changes in details or design or additional information obtained from working drawings specified to be prepared or furnished by the CONTRACTOR including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions or equipment foundations, etc.

7. The topography and grades of all drainage installed or affected as a part of the Work.

8. All changes or modifications which result from the final inspection.

The As-built marked prints shall be delivered to the ENGINEER at the time of final inspection for ENGINEER's review and approval. All approval and acceptance of As-built drawings shall be accomplished before final payment is made to the CONTRACTOR.

6.13 Safety and Protection

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. All persons on the Site or who may be affected by the Work;

2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify OWNER of adjacent property and of Underground Facilities and other utility Owner's when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER'S Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

C. Occupational Safety and Health Standards: CONTRACTOR's methods of construction and safety requirements, including but not limited to trench excavation and shoring where applicable, shall conform to the requirements of the Occupational Safety and Health Standards for the Construction Industry. The document entitled "Occupational Safety and Health Standards for the Construction Industry" (29 CFR PART 1926) with Amendments as of February 1, 1998, including 29 CFR part 1910 General Industry Safety and Health Standards Applicable to Construction, is not attached to the Contract Documents. Said requirements as identified and established above are incorporated herein by reference.
D. **Power Lines:** No equipment of any kind shall be used or permitted within such proximity to the conductors of the Public Services of New Hampshire power lines as to be in violation of the safe working clearance prescribed by the National Electrical Safety Code.

E. **Protection of Utilities:** The CONTRACTOR shall verify all utility locations prior to the start of construction. This shall include, but not necessarily limited to: irrigation and drainage ditches, culverts, water lines, sewer lines, telephone cables, cable television, gas lines and electric lines. Prior to the start of construction the CONTRACTOR shall call Dig Safe System, Inc. 1-800-344-7233 (two full working days’ notice required). The failure of any utility to subscribe to DIGS shall not relieve the CONTRACTOR from the responsibility of protection of that utility on the site. Any physical structure (i.e. curbs, sidewalks, paving, buildings, landscape improvements, utilities, etc., damaged by the CONTRACTOR shall be repaired or replaced in a condition equal to or better than the condition prior to the damage. Such repair or replacement shall be accomplished at the CONTRACTOR’s expense without additional compensation from the OWNER.

F. **CONTRACTOR** shall ensure that its activities and activities of its employees, agents and subcontractors, and their employees and agents (including all sub-subcontractors), are in strict compliance with all Environmental Protection Agency, New Hampshire Department of Environmental Services, and Department of Transportation regulations and all other applicable federal, state and local statutes, ordinances, regulations and rules, including without limitation, the Federal Occupational Safety and Health Act of 1970 (OSHA) as amended and the standards and regulations issued thereunder, and all other statutes, ordinances, regulations, rules, standards and requirements of common law in relation to industrial hygiene and safety, and the protection of health and the environment.

6.14 **Safety Representative**

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs. Work Site is subject to safety inspection by the City Safety Representative at any and all times.

6.15 **Hazard Communication Programs**

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 **Emergencies**

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, Change Order will be issued.

6.17 **Shop drawings and Samples**

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material,
Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER’s review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

   a. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

   b. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

   c. All information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto; and

   d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR’s obligations under the Contract Documents with respect to CONTRACTOR’s review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. ENGINEER’s Review

1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER’s review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER’s review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. ENGINEER’s review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER’s attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof.
incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. Resubmittal Procedures

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 Continuing the Work

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 CONTRACTOR's General Warranty and Guarantee

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER's Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

1. Abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or

2. Normal wear and tear under normal usage.

B. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

1. Observations by ENGINEER;

2. Recommendation by ENGINEER or payment by OWNER OF ANY PROGRESS OR FINAL PAYMENT;

3. The issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereof by OWNER;

4. Use or occupancy of the Work or any part thereof by OWNER;

5. Any acceptance by OWNER or any failure to do so;

6. Any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;

7. Any inspection, test, or approval by others; or

8. Any correction of defective Work by OWNER.

6.20 Indemnification

A. Regardless of the coverage provided by any insurance, Contractor agrees to indemnify and shall defend and hold harmless the City, its agents, officials, employees and authorized representatives and their employees from and against any and all suits, causes of action, legal or administrative proceedings, arbitrations, claims, demands, damages,
liabilities, interest, attorneys' fees, costs and expenses of any kind or nature in any manner caused, occasioned, or contributed to in whole or in part by reason of any negligent act, omission, or fault or willful misconduct, whether active or passive, of Contractor or of anyone acting under its direction or control or on its behalf in connection with or incidental to the performance of this contract. Contractor's indemnity, defense and hold harmless obligations, or portions thereof, shall not apply to liability caused by the sole negligence or willful misconduct of the party indemnified or held harmless.

B. In any and all claims against OWNER or ENGINEER, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity.

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the liability of ENGINEER and ENGINEER's Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them arising out of:

The preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications.

ARTICLE 7 - OTHER WORK

7.01 Related Work at Site

A. OWNER may perform other work related to the Project at the Site by OWNER's employees, or let other direct contracts therefore, or have other work performed by utility Owner's. If such other work is not noted in the Contract Documents, then:

1. Written notice thereof will be given to CONTRACTOR prior to starting any such other work; and

2. if OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefore as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility OWNER (and OWNER, if OWNER is performing the other work with OWNER's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility OWNERS and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility OWNERS and other contractors.

C. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure to so report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent defects and deficiencies in such other work.

7.02 Coordination
A. If OWNER intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. The individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. The specific matters to be covered by such authority and responsibility will be itemized; and

3. The extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility for such coordination.

**ARTICLE 8 - OWNER'S RESPONSIBILITIES**

**8.01 Communications to Contractor**
A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

**8.02 Replacement of ENGINEER**
A. In case of termination of the employment of ENGINEER, OWNER shall appoint and whose status under the Contract Documents shall be that of the former ENGINEER.

**8.03 Furnish Data**
A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

**8.04 Pay Promptly When Due**
A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

**8.05 Lands and Easements; Reports and Tests**
A. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

**8.06 Insurance**
See Article 5.

**8.07 Change Orders**
A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

**8.08 Inspections, Tests, and Approvals**
A. OWNER's responsibility in respect to certain inspections tests, and approvals is set forth in paragraph 13.03.B.
8.09 Limitations on OWNER's Responsibilities

A. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, of the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

8.10 Undisclosed Hazardous Environmental Condition

A. OWNER's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06

8.11 Evidence of Financial Arrangements

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

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ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 OWNER's Representative

A. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

9.02 Visits to Site

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER's visits and observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER's visits or observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 Project Representative

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereof of such other individual or entity will be as provided in the supplementary Conditions.
9.04 Clarifications and Interpretations

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefore as provided in paragraph 10.05.

9.05 Authorized Variations in Work

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefore as provided in paragraph 10.05.

9.06 Rejecting Defective Work

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 Shop Drawings, Change Orders and Payments

A. In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER's authority as to change orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER's authority as to Applications for Payment, see Article 14.

9.08 Determinations for Unit Price Work

A. ENGINEER will have authority to determine the actual quantities and classifications of items of Unit Price Work performed by CONTRACTOR, and the written decisions of ENGINEER on such matters will be final, binding on OWNER and CONTRACTOR and not subject to appeal (except as modified by ENGINEER to reflect changed factual conditions).

9.09 Decisions on Requirements of Contract Documents and Acceptability of Work

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work there under. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not be liable in connection with any interpretation or decision rendered in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise
by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 Limitations on ENGINEER's Authority and Responsibilities

A. Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates or inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER's Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 Authorized Changes in the Work

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment or a Change Order. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Change Order, a Claim may be made therefore as provided in paragraph 10.05.

10.02 Unauthorized Changes in the Work

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 Execution of Change Orders

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:
1. Changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER's correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;

2. Changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Change Order; and

3. Changes in the Contract Price and Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 Notification to Surety

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 Disputes – Not Insurance Related

A. Notice: Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 10 days) after the start of the event giving rise thereto. Notice of the amount or extent of the dispute, or other matter with supporting data shall be delivered to the ENGINEER, Risk Management Department and the other party to the Contract within 60 days after the start of such event. A dispute for an adjustment in Contract Price shall be prepared in accordance with the provisions in paragraph 12.01.B. A dispute for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each dispute shall be accompanied by claimant's written statement that the adjustment disputed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. ENGINEER'S Decision: ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER's written decision on such dispute, or other matter will be final and binding upon CONTRACTOR unless:

1. An appeal from ENGINEER's decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. If no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER's written decision is delivered by CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have the respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the dispute in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the submittal of the opposing party, if any.

D. No dispute for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.
ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

A. Costs Included: The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of the Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01B.

1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs of employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in this paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

   a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

   b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.

   c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
6. Rental rates shall be determined as follows:

   a. The base rates shall be those established in publications and revisions thereto entitled “Rental Rate Blue Book for Construction Equipment” or the “Rental Rate Blue Book for Older Construction Equipment” as published by K-III, 1735 Technology Drive, Suite 401, San Jose, CA 95110-1313, Phone (408) 467-6700.

   b. Attachments (e.g. tractor with ripper and dozer or tractor with loader and backhoe) will be included in the hourly rental rate only when deemed essential to the work as determined by the Engineer. When multiple attachments are approved for use and are being used interchangeably, the attachment having the higher rental rate shall be the only one included for payment.

   c. No direct payment will be made for necessary accessories (including replenishing blades, augers, teeth, hoses, bits, etc.) if not listed in the Rental Rate Blue Book.

   d. No compensation will be allowed for shop tools having a daily rental rate of less than $10 as set forth in Section 18 of the Rental Rate Blue Book.

      i. If ordered to use equipment not listed in the aforementioned publications, the Engineer will establish a rental rate for such equipment. CONTRACTOR shall furnish cost data that might assist in the establishment of such rental rate.

      ii. Payment will be made for the actual time that such equipment is in operation on the work.

      iii. Authorized standby time for idle equipment shall be paid at 50% of the specified rate, less the estimated operating cost per hour. No markup will be added for overhead and profit.

      iv. Rental rate paid as above provided shall include the cost of fuel, oil, lubrication, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance and all incidentals. CONTRACTOR shall provide the Engineer with a complete Force Account Equipment Listing for each piece of equipment utilized.

   e. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

   f. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

   g. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work, provided such losses and damages have resulted from causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR’s fee.

   h. The cost of utilities, fuel, and sanitary facilities at the Site.

   i. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

   j. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim
k. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the Site.

3. Any part of CONTRACTOR's capital expense, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.

C. CONTRACTOR's Fee: When all the Work is performed on the basis of cost-plus, CONTRACTOR's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, CONTRACTOR's fee shall be determined as set forth in paragraph 12.01.C.

D. Documentation: Whenever the cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A. and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER as itemized cost breakdown together with supporting data.

11.02 Cash Allowances

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. CONTRACTOR's costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work
A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of the Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subjects to the provisions of paragraph 9.08.

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR’s overhead and profit for each separately identified item.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or

2. Where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or

3. Where the Work involved is not covered by unit prices contained in the Contract Documents an agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR’s fee for overhead and profit (determined as provided in paragraph 12.01.C).

C. CONTRACTOR’s Fee: The CONTRACTOR’s fee for overhead and profit shall be determined as follows:

1. A mutually acceptable fixed fee; or

2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

   a. For costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR’s fee shall be 15 percent;

   b. For costs incurred under paragraph 11.01.A.3, the CONTRACTOR’s fee shall be five percent;

   c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a. is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

   d. No fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

   e. The amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR’s fee by an amount equal to five percent of such net decrease; and
f. When both addition and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 12.01.C.2.a through 12.01.C.2.e inclusive.

12.02 Change of Contract Times

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this Article 12.

12.03 Delays beyond CONTRACTOR's Control

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefore as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

12.04 Delays within CONTRACTOR's Control

A. Contract Times (or Milestones) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 Delays beyond OWNER's and CONTRACTOR's Control

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay.

12.06 Delay Damages

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. Delays caused by or within the control of CONTRACTOR; or

2. Delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, flood, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone from whom OWNER is responsible.
ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

A. OWNER, ENGINEER, ENGINEER'S Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental agencies with jurisdictional interest will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 Tests and Inspections

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. For inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;

2. That costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B; and

3. As otherwise specifically provided in the Contract Documents.

4. That costs incurred by OWNER due to retesting, reinspection, or standby time due to unacceptable materials, or workmanship provided by the CONTRACTOR, or due to poor scheduling by the CONTRACTOR of tests of inspections, will be deducted from the payments to the CONTRACTOR. CONTRACTOR shall stop work as necessary to allow for inspections and tests by OWNER and ENGINEER.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER'S and ENGINEER's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.
G. The OWNER intends to provide inspection for the project. The inspector will be available during a forty (40) hour period during the week from Monday through Friday. In the event the CONTRACTOR receives permission from the OWNER and elects to work more than forty hours during the week or more than 10 hours in one day, or on a Saturday, Sunday, or legal holiday, the CONTRACTOR shall be responsible for all inspection, engineering and testing costs incurred during that period. For all inspection and testing work performed on Saturday, Sunday, or legal holidays, the minimum chargeable time shall be four (4) hours. The OWNER reserves the right to deduct these inspection, engineering, and testing costs directly from the CONTRACTOR’S payments.

13.04 Uncovering Work

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER’s observation and replaced at CONTRACTOR’S expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER’s request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefore as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

13.05 OWNER May Stop the Work

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause of such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 Correction or Removal of Defective Work

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 Correction Period

A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR’s use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER’s written instructions: (i) repair such defective land or areas, or (ii) correct such
defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting there from. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement work of others) will be paid by CONTRACTOR.

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

C. Where defective Work (and damage to other Work resulting there from) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR's obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 Acceptance of Defective Work

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER's recommendation of final payment, ENGINEER) prefers to accept it, OWNER may do so, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefore as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 OWNER May Correct Defective Work

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors, and ENGINEER and ENGINEER's Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by
OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefore as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR's defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

A. The schedule of values established as provided in paragraph 2.01.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 Progress Payment

A. Review of Applications.

1. Prior to submittal of Application for Payment to OWNER (but not more often than once a month), the CONTRACTOR shall submit the monthly progress estimate to the ENGINEER for review and approval.

2. ENGINEER will, within 10 working days after receipt of each progress estimate, either indicate in writing a recommendation of payment or indicate in writing ENGINEER's reasons for refusing to recommend payment and return the progress estimate to CONTRACTOR. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

3. ENGINEER's recommendation of any payment requested in a progress estimate will constitute a representation by ENGINEER to OWNER, based on ENGINEER's observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying date and schedules, that to the best of ENGINEER's knowledge, information and belief:

   a. The Work has progressed to the point indicated;

   b. The quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08 and to any other qualifications stated in the recommendation); and

   c. The conditions precedent to CONTRACTOR's being entitled to such payment appears to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

4. By recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

5. Neither ENGINEER's review of CONTRACTOR's Work for the purposes of recommending payments nor ENGINEER's recommendation of any payment, including final payment, will impose responsibility on
ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR's failure to comply with Laws and Regulations applicable to CONTRACTOR's performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or equipment has passed to OWNER free and clear of any Liens.

6. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

a. The Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. The Contract Price has been reduced by Written Amendment or Change Orders;

c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.

B. Applications for Payments.

1. CONTRACTOR shall submit to OWNER the ENGINEER recommended Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect OWNER's interest therein, all of which must be satisfactory to OWNER. Any request for partial or final payment shall specifically list the work completed. To facilitate the proper and timely payment of applications, the OWNER requires that all applications must reference a valid PURCHASE ORDER NUMBER, as submitted to CONTRACTOR under the Notice to Proceed, be in original format; OWNER will not authorize payments from carbon or Xerox copies, and mailed directly to the following address:

City of Nashua
Accounts Payable
PO Box 2019
Nashua, NH 03061-2019
Attn: Division of Public Works

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be stipulated in the Agreement.

C. Payment Becomes Due

1. Not more than 30 days after presentation of the application for payment to OWNER with ENGINEER's recommendation, the amount recommended will become due, and when due will be paid by OWNER to CONTRACTOR.
D. Reduction in Payment.

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

   a. Claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work;

   b. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;

   c. There are other items entitling OWNER to a set-off against the amount recommended; or

   d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld. OWNER shall promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 CONTRACTOR'S Warranty of Title

A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

14.04 Substantial Completion

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefore. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefore. If after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.
B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 Partial Utilization

A. Use by OWNER at OWNER's option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of paragraph 5.10 regarding property insurance.

14.06 Final Inspection

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. Application for Payment

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any lien.
B. Review of Application and Acceptance

1. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application of Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

14.08 Final Completion Delayed

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. A waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 Termination, Abandonment, or Suspension at Will

The OWNER, in its sole discretion, shall have the right to terminate, abandon, or suspend all or part of the project and contract at will. If the OWNER chooses to terminate, abandon, or suspend all or part of the project, it shall provide CONTRACTOR 10 day's written notice of its intent to do so.

If all or part of the project is suspended for more than 90 days, the suspension shall be treated as a termination at will of all or part of the project and contract.

Upon receipt of notice of termination, abandonment, or suspension at will, CONTRACTOR shall:

1. Immediately discontinue work on the date and to the extent specified in the notice.

2. Place no further orders or subcontracts for materials, services, or facilities, other than as may be necessary or required for completion of such portion of work under the contract that is not terminated.
3. Immediately make every reasonable effort to obtain cancellation upon terms satisfactory to the OWNER of all orders or subcontracts to the extent they relate to the performance of work terminated, abandoned, or suspended under the notice, assign to the OWNER any orders or subcontracts specified in the notice, and revoke agreements specified in the notice.

4. Not resume work after the effective date of a notice of suspension until receipt of a written notice from the OWNER to resume performance.

In the event of a termination, abandonment, or suspension at will, CONTRACTOR shall receive all amounts due and not previously paid to CONTRACTOR for work satisfactorily completed in accordance with the contract prior to the date of the notice and compensation for work thereafter completed as specified in the notice. No amount shall be allowed or paid for anticipated profit on unperformed services or other unperformed work.

15.02 Termination for Cause

This agreement may be terminated by the OWNER on 10 calendar day’s written notice to CONTRACTOR in the event of a failure by CONTRACTOR to adhere to any or all the terms and conditions of the contract or for failure to satisfactorily, in the sole opinion of the OWNER, to complete or make sufficient progress on the work in a timely and professional manner. CONTRACTOR shall be given an opportunity for consultation with the OWNER prior to the effective date of the termination. CONTRACTOR may terminate the contract on 10 calendar days written notice if, through no fault of CONTRACTOR, the OWNER fails to pay CONTRACTOR for 45 days after the date of approval by the OWNER of any Application for Payment.

Upon receipt of notice of termination for cause, CONTRACTOR shall:

1. Immediately discontinue work on the date and to the extent specified in the notice.
2. Provide the OWNER with a list of all unperformed services.
3. Place no further orders or sub-contracts for materials, services, or facilities, other than as may be necessary or required for completion of such portion of work under the contract that is not terminated.
4. Immediately make every reasonable effort to obtain cancellation upon terms satisfactory to the OWNER of all orders or sub-contracts to the extent they relate to the performance of work terminated, abandoned, or suspended under the notice, assign to the OWNER any orders or sub contracts specified in the notice, and revoke agreements specified in the notice.
5. Not resume work after the effective date of a notice of termination unless and until receipt of a written notice from the OWNER to resume performance.

In the event of a termination for cause, CONTRACTOR shall receive all amounts due and not previously paid to CONTRACTOR for work satisfactorily completed in accordance with the contract prior to the date of the notice, less all previous payments. No amount shall be allowed or paid for anticipated profit on unperformed services or other unperformed work. Any such payment may be adjusted to the extent of any additional costs occasioned to the OWNER by reasons of CONTRACTOR’s failure. CONTRACTOR shall not be relieved of liability to the OWNER for damages sustained from the failure, and the OWNER may withhold any payment to the CONTRACTOR until such time as the exact amount of damages due to the OWNER is determined. All claims for payment by the CONTRACTOR must be submitted to the OWNER within 30 days of the effective date of the notice of termination.

If after termination for the failure of CONTRACTOR to adhere to any of the terms and conditions of the contract or for failure to satisfactorily, in the sole opinion of the OWNER, to complete or make sufficient progress on the work in a timely and professional manner, it is determined that CONTRACTOR had not so failed, the termination shall be deemed to have been a termination at will. In that event, the OWNER shall, if necessary, make an adjustment in the compensation paid to CONTRACTOR such that CONTRACTOR receives total compensation in the same amount as it would have received in the event of a termination-at-will.

15.03 General Provisions for Termination
Upon termination of the contract, the OWNER may take over the work and prosecute it to completion by agreement with another party or otherwise. In the event CONTRACTOR shall cease conducting business, the OWNER shall have the right to solicit applications for employment from any employee of the CONTRACTOR assigned to the performance of the contract.

Neither party shall be considered in default of the performance of its obligations hereunder to the extent that performance of such obligations is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of such party. Delays arising from the actions or inactions of one or more of CONTRACTOR’s principals, officers, employees, agents, subcontractors, consultants, vendors, or suppliers are expressly recognized to be within CONTRACTOR’s control.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 Methods and Procedures

A. The parties shall attempt to resolve any dispute related to this contract as follows. Either party shall provide to the other party, in writing and with full documentation to verify and substantiate its decision, its stated position concerning the dispute. No dispute shall be considered submitted and no dispute shall be valid under this provision unless and until the submitting party has delivered the written statement of its position and full documentation to the other party. The parties shall then attempt to resolve the dispute through good faith efforts and negotiation between the OWNER Representative and a CONTRACTOR Representative. At all times, CONTRACTOR shall carry on the work under this contract and maintain and complete work in accordance with the requirements of the contract or determination or direction of the OWNER. If the parties are unable to resolve their dispute as described above within 30 days, the parties may request that the dispute be submitted to the Board of Public Works for resolution. If the parties are dissatisfied with the decision of the Board of Public Works, the parties’ reserve the right to pursue any available legal and/or equitable remedies for any breaches of this contract except as that right may be limited by the terms of this contract.

ARTICLE 17 - MISCELLANEOUS

17.01 Giving Notice

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 Computation of Times

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation or, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws and Regulations, by special warranty or guarantee, or by other provisions of the contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 Survival of Obligations
A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, will survive final payment, completion, and an acceptance of the Work or termination or completion of the Agreement.

17.05 Controlling Law

A. This contract shall be governed exclusively by the laws of the State of New Hampshire and any claim or action brought relating to this contract, the work performed or contracted to be performed thereunder, or referable in anyway thereto shall be brought in Hillsborough County (New Hampshire) Superior Court Southern Judicial District or in the New Hampshire 9th Circuit Court—Nashua and not elsewhere

17.06 Access to Records

A. At all times during regular business hours, CONTRACTOR shall provide full and free access to the OWNER, ENGINEER, and State of New Hampshire to any books, documents, papers, and records related to the work for the purpose of examination, audit, and duplication. The CONTRACTOR shall maintain all required accounts, records, and books for three years after final completion of the work.

17.07 Road Closures and Traffic Delays

A. Partial or full closure of streets in order to facilitate construction will be permitted, or required by the Engineer in accordance with the following:

1. If the CONTRACTOR proposes a closure, the CONTRACTOR notifies the OWNER in writing at least 5 days prior to the proposed closure of his intent to close the road.

2. At least 5 days prior to the proposed closure, the CONTRACTOR shall submit a detour traffic plan for each location being detoured.

3. The CONTRACTOR shall install standard traffic control devices in accordance with the Detour Signage plan provided in the bid documents and the Manual on Uniform Traffic Control Devices (MUTCD.)

4. The detour signage shall be covered when the road closure is not in effect.

B. CONTRACTOR shall notify the following agencies of any traffic delays or road closures three days in advance of the work:

Nashua Police Department: (603) 594-3500
Nashua Fire Department: (603) 594-3652
School Bus Garage: (603) 594-4300
Nashua Solid Waste Department (603) 589-3410
Nashua Building Department (603) 589-3080

17.08 Prohibited Interests

A. CONTRACTOR shall not allow any officer or employee of the OWNER to have any indirect or direct interest in this contract or the proceeds of this contract CONTRACTOR warrants that no officer or employee of the OWNER has any direct or indirect interest, whether contractual, noncontractual, financial or otherwise, in this contract or in the business of CONTRACTOR. If any such interest comes to the attention of CONTRACTOR at any time, a full and complete disclosure of the interest shall be immediately made in writing to the OWNER. CONTRACTOR also warrants that it presently has no interest and that it will not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this contract. CONTRACTOR further warrants that no person having such an interest shall be employed in the performance of this contract. If OWNER determines that a conflict exists and was not disclosed to the OWNER, it may terminate the contract at will or for cause in accordance with Article 15.02.
B. In the event Contractor (or any of its officers, partners, principals, or employees acting with its authority) is convicted of a crime involving a public official arising out or in connection with the procurement of work to be done or payments to be made under this contract, City may terminate the contract at will or for cause in accordance with paragraph 9. Upon termination, Contractor shall refund to the City any profits realized under this contract, and Contractor shall be liable to the City for any costs incurred by the City in completing the work described in this contract. At the discretion of the City, these sanctions shall also be applicable to any such conviction obtained after the expiration or completion of the contract.

C. Contractor warrants that no gratuities (including, but not limited to, entertainment or gifts) were offered or given by Contractor to any officer or employee of the City with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending or making of any determinations with respect to the performance of this contract. If City determines that such gratuities were or offered or given, it may terminate the contract at will or for cause in accordance with Article 15.02.

D. The rights and remedies of this section shall in no way be considered for be construed as a waiver of any other rights or remedies available to the City under this contract or at law.

17.09 Cooperation with Refuse Pickup

A. Contractor shall determine the schedule for trash pickup by contacting the City of Nashua Solid Waste Department. The Contractor shall cooperate and make arrangements to insure that trash pickup is not delayed or obstructed in any way. This may involve the Contractor bring trash barrels to the front or backside of the work area for pickup by the Solid Waste Department and then returning the barrels back to each house.
DIVISION 7

SUPPLEMENTARY CONDITIONS
SUPPLEMENTARY CONDITIONS/PROSECUTION OF WORK

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

1. **DESCRIPTION OF WORK**
   The contract work includes the limits on the various streets listed in the attached summary. The specified pavement treatment is listed.

   The City reserves the right to remove streets from the list, extend or shorten limits on individual streets, or revise the specified pavement treatment on individual streets.

   The City may also add additional streets to the contract work.

   Should the net projection of the value of changes to the contract work exceed the authorized amount, the Owner will present a contract amendment proposal to the Contractor.

2. **CONTRACTOR RESPONSIBILITY FOR GRADING**
   The Contractor shall be responsible to assure that the finished pavement surface will be smooth and will have positive drainage. Contractor shall be responsible to assure that puddling will not occur in either the roadway, or on adjacent private property as a result of Contractor operations. Contractor shall perform any measurements needed in advance of excavation, cold planning, reclamation and paving activities to assure adequate control needed for grading operations.

   The Engineer may provide a proposed grading design to the Contractor for use in areas to be reclaimed. If a proposed design or other guidance is not provided by the Engineer, the Contractor shall perform grading of the reclaimed base material to assure that the preconstruction gutter line is recreated. Unless otherwise directed, roadway cross slope on reclaimed streets shall generally be two percent with a centerline crown. In all cases, roadway cross slopes on reclaimed streets shall not exceed four percent. Pavement cross slope transitions shall be consistent with good practice generally accepted by New Hampshire Department of Transportation.

   If in the opinion of the Contractor, it is not possible to meet these grading requirements at a particular location due to existing constraints, any such location shall be identified to the Engineer in advance of milling, reclamation and/or paving activities to allow the Engineer reasonable time to investigate and provide guidance to the Contractor.

3. **PAVEMENT MIX**
   NHDOT certified mix designs are required for all pavement.

   Unless specified to be “high strength”, wearing course and shim pavement shall be 75 gyration with PG 64-28 and a maximum aggregate size of 3/8 inch.
High strength wearing course pavement shall be 75 gyration with PG 76-28 (High Strength Mix) and maximum aggregate size of 3/8 inch.

High strength wearing course pavement shall be used on the following roadways:

- East Hollis Street
- Canal Street
- Kinsley Street

Base and binder courses shall be 75 gyration with PG 64-28 and maximum aggregate size of ¾ inch.

The following course thicknesses shall be used:

**2” Mill & Overlay**
1.25” wearing course over ¾” (nominal) shim.

**3.5” Mill & Overlay**
1.25” wearing course over 2.25” binder course.

**Reclamation**
1.5” wearing course over 3.5” binder course.

4. **OTHER WORK IN CONTRACT AREA**
Other City and utility work may be in progress within the project area during work in this contract.

The Contractor shall strive to provide coordination with other work within the project area to minimize disruption.

The Contractor shall notify the Engineer with as much advance notice as reasonably possible of any concerns with other work in the project area.

In order to allow anticipated completion of work presently underway, work on this contract shall not start on the following streets until after the date indicated:

- West Hollis Street .................July 1, 2019
- Lake Street ..........................July 20, 2019
- Allds Street.............................July 20, 2019

5. **COORDINATION WITH UTILITIES**
Dropping and adjustment of telephone, gas and water castings will be the responsibility of Fairpoint, Liberty Utilities and Pennichuck Water Works.

Contractor shall coordinate this effort with the respective utilities.

6. **TIE-IN AT SIDE ROADS**
Where roadways are being milled to a depth of 3.5 inches, side road tie-in areas will be milled to a depth of 2.0 inches.
7. **INTERIM MILESTONES FOR SUBSTANTIAL COMPLETION**
The following Substantial Completion Milestones shall be met:

50 percent of the total length of all roadway segments in the contract shall be substantially complete by July 17, 2019.

85 percent of the total length of all roadway segments in the contract shall be substantially complete by September 6, 2019.

The entire length of all roadway segments shall be substantially complete by October 15, 2019.

8. **WORK HOURS**
Reference is made to *Section 6.02 Labor; Working Hours* of the General Conditions.

Except as stated below, normal working hours shall be from 7:00 AM to 5:00 PM Monday through Friday. No weekend, holiday or night work will be allowed without advance written approval of the City Engineer.

The following streets, in addition to the streets listed in *General Conditions Section 6.02C*, may not be opened or worked in between the hours of 7:00 AM and 9:00 AM and 3:00 PM and 6:00 PM, Monday through Friday of each week:

a. West Hollis Street  
b. Allds Street  
c. Lake Street

Requests for work beyond those hours normally allowed on weekdays shall be made by the Contractor at least 72 hours in advance.

Requests for work on Saturdays, Sundays and holidays shall be made at least one week in advance.

Contractor should not assume requests for hours beyond the hours and days normally allowed will be approved. Requests will be considered on a case by case basis.

9. **CONTRACTOR'S REPRESENTATIVE**
The Contractor shall designate a representative who will be available to respond to emergency calls by the Owner at any time day and night and on weekends and holidays should such a situation arise.

Should the City determine action by the City is needed or other costs are incurred because the Contractor’s Representative is not available, the City will backcharge the Contractor for associated expenses.

10. **SCHEDULING AND COORDINATION**
Reference is made to *General Conditions Section 2.05, Before Starting Construction* and *General Conditions Section 6.04, Progress Schedule*.
Prior to the start of construction, the Contractor shall submit a comprehensive schedule to the Engineer for review and acceptance.

The schedule will identify the number of crews and completion dates for all critical elements of work.

Detailed updates of the schedule shall be submitted to the Engineer for review and acceptance on at least a monthly interval.

The Engineer may withhold progress payments if acceptable monthly schedule updates are not submitted.

The Contractor shall not increase the number of crews assigned to the work as identified in the schedule without providing at least one week advanced notice to the Engineer.

11. SUPERINTENDENCE OF THE WORK
Reference is made to General Conditions Section 6.01, Supervision and Superintendence.

Contractor shall provide appropriate onsite superintendence of all aspects of the work whether performed by the Contractor or by subcontractors.

Qualified Superintendent(s) shall be assigned for all crews. Contact information will be provided for all Superintendents.

12. USE OF GROUNDS
Any area outside the limits of the project area (right-of-way within project limits) which the Contractor may require for storage of equipment and materials, or for other purposes necessary in the performance of the Work, shall be secured by the Contractor at their own expense. Materials, including excavation intended for backfill, shall not be stored or stacked within any roadway clear zones, or in a manner that obstructs adequate sight lines unless specifically permitted in writing by the Engineer. The Contractor is responsible for providing security as required and erosion controls at no cost to the City.

13. TRAFFIC CONTROL PLAN
Reference is also made to Section 17.07 Road Closures and Traffic Delays of the General Conditions.

The following are considered part of the Traffic Control Plan:

2. Work Zone Traffic Control Standard Sheets*
4. Positive Protection Guidance for Work Zones (PPGWZ)*
5. Flagger and Uniformed Officer Use in Work Zones Policy and Guidelines*

*Available online under Doing Business with DOT>Contractors at www.nhdot.com or through the NHDOT Contracts office (603-271-3732).
The Contractor shall provide necessary traffic control devices to ensure the safety of the workers, traveling public, and property owners on this project. The above referenced specifications, guidelines, and provisions herein provide minimum requirements; the Contractor may be directed to expand upon the Traffic Control Plan if conditions warrant.

All signs, channelizing devices and arrow boards as required by the *Manual on Uniform Traffic Control Devices*, including part six, as amended, and the above Standard Sheets shall be in place prior to moving any equipment onto the pavement.

The Contractor shall provide trained personnel, including Uniformed Officers and Flaggers in accordance with Section 618, to be responsible for the maintenance of traffic.

All materials furnished and used for maintenance of traffic, shall be required to be certified for reflectivity. Damaged devices shall be replaced as directed by the Engineer without additional compensation. Regardless of action that may be taken or not taken by the Engineer, the Contractor shall be solely responsible for the appropriateness, reflectivity and condition of all materials provided as well as placement and maintenance of traffic control elements.

The Contractor shall submit a Traffic Control Plan prior to work on arterial roadways. This Traffic Control Plan will describe how the Contractor proposes to:

- Stage the work to maintain and control traffic during the lowering of structures within paved areas; milling operations; and paving operations.
- Maintain access to all residences and businesses through the duration of construction.
- Lane usage during various phases of work will be described. A minimum of 11-foot width shall be provided for all lanes open to traffic.
- A minimum of one lane in each direction shall be provided at all times. Should the Contractor consider it necessary to reduce this requirement to alternating one-way use, the constraints justifying such a restriction must be explained fully. If approved at any location in this contract, the use of alternating one-way traffic will be for a short duration only.
- The Contractor shall describe in the Traffic Control Plan minimum conditions which will be provided at the end of working hours. At a minimum, if a vertical break of more than one inch exists along the direction of travel and vehicles are operating on the higher surface, a pavement fillet will be provided along the break. The pavement fillet shall be constructed with a slope of 12 inches horizontal for each one inch vertical.
- Full lane use shall be maintained for weekend and holiday periods.

14. **REMOVAL OF DEBRIS AND SURPLUS MATERIAL**
Neither debris nor surplus material shall be deposited on private property.

Debris and surplus material shall be removed from the project area as promptly as practical.
15. **DISPOSAL OF SURPLUS EXCAVATED MATERIAL**
All milled (cold planed) pavement shall be delivered to the Four Hills Landfill in Nashua, NH. Unless otherwise specified herein, all other excess material not required for use on the project shall be disposed of legally and safely by the Contractor at his discretion outside of and away from the limits of the project, without additional compensation.

16. **MAINTENANCE DURING WEATHER EVENTS**
The Contractor’s obligation to protect the public traveling through the project site shall include maintaining the work and maintaining safe passage during rain and other weather events.

The Contractor shall plan in advance of forecasted inclement weather events and shall assign crews to perform maintenance of unpaved areas open to traffic during and after inclement weather events. Contractor is responsible to coordinate with the Engineer and other City officials as appropriate.

Contractor shall be prepared to respond in a timely manner if the City determines that circumstances warrant action when the Contractor is not onsite.

17. **DRAINAGE**
The Contractor shall provide necessary measures to provide drainage and minimize ponding on paved and unpaved surfaces.

The Contractor shall be responsible to provide means for stormwater runoff to enter the drainage system at locations where structures are lowered in advance of milling or reclamation.

During the preconstruction meeting, the Contractor shall describe provisions to be made for drainage. Provisions made and methods used shall have been proven by successful use on past projects of a similar nature.

18. **PROTECTION OF MANHOLES, CATCH BASINS AND PIPELINES**
Appropriate measures will be taken to protect manholes, catch basins and other structures as well as pipelines from debris and other materials entering the system through open or removed covers or grates.

Should material enter the system during the Contractor’s activities, this material shall be removed in a timely manner at the Contractor’s expense.

The Contractor may be required to clean structures and pipelines downstream of the location(s) where material entered the system.

The Contractor may be required to provide television inspection services to verify that material has been removed.
19. **PROTECTION OF LANDSCAPING**
Contractor shall take appropriate measures to protect trees, shrubs and other landscaping. Branches, limbs and roots shall not be cut except with permission of the Engineer. Where cutting is necessary, work shall be performed by qualified workers.

20. **RESTORATION OF EXISTING PROPERTY**
The Contractor shall be responsible for the preservation of all public and private property and structures, and shall use every precaution necessary to prevent damage thereto. If damage is done to public or private property, such property shall be promptly restored by the Contractor, at his/her expense, to a condition similar or equal to that existing before the damage was done, to the satisfaction of the Engineer.

Failure to promptly restore existing property and structures including, but not limited to driveways and lawns, may result in the Engineer’s determination that associated work is not complete and therefore not eligible for progress payment. Such associated work may include, but not be limited to paving, pipe installation, catch basins, manholes and curbing.

Unless specifically agreed to in advance, driveway tie-ins will be paved concurrent with top course paving operations.

In no circumstances shall driveway tie-ins not be completed within two weeks of the adjacent top course paving.

21. **COOPERATION WITH REFUSE PICKUP**
The Contractor shall determine the schedule for trash pickup by contacting the City of Nashua’s Solid Waste Department. The Contractor shall cooperate and make arrangements to insure that trash pickup is not delayed or obstructed in any way. This may involve the Contractor bringing trash barrels to the front or backside of the work area for pickup by the Solid Waste Department and then returning the barrels back to each house.

22. **COOPERATION WITH QUALITY ASSURANCE**
Cores shall be cut and delivered to the City within 24 hours of pavement placement. Failure to cut and deliver cores may result in delay of progress payments for pavement.

23. **PROPERTY INSURANCE**
Property insurance is referenced in the General Conditions (Article 5.05).

Property insurance is not required for this contract.

24. **ACCESS TO PRODUCTION FACILITIES**
The City of Nashua may choose to have inspection and testing performed at the plant. All relevant provisions of the Standard Specifications, including but not limited to Section 3.1.6 Access to Production Facilities – General, shall apply.
DIVISION 8

LIST OF ROADWAYS
### 2019 PAVING PROGRAM - ARTERIAL ROADWAYS

<table>
<thead>
<tr>
<th>Street Name</th>
<th>From</th>
<th>To</th>
<th>Road Length</th>
<th>Treatment</th>
</tr>
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<tbody>
<tr>
<td>Allds Street</td>
<td>Main St</td>
<td>East Hollis St</td>
<td>5,084</td>
<td>3.5&quot; Mill and Overlay</td>
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<td>Amherst Street-1</td>
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<td>Spit Brook Road-2</td>
<td>WB Tara Blvd</td>
<td>Newcastle Dr</td>
<td>1,293</td>
<td>3.5&quot; Mill and Overlay</td>
</tr>
<tr>
<td>Spit Brook Road-3</td>
<td>Newcastle Dr</td>
<td>175'E of Whitegate</td>
<td>1,042</td>
<td>3.5&quot; Mill and Overlay</td>
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<tr>
<td>Spit Brook Road-4</td>
<td>175'E of Whitegate</td>
<td>D.W. Highway</td>
<td>668</td>
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<tr>
<td>West Hollis St - 2B(East of Turnpike)</td>
<td>Simon St</td>
<td>Dead End (House #385)</td>
<td>1,143</td>
<td>3.5&quot; Mill and Overlay</td>
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<tr>
<td>West Hollis St - 3(West of Turnpike)</td>
<td>100'S of Main St</td>
<td>End(Hollis Town Line)</td>
<td>4,243</td>
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| LENGTH | 11.76 | MILES |
LIST OF EXHIBITS

A. Notice of Award
B. Notice to Proceed
C. Change Order
D. Certificate of Substantial Completion
NOTICE OF AWARD

DATED: ______________________

TO: ________________________ (Bidder)

ADDRESS: ____________________

OWNER’S CONTRACT NO.: ________

PROJECT: ____________________ (Insert name of Contract as it appears in the Bidding Document)

You are notified that your Bid dated ______________ for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a contract for

______________________________

(Indicate total Work, alternatives or sections or Work awarded)

The Contract Price of your contract is

______________________________

($ __________ )

The proposed Agreement that the OWNER expects to execute, accompanies this Notice of Award.

1. You must deliver to the OWNER ___3___ fully executed counterparts of the proposed Agreement that the OWNER expects to execute.

2. You must deliver to the OWNER the Contract Security (Bonds), as specified in the General Conditions (paragraph 5.01), and Certificate of Liability Insurance, as specified in General Conditions (paragraph 5.04).

3. (List other conditions precedents).

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid in default, to annul this Notice of Award and to declare your Bid Security forfeited.

By ________________________ (FOR THE CITY OF NASHUA)

______________________________

(TITLE)

Notice of Award
NOTICE TO PROCEED

DATED:

TO: ____________________________________________
   (Contractor)

ADDRESS: _________________________________________

OWNER’S CONTRACT NO.__________________________

PROJECT: _______________________________________
   (Insert name of Contract as it appears in the Bidding Document)

You are notified that the Contract Times under the above contract will commence to run on
_____________________________________, 20___. By that date, you are to start performing your obligations under the
Contract Documents. In accordance with Article 4 of the Agreement, the dates of Substantial Completion
and Final Completion are ________________________ and ________________________, respectively.

Also before you may start any Work at the site you must:

______________________________________________
   (Add other requirements)

By

______________________________________________
   (For the City of Nashua)

______________________________________________
   (Title)
CHANGE ORDER

PROJECT:

OWNER’S CONTRACT NO:

EXECUTED CONTRACT DATE:

DATE OF ISSUANCE: EFFECTIVE DATE: Upon City Approval

OWNER: City of Nashua, NH

OWNER’s Purchase Order NO:

CONTRACTOR:

ENGINEER: DPW Engineering

You are directed to make the following changes in the Contract Documents:

Description:

Justification:
<table>
<thead>
<tr>
<th>CHANGE IN CONTRACT PRICE:</th>
<th>CHANGE IN CONTRACT TIMES:</th>
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</thead>
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<tr>
<td>Original Contract Price</td>
<td>Original Contract Times</td>
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<td>Substantial completion:</td>
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<tr>
<td>Net changes from previous Change Orders</td>
<td>Net change from previous Change Orders</td>
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<tr>
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<td></td>
</tr>
<tr>
<td>Contract Price prior to this Change Order</td>
<td>Contract Times prior to this Change Order</td>
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<tr>
<td>$</td>
<td>Substantial completion:</td>
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<td></td>
<td>Ready for final payment:</td>
</tr>
<tr>
<td>Net Increase (decrease) of this Change Order</td>
<td>Net Increase (decrease) of this Change Order</td>
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<tr>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Contract Price with all approved Change Orders</td>
<td>Contract Times with all approved Change Orders</td>
</tr>
<tr>
<td>$</td>
<td>Substantial completion:</td>
</tr>
<tr>
<td></td>
<td>Ready for final payment:</td>
</tr>
</tbody>
</table>

**RECOMMENDED:**

By: __________________________
    DPW Engineer
    (Authorized Signature)

Date: _________________________

**ACCEPTED:**

By: __________________________
    Contractor
    (Authorized Signature)

Date: _________________________

**APPROVED:**

By: __________________________
    Mayor Jim Donchess
    Owner
    (Authorized Signature)

Date: _________________________
CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT: __________________________________________________________

OWNER’S CONTRACT NO: __________________________________________

DATE OF ISSUANCE: _______________________________________________

OWNER: __________________________________ City of Nashua, NH

OWNER’s Purchase Order NO.: _______________________________________

CONTRACTOR: ____________________________________________________

ENGINEER: __________________________________ DPW Engineering

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

TO __________________________________ City of Nashua
(OWNER)

And To _______________________________________________________
(CONTRACTOR)

The Work to which this Certificate applies has been inspected by authorized representative of OWNER, CONTRACTOR, and ENGINEER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

_________________________________ (DATE OF SUBSTANTIAL COMPLETION)

A Tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within _________ days of the above date of Substantial Completion.

From the date of Substantial Completion the responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees shall be as follows:

Certificate of Substantial Completion
RESPONSIBILITIES

OWNER: City of Nashua

CONTRACTOR:

The following documents are attached to and made a part of this Certificate:

[For items to be attached see definition of Substantial Completion as supplemented and other specifically noted conditions precedent to achieving Substantial Completion as required by Contract Documents.]

This certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of CONTRACTOR's obligation to complete the Work in accordance with the Contract Documents.

Executed by ENGINEER on __________________________, 20__

________________________________________
(ENGINEER)

By: __________________________
(Authorized Signature)

CONTRACTOR accepts this Certificate of Substantial Completion on __________________________, 20__

________________________________________
(CONTRACTOR)

By: __________________________
(Authorized Signature)

OWNER accepts this Certificate of Substantial Completion on __________________________, 20__

________________________________________
(For the City of Nashua)

By: __________________________
(Authorized Signature)
DIVISION 10

TECHNICAL SPECIFICATIONS
ITEM 203.112 – ROAD EXCAVATION AND REGRADE

A. SCOPE

This work includes repair to subgrade and regrading and replacing removed subgrade material with pavement at specific locations as directed by the Engineer.

This item will only be used at locations identified by the Engineer. In other areas where subgrade is exposed during milling, grading and compaction of disturbed subgrade will be incidental to subsequent paving.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved City of Nashua Standard Specifications for Road Construction, or the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply. Transportation and disposal of the removed material shall be the responsibility of the Contractor.

This work includes removing 2" of exposed subbase, regrading as directed, and replacing with 2” of ¾” stone asphalt as per approved mix design. Prior to placing asphalt, subbase material shall be compacted to required density. Locations of work shall be marked by the Engineer.

C. MEASUREMENT AND PAYMENT

This item will be measured per Square Yard of asphalt placed and compacted in the field. Payment for this item shall be at the contract unit price per square yard and shall also include all materials, labor, equipment, and all else needed to complete the work under this item. No payment will be made for materials delivered but not placed.
ITEM 203.113 – DRIVEWAY EXCAVATION AND REGRADE

A. SCOPE

This work includes removing asphalt and concrete driveway materials to subbase, regrading, and placing new pavement in kind. This item will only be used on roadways which are being reclaimed or as directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved City of Nashua Standard Specifications for Road Construction, or the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply. Transportation and disposal of the removed material shall be the responsibility of the Contractor.

This work includes saw cutting and removing asphalt or concrete driveway materials down to subbase, regrading as directed, and compacting subbase to 95% density. Limits of work shall be agreed upon with the Engineer. Placement of asphalt will be done under Item 403.12.

Minimum thickness of reconstructed driveway pavement shall be 2.5 inches.

Contractor shall use a 1 ton steel drum roller or heavier to achieve required compaction.

C. MEASUREMENT AND PAYMENT

This item will be paid per Square Yard of asphalt placed and compacted in the field. Payment for this item shall be at the contract unit price per Square Yard and shall also include all materials, labor, equipment, and all else needed to complete the work under this item. No payment will be made for materials delivered but not placed.
ITEM 306.114 – RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 14” DEEP (F)

A. SCOPE

This work shall consist of pulverizing the existing pavement together with subbase material to a depth of 14 inches, removal and disposal of excess reclaim material, fine grading to assure that finished surface matches existing gutter or as directed by the Engineer, and compaction of materials to required densities. The surplus material removed from this operation shall remain the property of the City of Nashua and shall be transported and stock piled by the contractor at the Four Hills Landfill at 830 West Hollis St in Nashua.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor and equipment necessary for reclaimed stabilized base, processed in place, in accordance with relevant provisions of section 306 of the NHDOT Standard Specifications for Road and Bridge Construction, latest edition.

Surface preparation shall be subsidiary and shall include (but is not limited to) weed removal, occasional pruning of trees, and removal of any vegetation impeding the work.

Compaction shall be accomplished using a vibratory sheep’s foot roller or pad foot roller with at least 50,000 lbs. of dynamic force. Final rolling shall be accomplished by a smooth steel wheel vibratory roller with at least 27,000 lbs. of dynamic force. Contractor shall also provide compaction equipment sufficient to achieve required densities in areas not accessible by larger equipment.

Fine grading to proposed grades shall be subsidiary. Removal, transportation, and disposal of surplus material are subsidiary.

After site has been fine graded and compacted, the Contractor will allow a minimum of 1 working day for the city to review compacted base. In no case shall paving be scheduled prior to acceptance of base proposed grades. Acceptance of the compacted base shall not change the Contractor’s sole responsibility to assure the finished pavement has no puddles.

All catch basins must be protected from reclaimed materials by use of silt sacks. All materials, labor, equipment, and transportation necessary to install, maintain, and remove the silt sacks shall be subsidiary, including disposal of material.

C. MEASUREMENT AND PAYMENT

Reclaimed stabilized base in place, 14 inch deep will not be measured but shall be the square yard payment quantity for reclamations within the limits shown on the plans. Reclaimed stabilized base processed in place, 14 inch deep, will be paid for at the contract unit price per square yard and shall include full compensation for material, equipment, labor, transportation, and all else required to complete this portion of the Bid Schedule.
ITEM 304.33 – CRUSHED AGGREGATE FOR SHOULDERS

A. SCOPE

This work shall consist of furnishing and placing crushed aggregate to raise the edge of the roadway shoulders as shown on plans or directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved City of Nashua Standard Specifications for Road Construction, or the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply. Gravel shall be compacted with a powered hand compactor. Shoulder gravel shall meet NHDOT specifications for Item 304.33.

C. MEASUREMENT AND PAYMENT

This item will be measured per cubic yard (cy) placed in the field. Payment for crushed aggregate will be by the cubic yard actually placed. Payment for this item shall be at the contract unit price per cubic yard and shall also include all materials, labor, equipment, and all else needed to complete the work under this item. No payment will be made for materials delivered but not placed.

Contractor shall record the cubic yards of material placed and compacted for each street. Recorded totals shall be compared with Engineer’s records and observations on a daily basis when work on this item is performed. Payment is contingent upon submittal of quantities in a per street format.
ITEM 403.6 – PAVEMENT JOINT ADHESIVE

A. SCOPE

This work includes the installation of pavement joint adhesive in locations shown on the plans or ordered by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved NHDOT Standard Specifications for Road and Bridge Construction, Section 401.2.12. Joint adhesive will be required on all longitudinal cold joints, or where ordered by the Engineer. Joint adhesive must be on the NHDOT Qualified Products List.

C. MEASUREMENT AND PAYMENT

This item will be measured per Linear Foot completed in place and as ordered by the Engineer in the field. Payment for this item shall be at the contract unit price per Linear Foot. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item.

Contractor shall record the linear feet of material placed for each street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 403.11 – HOT BITUMINOUS PAVEMENT (METHOD SPECIFICATION), MACHINE METHOD

ITEM 403.119 – HOT BITUMINOUS PAVEMENT (METHOD SPECIFICATION), MACHINE METHOD, HIGH STRENGTH

A. SCOPE

This work shall consist of furnishing and placing bituminous pavement including shim pavement to the depth shown on the plans or ordered by the Engineer. Work shall also include obtaining asphalt samples on behalf of the City for quality control testing.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved NHDOT Sections 401, 403, and 411 as amended herein.

Surface preparation shall be subsidiary and shall include (but is not limited to) weed removal, occasional pruning of trees, and removal of any vegetation impeding the placement of bituminous pavement. The existing surface shall be thoroughly dry and swept free of all dust, dirt and loose material (including winter sand).

A tack coat shall be applied immediately prior to placement of hot bituminous pavement. Tack shall also be applied to every cold joint on driveways, side streets, and where directed by the Engineer. Tack is subsidiary.

The Contractor shall prevent any materials from entering drainage structures and shall clean out structures as directed by the Engineer if materials enter them.

The Contractor shall correct drainage problems, as directed by the Engineer, when problems can be corrected by placing asphalt.

The Contractor shall provide all materials, labor, equipment, and transportation necessary to tie in areas at least 1 foot in from the edge of roadway. Contractor shall use a 1 ton steel drum roller or heavier for compaction of these areas.

Binder grade will be PG 64-28 unless otherwise specified by the Engineer.

Testing:

Pavement testing will be completed by a testing agency selected by the City.

The Contractor shall furnish all materials, labor, equipment, and transportation necessary to take loose asphalt samples, cut cores, and patch core hole as directed by the Engineer. Cores and samples shall be delivered to a location in Nashua to be identified by the Engineer.
Cores shall be 6" in diameter and cut to the subbase. After core has been cut, contractor shall thoroughly remove all water in the core hole, tack sides of core hole, fill hole with hot mix asphalt, and compact until required densities are achieved. Contractor shall provide ice to cool mix when ambient temperatures are high.

Contractor shall provide two container types. One shall be of sufficient size and quality to contain 3 shovels full of asphalt. The other shall be of sufficient size and quality to contain a 6" diameter core of varying thickness. Containers shall have an area for labeling.

Contractor and City shall agree to order of paving 24 hours prior to placement of mix. Paving must be completed in a way that does not complicate tonnage tracking for identifying sample locations. When directed by the Engineer, the Contractor shall pave an entire street or group of streets before paving other streets.

C. MEASUREMENT AND PAYMENT

This item will be paid per Ton of placed, compacted, sampled, and cored hot bituminous pavement, machine method as approved by the Engineer. A price adjustment for liquid asphalt is provided in this contract as outlined in Item 900 Liquid Asphalt Adjustment. No payment will be made for materials delivered but not placed.

Contractor shall record the tons of material placed and compacted for each street. Payment is contingent upon submittal of quantities and delivery slips in a per street format.

Work and expenses associated with providing loose samples shall be incidental to this item.

Cores shall be measured and paid under Item 1010.9.
ITEM 403.12 – HOT BITUMINOUS PAVEMENT, HAND METHOD

A. SCOPE

This work shall include paving using the hand method for driveways, curb patches, areas between railroad crossings, areas where it is impractical to pave using machine method, as shown on the plans, or as ordered by the Engineer. Hand method paving shall not be used where machine method (Item 403.11) paving is required.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved NHDOT Sections 401, 403, and 411 as amended herein.

All surface preparation shall be subsidiary to this item. The existing surface shall be thoroughly dry and swept free of all dust, dirt and loose material (including winter sand).

A tack coat shall be applied immediately prior to placement of hot bituminous pavement. Tack shall also be applied to every cold joint, and where directed by the Engineer. Tack is subsidiary.

Contractor shall use a 1 ton steel drum roller or heavier to achieve required compaction.

Binder grade will be PG 64-28 unless otherwise shown on the plans or specified by the Engineer.

Asphalt mix design shall be the same as the wearing course.

C. MEASUREMENT AND PAYMENT

This item will be paid per Ton of placed and compacted hot bituminous pavement, hand method as approved by the Engineer. A price adjustment for Liquid Asphalt is provided in this contract as outlined in Item 900 Liquid Asphalt Adjustment. No payment will be made for materials delivered but not placed.

Contractor shall measure the square yards of material placed and compacted. Street station and offsets shall be included with each area measurement. Contractor shall record the tons of material placed and compacted for each street. Payment is contingent upon submittal of quantities in a per street format with respective station and offset values.
ITEM 417 - COLD PLANING OF BITUMINOUS SURFACES

A. SCOPE

This work shall consist of the removal of existing bituminous pavement between road edges, to the depth shown on the plans or as ordered by the Engineer. Maximum depth will vary from 2.0" to 3.5", depending upon the type of the street.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved City of Nashua Standard Specifications for Road Construction, or the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply.

The Contractor shall prevent any materials from entering drainage structures from this operation and shall clean out said structures as directed by the Engineer. The material removed from this operation shall remain the property of the City of Nashua and shall be transported and stock piled by the contractor at the Four Hills Landfill at 830 West Hollis St in Nashua.

If the road is to be open to traffic after cold planning, level changes shall be tapered by use of asphalt fillets. Fillets shall be tapered at a rate of 1 FT per inch along longitudinal level changes and at a rate of 1 FT per 2-inches along transverse level changes. All fillets shall be installed flush with top of the existing asphalt surface and must be acceptable to the Engineer. The Contractor shall be responsible for installing, maintaining and replacing all damaged fillets, where necessary, until the wearing course is placed.

All raised catch basins and manholes shall be spray painted orange around the top of frames.

Fillets and spray painting of castings shall continue as needed or directed by the Engineer until the top course of pavement is placed and are considered subsidiary to this item.

All catch basins shall be protected from millings by use of a silt sack. All materials, labor, equipment, and transportation necessary to install, maintain, and remove the silt sacks and dispose of collected material shall be subsidiary.

If directed, the Contractor shall furnish all materials, labor, equipment, and transportation necessary to cut 6" cores to subbase prior to the start of cold planning. Contractor will be responsible for adequately backfilling holes with hot mix asphalt.

C. MEASUREMENT AND PAYMENT

This item shall be measured by the Square Yard of Cold Planing of Bituminous Surfaces. Payment for this item shall be at the contract unit price per Square Yard. This payment shall also include all materials, labor, equipment, and all else needed to complete the work under this item.

Contractor shall record the square yards of cold planed area for each street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 417.20- COLD PLANING TRANSITIONS

A. SCOPE

This work shall consist of the removal of existing bituminous pavement the depth and limits shown on the plans or as directed by the Engineer. Cold planning transitions are required to tie in overlays with existing pavement.

For roadways which are being reclaimed this item shall only be used to pay for cold planing at driveway tie-ins as directed by the Engineer.

For roadways which are being cold planed (milled) prior to overlay, this item shall only be used to pay for cold planing at driveway tie-ins.

For roadways which are being overlaid without overall cold planing (milling), this item shall be used to pay for cold planing at driveway transitions and for cold planing transitions to existing roadway pavement at limits of work as directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved City of Nashua Standard Specifications for Road Construction, or the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply.

The Contractor shall prevent any materials entering drainage structures from this operation and shall clean out said structures as directed by the Engineer.

The material removed from this operation shall remain the property of the City of Nashua and shall be transported and stock piled by the contractor at the Four Hills Landfill at 830 West Hollis St in Nashua.

If the road is to be open to traffic after cold planning, level changes shall be tapered by use of asphalt fillets. Fillets shall extend a minimum of 2' from level change, and be flush with top of existing asphalt surface. Fillet construction must be acceptable to the Engineer. Fillets shall be required until the wearing course is placed and shall be removed before each course of pavement is installed.

All raised catch basins and manholes shall be spray painted orange around the top of frames.

Filletts and spray painting of castings shall continue until the top course of pavement is placed and are considered subsidiary to this item.

C. MEASUREMENT AND PAYMENT

The accepted quantities of Cold Planing Transitions will be paid for by the Square Yard measured in the field and approved by the Engineer.
Contractor shall record the square yards of cold planed area for each street. Payment is contingent upon submittal of quantities in a per street format.

This item will be measured by the Square Yard. Payment for this item shall be at the contract unit price per Square Yard. This payment shall also include all materials, labor, equipment, and all else needed to complete the work under this item.
ITEM 604.4 - REPAIR OF EXISTING STRUCTURES

A. SCOPE

This work consists of repairing existing structures below 12” from the bottom of existing casting frame.

B. MATERIALS AND CONSTRUCTION

The contractor shall include all labor, materials, equipment, and transportation necessary to repair existing structures other than within the top 12 inches below the bottom of casting frame. Repairs in that section shall not be paid under this item.

The Contractor is responsible for the management of stormwater to all structures altered/dropped for paving operations for the duration of the project until final pavement has been placed and accepted by the City and/or the Engineer. The Contractor shall prevent any materials from entering drain and sewer structures from this operation and shall clean out said structures if material enters them as directed by the Engineer.

Mortar shall comply with NHDOT Section 707. Brick shall comply with NHDOT 604.2.4 and be AASHTO M91 Grade SS brick. Contractor shall provide the City with material slips certifying brick meets requirements.

Mortar shall be tooled into every vertical joint between bricks prior to installing a new horizontal brick layer. Mortar between brick layers shall be 3/8” thick and fully cover all bricks in the layer. Use of the weight of castings and additional brick layers to facilitate joint filling and further spreading of mortar is not permitted. All brickwork shall be sealed on the outside and inside of the structure with mortar. The casting frames shall be set in a ring of mortar extending to the outer edge of the masonry. Mortar shall be placed on top of the bottom flange and smoothly finished to have a slight slope that will shed water away from the frame.

All mortar shall be mixed with a cement mixer as approved by the Engineer. Mixing mortar by hand/shovel will not be permitted.

Unless otherwise noted herein, this work shall conform to the latest approved City of Nashua Standard Specifications for Road Construction, City of Nashua Standard Specifications for Sewers and Drains, and the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply unless otherwise directed by the Engineer.

C. MEASUREMENT AND PAYMENT

Payment for the repair of existing castings shall be at the contract unit price per vertical foot. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item.

Contractor shall record the vertical feet of repair completed for each structure, and the total vertical feet of repair for each street. Payment is contingent upon submittal of quantities in a per structure, and per street format.
ITEM 604.45 - ADJUSTING TO GRADE EXISTING CASTINGS

A. SCOPE

This work consists of adjusting castings to the new final pavement surface elevation. Any repair needed to the existing structure within the 12 inches below the bottom of casting shall be included and performed under this item. Any further repair needed to the existing structure shall be performed and paid under Item 604.4 Repair of Existing Structures.

B. MATERIALS AND CONSTRUCTION

This work shall include all labor, materials, equipment and transportation necessary to adjust the existing castings to the new street or new ground surface elevation.

All materials, labor, equipment, and transportation required to excavate, to lower structure, remove the plate and place plate at locations of castings lowered to facilitate reclaim and milling operations shall be subsidiary to Item 604.47. The Contractor is responsible for the management of stormwater to all structures altered/dropped for paving operations for the duration of the project until final pavement has been placed and accepted by the City and/or the Engineer.

Mortar shall comply with NHDOT Section 707. Brick shall comply with NHDOT 604.2.4 and be AASHTO M91 Grade SS brick. Contractor shall provide the City with material slips certifying that brick meets requirements.

Mortar shall be tooled into every vertical joint between bricks prior to installing a new horizontal brick layer. Mortar between brick layers shall be 3/8” thick and fully cover all bricks in the layer. Use of the weight of castings and additional brick layers to facilitate joint filling and further spreading of mortar is not permitted. All brickwork shall be sealed on the outside and inside of the structure with mortar. The casting frames shall be set in a ring of mortar extending to the outer edge of the masonry. Mortar shall be placed on top of the bottom flange and smoothly finished to have a slight slope that will shed water away from the frame.

All mortar shall be mixed with a cement mixer as approved by the Engineer. Mixing mortar by hand/shovel will not be permitted.

Unless otherwise noted herein, this work shall conform to the latest approved City of Nashua Standard Specifications for Road Construction, City of Nashua Standard Specifications for Sewers and Drains, and the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply unless otherwise directed by the Engineer.

C. MEASUREMENT AND PAYMENT

Payment for adjusting existing castings shall be at the contract unit price specified for each. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item.
Contractor shall record the number and location of castings adjusted for each street. Payment is contingent upon submittal of quantities in a per structure, and per street format.
ITEM 604.46 – REPLACE CASTING

A. SCOPE

This work consists of replacing triangular, small diameter, and broken manhole frames and covers, and catch basin frames and grates as shown on the drawings or as directed by the Engineer. Any repair needed to the existing structure within the 12 inches below the bottom of the casting shall be included and performed under this item. Any further repair needed to the existing structure shall be performed under Item 604.4.

B. MATERIALS AND CONSTRUCTION

This item shall include all labor, materials (except for frames and covers), equipment, and transportation necessary to replace castings, and to set them at new overlay elevation. Frames, covers, and grates will be provided by the City of Nashua at 9 Stadium Drive in Nashua. This item is to include removal of existing frame and cover, transport to City of Nashua drop off site (Four Hills Landfill at: 830 West Hollis St in Nashua), transportation of new frames and covers from 9 Stadium Dr in Nashua to work area, placement and all excavation and pavement restoration work.

All materials, labor, equipment, and transportation required to excavate, to lower structure, remove the plate and place plate at locations of castings lowered to facilitate reclaim or milling operations shall be subsidiary to Item 604.47. The Contractor is responsible for the management of stormwater to all structures altered/dropped for paving operations for the duration of the project until final pavement has been placed and accepted by the City and/or the Engineer.

The Contractor is responsible for the management of stormwater to all structures altered/dropped for paving operations for the duration of the project until final payment has been placed and accepted by the City and/or the Engineer.

Mortar shall comply with NHDOT Section 707. Brick shall comply with NHDOT 604.2.4 and he AASHTO M91 Grade SS brick. Contractor shall provide the City with material slips certifying that brick meets requirements.

Mortar shall be tooled into every vertical joint between bricks prior to installing a new horizontal brick layer. Mortar between brick layers shall be 3/8” thick and fully cover all bricks in the layer. Use of the weight of castings and additional brick layers to facilitate joint filling and further spreading of mortar is not permitted. All brickwork shall be sealed on the outside and inside of the structure with mortar. The casting frames shall be set in a ring of mortar extending to the outer edge of the masonry. Mortar shall be placed on top of the bottom flange and smoothly finished to have a slight slope that will shed water away from the frame.

All mortar shall be mixed with a cement mixer as approved by the Engineer. Mixing mortar by hand/shovel will not be permitted.

Unless otherwise noted herein, this work shall conform to the latest approved City of Nashua Standard Specifications for Road Construction, City of Nashua Standard Specifications for Sewers and Drains, and the latest approved NHDOT Standard Specifications for Road and
Bridge Construction. The most stringent specification shall apply unless otherwise directed by the Engineer.

C. **MEASUREMENT AND PAYMENT**

Payment for replacing existing castings shall be at the contract unit price specified for each. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item.

Contractor shall record the number and locations of castings replaced for each street. Payment is contingent upon submittal of quantities in a per structure, and per street format.
ITEM 604.47 – DROP AND PLATE CASTING

A. SCOPE

This work consists of removing existing manhole casting, removing brick and mortar supporting the casting, plating the hole over the structure, and backfilling the hole. Excavation, plate removal, and final adjustment to proposed grade will be covered under Items 604.45, Item 604.46, and Item 604.4 as determined by the Engineer.

B. MATERIALS AND CONSTRUCTION

This work shall include all labor, materials, equipment and transportation necessary to drop and plate the existing manhole castings prior to reclaim and milling as directed. Plates shall be of sufficient strength to deal with traffic loading. Contractor shall be responsible for keeping records identifying, with measurements, where all dropped castings are located. Contractor is responsible for management of all castings once they are removed from the manholes, and for locating all dropped castings when they need to be adjusted.

Removed castings shall not be stored on private property unless agreed to by the Engineer.

Unless otherwise noted herein, this work shall conform to the latest approved City of Nashua Standard Specifications for Road Construction, City of Nashua Standard Specifications for Sewers and Drains, and the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply unless otherwise directed by the Engineer.

C. MEASUREMENT AND PAYMENT

Payment for drop and plate castings shall be at the contract unit price specified for each. All castings regardless of size will be paid for as one (1) each. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item.

Contractor shall record the number and location of castings dropped and plated for each street. Payment is contingent upon submittal of quantities in a per structure, and per street format.
ITEM 609.01 – GRANITE CURBING

A. SCOPE

This work shall consist of constructing curb as shown on the plans or as ordered by the Engineer. Work includes furnishing, placing, and cleanup work associated with the installation of the curb. Curb shall be installed on a properly graded, compacted bed of crushed gravel subgrade.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor and equipment necessary for setting of granite curb in accordance with relevant provisions of Section 609 of the NHDOT Standard Specifications for Road and Bridge Construction, latest edition, and City of Nashua Standard Specifications for Sidewalk Construction, latest edition. The most stringent specifications shall apply unless otherwise directed by the Engineer.

C. MEASUREMENT AND PAYMENT

Granite curb will be measured by the linear foot to the nearest 0.1 foot, from end to end along the lower edge of the exposed face of the curbing and shall include all required excavation and base course material.

Payment for constructing granite curb shall be at the contract unit price per linear foot, complete in place, and shall include full compensation for material, labor, equipment, and all else needed to complete the work under this item.
ITEM 609.5 –RESET GRANITE CURB

A. SCOPE

This work shall consist of removal, stockpiling and resetting granite curb as shown on the drawings or as directed by the Engineer. Furnishing and placing all materials required for resetting granite curb shall be included.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor and equipment necessary for resetting granite curb in accordance with relevant provisions of Section 609 of the NHDOT Standard Specifications for Road and Bridge Construction, latest edition, and City of Nashua Standard Specifications for Sidewalk Construction, latest edition. The most stringent specifications shall apply unless otherwise directed by the Engineer.

C. MEASUREMENT AND PAYMENT

Reset Granite Curb will be measured by the linear foot to the nearest 0.1 foot, from end to end along the lower edge of the exposed face of the curbing. Payment for this item shall be at the contract unit price per linear foot, complete in place, and shall include all materials, labor, equipment, and all else needed to complete the work under this item.

Contractor shall record the location and linear feet of granite curb reset for each street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 609.811 – BITUMINOUS CURBING

A. SCOPE

This work shall consist of constructing bituminous curbs as shown on the plans or as ordered by the Engineer. Work includes all furnishing, placing, and cleanup work associated with the installation of the curbing.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for constructing bituminous curb as shown on the plans, or as directed by the Engineer. Construction shall be in accordance with relevant provisions of Section 609 of the NHDOT Standard Specifications for Road and Bridge Construction, latest edition. Surface preparation shall be subsidiary.

C. MEASUREMENT AND PAYMENT

Bituminous curb will be measured by the linear foot to the nearest 0.1 foot, from end to end along the lower edge of the exposed face of the curbing. Payment for constructing bituminous curb shall be at the contract unit price per linear foot, complete in place, and shall include full compensation for material, labor, equipment and all else needed to complete the work under this item.

Contractor shall record the location and linear feet of bituminous curb installed for each street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 616.7 – LOCAL TRAFFIC LOOPS 6’ X 50’ (2 – 4 – 2 TURN)

A. SCOPE

This work consists of furnishing all labor, materials and equipment necessary to install the quadruple loop detectors as directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

This item shall include all labor, materials and equipment necessary to install new quadruple loop detectors 2-4-2 turn, in conjunction with the paving program. Loops shall be installed in the pavement surface prior to final overlay or top course.

a. Installation shall be in accordance with the latest approved NHDOT Standard Details and Specifications.
b. The City of Nashua will connect the new loop in the control panel if needed
c. Contractor will make connection in pull box. Contractor will solder, wire nut and silicone seal connections for new loop at pull box. “Hockey puck” will not be used.

C. MEASUREMENT AND PAYMENT

Payment for this item shall be at the contract unit price specified for each. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item and make loops functional.

Contractor shall record the location of each loop. Quantities of loops shall be recorded per street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 618.6 - UNIFORMED OFFICERS

A. SCOPE

This work shall consist of furnishing uniformed officers, with or without vehicles, as required to direct traffic through or around the Work as ordered by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall supply qualified uniformed officers as per the latest approved NHDOT Standard Specifications for Road Construction. Uniformed officers shall only be used when the Engineer has previously approved it. Daily coverage needs to be approved by the Engineer.

C. MEASUREMENT AND PAYMENT

Uniformed officers will be measured by the actual number of hours authorized, as determined by the Engineer. This item has a budgeted allowance as shown on the Bid Form. Payments to Contractor will be made based on approved hours and resulting dollar amounts on Police Department invoices and only after contractor’s proof of payment to Police Department.

Contractor shall record the number of hours for each officer used. Hours shall be recorded on a per street basis. Payment is contingent upon submittal of quantities in a per street format.
ITEM 618.7 - FLAGGERS

A. SCOPE

This work shall consist of furnishing qualified flaggers, as required to direct traffic through or around the Work as ordered by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall supply qualified flaggers as per the latest approved NHDOT Standard Specifications for Road and Bridge Construction. Daily coverage needs to be approved by the Engineer.

C. MEASUREMENT AND PAYMENT

Flaggers will be measured by the actual number of hours authorized, as determined by the Engineer. This item has a budgeted allowance as shown on the Bid Form. In no case shall the gross hourly rate exceed $30/hour for straight time work, and $45/hour for overtime work. Payments to Contractor will be made based on approved hours and resulting dollar amounts.

Contractor shall record the number of hours for each flagger used. Hours shall be recorded on a per street basis. Payment is contingent upon submittal of quantities in a per street format.

Payment will not be made for flaggers who are not equipped with appropriate equipment or who do not follow standard practice in performing their duties.
ITEM 619.1 - MAINTENANCE OF TRAFFIC

A. SCOPE

This work shall consist of providing and maintaining safe and passable traffic accommodations for public traffic and furnishing, erecting and maintaining necessary traffic signs, barricades, lights, signals, delineators, concrete barriers, signs, and other traffic control warning devices through the work zone. The contractor is responsible for preparing a work area that is free of parked vehicles or other obstructing objects. This includes, but is not limited to, erecting "no-parking" signs provided by the City of Nashua 3 days prior to paving and returning same signs as directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all labor, materials, equipment and transportation necessary for the required maintenance of traffic needs based on the Contractors daily operations in accordance with the latest approved NHDOT Standard Specifications for Road and Bridge Construction, and the latest approved MUTCD. At a minimum, the Contractor’s crew shall, at all times, carry Two (2) of the following signs to be erected as the need may arise:

- ROAD WORK AHEAD (MUTCD W20-1)
- ONE LANE ROAD AHEAD (MUTCD W20-4)
- DIRECTIONAL ARROW SIGN (MUTCD W1-6)
- FLAGGER SIGN (MUTCD W20-7)

Contractor shall provide 2 variable message signs for use on major roads.

Contractor shall be responsible for getting approved street opening permits, submitting traffic control plans for all streets, obtaining lane closure or detour approval permits, and obtaining emergency work permits.

The Contractor must notify, by email, the Engineer, and the City Solid Waste Department: Contact of specific types and locations of work. Notifications shall be provided the day before work commences, during regular business hours (8am-5pm).

Engineer:
Mandeep Gill, M.S., P.E.
GillM@nashuanh.gov

Solid Waste Department Contact:
Kevin Naro
NaroK@NashuaNH.gov
C. MEASUREMENT AND PAYMENT

Maintenance of traffic will be measured as a unit. Payment for maintenance of traffic shall be at the contract lump sum, which lump sum includes full compensation for material, equipment and labor to complete this portion of the Bid Schedule. The lump sum can only be amended by written, approved change order. Progress payments towards the lump sum will be made periodically based on the percent of the contract and the balance will be paid at final payment upon completion of all project requirements. Should the contract be terminated prior to completion, or the contract work not completed, total payment for this item shall be proportional to the percentage of the contract completed.
ITEM 632 – RETROREFLECTIVE PAVEMENT MARKINGS

A. SCOPE

This work shall consist of furnishing and placing white or yellow retro reflective paint pavement markings and retro reflective thermoplastic pavement markings at locations shown on the plans or as ordered by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all labor, materials, equipment and transportation necessary for the required placement of retro reflective paint and thermoplastic pavement markings in accordance with the latest approved NHDOT Standard Specifications for Road and Bridge Construction, and the latest approved MUTCD. A layout drawing shall be approved by the Engineer prior to any work being done to the street.

Application temperature requirements shall be strictly enforced. Material placed outside temperature requirements will not be accepted.

Striping shall match existing striping and be replaced in kind or as directed by the Engineer. All stop bars, crosswalks and symbols shall be retro reflective thermoplastic and all long lines shall be retro reflective paint.

C. MEASUREMENT AND PAYMENT

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Unit</th>
</tr>
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<tbody>
<tr>
<td>632.0104</td>
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<td>Single Solid Line, 4in.</td>
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<td>632.01041</td>
<td>Temporary Pavement Markings, 4in.</td>
<td>Linear Foot</td>
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<td>Retro reflective Thermoplastic Pavement Marking,</td>
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<td>18in.</td>
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<tr>
<td>632.32</td>
<td>Retro reflective Thermoplastic Symbol</td>
<td>Square Foot</td>
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</tbody>
</table>

Payment shall be per the unit listed above. Symbols will be paid for at the square footage listed below:

Turn Arrow = 17 SF
Straight and Turn Arrow = 28.8 SF
Left/Through/Right = 40.25 SF
Straight Arrow = 12.5 SF
Only = 22.3 SF
Ahead = 31.3 SF
Stop = 22.2 SF
School = 34.7 SF
X-ing = 20.8 SF
Contractor shall record the liner feet and square feet of retroreflective pavement markings placed. Quantities shall be recorded on a per street basis. Payment is contingent upon submittal of quantities in a per street format.
ITEM 632.80 - TEMPORARY PAVEMENT MARKERS

A. SCOPe

This work shall consist of furnishing, placing, and removing temporary pavement markers (TPMs) at locations shown on the plans or as ordered by the Engineer in accordance with the latest approved NIDOT Standard Specifications for Road and Bridge Construction, and the latest approved MUTCD.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all labor, materials, equipment and transportation necessary for the required placement and removal of TPMs in accordance with the latest approved NIDOT Standard Specifications for Road and Bridge Construction, and the latest approved MUTCD.

Channelizing Lines: TPMs used in channelizing line applications shall have white one-way retro reflectors facing traffic.
Lane Lines: TPMs used in lane line applications shall have white one-way or white/red two-way retro reflectors as specified, with white facing traffic.
Edge Lines: TPMs used in edge line applications shall have one-way reflectors facing traffic, and which match the existing edge line color.
Center Lines: TPMs used in center line applications shall have yellow two-way reflectors.

C. MEASUREMENT AND PAYMENT

The quantity of temporary pavement markers to be paid for will be the actual number of temporary pavement markers which have been satisfactorily installed and accepted by the Engineer, and will be paid for at the contract unit price specified for each. Replacement of temporary pavement markers that are damaged or removed shall be incidental to original installation.

Contractor shall record the number of temporary markers installed. Quantities shall be recorded on a per street basis. Payment is contingent upon submittal of quantities in a per street format.
ITEM 641 – LOAM AND SEED

A. SCOPE

This work shall consist of furnishing and placing loam to raise the edge of the roadway shoulders or to reestablish disturbed lawns during curb resetting, or other activities as shown on plans or as directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all labor, materials, equipment and transportation necessary for the required placement of loam and seed in accordance with latest approved NHDOT Standard Specifications for Road and Bridge Construction.

Seed shall be appropriate for lawn application. Seed type and mixture shall be submitted in advance.

   Sunny mix shall be 70% Kentucky Blue; 30% Perennial Rye.
   
   Shade mix shall be 70% Fine Fescue; 30% Perennial Rye.

Loam shall be placed matching height of new berm or reset curb and shall blend smoothly into lawn area without creating puddles. Extra material will be placed to account for settlement. Seed will be immediately placed. Contractor is responsible to repair low spots and to establish an acceptable stand of grass throughout loamed areas.

Where appropriate, erosion control matting shall be used to prevent erosion until a full stand of grass is established.

Seed application rate shall be 10lbs per 1000SF.

C. MEASUREMENT AND PAYMENT

Quantity of Loam and Seed will be paid for by the Cubic Yard of material placed. No payment will be made for materials delivered but not placed.

Contractor shall record the cubic yard of material placed for each street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 900 – LIQUID ASPHALT ADJUSTMENT

This item is used when the “NE Average” monthly price for asphalt cement as furnished by the NHDOT Bureau of Materials and Research differs from the base price contained in the proposal. The monthly price posted by NHDOT is available in the following web page:


The price adjustment will be based on the percent of asphalt cement in the approved mix formula(s) in the materials incorporated in the work.

The base price of asphalt cement for this Contract is:

$ 532.50 per ton. (as of January 1, 2019)

The monthly price of asphalt cement will be furnished by the NHDOT Bureau of Materials and Research on the first business day following the 14th calendar day of each month. The contract prices of Hot Bituminous Pavement will be paid under the item in the contract. The price adjustment, as provided herein, upwards or downwards, will be made at the end of each month in which the work was accomplished as follows:

[Monthly price less the base price] X [approved job mix formula percent of asphalt cement] X [tons of pavement used].
ITEM 1010.9 – CORES

A. SCOPe

This work shall include cutting 6: diameter cores, filling holes with hot mix asphalt, and compacting in accordance with provisions in Item 403.11.

Cores will be taken in support of the City Quality Assurance program as directed by the Engineer.

The Engineer may also direct the Contractor to take cores in certain roadway prior to milling to verify pavement thickness.

B. MEASUREMENT AND PAYMENT

This item will be measured and paid per each core taken and delivered. Payment shall include all costs associated with cutting, patching, compacting and delivery of cores ordered by the Engineer.
February 28, 2019
Memo #19-124

TO: MAYOR DONCHESS
FINANCE COMMITTEE

DEPARTMENT: 160 ADMIN/ENGINEERING; FUND: BOND AND TRUST

Please see the attached communication from Stephen Dookran, P.E., City Engineer, dated February 28, 2019 for information related to this purchase.

Pursuant to § 5-78 Major purchases (greater than $10,000) A. All supplies and contractual services, except as otherwise provided herein, when the estimated cost thereof shall exceed $10,000 shall be purchased by formal, written contract from the lowest responsible bidder, after due notice inviting bids.

The City Engineer, Board of Public Works (February 28, 2019 meeting) and the Purchasing Department recommend the award of this contract in an amount of $4,350,642 to Sunshine Paving of Hudson, NH.

Respectfully,

Dan Kookan
Purchasing Manager

Cc: S Dookran L Fauteux
City of Nashua, Public Works Division

To: Board of Public Works  
Meeting Date: February 28, 2019

From: Stephen Dookran, P.E., City Engineer  
Engineering Department

Re: 2019 Paving Program – Local & Collector Roadways
Construction

C. Motion: To approve the construction contract for the 2019 Paving Program – Local and Collector
Roadways to Sunshine Paving Corporation of Hudson, NH in the amount of
$4,350,642.35. Funding will be through: Department: Department: 160
Admin/Engineering; Funds: Bond and Trust; Activity: Paving.

Attachment: 2019 Paving Program – Local & Collector Roadways Paving List

Discussion: The 2019 Paving Program has been divided into two sections:
1. Arterial Roadways
2. Local and Collector Roadways

The paving program was divided to attract bids from a broader range of paving contractors
since the scope of the work is different for the two types of roadways. It has also been
divided to hopefully have two separate contractors to share the 23 miles of work.

The 2019 Paving Contract (Local & Collector Roadways) is expected to pave
approximately 11.4 miles of City streets. The contract uses repair methods such as shim,
overlay, milling and reclamation. It also includes replacing obsolete and broken drainage
and sewer castings.

The contract was advertised on January 23, 2019. Four contractors attended the
mandatory prebid meeting. Three contractors submitted bids on February 13, 2018 and
are listed below:

Sunshine Paving of Hudson, NH $4,350,642.35
Brox Industries, Inc. of Dracut, MA $4,793,285.25
Newport Construction Corporation of Nashua, NH $4,969,669.69
Continental Paving, Inc. of Londonderry, NH $5,543,957.00

Sunshine Paving of Hudson, NH at a bid price of $4,350,642.35 is the qualified low
bidder. Sunshine Paving has completed two previous annual paving contracts for the City.
References were checked for more recent work in other communities and good responses
were received.
<table>
<thead>
<tr>
<th>Street Name</th>
<th>From</th>
<th>To</th>
<th>Road Length</th>
<th>Treatment</th>
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<td>Ashland Street</td>
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<td>Saint Laurent St</td>
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<td>Cannon Drive</td>
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<td>Tuckereau Blvd</td>
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<td>Ducan Avenue</td>
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<td>Whitman Rd</td>
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<td>Tek Drive Connector</td>
<td>Michael Ave</td>
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<td>Pratt St</td>
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Total Length: 11.43 miles
2019 Paving Program
Local & Collector Roadways

Construction Specifications
and
Contract Documents

Prepared By:
City of Nashua, New Hampshire
Division of Public Works
Engineering Department

January 2019
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DIVISION 1

INVITATION TO BID
February 6, 2019

IFB0660-021219

2019 PAVING PROGRAM
LOCAL & COLLECTOR ROADWAYS

ADDENDUM #1

Information in this document becomes a part of the original Invitation to Bid.

Addendum #1 is being issued to transmit an updated Bid Form Schedule of Values and to respond to questions received from potential bidders.

All other aspects of the original document remain the same.

Please sign below to indicate receipt of this additional information and include this page with your IFB submittal.

Thank you,

[Signature]

Dan Kooker
City of Nashua
Purchasing Manager
kookend@nashuanh.gov

Addendum #1 received and incorporated into our submittal for IFB0660-021219.

Please sign and include this addendum in your proposal package.

[Signature]

February 13, 2019

(IFB0660-020719 2019 Paving Program - Arterial Roadways
229 Main Street • Nashua, New Hampshire 03061 • Phone (603) 589-3330 • Fax (603) 589-3233)
Addendum #1 is being issued to transmit an updated Bid Form Schedule of Values and to respond to questions received from potential bidders.

**Update Bid Form Schedule of Values**
An updated form is attached to this Addendum. Bidders **must** use the updated form.

The following revisions have been made to the form:

**Item 618.6 Uniformed Officers** has been revised. The value of the allowance has been filled in. Bidders shall carry the allowance identified in their bids.

**Item 618.7 Flaggers** has been revised to change the unit to “Hours”.

**Item 619.1 Maintenance of Traffic**
The quantity has been revised to correct an error. The quantity is 1 Lump Sum.

**Item 900 Liquid Asphalt Adjustment** has been revised. The value of the allowance has been filled in. Bidders shall carry the allowance as identified in their bids.

**Clarification and Responses to Questions**

1. **What unit will be used for measurement and payment for Item 304.33 Crushed Aggregate for Shoulders?**

   Upon review of the concerns expressed by potential bidders, the City is revising the unit for measurement and payment of this Item.

   The unit for this item shall be **Ton**.

2. **Will contract drawings be provided for bidders?**

   Contract drawings will **not** be provided for bidders. Worksheet drawings will be provided to the successful bidder prior to the start of work.

   The worksheet drawings will show limits of work and the basis for estimating milling, paving and reclamation quantities.
3. Will the City take all millings and surplus reclaim material at the landfill?

Yes.

4. A clarification was requested regarding whether the City may remove streets or portions of streets from the contract.

Attention is called to Supplementary Conditions/Prosecution of Work Section 1. Description of Work. The City may remove and/or add streets or portions of streets to the contract.

5. A concern was expressed with the specified maximum hourly rate for flaggers.

The City has reviewed this concern and is removing the limit on the flagger rate.

6. A potential bidder asked if production rate information as well as record payment requisitions are available from the 2018 paving program.

The City has not provided this information during past bid solicitations and this information is not available for this solicitation. If bidders consider the unavailability of this information to present a hardship, the City requests that a written explanation be provided by noon on Thursday, February 7, 2019.

7. A potential bidder asked if catch basins in this contract will only be installed on roads where paving is being performed in this contract.

The City affirms that catch basins will only be installed on roads where paving is being performed.

8. A potential bidder noted that Gilson Road and Pine Hill Road are listed as not being available until July 15, 2019. Neither street is listed as part of the anticipated contract work.

The City confirms that Gilson Road and Pine Hill Road are not part of the anticipated contract work.

9. A potential bidder asked if the 2018 City funded paving program was a multi-year contract.

The 2018 City funded paving program was a single year program. Except for certain streets deferred by the City for utility or engineering reasons, the program was substantially completed in 2018.

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<th>Item No.</th>
<th>Estimated Quantity</th>
<th>Units</th>
<th>Item Description</th>
<th>Unit Price In Figures</th>
<th>Total Price In Figures</th>
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**TOTAL BID PRICE IN FIGURES**

$ 

**TOTAL OF BID ITEMS**

$ 

Contractor:

Authorized Signature:

Date:

Address:
February 7, 2019

IFB0660-021219

2019 PAVING PROGRAM
LOCAL & COLLECTOR ROADWAYS

ADDENDUM #2

Information in this document becomes a part of the original Invitation to Bid.

Addendum #2 is being issued to inform the bidders that the bid due date has been extended to **February 13, 2019** (Wednesday), no later than **3:15 PM**.

In addition, this addendum is being issued to transmit information about the change to **Article 20** of "**Instructions for Bidders**":

**Article 20.01 shall be deleted in entirety and replaced as follows;**

**Revised Article 20.01**  Provisions concerning retainage and Contractors' rights to deposit securities in lieu of retainage are set forth in the Contract Agreement, Article 6.02 Progress Payments; Retainage.

All other aspects of the original document remain the same.

Please sign below to indicate receipt of this additional information and include this page with your IFB submittal.

Thank you,

Dan Kookan
City of Nashua
Purchasing Manager
kookend@nashuah.gov

Addendum #2 received and incorporated into our submittal for IFB0660-021219.
Please sign and include this addendum in your proposal package.

[Signature]

(Authorized Signature)

[Date]

February 13, 2019

(Name of Firm)
January 23, 2019

INVITATION TO BID

2019 Paving Program
Local & Collector Roadways

IFB0660-021219

The City of Nashua, Division of Public Works, is seeking bids for the 2019 Paving Program – Local & Collector Roadways. The scheduled work is located in various areas throughout the City of Nashua and consists primarily of pavement overlaying, pavement milling with overlay, and pavement reclamation.

The City of Nashua reserves the right, for the Street Paving portion of the contract, to substitute streets of a similar nature or to add additional streets subject to contract amendment process.

Contractor shall ensure that its activities and activities of its employees are in strict compliance with Protection Agency, all applicable federal, state and local statutes, ordinances, regulations and rules, including without limitation, the Federal OSHA of 1970, as amended and the standards and regulations issued hereunder, and all other statues, ordinances, regulations, rules, standards and requirements of common law in relation to industrial hygiene and safety, and the protection of health and the environment.

The City of Nashua would like to emphasize the importance of construction work zone safety. The City of Nashua has adopted the provisions of the Manual on Uniform Traffic Control Devices (MUTCD) for work zone safety. Unless otherwise indicated in this contract, the contract shall follow the requirements of the MUTCD at all roadway construction work zones.

The anticipated Commencement date for the contract is on or about March 21, 2019. Project will begin once a written “Notice to Proceed” is issued.

Completion times for the project will be as follows:

Substantial completion shall be by October 15, 2019. Substantial completion occurs when all paving is complete.

Contract completion shall be by October 31, 2019.

The City is now accepting submittals electronically via Bid Express. Please review the attachments, Bid Express Vendor Guide and Vendor Set-up Guide for more information. If a Bidder chooses to submit a paper copy, they must be submit one (1) original and two (2) copies c/o Central Purchasing, 229 Main Street, Room 128, Nashua, NH, 03061, in sealed envelopes clearly marked “IFB 0660-021219 2019 Paving Program – Local & Collector Roadways”. Regardless of the method of submission, bids must be received no later than 3:15 pm on Tuesday February 12, 2019. Bids will be opened and publicly read at that time. Results showing all bidders’ identities and their respective bid amounts will be available on our website, www.nashuanh.gov, under Services; Bid Opportunities; Bid Results, (Refer to Document IFB 0660-021219), within twenty-four (24) hours after the opening.
A MANATORY pre-bid conference will be held at 8:30 am, Wednesday, January 30, 2019 at the City of Nashua Division of Public Works, 9 Riverside Street, Nashua, NH 03062. You or your representative(s) are required to attend this meeting if you intend to submit a bid. The meeting is an opportunity for the City of Nashua to overview the project and objectives, and participants to request additional information directly from City of Nashua staff managing or participating in the project.

Beginning Wednesday, January 23, 2019 bid documents will be available electronically from the City of Nashua website: www.nashuanh.gov, under Services, Bid Opportunities; Current Bids; (Refer to Document IFB660-021219). Please note paper copies will not be available.

No bid documents are available at the Central Purchasing.

Bids must be submitted in the format provided and address the items specified in the bid package.

Delivery of the Bids shall be at the Vendor’s expense. The time of receipt shall be considered when a Bid has been officially documented by the Department, in accordance with its established policies, as having been received at the location designated above. The City of Nashua accepts no responsibility for mislabeled mail. Any and all damage that may occur due to shipping shall be the Vendor’s responsibility.

Postmarks or other timestamps will not be accepted in lieu of actual delivery. The firm can use whatever delivery mechanism it chooses as long as it remains clear that the firm is responsible for submissions prior to the date and time.

The City of Nashua assumes no liability for the payment of costs and expenses incurred by any bidder in responding to this request for bids. All bids become the sole property of the City of Nashua. This request for bids is not a contract and alone shall not be interpreted as such but rather serves as an instrument through which bids are solicited.

The project timeline is as follows:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid Documents</td>
<td>Wednesday, January 23, 2019</td>
<td>On City of Nashua Website Only</td>
</tr>
<tr>
<td>Mandatory Pre-bid Meeting</td>
<td>Wednesday, January 30, 2019</td>
<td>8:30 am DPW Engineering 9 Riverside Street, Nashua, NH</td>
</tr>
<tr>
<td>Deadline for Questions to be submitted in writing</td>
<td>Friday, February 01, 2019</td>
<td>12:00 Noon</td>
</tr>
<tr>
<td>Answers/clarifications posted</td>
<td>Wednesday, February 06, 2019</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Bid Due</td>
<td>Tuesday, February 12, 2019</td>
<td>3:15 pm Purchasing Department</td>
</tr>
</tbody>
</table>

Vendors are encouraged to submit questions via email; however, the City of Nashua assumes no liability for assuring accurate/complete email transmission/receipt and is not responsible to acknowledge receipt. Inquiries must be submitted in writing, citing the IFB title, IFB number, Page, Section, and received no later than Friday, February 01, 2019 at 12:00 Noon to

Mandeep Gill
Senior Staff Engineer
Email: GillM@nashuanh.gov

The City of Nashua will consider all timely-received questions and requests for change and, if reasonable and appropriate, will issue an addendum to clarify or modify this IFB. Answers to vendor submitted questions and other addenda will be posted under document IFB660-021219 on the City of Nashua website; www.nashuanh.gov, under Services; Bid Opportunities; Current Bids; (Refer to Document IFB660-021219) no later than Wednesday, February 06, 2019 at 3:00 pm.

IFB0660-021219 2019 Paving Program - Local & Collector Roadways
The City of Nashua may reject any or all of the bids on any basis and without disclosure of a reason. The failure to make such a disclosure shall not result in accrual of any right, claim or cause of action by any unsuccessful bidder against the City of Nashua. The City of Nashua reserves the right to waive any irregularities when the public interest will be served thereby. The City of Nashua also reserves the right to negotiate any change or amendment in any bid without soliciting further bids if the action is necessary for the best interest of the City of Nashua.

All bids are binding for ninety (90) days following the deadline for bids, or until the effective date of any resulting contract, whichever is later.

The successful bidder must maintain the following lines of coverage and policy limits for the duration of the contract. Any subcontractors used by the successful bidder are subject to the same coverage and limits and is a subcontractor of the successful bidder and not the City of Nashua. It is the responsibility of the successful bidder to update Certificates of Insurance during the term of the contract. Liability limits are as follows:

- General Liability: $1,000,000 per Occurrence
  $2,000,000 Aggregate
- Motor Vehicle Liability: $1,000,000 Combined Single Limit

*Coverage must include all owned, non-owned and hired vehicles.

- Workers’ Compensation Coverage according to Statute of the State of New Hampshire:
  $100,000 / $500,000 / $100,000

*The City of Nashua must be named as an additional insured on all liability certificates.*

All bidders and subcontractors at every tier under the bidder will fully comply with NH RSA Chapter 281-A, “Workers’ Compensation”.

It is the responsibility of the Contractor to submit to the City of Nashua certificates of insurance for the Contractor and all other subcontractors prior to the start of the project. It is the responsibility of the Contractor to provide the City of Nashua with updated certificates of insurance for the Contractor and all subcontractors 10 days prior to the expiration of coverage. The City of Nashua may, at any time, order the Contractor to stop work, suspend the contract or terminate the contract for non-compliance. All subcontractors are subject to the same insurance requirements as the Contractor.

No bid will be considered unless accompanied by a bid security in the form of a Bid Bond, in an amount not less than five percent (5%) of the Total Bid Price.

The successful Contractor will be required to post a 100% Performance Bond and a 100% Payment Bond in an amount equal to the Contract Award.

Cost of bond premiums to be included in the Lump Sum Bid Proposal.

The City of Nashua is exempt of all taxes. All bids must be FOB Nashua, NH. All bidders must comply with all applicable Equal Employment Opportunity laws and regulations.

Pursuant to NRO 5-78 (F), the Purchasing Manager shall not solicit a bid from a contractor who is in default on the payment of taxes, licenses or other monies due the City of Nashua. Therefore, this bid request is void as to anyone who is in default on said payments.
The City of Nashua supports the concept of purchasing products that are biodegradable, can be or have been recycled, or are environmentally sound. Due consideration will be given to the purchase of such products. If you are bidding on any such products that qualify, please so indicate in a cover sheet by item number and description.

Respectfully,
DIVISION 2

INSTRUCTIONS FOR BIDDERS
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<tr>
<td>Article 21 – Appeal by Bidders</td>
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INSTRUCTIONS FOR BIDDERS

ARTICLE 1  DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

   A.  Bidder – The individual or entity who submits a Bid directly to OWNER.

   B.  Issuing Office – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

   C.  Successful Bidder – The lowest responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER’s evaluation as hereinafter provided) makes an award.

ARTICLE 2  COPIES OF BIDDING DOCUMENTS

2.01 Bidding Documents are available electronically City’s web site, www.nashuanh.gov, under Services; Bid Opportunities; Current Bids. Hard copies are not available.

2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

ARTICLE 3  QUALIFICATIONS OF BIDDERS.

3.01 To demonstrate Bidder’s qualifications to perform the Work, each Bidder must submit a completed Construction Contractor’s Qualification for Engineered Projects.

ARTICLE 4  MANDATORY PRE-BID CONFERENCE

4.01 A MANDATORY pre-bid conference will be held on the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid. Representatives of OWNER and ENGINEER will be present to discuss the Project. OWNER will transmit to all prospective Bidders of record such Addenda, as OWNER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 5  SITE AND OTHER AREAS

5.01 The Site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

ARTICLE 6  INTERPRETATIONS AND ADDENDA

6.01 All questions about the meaning or intent of the Bidding Documents are to be directed to ENGINEER. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda and posted on the City of Nashua website. Deadlines for submission of questions can be found on the project timeline contained within the Invitation for Bids. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
6.02 Either Addenda may also be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER. Bidders are requested to sign each Addenda issued to indicate receipt of this additional information and must include the signed cover page with Bidders bid submittal. It is the Bidder's responsibility to determine from the City website if Addendas have been issued.

**ARTICLE 7  BID SECURITY**

7.01 A Bid must be accompanied by Bid security made payable to OWNER in an amount of five percent (5%) of Bidder's maximum Bid price and in the form of a Bid Bond (on form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.

7.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 10 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of seven days after the Effective Date of the Agreement or 91 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

7.03 Bid security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

**ARTICLE 8  CONTRACT TIMES**

8.01 The number of **calendar** days within which, or the dates by which, the Work is to be (a) substantially completed and (b) also completed and ready for final payment are set forth in the Agreement.

**ARTICLE 9  LIQUIDATED DAMAGES**

9.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

**ARTICLE 10  SUBCONTRACTORS, SUPPLIERS AND OTHERS**

10.01 Each Bidder must submit a completed List of Subcontractors on the Form furnished with the completed Bid Form. The apparent Successful Bidder, and any other Bidder so requested, shall within seven days after the Bid opening submit to OWNER supplemental information in the form of an experience statement with the pertinent information regarding similar projects and other evidence of qualification of each Subcontractor, Supplier, person or organization if requested by OWNER or ENGINEER. IF OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution and OWNER may consider such price adjustment in evaluating Bids and making the contract award.

10.02 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving
of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Article 6.06 of the General Conditions.

10.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom CONTRACTOR has reasonable objection.

ARTICLE 11  PREPARATION OF BID

11.01 The Bid Form is included with the Bidding Documents.

11.02 All blanks on the Bid Form and Bid Schedule(s) must be completed by printing in ink or typed and the Bid signed. A bid price shall be indicated for each Bid item listed therein.

11.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

11.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown below the signature.

11.05 A bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.

11.06 A Bid by an individual shall show the Bidder’s name and official address.

11.07 A Bid by a joint venture shall be executed by each joint ventured in the manner indicated on the Bid Form. The official address of the joint venture must be shown below the signature.

11.08 All names must be typed or printed in black ink below the signatures.

11.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.

11.10 The address and telephone number for communications regarding the Bid must be shown.

11.11 The Bid shall contain evidence of Bidder’s authority and qualification to do business in the state where the Project is located. Bidder’s state contractor license number for the state of the Project, if any, must also be shown on the Bid Form.

ARTICLE 12  BASIS OF BID; EVALUATION OF BIDS

12.01 Unit Price

A. Bidders shall submit a Bid on a unit price or lump sum basis for each item of Work listed in the Bid schedule.

B. The total of all estimated prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for each item. The final quantities and Contract Price will be determined in accordance with paragraph 11.03 of the General Conditions.
C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

12.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowance, if any, named in the Contract Documents as provided in paragraph 11.02 of the General Conditions.

ARTICLE 13 SUBMITTAL OF BID

13.01 The City of Nashua website provides a copy of the Bidding Documents, applicable drawings or specifications, a sample contract for execution, and a submission packet. The submission packet includes the Bid Form, the Construction Contractor’s Qualification Statement, the Bid Schedule of Values, and signed cover page of each OWNER issued Addendum. Each prospective Bidder must complete and submit all submission package documents and accompany the submission with the Bid Bond.

13.02 A bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation “BID ENCLOSED.” A mailed Bid shall be addressed to City of Nashua Purchasing Department, 229 Main Street, Room 128, Nashua, NH, 03061.

ARTICLE 14 MODIFICATION AND WITHDRAWAL OF BID

14.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

14.02 If, within twenty-four hours after Bids are opened any Bidder files a duly signed written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, OWNER may, in its sole discretion, choose to not accept the Bid and return the same to Bidder. Thereafter, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 15 OPENING OF BIDS

15.01 Bids will be opened at the time and place indicated in the advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids through posting on the City’s website.

ARTICLE 16 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

16.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.
ARTICLE 17  AWARD OF CONTRACT

17.01 OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced or conditional Bids. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. OWNER may also reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder. OWNER also reserves the right to waive all informalities not involving price, time or changes in the Work and to negotiate contract terms with the Successful Bidder.

17.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

17.03 In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such: alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

17.04 In evaluating Bidders, OWNER will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

17.05 OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers individuals, or entities to perform the Work in accordance with the Contract Documents.

17.06 If the Contract is to be awarded, OWNER will award the Contract to lowest Bidder whose evaluation by OWNER indicates to OWNER that the award will be in the best interests of the Project.

ARTICLE 18  CONTRACT SECURITY

18.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER's requirements as to Performance and Payment Bonds and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it must be accompanied by such Bonds.

ARTICLE 19  SIGNING OF AGREEMENT

19.01 When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents, which are identified in the Agreement attached thereto. The Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER, including the Performance and Payment Bonds and the Certificate of Insurance. Within 10 days thereafter, OWNER shall deliver one fully signed counterpart to Successful Bidder with a complete set of drawings with appropriate identification.

19.02 A fully executed City of Nashua Purchase Order will accompany the fully signed counterpart to successful Bidder.
ARTICLE 20  RETAINAGE

20.01  The OWNER shall not retain a portion of progress payments on this contract.

ARTICLE 21  APPEAL BY BIDDERS

21.01  Any bidder may appeal a pending bid award prior to award by OWNER. The appellant must:

A.  Submit a written protest to the OWNER’s Purchasing Manager within five (5) workdays after the bid opening.

B.  Describe, in the written protest, the issues to be addressed on appeal.

C.  Post, with the written protest, a bond with a surety meeting the requirements of General Condition 5.02 authorized to do business in this state or submit other security in a form approved by OWNER who will hold the bond or security until a determination is made on the appeal.

D.  Post the bond or other security in the amount of 25% of the total dollar value of the appellant’s bid, up to a maximum bond or other security amount of $250,000.00.

E.  Not seek any type of judicial intervention until OWNER has rendered its final decision on the protest.

21.02  OWNER will stop award actions until after the OWNER’s Purchasing Manager has responded in writing to the protest. If the appellant is not satisfied with the response, the appellant may then protest to the Board of Public Works, who will render a final decision for the OWNER. No bid protests will be heard by the Board of Public Works unless bidder has followed the appeal process.

21.03  If an appeal is granted, the full amount of the posted bond or security will be returned to the appellant. If the appeal is denied or not upheld, a claim may be made against the bond for expenses suffered by the OWNER because of the unsuccessful appeal.

21.04  OWNER is not liable for any costs, expenses, attorney’s fees, loss of income, or other damages sustained by the appellant in a bid process.
BID FORM

PROJECT IDENTIFICATION: 2019 Paving Program Local & Collector Roadways

CONTRACT IDENTIFICATION AND NUMBER: IFB0660-021219

THIS BID IS SUBMITTED TO: City of Nashua
Central Purchasing
229 Main Street, City Hall
Room 128
Nashua, NH 03061-2019

1.01 The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.01 BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 60 days after the day of Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

3.01 In submitting this Bid, BIDDER represents, as set forth in the Agreement, that:

A. BIDDER has examined and carefully studied the Bidding Documents and the following Addenda, receipt of all which is hereby acknowledged.

<table>
<thead>
<tr>
<th>Addendum No.</th>
<th>Addendum Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2/6/19</td>
</tr>
<tr>
<td>2</td>
<td>2/7/19</td>
</tr>
</tbody>
</table>

B. BIDDER has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. BIDDER is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. BIDDER has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by BIDDER, and safety precautions and programs incident thereto.
E. BIDDER does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

F. BIDDER is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

G. BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

H. BIDDER has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that BIDDER has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to BIDDER.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of the Work for which this Bid is submitted.

4.01 BIDDER further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any individual or entity to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

5.01 The requirements of the New Hampshire Revised Statutes Annotated shall apply to this project. The BIDDER is responsible for compliance with all applicable statutes. The entire set of the Revised Statutes Annotated is available online at:

http://gencourt.state.nh.us/rsa/html/indexes/default.html

6.01 BIDDER will complete the Work in accordance with the Contract Documents for the following prices:

**SEE ATTACHED BID SCHEDULE**

A. Unit Prices have been computed in accordance with paragraph 11.03.B of the General Conditions.

B. BIDDER acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents.

7.01 BIDDER agrees that the Work will be substantially completed and completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
7.02 BIDDER accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.

8.01 The following documents are attached to and made a condition of this Bid:

A. Bid Form;
B. Bid Bond;
C. A tabulation of Subcontractors, Suppliers and other individuals and entities required to be identified in this Bid; and
D. Construction Contractor's Qualification Statement.

9.01 Communications concerning this Bid shall be addressed to:
(Contractor's mailing address to be filled in by Bidder)

Sunshine Paving Corporation
Robert Bushnell
29 Constitution Dr.
Hudson, NH 03051

10.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

Submitted by:
Name of Organization: Sunshine Paving Corporation
Name of Individual: Robert Bushnell
Title: President
Address: 29 Constitution Dr.
Hudson, NH 03051

Telephone: (603) 886-5400

Submitted to:
Name: City of Nashua - Purchasing
Address: 229 Main St.
Nashua, NH 03061

Telephone: (603) 589-3330
SUBMITTED on February 12, 2019
If BIDDER is:

An Individual

Name (typed or printed): [Name]

By: [Individual’s Signature] (SEAL)

Doing business as: ____________

Business address: ______________________________________________________________________

Phone No.: ____________ Fax No.: ______________________________________________________________________

A Partnership

Partnership Name: [Name]

Date and State of Organization

________________________________________________________________________________________

Names of Current General Partners

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
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</tr>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Type of Partnership

☐ General ☐ Publicly Traded
☐ Limited ☐ Other (describe): ____________________________

By: ____________________________ (Signature of General Partner – attach evidence of authority to sign)

Name (typed or printed): [Name]

Business address: ______________________________________________________________________

Phone No.: ____________ Fax No.: ______________________________________________________________________
A Corporation

Corporation Name: Sunshine Paving Corporation (SEAL)

Date and State of Incorporation: 3/4/2014 - Massachusetts

List of Executive Officers

Name: Robert Bushnell
Title: President

Type (General Business, Professional, Service, Limited Liability): Service

By: ______________ (Signature -- attach evidence of authority to sign)

Name (typed or printed): Robert Bushnell
Title: President (Corporate Seal)
Attest: ______________ (Signature of Corporate Secretary)

Business Address: 89 Meadowbrook Rd
North Chelmsford, MA 01863

Phone No.: 978-250-1233 Fax No.: 978-251-8591

Date of Qualification to do business is 3/4/2014

A Joint Venture

Joint Venture Name: N/A (SEAL)

Date and State of Organization:

Name, Address and Form of Organization of Joint Venture Partners: (Indicate managing partner by an asterisk *)

Bid Form
By: N/A

(Signature of joint ventured partner -- attach evidence of authority to sign)

Name (typed or printed): __________________________

Title: __________________________

Business Address: __________________________

Phone No.: __________________________ Fax No.: __________________________

Address for receipt of official communications:

______________________________

(Each joint ventured must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above).
LIST OF SUBCONTRACTORS
(to be submitted with bid)

The name and address of each subcontractor who will be paid at least five percent (5%) of the prime contractor's total bid shall be listed below. To be deemed a responsive bid, this form must be submitted even if no subcontractors are required to be listed. In that case, the bidder should state "None" (or similar language stating that no subcontractors need to be listed) in the space below. (Refer to General Condition 6.09.H)

<table>
<thead>
<tr>
<th>Name</th>
<th>Address of Subcontractor</th>
<th>Portion of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gavrilu</td>
<td>22 Peters Rd</td>
<td>Cold Planing</td>
</tr>
<tr>
<td>Gavrilu</td>
<td>Bloomfield, CT 06002</td>
<td>Reclaiming</td>
</tr>
<tr>
<td>Dacella</td>
<td>183 New Boston St.</td>
<td>Reclaiming</td>
</tr>
<tr>
<td>ACC Construction</td>
<td>PO Box 91 Leominster, MA</td>
<td>Casting Work</td>
</tr>
<tr>
<td>Corbo Construction</td>
<td>207 Lancaster St.</td>
<td>Casting Work</td>
</tr>
<tr>
<td>SCR Construction</td>
<td>Leominster, MA 01453</td>
<td>Casting Work</td>
</tr>
</tbody>
</table>
LIST OF SUBCONTRACTORS  
(to be submitted after bid opening)

Within two hours after the completion of the opening of the bids, the general contractors who submitted the three lowest bids must provide a list of each subcontractor who will provide labor or a portion of the work or improvement to the contractor for which the subcontractor will be paid an amount exceeding one percent (1%) of the prime contractor's bid or $50,000, whichever is greater, and the number of the license issued to the subcontractor. If a general contractor fails to submit such a list within the required time, the bid shall be deemed not responsive. To be deemed a responsive bid, this form must be submitted even if no subcontractors are required to be listed. In that case, the bidder should state “None” (or similar language stating that no subcontractors need to be listed) in the space below. (Refer to General Condition 6.09.H.)

<table>
<thead>
<tr>
<th>Subcontractor/Address</th>
<th>Dollar Value and description of work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garyty Asphalt</td>
<td>32 Peters Rd. Bloomfield, CT 06002</td>
</tr>
<tr>
<td></td>
<td>Reclaiming</td>
</tr>
<tr>
<td>Garyty Asphalt</td>
<td>32 Peters Rd. Bloomfield, CT 06002</td>
</tr>
<tr>
<td></td>
<td>Cold Planning</td>
</tr>
<tr>
<td>Norella Paving</td>
<td>155 New Boston St.</td>
</tr>
<tr>
<td></td>
<td>Westbrook, MA 01881</td>
</tr>
<tr>
<td></td>
<td>Reclaiming/Trucking</td>
</tr>
<tr>
<td>TAC Construction</td>
<td>PO Box 91</td>
</tr>
<tr>
<td></td>
<td>Reclaiming, MA 01881</td>
</tr>
<tr>
<td></td>
<td>Costs</td>
</tr>
<tr>
<td>SUR Construction</td>
<td>187 Lancaster St.</td>
</tr>
<tr>
<td></td>
<td>Lexington, MA 01053</td>
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<tr>
<td></td>
<td>350,000.00</td>
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<td>350,000.00</td>
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<td>350,000.00</td>
</tr>
</tbody>
</table>
BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (Name and Address): SUNSHINE PAVING CORPORATION
29 Constitution Drive
Hudson, NH 03051

SURETY (Name, and Address of Principal Place of Business): THE OHIO CASUALTY INSURANCE COMPANY
Agency: P.O. Box 511
Concord, NH 03302-0511

OWNER (Name and Address): CITY OF NASHUA
229 Main Street
Nashua, NH 03060

BID
Bid Due Date: February 12th, 2019
Description (Project Name—Include Location): IFB 0660-021219 2019 PAVING PROGRAM—LOCAL & COLLECTOR ROADWAYS, NASHUA, NH

BOND
Bond Number: N/A
Date: February 12th, 2019
Penal sum $ 5% OF AMOUNT BID

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER
SUNSHINE PAVING CORPORATION
Bidder’s Name and Corporate Seal
By:
Signature
Robert Bushnell
Print Name
President

SURETY
THE OHIO CASUALTY INSURANCE COMPANY
Surety’s Name and Corporate Seal
By:
Signature (Attach Power of Attorney)
Ryan M. Stevens
Print Name
Attorney-In-Fact
Title

Attest:
Signature
Christine M. Hosmer, Account Manager
Title

Note: Addresses are to be used for giving any required notice.
Provide execution by any additional parties, such as joint venturers, if necessary.

EJCDC® C-430, Bid Bond (Penal Sum Form). Published 2013.
Prepared by the Engineers Joint Contract Documents Committee.
1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder’s and Surety’s liability. Recovery of such penal sum under the terms of this Bond shall be Owner’s sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

   3.1 Owner accepts Bidder’s Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

   3.2 All Bids are rejected by Owner, or

   3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety’s written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term “Bid” as used herein includes a Bid, offer, or proposal as applicable.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8198086-968046

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That the Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Matthew R. Blaisdell, Paula J. Cantara, Daniel E. Church, John M. Harboutte, Christine M. Hoarser, Bruce H. Langlely, Gary P. LaPierre, Michael P. O'Brien, Ryan M. Stevens

all of the city of Concord state of NH each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 30th day of November, 2018.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY

On this 30th day of November, 2018 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notary Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitations as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

Any officer of the Corporation authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 12th day of February, 2019.

By: Renee C. Llewellyn, Assistant Secretary

LMS-12873 LMIC OC/C WA/C Multi Co_062016
CONSTRUCTION CONTRACTOR’S
QUALIFICATION STATEMENT

1. On Schedule A, attached, list major engineered construction projects completed by this organization in the past five (5) years. (If joint venture, list each participant’s projects separately).

2. On Schedule B, attached, list current projects under construction by this organization, (If joint venture, list each participant’s projects separately).

3. Name of Surety Company and name, address, and phone number of agent.

The Ohio Casualty Insurance Company
The Rowley Agency (603) 224-2562
US Constitution Ave Concord, NH 03301

4. Is your organization a member of a controlled group of corporations as defined in I.R.C. Sec. 1563?

☐ Yes ☒ No

If yes, show names and addresses of affiliated companies.

5. Furnish on Schedule C, attached, details of the construction experience of the principal individuals of your organization directly involved in construction operations.

6. Has your organization ever failed to complete any construction contract awarded to it?

☐ Yes ☒ No

If yes, describe circumstances and provide details on attachment.

7. Has any Corporate officer, partner, joint venture participant or proprietor ever failed to complete a construction contract awarded to him or her in their own name or when acting as a principal of another organization?

☐ Yes ☒ No

If yes, describe circumstances and provide details on attachment.

8. In the last five years, has your organization ever failed to substantially complete a project in a timely manner?

☐ Yes ☒ No

☐ Yes ☒ No

If yes, describe circumstances and provide details on attachment.

CQ - 1 of 7
9. Does your organization now have any legal suits or arbitration claims pending or outstanding against it or any officers?
   □ Yes  X No
   If yes, describe circumstances and provide details on attachment.

10. Has your organization had a contract partially or completely terminated for default (cause) within the past five years?
    □ Yes  X No
    If yes, describe circumstances and provide details on attachment.

11. List the licensed categories of work that your company normally performs with its own workforce.

12. If required, can your organization provide a bid bond for this project?
    X Yes  □ No

13. What is your approximate total bonding capacity?
    □ $500,000 to $2,000,000
    □ $2,000,000 to $5,000,000
    □ $5,000,000 to $10,000,000
    X $10,000,000 or more

14. Describe the permanent safety program you maintain within your organization. Use attachment if necessary.
   We follow current OSHA rules and regulations.
   All employees have taken the 10-hour OSHA safety training and were provided cards to show completion of the course.

15. Furnish the following information with respect to an accredited banking institution familiar with your organization.

   Name of Bank: Enterprise Bank
   Address: 237 Littleton Rd, Westford, MA 01886
   Account Manager: David Brown
   Telephone: 978-656-5630
I hereby certify that the information submitted herewith, including any attachment is true to the best of my knowledge and belief.

Sunshine Paving Corporation

By: ____________________________

Title: President

Dated: February 12, 2019
<table>
<thead>
<tr>
<th>Name, Location and Description of Project</th>
<th>Owner</th>
<th>Design Engineer</th>
<th>Date Completed</th>
<th>Contract Price</th>
<th>Reference/Contact &amp; Address &amp; Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please see attached</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Schedule B - List of Current Projects Under Construction

<table>
<thead>
<tr>
<th>Name, Location and Description of Project</th>
<th>Owner</th>
<th>Design Engineer</th>
<th>Contract Price</th>
<th>Amount Completed</th>
<th>Date of Scheduled Completion</th>
<th>Reference/Contact &amp; Address &amp; Phone</th>
</tr>
</thead>
</table>

Please See Attached.
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Date started with this organization</th>
<th>Date started working in construction</th>
<th>Prior positions and experience in construction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Attached</td>
</tr>
</tbody>
</table>

Please see attached.
CURRENT CONTRACT LIST

City of Lowell, 375 Merrimack Street, Lowell, MA 01852
Project: 2018 Reconstruction of Streets and Sidewalks
Contract Amount: $1,914,541.00
Anticipated: June 30, 2019

City of Waltham, 610 Main Street, Waltham, MA 02452
Project: Church Parking Lot, 2017
Contract Amount: $170,105.10
Anticipated Completion Date: Spring 2019

City of Gardner, 95 Pleasant Street, Gardner, MA 01440
Project: Theater Park and Parking Lot Redevelopment Project
Contract Amount: $467,000.00
Anticipated Completion Date: Spring 2019

Town of Bedford, 314 The Great Road, Bedford, MA 01730
Project: Roadway Reclamation & Paving
Contract Amount: $3,061,675.00
Anticipated Completion Date: Spring 2021

The Massachusetts Water Resources Authority
Project: Metropolitan Operations Paving
Contract Amount: $1,277,568.50
Anticipated Completion Date: December 18, 2020
SUNSHINE PAVING CORPORATION
29 CONSTITUTION DR.
HUDSON, NH 03051

Superintendent Experience List

Paul Bauch, Superintendent – 29 years all phases of Construction,
Start Date: 3/1990

John Hussey, Superintendent- 24 years all phases of Construction
Start Date: 4/2003

Gary Nicholson, Superintendent- 33 years all phases of Construction
Start Date: 3/2008

Keith Marshall, Operations Manager/ Project Manager – 27 years all phases of Construction
Start Date: 11/1999

Robert Bushnell, President/ Project Manager – 33 years all phases of Construction
CERTIFICATE OF VOTE

At a duly authorized meeting of the Board of Directors of Sunshine Paving Corporation held on January 2, 2019 it was unanimously voted to authorize Robert Bushnell its President, to sign any and all bonds, Bids and contract documents on behalf of the Corporation. I further certify that said vote remains in full force and effect, and has not been rescinded or modified as of the date below.

Date: February 13, 2019

Sunshine Paving Corporation

[Signature]

[Title: Clerk, Secretary of the Corporation]
State of New Hampshire  
Department of State  

RENEWAL CERTIFICATE OF REGISTERED TRADE NAME  
OF  
MASSACHUSETTS SUNSHINE PAVING  

This is to certify that SUNSHINE PAVING CORP. reregistered in this office as doing business under the Trade Name MASSACHUSETTS SUNSHINE PAVING, at 89 Meadowbrook Road, North Chelmsford, MA, 01863, USA on 3/16/2019 12:00:00 AM.  

The nature of business is OTHER / Paving & Construction & Excavation  

Expiration Date: 3/16/2024 12:00:00 AM  

Business ID: 610134  

IN TESTIMONY WHEREOF,  
I hereo set my hand and cause to be affixed the Seal of the State of New Hampshire, this 3rd day of December A.D. 2018.  

William M. Gardner  
Secretary of State
I, William M. Gardner, Secretary of State of the State of New Hampshire, do hereby certify that SUNSHINE PAVING CORP. is a Massachusetts Profit Corporation registered to do business in New Hampshire as MASSACHUSETTS SUNSHINE PAVING on March 16, 2009. I further certify that all fees and documents required by the Secretary of State’s office have been received and is in good standing as far as this office is concerned.

Business ID: 610135

IN TESTIMONY WHEREOF,
I hereto set my hand and cause to be affixed the Seal of the State of New Hampshire,
this 9th day of February A.D. 2018.

William M. Gardner
Secretary of State
CITIES/TOWNS:
  • Municipal Street Paving Contracts – Paving in 2018:
    1. Lowell $1,462,000
    2. Walpole $1,249,000
    3. Bedford $785,000
    4. MWRA $455,000
    5. Franklin $266,000
  • Scope of Work: Paving, Milling, Excavation, Grading, Structures, Thermoplastic Striping

CITIES/TOWNS:
  • Municipal Street Paving Contracts – Paving in 2017:
    1. Salem $2,993,000
    2. Burlington $1,157,000
    3. Tyngsboro $836,000
    4. Groton $572,000
    5. Pepperell $455,000
    6. Chelmsford $332,000
    7. West Newbury $270,000
    8. Lincoln $147,000
  • Scope of Work: Paving, Milling, Excavation, Grading, Structures, Thermoplastic Striping

CITIES/TOWNS:
  • Municipal Street Paving Contracts – Paving in 2016:
    1. Salem $2,031,034
    2. Chelmsford $1,246,000
    3. Pepperell $715,000
    4. Groton $490,000
    5. Bedford $280,000
    6. Boxboro $276,000 (individual paving project)
    7. West Newbury $267,000
    8. Winchester $230,000 (finished 2017)
    9. West Boylston $177,000 (individual paving project)
    10. Essex $86,000
  • Scope of Work: Paving, Milling, Excavation, Grading, Structures, Thermoplastic Striping
CITIES/TOWNS:

- Municipal Street Paving Contracts – Paving in 2015:
  1. Bedford $763,000
  2. Chelmsford $606,000
  3. Groton $504,000
  4. West Newbury $443,000
  5. Pepperell $355,000
  6. Salisbury $183,000
  7. Essex $110,000
  8. Townsend $72,000

- Scope of Work: Paving, Milling, Excavation, Grading, Structures, Thermoplastic Striping
- Completed: 2015/2016

CITY OF METHUEN – RIVERSIDE PARK

- Job Location: Methuen Raymond J. Martin Riverside Park, Methuen, MA
- Scope of Work: Park Construction – demo, tree removal, excavation, grading, paving, refurbish gazebo, electrical, paving, park furnishings (dog waste stations, benches, picnic tables, play equipment, etc.) fence, bollards, tree plantings, etc.
- Contact: William Buckley, City of Methuen, wbuckley@ci.methuen.ma.us
- Completion: 2018
- Value…..$614,000

TOWN OF BELMONT – IMPROVEMENTS TO PEQUOSSETTE PLAYGROUND

- Job Location: Pequossette Playground, Belmont, MA
- Scope of Work: Park Construction – demo, drainage, walk construction, paving, playground and site furnishings, fence, concrete walk, play hill area, rubber curb, wood fiber, signage, boulders, plantings, loam, etc.
- Contact: Frank Sartori, Town of Belmont, fsartori@belmont-ma.gov
- Completion: 2018
- Value…..$535,000

TOWN OF CONCORD – SLEEPY HOLLOW CEMETERY – ROADWAY REHAB PHASE II

- Job Location: Concord, MA
- Scope of Work: Excavate pavement, gravel installation, drainage, paving, granite curb, bollards, erosion control, plantings, stone veneer walkway, decorative stone slope stabilization, etc.
- Contact: Nathan Chin, Town of Concord, nchin@concordma.gov
- Completion: 2018
- Value…..$406,000
TOWN OF SUDBURY – TENNIS COURT RENOVATION PROJECT
  • Job Location: Featherland Park, Sudbury, MA
  • Scope of Work: Demolition, grading, infiltration trench, paving, fence, gates, nets, hydroseed, color coating, line painting, etc.
  • Contact: William F. O’Rourke, Town of Sudbury, orourke@townofreading.com
  • Completion: 2018
  • Value......$170,000

TOWN OF READING – PARKING LOT RENOVATIONS
  • Job Location: Joshua Eaton School, Reading, MA
  • Scope of Work: Cold planing, fine grading, compaction, paving, adjust structures, granite curb, precast concrete structures, loam & seed, etc.
  • Contact: Christopher Cole, Town of Reading, ccole@ci.reading.ma.us
  • Completion: 2018
  • Value......$164,000

CITY OF LOWELL – SOUTH COMMON PHASE I
  • Job Location: South Common, Lowell, MA
  • Scope of Work: Park Construction – demo, tree removal, excavation, grading, paving vehicular and pedestrian pathways, tennis court paving, granite curb, cobble pathway, thermos drainage, park furnishings (dog waste stations, benches, guardrail, fence, bollards, tree plantings, etc.
  • Contact: David Sleeper, City of Lowell, dsleeper@lowellma.gov
  • Completion: 2017/18
  • Value......$1,005,000

NORTHSHORE EDUCATION CONSORTIUM – PARKING LOT PROJECT
  • Job Location: 112 Sohier Road, Beverly, MA
  • Scope of Work: Parking Lot Construction – demo, site work, HMA Binder installation, berm, HMA Top installation, concrete walk, dumpster pad, bollards, rip rap, street bond, guardrail, fencing, sloped granite curb, line painting, loam & seed
  • Contact: Scott Patrowicz, Patrowicz Land Development at scott.patrowicz@verizon.net
  • Completion: 2016
  • Value......$672,000

MINUTEMAN REGIONAL VOCATIONAL TECHNICAL HS – PLAZA & ROADWAY IMPROVE’S
  • Job Location: MRVTHS, Lexington, MA
  • Scope of Work: Demo, site work, tank removal, milling, vertical granite curb, wall brickface, concrete walks, move lights, construct walks, HMA Binder & Top installation on walk, roads, berm, install and paint railings, reset granite steps, guardrail, line painting.
  • Contact: Kevin Mahoney, Asst. Superintendent Finance at kmahoney@minuteman.org
  • Completion: 2016
  • Value......$469,000

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LOWELL HOUSING AUTHORITY – HARDSCAPE/LANDSCAPE & REPAIRS
• Job Location: Market & Drummer Streets, Lowell, MA
• Scope of Work: Parking Lot Construction – demo, site work, Electrical & Lighting, curb installation, brick columns, HMA Binder installation, berm, HMA Top installation, concrete walk, furnishings to include benches, fountain, ornamental fence, stamped concrete, tree removal and plantings.
• Contact: James Novello, CPO, Lowell Housing Authority at jnovello@lhma.org
• Completion: 2016
• Value…….$414,000

BROMFIELD SCHOOL – PARKING LOT CONSTRUCTION & ANCILLARY WORK 2016
• Job Location: Bromfield School, Harvard, MA
• Scope of Work: Erosion control, demolition, drainage, parking lot construction and site work, Electrical & Lighting, curb installation, construct walkway, fencing, HMA Binder installation, HMA Top installation, signs, wheel stops, line painting.
• Contact: Richard Nota, Director Public Works at rnota@harvard.ma.us
• Completion: 2016
• Value…….$349,000

MILLS FIELD PARKING IMPROVEMENTS - NEEDHAM
• Job Location: Mills Field, Needham, MA
• Scope of Work: Erosion control, tree removal, demolition, drainage, parking lot construction and site work, Electrical conduit, curb installation, pavers, flag pole, benches, trash receptacles, bicycle loops, signage, plantings, etc.
• Contact: Steve Nadeau, DPW Needham at snadeau@needhamma.gov
• Completion: 2016
• Value…….$350,000

GREATER FALL RIVER VOCATION SCHOOL DISTRICT – PARKING LOT RENOVATION
• Job Location: 251 Stone Haven Road, Fall River, MA
• Scope of Work: Patching, Crack Sealing, Berm, Leveling, Top Course, Guardrail, Line Painting
• Contact: Glenn Benevides, Fall River Schools, at glennb@dimanregional.org
• Completion: 2016
• Value…….$200,000

UNIVERSITY OF MASSACHUSETTS - LOWELL – PARKING LOT CONSTRUCTION
• Job Location: University Crossing, Lowell, MA
• Scope of Work: Parking Lot Construction – demo, site work, drainage, electrical and lighting, curbing, concrete work, paving, fencing, bollards, signage, line painting, irrigation, plantings, sod, loam & seed
• Contact: Dirk vanLuling, UML at Dirk_vanLuling@uml.edu
• Completion: 2015
• Value…….$1,442,000
DEPARTMENT OF DEVELOPMENT SERVICES – MILL & PAVE PARKING LOTS

- Job Location: Danvers, MA
- Scope of Work: Parking Lot Re-surfacing – mill existing asphalt, sidewalk reconstruction, drainage, parking lot construction, furnish and install hot mix asphalt, line striping.
- Contact: Paul Beaton, DDS at paul.beaton@state.ma.us
- Completion: 2015
- Value……$610,000

CITY OF MEDFORD – MAGOUN PARK

- Job Location: Medford, MA
- Scope of Work: Park Construction – demo, construct and pave walkways, play equipment and surfacing, site furnishings, granite curb, bollards, drainage, electrical, basketball court improvements.
- Contact: Clodagh Stoker-Long, City of Medford at cstokerlong@medford.org
- Completion: 2015
- Value……$528,000

FITCHBURG STATE UNIVERSITY – NORTH 4 LOT & CLINTON ST PARKING IMPROVEMENTS

- Job Location: Fitchburg, MA
- Scope of Work: Parking Lot Construction – wall construction, construct and pave parking lots, electrical work, concrete installation, fencing, granite curb, landscaping, line painting, loam and seed.
- Contact: Andrew Leonard, A.T. Leonard Associates at atl@atleonard.com
- Completion: 2015
- Value……$362,000

CITY OF LOWELL DPW – ROAD REPAIRS

- Job Location: various streets, Lowell, MA
- Scope of Work: Mill and pave roadways, line striping.
- Contact: John Gleason, City of Lowell at igeleason@lowellma.gov
- Completion: 2015
- Value……$248,000

CITY OF FITCHBURG REDEVELOPMENT AUTHORITY - PARKING LOT CONSTRUCTION

- Job Location: Putnam Place Parking Lot, Fitchburg, MA
- Scope of Work: Parking Lot Construction – demo, milling, fine grading, compaction of material, catch basin installation, drainage, concrete sidewalks, furnish and install hot mix asphalt by machine in two courses, wheelchair ramp, wheel stops, electrical, crack sealing, sealcoating, line striping.
- Contact: Paul Furgal, Tighe & Bond, Inc. at pmfurgal@tighebond.com
- Completion: 2015
- Value……$215,000
TOWN OF ROCKPORT – TENNIS COURT RECONSTRUCTION
- Job Location: Pingree Park Tennis Courts, Rockport, MA
- Scope of Work: Tennis Court Construction – demo, construction, installation of dense graded base, fine grading, HMA binder and top installation, color coating and line striping, nets, fencing, granite curb.
- Contact: Tim Olson, Town of Rockport at tolson@rockportma.gov
- Completion: 2015
- Value......$110,000

TOWN OF HARVARD – SIDEWALK REPLACEMENT
- Job Location: Bromfield School, Harvard, MA
- Scope of Work: Excavate existing concrete walks in front entryway of school, form, pour and finish new concrete walks, curb replacement, furnish and install unit pavers, hot mix asphalt installation, lawn and landscaping, line painting.
- Contact: Richard Nota, Town of Harvard at rnota@harvard.ma.us
- Completion: 2015
- Value......$153,000

TOWN OF AYER – RECLAMATION AND PAVING, CONCRETE PAD CONSTRUCTION
- Job Location: DPW, Ayer, MA
- Scope of Work: Reclaim, HMA installation, sidewalk construction, concrete pad construction.
- Contact: Mark Wetzel, Town of Ayer at mwetzel@ayer.ma.us
- Completion: 2015
- Value......$138,000

HOUSING AUTHORITIES:
- Various Construction/Paving work completed at the following housing authorities:
  1. Haverhill $214,000
  2. Milford $141,000
  3. Quincy $72,000
  4. Braintree $24,000
- Scope of Work: Paving, Milling, Excavation, Grading, Structures, Thermoplastic Striping
- Contact: Various – To be furnished upon request
- Completed: 2015

CITY OF BOSTON – RECLAMATION AND PAVING
- Job Location: Mattapan, MA
- Scope of Work: Reclaim, HMA installation, line striping in a parking lot area.
- Contact: Belkis Roman, Boston Public Health Commission at broman@bphc.org
- Completion: 2015
- Value......$138,000
TOWN OF ROCKPORT – ROADWAY PAVING
- Job Location: Rockport, MA
- Scope of Work: Reclaim, drainage, HMA installation.
- Contact: Tim Olson, Town of Rockport at tolson@rockportma.gov
- Completion: 2015
- Value......$68,000

CITIES/TOWNS:
- Municipal Street Paving Contracts – Paving for 2014:
  1. Townsend $440,000
  2. Bedford $356,000
  3. Essex $219,000
  4. Salisbury $103,000
- Scope of Work: Paving, Milling, Excavation, Grading, Structures, Thermoplastic Striping
- Completed: 2014

LOWELL PUBLIC SCHOOLS – IMPROVEMENTS TO CAWLEY STADIUM
- Job Location: Cawley Stadium, Lowell, MA
- Scope of Work: Running Track Renovation – demo, drainage system, site work, electrical, paving, track surfacing, track furnishings loam and seed
- Contact: Gerry Foley, Watermark at gerry.foley@watermarkenv.com
- Completion: 2014
- Value......$652,000

UNIVERSITY OF MASSACHUSETTS - LOWELL – PARKING LOT CONSTRUCTION
- Job Location: Pawtucket Boulevard, Lowell, MA
- Scope of Work: Parking Lot Construction – demo, site work, embankment, electrical and lighting, curbing, concrete walks, paving, fencing, signage, drainage, line painting, plantings, loam & seed
- Contact: Dirk vanLuling, UML at Dirk_vanLuling@uml.edu
- Completion: 2014
- Value......$609,000

UNIVERSITY OF MASSACHUSETTS - LOWELL – PARKING LOT CONSTRUCTION
- Job Location: Wilder Street, Lowell, MA
- Scope of Work: Parking Lot Construction – demo, electrical and lighting, curbing, paving, concrete walks, fencing, signage, drainage, line painting, loam & seed
- Contact: Frederick Gavriel, UML at Fred_Gavriel@uml.edu
- Completion: 2014
- Value......$561,000
TOWN OF EASTON – PARKING LOT CONSTRUCTION
- Job Location: Mechanic Street, Easton, MA
- Scope of Work: Site work including gravel borrow, installation crushed stone, fine grading, compacting, granite curb, concrete walks, structures, construction of rain garden, plantings, electrical, excavation and removal of contaminated soils, installation of hot mix asphalt
- Contact: David Field, Town of Easton at dfield@easton.ma.us
- Completed: 2014
- Value......$476,000

MALDEN REDEVELOPMENT AUTHORITY – MILLER & SKATEBOARD PARKS
- Job Location: Malden, MA
- Scope of Work: Park Improvements – demo, drainage, electrical and lighting, walkway construction, granite curbing, paving, fencing, site furnishings, playground equipment, concrete walks, safety surfacing, plantings, line painting, guardrail, walkways, irrigation, loam & seed, signage • Contact: Pam Shadley, Shadley & Associates at pshadley@shadleyassociates.com
- Substantial Completion: 2014
- Value......$379,000

CITY OF AMESBURY - PAVEMENT IMPROVEMENTS
- Job Location: Various Streets, Amesbury, MA
- Scope of Work: Reclaim, milling, structure adjustment, grading and hot mix asphalt installation.
- Contact: Robert Desmarais at the City of Amesbury at ROB@arnesburyma.gov
- Completed: 2014
- Value......$192,000

TOWN OF WESTWOOD - PAVEMENT IMPROVEMENTS
- Job Location: Oak Street, Westwood, MA
- Scope of Work: Milling, structure adjustment, hot mix asphalt installation.
- Contact: Jeffrey Bina at the Town of Westwood at jberra@townhall.westwood.ma.us
- Completed: 2014
- Value......$167,000

WELLESLEY HOUSING AUTHORITY – SITE WORK
- Job Location: Wellesley, MA
- Scope of Work: Reclaim, grade, walkway construction, hot mix asphalt installation, furnish and install new railings, drainage repair, reset granite curb, loam and seed, pavement markings.
- Contact: Katherine Andruchuk, Allen & Major at kandruchuk@allenmajor.com
- Completed: 2014
- Value......$100,000
CITIES/TOWNS:
- Municipal Street Paving Contracts – Paving for 2013:
  1. Lowell $860,000
  2. Nashua $793,000
  3. Bedford $460,000
  4. Winchester $285,000
  5. Townsend $453,000
- Scope of Work: Paving, Milling, Excavation, Grading, Structures, Thermoplastic Striping
- Completed: 2013

FITCHBURG STATE UNIVERSITY
- Job Location: Fitchburg State University, Fitchburg, MA
- Scope of Work: Parking Lot Construction – demo, drainage system, electrical and lighting, fencing, paving, furnishings, site work, irrigation, paving, concrete work/sidewalks, vertical granite curbing, landscaping, loam and seed.
- Contact: Andrew Leonard, A.T. Leonard & Associates at atl@atleonard.com
- Expected Completion: December 2013
- Value......$1,327,000

SHAWSHINE VALLEY TECHNICAL HIGH SCHOOL – PHASE II
- Job Location: Billerica, MA
- Scope of Work: Parking Lot Improvements – demo, electrical and lighting, granite curbing, concrete walks, paving, fencing, site furnishings, signage, drainage, line painting, guardrail, walkways, irrigation, loam & seed
- Contact: Mike Williams, Knight, Bagge and Anderson, Inc. at mwilliams@kbaarchitects.com
- Expected Completion: December 2013
- Value......$851,000

BROOK SCHOOL APARTMENTS TENNIS COURTS
- Job Location: Weston, MA
- Scope of Work: Tennis Court Construction – demo, reclamation, drainage, paving, fence, net, posts, color coating, striping, etc.
- Contact: David Warner, Warner/Larson, Inc. at dwarner@warnerlarson.com
- Completed: 2013
- Value......$136,000

CITY OF BOSTON – BOSTON PARKS
- Job Location: Cronin Park, Dorchester, MA
- Scope of Work: Park Construction – demo, fencing, paving, concrete walks, furnishings, play & water features, PIP Surfacing, drainage, etc.
- Contact: Cathy Baker-Eclipse, Boston Parks at Cathy.Baker-Eclipse@cityofboston.gov
- Completed: 2012
- Value......$950,000
SHAWNEE VALLEY TECHNICAL HIGH SCHOOL
- Job Location: Billerica, MA
- Scope of Work: Curbing, pave lots, pave walks, concrete pavers, concrete walks, benches, speed bumps, electrical, light pole base installation, loam & seed
- Contact: Mike Williams, Knight, Bagge and Anderson, Inc. @ 617 574-2807
- Completed: 2012
- Value......$459,000

CITY OF NASHUA
- Job Location: Nashua Streets
- Scope of Work: Paving, Milling, Excavation, Grading, Structures, Thermoplastic Striping
- Contact: Joe Mendola, City of Nashua @ 603 589-3124
- Completed: 2012
- Value......$964,000

TOWN OF BEDFORD
- Job Location: Bedford Streets
- Scope of Work: Paving
- Contact: Adrienne St. John @ 781 275-7605
- Completed: 2012
- Value......$220,000

FOXBOROUGH PUBLIC SCHOOLS
- Job Location: Foxborough High School, Burrell School
- Scope of Work: Reclalm, Grade, Pave, Berm, Walks, Guardrail, Drainage, Curb, Stripe, Signs, Concrete
- Contact: Bill Yukna, Town of Foxborough @ 508 543-1665
- Completed: 2012
- Value......$848,000

BROCKTON AREA TRANSIT
- Job Location: BAT Maintenance Facility, BAT Center Bus Way, Brockton, MA
- Scope of Work: Excavate Concrete, Pour New Concrete, Mill, Pave, Striping
- Contact: Ron Poliseno, BAT @ 508 479-1439
- Completed: 2012
- Value......$564,000

TOWN OF BROOKLINE
- Job Location: Runkle School
- Scope of Work: Play Equipment, Install Gravel, Basketball Standards, PIP Play Surfacing, etc.
- Contact: David Warner, Warner-Larson, Inc. @ 617 464-1440
- Completed: 2012
- Value......$418,000
QUINCY HOUSING AUTHORITY
• Job Location: O’Brien & Pagnano Towers, Quincy, MA
• Scope of Work: Reclamation, Grading, Paving, Walks, Signage, Curb, Berm, Drainage, Loam, Seed
• Contact: Mark Zuffante, Nault Architects, Inc. @ 508 769-1331
• Completed: 2012
• Value......$308,000

NASHOBA REGIONAL HIGH SCHOOL
• Job Location: Bolton, MA
• Scope of Work: Fine Grade and Pave Running Track and Tennis Courts
• Contact: Jared White, David W. White & Son @ 603 226-8873
• Completed: 2012
• Value......$205,000

CITY OF LOWELL
• Job Location: Lowell Streets
• Scope of Work: Paving, Thermoplastic Striping
• Contact: Ron Lebreque, City of Lowell @ 978 970-3329
• Completed: 2011
• Value......$631,000

CITY OF NEWTON
• Job Location: Newton Streets
• Scope of Work: Paving
• Contact: Matt Woodruff, City of Newton @ 617 796-1028
• Completed: 2011
• Value......$749,000

TOWN OF BROOKLINE
• Job Location: Riverway Path, Brookline, MA
• Scope of Work: Reclamation, Grading, Paving
• Contact: Ben Losordo, Town of Brookline @ 617 264-6489
• Completed: 2011
• Value......$177,000

CITY OF MELROSE
• Job Location: Wyoming Cemetery, Melrose, MA
• Scope of Work: Cemetery Expansion: site work, drainage, roadway construction, grading, paving, irrigation system, loam & seed
• Contact: Scott Brinch, City of Melrose @ 781 941-0134
• Completed: 2011
• Value......$136,000

Page 11 of 15
CITY OF MEDFORD
- Job Location: Clipper Ship Park
- Scope of Work: Park Construction: lighting, walkways, site furnishings, plantings, loam & seed, signage, etc.
- Contact: Clodagh Stocker Long, City of Medford @ 781 393-2480
- Completed: 2011
- Value........$161,000

CITY OF BOSTON PARKS DEPARTMENT
- Job Location: Brewer Burroughs Playground, Jamaica Plain
- Scope of Work: Park Construction: walkways, fencing, play equipment, site furnishings, loam & seed, plantings, signage, etc.
- Contact: Cathy Baker-Eclipse, Boston Parks @ 617 961-3058
- Completed: 2011
- Value........$285,000

FRAMINGHAM STATE UNIVERSITY
- Job Location: Framingham, MA
- Scope of Work: Reconstruct two Parking Lots: drainage, reclamation, grading, paving, lighting, signage
- Contact: Warren Fairbanks, FSU @ 508 889-6896
- Completed: 2011
- Value........$731,000

TOWN OF HOLBROOK
- Job Location: South Franklin Street/King Road, Holbrook, MA
- Scope of Work: Intersection Reconstruction: new traffic signals, concrete sidewalks, curbing, milling, grading, paving, thermo plastic striping, signage
- Contact: Thomas Casey, CDM (Designer) @ 617 452-6736
- Substantially Completed: 2011
- Value......$297,000

CITY OF MEDFORD
- Job Location: Condon Shell Park
- Scope of Work: Park Construction: drainage, canoe ramp, porous pavement, sod, benches, concrete walk, signage, parking lot,
- Contact: Clodagh Stocker Long, City of Medford @ 781 393-2480
- Completed: 2011
- Value......$499,000
TOWN OF SALISBURY
• Job Location: Spring Street/Lions Way
• Scope of Work: Road Construction: drainage, replacement of water main, curbing, concrete sidewalks, reclamation, grading, paving, loam & seed, plantings, signage.
• Contact: Don Levesque, Town of Salisbury @ 978 463-0656
• Completed: 2011
• Value.....$516,000

TOWN OF BROOKLINE
• Job Location: Winthrop Square Park
• Scope of Work: Park Construction
• Contact: Rob Kefalas, Town of Brookline @ 617 730-2316
• Completed: 2011
• Value......$379,000

CITY OF BOSTON- PARKS & RECREATION DEPARTMENT
• Job Location: MT Hope Cemetery, Mattapan
• Scope of Work: Reconstruct Roadways... Reclaim, Grade, Bituminous Paving, Loam, Seeding
• Contact: Scott Dupuis, Boston Parks
• Completed: 2010
• Value......$55,900

CITY OF NASHUA
• Job Location: Various City Streets
• Scope of Work: Milling, Excavation, Grading, Adjustment of Structures, Bituminous Concrete Paving, Line Painting, Theroplastic Marking, Handwork
• Contact: Joe Mendola, City of Nashua @ (603) 589-3124
• Completed: 2010
• Value.....$856,000

TOWN OF NEEDHAM
• Job Location: Mills Field Tennis Court Reconstruction
• Scope of Work: Reclaiming, Bituminous Paving, Grading, Color Surfacing, Fencing, Drainage
• Contact: Thomas Ryder, Town of Needham @ 781 455-7538
• Completed: 2010
• Value.....$163,000

MASSDOT (Subcontractor to S&R Corporation)
• Job Location: Rte 28 Bridge Over RTE 213, Methuen
• Scope of Work: Grading, Bituminous Paving
• Contact: Roger Ploof, S&R Construction @ 978 441-2000
• Completed: 2010
• Value.....$546,000
CITY OF GLOUCESTER
  • Job Location: Various Streets
  • Scope of Work: Reclaiming, Milling, Curb, Walks, Structures, Concrete Walks, Stamped Concrete Walks
  • Contact: Michael Hale, City of Gloucester @ 978 281-9785
  • Completed: 2010

TOWN OF DRACUT – HOUSING AUTHORITY
  • Job Location: Cluster Gardens, 65 Phinneas Street, Dracut
  • Scope of Work: Reconstruct Roadways... Reclaim, Grade, Bituminous Paving Road, Walk, Curb Painting
  • Contact: Mary Karabatsos, Dracut Housing Authority
  • Completed: 2010
  • Value.....$95,500

TOWN OF LINCOLN
  • Job Location: Trapelo Road, Concord Road (Rt. 126), Bedford Road, Sandy Pond Road, Baker Bridge Road
  • Scope of Work: Reclamation, Cold Planing, Paving, Grading, Drainage, Landscaping, Field Stone Walls, Reconstruct approx. six miles of roadway.
  • Contact: Chris Bibbo, Town of Lincoln @ 781 259-8999
  • Completed: 2010
  • Value .....$2,879,000

CITY OF BOSTON – BOSTON PARKS & RECREATION
  • Job Location: Muddy River Pathway, Back Bay Fens Park
  • Scope of Work: Pathway reconstruction (including re-grading stone dust paths, full depth excavation and installation of stone dust path, cobble stone edging, etc.)
  • Contact: Liza Meyer, Boston Parks @ 617 961-3014
  • Completed: 2009
  • Value ..... $182,000

CITY OF LOWELL
  • Job Location: Intersection of Chelmsford Street and Industrial Avenue, Intersection of Chelmsford Street and Pine Street
  • Scope of Work: Road Widening, New Traffic Signals, Road Reconstruction, Cold Planing, Drainage, Landscaping, Guard Rail, Line Painting
  • Contact: John Gleason, City of Lowell @ 978 970-3329
  • Completed: 2009
  • Value ..... $933,000
CITY OF WALTHAM
- Job Location: Chemistry Station Park
- Scope of Work: Build New Park: Landscaping, Brick Pavers, Hydro Seed, Decorative Fencing, Irrigation, Drainage, Bench & Table Installation, Paving
- Contact: James Lacrosse, City of Waltham @ 781 314-3371
- Completed: 2010
- Value..... $450,000

FOXBORO PUBLIC SCHOOLS
- Job Location: Foxboro High School
- Scope of Work: Replace six tennis courts to include: Reclamation, Gravel Installation, Grading, Paving, Fencing, Color Coating, Curbing
- Contact: Paul Jackson, Foxboro Schools @ 508 543-1667
- Completed: 2009
- Value..... $205,000

CITY OF METHUEN
- Job Location: Rt. 113 Over Rt. 213
- Scope of Work: Cold Planing, Road Widening, Signal Work, Thermo Plastic Striping
- Contact: Frank Russo, City of Methuen @ 978 983-8545
- Completed: 2009
- Value..... $145,000
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**TOTAL BID PRICE IN FIGURES**

$4,350,642.35

**TOTAL OF BID ITEMS (words)**

Four Million Three Hundred Fifty Thousand Six Hundred Forty Two dollars and Thirty Five cents

Contractor: Sunshine Paving Corporation

Authorized Signature: [Signature]

Date: January 13, 2019

Address: 29 Constitution Dr., Hudson, NH 03051
DIVISION 4

PERFORMANCE AND PAYMENT BONDS
CONSTRUCTION PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

_________________________________________(Name of Contractor)

_________________________________________(Address of Contractor)

a ________________________________________, hereinafter called Principal,

(Corporation, Partnership or Individual)

and

_________________________________________(Name of Surety)

_________________________________________(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

_________________________________________(Name of Owner)

_________________________________________(Address of Owner)

hereinafter called OWNER, in the total aggregate penal sum of

_________________________________________ Dollars, $_______

in lawful money of the United States, for the payment of which sum well and truly to be made,

we bind ourselves, our heirs, executors, administrators successors, and assigns, jointly and

severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a

certain contract with the OWNER, dated ___________ day of ___________ 20____, a

copy of which is hereto attached and made a part hereof for the construction of:

_________________________________________

_________________________________________

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the

undertakings, covenants, terms, conditions, and agreements of said contract during the original

term thereof, and any extension thereof which may be granted by the OWNER, with or without

notice to the Surety and during the one year guaranty period, and if the PRINCIPAL shall

satisfy all claims and demands incurred under such contract, and shall fully indemnify and save

harmless the OWNER from all costs and damages which it may suffer by reason of failure to do

so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may

incur in making good any default, then this obligation shall be void: otherwise to remain in full

force and effect.
PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the specifications accompanying same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time alteration or addition to the terms of the contract or to the WORK or to the specifications.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the Contract as so amended. The term "Amendment", wherever used in this BOND and whether referring to this BOND, the contract or the loan Documents shall include any alteration, addition, extension or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed ___________ counterparts, each one of (number) which shall be deemed an original, this ___________ day of ___________ , 20 ___.

ATTEST:

By: ____________________________________________ (Principal) Secretary

(SEAL) ____________________________________________

By: ____________________________________________ Witness as to Principal

________________________________________________

________________________________________________

ATTEST:

By: ____________________________________________ Witness as to Surety

________________________________________________

________________________________________________

BY

Principal

________________________________________________

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(Address)

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CONSTRUCTION PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a

(Corporation, Partnership or Individual)

and

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

(Name of Owner)

(Address of Owner)

hereinafter called OWNER and unto all persons, firms, and corporations who or which may furnish labor, or who furnish materials to perform as described under the contract and to their successors and assigns, in the total aggregate penal sum of ________________ Dollars, ($ __________ ) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the __________ day of __________ 20 ___, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and for all labor cost incurred in such WORK including that be a subcontractor, and to any mechanic or material man lienholder whether it acquires its lien by operation of State or Federal Law; then this obligation shall be void; otherwise to remain in full force and effect.
PROVIDED, that beneficiaries or claimants hereunder shall be limited to the subcontractors, and persons, firms, and corporations having a direct contract with the PRINCIPAL or its SUBCONTRACTORS.

PROVIDED FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER that no suit or action shall be commenced hereunder by any claimant: (a) Unless claimant, other than one having a direct contract with the PRINCIPAL shall have given written notice to any two of the following: The PRINCIPAL, the OWNER, or the SURETY above named within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the PRINCIPAL, OWNER, or SURETY, at any place where an office is regularly maintained for the transaction business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer. (b) After the expiration of one (1) year following the date on which PRINCIPAL ceased work on said CONTRACT, it being understood, however, that if any limitation embodied in the BOND is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the Contract as so amended. The term "Amendment", wherever used in this BOND and whether referring to this BOND, the contract or the loan Documents shall include any alteration, addition, extension or modification of any character whatsoever.

PROVIDED FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.
IN WITNESS WHEREOF, this instrument is executed in
which shall be deemed an original, this

counterparts, each one of

(number)

day of , 20

ATTEST:

By: (Principal) Secretary

(SEAL)

By: Witness as to Principal

(Address)

Principal

BY

(Address)

(Surety)

BY

Attorney-in-Fact

(Address)

NOTE: Date of BOND must not be prior to date of Contract.
If CONTRACTOR is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of New Hampshire.
DIVISION 5

AGREEMENT
STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR

THIS AGREEMENT is dated as of the ______ day of ________ in the year 2019 by and between the City of Nashua, New Hampshire (hereinafter called OWNER) and Sunshine Paving Corporation and its successors, transferees and assignees together (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

1.01 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents.

ARTICLE 2 - THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

The scheduled work is located in various areas throughout the City of Nashua and consists primarily of pavement overlaying, pavement milling with overlay, and pavement reclamation.

ARTICLE 3 - ENGINEER

3.01 The Project has been designed by: Division of Public Works
 Engineering Department
 9 Riverside Street
 Nashua, NH 03062

who is hereinafter called ENGINEER and who is to act as OWNER's representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Dates for Substantial Completion

The anticipated Commencement date for the contract is on or about March 20, 2019. Project will begin once a written "Notice to Proceed" is issued.

Substantial completion shall be by October 15, 2019. Substantial completion occurs when all paving is complete.

Contract completion shall be by October 31, 2019.

AG - 1 of 7
A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER ONE HUNDRED dollars ($100) for each calendar day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified in paragraph 4.02 for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER TWO HUNDRED dollars ($200) for each calendar day that expires after the time specified in paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

B. In the event that the CONTRACTOR fails to pay OWNER the specified liquidated damages amount within thirty (30) days of CONTRACTOR being notified of said damages, OWNER may deduct the amount of the assessed liquidated damages from the final payment or retention withheld pursuant to Article 14 of the General Conditions.

ARTICLE 5 - CONTRACT PRICE

5.01 Subject to additions and deductions by Change Order, the OWNER shall pay CONTRACTOR, in accordance with the Contract Documents, the Contract Sum of:

Four Million Three Hundred Fifty Thousand Six Hundred Forty-Two and 35/100 Dollars

($4,350,642.35)

The Contract Sum shall include all items and services necessary for the proper execution and completion of the Work determined below:

A. for all Unit Price Work, an amount equal to the sum of the established Unit Price for each separately identified item of Unit Price Work times the estimated quantity of that item, as indicated in the attached Bid Schedule;

B. as provided in paragraph 11.03 of the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classification are to be made by ENGINEER as provided in paragraph 9.08 of the General Conditions. Unit prices have been computed as provided in paragraph 11.03 of the General Conditions.

ARTICLE 6 - PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.
B. Applications for Payment under this agreement shall be submitted as follows:

- Electronically via email to VendorAPIvoices@NashuaNH.gov

**OR**

- Paper Copies via US Mail to:

  City of Nashua, City Hall  
  Accounts Payable  
  229 Main Street  
  Nashua, NH 03060

*Please do not submit invoices both electronically and paper copy.*

In addition, and to facilitate the proper and timely payment of applications, the **OWNER** requires that all submitted invoices contain a valid **PURCHASE ORDER NUMBER**

6.02 Progress Payments; Retainage

A. **Progress Payments.** The **OWNER** will once each month make a progress payment to the **CONTRACTOR** on the basis of an estimate of the total amount of work done to the time of the estimate and its value as prepared by the **CONTRACTOR** and approved by the **ENGINEER**. All such payments will be measured by the schedule of values established in paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

B. **Retainage.** The **OWNER** will retain a portion of the progress payment, each month, in accordance with the following procedures:

1. The **OWNER** will establish an escrow account in the bank of the **OWNER**’s choosing. The account will be established such that interest on the principal will be paid to the **CONTRACTOR**. The principal will be the accumulated retainage paid into the account by the **OWNER**. The principal will be held by the bank, available only to the **OWNER**, until termination of the contract.

2. Until the work is 50% complete, as determined by the **ENGINEER**, retainage shall be 10% of the monthly payments claimed. The computed amount of retainage will be deposited in the escrow account established above.

3. After the work is 50% complete, and provided the **CONTRACTOR** has satisfied the **ENGINEER** in quality and timeliness of the work, and provided further that there is no specific cause for withholding additional retainage no further amount will be withheld. The escrow account will remain at the same balance throughout the remainder of the project.

6.03 Final Payment

A. Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, **OWNER** shall hold 2% retainage during the **1 (one) year** warranty period and release it only after the project has been accepted.
ARTICLE 7 - CONTRACTOR'S REPRESENTATIONS

7.01 In order to induce **OWNER** to enter into this Agreement **CONTRACTOR** makes the following representations:

A. **CONTRACTOR** has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. **CONTRACTOR** has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. **CONTRACTOR** is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. **CONTRACTOR** has carefully studied all (if any): (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions and (2) reports and drawings of Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. **CONTRACTOR** is entitled to rely upon the general accuracy of the "technical data" as provided in paragraph 4.2 of the General Conditions. **CONTRACTOR** acknowledges that such reports and drawings are not Contract Documents and may not be complete for **CONTRACTOR**'s purposes. **CONTRACTOR** acknowledges that **OWNER** and **ENGINEER** do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site.

F. **CONTRACTOR** has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction, if any, expressly required by the Contract Documents to be employed by **CONTRACTOR**, and safety precautions and programs incident thereto.

G. **CONTRACTOR** does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

H. **CONTRACTOR** is aware of the general nature of work to be performed by **OWNER** and others at the Site that relates to the Work as indicated in the Contract Documents.

I. **CONTRACTOR** has correlated the information known to **CONTRACTOR**, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

J. **CONTRACTOR** has given **ENGINEER** written notice of all conflicts, errors, ambiguities or discrepancies that **CONTRACTOR** has discovered in the Contract Documents, and the written resolution thereof by **ENGINEER** is acceptable to **CONTRACTOR**.
K. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 8 - CONTRACT DOCUMENTS

8.01 Contents

A.

1. The Contract Documents are defined in Article 1 of the General Condition as amended herein.
2. The following documents are incorporated by reference or otherwise indicated:

   a. New Hampshire Department of Transportation “Standard Specifications for Road and Bridge Construction”, latest edition, incorporated by reference or unless otherwise indicated.


ARTICLE 9 - MISCELLANEOUS

9.01 Terms

A. Terms used in this will have the meanings indicated in the General Conditions.

9.02. Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
9.03 Successors and Assigns

A. **OWNER** and **CONTRACTOR** each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

9.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon **OWNER** and **CONTRACTOR**, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

9.05 Choice of Law and Venue

A. This agreement shall be governed exclusively by the laws of the State of New Hampshire and any claim or action brought relating to this contract, the work performed or contracted to be performed thereunder, or referable in anyway thereto shall be brought in Hillsborough County (New Hampshire) Superior Court Southern Judicial District or in the New Hampshire 9th Circuit Court—Nashua and not elsewhere

**Address for giving notices to OWNER:**

Division of Public Works
Engineering Department
9 Riverside Street
Nashua, NH 03062

**Address for giving notices to CONTRACTOR:**

Robert Businell
Sunshine Paving Corporation
29 Constitution Drive
Hudson, NH 03051
IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed, initialed or identified by OWNER and CONTRACTOR or identified by ENGINEER on their behalf.

CITY OF NASHUA – OWNER

________________________________________
James Donchess, Mayor City of Nashua

Date: _______________________

CONTRACTOR:

By: _________________________ _________________________
   Sunshine Paving Corporation   (Authorized Representative)

Print Name: ____________________________________________

Date: _______________________

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DIVISION 6

GENERAL CONDITIONS
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ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. Addenda—Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the Bidding Requirements or the Contract Documents.

2. Agreement—The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. Application for Payment—The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. Asbestos—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. Bid—The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. Bidding Documents—The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. Bidding Requirements—The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. Bonds—Performance and payment bonds and other instruments of security.

9. Change Order—A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. Claim—A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. Contract—The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. Contract Documents—The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR’s Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications, the Drawings and the Purchases Order as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Field Orders, and ENGINEER’s written interpretations and clarifications issued on or after the Effective Date Of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in
electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

13. **Contract Price**--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. **Contract Times**--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment.

15. **CONTRACTOR**--The individual or entity with whom OWNER has entered into the Agreement.

16. **Cost of the Work**--See paragraph 11.01.A for definition.

17. **Drawings**--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. **Effective Date of the Agreement**--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. **ENGINEER**--The individual or entity named as such in the Agreement.

20. **ENGINEER's Consultant**--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

21. **Field Order**--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

22. **General Requirements**--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. **Hazardous Environmental Condition**--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. **Hazardous Waste**--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. **Laws and Regulations; Laws or Regulations**--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. **Liens**--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. **Milestone**--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. **Notice of Award**--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.
29. Notice to Proceed--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. OWNER--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. Partial Utilization--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. PCB's--Polychlorinated biphenyls.

33. Petroleum--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. Project--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the contract Documents.

35. Project Manual--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. Radioactive Material--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. Resident Project Representative--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. Samples--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. Shop Drawings--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. Site--Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

41. Specifications--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

42. Subcontractor--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

43. Substantial Completion--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.

44. Supplementary Conditions--That part of the Contract Documents which amends or supplements these General Conditions.
45. **Supplier**—A manufacturer, fabricator, supplier, distributor, material man, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. **Underground Facilities**—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. **Unit Price Work**—Work to be paid for on the basis of unit prices.

48. **Work**—The entire completed construction or the various separately identifiable parts thereof required to be provided in the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. **Written Amendment**—A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

### 1.02 Terminology

**A. Intent of Certain Terms or Adjectives**

1. Whenever in the Contract Documents the terms "as allows," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

**B. Day**

1. The work "day" shall constitute a calendar day of regular working hours except Saturdays, Sundays and any legal holiday.

**C. Defective**

1. The word "defective," when modifying the work "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

**D. Furnish, Install, Perform, Provide**

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to furnish and
install said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or ‘Provide,” when used in connection with services, materials, or equipment, shall mean
to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or
equipment in a context clearly requiring an obligation of CONTRACTOR, “provide” is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or
construction industry or trade meaning are used in the Contract Documents in accordance with such recognized
meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to
OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 Copies of Documents

A. OWNER shall furnish to CONTRACTOR up to 5 copies of the Contract Documents as are reasonably necessary for
execution of the Work. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence on the day indicated in the Notice to Proceed

2.04 Starting the Work

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run. No Work
shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 Before Starting Construction

A. CONTRACTOR’s Review of Contract Documents: Before undertaking each part of the Work, CONTRACTOR
shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all
applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error,
ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or
clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not
be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract
Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. Preliminary Schedules: Within ten days after the effective Date of the Agreement (unless otherwise specified in the
General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. A preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the
various stages of the Work, including any Milestones specified in the Contract Documents;

2. A preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the
times for submitting, reviewing, and processing such submittal; and

3. A preliminary schedule of values for all of the Work which includes quantities and prices of items which when
added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve
as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

C. **Evidence of Insurance:** Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.

### 2.06 Preconstruction Conference

A. Within 20 days after the Contract times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

### 2.07 Initial Acceptance of Schedules

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR’s full responsibility therefore.

2. CONTRACTOR’s schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.

3. CONTRACTOR’s schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

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**ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE**

### 3.01 Intent

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

### 3.02 Reference Standards

A. **Standards, Specifications, Codes, Laws, and Regulations**
1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER’s Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Document.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

2. In case of discrepancy, calculated dimensions will govern over scaled dimensions, Drawings will govern over Standard Specifications, and Construction Specifications will govern over both Drawings and Standard Specifications. The CONTRACTOR shall take no advantage of any apparent error or omission in the Drawings or Construction Specifications, and the ENGINEER will be permitted to make such corrections and interpretations as may be deemed necessary to fulfill the intent of the Contract Documents.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

   a. The provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

   b. The provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment, or (ii) a Change Order; order B. The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, by one of more of the following ways: (i) a Field Order; (ii) ENGINEER’s approval of a Shop Drawing or Sample; or (iii) ENGINEER’s written interpretation or clarification.

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3.05 Reuse of Documents

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER’s Consultant, including electronic media editions. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER’s furnishing the Site, CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

B. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER’s interest therein as necessary for giving notice of or filing a mechanic’s or construction lien against such lands in accordance with applicable Laws and Regulations.

C. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

D. If corporate or private property interferes with the Work, CONTRACTOR shall notify, in writing, the OWNER’s of such property, advising them of the nature of the interference and shall arrange to cooperate with them for the protection or disposition of such property. CONTRACTOR shall furnish the ENGINEER with copies of such notifications and with copies of any agreements between the CONTRACTOR and the property OWNER’s concerning such protection or disposition.

E. CONTRACTOR shall take all necessary precautions for the protection of corporate or private property, such as walls and foundations of buildings, vaults, underground structures of public utilities, underground drainage facilities, overhead structures of public utilities, trees, shrubbery, crops, and fences contiguous to the Work, of which the Contract does not provide for removal. CONTRACTOR shall protect and carefully preserve all official survey monuments, property marks, section markers, and Geological Survey Monuments, or other similar monuments, until OWNER, or authorized Surveyor or agent has witnessed or otherwise referenced their location or relocation. CONTRACTOR shall notify the ENGINEER of the presence of any such survey or property monuments as soon as they are discovered.

F. CONTRACTOR shall be responsible for the damage or destruction of property of any character resulting from neglect, misconduct, or omission in its manner or method of execution or the non-execution of the work, or caused by defective work or the use of unsatisfactory materials, and such responsibility shall not be released until the work shall have been completed and accepted and the requirements of the Construction Specifications complied with.

G. Whenever public or private property is so damaged or destroyed, the CONTRACTOR shall at its own expense, restore such property to a condition equal to that existing before such damage or injury was done by repairing, rebuilding, or replacing it as may be directed, or the CONTRACTOR shall otherwise make good such damage or destruction in an acceptable manner. If the CONTRACTOR fails to do so, the ENGINEER may, after giving the CONTRACTOR notice in writing, proceed to repair, rebuild, or otherwise restore such property as may be deemed
necessary, and the cost thereof shall be deducted from any compensation due, or which may become due, the CONTRACTOR under its Contract.

4.02 Subsurface and Physical Conditions

A. Reports and Drawings:

1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents, and

2. Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized:

CONTRACTOR may rely upon the general accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER’s Consultants with respect to:

1. The completeness of such reports and drawings for CONTRACTOR’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. Any CONTRACTOR interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

C. Potential for Hazardous Materials:

Work may include excavation through, and removal of, soils potentially containing undocumented asbestos-containing or other hazardous materials. Should the CONTRACTOR, while performing work under this Contract, uncover hazardous materials, as defined in federal, state and local regulations, he/she shall immediately notify the Engineer. No further disturbance of the area shall occur until the Engineer has collected and analyzed a representative sample of the suspected material. The area shall be cordoned off and covered with 6-mil polyethylene sheeting and await further directions from the Engineer.

4.03 Differing Subsurface or Physical Conditions

A. Notice: If CONTRACTOR believes that any subsurface or physical conditions at or contiguous to the Site that is uncovered or revealed either:

1. Is of such a nature as to establish that any “technical data” on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. Is of such a nature as to require a change in the Contract Documents; or

3. Differs materially from that shown or indicated in the Contract Documents; or

4. Is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents; then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any
Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. ENGINEER’s Review: After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER’s obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER’S findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR’s cost of, or time required for, performance of the Work; subject, however, to the following:

   a. Such condition must meet any one or more of the categories described in paragraph 4.03.A; and

   b. With respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

   a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

   b. The existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and Contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR’s making such final commitment; or

   c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefore as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER’s Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 Underground Facilities

A. Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the OWNER’s of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. The cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

   a. Reviewing and checking all such information and data,
b. Locating all Underground Facilities shown or indicated in the Contract Documents.

c. Coordination of the Work with the OWNER's of such Underground Facilities, including OWNER, during construction, and

d. The safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the OWNER of such Underground Facility and give written notice to that OWNER and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

3. CONTRACTOR shall notify the following underground utility locating service at least three full working days prior to beginning work: Dig Safe System, Inc. 1-800-344-7233.

A list of the major public utilities servicing the work area follows. The list indicates the name and telephone number of the responsible authority of the various utilities which should be notified if conflicts or emergencies arise during the progress of the work.

- **Electricity** – Eversource 1-800-662-7764
- **Natural Gas** – Liberty Energy 1-603-222-3705
- **Water** – Pennichuck Water Works 1-603-882-5191
- **Telephone** – Fairpoint Communications 1-603-645-3500
- **Cable TV** – Comcast 1-888-633-4266
- **Fire Alarm Cable** – Nashua Fire Department 1-603-594-3641

4. At points where the CONTRACTOR's operations are adjacent to public and private utilities, CONTRACTOR shall not commence work until CONTRACTOR has made all arrangements necessary for the protection of utilities. CONTRACTOR shall coordinate and cooperate with the OWNER's of any underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.

4.05 Reference Points

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER’s judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall
make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

A. Reports and Drawings: Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized: CONTRACTOR may rely upon the general accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER’s Consultants with respect to:

1. The completeness of such reports and drawings for CONTRACTOR’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or

2. Other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. Any CONTRACTOR interpretation or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom CONTRACTOR is responsible creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefore as provided in paragraph 10.05.

F. If after receipt of such written a notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefore as
provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER'S own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’S Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.F shall oblige CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual’s or entity’s own negligence.

H. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR’s obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent’s authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 Licenses Sureties and Insurers

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverage’s so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

B. All Sureties and Insurance Companies shall be authorized to do business in the State of New Hampshire and shall have an A.M. Best rating of “A(FSC-VIII)” or better. In the event that the Insurer fails to maintain an A.M. Best rating “A(FSC-VIII)” or better, the CONTRACTOR shall immediately retain a Surety which does meet the above requirements.

5.03 Certificates of Insurance

A. CONTRACTOR shall deliver to OWNER 10 days prior to Work, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain.
5.04 CONTRACTOR’s Liability Insurance

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is required by OWNER which will provide protection from claims which may arise out of or result from CONTRACTOR’s performance of the Work and CONTRACTOR’s other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. Include as additional insured (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER.

2. The CONTRACTOR must maintain the following lines of coverage and policy limits for the duration of the contract. Any subcontractors used by the CONTRACTOR are subject to the same coverage and limits and is a subcontractor of the CONTRACTOR and not the OWNER. It is the responsibility of the CONTRACTOR to update Certificates of Insurance during the term of the contract. Provide coverage for not less than the following amounts or greater:

   General Liability
   $1,000,000 per Occurrence
   $2,000,000 Aggregate
   City of Nashua Additional Insured

   Motor Vehicle Liability *coverage must include all owned, non-owned and hired vehicles.*
   $1,000,000 Combined Single Limit
   Automobile Liability
   City of Nashua Additional Insured

   Workers’ Compensation Coverage according to Statute of the State of New Hampshire:
   $100,000 / $500,000 / $100,000

All bidders and subcontractors at every tier under the bidder will fully comply with NH RSA Chapter 281-A, “Workers’ Compensation”.

It is the responsibility of the contractor to submit to the City of Nashua certificates of insurance for all subcontractors prior to the start of the project. It is the responsibility of the contractor to provide the City with updated certificates of insurance for the contractor and all subcontractors 10 days prior to the expiration of coverage. The City may, at any time, order the contractor to stop work, suspend the contract or terminate the contract for non-compliance. All subcontractors are subject to the same insurance requirements as the contractor.

3. Include completed operations insurance;

4. Include contractual liability insurance covering CONTRACTOR’s indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. Contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.03 will so provide);

6. Remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective Work in accordance with paragraph 13.07; and
7. With respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

C. CONTRACTOR agrees to maintain all required insurance coverage throughout the entire term of the contract. If CONTRACTOR does not maintain coverage throughout the entire term of the contract, CONTRACTOR agrees that OWNER may, at any time the coverage is not maintained by CONTRACTOR, order the CONTRACTOR to stop work, suspend the contract, or terminate the contract. CONTRACTOR further agrees, if applicable, as a precondition to the performance of any work under this contract and as a precondition to any obligation of the OWNER to make any payment under this contract to provide the OWNER with a certificate of a qualified insurer.

5.05 Property Insurance

A. CONTRACTOR must purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost of the Work. This insurance shall:

1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER’s Consultants and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

3. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that the materials and equipment have been included in an application for payment recommended by ENGINEER; and

4. allow for partial utilization of the Work by OWNER:

5. include testing and startup; and

6. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. CONTRACTOR shall be responsible for any deductible or self-insured retention. The risk of loss within the identified deductible amount will be borne by CONTRACTOR, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser’s own expense. OWNER shall not be responsible for purchasing and maintaining any property insurance specified in this paragraph 5.06 to protect the interests of CONTRACTOR, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions.

C. All the policies of insurance (and the certificates or other evidence of the policy) required to be purchased and maintained in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days after written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.

5.06 Waiver of Rights
A. CONTRACTOR intends that all policies purchased in accordance with paragraph 5.06 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered by the policy. All CONTRACTOR policies must contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insured or additional insured there under. CONTRACTOR waive all rights against OWNER each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 Supervision and Superintendence

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 Labor; Working Hours

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER's written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

C. The following list of streets will require prior approval to close a lane and may require flagging or police details and may have work time restrictions.

<table>
<thead>
<tr>
<th>Allds Street</th>
<th>East Hollis Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amherst Street</td>
<td>Henri Burque Hwy</td>
</tr>
<tr>
<td>Arlington Street</td>
<td>Kinsley Street</td>
</tr>
<tr>
<td>Bridge Street</td>
<td>Ledge Street</td>
</tr>
<tr>
<td>Broad Street</td>
<td>Main Dunstable Road</td>
</tr>
<tr>
<td>Broad Street Parkway</td>
<td>Main Street</td>
</tr>
<tr>
<td>Canal Street</td>
<td>Manchester Street</td>
</tr>
<tr>
<td>Central Street</td>
<td>Pine Hill Road</td>
</tr>
</tbody>
</table>

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6.03 Services, Materials, and Equipment

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 Substitutes and "Or-Equals"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. "Or-Equal" Items:

If in ENGINEER'S sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER'S sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. In the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole, and;
b. CONTRACTOR certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. Substitute Construction Methods or Procedures.: If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. Engineer's Evaluation: ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until ENGINEER's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop drawing for an "or equal". ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. Special Guarantee: OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.

E. ENGINEER's Cost Reimbursement: ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute.
F. CONTRACTOR’s Expense: CONTRACTOR shall provide all data in support of any proposed substitute or “or-equal” at CONTRACTOR’s expense.

6.06 Concerning Subcontractors, Suppliers, and Others

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER’s acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR’s own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.
6.07 Patent Fees and Royalties

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 Permits

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility Owner's for capital costs related thereto, such as plant investment fees.

6.09 Laws and Regulations

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR's primary responsibility to make certain the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in paragraph 10.05.

D. CONTRACTOR shall comply with all local laws, ordinances, and statutes, all provisions of the Revised Statutes Annotated, all provisions of the federal Davis-Bacon Act for projects with federal funding, and all regulations promulgated under either statute. Copies of the "City of Nashua Prevailing Wage Rates for Public Works", as determined by U.S. Department of Labor and "General Wage Determinations," as determined by the U.S. Department of Labor, are available for inspection at the City of Nashua Division of Public Works, 9 Riverside Street, Nashua, New Hampshire. If the provisions of the Davis-Bacon Act apply, all employees of the CONTRACTOR must be paid not less than the wage which is the greater of the Federal wage determinations. The hourly and daily rate of wages to be paid each class of mechanics and workers must be posted on the project site in a place generally visible to the employees.

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E. If the Davis-Bacon Act applies, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of the CONTRACTOR's employees or a payroll report. If the Davis-Bacon Act applies, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of any subcontractor's employees or a payroll report for each subcontractor. The statement or report must include the CONTRACTOR's certification of compliance with the requirements of the supplementary condition. CONTRACTOR agrees that failure to comply with the portion of this supplementary condition requiring CONTRACTOR to furnish a certified statement of wages or payroll report will, in addition to any other retention allowed under this contract or under state or federal law, allow the OWNER to unilaterally, without notice to CONTRACTOR, retain an amount of up to 10% from each progress payment until the OWNER determines CONTRACTOR has complied with the provisions of this supplementary condition.

F. If the Davis-Bacon Act applies to work to be performed under this contract, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of CONTRACTOR's employees and for each of any subcontractor's employees or a payroll report from CONTRACTOR and from each subcontractor. Each statement or report must include the certification by CONTRACTOR of compliance with the provisions of the Davis-Bacon Act.

G. Workers' Compensation Coverage.

1. CONTRACTOR agrees as a precondition to the performance of any work under this contract and as a precondition to any obligation of the OWNER to make any payment under this contract to provide the OWNER with a certificate of a qualified insurer. CONTRACTOR agrees that notice of any lapse in coverage or nonpayment of coverage that the CONTRACTOR is required to maintain should be mailed to:

   Risk Management
   City of Nashua
   229 Main Street
   Nashua, NH 03060

2. CONTRACTOR agrees to maintain required workers' compensation coverage throughout the entire term of the contract. If CONTRACTOR does not maintain coverage throughout the entire term of the contract, CONTRACTOR agrees that OWNER may, at any time the coverage is not maintained by CONTRACTOR, order the CONTRACTOR to stop work, suspend the contract, or terminate the contract. For each six-month period this contract is in effect, CONTRACTOR agrees, prior to the expiration of the six-month period, to provide another written request to its insurer for the provision of a certificate and notice of lapse in or nonpayment of coverage. If CONTRACTOR does not make the request or does not provide the certificate before the expiration of the six-month period, CONTRACTOR agrees that OWNER may order the CONTRACTOR to stop work, suspend the contract, or terminate the contract.

H. To be deemed a responsive bid, the list of subcontractor form must be submitted even if no subcontractors are required to be listed. Submittal is as follows:

1. Each bid submitted to any officer, department, board or commission for the construction of any public work or improvement must include:

   a. The name of each subcontractor who will provide labor or a portion of the work or improvement to the CONTRACTOR for which he will be paid an amount exceeding 5 percent of the prime CONTRACTOR's total bid. Within 2 hours after the completion of the opening of the bids, the general contractors who submitted the three lowest bids must submit a list of the name of each subcontractor who will provide labor or a portion of the work or improvement to the CONTRACTOR for which he will be paid an amount exceeding 1 percent of the prime CONTRACTOR's total bid or $50,000, whichever is greater, and the number of the license issued to the subcontractor. If a general CONTRACTOR fails to submit such a list within the required time, his bid shall be deemed not responsive.
b. A description of the portion of the work or improvement which each subcontractor named in the bid will complete.

2. The CONTRACTOR shall list in his bid the name of a subcontractor for each portion of the project that will be completed by a subcontractor.

3. A CONTRACTOR whose bid is accepted shall not substitute any person for a subcontractor who is named in the bid, unless:

   a. The awarding authority objects to the subcontractor, requests in writing a change in the subcontractor and pays any increase in costs resulting from the change; or

   b. The substitution is approved by the awarding authority and:

      (i) The subcontractor, after having a reasonable opportunity, fails or refuses to execute a written contract with the CONTRACTOR which was offered to the subcontractor with the same terms that all other subcontractors on the project were offered;

      (ii) The named subcontractor files for bankruptcy or becomes insolvent; or

      (iii) The named subcontractor fails or refuses to perform his subcontract within a reasonable time or is unable to furnish a performance bond and payment bond.

I. If blasting or use of explosives is necessary for prosecution of Work, the CONTRACTOR shall provide the ENGINEER with a blasting plan in compliance with OSHA, State, and local regulations, laws, ordinances, and requirements. CONTRACTOR shall exercise the utmost care not to endanger life or property. CONTRACTOR shall be responsible for all damage resulting from the use of explosives. CONTRACTOR shall notify each property OWNER and utility company having structures or facilities in proximity to the site of the work of its intentions to use explosives. Such notice shall be given sufficiently in advance to enable the utility companies to take such steps as they may deem necessary to protect their property from injury.

6.10 Taxes

A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the OWNER or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such OWNER or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

B. Removal of Debris During performance of the Work:
During the progress of the Work CONTRACTOR shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. Cleaning:

Prior to Substantial Completion of the Work CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures:

CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

E. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’s Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such OWNER or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR’s performance of the Work.

6.12 Record Documents

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

B CONTRACTOR shall mark up one set of paper prints to show the As-built conditions. They shall include all the information shown on the Contract Drawings and a record of all deviations, modifications, or changes from those Drawings, however minor, which were incorporated in the Work, all additional work not appearing on the Contract Drawings and all changes which are made after final inspection of the Contract Work. These As-built marked prints shall be kept current and available on the job site at all times. All changes from the Contract Drawings which are made in the Work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. No construction work shall be concealed until it has been inspected, approved, and recorded. The As-built marked prints will be jointly inspected for accuracy and completeness by the ENGINEER’S representative and a responsible representative of the CONTRACTOR prior to submission of the monthly pay estimate. Failure to keep the As-built marked prints on a current basis shall be sufficient justification to suspend pay estimates. The drawings shall show the following information, but not be limited to:

1. The location of any utility lines or other installations of any kind or description known to exist within the construction area. The location includes dimensions of permanent features.

2. The location and identification of all surface installations within 100 feet of the construction work.

3. The location and dimensions of any changes within the building or structure.
4. Correct grade or alignment of roads, structures, or utilities if any changes were made from Contract Drawings.

5. Correct elevations if changes were made in site grading.

6. Changes in details or design or additional information obtained from working drawings specified to be prepared or furnished by the CONTRACTOR including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions or equipment foundations, etc.

7. The topography and grades of all drainage installed or affected as a part of the Work.

8. All changes or modifications which result from the final inspection.

The As-built marked prints shall be delivered to the ENGINEER at the time of final inspection for ENGINEER’s review and approval. All approval and acceptance of As-built drawings shall be accomplished before final payment is made to the CONTRACTOR.

6.13 Safety and Protection

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. All persons on the Site or who may be affected by the Work;

2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify OWNER of adjacent property and of Underground Facilities and other utility Owner’s when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER’S Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR’s duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

C. Occupational Safety and Health Standards: CONTRACTOR’s methods of construction and safety requirements, including but not limited to trench excavation and shoring where applicable, shall conform to the requirements of the Occupational Safety and Health Standards for the Construction Industry. The document entitled "Occupational Safety and Health Standards for the Construction Industry" (29 CFR PART 1926) with Amendments as of February 1, 1998, including 29 CFR part 1910 General Industry Safety and Health Standards Applicable to Construction, is not attached to the Contract Documents. Said requirements as identified and established above are incorporated herein by reference.
D. **Power Lines:** No equipment of any kind shall be used or permitted within such proximity to the conductors of the Public Services of New Hampshire power lines as to be in violation of the safe working clearance prescribed by the National Electrical Safety Code.

E. **Protection of Utilities:** The CONTRACTOR shall verify all utility locations prior to the start of construction. This shall include, but not necessarily limited to: irrigation and drainage ditches, culverts, water lines, sewer lines, telephone cables, cable television, gas lines and electric lines. Prior to the start of construction the CONTRACTOR shall call Dig Safe System, Inc. 1-800-344-7233 (two full working days’ notice required). The failure of any utility to subscribe to DIGS shall not relieve the CONTRACTOR from the responsibility of protection of that utility on the site. Any physical structure (i.e. curbs, sidewalks, paving, buildings, landscape improvements, utilities, etc., damaged by the CONTRACTOR shall be repaired or replaced in a condition equal to or better than the condition prior to the damage. Such repair or replacement shall be accomplished at the CONTRACTOR’s expense without additional compensation from the OWNER.

F. CONTRACTOR shall ensure that its activities and activities of its employees, agents and subcontractors, and their employees and agents (including all sub-subcontractors), are in strict compliance with all Environmental Protection Agency, New Hampshire Department of Environmental Services, and Department of Transportation regulations and all other applicable federal, state and local statutes, ordinances, regulations and rules, including without limitation, the Federal Occupational Safety and Health Act of 1970 (OSHA) as amended and the standards and regulations issued thereunder, and all other statutes, ordinances, regulations, rules, standards and requirements of common law in relation to industrial hygiene and safety, and the protection of health and the environment.

6.14 **Safety Representative**

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs. Work Site is subject to safety inspection by the City Safety Representative at any and all times.

6.15 **Hazard Communication Programs**

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 **Emergencies**

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. IF ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, Change Order will be issued.

6.17 **Shop drawings and Samples**

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material,
Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER’s review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

   a. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

   b. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

   c. All information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto; and

   d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR’s obligations under the Contract Documents with respect to CONTRACTOR’s review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. ENGINEER’s Review

1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER’s review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER’s review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for in the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. ENGINEER’s review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER’s attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof.
incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. Resubmittal Procedures

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 Continuing the Work

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 CONTRACTOR’s General Warranty and Guarantee

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER’s Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR’s warranty and guarantee hereunder excludes defects or damage caused by:

1. Abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or

2. Normal wear and tear under normal usage.

B. CONTRACTOR’s obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR’s obligation to perform the Work in accordance with the Contract Documents:

1. Observations by ENGINEER;

2. Recommendation by ENGINEER or payment by OWNER OF ANY PROGRESS OR FINAL PAYMENT;

3. The issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereof by OWNER;

4. Use or occupancy of the Work or any part thereof by OWNER;

5. Any acceptance by OWNER or any failure to do so;

6. Any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;

7. Any inspection, test, or approval by others; or

8. Any correction of defective Work by OWNER.

6.20 Indemnification

A. Regardless of the coverage provided by any insurance, Contractor agrees to indemnify and shall defend and hold harmless the City, its agents, officials, employees and authorized representatives and their employees from and against any and all suits, causes of action, legal or administrative proceedings, arbitrations, claims, demands, damages,
liabilities, interest, attorneys' fees, costs and expenses of any kind or nature in any manner caused, occasioned, or contributed to in whole or in part by reason of any negligent act, omission, or fault or willful misconduct, whether active or passive, of Contractor or of anyone acting under its direction or control or on its behalf in connection with or incidental to the performance of this contract. Contractor's indemnity, defense and hold harmless obligations, or portions thereof, shall not apply to liability caused by the sole negligence or willful misconduct of the party indemnified or held harmless.

B. In any and all claims against OWNER or ENGINEER, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity.

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the liability of ENGINEER and ENGINEER's Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them arising out of:
The preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications.

ARTICLE 7 - OTHER WORK

7.01 Related Work at Site
A. OWNER may perform other work related to the Project at the Site by OWNER’s employees, or let other direct contracts therefore, or have other work performed by utility Owner’s. If such other work is not noted in the Contract Documents, then:

1. Written notice thereof will be given to CONTRACTOR prior to starting any such other work; and

2. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefore as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility OWNER (and OWNER, if OWNER is performing the other work with OWNER's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility OWNERS and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility OWNERS and other contractors.

C. If the proper execution or results of any part of CONTRACTOR’s Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR’s Work. CONTRACTOR’s failure to so report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR’s Work except for latent defects and deficiencies in such other work.

7.02 Coordination
A. If OWNER intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. The individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. The specific matters to be covered by such authority and responsibility will be itemized; and

3. The extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility for such coordination.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 Communications to Contractor
A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.02 Replacement of ENGINEER
A. In case of termination of the employment of ENGINEER, OWNER shall appoint and whose status under the Contract Documents shall be that of the former ENGINEER.

8.03 Furnish Data
A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

8.04 Pay Promptly When Due
A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

8.05 Lands and Easements; Reports and Tests
A. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.06 Insurance

See Article 5.

8.07 Change Orders
A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

8.08 Inspections, Tests, and Approvals
A. OWNER's responsibility in respect to certain inspections tests, and approvals is set forth in paragraph 13.03.B.
8.09 Limitations on OWNER's Responsibilities

A. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, of the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

8.10 Undisclosed Hazardous Environmental Condition

A. OWNER's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06

8.11 Evidence of Financial Arrangements

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 OWNER's Representative

A. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

9.02 Visits to Site

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER's visits and observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER's visits or observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 Project Representative

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereof of such other individual or entity will be as provided in the supplementary Conditions.
9.04 Clarifications and Interpretations

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefore as provided in paragraph 10.05.

9.05 Authorized Variations in Work

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefore as provided in paragraph 10.05.

9.06 Rejecting Defective Work

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 Shop Drawings, Change Orders and Payments

A. In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER's authority as to change orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER's authority as to Applications for Payment, see Article 14.

9.08 Determinations for Unit Price Work

A. ENGINEER will have authority to determine the actual quantities and classifications of items of Unit Price Work performed by CONTRACTOR, and the written decisions of ENGINEER on such matters will be final, binding on OWNER and CONTRACTOR and not subject to appeal (except as modified by ENGINEER to reflect changed factual conditions).

9.09 Decisions on Requirements of Contract Documents and Acceptability of Work

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work there under. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not be liable in connection with any interpretation or decision rendered in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise
by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 Limitations on ENGINEER’s Authority and Responsibilities

A. Neither ENGINEER’s authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. ENGINEER will not be responsible for CONTRACTOR’s failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER’s review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates or inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER's Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 Authorized Changes in the Work

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment or a Change Order. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Change Order, a Claim may be made therefore as provided in paragraph 10.05.

10.02 Unauthorized Changes in the Work

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 Execution of Change Orders

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:
1. Changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER's correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;

2. Changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Change Order; and

3. Changes in the Contract Price and Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 Notification to Surety

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 Disputes – Not Insurance Related

A. Notice: Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 10 days) after the start of the event giving rise thereto. Notice of the amount or extent of the dispute, or other matter with supporting data shall be delivered to the ENGINEER, Risk Management Department and the other party to the Contract within 60 days after the start of such event. A dispute for an adjustment in Contract Price shall be prepared in accordance with the provisions in paragraph 12.01.B. A dispute for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each dispute shall be accompanied by claimant's written statement that the adjustment disputed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. ENGINEER'S Decision: ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER's written decision on such dispute, or other matter will be final and binding upon CONTRACTOR unless:

1. An appeal from ENGINEER'S decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. If no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER's written decision is delivered by CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have the respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the dispute in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the submittal of the opposing party, if any.

D. No dispute for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.
11.01 Cost of the Work

A. Costs Included: The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of the Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs of employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in this paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

   a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

   b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.

   c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
6. Rental rates shall be determined as follows:

a. The base rates shall be those established in publications and revisions thereto entitled “Rental Rate Blue Book for Construction Equipment” or the “Rental Rate Blue Book for Older Construction Equipment” as published by K-III, 1735 Technology Drive, Suite 401, San Jose, CA 95110-1313, Phone (408) 467-6700.

b. Attachments (e.g. tractor with ripper and dozer or tractor with loader and backhoe) will be included in the hourly rental rate only when deemed essential to the work as determined the Engineer. When multiple attachments are approved for use and are being used interchangeably, the attachment having the higher rental rate shall be the only one included for payment.

c. No direct payment will be made for necessary accessories (including replenishing blades, augers, teeth, hoses, bits, etc.) if not listed in the Rental Rate Blue Book.

d. No compensation will be allowed for shop tools having a daily rental rate of less than $10 as set forth in Section 18 of the Rental Rate Blue Book.

i. If ordered to use equipment not listed in the aforementioned publications, the Engineer will establish a rental rate for such equipment. CONTRACTOR shall furnish cost data that might assist in the establishment of such rental rate.

ii. Payment will be made for the actual time that such equipment is in operation on the work.

iii. Authorized standby time for idle equipment shall be paid at 50% of the specified rate, less the estimated operating cost per hour. No markup will be added for overhead and profit.

iv. Rental rate paid as above provided shall include the cost of fuel, oil, lubrication, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance and all incidentals. CONTRACTOR shall provide the Engineer with a complete Force Account Equipment Listing for each piece of equipment utilized.

e. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

f. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

g. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work, provided such losses and damages have resulted from causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee.

h. The cost of utilities, fuel, and sanitary facilities at the Site.

i. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

j. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim.
k. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of CONTRACTOR’s officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR’s principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the CONTRACTOR’s fee.

2. Expenses of CONTRACTOR’s principal and branch offices other than CONTRACTOR’s office at the Site.

3. Any part of CONTRACTOR’s capital expense, including interest on CONTRACTOR’s capital employed for the Work and charges against CONTRACTOR for delinquent payments.

4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.

C. CONTRACTOR’s Fee: When all the Work is performed on the basis of cost-plus, CONTRACTOR’s fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, CONTRACTOR’s fee shall be determined as set forth in paragraph 12.01.C.

D. Documentation: Whenever the cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A. and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER as itemized cost breakdown together with supporting data.

11.02 Cash Allowances

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. CONTRACTOR’s costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work
A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of the Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subjects to the provisions of paragraph 9.08.

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or

2. Where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or

3. Where the Work involved is not covered by unit prices contained in the Contract Documents an agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 12.01.C).

C. CONTRACTOR's Fee: The CONTRACTOR's fee for overhead and profit shall be determined as follows:

1. A mutually acceptable fixed fee; or

2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

   a. For costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR's fee shall be 15 percent;

   b. For costs incurred under paragraph 11.01.A.3, the CONTRACTOR's fee shall be five percent;

   c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a. is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

   d. No fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

   e. The amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and
f. When both addition and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 12.01.C.2.a through 12.01.C.2.e inclusive.

12.02 Change of Contract Times

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this Article 12.

12.03 Delays beyond CONTRACTOR's Control

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefore as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

12.04 Delays within CONTRACTOR's Control

A. Contract Times (or Milestones) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 Delays beyond OWNER's and CONTRACTOR's Control

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay.

12.06 Delay Damages

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. Delays caused by or within the control of CONTRACTOR; or

2. Delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, flood, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone from whom OWNER is responsible.
ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

A. OWNER, ENGINEER, ENGINEER'S Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental agencies with jurisdictional interest will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 Tests and Inspections

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. For inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;

2. That costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B; and

3. As otherwise specifically provided in the Contract Documents.

4. That costs incurred by OWNER due to retesting, reinspection, or standby time due to unacceptable materials, or workmanship provided by the CONTRACTOR, or due to poor scheduling by the CONTRACTOR of tests of inspections, will be deducted from the payments to the CONTRACTOR. CONTRACTOR shall stop work as necessary to allow for inspections and tests by OWNER and ENGINEER.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER'S and ENGINEER's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR'S purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.
G. The OWNER intends to provide inspection for the project. The inspector will be available during a forty (40) hour period during the week from Monday through Friday. In the event the CONTRACTOR receives permission from the OWNER and elects to work more than forty hours during the week or more than 10 hours in one day, or on a Saturday, Sunday, or legal holiday, the CONTRACTOR shall be responsible for all inspection, engineering and testing costs incurred during that period. For all inspection and testing work performed on Saturday, Sunday, or legal holidays, the minimum chargeable time shall be four (4) hours. The OWNER reserves the right to deduct these inspection, engineering, and testing costs directly from the CONTRACTOR’S payments.

13.04 Uncovering Work

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER’s observation and replaced at CONTRACTOR’S expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER’s request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others), and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefore as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

13.05 OWNER May Stop the Work

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause of such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 Correction or Removal of Defective Work

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 Correction Period

A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR’s use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER’s written instructions: (i) repair such defective land or areas, or (ii) correct such
defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting there from. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement work of others) will be paid by CONTRACTOR.

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

C. Where defective Work (and damage to other Work resulting there from) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR's obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 Acceptance of Defective Work

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER's recommendation of final payment, ENGINEER) prefers to accept it, OWNER may do so, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefore as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 OWNER May Correct Defective Work

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors, and ENGINEER and ENGINEER's Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by
OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefore as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR's defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies under this paragraph 13.09.

**ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION**

**14.01 Schedule of Values**

A. The schedule of values established as provided in paragraph 2.01.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

**14.02 Progress Payment**

A. Review of Applications.

1. Prior to submittal of Application for Payment to OWNER (but not more often than once a month), the CONTRACTOR shall submit the monthly progress estimate to the ENGINEER for review and approval.

2. ENGINEER will, within 10 working days after receipt of each progress estimate, either indicate in writing a recommendation of payment or indicate in writing ENGINEER's reasons for refusing to recommend payment and return the progress estimate to CONTRACTOR. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

3. ENGINEER's recommendation of any payment requested in a progress estimate will constitute a representation by ENGINEER to OWNER, based on ENGINEER's observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying date and schedules, that to the best of ENGINEER's knowledge, information and belief:

   a. The Work has progressed to the point indicated;

   b. The quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08 and to any other qualifications stated in the recommendation); and

   c. The conditions precedent to CONTRACTOR's being entitled to such payment appears to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

4. By recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

5. Neither ENGINEER's review of CONTRACTOR's Work for the purposes of recommending payments nor ENGINEER's recommendation of any payment, including final payment, will impose responsibility on
ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR's failure to comply with Laws and Regulations applicable to CONTRACTOR's performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or equipment has passed to OWNER free and clear of any Liens.

6. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

a. The Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. The Contract Price has been reduced by Written Amendment or Change Orders;

c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.

B. Applications for Payments.

1. CONTRACTOR shall submit to OWNER the ENGINEER recommended Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect OWNER's interest therein, all of which must be satisfactory to OWNER. Any request for partial or final payment shall specifically list the work completed. To facilitate the proper and timely payment of applications, the OWNER requires that all applications must reference a valid PURCHASE ORDER NUMBER, as submitted to CONTRACTOR under the Notice to Proceed, be in original format; OWNER will not authorize payments from carbon or Xerox copies, and mailed directly to the following address:

City of Nashua
Accounts Payable
PO Box 2019
Nashua, NH 03061-2019
Attn: Division of Public Works

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be stipulated in the Agreement.

C. Payment Becomes Due

1. Not more than 30 days after presentation of the application for payment to OWNER with ENGINEER's recommendation, the amount recommended will become due, and when due will be paid by OWNER to CONTRACTOR.
D. Reduction in Payment.

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

   a. Claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work;

   b. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;

   c. There are other items entitling OWNER to a set-off against the amount recommended; or

   d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld. OWNER shall promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 CONTRACTOR'S Warranty of Title

A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

14.04 Substantial Completion

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefore. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefore. If after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.
B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 Partial Utilization

A. Use by OWNER at OWNER's option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of paragraph 5.10 regarding property insurance.

14.06 Final Inspection

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. Application for Payment

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any lien.
B. Review of Application and Acceptance

1. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application of Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

14.08 Final Completion Delayed

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. A waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 Termination, Abandonment, or Suspension at Will

The OWNER, in its sole discretion, shall have the right to terminate, abandon, or suspend all or part of the project and contract at will. If the OWNER chooses to terminate, abandon, or suspend all or part of the project, it shall provide CONTRACTOR 10 day's written notice of its intent to do so.

If all or part of the project is suspended for more than 90 days, the suspension shall be treated as a termination at will of all or part of the project and contract.

Upon receipt of notice of termination, abandonment, or suspension at will, CONTRACTOR shall:

1. Immediately discontinue work on the date and to the extent specified in the notice.

2. Place no further orders or subcontracts for materials, services, or facilities, other than as may be necessary or required for completion of such portion of work under the contract that is not terminated.
3. Immediately make every reasonable effort to obtain cancellation upon terms satisfactory to the OWNER of all orders or subcontracts to the extent they relate to the performance of work terminated, abandoned, or suspended under the notice, assign to the OWNER any orders or subcontracts specified in the notice, and revoke agreements specified in the notice.

4. Not resume work after the effective date of a notice of suspension until receipt of a written notice from the OWNER to resume performance.

In the event of a termination, abandonment, or suspension at will, CONTRACTOR shall receive all amounts due and not previously paid to CONTRACTOR for work satisfactorily completed in accordance with the contract prior to the date of the notice and compensation for work thereafter completed as specified in the notice. No amount shall be allowed or paid for anticipated profit on unperformed services or other unperformed work.

15.02 Termination for Cause

This agreement may be terminated by the OWNER on 10 calendar day’s written notice to CONTRACTOR in the event of a failure by CONTRACTOR to adhere to any or all the terms and conditions of the contract or for failure to satisfactorily, in the sole opinion of the OWNER, to complete or make sufficient progress on the work in a timely and professional manner. CONTRACTOR shall be given an opportunity for consultation with the OWNER prior to the effective date of the termination. CONTRACTOR may terminate the contract on 10 calendar days written notice if, through no fault of CONTRACTOR, the OWNER fails to pay CONTRACTOR for 45 days after the date of approval by the OWNER of any Application for Payment.

Upon receipt of notice of termination for cause, CONTRACTOR shall:

1. Immediately discontinue work on the date and to the extent specified in the notice.
2. Provide the OWNER with a list of all unperformed services.
3. Place no further orders or sub-contracts for materials, services, or facilities, other than as may be necessary or required for completion of such portion of work under the contract that is not terminated.
4. Immediately make every reasonable effort to obtain cancellation upon terms satisfactory to the OWNER of all orders or sub contracts to the extent they relate to the performance of work terminated, abandoned, or suspended under the notice, assign to the OWNER any orders or sub contracts specified in the notice, and revoke agreements specified in the notice.
5. Not resume work after the effective date of a notice of termination unless and until receipt of a written notice from the OWNER to resume performance.

In the event of a termination for cause, CONTRACTOR shall receive all amounts due and not previously paid to CONTRACTOR for work satisfactorily completed in accordance with the contract prior to the date of the notice, less all previous payments. No amount shall be allowed or paid for anticipated profit on unperformed services or other unperformed work. Any such payment may be adjusted to the extent of any additional costs occasioned to the OWNER by reasons of CONTRACTOR’s failure. CONTRACTOR shall not be relieved of liability to the OWNER for damages sustained from the failure, and the OWNER may withhold any payment to the CONTRACTOR until such time as the exact amount of damages due to the OWNER is determined. All claims for payment by the CONTRACTOR must be submitted to the OWNER within 30 days of the effective date of the notice of termination.

If after termination for the failure of CONTRACTOR to adhere to any of the terms and conditions of the contract or for failure to satisfactorily, in the sole opinion of the OWNER, to complete or make sufficient progress on the work in a timely and professional manner, it is determined that CONTRACTOR had not so failed, the termination shall be deemed to have been a termination at will. In that event, the OWNER shall, if necessary, make an adjustment in the compensation paid to CONTRACTOR such that CONTRACTOR receives total compensation in the same amount as it would have received in the event of a termination-at-will.

15.03 General Provisions for Termination
Upon termination of the contract, the OWNER may take over the work and prosecute it to completion by agreement with another party or otherwise. In the event CONTRACTOR shall cease conducting business, the OWNER shall have the right to solicit applications for employment from any employee of the CONTRACTOR assigned to the performance of the contract.

Neither party shall be considered in default of the performance of its obligations hereunder to the extent that performance of such obligations is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of such party. Delays arising from the actions or inactions of one or more of CONTRACTOR's principals, officers, employees, agents, subcontractors, consultants, vendors, or suppliers are expressly recognized to be within CONTRACTOR's control.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 Methods and Procedures

A. The parties shall attempt to resolve any dispute related to this contract as follows. Either party shall provide to the other party, in writing and with full documentation to verify and substantiate its decision, its stated position concerning the dispute. No dispute shall be considered submitted and no dispute shall be valid under this provision unless and until the submitting party has delivered the written statement of its position and full documentation to the other party. The parties shall then attempt to resolve the dispute through good faith efforts and negotiation between the OWNER Representative and a CONTRACTOR Representative. At all times, CONTRACTOR shall carry on the work under this contract and maintain and complete work in accordance with the requirements of the contract or determination or direction of the OWNER. If the parties are unable to resolve their dispute as described above within 30 days, the parties may request that the dispute be submitted to the Board of Public Works for resolution. If the parties are dissatisfied with the decision of the Board of Public Works, the parties' reserve the right to pursue any available legal and/or equitable remedies for any breaches of this contract except as that right may be limited by the terms of this contract.

ARTICLE 17 - MISCELLANEOUS

17.01 Giving Notice

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 Computation of Times

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation or, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws and Regulations, by special warranty or guarantee, or by other provisions of the contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 Survival of Obligations
A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, will survive final payment, completion, and an acceptance of the Work or termination or completion of the Agreement.

17.05 Controlling Law

A. This contract shall be governed exclusively by the laws of the State of New Hampshire and any claim or action brought relating to this contract, the work performed or contracted to be performed thereunder, or referable in anyway thereto shall be brought in Hillsborough County (New Hampshire) Superior Court Southern Judicial District or in the New Hampshire 9th Circuit Court—Nashua and not elsewhere

17.06 Access to Records

A. At all times during regular business hours, CONTRACTOR shall provide full and free access to the OWNER, ENGINEER, and State of New Hampshire to any books, documents, papers, and records related to the work for the purpose of examination, audit, and duplication. The CONTRACTOR shall maintain all required accounts, records, and books for three years after final completion of the work.

17.07 Road Closures and Traffic Delays

A. Partial or full closure of streets in order to facilitate construction will be permitted, or required by the Engineer in accordance with the following:

1. If the CONTRACTOR proposes a closure, the CONTRACTOR notifies the OWNER in writing at least 5 days prior to the proposed closure of his intent to close the road.

2. At least 5 days prior to the proposed closure, the CONTRACTOR shall submit a detour traffic plan for each location being detoured.

3. The CONTRACTOR shall install standard traffic control devices in accordance with the Detour Signage plan provided in the bid documents and the Manual on Uniform Traffic Control Devices (MUTCD.)

4. The detour signage shall be covered when the road closure is not in effect.

B. CONTRACTOR shall notify the following agencies of any traffic delays or road closures three days in advance of the work:

   Nashua Police Department: (603) 594-3500
   Nashua Fire Department: (603) 594-3652
   School Bus Garage: (603) 594-4300
   Nashua Solid Waste Department (603) 589-3410
   Nashua Building Department (603) 589-3080

17.08 Prohibited Interests

A. CONTRACTOR shall not allow any officer or employee of the OWNER to have any indirect or direct interest in this contract or the proceeds of this contract CONTRACTOR warrants that no officer or employee of the OWNER has any direct or indirect interest, whether contractual, noncontractual, financial or otherwise, in this contract or in the business of CONTRACTOR. If any such interest comes to the attention of CONTRACTOR at any time, a full and complete disclosure of the interest shall be immediately made in writing to the OWNER. CONTRACTOR also warrants that it presently has no interest and that it will not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this contract. CONTRACTOR further warrants that no person having such an interest shall be employed in the performance of this contract. If OWNER determines that a conflict exists and was not disclosed to the OWNER, it may terminate the contract at will or for cause in accordance with Article 15.02.

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B. In the event Contractor (or any of its officers, partners, principals, or employees acting with its authority) is convicted of a crime involving a public official arising out or in connection with the procurement of work to be done or payments to be made under this contract, City may terminate the contract at will or for cause in accordance with paragraph 9. Upon termination, Contractor shall refund to the City any profits realized under this contract, and Contractor shall be liable to the City for any costs incurred by the City in completing the work described in this contract. At the discretion of the City, these sanctions shall also be applicable to any such conviction obtained after the expiration or completion of the contract.

C. Contractor warrants that no gratuities (including, but not limited to, entertainment or gifts) were offered or given by Contractor to any officer or employee of the City with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending or making of any determinations with respect to the performance of this contract. If City determines that such gratuities were or offered or given, it may terminate the contract at will or for cause in accordance with Article 15.02.

D. The rights and remedies of this section shall in no way be considered for be construed as a waiver of any other rights or remedies available to the City under this contract or at law.

17.09 Cooperation with Refuse Pickup

A. Contractor shall determine the schedule for trash pickup by contacting the City of Nashua Solid Waste Department. The Contractor shall cooperate and make arrangements to insure that trash pickup is not delayed or obstructed in any way. This may involve the Contractor bring trash barrels to the front or backside of the work area for pickup by the Solid Waste Department and then returning the barrels back to each house.
SUPPLEMENTARY CONDITIONS/PROSECUTION OF WORK

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

1. DESCRIPTION OF WORK
   The contract work includes the limits on the various streets listed in the attached summary. The specified pavement treatment is listed.

   The City reserves the right to remove streets from the list, extend or shorten limits or individual streets, or revise the specified pavement treatment on individual streets.

   The City may also add additional streets to the contract work.

   Should the net projection of the value of changes to the contract work exceed the authorized amount, the Owner will present a contract amendment proposal to the Contractor.

2. CONTRACTOR RESPONSIBILITY FOR GRADING
   The Contractor shall be responsible to assure that the finished pavement surface will be smooth and will have positive drainage. Contractor shall be responsible to assure that puddling will not occur in either the roadway, or on adjacent private property as a result of Contractor operations. Contractor shall perform any measurements needed in advance of excavation, cold planning, reclamation and paving activities to assure adequate control needed for grading operations.

   The Engineer may provide a proposed grading design to the Contractor for use in areas to be reclaimed. If a proposed design or other guidance is not provided by the Engineer, the Contractor shall perform grading of the reclaimed base material to assure that the preconstruction gutter line is recreated. Unless otherwise directed, roadway cross slope on reclaimed streets shall generally be two percent with a centerline crown. In all cases, roadway cross slopes on reclaimed streets shall not exceed four percent. Pavement cross slope transitions shall be consistent with good practice generally accepted by New Hampshire Department of Transportation.

   If in the opinion of the Contractor, it is not possible to meet these grading requirements at a particular location due to existing constraints, any such location shall be identified to the Engineer in advance of milling, reclamation and/or paving activities to allow the Engineer reasonable time to investigate and provide guidance to the Contractor.

3. PAVEMENT MIX
   NHDOT certified mix designs are required for all pavement.

   Binder courses shall be 75 gyration with PG 64-28 and maximum aggregate size of \( \frac{3}{4} \) inch.
Unless otherwise directed, the following course thicknesses shall be used:

2” Mill & Overlay
1.25” wearing course over ¾” (nominal) shim.

3.5” Mill & Overlay
1.25” wearing course over 2.25” binder course.

Reclamation
1.25” wearing course over 2.25” binder course.

4. OTHER WORK IN CONTRACT AREA
Other City and utility work may be in progress within the project area during work in this contract.

The Contractor shall strive to provide coordination with other work within the project area to minimize disruption.

The Contractor shall notify the Engineer with as much advance notice as reasonably possible of any concerns with other work in the project area.

In order to allow anticipated completion of work presently underway, work on this contract shall not start on the following streets until after the date indicated:

- Gilson Road .........................July 15, 2019
- Pine Hill Road .......................July 15, 2019

5. COORDINATION WITH UTILITIES
Dropping and adjustment of telephone, gas and water castings will be the responsibility of Fairpoint, Liberty Utilities and Pennichuck Water Works.

Contractor shall coordinate this effort with the respective utilities.

6. TIE-IN AT SIDE ROADS
Where roadways are being milled to a depth of 3.5 inches, side road tie-in areas will be milled to a depth of 2.0 inches.

7. INTERIM MILESTONES FOR SUBSTANTIAL COMPLETION
The following Substantial Completion Milestones shall be met:

50 percent of the total length of all roadway segments in the contract shall be substantially complete by July 17, 2019.

85 percent of the total length of all roadway segments in the contract shall be substantially complete by September 6, 2019.

The entire length of all roadway segments shall be substantially complete by October 15, 2019.
8. **WORK HOURS**  
Reference is made to Section 6.02 Labor; Working Hours of the General Conditions.

Except as stated below, normal working hours shall be from 7:00 AM to 5:00 PM Monday through Friday. No weekend, holiday or night work will be allowed without advance written approval of the City Engineer.

Requests for work beyond those hours normally allowed on weekdays shall be made by the Contractor at least 72 hours in advance.

Requests for work on Saturdays, Sundays and holidays shall be made at least one week in advance.

Contractor should not assume requests for hours beyond the hours and days normally allowed will be approved. Requests will be considered on a case by case basis.

9. **CONTRACTOR’S REPRESENTATIVE**  
The Contractor shall designate a representative who will be available to respond to emergency calls by the Owner at any time day and night and on weekends and holidays should such a situation arise.

Should the City determine action by the City is needed or other costs are incurred because the Contractor’s Representative is not available, the City will backcharge the Contractor for associated expenses.

10. **SCHEDULING AND COORDINATION**  
Reference is made to General Conditions Section 2.05, Before Starting Construction and General Conditions Section 6.04, Progress Schedule.

Prior to the start of construction, the Contractor shall submit a comprehensive schedule to the Engineer for review and acceptance.

The schedule will identify the number of crews and completion dates for all critical elements of work.

Detailed updates of the schedule shall be submitted to the Engineer for review and acceptance on at least a monthly interval.

The Engineer may withhold progress payments if acceptable monthly schedule updates are not submitted.

The Contractor shall not increase the number of crews assigned to the work as identified in the schedule without providing at least one week advanced notice to the Engineer.

11. **SUPERINTENDENCE OF THE WORK**  
Reference is made to General Conditions Section 6.01, Supervision and Superintendence.

Contractor shall provide appropriate onsite superintendence of all aspects of the work whether performed by the Contractor or by subcontractors.
Qualified Superintendent(s) shall be assigned for all crews. Contact information will be provided for all Superintendents.

12. **USE OF GROUNDS**
Any area outside the limits of the project area (right-of-way within project limits) which the Contractor may require for storage of equipment and materials, or for other purposes necessary in the performance of the Work, shall be secured by the Contractor at their own expense. Materials, including excavation intended for backfill, shall not be stored or stacked within any roadway clear zones, or in a manner that obstructs adequate sight lines unless specifically permitted in writing by the Engineer. The Contractor is responsible for providing security as required and erosion controls at no cost to the City.

13. **TRAFFIC CONTROL PLAN**
Reference is also made to *Section 17.07 Road Closures and Traffic Delays* of the General Conditions.

The following are considered part of the Traffic Control Plan:

2. Work Zone Traffic Control Standard Sheets*
5. *Flagger and Uniformed Officer Use in Work Zones Policy and Guidelines* *

*Available online under Doing Business with DOT>Contractors at [www.nhdot.com](http://www.nhdot.com) or through the NHDOT Contracts office (603-271-3732).

The Contractor shall provide necessary traffic control devices to ensure the safety of the workers, traveling public, and property owners on this project. The above referenced specifications, guidelines, and provisions herein provide minimum requirements; the Contractor may be directed to expand upon the Traffic Control Plan if conditions warrant.

All signs, channelizing devices and arrow boards as required by the *Manual on Uniform Traffic Control Devices*, including part six, as amended, and the above Standard Sheets shall be in place prior to moving any equipment onto the pavement.

The Contractor shall provide trained personnel, including Uniformed Officers and Flaggers in accordance with Section 618, to be responsible for the maintenance of traffic.

All materials furnished and used for maintenance of traffic, shall be required to be certified for reflectivity. Damaged devices shall be replaced as directed by the Engineer without additional compensation. Regardless of action that may be taken or not taken by the Engineer, the Contractor shall be solely responsible for the appropriateness, reflectivity and condition of all materials provided as well as placement and maintenance of traffic control elements.
The Contractor shall submit a Traffic Control Plan prior to work on arterial roadways. This Traffic Control Plan will describe how the Contractor proposes to:

- Stage the work to maintain and control traffic during the lowering of structures within paved areas; milling operations; and paving operations.
- Maintain access to all residences and businesses through the duration of construction.
- Lane usage during various phases of work will be described. A minimum of 11-foot width shall be provided for all lanes open to traffic.
- A minimum of one lane in each direction shall be provided at all times. Should the Contractor consider it necessary to reduce this requirement to alternating one-way use, the constraints justifying such a restriction must be explained fully. If approved at any location in this contract, the use of alternating one-way traffic will be for a short duration only.
- The Contractor shall describe in the Traffic Control Plan minimum conditions which will be provided at the end of working hours. At a minimum, if a vertical break of more than one inch exists along the direction of travel and vehicles are operating on the higher surface, a pavement fillet will be provided along the break. The pavement fillet shall be constructed with a slope of 12 inches horizontal for each one inch vertical.
- Full lane use shall be maintained for weekend and holiday periods.

14. **REMOVAL OF DEBRIS AND SURPLUS MATERIAL**
Neither debris nor surplus material shall be deposited on private property.

Debris and surplus material shall be removed from the project area as promptly as practical.

If the Contractor should fail to promptly remove debris or surplus material from the project area, or if Contractor deposits same on private property, progress payment(s) may be withheld.

15. **DISPOSAL OF SURPLUS EXCAVATED MATERIAL**
All milled (cold planed) pavement shall be delivered to the Four Hills Landfill in Nashua, NH. Unless otherwise specified herein, all other excess material not required for use on the project shall be disposed of legally and safely by the Contractor at his discretion outside of and away from the limits of the project, without additional compensation.

16. **MAINTENANCE DURING WEATHER EVENTS**
The Contractor’s obligation to protect the public traveling through the project site shall include maintaining the work and maintaining safe passage during rain and other weather events.

The Contractor shall plan in advance of forecasted inclement weather events and shall assign crews to perform maintenance of unpaved areas open to traffic during and after inclement weather events. Contractor is responsible to coordinate with the Engineer and other City officials as appropriate.
Contractor shall be prepared to respond in a timely manner if the City determines that circumstances warrant action when the Contractor is not onsite.

17. **DRAINAGE**
The Contractor shall provide necessary measures to provide drainage and minimize ponding on paved and unpaved surfaces.

The Contractor shall be responsible to provide means for stormwater runoff to enter the drainage system at locations where structures are lowered in advance of milling or reclamation.

During the preconstruction meeting, the Contractor shall describe provisions to be made for drainage. Provisions made and methods used shall have been proven by successful use on past projects of a similar nature.

Unless otherwise directed, catch basin grates shall be set one inch below finished pavement grade. (Reference NHDOT Standard No. DR-2 Plate 4). Where catch basins are offset from roadway edge, grade gutter to assure flow is directed to catch basin.

18. **PROTECTION OF MANHOLES, CATCH BASINS AND PIPELINES**
Appropriate measures will be taken to protect manholes, catch basins and other structures as well as pipelines from debris and other materials entering the system through open or removed covers or grates.

Should material enter the system during the Contractor’s activities, this material shall be removed in a timely manner at the Contractor’s expense.

The Contractor may be required to clean structures and pipelines downstream of the location(s) where material entered the system.

The Contractor may be required to provide television inspection services to verify that material has been removed.

19. **PROTECTION OF LANDSCAPING**
Contractor shall take appropriate measures to protect trees, shrubs and other landscaping. Branches, limbs and roots shall not be cut except with permission of the Engineer. Where cutting is necessary, work shall be performed by qualified workers.

20. **RESTORATION OF EXISTING PROPERTY**
The Contractor shall be responsible for the preservation of all public and private property and structures, and shall use every precaution necessary to prevent damage thereto. If damage is done to public or private property, such property shall be promptly restored by the Contractor, at his/her expense, to a condition similar or equal to that existing before the damage was done, to the satisfaction of the Engineer.

Failure to promptly restore existing property and structures including, but not limited to driveways and lawns, may result in the Engineer’s determination that associated work is not complete and therefore not eligible for progress payment. Such associated work may
include, but not be limited to paving, pipe installation, catch basins, manholes and curbing.

Unless specifically agreed to in advance, driveway tie-ins will be paved concurrent with top course paving operations.

In no circumstances shall driveway tie-ins not be completed within two weeks of the adjacent top course paving.

21. **COOPERATION WITH REFUSE PICKUP**
The Contractor shall determine the schedule for trash pickup by contacting the City of Nashua’s Solid Waste Department. The Contractor shall cooperate and make arrangements to insure that trash pickup is not delayed or obstructed in any way. This may involve the Contractor bringing trash barrels to the front or backside of the work area for pickup by the Solid Waste Department and then returning the barrels back to each house.

22. **COOPERATION WITH QUALITY ASSURANCE**
Cores shall be cut and delivered to the City within 24 hours of pavement placement. Failure to cut and deliver cores may result in delay of progress payments for pavement.

23. **PROPERTY INSURANCE**
Property insurance is referenced in the General Conditions (Article 5.05).

Property insurance is not required for this contract.

24. **ACCESS TO PRODUCTION FACILITIES**
The City of Nashua may choose to have inspection and testing performed at the plant. All relevant provisions of the Standard Specifications, including but not limited to Section 3.1.6 Access to Production Facilities – General, shall apply.
LIST OF EXHIBITS

A. Notice of Award
B. Notice to Proceed
C. Change Order
D. Certificate of Substantial Completion

DIVISION 8
EXHIBITS
<table>
<thead>
<tr>
<th>Street Name</th>
<th>From</th>
<th>To</th>
<th>Road Length</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almont Street - 2</td>
<td>Norwell St</td>
<td>Lund Rd</td>
<td>1,953</td>
<td>3'5&quot; M&amp;OL</td>
</tr>
<tr>
<td>Ashland Street</td>
<td>Edgewood Ave</td>
<td>Manchester St</td>
<td>2,507</td>
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<tr>
<td>Barnesdale Road</td>
<td>Lancaster Dr</td>
<td>Harris Rd</td>
<td>1,217</td>
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<tr>
<td>Beaver Street</td>
<td>Carmine Rd</td>
<td>Marie Ave</td>
<td>1,185</td>
<td>2' M&amp;OL</td>
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<tr>
<td>Bedford Street</td>
<td>Broad St</td>
<td>Cul-De-Sac</td>
<td>1,465</td>
<td>2' M&amp;OL</td>
</tr>
<tr>
<td>Bloomingdale Drive</td>
<td>Saint Laurent St</td>
<td>Hideaway Rd</td>
<td>973</td>
<td>2' M&amp;OL</td>
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<tr>
<td>Cambridge Road</td>
<td>Conant Rd</td>
<td>Pittsburgh Dr</td>
<td>2,171</td>
<td>2' M&amp;OL</td>
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<tr>
<td>Cannon Drive</td>
<td>Woodfield St</td>
<td>Taschereau Blvd</td>
<td>2,084</td>
<td>2' M&amp;OL</td>
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<td>Colburn Avenue</td>
<td>Hampton Dr</td>
<td>Broad St</td>
<td>2,485</td>
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<td>Ducas Avenue</td>
<td>Broad St</td>
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<td>Fairhaven Road</td>
<td>Eastbrook Dr</td>
<td>Farmington Rd</td>
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<tr>
<td>Fairmount Street - 1</td>
<td>Amherst St</td>
<td>Charles St</td>
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<td>150'E of Hutchinson St</td>
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<tr>
<td>Fowell Ave</td>
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<tr>
<td>Gillis Street</td>
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<td>Indian Rock Rd</td>
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<td>Newburgh Rd</td>
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<td>Ridge Rd</td>
<td>Elmer Dr</td>
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<td>Peets Road</td>
<td>Shelly Dr</td>
<td>Sneezer Dr</td>
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<td>West Hollis St</td>
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<td>Lawdale Ave</td>
<td>Main St</td>
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<td>Fountain Ln</td>
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<td>Byron Dr</td>
<td>Spindlewick Dr</td>
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<tr>
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<td>Thoreau Dr</td>
<td>Whitman Rd</td>
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<td>Westwood Dr(House #11 Tenby Dr)</td>
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</tbody>
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Total Length 11.43 miles
LIST OF EXHIBITS

A. Notice of Award
B. Notice to Proceed
C. Change Order
D. Certificate of Substantial Completion

DIVISION 9

EXHIBITS
NOTICE OF AWARD

DATED: _____________________________

TO: ___________________________________ (Bidder)

ADDRESS: ____________________________________________

OWNER'S CONTRACT NO.: ____________________________________________

PROJECT: ____________________________________________ (Insert name of Contract as it appears in the Bidding Document)

You are notified that your Bid dated ________________ for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a contract for ____________________________ as advertised plus ____________________________ addendums. (Indicate total Work, alternatives or sections or Work awarded)

The Contract Price of your contract is ________________ ($_____) ____________________________

The proposed Agreement that the OWNER expects to execute, accompanies this Notice of Award.

1. You must deliver to the OWNER _____3____ fully executed counterparts of the proposed Agreement that the OWNER expects to execute.

2. You must deliver to the OWNER the Contract Security (Bonds), as specified in the General Conditions (paragraph 5.01), and Certificate of Liability Insurance, as specified in General Conditions (paragraph 5.04).

3. (List other conditions precedents).

______________________________

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid in default, to annul this Notice of Award and to declare your Bid Security forfeited.

By ______________________________________

(FOR THE CITY OF NASHUA)

______________________________

(TITLE)
NOTICE TO PROCEED

DATED:

TO: ___________________________________________ (Contractor)

ADDRESS: ___________________________________________

OWNER’S CONTRACT NO.: _______________________________________

PROJECT: ___________________________________________

(Insert name of Contract as it appears in the Bidding Document)

You are notified that the Contract Times under the above contract will commence to run on _____________, 20___. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the dates of Substantial Completion and Final Completion are _______________ and _______________, respectively.

Also before you may start any Work at the site you must:

_________________________________________

(Add other requirements)

_________________________________________

_________________________________________

By _______________________________________

(For the City of Nashua)

_________________________________________

(Title)
CHANGE ORDER

PROJECT: 

OWNER’S CONTRACT NO: 

EXECUTED CONTRACT DATE: 

DATE OF ISSUANCE: EFFECTIVE DATE: Upon City Approval 

OWNER: City of Nashua, NH 

OWNER’s Purchase Order NO: 

CONTRACTOR: 

ENGINEER: DPW Engineering 

You are directed to make the following changes in the Contract Documents:

Description:

Justification:
## Summary

<table>
<thead>
<tr>
<th>CHANGE IN CONTRACT PRICE:</th>
<th>CHANGE IN CONTRACT TIMES:</th>
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<tr>
<td>Original Contract Price</td>
<td>Original Contract Times</td>
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<td>$</td>
<td>Substantial completion:</td>
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<td>Ready for final payment:</td>
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<tr>
<td>Net changes from previous Change Orders</td>
<td>Net change from previous Change Orders</td>
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<tr>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Contract Price prior to this Change Order</td>
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</tr>
<tr>
<td>$</td>
<td>Substantial completion:</td>
</tr>
<tr>
<td></td>
<td>Ready for final payment:</td>
</tr>
<tr>
<td>Net Increase (decrease) of this Change Order</td>
<td>Net Increase (decrease) of this Change Order</td>
</tr>
<tr>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Contract Price with all approved Change Orders</td>
<td>Contract Times with all approved Change Orders</td>
</tr>
<tr>
<td>$</td>
<td>Substantial completion:</td>
</tr>
<tr>
<td></td>
<td>Ready for final payment:</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>RECOMMENDED:</th>
<th>ACCEPTED:</th>
<th>APPROVED:</th>
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<tbody>
<tr>
<td>By: ___________</td>
<td>By: ___________ Contractor</td>
<td>By: ___________ Mayor Jim Donchess</td>
</tr>
<tr>
<td>DPW Engineer</td>
<td>(Authorized Signature)</td>
<td>Owner</td>
</tr>
<tr>
<td>(Authorized Signature)</td>
<td></td>
<td>(Authorized Signature)</td>
</tr>
<tr>
<td>Date: ___________</td>
<td>Date: ___________</td>
<td>Date: ___________</td>
</tr>
</tbody>
</table>
CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT: ____________________________________________

OWNER'S CONTRACT NO: __________________________________

DATE OF ISSUANCE: ______________________________________

OWNER: ____________________________________________

City of Nashua, NH

OWNER’s Purchase Order NO.: __________________________________

CONTRACTOR: ________________________________________

ENGINEER: DPW Engineering

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

TO ____________________________________________

City of Nashua

(OWNER)

And To ____________________________________________

(CONTRACTOR)

The Work to which this Certificate applies has been inspected by authorized representative of OWNER, CONTRACTOR, and ENGINEER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

__________________________

(DATE OF SUBSTANTIAL COMPLETION)

A Tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within _________ days of the above date of Substantial Completion.

From the date of Substantial Completion the responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees shall be as follows:

Certificate of Substantial Completion
RESPONSIBILITIES

OWNER: City of Nashua

CONTRACTOR:

The following documents are attached to and made a part of this Certificate:

[For items to be attached see definition of Substantial Completion as supplemented and other specifically noted conditions precedent to achieving Substantial Completion as required by Contract Documents.]

This certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of CONTRACTOR’s obligation to complete the Work in accordance with the Contract Documents.

Executed by ENGINEER on _________________________________, 20__

(ENGINEER)

By: _________________________________ (Authorized Signature)

CONTRACTOR accepts this Certificate of Substantial Completion on _________________________________, 20__

(CONTRACTOR)

By: _________________________________ (Authorized Signature)

OWNER accepts this Certificate of Substantial Completion on _________________________________, 20__

(For the City of Nashua)

By: _________________________________ (Authorized Signature)
DIVISION 10

TECHNICAL SPECIFICATIONS
ITEM 203.112 – ROAD EXCAVATION AND REGRADE

A. SCOPE

This work includes repair to subgrade and regrading and replacing removed subgrade material with pavement at specific locations as directed by the Engineer.

This item will only be used at locations identified by the Engineer. In other areas where subgrade is exposed during milling, grading and compaction of disturbed subgrade will be incidental to subsequent paving.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved City of Nashua Standard Specifications for Road Construction, or the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply. Transportation and disposal of the removed material shall be the responsibility of the Contractor.

This work includes removing 2” of exposed subbase, regrading as directed, and replacing with 2” of ¾” stone asphalt as per approved mix design. Prior to placing asphalt, subbase material shall be compacted to required density. Locations of work shall be marked by the Engineer.

C. MEASUREMENT AND PAYMENT

This item will be measured per Square Yard of asphalt placed and compacted in the field. Payment for this item shall be at the contract unit price per square yard and shall also include all materials, labor, equipment, and all else needed to complete the work under this item. No payment will be made for materials delivered but not placed.
ITEM 203.113 – DRIVEWAY EXCAVATION AND REGRADE

A. SCOPE

This work includes removing asphalt and concrete driveway materials to subbase, regrading, and placing new pavement in kind. This item will only be used on roadways which are being reclaimed or as directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved City of Nashua Standard Specifications for Road Construction, or the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply. Transportation and disposal of the removed material shall be the responsibility of the Contractor.

This work includes saw cutting and removing asphalt or concrete driveway materials down to subbase, regrading as directed, and compacting subbase to 95% density. Limits of work shall be agreed upon with the Engineer. Placement of asphalt will be done under Item 403.12.

Minimum thickness of reconstructed driveway pavement shall be 2.5 inches.

Contractor shall use a 1 ton steel drum roller or heavier to achieve required compaction.

C. MEASUREMENT AND PAYMENT

This item will be paid per Square Yard of asphalt placed and compacted in the field. Payment for this item shall be at the contract unit price per Square Yard and shall also include all materials, labor, equipment, and all else needed to complete the work under this item. No payment will be made for materials delivered but not placed.
ITEM 304.33 – CRUSHED AGGREGATE FOR SHOULDERS

A. SCOPE

This work shall consist of furnishing and placing crushed aggregate to raise the edge of the roadway shoulders as shown on plans or directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved City of Nashua Standard Specifications for Road Construction, or the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply. Gravel shall be compacted with a powered hand compactor. Shoulder gravel shall meet NHDOT specifications for Item 304.33.

C. MEASUREMENT AND PAYMENT

This item will be measured per cubic yard (cy) placed in the field. Payment for crushed aggregate will be by the cubic yard actually placed. Payment for this item shall be at the contract unit price per cubic yard and shall also include all materials, labor, equipment, and all else needed to complete the work under this item. No payment will be made for materials delivered but not placed.

Contractor shall record the cubic yards of material placed and compacted for each street. Recorded totals shall be compared with Engineer's records and observations on a daily basis when work on this item is performed. Payment is contingent upon submittal of quantities in a per street format.
ITEM 306.110 – RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 10" DEEP

A. SCOPE

This work shall consist of pulverizing the existing pavement together with subbase material to a depth of 10 inches, removal and disposal of excess reclaim material, fine grading to assure that finished surface matches existing gutter or as directed by the Engineer, and compaction of materials to required densities. The surplus material removed from this operation shall remain the property of the City of Nashua and shall be transported and stock piled by the contractor at the Four Hills Landfill at 830 West Hollis St in Nashua.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor and equipment necessary for reclaimed stabilized base, processed in place, in accordance with relevant provisions of section 306 of the NHDOT Standard Specifications for Road and Bridge Construction, latest edition.

Surface preparation shall be subsidiary and shall include (but is not limited to) weed removal, occasional pruning of trees, and removal of any vegetation impeding the work.

Compaction shall be accomplished using a vibratory sheep’s foot roller or pad foot roller with at least 50,000 lbs. of dynamic force. Final rolling shall be accomplished by a smooth steel wheel vibratory roller with at least 27,000 lbs. of dynamic force. Contractor shall also provide compaction equipment sufficient to achieve required densities in areas not accessible by larger equipment.

Fine grading to proposed grades shall be subsidiary. Removal, transportation, and disposal of surplus material are subsidiary.

After site has been fine graded and compacted, the Contractor will allow a minimum of 1 working day for the city to review compacted base. In no case shall paving be scheduled prior to acceptance of base proposed grades. Acceptance of the compacted base shall not change the Contractor’s sole responsibility to assure the finished pavement has no puddles.

All catch basins must be protected from reclaimed materials by use of silt sacks. All materials, labor, equipment, and transportation necessary to install, maintain, and remove the silt sacks shall be subsidiary, including disposal of material.

C. MEASUREMENT AND PAYMENT

Reclaimed stabilized base in place, 10 inch deep will not be measured but shall be the square yard payment quantity for reclamation within the limits shown on the plans. Reclaimed stabilized base processed in place, 10 inch deep, will be paid for at the contract unit price per square yard and shall include full compensation for material, equipment, labor, transportation, and all else required to complete this portion of the Bid Schedule.
ITEM 403.6 – PAVEMENT JOINT ADHESIVE

A. SCOPE

This work includes the installation of pavement joint adhesive in locations shown on the plans or ordered by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved NHDOT Standard Specifications for Road and Bridge Construction, Section 401.2.12. Joint adhesive will be required on all longitudinal cold joints, or where ordered by the Engineer. Joint adhesive must be on the NHDOT Qualified Products List.

C. MEASUREMENT AND PAYMENT

This item will be measured per Linear Foot completed in place and as ordered by the Engineer in the field. Payment for this item shall be at the contract unit price per Linear Foot. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item.

Contractor shall record the linear feet of material placed for each street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 403.11 – HOT BITUMINOUS PAVEMENT (METHOD SPECIFICATION), MACHINE METHOD

A. SCOPE

This work shall consist of furnishing and placing bituminous pavement including shim pavement to the depth shown on the plans or ordered by the Engineer. Work shall also include obtaining asphalt samples on behalf of the City for quality control testing.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved NHDOT Sections 401, 403, and 411 as amended herein.

Surface preparation shall be subsidiary and shall include (but is not limited to) weed removal, occasional pruning of trees, and removal of any vegetation impeding the placement of bituminous pavement. The existing surface shall be thoroughly dry and swept free of all dust, dirt and loose material (including winter sand).

A tack coat shall be applied immediately prior to placement of hot bituminous pavement. Tack shall also be applied to every cold joint on driveways, side streets, and where directed by the Engineer. Tack is subsidiary.

The Contractor shall prevent any materials from entering drainage structures and shall clean out structures as directed by the Engineer if materials enter them.

The Contractor shall correct drainage problems, as directed by the Engineer, when problems can be corrected by placing asphalt.

The Contractor shall provide all materials, labor, equipment, and transportation necessary to tie in areas at least 1 foot in from the edge of roadway. Contractor shall use a 1 ton steel drum roller or heavier for compaction of these areas.

Binder grade will be PG 64-28 unless otherwise specified by the Engineer.

Testing:

Pavement testing will be completed by a testing agency selected by the City.

The Contractor shall furnish all materials, labor, equipment, and transportation necessary to take loose asphalt samples, cut cores, and patch core hole as directed by the Engineer. Cores and samples shall be delivered to a location in Nashua to be identified by the Engineer.

Cores shall be 6” in diameter and cut to the subbase. After core has been cut, contractor shall thoroughly remove all water in the core hole, tack sides of core hole, fill hole with hot mix asphalt, and compact until required densities are achieved. Contractor shall provide ice to cool mix when ambient temperatures are high.
Contractor shall provide two container types. One shall be of sufficient size and quality to contain 3 shovels full of asphalt. The other shall be of sufficient size and quality to contain a 6" diameter core of varying thickness. Containers shall have an area for labeling.

Contractor and City shall agree to order of paving 24 hours prior to placement of mix. Paving must be completed in a way that does not complicate tonnage tracking for identifying sample locations. When directed by the Engineer, the Contractor shall pave an entire street or group of streets before paving other streets.

C. MEASUREMENT AND PAYMENT

This item will be paid per Ton of placed, compacted, sampled, and cored hot bituminous pavement, machine method as approved by the Engineer. A price adjustment for liquid asphalt is provided in this contract as outlined in Item 900 Liquid Asphalt Adjustment. No payment will be made for materials delivered but not placed.

Contractor shall record the tons of material placed and compacted for each street. Payment is contingent upon submittal of quantities and delivery slips in a per street format.

Work and expenses associated with providing loose samples shall be incidental to this item.

Cores shall be measured and paid under Item 1010.9.
ITEM 403.12 – HOT BITUMINOUS PAVEMENT, HAND METHOD

A. SCOPE

This work shall include paving using the hand method for driveways, curb patches, areas between railroad crossings, areas where it is impractical to pave using machine method, as shown on the plans, or as ordered by the Engineer. Hand method paving shall not be used where machine method (Item 403.11) paving is required.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved NHDOT Sections 401, 403, and 411 as amended herein.

All surface preparation shall be subsidiary to this item. The existing surface shall be thoroughly dry and swept free of all dust, dirt and loose material (including winter sand).

A tack coat shall be applied immediately prior to placement of hot bituminous pavement. Tack shall also be applied to every cold joint, and where directed by the Engineer. Tack is subsidiary.

Contractor shall use a 1 ton steel drum roller or heavier to achieve required compaction.

Binder grade will be PG 64-28 unless otherwise shown on the plans or specified by the Engineer.

Asphalt mix design shall be the same as the wearing course.

C. MEASUREMENT AND PAYMENT

This item will be paid per Ton of placed and compacted hot bituminous pavement, hand method as approved by the Engineer. A price adjustment for Liquid Asphalt is provided in this contract as outlined in Item 900 Liquid Asphalt Adjustment. No payment will be made for materials delivered but not placed.

Contractor shall measure the square yards of material placed and compacted. Street station and offsets shall be included with each area measurement. Contractor shall record the tons of material placed and compacted for each street. Payment is contingent upon submittal of quantities in a per street format with respective station and offset values.
ITEM 417 - COLD PLANING OF BITUMINOUS SURFACES

A. SCOPE

This work shall consist of the removal of existing bituminous pavement between road edges, to the depth shown on the plans or as ordered by the Engineer. Maximum depth will vary from 2.0" to 3.5", depending upon the type of the street.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved City of Nashua Standard Specifications for Road Construction, or the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply.

The Contractor shall prevent any materials from entering drainage structures from this operation and shall clean out said structures as directed by the Engineer. The material removed from this operation shall remain the property of the City of Nashua and shall be transported and stock piled by the contractor at the Four Hills Landfill at 830 West Hollis St in Nashua.

If the road is to be open to traffic after cold planning, level changes shall be tapered by use of asphalt fillets. Fillets shall be tapered at a rate of 1 FT per inch along longitudinal level changes and at a rate of 1 FT per 2-inches along transverse level changes. All fillets shall be installed flush with top of the existing asphalt surface and must be acceptable to the Engineer. The Contractor shall be responsible for installing, maintaining and replacing all damaged fillets, where necessary, until the wearing course is placed.

All raised catch basins and manholes shall be spray painted orange around the top of frames.

Fillets and spray painting of castings shall continue as needed or directed by the Engineer until the top course of pavement is placed and are considered subsidiary to this item.

All catch basins shall be protected from millings by use of a silt sack. All materials, labor, equipment, and transportation necessary to install, maintain, and remove the silt sacks and dispose of collected material shall be subsidiary.

If directed, the Contractor shall furnish all materials, labor, equipment, and transportation necessary to cut 6" cores to subbase prior to the start of cold planning. Contractor will be responsible for adequately backfilling holes with hot mix asphalt.

C. MEASUREMENT AND PAYMENT

This item shall be measured by the Square Yard of Cold Planing of Bituminous Surfaces. Payment for this item shall be at the contract unit price per Square Yard. This payment shall also include all materials, labor, equipment, and all else needed to complete the work under this item.

Contractor shall record the square yards of cold planed area for each street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 417.20- COLD PLANING TRANSITIONS

A. SCOPE

This work shall consist of the removal of existing bituminous pavement the depth and limits shown on the plans or as directed by the Engineer. Cold planning transitions are required to tie in overlays with existing pavement.

For roadways which are being reclaimed this item shall only be used to pay for cold planing at driveway tie-ins as directed by the Engineer.

For roadways which are being cold planed (milled) prior to overlay, this item shall only be used to pay for cold planing at driveway tie-ins.

For roadways which are being overlaid without overall cold planing (milling), this item shall be used to pay for cold planing at driveway transitions and for cold planing transitions to existing roadway pavement at limits of work as directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for work in accordance with the latest approved City of Nashua Standard Specifications for Road Construction, or the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply.

The Contractor shall prevent any materials entering drainage structures from this operation and shall clean out said structures as directed by the Engineer.

The material removed from this operation shall remain the property of the City of Nashua and shall be transported and stock piled by the contractor at the Four Hills Landfill at 830 West Hollis St in Nashua.

If the road is to be open to traffic after cold planing, level changes shall be tapered by use of asphalt fillets. Fillets shall extend a minimum of 2' from level change, and be flush with top of existing asphalt surface. Fillet construction must be acceptable to the Engineer. Fillets shall be required until the wearing course is placed and shall be removed before each course of pavement is installed.

All raised catch basins and manholes shall be spray painted orange around the top of frames.

Fillet and spray painting of castings shall continue until the top course of pavement is placed and are considered subsidiary to this item.

C. MEASUREMENT AND PAYMENT

The accepted quantities of Cold Planing Transitions will be paid for by the Square Yard measured in the field and approved by the Engineer.
Contractor shall record the square yards of cold planed area for each street. Payment is contingent upon submittal of quantities in a per street format.

This item will be measured by the Square Yard. Payment for this item shall be at the contract unit price per Square Yard. This payment shall also include all materials, labor, equipment, and all else needed to complete the work under this item.
ITEM 604.19 – CATCH BASIN AND PIPE

A. SCOPE

This work includes furnishing and installing a catch basin and up to ten feet of pipe at locations as directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary to complete the work in accordance with the latest approved City of Nashua Standard Specifications for Road Construction, or the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply unless otherwise directed by the Engineer.

Catch basin shall be Type B – 4’ diameter.

Pipe shall be 12” PE (Type S).

C. MEASUREMENT AND PAYMENT

Payment for catch basin and pipe shall be at the contract unit price specified for each. This payment shall include all materials, labor, equipment and all else needed to complete the work under this item.

Connection of the pipe to an existing drainage structure as directed by the Engineer is incidental.

Setting frame and grate shall be incidental.
ITEM 604.4 - REPAIR OF EXISTING STRUCTURES

A. SCOPE

This work consists of repairing existing structures below 12" from the bottom of existing casting frame.

B. MATERIALS AND CONSTRUCTION

The contractor shall include all labor, materials, equipment, and transportation necessary to repair existing structures other than within the top 12 inches below the bottom of casting frame. Repairs in that section shall not be paid under this item.

The Contractor is responsible for the management of stormwater to all structures altered/dropped for paving operations for the duration of the project until final pavement has been placed and accepted by the City and/or the Engineer. The Contractor shall prevent any materials from entering drain and sewer structures from this operation and shall clean out said structures if material enters them as directed by the Engineer.

Mortar shall comply with NHDOT Section 707. Brick shall comply with NHDOT 604.2.4 and be AASHTO M91 Grade SS brick. Contractor shall provide the City with material slips certifying brick meets requirements.

Mortar shall be tooled into every vertical joint between bricks prior to installing a new horizontal brick layer. Mortar between brick layers shall be 3/8" thick and fully cover all bricks in the layer. Use of the weight of castings and additional brick layers to facilitate joint filling and further spreading of mortar is not permitted. All brickwork shall be sealed on the outside and inside of the structure with mortar. The casting frames shall be set in a ring of mortar extending to the outer edge of the masonry. Mortar shall be placed on top of the bottom flange and smoothly finished to have a slight slope that will shed water away from the frame.

All mortar shall be mixed with a cement mixer as approved by the Engineer. Mixing mortar by hand/shovel will not be permitted.

Unless otherwise noted herein, this work shall conform to the latest approved City of Nashua Standard Specifications for Road Construction, City of Nashua Standard Specifications for Sewers and Drains, and the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply unless otherwise directed by the Engineer.

C. MEASUREMENT AND PAYMENT

Payment for the repair of existing castings shall be at the contract unit price per vertical foot. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item.
Contractor shall record the vertical feet of repair completed for each structure, and the total vertical feet of repair for each street. Payment is contingent upon submittal of quantities in a per structure, and per street format.
ITEM 604.45 - ADJUSTING TO GRADE EXISTING CASTINGS

A. SCOPE

This work consists of adjusting castings to the new final pavement surface elevation. Any repair needed to the existing structure within the 12 inches below the bottom of casting shall be included and performed under this item. Any further repair needed to the existing structure shall be performed and paid under Item 604.4 Repair of Existing Structures.

B. MATERIALS AND CONSTRUCTION

This work shall include all labor, materials, equipment and transportation necessary to adjust the existing castings to the new street or new ground surface elevation.

All materials, labor, equipment, and transportation required to excavate, to lower structure, remove the plate and place plate at locations of castings lowered to facilitate reclaim and milling operations shall be subsidiary to Item 604.47. The Contractor is responsible for the management of stormwater to all structures altered/dropped for paving operations for the duration of the project until final pavement has been placed and accepted by the City and/or the Engineer.

Mortar shall comply with NHDOT Section 707. Brick shall comply with NHDOT 604.2.4 and be AASHTO M91 Grade SS brick. Contractor shall provide the City with material slips certifying that brick meets requirements.

Mortar shall be tooled into every vertical joint between bricks prior to installing a new horizontal brick layer. Mortar between brick layers shall be 3/8” thick and fully cover all bricks in the layer. Use of the weight of castings and additional brick layers to facilitate joint filling and further spreading of mortar is not permitted. All brickwork shall be sealed on the outside and inside of the structure with mortar. The casting frames shall be set in a ring of mortar extending to the outer edge of the masonry. Mortar shall be placed on top of the bottom flange and smoothly finished to have a slight slope that will shed water away from the frame.

All mortar shall be mixed with a cement mixer as approved by the Engineer. Mixing mortar by hand/shovel will not be permitted.

Unless otherwise noted herein, this work shall conform to the latest approved City of Nashua Standard Specifications for Road Construction, City of Nashua Standard Specifications for Sewers and Drains, and the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply unless otherwise directed by the Engineer.

C. MEASUREMENT AND PAYMENT

Payment for adjusting existing castings shall be at the contract unit price specified for each. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item.
Contractor shall record the number and location of castings adjusted for each street. Payment is contingent upon submittal of quantities in a per structure, and per street format.
ITEM 604.46 – REPLACE CASTING

A. SCOPE

This work consists of replacing triangular, small diameter, and broken manhole frames and covers, and catch basin frames and grates as shown on the drawings or as directed by the Engineer. Any repair needed to the existing structure within the 12 inches below the bottom of the casting shall be included and performed under this item. Any further repair needed to the existing structure shall be performed under Item 604.4.

B. MATERIALS AND CONSTRUCTION

This item shall include all labor, materials (except for frames and covers), equipment, and transportation necessary to replace castings, and to set them at new overlay elevation. Frames, covers, and grates will be provided by the City of Nashua at 9 Stadium Drive in Nashua. This item is to include removal of existing frame and cover, transport to City of Nashua drop off site (Four Hills Landfill at 830 West Hollis St in Nashua), transportation of new frames and covers from 9 Stadium Dr in Nashua to work area, placement and all excavation and pavement restoration work.

All materials, labor, equipment, and transportation required to excavate, to lower structure, remove the plate and place plate at locations of castings lowered to facilitate reclaim or milling operations shall be subsidiary to Item 604.47. The Contractor is responsible for the management of stormwater to all structures altered/dropped for paving operations for the duration of the project until final pavement has been placed and accepted by the City and/or the Engineer.

The Contractor is responsible for the management of stormwater to all structures altered/dropped for paving operations for the duration of the project until final payment has been placed and accepted by the City and/or the Engineer.

Mortar shall comply with NHDOT Section 707. Brick shall comply with NHDOT 604.2.4 and be AASHTO M91 Grade SS brick. Contractor shall provide the City with material slips certifying that brick meets requirements.

Mortar shall be tooled into every vertical joint between bricks prior to installing a new horizontal brick layer. Mortar between brick layers shall be 3/8" thick and fully cover all bricks in the layer. Use of the weight of castings and additional brick layers to facilitate joint filling and further spreading of mortar is not permitted. All brickwork shall be sealed on the outside and inside of the structure with mortar. The casting frames shall be set in a ring of mortar extending to the outer edge of the masonry. Mortar shall be placed on top of the bottom flange and smoothly finished to have a slight slope that will shed water away from the frame.

All mortar shall be mixed with a cement mixer as approved by the Engineer. Mixing mortar by hand/shovel will not be permitted.

Unless otherwise noted herein, this work shall conform to the latest approved City of Nashua Standard Specifications for Road Construction, City of Nashua Standard Specifications for Sewers and Drains, and the latest approved NHDOT Standard Specifications for Road and
Bridge Construction. The most stringent specification shall apply unless otherwise directed by the Engineer.

C. MEASUREMENT AND PAYMENT

Payment for replacing existing castings shall be at the contract unit price specified for each. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item.

Contractor shall record the number and locations of castings replaced for each street. Payment is contingent upon submittal of quantities in a per structure, and per street format.
ITEM 604.47 – DROP AND PLATE CASTING

A. SCOPE

This work consists of removing existing manhole casting, removing brick and mortar supporting the casting, plating the hole over the structure, and backfilling the hole. Excavation, plate removal, and final adjustment to proposed grade will be covered under Items 604.45, Item 604.46, and Item 604.4 as determined by the Engineer.

B. MATERIALS AND CONSTRUCTION

This work shall include all labor, materials, equipment and transportation necessary to drop and plate the existing manhole castings prior to reclaim and milling as directed. Plates shall be of sufficient strength to deal with traffic loading. Contractor shall be responsible for keeping records identifying, with measurements, where all dropped castings are located. Contractor is responsible for management of all castings once they are removed from the manholes, and for locating all dropped castings when they need to be adjusted.

Removed castings shall not be stored on private property unless agreed to by the Engineer.

Unless otherwise noted herein, this work shall conform to the latest approved City of Nashua Standard Specifications for Road Construction, City of Nashua Standard Specifications for Sewers and Drains, and the latest approved NHDOT Standard Specifications for Road and Bridge Construction. The most stringent specification shall apply unless otherwise directed by the Engineer.

C. MEASUREMENT AND PAYMENT

Payment for drop and plate castings shall be at the contract unit price specified for each. All castings regardless of size will be paid for as one (1) each. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item.

Contractor shall record the number and location of castings dropped and plated for each street. Payment is contingent upon submittal of quantities in a per structure, and per street format.
ITEM 609.01 – GRANITE CURBING

A. SCOPE

This work shall consist of constructing curb as shown on the plans or as ordered by the Engineer. Work includes furnishing, placing, and cleanup work associated with the installation of the curb. Curb shall be installed on a properly graded, compacted bed of crushed gravel subgrade.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor and equipment necessary for setting of granite curb in accordance with relevant provisions of Section 609 of the NHDOT Standard Specifications for Road and Bridge Construction, latest edition, and City of Nashua Standard Specifications for Sidewalk Construction, latest edition. The most stringent specifications shall apply unless otherwise directed by the Engineer.

C. MEASUREMENT AND PAYMENT

Granite curb will be measured by the linear foot to the nearest 0.1 foot, from end to end along the lower edge of the exposed face of the curbing and shall include all required excavation and base course material.

Payment for constructing granite curb shall be at the contract unit price per linear foot, complete in place, and shall include full compensation for material, labor, equipment, and all else needed to complete the work under this item.
ITEM 609.5 –RESET GRANITE CURB

A. SCOPE

This work shall consist of removal, stockpiling and resetting granite curb as shown on the drawings or as directed by the Engineer. Furnishing and placing all materials required for resetting granite curb shall be included.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor and equipment necessary for resetting granite curb in accordance with relevant provisions of Section 609 of the NHDOT Standard Specifications for Road and Bridge Construction, latest edition, and City of Nashua Standard Specifications for Sidewalk Construction, latest edition. The most stringent specifications shall apply unless otherwise directed by the Engineer.

C. MEASUREMENT AND PAYMENT

Reset Granite Curb will be measured by the linear foot to the nearest 0.1 foot, from end to end along the lower edge of the exposed face of the curbing. Payment for this item shall be at the contract unit price per linear foot, complete in place, and shall include all materials, labor, equipment, and all else needed to complete the work under this item.

Contractor shall record the location and linear feet of granite curb reset for each street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 609.811 – BITUMINOUS CURBING

A. SCOPE

This work shall consist of constructing bituminous curbs as shown on the plans or as ordered by the Engineer. Work includes all furnishing, placing, and cleanup work associated with the installation of the curbing.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all materials, labor, equipment, and transportation necessary for constructing bituminous curb as shown on the plans, or as directed by the Engineer. Construction shall be in accordance with relevant provisions of Section 609 of the NHDOT Standard Specifications for Road and Bridge Construction, latest edition. Surface preparation shall be subsidiary.

C. MEASUREMENT AND PAYMENT

Bituminous curb will be measured by the linear foot to the nearest 0.1 foot, from end to end along the lower edge of the exposed face of the curbing. Payment for constructing bituminous curb shall be at the contract unit price per linear foot, complete in place, and shall include full compensation for material, labor, equipment and all else needed to complete the work under this item.

Contractor shall record the location and linear feet of bituminous curb installed for each street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 616.7 – LOCAL TRAFFIC LOOPS 6’ X 50’ (2 - 4 - 2 TURN)

A. SCOPE

This work consists of furnishing all labor, materials and equipment necessary to install the quadruple loop detectors as directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

This item shall include all labor, materials and equipment necessary to install new quadruple loop detectors 2-4-2 turn, in conjunction with the paving program. Loops shall be installed in the pavement surface prior to final overlay or top course.

a. Installation shall be in accordance with the latest approved NHDOT Standard Details and Specifications.

b. The City of Nashua will connect the new loop in the control panel if needed

c. Contractor will make connection in pull box. Contractor will solder, wire nut and silicone seal connections for new loop at pull box. “Hockey puck” will not be used.

C. MEASUREMENT AND PAYMENT

Payment for this item shall be at the contract unit price specified for each. This payment shall include all materials, labor, equipment, and all else needed to complete the work under this item and make loops functional.

Contractor shall record the location of each loop. Quantities of loops shall be recorded per street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 618.6 - UNIFORMED OFFICERS

A. SCOPE

This work shall consist of furnishing uniformed officers, with or without vehicles, as required to direct traffic through or around the Work as ordered by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall supply qualified uniformed officers as per the latest approved NHDOT Standard Specifications for Road Construction. Uniformed officers shall only be used when the Engineer has previously approved it. Daily coverage needs to be approved by the Engineer.

C. MEASUREMENT AND PAYMENT

Uniformed officers will be measured by the actual number of hours authorized, as determined by the Engineer. This item has a budgeted allowance as shown on the Bid Form. Payments to Contractor will be made based on approved hours and resulting dollar amounts on Police Department invoices and only after contractor’s proof of payment to Police Department.

Contractor shall record the number of hours for each officer used. Hours shall be recorded on a per street basis. Payment is contingent upon submittal of quantities in a per street format.
ITEM 618.7 - FLAGGERS

A. SCOPE

This work shall consist of furnishing qualified flaggers, as required to direct traffic through or around the Work as ordered by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall supply qualified flaggers as per the latest approved NHDOT Standard Specifications for Road and Bridge Construction. Daily coverage needs to be approved by the Engineer.

C. MEASUREMENT AND PAYMENT

Flaggers will be measured by the actual number of hours authorized, as determined by the Engineer. This item has a budgeted allowance as shown on the Bid Form. In no case shall the gross hourly rate exceed $30/hour for straight time work, and $45/hour for overtime work. Payments to Contractor will be made based on approved hours and resulting dollar amounts.

Contractor shall record the number of hours for each flagger used. Hours shall be recorded on a per street basis. Payment is contingent upon submittal of quantities in a per street format.

Payment will not be made for flaggers who are not equipped with appropriate equipment or who do not follow standard practice in performing their duties.
ITEM 619.1 - MAINTENANCE OF TRAFFIC

A. SCOPE

This work shall consist of providing and maintaining safe and passable traffic accommodations for public traffic and furnishing, erecting and maintaining necessary traffic signs, barricades, lights, signals, delineators, concrete barriers, signs, and other traffic control warning devices through the work zone. The contractor is responsible for preparing a work area that is free of parked vehicles or other obstructing objects. This includes, but is not limited to, erecting “no-parking” signs provided by the City of Nashua 3 days prior to paving and returning same signs as directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all labor, materials, equipment and transportation necessary for the required maintenance of traffic needs based on the Contractors daily operations in accordance with the latest approved NHDOT Standard Specifications for Road and Bridge Construction, and the latest approved MUTCD. At a minimum, the Contractor’s crew shall, at all times, carry Two (2) of the following signs to be erected as the need may arise:

- ROAD WORK AHEAD (MUTCD W20-1)
- ONE LANE ROAD AHEAD (MUTCD W20-4)
- DIRECTIONAL ARROW SIGN (MUTCD W1-6)
- FLAGGER SIGN (MUTCD W20-7)

Contractor shall provide 2 variable message signs for use on major roads.

Contractor shall be responsible for getting approved street opening permits, submitting traffic control plans for all streets, obtaining lane closure or detour approval permits, and obtaining emergency work permits.

The Contractor must notify, by email, the Engineer, and the City Solid Waste Department Contact of specific types and locations of work. Notifications shall be provided the day before work commences, during regular business hours (8am-5pm).

Engineer:
Mandeep Gill, M.S., P.E.
GillM@nashuanh.gov

Solid Waste Department Contact:
Kevin Naro
NaroK@NashuaNH.gov
C. MEASUREMENT AND PAYMENT

Maintenance of traffic will be measured as a unit. Payment for maintenance of traffic shall be at the contract lump sum, which lump sum includes full compensation for material, equipment and labor to complete this portion of the Bid Schedule. The lump sum can only be amended by written, approved change order. Progress payments towards the lump sum will be made periodically based on the percent of the contract and the balance will be paid at final payment upon completion of all project requirements. Should the contract be terminated prior to completion, or the contract work not completed, total payment for this item shall be proportional to the percentage of the contract completed.
ITEM 632 – RETROREFLECTIVE PAVEMENT MARKINGS

A. SCOPE

This work shall consist of furnishing and placing white or yellow retro reflective paint pavement markings and retro reflective thermoplastic pavement markings at locations shown on the plans or as ordered by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all labor, materials, equipment and transportation necessary for the required placement of retro reflective paint and thermoplastic pavement markings in accordance with the latest approved NHDOT Standard Specifications for Road and Bridge Construction, and the latest approved MUTCD. A layout drawing shall be approved by the Engineer prior to any work being done to the street.

Application temperature requirements shall be strictly enforced. Material placed outside temperature requirements will not be accepted.

Striping shall match existing striping and be replaced in kind or as directed by the Engineer. All stop bars, crosswalks and symbols shall be retro reflective thermoplastic and all long lines shall be retro reflective paint.

C. MEASUREMENT AND PAYMENT

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<td>Retro reflective Paint Pavement Marking, Single Solid Line, 4in.</td>
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<tr>
<td>632.01041</td>
<td>Temporary Pavement Markings, 4in.</td>
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<td>632.3112</td>
<td>Retro reflective Thermoplastic Pavement Marking, Single Solid Line, 12in.</td>
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Payment shall be per the unit listed above. Symbols will be paid for at the square footage listed below:

- Turn Arrow = 17 SF
- Straight and Turn Arrow = 28.8 SF
- Left/Through/Right = 40.25 SF
- Straight Arrow = 12.5 SF
- Only = 22.3 SF
- Ahead = 31.3 SF
- Stop = 22.2 SF
- School = 34.7 SF
X-ing = 20.8 SF
Contractor shall record the liner feet and square feet of retroreflective pavement markings placed. Quantities shall be recorded on a per street basis. Payment is contingent upon submittal of quantities in a per street format.
ITEM 632.80 - TEMPORARY PAVEMENT MARKERS

A. SCOPE

This work shall consist of furnishing, placing, and removing temporary pavement markers (TPMs) at locations shown on the plans or as ordered by the Engineer in accordance with the latest approved NHDOT Standard Specifications for Road and Bridge Construction, and the latest approved MUTCD.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all labor, materials, equipment and transportation necessary for the required placement and removal of TPMs in accordance with the latest approved NHDOT Standard Specifications for Road and Bridge Construction, and the latest approved MUTCD.

Channelizing Lines: TPMs used in channelizing line applications shall have white one-way retro reflectors facing traffic.
Lane Lines: TPMs used in lane line applications shall have white one-way or white/red two-way retro reflectors as specified, with white facing traffic.
Edge Lines: TPMs used in edge line applications shall have one-way reflectors facing traffic, and which match the existing edge line color.
Center Lines: TPMs used in center line applications shall have yellow two-way reflectors.

C. MEASUREMENT AND PAYMENT

The quantity of temporary pavement markers to be paid for will be the actual number of temporary pavement markers which have been satisfactorily installed and accepted by the Engineer, and will be paid for at the contract unit price specified for each. Replacement of temporary pavement markers that are damaged or removed shall be incidental to original installation.

Contractor shall record the number of temporary markers installed. Quantities shall be recorded on a per street basis. Payment is contingent upon submittal of quantities in a per street format.
ITEM 641 – LOAM AND SEED

A. SCOPE

This work shall consist of furnishing and placing loam to raise the edge of the roadway shoulders or to reestablish disturbed lawns during curb resetting, or other activities as shown on plans or as directed by the Engineer.

B. MATERIALS AND CONSTRUCTION

The Contractor shall furnish all labor, materials, equipment and transportation necessary for the required placement of loam and seed in accordance with latest approved NHDOT Standard Specifications for Road and Bridge Construction.

Seed shall be appropriate for lawn application. Seed type and mixture shall be submitted in advance.

- Sunny mix shall be 70% Kentucky Blue; 30% Perennial Rye.
- Shade mix shall be 70% Fine Fescue; 30% Perennial Rye.

Loam shall be placed matching height of new berm or reset curb and shall blend smoothly into lawn area without creating puddles. Extra material will be placed to account for settlement. Seed will be immediately placed. Contractor is responsible to repair low spots and to establish an acceptable stand of grass throughout loamed areas.

Where appropriate, erosion control matting shall be used to prevent erosion until a full stand of grass is established.

Seed application rate shall be 10lbs per 1000SF.

C. MEASUREMENT AND PAYMENT

Quantity of Loam and Seed will be paid for by the Cubic Yard of material placed. No payment will be made for materials delivered but not placed.

Contractor shall record the cubic yard of material placed for each street. Payment is contingent upon submittal of quantities in a per street format.
ITEM 900 – LIQUID ASPHALT ADJUSTMENT

This item is used when the “NE Average” monthly price for asphalt cement as furnished by the NHDOT Bureau of Materials and Research differs from the base price contained in the proposal. The monthly price posted by NHDOT is available in the following web page:


The price adjustment will be based on the percent of asphalt cement in the approved mix formula(s) in the materials incorporated in the work.

The base price of asphalt cement for this Contract is:

$ 532.50 per ton. (as of January 1, 2019)

The monthly price of asphalt cement will be furnished by the NHDOT Bureau of Materials and Research on the first business day following the 14th calendar day of each month. The contract prices of Hot Bituminous Pavement will be paid under the item in the contract. The price adjustment, as provided herein, upwards or downwards, will be made at the end of each month in which the work was accomplished as follows:

[Monthly price less the base price] X [approved job mix formula percent of asphalt cement] X [tons of pavement used].
ITEM 1010.9 – CORES

A. SCOPE

This work shall include cutting 6: diameter cores, filling holes with hot mix asphalt, and compacting in accordance with provisions in Item 403.11.

Cores will be taken in support of the City Quality Assurance program as directed by the Engineer.

The Engineer may also direct the Contractor to take cores in certain roadway prior to milling to verify pavement thickness.

B. MEASUREMENT AND PAYMENT

This item will be measured and paid per each core taken and delivered. Payment shall include all costs associated with cutting, patching, compacting and delivery of cores ordered by the Engineer.
February 6, 2019

IFB0660-021219
2019 PAVING PROGRAM
LOCAL & COLLECTOR ROADWAYS

ADDENDUM #1

Information in this document becomes a part of the original Invitation to Bid.

Addendum #1 is being issued to transmit an updated Bid Form Schedule of Values and to respond to questions received from potential bidders.

All other aspects of the original document remain the same.

Thank you,

Dan Kooker
City of Nashua
Purchasing Manager
kooker@nashuamnh.gov

Addendum #1 received and incorporated into our submittal for IFB0660-021219.

Please sign and include this addendum in your proposal package.

[Authorized Signature]
February 13, 2019
Sunshine Paving Corporation

IFB0660 020719 2019 Paving Program - Arterial Roadways
229 Main Street • Nashua, New Hampshire 03061 • Phone (603) 589-3330 • Fax (603) 589-3233
February 7, 2019

IFB0660-021219
2019 PAVING PROGRAM
LOCAL & COLLECTOR ROADWAYS

ADDENDUM #2

Information in this document becomes a part of the original Invitation to Bid.

Addendum #2 is being issued to inform the bidders that the bid due date has been extended to February 13, 2019 (Wednesday), no later than 3:15 PM.

In addition, this addendum is being issued to transmit information about the change to Article 20 of “Instructions for Bidders”:

Article 20.01 shall be deleted in entirety and replaced as follows;

Revised Article 20.01 Provisions concerning retainage and Contractors’ rights to deposit securities in lieu of retainage are set forth in the Contract Agreement, Article 6.02 Progress Payments; Retainage.

All other aspects of the original document remain the same.

Please sign below to indicate receipt of this additional information and include this page with your IFB submittal.

Thank you,

/\ Dan Kookan
City of Nashua
Purchasing Manager
kooken@nashuah.gov

Addendum # 2 received and incorporated into our submittal for IFB0660-021219. Please sign and include this addendum in your proposal package.

President

February 13, 2019

Sunshine Paving Corporation

IFB0660-020719 2019 Paving Program - Arterial Roadways
229 Main Street • Nashua, New Hampshire 03061 • Phone (603) 589-3330 • Fax (603) 589-3233
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CERTIFICATE OF LIABILITY INSURANCE

**PRODUCER**

THE ROWLEY AGENCY INC.
45 Constitution Avenue
P.O. Box 511
Concord, NH 03302-0511

**INSURED**

Sunshine Paving Corporation
29 Constitution Drive
Hudson, NH 03051

**CONTACT**

Reene Skillings
PHONE: (603) 221-2562
FAX: (603) 221-8012
EMAIL: rskillings@rowleyagency.com

**INSCRIBERS AFFORDING COVERAGE**

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**REVISION NUMBER:**

**DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES (ACORD 101)**

**ADDRESS:**

ACORD 25 (2014/01)

**CERTIFICATE HOLDER**

City of Nashua
229 Main Street
Nashua, NH 03061

**CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

**AUTHORIZED REPRESENTATIVE**

Reene Skillings/RLS

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February 28, 2019
Memo #19-125

TO: MAYOR DONCHESS
    FINANCE COMMITTEE

SUBJECT: 2019 CIPP LINING PROJECT (VALUE: $2,825,135)
         DEPARTMENT: 169 WASTEWATER; FUND: BOND

Please see the attached communication from Stephen Dookran, P.E., City Engineer, dated February 28, 2019 for information related to this purchase.

Pursuant to § 5-78 Major purchases (greater than $10,000) A. All supplies and contractual services, except as otherwise provided herein, when the estimated cost thereof shall exceed $10,000 shall be purchased by formal, written contract from the lowest responsible bidder, after due notice inviting bids.

The City Engineer, Board of Public Works (February 28, 2019 meeting) and the Purchasing Department recommend the award of this contract in an amount of $2,825,135 to Kenyon Pipeline Inspection, LLC of Queensbury, NY.

Respectfully,

[Signature]
Dan Kooken
Purchasing Manager

Cc: S Dookran    L Fauteux
City of Nashua, Public Works Division

To: Board of Public Works  
Meeting Date: February 28, 2019

From: Stephen Dookran, P.E., City Engineer  
Engineering Department

Re: 2019 CIPP Lining Project

F. Motion: To approve the award of the construction contract for the 2019 CIPP Lining Project to Kenyon Pipeline Inspection, LLC of Queensbury, New York in the amount of $2,825,135. Funding will be through: Department: 169 Wastewater; Fund: Bond; Activity: Sewer Rehab

Discussion: The 2019 CIPP Lining Project is focused on lining approximately 22,325 linear feet (4.2 miles) of aging and deteriorating sewer mains. At some locations, preparation of the sewer main for lining will include point repairs to the pipe and construction of access manholes. Approximately 23 point repairs will be required and approximately 10 manholes are estimated to be constructed. Lining of approximately 100 deteriorated manholes is also included in the work.

Seven contractors attended the mandatory pre-bid meeting on January 23rd. Of these, four bids were received on February 13th as follows:

- Kenyon Pipeline Inspection, LLC: $2,825,135.00
- Insituform Technologies, LLC: $2,977,167.00
- Green Mountain Pipeline Services, LLC: $3,067,454.50
- Granite Inline, LLC: $3,087,092.00

The low bid was reviewed and found to be acceptable. It was determined from checking references that Kenyon Pipe Inspection, LLC has performed satisfactorily on other sewer projects of this capacity. Work is expected to begin in April.
2019 CIPP Lining Project

Construction Specifications
and
Contract Documents

Prepared By:
Hayner/Swanson, Inc.
3 Congress Street
Nashua, NH 03062
Tel: (603) 883-2057

Prepared For:
City of Nashua, New Hampshire
Division of Public Works
Engineering Department

January 2019
# Table of Contents

**Division**

1. Invitation for Bid
2. Instruction for Bidders
3. Bid Form, Bid Bond, Bid Schedule, and Contractor's Qualifications
4. Performance and Payment Bonds
5. Agreement
6. General Conditions
7. Supplementary Conditions
8. Exhibits
   - A. Notice of Award
   - B. Notice to Proceed
   - C. Change Order
   - D. Certificate of Substantial Completion
9. Construction Specifications
DIVISION 1

INVITATION TO BID
February 1, 2019

IFB1087-021219

2019 CIPP LINING PROJECT

ADDENDUM #1

Information included in this document becomes a part of the original IFB.

If you are submitting a paper bid, please sign below to indicate receipt of this additional information and include this page with your bid submittal. If you are submitting a bid via Bid Express please be sure to acknowledge the addendum on the website before submitting your bid.

ADDENDUM 1 is being issued to provide additional documents and clarification.

Please see the attached document for information.

All other aspects of the original document remain the same.  
Failure to acknowledge the addendum will result in the bid submittal being disqualified.

Sincerely,

Danielle Greenberg  
City of Nashua – Purchasing Agent II  
greenbergd@nashuanh.gov

Addendum #1 received and incorporated into bid submittal for IFB1087-021219.  
Please sign and include this addendum in your bid package.

![Signature]

Jason L. Kenyon, CEO
2/1/19

Kenyon Pipeline Inspection, LLC
(Name of Firm)
IFB1087-021219

ADDENDUM #1

2019 CIPP Lining Project

Addendum #1 is being issued to respond to questions or suggestions received from bidders:

1. In the design criteria for CIPP for the Nashua job the soil modulus design criteria calls for 500 psi. Typically the soil modulus is 1000 psi. In using 500 psi for design, the resulting liner thicknesses will be greater than they may need to be, and will cost the City more money. Would a consideration be made to increase the soil modulus design criteria to 1000 psi?

   **Answer:** The design criterion for modulus of soil of 500 psi as specified in Sections 02650 and Section 02651 shall be revised to 1000 psi.

2. Would it be possible to have materials approved in advance of bidding for the manhole rehabilitation work?

   **Answer:** Product approvals will be handled after the bid has been awarded, and be reviewed for compliance with the specifications by the Engineer as part of the contract submittal process.

3. What is the Engineer’s estimate for Nashua?

   **Answer:** The City will not provide bidders with the Engineer’s cost estimate for the Project.

4. A suggestion was made for the City to reevaluate the basis for the quantities for the point repair items. The concern is the degree of uncertainty with respect to the total repairs which will actually be performed.

   **Answer:** The Bid Schedule has been revised to reduce the quantity of point repairs to reflect the known locations of likely point repairs, and Item #12 has been added to the Bid Schedule entitled “Allowance for Additional Point Repairs”. Add the following to Section 01150, MEASUREMENT AND PAYMENT, PART 2 – DESCRIPTION OF PAY ITEMS:
2.15 ALLOWANCE FOR ADDITIONAL POINT REPAIRS

A. ALLOWANCE FOR ADDITIONAL POINT REPAIRS

Measurement & Payment

Item 12 is an ALLOWANCE value which has been established in the Bid Schedule as a means to include funds in the event that the Contractor is directed to perform additional point repairs in excess of the quantities listed in the Bid Schedule.

Measurement and payment for additional point repairs shall be based on the unit prices for the appropriate point repair and roadway restoration items in the Bid Schedule.

5. A concern was raised regarding the maximum rate of $30 per hour for flaggers.

Answer: The City has decided to bid the cost for flaggers on an hourly basis without specifying the maximum hourly rate. The Bid Schedule has been revised to show the quantity of flagger hours under Item 9B. Delete Paragraph 2.12 B of Section 01150, MEASUREMENT AND PAYMENT, PART 2 - DESCRIPTION OF PAY ITEMS, and substitute the following:

2.12 MAINTENANCE AND PROTECTION OF TRAFFIC

B. FLAGGERS

Measurement:
The quantity of Flaggers will be measured by the HOUR based on the actual number of hours authorized, as determined by the Engineer. The Contractor shall supply qualified flaggers as stated in Section 618 of the NHDOT Standard Specifications for Road and Bridge Construction, (Approved and Adopted in 2016). Daily coverage needs to be approved by the Engineer. The Contractor's schedule for flaggers shall be agreed upon cooperatively with the Engineer.

Payment:
The approved quantity of flagger hours shall be paid at the contract price for ITEM 9B. Payment shall constitute full compensation to the Contractor for providing qualified flaggers as required to direct traffic through or around the Work as ordered by the Engineer, including all labor, high visibility safety gear, tools and any other equipment necessary to complete the work as specified herein. Payments to Contractor will be made based on approved hours and resulting dollar amounts.
5. REVISED BID SCHEDULE:

A revised BID SCHEDULE has been included in this Addendum for use by bidders (See attached PDF).

6. REVISED SHEET 2 of 37 – QUANTITY SUMMARY:

A revised Sheet 2 of 37 – Quantity Summary has been included in this Addendum for use by bidders (See attached PDF).

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<td>1C</td>
<td>48</td>
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<td>Remove Existing Sewer Service at Point Repair and Replace with 6&quot; PVC SDR-35 Sewer Pipe Including Wye at Sewer Main</td>
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<td>1D</td>
<td>20,000</td>
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<td>Video Inspection of Sewer Lines Not Scheduled for Lining (Pipe Sizes 8&quot; to 24&quot;)</td>
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<td>Cutting and Removal of Protruding Lateral Pipe Up to 12&quot; Diam.</td>
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<td>1L</td>
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<td>6B</td>
<td>1,010</td>
<td>Ton</td>
<td>Hot Bituminous Pavement (Temporary Pavement, Permanent Binder and Wearing Courses)</td>
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<td>6G</td>
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<td>LS</td>
<td>Maintenance of Traffic</td>
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<td>10</td>
<td>120</td>
<td>Hr</td>
<td>Night Crew (Only If Required By Engineer)</td>
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PAGE 7 SUBTOTAL
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<td>TOTAL BID PRICE (FIGURES):</td>
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<td>TOTAL BID PRICE (WORDS) - BASE BID</td>
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<tr>
<td></td>
<td>Dollars and Cents</td>
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Contractor: 

Authorized Signature: 

Date: 

Address: 

Phone: 

Email Address: 

BID SCHEDULE - 2019 CIPP Lining Project (ADDENDUM #1)
February 7, 2019

SUBJECT: INVITATION TO BID

IFB1087-021219
2019 CIPP LINING PROJECT
ADDENDUM 2

Information in this document becomes a part of the original Invitation to Bid.

Addendum #2 is being issued to respond to submitted questions to further clarify the requirements of the IFB. The map included is for reference in response to the answer for question 6.

All other aspects of the original document remain the same.

Please sign below to indicate receipt of this additional information and include this page with your submittal.

Thank you,

Dan Kooker
City of Nashua
Purchasing Manager
kookend@nashuanh.gov

Addendum 2 was received and incorporated into our submittal for IFB1087-021219
Please sign below and include in your proposal package

Authorized Signature) Jason R. Kenyon, CEO
2-98-2019
(Date)
Kenyon Pipeline Inspection LLC
(Name of Firm)
IFB1087-021219

ADDENDUM #2

2019 CIPP Lining Project

Addendum #2 is being issued to respond to final questions received from bidders:

1. Will Davis-Bacon or prevailing wages be in effect for this project?

   **Answer:** Davis-Bacon Act prevailing wage rates do not apply to this project.

2. There is a conflict between the retainage as stated in the Instructions to Bidders, Article 20 and the Sample Agreement.

   **Answer:** Instructions for Bidders, Article 20, Retainage shall be deleted in its entirety and replaced as follows:

   **ARTICLE 20  RETAINAGE**

   **20.01 Provisions concerning retainage and Contractors’ rights to deposit securities in lieu of retainage are set forth in the Agreement, Article 6.02 Progress Payments; Retainage.**

3. Are we to assume that the Contractor must reinstate catch basins that might be tied into the pipes to be lined?

   **Answer:** All sewer service connections and catch basin laterals shall be reinstated after lining.

4. Can you identify the diameter of the existing pipe on Nye Avenue?

   **Answer:** The diameter of the sewer pipe on Nye Avenue is 8-inch.

5. Various questions have been asked regarding the number and location of point repairs?

   **Answer:** Addendum #1 revised the quantity of point repairs and removed the specific street locations of point repairs. Please be advised that point repairs may be necessary at various locations as determined by the Engineer after reviewing the pre-lining or post-lining videos. The Contractor’s attention is directed to the Supplementary Conditions, Article A, PROSECUTION OF WORK.
6. Are flow rates available for bypass flow expectations?

**Answer:** Specific sanitary and storm water flow rates for the sewers to be lined are not available; however, a Sewer Infrastructure Map dated 9/27/2018 is attached to this Addendum for reference. The map shows the Nashua sewer system as well as general information about dry weather flows at various CSOs in the City. Please be advised that all sewers to be lined are combined sanitary/storm sewers subject to wet weather flow.

7. A question was asked regarding the detail of inside drops in sewer manholes?

**Answer:** Inside drop manholes shall be constructed as detailed on the Standard Sewer Details – Sheet 35. Inside drops would be used as a pay item if an existing inside drop was removed for lining of the sewer manhole. Reconstruction of the drop would be completed as detailed, and the diameter of the drop shall match the diameter of the incoming pipe.

8. A question was asked regarding the lump sum payment for Mobilization (Item 8)?

**Answer:** Delete Paragraph 2.03 B of Section 01150, MEASUREMENT AND PAYMENT, PART 2 - DESCRIPTION OF PAY ITEMS, and substitute the following:

**2.11 PROJECT START-UP AND PROJECT CLOSE OUT:**

**A. MOBILIZATION**

**Measurement:**

Mobilization shall be measured as a LUMP SUM as specified herein. The total cost for this item shall not exceed 5 percent of the total of all bid items excluding this item.

**Payment:**

The contract price for ITEM 8 shall constitute full compensation to the Contractor for the general mobilization and demobilization necessary to make the contract operational, exclusive of the cost of materials. Payments toward the lump sum will be made at each payment requisition based on the percent of contract amount completed. Final payment of this item will be paid based on the percent of the contract amount completed. Should the contract be terminated prior to completion, or the contract work not completed, total payment for this item shall be proportional to the percentage of the contract amount completed. No additional payment will be made if the contract value is increased.

- END -

2019 CIPP Lining Project
Nashua, NH

Addendum #2
Page 2
January 15, 2019

INVITATION TO BID

2019 CIPP Lining Project
IFB1087-021219

The City of Nashua, NH invites qualified firms to submit bids for construction related to the 2019 CIPP Lining Project. The Contract will be awarded following approval by both the Board of Public Works and the Board of Aldermen.

The scheduled work for the 2019 CIPP Lining Project consists of work on various residential and arterial streets in Nashua. Work includes approximately 22,325 linear feet of cure-in-place pipe (CIPP) lining, sewer manhole rehabilitation, installation of new sewer manholes, point repair of sewer lines at various locations, and miscellaneous other sewer and paving items.

The City is now accepting submittals electronically via Bid Express. Please review the attachments, Bid Express Vendor Guide and Vendor Set-up Guide for more information. If a Bidder chooses to submit a paper copy, they must be submit one (1) original and two (2) copies c/o Central Purchasing, 229 Main Street, Nashua, Room 128, NH, 03061, in sealed envelopes clearly marked ‘IFB1087-021219 - 2019 CIPP Lining Project’. Regardless of the method of submission, bids must be received no later than 3:00 pm on Tuesday, February 12, 2019. Bids will be opened and publicly read at that time. Results showing all bidders’ identities and their respective bid amounts will be available on our website, www.nashuanh.gov, under Services; Bid Opportunities; Bid Results, (Refer to Document IFB1087-021219, within twenty-four (24) hours after the opening.

Bids must be submitted in the format provided and address the items specified in the bid package. The City of Nashua may reject any or all of the bids on any basis and without disclosure of a reason. The failure to make such a disclosure shall not result in accrual of any right, claim or cause of action by any unsuccessful bidder against the City of Nashua. The City of Nashua reserves the right to waive any irregularities when the public interest will be served thereby. The City of Nashua also reserves the right to negotiate any change or amendment in any bid without soliciting further bids if the action is necessary for the best interest of the City of Nashua.

A MANATORY pre-bid conference will be held at 10:00 am, Wednesday, January 23, 2019 at the City of Nashua Division of Public Works, 9 Riverside Street, Nashua, NH 03062. You or your representative(s) are required to attend this meeting if you intend to submit a bid. The meeting is an opportunity for the City of Nashua to overview the project and objectives, and participants to request additional information directly from City of Nashua staff managing or participating in the project.

Beginning Monday, January 14, 2019, bid documents will be available electronically from the City of Nashua website: www.nashuanh.gov, under Services, Bid Opportunities; Current Bids; (Refer to Document IFB1087-021219. One (1) copy of video inspections of some sewers will be distributed to each contractor attending the MANDATORY prebid meeting. Please note paper copies will not be available.

No bid documents are available at the Central Purchasing Office.

Delivery of the Bids shall be at the Vendor’s expense. The time of receipt shall be considered when a Bid has been officially documented by the Department, in accordance with its established policies, as having been received at the location designated above. The City of Nashua accepts no responsibility for mislabeled mail. Any and all damage that may occur due to shipping shall be the Vendor’s responsibility.

IFB1087-021219 2019 CIPP Lining Project
229 Main Street • Nashua, New Hampshire 03061 • Phone (603) 589-3330 • Fax (603) 589-3233
Postmarks or other timestamps will not be accepted in lieu of actual delivery. The firm can use whatever delivery mechanism it chooses as long as it remains clear that the firm is responsible for submissions prior to the date and time.

The City of Nashua assumes no liability for the payment of costs and expenses incurred by any bidder in responding to this request for bids. All bids become the sole property of the City of Nashua. This request for bids is not a contract and alone shall not be interpreted as such but rather serves as an instrument through which bids are solicited.

A sample contract is included with the Bid Specifications.

The project timeline is as follows:

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<thead>
<tr>
<th></th>
<th>Date</th>
<th>Time/Location</th>
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<tbody>
<tr>
<td>Bid Documents</td>
<td>Monday, January 14, 2019</td>
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<tr>
<td>Mandatory Pre-bid Meeting</td>
<td>Wednesday, January 23, 2019</td>
<td>10:00 am DPW Engineering 9 Riverside Street, Nashua, NH</td>
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<tr>
<td>Deadline for Questions to be submitted in writing</td>
<td>Tuesday, February 5, 2019</td>
<td>10:00 am</td>
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<td>Answers/clarifications posted</td>
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<td>5:00 pm</td>
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<td>Bid Due</td>
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<td>3:00 pm Purchasing Department</td>
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Vendors are encouraged to submit questions via email; however, the City of Nashua assumes no liability for assuring accurate/complete email transmission/receipt and is not responsible to acknowledge receipt. Inquiries must be submitted in writing, citing the IFB title, IFB number, Page, Section, and received no later than Tuesday, February 5, 2019 at 10:00 am to

Paul F. Hayner, Jr., PE  
Email: phayner@hayner-swanson.com

The City of Nashua will consider all timely-received questions and requests for change and, if reasonable and appropriate, will issue an addendum to clarify or modify this IFB. Answers to vendor submitted questions and other addenda will be posted under document IFB1087-021219 the City of Nashua website; www.nashuanh.gov, under Services; Bid Opportunities; Current Bids; (Refer to Document IFB1087-021219 no later than Thursday, February 7, 2019 at 5:00 pm.

All bids are binding for ninety (90) days following the deadline for bids, or until the effective date of any resulting contract, whichever is later.

The successful bidder must maintain the following lines of coverage and policy limits for the duration of the contract. Any subcontractors used by the successful bidder are subject to the same coverage and limits and is a subcontractor of the successful bidder and not the City of Nashua. It is the responsibility of the successful bidder to update Certificates of Insurance during the term of the contract. Liability limits are as follows:

- General Liability: $1,000,000 per Occurrence  
  $2,000,000 Aggregate

- Motor Vehicle Liability: $1,000,000 Combined Single Limit

*Coverage must include all owned, non-owned and hired vehicles.

- Workers’ Compensation Coverage according to Statute of the State of New Hampshire:
  $100,000 / $500,000 / $100,000

IFB01087-021219 2019 CIPP Lining Project
The City of Nashua must be named as an additional insured on all liability certificates.

All bidders and subcontractors at every tier under the bidder will fully comply with NH RSA Chapter 281-A, “Workers’ Compensation”.

It is the responsibility of the Contractor to submit to the City of Nashua certificates of insurance for the Contractor and all other subcontractors prior to the start of the project. It is the responsibility of the Contractor to provide the City of Nashua with updated certificates of insurance for the Contractor and all subcontractors 10 days prior to the expiration of coverage. The City of Nashua may, at any time, order the Contractor to stop work, suspend the contract or terminate the contract for non-compliance. All subcontractors are subject to the same insurance requirements as the Contractor.

No bid will be considered unless accompanied by a bid security in the form of a Bid Bond, in an amount not less than five percent (5%) of the Bid.

The successful Contractor will be required to post a 100% Performance Bond and a 100% Payment Bond in an amount equal to the Contract Award.

Cost of bond premiums to be included in the Unit Prices of the Bid Schedule.

The City of Nashua is exempt of all taxes. All bids must be F.O.B Nashua, NH. All bidders must comply with all applicable Equal Employment Opportunity laws and regulations.

Pursuant to NRO 5-78 (F), the Purchasing Manager shall not solicit a bid from a contractor who is in default on the payment of taxes, licenses or other monies due the City of Nashua. Therefore, this bid request is void as to anyone who is in default on said payments.

The City of Nashua supports the concept of purchasing products that are biodegradable, can be or have been recycled, or are environmentally sound. Due consideration will be given to the purchase of such products. If you are bidding on any such products that qualify, please so indicate in a cover sheet by item number and description.

Respectfully,

Dan Kookcn
City of Nashua Purchasing Manger
kookend@nashuanh.gov
DIVISION 2

INSTRUCTIONS FOR BIDDERS
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## Instructions for Bidders

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<td>Article 3 - Qualifications of Bidders</td>
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INSTRUCTIONS FOR BIDDERS

ARTICLE 1 DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

A. Bidder – The individual or entity who submits a Bid directly to OWNER.

B. Issuing Office – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

C. Successful Bidder – The lowest responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER’s evaluation as hereinafter provided) makes an award.

ARTICLE 2 COPIES OF BIDDING DOCUMENTS

2.01 Bidding Documents are available electronically City’s web site, www.nashuanh.gov, under Services; Bid Opportunities; Current Bids. Hard copies are not available.

2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

ARTICLE 3 QUALIFICATIONS OF BIDDERS.

3.01 To demonstrate Bidder’s qualifications to perform the Work, each Bidder must submit a completed Construction Contractor’s Qualification for Engineered Projects.

ARTICLE 4 MANDATORY PRE-BID CONFERENCE

4.01 A MANDATORY pre-bid conference will be held on the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid. Representatives of OWNER and ENGINEER will be present to discuss the Project. OWNER will transmit to all prospective Bidders of record such Addenda, as OWNER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 5 SITE AND OTHER AREAS

5.01 The Site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

ARTICLE 6 INTERPRETATIONS AND ADDENDA

6.01 All questions about the meaning or intent of the Bidding Documents are to be directed to ENGINEER. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda and posted on the City of Nashua website. Deadlines for submission of questions can be found on the project timeline contained within the Invitation for Bids. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
6.02 Addenda may also be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER. Bidders are requested to sign each Addenda issued to indicate receipt of this additional information and must include the signed cover page with Bidders bid submittal. It is the Bidder’s responsibility to determine from the City website if Addendums have been issued.

ARTICLE 7  BID SECURITY

7.01 A Bid must be accompanied by Bid security made payable to OWNER in an amount of five percent (5%) of Bidder’s maximum Bid price and in the form of a Bid Bond (on form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.

7.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 10 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of seven days after the Effective Date of the Agreement or 91 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

7.03 Bid security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 8  CONTRACT TIMES

8.01 The number of calendar days within which, or the dates by which, the Work is to be (a) substantially completed and (b) also completed and ready for final payment are set forth in the Agreement.

ARTICLE 9  LIQUIDATED DAMAGES

9.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 10  SUBCONTRACTORS, SUPPLIERS AND OTHERS

10.01 Each Bidder must submit a completed List of Subcontractors on the Form furnished with the completed Bid Form. The apparent Successful Bidder, and any other Bidder so requested, shall within seven days after the Bid opening submit to OWNER supplemental information in the form of an experience statement with the pertinent information regarding similar projects and other evidence of qualification of each Subcontractor, Supplier, person or organization if requested by OWNER or ENGINEER. IF OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution and OWNER may consider such price adjustment in evaluating Bids and making the contract award.

10.02 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving
of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Article 6.06 of the General Conditions.

10.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom CONTRACTOR has reasonable objection.

ARTICLE 11 PREPARATION OF BID

11.01 The Bid Form is included with the Bidding Documents.

11.02 All blanks on the Bid Form and Bid Schedule(s) must be completed by printing in ink or typed and the Bid signed. A bid price shall be indicated for each Bid item listed therein.

11.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

11.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown below the signature.

11.05 A bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.

11.06 A Bid by an individual shall show the Bidder’s name and official address.

11.07 A Bid by a joint venture shall be executed by each joint ventured in the manner indicated on the Bid Form. The official address of the joint venture must be shown below the signature.

11.08 All names must be typed or printed in black ink below the signatures.

11.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.

11.10 The address and telephone number for communications regarding the Bid must be shown.

11.11 The Bid shall contain evidence of Bidder’s authority and qualification to do business in the state where the Project is located. Bidder’s state contractor license number for the state of the Project, if any, must also be shown on the Bid Form.

ARTICLE 12 BASIS OF BID; EVALUATION OF BIDS

12.01 Unit Price

A. Bidders shall submit a Bid on a unit price or lump sum basis for each item of Work listed in the Bid schedule.

B. The total of all estimated prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for each item. The final quantities and Contract Price will be determined in accordance with paragraph 11.03 of the General Conditions.
C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

12.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowance, if any, named in the Contract Documents as provided in paragraph 11.02 of the General Conditions.

ARTICLE 13  SUBMITTAL OF BID

13.01 The City of Nashua website provides a copy of the Bidding Documents, applicable drawings or specifications, a sample contract for execution, and a submission packet. The submission packet includes the Bid Form, the Construction Contractor's Qualification Statement, the Bid Schedule of Values, and signed cover page of each OWNER issued Addendum. Each prospective Bidder must complete and submit all submission package documents and accompany the submission with the Bid Bond.

13.02 A bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation “BID ENCLOSED.” A mailed Bid shall be addressed to City of Nashua Purchasing Department, 229 Main Street, Room 128, Nashua, NH, 03061.

ARTICLE 14  MODIFICATION AND WITHDRAWAL OF BID

14.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

14.02 If, within twenty-four hours after Bids are opened any Bidder files a duly signed written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, OWNER may, in its sole discretion, choose to not accept the Bid and return the same to Bidder. Thereafter, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 15  OPENING OF BIDS

15.01 Bids will be opened at the time and place indicated in the advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids through posting on the City's website.

ARTICLE 16  BIDS TO REMAIN SUBJECT TO ACCEPTANCE

16.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.
ARTICLE 17  AWARD OF CONTRACT

1701  OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced or conditional Bids. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. OWNER may also reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder. OWNER also reserves the right to waive all informalities not involving price, time or changes in the Work and to negotiate contract terms with the Successful Bidder.

17.02  More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

17.03  In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

17.04  In evaluating Bidders, OWNER will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

17.05  OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers individuals, or entities to perform the Work in accordance with the Contract Documents.

17.06  If the Contract is to be awarded, OWNER will award the Contract to lowest Bidder whose evaluation by OWNER indicates to OWNER that the award will be in the best interests of the Project.

ARTICLE 18  CONTRACT SECURITY

18.01  Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER’s requirements as to Performance and Payment Bonds and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it must be accompanied by such Bonds.

ARTICLE 19  SIGNING OF AGREEMENT

19.01  When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents, which are identified in the Agreement attached thereto. The Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER, including the Performance and Payment Bonds and the Certificate of Insurance. Within 10 days thereafter, OWNER shall deliver one fully signed counterpart to Successful Bidder with a complete set of drawings with appropriate identification.

19.02  A fully executed City of Nashua Purchase Order will accompany the fully signed counterpart to successful Bidder.
ARTICLE 20  RETAINAGE

20.01 The OWNER shall not retain a portion of progress payments on this contract.

ARTICLE 21  APPEAL BY BIDDERS

21.01 Any bidder may appeal a pending bid award prior to award by OWNER. The appellant must:

A. Submit a written protest to the OWNER’s Purchasing Manager within five (5) workdays after the bid opening.

B. Describe, in the written protest, the issues to be addresses on appeal.

C. Post, with the written protest, a bond with a surety meeting the requirements of General Condition 5.02 authorized to do business in this state or submit other security in a form approved by OWNER who will hold the bond or security until a determination is made on the appeal.

D. Post the bond or other security in the amount of 25% of the total dollar value of the appellant’s bid, up to a maximum bond or other security amount of 250,000.00.

E. Not seek any type of judicial intervention until OWNER has rendered its final decision on the protest.

21.02 OWNER will stop award actions until after the OWNER’s Purchasing Manager has responded in writing to the protest. If the appellant is not satisfied with the response, the appellant may then protest to the Board of Public Works, who will render a final decision for the OWNER. No bid protests will be heard by the Board of Public Works unless bidder has followed the appeal process.

21.03 If an appeal is granted, the full amount of the posted bond or security will be returned to the appellant. If the appeal is denied or not upheld, a claim may be made against the bond for expenses suffered by the OWNER because of the unsuccessful appeal.

21.04 OWNER is not liable for any costs, expenses, attorney’s fees, loss of income, or other damages sustained by the appellant in a bid process.
DIVISION 3

BID FORM
BID BOND
CONTRACTOR'S QUALIFICATIONS
BID SCHEDULE
BID FORM

PROJECT IDENTIFICATION: 2019 CIPP Lining Project

CONTRACT IDENTIFICATION AND NUMBER: IFB1087-021219

THIS BID IS SUBMITTED TO: City of Nashua
Central Purchasing
229 Main Street, City Hall
Room 128
Nashua, NH 03061-2019

1.01 The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.01 BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 90 days after the day of Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

3.01 In submitting this Bid, BIDDER represents, as set forth in the Agreement, that:

A. BIDDER has examined and carefully studied the Bidding Documents and the following Addenda, receipt of all which is hereby acknowledged.

<table>
<thead>
<tr>
<th>Addendum No.</th>
<th>Addendum Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2/1/2019</td>
</tr>
<tr>
<td>2</td>
<td>2/7/2019</td>
</tr>
</tbody>
</table>

B. BIDDER has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. BIDDER is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. BIDDER has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by BIDDER, and safety precautions and programs incident thereto.
E. BIDDER does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

F. BIDDER is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

G. BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

H. BIDDER has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that BIDDER has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to BIDDER.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of the Work for which this Bid is submitted.

4.01 BIDDER further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any individual or entity to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

5.01 The requirements of the New Hampshire Revised Statutes Annotated shall apply to this project. The BIDDER is responsible for compliance with all applicable statutes. The entire set of the Revised Statutes Annotated is available online at:

http://gencourt.state.nh.us/rsa/html/indexes/default.html

6.01 BIDDER will complete the Work in accordance with the Contract Documents for the following prices:

**SEE ATTACHED BID SCHEDULE**

A. Unit Prices have been computed in accordance with paragraph 11.03.B of the General Conditions.

B. BIDDER acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents.

7.01 BIDDER agrees that the Work will be substantially completed and completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

7.02 BIDDER accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.
The following documents are attached to and made a condition of this Bid:

A. Bid Form;
B. Bid Bond;
C. A tabulation of Subcontractors, Suppliers and other individuals and entities required to be identified in this Bid; and
D. Construction Contractor's Qualification Statement.

Communications concerning this Bid shall be addressed to:
(Contractor's mailing address to be filled in by Bidder)

Kevin Mitchell
68 Park Road Queensbury, NY 12804
518-832-4070
Kevin@kpisewer.com

The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

Submitted by:

Name of Organization: Kenyon Pipeline Inspection, LLC
Name of Individual: Jason R. Kenyon
Title: CEO
Address: 68 Park Road
Queensbury, NY 12804
Telephone: 518-832-4070

Submitted to:

Name: City of Nashua - Central Purchasing
Address: 229 Main Street, City Hall
Room 128
Nashua, NH 03061-2019
Telephone: 603-589-3000

SUBMITTED on February 12th, 2019

If BIDDER is:
An Individual

Name (typed or printed): ____________________________________________

By: ____________________________________________ (SEAL)

(Individual's Signature)

Doing business as: ________________________________________________

Business address: _______________________________________________

Phone No.: ___________________________ Fax No.: _____________________

A Partnership

Partnership Name: ____________________________________________ (SEAL)

Date and State of Organization

_____________________________________________________________

Names of Current General Partners

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Type of Partnership

☐ General  ☐ Publicly Traded
☐ Limited  ☐ Other (describe): _____________________________________

By: ___________________________________________________________

(Signature of General Partner – attach evidence of authority to sign)

Name (typed or printed): _________________________________________

Business address: ______________________________________________

Phone No.: ___________________________ Fax No.: _____________________
A Corporation

Corporation Name: Kenyon Pipeline Inspection, LLC (SEAL)

Date and State of Incorporation: 9/14/2011 New York State

List of Executive Officers

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jason R. Kenyon</td>
<td>CEO</td>
</tr>
<tr>
<td>Joshua R. Kenyon</td>
<td>President</td>
</tr>
</tbody>
</table>

Type (General Business, Professional, Service, Limited Liability): Limited Liability

By: [Signature -- attach evidence of authority to sign]

Name (typed or printed): Jason R. Kenyon
Title: CEO (Corporate Seal)
Attest: [Signature of Corporate Secretary]

Business Address: 68 Park Road Queensbury, NY 12804

Phone No.: 518-832-4070 Fax No.: 518-348-3040
Date of Qualification to do business is 9/14/2011

A Joint Venture

Joint Venture Name: (SEAL)

Date and State of Organization:

Name, Address and Form of Organization of Joint Venture Partners: (Indicate managing partner by an asterisk *)

BF 5 of 8
By: ____________________________________________
(Signature of joint ventured partner -- attach evidence of authority to sign)

Name (typed or printed): ____________________________________________

Title: ____________________________________________________________

Business Address: _________________________________________________

Phone No.: __________________________________ Fax No.: _________________________

Address for receipt of official communications:

68 Park Road

Queensbury, NY 12804

(Each joint ventured must sign. The manner of signing for each individual, partnership and
corporation that is a party to the joint venture should be in the manner indicated above).
LIST OF SUBCONTRACTORS
(to be submitted with bid)

The name and address of each subcontractor who will be paid at least five percent (5%) of the prime contractor's total bid shall be listed below. To be deemed a responsive bid, this form must be submitted even if no subcontractors are required to be listed. In that case, the bidder should state "None" (or similar language stating that no subcontractors need to be listed) in the space below. (Refer to General Condition 6.09.H)

<table>
<thead>
<tr>
<th>Name</th>
<th>Address of Subcontractor</th>
<th>Portion of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simoneau Excavating</td>
<td>4 Homestead Lane Hudson, NH</td>
<td>Excavation 20%</td>
</tr>
</tbody>
</table>
LIST OF SUBCONTRACTORS
(to be submitted after bid opening)

Within one (1) day after the completion of the opening of the bids, the general contractors who submitted the three lowest bids must provide a list of each subcontractor who will provide labor or a portion of the work or improvement to the contractor for which the subcontractor will be paid an amount exceeding one percent (1%) of the prime contractor's bid or $50,000, whichever is greater, and the number of the license issued to the subcontractor. **If a general contractor fails to submit such a list within the required time, the bid shall be deemed not responsive.** To be deemed a responsive bid, this form must be submitted even if no subcontractors are required to be listed. In that case, the bidder should state "None" (or similar language stating that no subcontractors need to be listed) in the space below. (Refer to General Condition 6.09.H.)

<table>
<thead>
<tr>
<th>Subcontractor/Address</th>
<th>Dollar Value and description of work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simoneau Excavation LLC 4 Homestead Lane Hudson, NH</td>
<td>$580000.00</td>
</tr>
</tbody>
</table>
BID BOND
PENAL SUM FORM

BIDDER (Name and Address):

Kenyon Pipeline Inspection, LLC
68 Park Road
Queensbury, NY 12804

SURETY (Name and Address of Principal Place of Business):

United States Fire Insurance Company
305 Madison Avenue
Morrystown, NJ 07960

OWNER (Name and Address):

City of Nashua
229 Main Street
Nashua, NH 03061

BID

BID DUE DATE: February 12, 2019
PROJECT (Brief Description Including Location):
2019 CIPP Lining Project
IEB1087-021219

BOND

BOND NUMBER: NA
DATE: (Not later than Bid Due Date): February 12, 2019
PENAL SUM: Five Percent of Amount of Bid
             $---5%---
             (Words) (Figures)

IN WITNESS WHEREOF, Surety and Bidder, Intending to be legally bound hereby, subject to the terms
printed on the reverse side hereof, do each cause the Bid Bond to be duly executed on its behalf by its
authorized officer, agent, or representative.

BIDDER

Kenyon Pipeline Inspection, LLC __________________________ (Seal)
Bidder’s Name and Corporate Seal
By: __________________________ Signature and Title
Attest: __________________________ Signature and Title

SURETY

United States Fire Insurance Company __________________________ (Seal)
Surety’s Name and Corporate Seal
By: Dawn J. Riley Signature and Title Attorney-in-Fact
    (Attach Power of Attorney)
Attest: __________________________ Signature and Title

Note: (1) Above addresses are to be used for giving required notice.
(2) Any singular reference to Bidder, Surety, OWNER or other party shall be considered plural where applicable.

BB - 1 of 2
1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to OWNER upon default of Bidder the penal sum set forth on the face of this Bond.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract Documents.

3. This obligation shall be null and void if:

3.1. OWNER accepts Bidder's bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract Documents, or

3.2 All bids are rejected by OWNER, or

3.3 OWNER fails to issue a notice of award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5 hereof).

4. Payment under this bond will be due and payable upon default by Bidder and Within 30 calendar days after receipt by Bidder and Surety of written notice of default from OWNER, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of and any and all defenses based on or arising out of any time extension to issue notice of award agreed to in writing by OWNER and Bidder, provided that the time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid Due Date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in paragraph 4 above is received by Bidder and Surety, and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notice required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent or representative who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of the Bond conflicts with any applicable provision of any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer or proposal as applicable.
Individual Acknowledgement

State of ______________________
County of ______________________

On this ______ day of ______________________, 20____, before me personally came ______________________

______________________________
Notary Public

My commission expires ______________________

Limited Liability Company/Partnership Acknowledgement

State of New York
County of Warren

On this 12th day of February, 2019, before me personally came ______________________

______________________________
Notary Public

My commission expires ______________________

Corporate Acknowledgement

State of ______________________
County of ______________________

On this ______ day of ______________________, 20____, before me personally came ______________________ to

______________________________
Notary Public

My commission expires ______________________

Surety Acknowledgement

State of New York
County of Albany

On this 12th day of February, 2019, before me personally came ______________________

______________________________
Notary Public

My commission expires ______________________
# UNITED STATES FIRE INSURANCE COMPANY

## 1209 ORANGE STREET, WILMINGTON, DELAWARE 19801

## STATEMENT OF ASSETS, LIABILITIES, SURPLUS AND OTHER FUNDS

## AT DECEMBER 31, 2017

## ASSETS

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds (Amortized Value)</td>
<td>852,724,517</td>
</tr>
<tr>
<td>Preferred Stocks (Market Value)</td>
<td>2,500,000</td>
</tr>
<tr>
<td>Common Stocks (Market Value)</td>
<td>1,278,534,869</td>
</tr>
<tr>
<td>Cash, Cash Equivalents, and Short Term Investments</td>
<td>1,110,717,497</td>
</tr>
<tr>
<td>Derivatives</td>
<td>11,462,474</td>
</tr>
<tr>
<td>Other Invested Assets</td>
<td>335,759,125</td>
</tr>
<tr>
<td>Investment Income Due and Accrued</td>
<td>8,013,891</td>
</tr>
<tr>
<td>Premiums and Considerations</td>
<td>237,021,943</td>
</tr>
<tr>
<td>Amounts Recoverable from Reinsurers</td>
<td>23,946,019</td>
</tr>
<tr>
<td>Funds Held by or Deposited with Reinsured Companies</td>
<td>4,521,882</td>
</tr>
<tr>
<td>Current Income Taxes Recoverable</td>
<td>324,900</td>
</tr>
<tr>
<td>Net Deferred Tax Asset</td>
<td>153,312,662</td>
</tr>
<tr>
<td>Electronic Data Processing Equipment</td>
<td>3,772,271</td>
</tr>
<tr>
<td>Receivables from Parent, Subsidiaries and Affiliates</td>
<td>26,323,495</td>
</tr>
<tr>
<td>Other Assets</td>
<td>63,413,033</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td><strong>4,094,346,578</strong></td>
</tr>
</tbody>
</table>

## LIABILITIES, SURPLUS & OTHER FUNDS

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Losses (Reported Losses Net of Reinsurance Ceded and Incurred)</td>
<td>1,570,075,192</td>
</tr>
<tr>
<td>But Not Reported Losses</td>
<td></td>
</tr>
<tr>
<td>Reinsurance Payable on Paid Losses and Loss Adjustment Expenses</td>
<td>76,325,088</td>
</tr>
<tr>
<td>Loss Adjustment Expenses</td>
<td>394,866,509</td>
</tr>
<tr>
<td>Commissions Payable, Contingent Commissions and Other Similar Charges</td>
<td>6,115,178</td>
</tr>
<tr>
<td>Other Expenses (Excluding Taxes, Licenses and Fees)</td>
<td>53,352,681</td>
</tr>
<tr>
<td>Taxes, Licenses and Fees (Excluding Federal Income Taxes)</td>
<td>20,497,732</td>
</tr>
<tr>
<td>Unearned Premiums</td>
<td>504,835,046</td>
</tr>
<tr>
<td>Advance Premium</td>
<td>3,459,204</td>
</tr>
<tr>
<td>Ceded Reinsurance Premiums Payable</td>
<td>23,031,797</td>
</tr>
<tr>
<td>Funds Held by Company under Reinsurance Treaties</td>
<td>16,414,772</td>
</tr>
<tr>
<td>Amounts Withheld by Company for Account of Others</td>
<td>68,163,429</td>
</tr>
<tr>
<td>Provision for Reinsurance</td>
<td>900,479</td>
</tr>
<tr>
<td>Payable to Parent, Subsidiaries and Affiliates</td>
<td>21,048,714</td>
</tr>
<tr>
<td>Other Liabilities</td>
<td>32,298,898</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES</strong></td>
<td><strong>$2,792,084,719</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Capital Stock</td>
<td>12,210,000</td>
</tr>
<tr>
<td>Gross Paid In and Contributed Surplus</td>
<td>1,115,644,940</td>
</tr>
<tr>
<td>Unassigned Funds (Surplus)</td>
<td>174,406,919</td>
</tr>
<tr>
<td>Surplus as Regards Policyholders</td>
<td>1,362,261,859</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES, SURPLUS &amp; OTHER FUNDS</strong></td>
<td><strong>4,094,346,578</strong></td>
</tr>
</tbody>
</table>

I, Carmine Scolicione, Vice President and Controller of UNITED STATES FIRE INSURANCE COMPANY, certify that the foregoing is a fair statement of Assets, Liabilities, Surplus and Other Funds of this Company, at the close of business, December 31, 2017, as reflected by its books and records and as reported in its statement on file with the Insurance Department of the State of Delaware.

In Testimony Whereof, I have set my hand and affixed the seal of the Company, this 6th day of March, 2018.

UNITED STATES FIRE INSURANCE COMPANY
KNOW ALL MEN BY THESE PRESENTS: That United States Fire Insurance Company, a corporation duly organized and existing under the laws of the state of Delaware, has made, constituted and appointed, and does hereby make, constitute and appoint:


each, its true and lawful Attorney(s)-In-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver: Any and all bonds and undertakings of surety and other documents that the ordinary course of surety business may require, and to bind United States Fire Insurance Company thereby as fully and to the same extent as if such bonds or undertakings had been duly executed and acknowledged by the regularly elected officers of United States Fire Insurance Company at its principal office, in amounts or penalties not exceeding: Seven Million, Five Hundred Thousand Dollars ($7,500,000).

This Power of Attorney limits the act of those named therein to the bonds and undertakings specifically named therein, and they have no authority to bind United States Fire Insurance Company except in the manner and to the extent therein stated.

This Power of Attorney revokes all previous Powers of Attorney issued on behalf of the Attorneys-In-Fact named above and expires on January 31, 2020.

This Power of Attorney is granted pursuant to Article IV of the By-Laws of United States Fire Insurance Company as now in full force and effect, and consistent with Article III thereof, which Articles provide, in pertinent part:

Article IV, Execution of Instruments - Except as the Board of Directors may authorize by resolution, the Chairman of the Board, President, any Vice-President, any Assistant Vice President, the Secretary, or any Assistant Secretary shall have power on behalf of the Corporation:

(a) to execute, affix the corporate seal manually or by facsimile to, acknowledge, verify and deliver any contracts, obligations, instruments and documents whatsoever in connection with its business including, without limiting the foregoing, any bonds, guarantees, undertakings, recognizances, powers of attorney or revocations of any powers of attorney, stipulations, policies of insurance, deeds, leases, mortgages, releases, satisfactions and agency agreements;

(b) to appoint, in writing, one or more persons for any or all of the purposes mentioned in the preceding paragraph (a), including affixing the seal of the Corporation.

Article III, Officers, Section 3.11, Facsimile Signatures. The signature of any officer authorized by the Corporation to sign any bonds, guarantees, undertakings, recognizances, stipulations, powers of attorney or revocations of any powers of attorney and policies of insurance issued by the Corporation may be printed, facsimile, lithographed or otherwise produced. In addition, if and as authorized by the Board of Directors, dividend warrants or checks, or other numerous instruments similar to one another in form, may be signed by the facsimile signature or signatures, lithographed or otherwise produced, of such officer or officers of the Corporation as from time to time may be authorized to sign such instruments on behalf of the Corporation. The Corporation may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Corporation, notwithstanding the fact that he may have ceased to be such at the time when such instruments shall be issued.

IN WITNESS WHEREOF, United States Fire Insurance Company has caused these presents to be signed and attested by its appropriate officer and its corporate seal hereunto affixed this 10th day of March, 2016.

Anthony R. Slimowicz, Executive Vice President

State of New Jersey}
County of Morris  

On this 10th day of March 2016, before me, a Notary public of the State of New Jersey, came the above named officer of United States Fire Insurance Company, to me personally known to be the individual and officer described herein, and acknowledged that he executed the foregoing instrument and affixed the seal of United States Fire Insurance Company thereto by the authority of his office.

SONIA SCALA
NOTARY PUBLIC OF NEW JERSEY
MY COMMISSION EXPIRES 3/25/2019

I, the undersigned officer of United States Fire Insurance Company, a Delaware corporation, do hereby certify that the original Power of Attorney of which the foregoing is a full, true and correct copy is still in force and effect and has not been revoked.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of United States Fire Insurance Company on the 12th day of February 2019.

Al Wright, Senior Vice President
CONSTRUCTION CONTRACTOR’S
QUALIFICATION STATEMENT

1. On Schedule A, attached, list major engineered construction projects completed by this organization in the past five (5) years. (If joint venture, list each participant’s projects separately).

2. On Schedule B, attached, list current projects under construction by this organization. (If joint venture, list each participant’s projects separately).

3. Name of Surety Company and name, address, and phone number of agent.
   United States Fire Insurance Company
   305 Madison Avenue Morristown, NJ 07960
   William Bergan - 518-584-5300

4. Is your organization a member of a controlled group of corporations as defined in I.R.C. Sec. 1563?
   ☐ Yes  ☒ No
   If yes, show names and addresses of affiliated companies.

5. Furnish on Schedule C, attached, details of the construction experience of the principal individuals of your organization directly involved in construction operations.

6. Has your organization ever failed to complete any construction contract awarded to it?
   ☐ Yes  ☒ No
   If yes, describe circumstances and provide details on attachment.

7. Has any Corporate officer, partner, joint venture participant or proprietor ever failed to complete a construction contract awarded to him or her in their own name or when acting as a principal of another organization?
   ☐ Yes  ☒ No
   If yes, describe circumstances and provide details on attachment.

8. In the last five years, has your organization ever failed to substantially complete a project in a timely manner?
   ☐ Yes  ☐ No
   ☐ Yes  ☐ No
   If yes, describe circumstances and provide details on attachment.

CC - 1 of 7
9. Does your organization now have any legal suits or arbitration claims pending or outstanding against it or any officers?
   ☐ Yes  ☒ No
   If yes, describe circumstances and provide details on attachment.

10. Has your organization had a contract partially or completely terminated for default (cause) within the past five years?
   ☐ Yes  ☒ No
   If yes, describe circumstances and provide details on attachment.

11. List the licensed categories of work that your company normally performs with its own workforce. Cured In Place Lining, CCTV Inspection & Cleaning, Manhole Rehabilitation

12. If required, can your organization provide a bid bond for this project?
   ☒ Yes  ☐ No

13. What is your approximate total bonding capacity?
   ☐ $500,000 to $2,000,000
   ☐ $2,000,000 to $5,000,000
   ☒ $5,000,000 to $10,000,000
   ☐ $10,000,000 or more

14. Describe the permanent safety program you maintain within your organization. Use attachment if necessary.
   See Attached

15. Furnish the following information with respect to an accredited banking institution familiar with your organization.

   Name of Bank: The Adirondack Trust Company
   Address: 378 Bay Road
             Queensbury, NY 12804
   Account Manager: Michael Murray
   Telephone: 518-932-0221
I hereby certify that the information submitted herewith, including any attachment is true to the best of my knowledge and belief.

Kenyon Pipeline Inspection, LLC

By: [Signature]

Title: Jason R. Kenyon, CEO

Dated: 2-10-19
<table>
<thead>
<tr>
<th>Reference/Contract</th>
<th>Contract Price</th>
<th>Date Completed</th>
<th>Design Engineer</th>
<th>Owner</th>
<th>Description of Project</th>
</tr>
</thead>
</table>

Schedule A - List of Major Engineered Construction Projects Completed in the Past Five (5) Years
## Projects and References for KPI LLC

<table>
<thead>
<tr>
<th>Project Name, Location &amp; Description</th>
<th>Prime/Sub</th>
<th>Owner Information</th>
<th>Value</th>
<th>Prime Contractor Contact</th>
</tr>
</thead>
</table>
| 2016 Installation of Cured-In-Place Pipe Liners - Emergency Lining 150′x72", 740′x60" | Prime     | City of Albany DPW Albany, NY | $1,200,000.00 | Justin Schlevelben  
City of Albany Dept. of Water & Water Supply  
ph: 518-434-5316 jschlevelben@albanyny.gov |
| Monroe County Department of Transportation Storm Sewer System Rehabilitation 391′x41" | Prime     | Monroe County DOT Rochester, NY | $100,000.00 | Thomas Cesario  
Monroe County DOT  
ph: 585-753-7732 TCesario@monroecounty.gov |
| City of Albany - Emergency CIPP Lining 2013 Sanitary Sewer Lining 1,200′x36", 750′x42" | SUB       | City of Albany DPW Albany, NY | $825,000.00 | W.J. Keller & Sons  
John Keller Jr.  
ph: 518-421-5360 dpw@hiltonny.org |
| Monroe County - Cured-In-Place Pipelining (TCC#7) - Term Construction Contract. Monroe County, NY 8" - 36" CIPP lining | Prime     | Monroe County Pure Waters Monroe County, NY | $866,172.50 | Dale Adams  
Monroe County Pure Waters  
ph:(585)303-6676 DAdams@monroecounty.gov |
| Toms River, NJ Municipal Utilities Authority Sewer and Manhole Rehabilitation 1610′x42", 515′x48" | Prime     | Toms River Municipal Utilities Authority Toms River, NJ | $747,600.00 | Richard Tutela  
Toms River MUA  
ph: 732-240-3500 rtutela@tomsrivermua.org |
| City of Rutland, VT Dept. of Public Works 500′x36" Sanitary Sewer | Prime     | City of Rutland DPW Rutland, VT | $215,000.00 | City of Rutland  
James Rotondo  
PH: 802-773-1800 j jimr@rutlandcity.org |
| Carrier Corporation Carrier Facility Basin 001 Repairs 275′x36" | Prime     | Carrier Corporation Facility Syracuse, NY | $95,000.00 | ENSAFE  
May Heflin  
PH: 615-255-9300 mheflin@ensafe.com |
| Village Menands Dept. of Public Works 450′x36" | Prime     | Village of Menands DPW Menands, NY | $430,000.00 | Laberge Group  
Ed Davis  
PH: 518-458-7112 |
## Projects and References for KPI LLC

<table>
<thead>
<tr>
<th>Project Name, Location &amp; Description</th>
<th>Prime/Sub</th>
<th>Owner Information</th>
<th>Value</th>
<th>Prime Contractor Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Installation of Cured-In-Place Pipe Liners - Various streets and locations City of Albany, NY</td>
<td>Prime</td>
<td>City of Albany DPW Albany, NY</td>
<td>$479,795.00</td>
<td>Justin Schiegelbein City of Albany Dept. of water &amp; Water Supply ph: 518-434-5316 <a href="mailto:jschiegelbein@albany.ny.gov">jschiegelbein@albany.ny.gov</a></td>
</tr>
<tr>
<td>Toms River, NJ Municipal Utilities Authority Sewer and Manhole Rehabilitation 12,560' 8&quot;-48' 1,670' Lateral Rehab.</td>
<td>Sub</td>
<td>Toms River Municipal Utilities Authority Toms River, NJ</td>
<td>$1,889,790.00</td>
<td>Richard Tutela Toms River MUA ph: 732-240-3500 <a href="mailto:rtutela@tomsrivernua.org">rtutela@tomsrivernua.org</a></td>
</tr>
<tr>
<td>Monroe County - Cured-In-Place Pipelining (TCC#7) - Term Construction Contract. Monroe County, NY 8&quot; - 36&quot; CIPP lining</td>
<td>Prime</td>
<td>Monroe County Pure Waters Monroe County, NY</td>
<td>$866,172.50</td>
<td>Dale Adams Monroe County Pure Waters ph:(585)303-6676 <a href="mailto:DAAdams@monroecco.com">DAAdams@monroecco.com</a></td>
</tr>
<tr>
<td>Erie County Sewer District Nos. 2,3,8 Contract No. 76 Cured-In-Place Pipe Lining Project</td>
<td>Prime</td>
<td>Erie County Department of Sewerage Management</td>
<td>$602,485.00</td>
<td>Nadine Wetzel, P.E. Erie County, NY ph: 716-858-6145 <a href="mailto:Nadine.Wetzel@erie.gov">Nadine.Wetzel@erie.gov</a></td>
</tr>
<tr>
<td>Town of Brookline Sewer Rehabilitation Brookline, MA 19,750' of 8&quot;-21&quot; CIPP Lining</td>
<td>Sub</td>
<td>Town of Brookline DPW Brookline, MA</td>
<td>$828,345.00</td>
<td>Marc Besio Town of Brookline, NY ph: 617-730-2142 <a href="mailto:mbesio@brooklinema.gov">mbesio@brooklinema.gov</a></td>
</tr>
<tr>
<td>Ontario &amp; Park Sanitary Sewer CIPP Lining Erie County Sewer District No. 3 Contract No. 58 16,000' of 8&quot;-12&quot; CIPP Lining</td>
<td>Prime</td>
<td>Erie County Department of Sewerage Management</td>
<td>$615,000.00</td>
<td>Garry S. Pecak Erie County, NY ph:716-858-6267 <a href="mailto:Garry.Pecak@erie.gov">Garry.Pecak@erie.gov</a></td>
</tr>
<tr>
<td>City of Hornell Sanitary Sewer Lining Hornell, NY 2,200' of 18&quot;-24&quot; CIPP Lining</td>
<td>Prime</td>
<td>City of Hornell DPW Hornell, NY</td>
<td>$585,000.00</td>
<td>David R. Willard, P.E. MRB Group. ph: 585-381-9250 <a href="mailto:dave.willard@mrbgrou.com">dave.willard@mrbgrou.com</a></td>
</tr>
<tr>
<td>Phone</td>
<td>Completion Date</td>
<td>Amount</td>
<td>Contract Price</td>
<td>Engineer Design</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------</td>
<td>--------------</td>
<td>---------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Reference/Contract Address</td>
<td>Completed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Schedule B - List of Current Projects Under Construction

See Attached
<table>
<thead>
<tr>
<th>Project</th>
<th>Contract Amount</th>
<th>Start Date</th>
<th>Required Completion Date per Contract</th>
<th>Percentage Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monroe County PW</td>
<td>$750,000.00</td>
<td>7/15/2016</td>
<td>7/15/2020</td>
<td>Term</td>
</tr>
<tr>
<td>Monroe County DOT</td>
<td>$1,150,000.00</td>
<td>1/2/2018</td>
<td>7/15/2020</td>
<td>Term</td>
</tr>
<tr>
<td>Erie County Term NY</td>
<td>$1,500,000.00</td>
<td>3/4/2018</td>
<td>2/31/2019</td>
<td>Term</td>
</tr>
<tr>
<td>City of Tonawanda, NY</td>
<td>$1,187,625.00</td>
<td>5/18/2018</td>
<td>2/31/2019</td>
<td>90%</td>
</tr>
<tr>
<td>Village of Silver Creek, NY</td>
<td>$944,050.00</td>
<td>7/22/2018</td>
<td>2/31/2019</td>
<td>85%</td>
</tr>
<tr>
<td>Town of Lake George, NY</td>
<td>$201,020.00</td>
<td>10/11/2018</td>
<td>2/11/2019</td>
<td>65%</td>
</tr>
<tr>
<td>Maynard, MA</td>
<td>$413,221.00</td>
<td>TBD</td>
<td>TBD</td>
<td>0%</td>
</tr>
<tr>
<td>Village of Kenmore, NY</td>
<td>$147,883.00</td>
<td>TBD</td>
<td>TBD</td>
<td>0%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$6,293,799.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Key Personnel Information

Firm Name: Kenyon Pipeline Inspection LLC

Primary Contact: Jason R. Kenyon, CEO
   Cell: 518-926-9843
   Fax: 518-348-3040
   email: jakek@kpisewer.com

Installation Crew Experience:

CEO: Jason R. Kenyon; CEO
   18 years' experience in Clean, CCTV, CIPP, Test and Seal, MH lining
   1999-2007: Severn Trent Pipeline Services; Foreman, Project Manager, IT Manager
   2007-2011: Lash Contracting, Inc.; Project Manager, Estimator, IT Manager
   2011-Present; Kenyon Pipeline Inspection; CEO

President: Joshua Kenyon; President
   18 years' experience in Clean, CCTV, Test and Seal, MH lining, CIPP
   1999-2006: Severn Trent Pipeline Services; Foreman, Sales Associate, Project Manager
   2006-2007: Allstate Power Vac; Project Superintendent
   2007-2011: Lash Contracting, Inc; Project Superintendent, Project Manager, Estimator
   2011-Present; Kenyon Pipeline Inspection; President

CIPP Foreman: Gary Horwedel; CIPP Foreman; CCTV and Cleaning
   24 years' experience in CIPP Installation, CCTV/ Cleaning
   1994-1997: Trenchless Technologies; Supervisor, CIPP Foreman, Field Technician
   1997-2001: Instiufom Technologies; Supervisor, CIPP Foreman
   2001-2004: EN-TECH Corporation; Manager, CIPP Foreman
   2004-2006; American Water; Manager, CIPP Foreman
   2006-2016; ALLSTATE POWER VAC; Supervisor, CIPP Foreman
   2016-2017; US Pipelining; Manager, CIPP Foreman
   2017-Present; Kenyon Pipeline Inspection, LLC; CIPP Foreman

MH Foreman: Logan Tyler; Manhole Lining Foreman
   19 years' experience in Chemical Grout Test and Seal, CCTV, MH Lining, Cleaning
   1968-2004; Severn Trent Pipeline Services; Foreman, Field Technician
   2004-2008; Northeast Pipework's; Chemical Grout Test and Seal Foreman, MH Lining
   2008-2012; D&D Trenchless; Chemical Grout Test and Seal Foreman, MH Lining
   2012-Present; KPI LLC; Chemical Grout Test and Seal Foreman, MH Lining
Equipment Utilization

2014   Ram 3500 Crew Cab with 20' Utility Trailer with tools, bypass, etc.
2012   Mack Box truck with 100 BHP Clayton Steam Boiler w/750CFM compressor and tools
2014   CIPP Services air inversion units for 4"-48"
2012   Perma-Liner Top Gun Air Inversion Unit 4"-15"
2012   Perma-Liner Viper Steam Generator
1996   Ford Box Truck with 60 BHP Cleaver Brooks Steam Boiler
2007   Sprinter Truck with Envirosight RoverX CCTV inspection System
2001   Sterling Vaccon Jet/Vac System with 2000gal water capacity and 80GPM @ 2000 psi jetter
2000   Freightliner with CCTV & IST PC200 Robotic Lateral Reinstatement Cutter unit
2001   Isuzu Box truck with Water Inversion tower equipment and circulation pumps
2012   Heat Exchanger unit adapted to Cleaver Brooks Steam Boiler for Hot water cure
2009   Mack Vactor 2100 Series Jet/Vac System with 2000gal water and 80GPM @ 2500 psi jetter
2004   Freightliner with Acrylamide pressure grout system and Cementitious MH lining equipment
2008   Ram 5500 with 20' Utility trailer w/ Parson's Epoxy Spray system and MH Lining support
2000   Cues Test and Seal Van with mainline and lateral capabilities and equipment
2016   Freightliner Camel Jet/Vac System with 2000gal water and 80GPM @ 2500 PSI jetter
2005   Kenworth Box Truck with 100 BHP Clayton Steam Boiler w/750CFM compressor and tools
2002   350 BHP (12 million BTU) Water Boiler w/Water Inversion equipment and circulation pumps
2017   Ford Box Truck with Aries Industries Wolverine Cutting System/Lateral Reinstatement System
2015   Ram 5500 with 30' LMK Lateral Lining Trailer w/185CFM air compressor and Steam Generator
1999   International Vaccon Jet/Vac System with 2000gal water and 80GPM @ 2500 psi Jetter
2005   International Vaccon Jet/Vac System with 2000gal water and 80GPM @ 2500 psi Jetter
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Quantity</th>
<th>Units</th>
<th>Item Description</th>
<th>Unit Price</th>
<th>Total Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A(8)</td>
<td>1,710</td>
<td>LF</td>
<td>8&quot; CIPP Lining</td>
<td>$19.00</td>
<td>$32,490.00</td>
</tr>
<tr>
<td>1A(8a)</td>
<td>1,710</td>
<td>LF</td>
<td>Pre-Lining Video for 8&quot; Pipe CIPP Lining</td>
<td>$8.00</td>
<td>$13,680.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Including Cleaning and Root Cutting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A(8b)</td>
<td>1,710</td>
<td>LF</td>
<td>Post-Lining Video for 8&quot; Pipe CIPP Lining</td>
<td>$1.00</td>
<td>$1,710.00</td>
</tr>
<tr>
<td>1A(10)</td>
<td>2,595</td>
<td>LF</td>
<td>10&quot; CIPP Lining</td>
<td>$19.00</td>
<td>$49,305.00</td>
</tr>
<tr>
<td>1A(10a)</td>
<td>2,595</td>
<td>LF</td>
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PAGE 3 SUBTOTAL $362,925.00
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<td>Remove Existing Sewer Service at Point Repair and Replace with 6&quot; PVC SDR-35 Sewer Pipe Including Wye at Sewer Main</td>
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<td>Video Inspection of Sewer Lines Not Scheduled for Lining (Pipe Sizes 8&quot; to 24&quot;)</td>
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<td>(Including up to 18&quot; of manhole remodeling)</td>
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<td>6A</td>
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**PAGE 5 SUBTOTAL** $616,840.00
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**TOTAL BID PRICE (FIGURES):**

$2,825,135.00

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<td>Dollars and Zero Cents</td>
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Contractor: Kenyon Pipeline Inspection, LLC
Authorized Signature: [Signature]
Date: 2-11-19
Address: 68 Park Road Queensbury, NY 12804
Phone: 518-432-0770
Email Address: Jakek@kpisewer.com
DIVISION 5

AGREEMENT
STANDARD FORM OF AGREEMENT

BETWEEN OWNER AND CONTRACTOR

THIS AGREEMENT is dated as of the ______ day of ________ in the year 2019 by and between the City of Nashua, New Hampshire (hereinafter called OWNER) and Kenyon Pipeline Inspection, LLC and its successors, transferees and assignees together (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

1.01 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents.

ARTICLE 2 - THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

The scheduled work for the 2019 CIPP Lining Project consists of work on various residential and arterial streets in Nashua. Work includes approximately 22,310 linear feet of cure-in-place pipe (CIPP) lining, sewer manhole rehabilitation, installation of new sewer manholes, point repair of sewer lines at various locations, and miscellaneous other sewer and paving items.

ARTICLE 3 - ENGINEER

3.01 The Project has been designed by: Division of Public Works
Engineering Department
9 Riverside Street
Nashua, NH 03062

who is hereinafter called ENGINEER and who is to act as OWNER's representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Dates for Substantial Completion

A. Project will begin once a written “Notice to Proceed” is issued.
B. Substantial Completion shall be 185 calendar days from the Notice to Proceed and Final Completion shall be 215 calendar days from the Notice to Proceed.

4.03 Liquidated Damages

A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER ONE HUNDRED dollars ($100) for each calendar day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified in paragraph 4.02 for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER TWO HUNDRED dollars ($200) for each calendar day that expires after the time specified in paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

B. In the event that the CONTRACTOR fails to pay OWNER the specified liquidated damages amount within thirty (30) days of CONTRACTOR being notified of said damages, OWNER may deduct the amount of the assessed liquidated damages from the final payment or retention withheld pursuant to Article 14 of the General Conditions.

ARTICLE 5 - CONTRACT PRICE

5.01 Subject to additions and deductions by Change Order, the OWNER shall pay CONTRACTOR, in accordance with the Contract Documents, the Contract Sum of:

Two Million Eight Hundred Twenty-Five Thousand One Hundred Thirty-Five and 00/100 Dollars

($2,825,135.00)

The Contract Sum shall include all items and services necessary for the proper execution and completion of the Work determined below:

A. for all Unit Price Work, an amount equal to the sum of the established Unit Price for each separately identified item of Unit Price Work times the estimated quantity of that item, as indicated in the attached Bid Schedule;

B. as provided in paragraph 11.03 of the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classification are to be made by ENGINEER as provided in paragraph 9.08 of the General Conditions. Unit prices have been computed as provided in paragraph 11.03 of the General Conditions.

ARTICLE 6 - PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments
A. **CONTRACTOR** shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by **ENGINEER** as provided in the General Conditions.

B. Applications for Payment under this agreement shall be submitted as follows:

- Electronically via email to **VendorAPIInvoices@NashuaNH.gov**

**OR**

- Paper Copies via US Mail to:

  **City of Nashua, City Hall**
  **Accounts Payable**
  **229 Main Street**
  **Nashua, NH 03060**

*Please do not submit invoices both electronically and paper copy.*

In addition, and to facilitate the proper and timely payment of applications, the **OWNER** requires that all submitted invoices contain a valid **PURCHASE ORDER NUMBER**

6.02 *Progress Payments; Retainage*

A. *Progress Payments.* The **OWNER** will once each month make a progress payment to the **CONTRACTOR** on the basis of an estimate of the total amount of work done to the time of the estimate and its value as prepared by the **CONTRACTOR** and approved by the **ENGINEER**. All such payments will be measured by the schedule of values established in paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

B. *Retainage.* The **OWNER** will retain a portion of the progress payment, each month, in accordance with the following procedures:

1. The **OWNER** will establish an escrow account in the bank of the **OWNER**'s choosing. The account will be established such that interest on the principal will be paid to the **CONTRACTOR**. The principal will be the accumulated retainage paid into the account by the **OWNER**. The principal will be held by the bank, available only to the **OWNER**, until termination of the contract.

2. Until the work is 50% complete, as determined by the **ENGINEER**, retainage shall be 10% of the monthly payments claimed. The computed amount of retainage will be deposited in the escrow account established above.

3. After the work is 50% complete, and provided the **CONTRACTOR** has satisfied the **ENGINEER** in quality and timeliness of the work, and provided further that there is no specific cause for withholding additional retainage no further amount will be withheld. The escrow account will remain at the same balance throughout the remainder of the project.
6.03 Final Payment
A. Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, OWNER shall hold 2% retainage during the 1(one) year warranty period and release it only after the project has been accepted.

ARTICLE 7 - CONTRACTOR'S REPRESENTATIONS

7.01 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. CONTRACTOR has carefully studied all (if any): (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions and (2) reports and drawings of Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. CONTRACTOR is entitled to rely upon the general accuracy of the "technical data" as provided in paragraph 4.2 of the General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR's purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site.

F. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.

G. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

H. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.

I. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents
and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

J. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

K. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 8 - CONTRACT DOCUMENTS

8.01 Contents

A. The Contract Documents are defined in Article 1 of the General Condition as amended herein.

2. The Drawings are entitled "2019 CIPP Lining Project, prepared by Hayner/Swanson, Inc., prepared for the Division of Public Works, City of Nashua, dated January 14, 2019, consisting of 34 Sheets".

3. The following documents are incorporated by reference or otherwise indicated:

   a. New Hampshire Department of Transportation “Standard Specifications for Road and Bridge Construction”, latest edition, incorporated by reference or unless otherwise indicated.


ARTICLE 9 - MISCELLANEOUS

9.01 Terms

A. Terms used in this will have the meanings indicated in the General Conditions.
9.02. Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.03 Successors and Assigns

A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

9.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

9.05 Choice of Law and Venue

A. This agreement shall be governed exclusively by the laws of the State of New Hampshire and any claim or action brought relating to this contract, the work performed or contracted to be performed thereunder, or referable in anyway thereto shall be brought in Hillsborough County (New Hampshire) Superior Court Southern Judicial District or in the New Hampshire 9th Circuit Court—Nashua and not elsewhere

Address for giving notices to OWNER:

Division of Public Works
Engineering Department
9 Riverside Street
Nashua, NH 03062

Address for giving notices to CONTRACTOR:

Kevin Mitchell
Kenyon Pipeline Inspection, LLC
68 Park Road
Queensbury, NY 12804
IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed, initialed or identified by OWNER and CONTRACTOR or identified by ENGINEER on their behalf.

CITY OF NASHUA – OWNER

____________________________________
James Donchess, Mayor City of Nashua

Date: ______________________

CONTRACTOR:

By: __________________________________
Kenyon Pipeline Inspection, I.I.C (Authorized Representative)

Print Name: ______________________________

Date: ______________________
DIVISION 6

GENERAL CONDITIONS
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ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. Addenda--Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the Bidding Requirements or the Contract Documents.

2. Agreement--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. Application for Payment--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. Asbestos--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. Bid--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. Bidding Documents--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. Bidding Requirements--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. Bonds--Performance and payment bonds and other instruments of security.

9. Change Order--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. Claim--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. Contract--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. Contract Documents--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications, the Drawings and the Purchases Order as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Field Orders, and ENGINEER's written interpretations and clarifications issued on or after the Effective Date Of The Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in
13. **Contract Price**--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. **Contract Times**--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment.

15. **CONTRACTOR**--The individual or entity with whom OWNER has entered into the Agreement.

16. **Cost of the Work**--See paragraph 11.01.A for definition.

17. **Drawings**--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. **Effective Date of the Agreement**--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. **ENGINEER**--The individual or entity named as such in the Agreement.

20. **ENGINEER's Consultant**--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

21. **Field Order**--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

22. **General Requirements**--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. **Hazardous Environmental Condition**--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. **Hazardous Waste**--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. **Laws and Regulations; Laws or Regulations**--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. **Liens**--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. **Milestone**--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. **Notice of Award**--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.
29. Notice to Proceed--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. OWNER--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. Partial Utilization--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. PCB's--Polychlorinated biphenyls.

33. Petroleum--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. Project--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the contract Documents.

35. Project Manual--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. Radioactive Material--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. Resident Project Representative--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. Samples--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. Shop Drawings--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. Site--Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

41. Specifications--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

42. Subcontractor--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

43. Substantial Completion--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

44. Supplementary Conditions--That part of the Contract Documents which amends or supplements these General Conditions.
45. **Supplier**—A manufacturer, fabricator, supplier, distributor, material man, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. **Underground Facilities**—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. **Unit Price Work**—Work to be paid for on the basis of unit prices.

48. **Work**—The entire completed construction or the various separately identifiable parts thereof required to be provided in the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. **Written Amendment**—A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

### 1.02 Terminology

#### A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms “as allows,” “as approved,” or terms of like effect or import are used, or the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

#### B. Day

1. The work “day” shall constitute a calendar day of regular working hours except Saturdays, Sundays and any legal holiday.

#### C. Defective

1. The word “defective,” when modifying the work “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

#### D. Furnish, Install, Perform, Provide

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word "install," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "Provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, "provide" is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

**ARTICLE 2 - PRELIMINARY MATTERS**

### 2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

### 2.02 Copies of Documents

A. OWNER shall furnish to CONTRACTOR up to 5 copies of the Contract Documents as are reasonably necessary for execution of the Work. Additional copies will be furnished upon request at the cost of reproduction.

### 2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence on the day indicated in the Notice to Proceed

### 2.04 Starting the Work

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

### 2.05 Before Starting Construction

A. CONTRACTOR's Review of Contract Documents: Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. Preliminary Schedules: Within ten days after the effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. A preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. A preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and

3. A preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve
as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

C. Evidence of Insurance: Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.

2.06 Preconstruction Conference

A. Within 20 days after the Contract times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 Initial Acceptance of Schedules

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefore.

2. CONTRACTOR's schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.

3. CONTRACTOR's schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 Reference Standards

A. Standards, Specifications, Codes, Laws, and Regulations
1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER’s Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Document.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

2. In case of discrepancy, calculated dimensions will govern over scaled dimensions, Drawings will govern over Standard Specifications, and Construction Specifications will govern over both Drawings and Standard Specifications. The CONTRACTOR shall take no advantage of any apparent error or omission in the Drawings or Construction Specifications, and the ENGINEER will be permitted to make such corrections and interpretations as may be deemed necessary to fulfill the intent of the Contract Documents.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

   a. The provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

   b. The provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment, or (ii) a Change Order; order  B. The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, by one of more of the following ways: (i) a Field Order; (ii) ENGINEER’s approval of a Shop Drawing or Sample; or (iii) ENGINEER’s written interpretation or clarification.
3.05 Reuse of Documents

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER’s Consultant, including electronic media editions. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER’s furnishing the Site, CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

B. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER’s interest therein as necessary for giving notice of or filing a mechanic’s or construction lien against such lands in accordance with applicable Laws and Regulations.

C. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

D. If corporate or private property interferes with the Work, CONTRACTOR shall notify, in writing, the OWNER’s of such property, advising them of the nature of the interference and shall arrange to cooperate with them for the protection or disposition of such property. CONTRACTOR shall furnish the ENGINEER with copies of such notifications and with copies of any agreements between the CONTRACTOR and the property OWNER’s concerning such protection or disposition.

E. CONTRACTOR shall take all necessary precautions for the protection of corporate or private property, such as walls and foundations of buildings, vaults, underground structures of public utilities, underground drainage facilities, overhead structures of public utilities, trees, shrubbery, crops, and fences contiguous to the Work, of which the Contract does not provide for removal. CONTRACTOR shall protect and carefully preserve all official survey monuments, property marks, section markers, and Geological Survey Monuments, or other similar monuments, until OWNER, or authorized Surveyor or agent has witnessed or otherwise referenced their location or relocation. CONTRACTOR shall notify the ENGINEER of the presence of any such survey or property monuments as soon as they are discovered.

F. CONTRACTOR shall be responsible for the damage or destruction of property of any character resulting from neglect, misconduct, or omission in its manner or method of execution or the non-execution of the work, or caused by defective work or the use of unsatisfactory materials, and such responsibility shall not be released until the work shall have been completed and accepted and the requirements of the Construction Specifications complied with.

G. Whenever public or private property is so damaged or destroyed, the CONTRACTOR shall at its own expense, restore such property to a condition equal to that existing before such damage or injury was done by repairing, rebuilding, or replacing it as may be directed, or the CONTRACTOR shall otherwise make good such damage or destruction in an acceptable manner. If the CONTRACTOR fails to do so, the ENGINEER may, after giving the CONTRACTOR notice in writing, proceed to repair, rebuild, or otherwise restore such property as may be deemed
necessary, and the cost thereof shall be deducted from any compensation due, or which may become due, the CONTRACTOR under its Contract.

4.02 Subsurface and Physical Conditions

A. Reports and Drawings:

1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized:

CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER's Consultants with respect to:

1. The completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. Any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

C. Potential for Hazardous Materials:

Work may include excavation through, and removal of, soils potentially containing undocumented asbestos-containing or other hazardous materials. Should the CONTRACTOR, while performing work under this Contract, uncover hazardous materials, as defined in federal, state and local regulations, he/she shall immediately notify the Engineer. No further disturbance of the area shall occur until the Engineer has collected and analyzed a representative sample of the suspected material. The area shall be cordoned off and covered with 6-mil polyethylene sheeting and await further directions from the Engineer.

4.03 Differing Subsurface or Physical Conditions

A. Notice: If CONTRACTOR believes that any subsurface or physical conditions at or contiguous to the Site that is uncovered or revealed either:

1. Is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. Is of such a nature as to require a change in the Contract Documents; or

3. Differs materially from that shown or indicated in the Contract Documents; or

4. Is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents; then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any
Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. ENGINEER’s Review: After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER’s obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER’S findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR’s cost of, or time required for, performance of the Work; subject, however, to the following:

   a. Such condition must meet any one or more of the categories described in paragraph 4.03.A; and

   b. With respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

   a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

   b. The existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and Contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR’s making such final commitment; or

   c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefore as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER’s Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 Underground Facilities

A. Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the OWNER’s of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. The cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

   a. Reviewing and checking all such information and data,
b. Locating all Underground Facilities shown or indicated in the Contract Documents.

c. Coordination of the Work with the OWNER's of such Underground Facilities, including OWNER, during construction, and

d. The safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the OWNER of such Underground Facility and give written notice to that OWNER and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

3. CONTRACTOR shall notify the following underground utility locating service at least three full working days prior to beginning work: Dig Safe System, Inc. 1-800-344-7233.

A list of the major public utilities servicing the work area follows. The list indicates the name and telephone number of the responsible authority of the various utilities which should be notified if conflicts or emergencies arise during the progress of the work.

- **Electricity** – Eversource 1-800-662-7764
- **Natural Gas** – Liberty Energy 1-603-222-3705
- **Water** – Pennichuck Water Works 1-603-882-5191
- **Telephone** – Fairpoint Communications 1-603-645-3500
- **Cable TV** – Comcast 1-888-633-4266
- **Fire Alarm Cable** – Nashua Fire Department 1-603-594-3641

4. At points where the CONTRACTOR's operations are adjacent to public and private utilities, CONTRACTOR shall not commence work until CONTRACTOR has made all arrangements necessary for the protection of utilities. 5. CONTRACTOR shall coordinate and cooperate with the OWNER's of any underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.

4.05 Reference Points

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall
make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to 
ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of 
necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such 
reference points or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

A. Reports and Drawings: Reference is made to the Supplementary Conditions for the identification of those reports 
and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by 
the ENGINEER in the preparation of the Contract Documents.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized: CONTRACTOR may rely upon the general 
accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract 
Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such 
“technical data,” CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of 
ENGINEER’s Consultants with respect to:

1. The completeness of such reports and drawings for CONTRACTOR’s purposes, including, but not limited to, 
any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by 
CONTRACTOR and safety precautions and programs incident thereto; or

2. Other data, interpretations, opinions and information contained in such reports or shown or indicated in such 
drawings; or

3. Any CONTRACTOR interpretation of or conclusion drawn from any “technical data” or any such other data, 
interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the 
Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be 
within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created 
with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom 
CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom 
CONTRACTOR is responsible creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) 
secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected 
thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and 
promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the 
necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area 
until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: 
(i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) 
specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR 
cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract 
Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be 
resumed by CONTRACTOR, either party may make a Claim therefore as provided in paragraph 10.05.

F. If after receipt of such written notice CONTRACTOR does not agree to resume such Work based on a reasonable 
belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the 
portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and 
CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price 
or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefore as
provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER'S own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER'S Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.F shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 Licenses Sureties and Insurers

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverage's so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

B. All Sureties and Insurance Companies shall be authorized to do business in the State of New Hampshire and shall have an A.M. Best rating of "A(FSC-VIII)" or better. In the event that the Insurer fails to maintain an A.M. Best rating "A(FSC-VIII)" or better, the CONTRACTOR shall immediately retain a Surety which does meet the above requirements.

5.03 Certificates of Insurance

A. CONTRACTOR shall deliver to OWNER 10 days prior to Work, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain.
5.04 CONTRACTOR's Liability Insurance

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is required by OWNER which will provide protection from claims which may arise out of or result from CONTRACTOR's performance of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. Include as additional insured (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER.

2. The CONTRACTOR must maintain the following lines of coverage and policy limits for the duration of the contract. Any subcontractors used by the CONTRACTOR are subject to the same coverage and limits and is a subcontractor of the CONTRACTOR and not the OWNER. It is the responsibility of the CONTRACTOR to update Certificates of Insurance during the term of the contract. Provide coverage for not less than the following amounts or greater:

   General Liability
   $1,000,000 per Occurrence
   $2,000,000 Aggregate
   City of Nashua Additional Insured

   Motor Vehicle Liability *coverage must include all owned, non-owned and hired vehicles.*
   $1,000,000 Combined Single Limit
   Automobile Liability
   City of Nashua Additional Insured

   Workers' Compensation Coverage according to Statute of the State of New Hampshire:
   $100,000 / $500,000 / $100,000

All bidders and subcontractors at every tier under the bidder will fully comply with NH RSA Chapter 281-A, "Workers' Compensation".

It is the responsibility of the contractor to submit to the City of Nashua certificates of insurance for all subcontractors prior to the start of the project. It is the responsibility of the contractor to provide the City with updated certificates of insurance for the contractor and all subcontractors 10 days prior to the expiration of coverage. The City may, at any time, order the contractor to stop work, suspend the contract or terminate the contract for non-compliance. All subcontractors are subject to the same insurance requirements as the contractor.

3. Include completed operations insurance;

4. Include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. Contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refuse until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.03 will so provide);

6. Remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective Work in accordance with paragraph 13.07; and
7. With respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

C. CONTRACTOR agrees to maintain all required insurance coverage throughout the entire term of the contract. If CONTRACTOR does not maintain coverage throughout the entire term of the contract, CONTRACTOR agrees that OWNER may, at any time the coverage is not maintained by CONTRACTOR, order the CONTRACTOR to stop work, suspend the contract, or terminate the contract. CONTRACTOR further agrees, if applicable, as a precondition to the performance of any work under this contract and as a precondition to any obligation of the OWNER to make any payment under this contract to provide the OWNER with a certificate of a qualified insurer.

5.05 Property Insurance

A. CONTRACTOR must purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost of the Work. This insurance shall:

1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER’s Consultants and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

3. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that the materials and equipment have been included in an application for payment recommended by ENGINEER; and

4. allow for partial utilization of the Work by OWNER;

5. include testing and startup; and

6. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. CONTRACTOR shall be responsible for any deductible or self-insured retention. The risk of loss within the identified deductible amount will be borne by CONTRACTOR, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser’s own expense. OWNER shall not be responsible for purchasing and maintaining any property insurance specified in this paragraph 5.06 to protect the interests of CONTRACTOR, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions.

C. All the policies of insurance (and the certificates or other evidence of the policy) required to be purchased and maintained in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days after written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.

5.06 Waiver of Rights
A. CONTRACTOR intends that all policies purchased in accordance with paragraph 5.06 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered by the policy. All CONTRACTOR policies must contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insured or additional insured there under. CONTRACTOR waive all rights against OWNER each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused.

ARTICLE 6 - CONTRACTOR’S RESPONSIBILITIES

6.01 Supervision and Superintendence

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR’s representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 Labor; Working Hours

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER’s written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

C. The following list of streets will require prior approval to close a lane and may require flagging or police details and may have work time restrictions.

<table>
<thead>
<tr>
<th>Allds Street</th>
<th>East Hollis Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amherst Street</td>
<td>Henri Burque Hwy</td>
</tr>
<tr>
<td>Arlington Street</td>
<td>Kinsley Street</td>
</tr>
<tr>
<td>Bridge Street</td>
<td>Ledge Street</td>
</tr>
<tr>
<td>Broad Street</td>
<td>Main Dunstable Road</td>
</tr>
<tr>
<td>Broad Street Parkway</td>
<td>Main Street</td>
</tr>
<tr>
<td>Canal Street</td>
<td>Manchester Street</td>
</tr>
<tr>
<td>Central Street</td>
<td>Pine Hill Road</td>
</tr>
</tbody>
</table>

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6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 *Substitutes and “Or-Equals”*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or “or-equal” item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. "Or-Equal" Items:

If in ENGINEER’S sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an “or-equal” item, in which case review and approval of the proposed item may, in ENGINEER's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. In the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole, and;
b. CONTRACTOR certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. Engineer's Evaluation: ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until ENGINEER's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop drawing for an "or equal". ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. Special Guarantee: OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.

E. ENGINEER's Cost Reimbursement: ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute.
F. CONTRACTOR’s Expense: CONTRACTOR shall provide all data in support of any proposed substitute or “or-equal” at CONTRACTOR’s expense.

6.06 Concerning Subcontractors, Suppliers, and Others

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER’s acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR’s own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.
6.07 Patent Fees and Royalties

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’s Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 Permits

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility Owner’s for capital costs related thereto, such as plant investment fees.

6.09 Laws and Regulations

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR’s compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR’s primary responsibility to make certain the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR’s obligations under paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in paragraph 10.05.

D. CONTRACTOR shall comply with all local laws, ordinances, and statutes, all provisions of the Revised Statutes Annotated, all provisions of the federal Davis-Bacon Act for projects with federal funding, and all regulations promulgated under either statute. Copies of the "City of Nashua Prevailing Wage Rates for Public Works", as determined by U.S. Department of Labor and "General Wage Determinations," as determined by the U.S. Department of Labor, are available for inspection at the City of Nashua Division of Public Works, 9 Riverside Street, Nashua, New Hampshire. If the provisions of the Davis-Bacon Act apply, all employees of the CONTRACTOR must be paid not less than the wage which is the greater of the Federal wage determinations. The hourly and daily rate of wages to be paid each class of mechanics and workers must be posted on the project site in a place generally visible to the employees.
E. If the Davis-Bacon Act applies, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of the CONTRACTOR’s employees or a payroll report. If the Davis-Bacon Act applies, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of any subcontractor's employees or a payroll report for each subcontractor. The statement or report must include the CONTRACTOR’s certification of compliance with the requirements of the supplementary condition. CONTRACTOR agrees that failure to comply with the portion of this supplementary condition requiring CONTRACTOR to furnish a certified statement of wages or payroll report will, in addition to any other retention allowed under this contract or under state or federal law, allow the OWNER to unilaterally, without notice to CONTRACTOR, retain an amount of up to 10% from each progress payment until the OWNER determines CONTRACTOR has complied with the provisions of this supplementary condition.

F. If the Davis-Bacon Act applies to work to be performed under this contract, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of CONTRACTOR’s employees and for each of any subcontractor's employees or a payroll report from CONTRACTOR and from each subcontractor. Each statement or report must include the certification by CONTRACTOR of compliance with the provisions of the Davis-Bacon Act.

G. Workers’ Compensation Coverage.

1. CONTRACTOR agrees as a precondition to the performance of any work under this contract and as a precondition to any obligation of the OWNER to make any payment under this contract to provide the OWNER with a certificate of a qualified insurer. CONTRACTOR agrees that notice of any lapse in coverage or nonpayment of coverage that the CONTRACTOR is required to maintain should be mailed to:

   Risk Management
   City of Nashua
   229 Main Street
   Nashua, NH 03060

2. CONTRACTOR agrees to maintain required workers' compensation coverage throughout the entire term of the contract. If CONTRACTOR does not maintain coverage throughout the entire term of the contract, CONTRACTOR agrees that OWNER may, at any time the coverage is not maintained by CONTRACTOR, order the CONTRACTOR to stop work, suspend the contract, or terminate the contract. For each six-month period this contract is in effect, CONTRACTOR agrees, prior to the expiration of the six-month period, to provide another written request to its insurer for the provision of a certificate and notice of lapse in or nonpayment of coverage. If CONTRACTOR does not make the request or does not provide the certificate before the expiration of the six-month period, CONTRACTOR agrees that OWNER may order the CONTRACTOR to stop work, suspend the contract, or terminate the contract.

H. To be deemed a responsive bid, the list of subcontractor form must be submitted even if no subcontractors are required to be listed. Submittal is as follows:

1. Each bid submitted to any officer, department, board or commission for the construction of any public work or improvement must include:

   a. The name of each subcontractor who will provide labor or a portion of the work or improvement to the CONTRACTOR for which he will be paid an amount exceeding 5 percent of the prime CONTRACTOR’s total bid. Within 2 hours after the completion of the opening of the bids, the general contractors who submitted the three lowest bids must submit a list of the name of each subcontractor who will provide labor or a portion of the work or improvement to the CONTRACTOR for which he will be paid an amount exceeding 1 percent of the prime CONTRACTOR’s total bid or $50,000, whichever is greater, and the number of the license issued to the subcontractor. If a general CONTRACTOR fails to submit such a list within the required time, his bid shall be deemed not responsive.
b. A description of the portion of the work or improvement which each subcontractor named in the bid will complete.

2. The CONTRACTOR shall list in his bid the name of a subcontractor for each portion of the project that will be completed by a subcontractor.

3. A CONTRACTOR whose bid is accepted shall not substitute any person for a subcontractor who is named in the bid, unless:

   a. The awarding authority objects to the subcontractor, requests in writing a change in the subcontractor and pays any increase in costs resulting from the change; or

   b. The substitution is approved by the awarding authority and:

      (i) The subcontractor, after having a reasonable opportunity, fails or refuses to execute a written contract with the CONTRACTOR which was offered to the subcontractor with the same terms that all other subcontractors on the project were offered;

      (ii) The named subcontractor files for bankruptcy or becomes insolvent; or

      (iii) The named subcontractor fails or refuses to perform his subcontract within a reasonable time or is unable to furnish a performance bond and payment bond.

I. If blasting or use of explosives is necessary for prosecution of Work, the CONTRACTOR shall provide the ENGINEER with a blasting plan in compliance with OSHA, State, and local regulations, laws, ordinances, and requirements. CONTRACTOR shall exercise the utmost care not to endanger life or property. CONTRACTOR shall be responsible for all damage resulting from the use of explosives. CONTRACTOR shall notify each property OWNER and utility company having structures or facilities in proximity to the site of the work of its intentions to use explosives. Such notice shall be given sufficiently in advance to enable the utility companies to take such steps as they may deem necessary to protect their property from injury.

6.10 Taxes

A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the OWNER or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such OWNER or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

B. Removal of Debris During performance of the Work:
During the progress of the Work CONTRACTOR shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. Cleaning:

Prior to Substantial Completion of the Work CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures:

CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

E. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’s Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such OWNER or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR’s performance of the Work.

6.12 Record Documents

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

B CONTRACTOR shall mark up one set of paper prints to show the As-built conditions. They shall include all the information shown on the Contract Drawings and a record of all deviations, modifications, or changes from those Drawings, however minor, which were incorporated in the Work, all additional work not appearing on the Contract Drawings and all changes which are made after final inspection of the Contract Work. These As-built marked prints shall be kept current and available on the job site at all times. All changes from the Contract Drawings which are made in the Work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. No construction work shall be concealed until it has been inspected, approved, and recorded. The As-built marked prints will be jointly inspected for accuracy and completeness by the ENGINEER’S representative and a responsible representative of the CONTRACTOR prior to submission of the monthly pay estimate. Failure to keep the As-built marked prints on a current basis shall be sufficient justification to suspend pay estimates. The drawings shall show the following information, but not be limited to:

1. The location of any utility lines or other installations of any kind or description known to exist within the construction area. The location includes dimensions of permanent features.

2. The location and identification of all surface installations within 100 feet of the construction work.

3. The location and dimensions of any changes within the building or structure.
4. Correct grade or alignment of roads, structures, or utilities if any changes were made from Contract Drawings.

5. Correct elevations if changes were made in site grading.

6. Changes in details or design or additional information obtained from working drawings specified to be prepared or furnished by the CONTRACTOR including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions or equipment foundations, etc.

7. The topography and grades of all drainage installed or affected as a part of the Work.

8. All changes or modifications which result from the final inspection.

The As-built marked prints shall be delivered to the ENGINEER at the time of final inspection for ENGINEER's review and approval. All approval and acceptance of As-built drawings shall be accomplished before final payment is made to the CONTRACTOR.

6.13 Safety and Protection

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. All persons on the Site or who may be affected by the Work;

2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify OWNER of adjacent property and of Underground Facilities and other utility Owner’s when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER’S Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR’s duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

C. Occupational Safety and Health Standards: CONTRACTOR's methods of construction and safety requirements, including but not limited to trench excavation and shoring where applicable, shall conform to the requirements of the Occupational Safety and Health Standards for the Construction Industry. The document entitled "Occupational Safety and Health Standards for the Construction Industry" (29 CFR PART 1926) with Amendments as of February 1, 1998, including 29 CFR part 1910 General Industry Safety and Health Standards Applicable to Construction, is not attached to the Contract Documents. Said requirements as identified and established above are incorporated herein by reference.
D. Power Lines: No equipment of any kind shall be used or permitted within such proximity to the conductors of the Public Services of New Hampshire power lines as to be in violation of the safe working clearance prescribed by the National Electrical Safety Code.

E. Protection of Utilities: The CONTRACTOR shall verify all utility locations prior to the start of construction. This shall include, but not necessarily limited to: irrigation and drainage ditches, culverts, water lines, sewer lines, telephone cables, cable television, gas lines and electric lines. Prior to the start of construction the CONTRACTOR shall call Dig Safe System, Inc. 1-800-344-7233 (two full working days' notice required). The failure of any utility to subscribe to Digs shall not relieve the CONTRACTOR from the responsibility of protection of that utility on the site. Any physical structure (i.e. curbs, sidewalks, paving, buildings, landscape improvements, utilities, etc., damaged by the CONTRACTOR shall be repaired or replaced in a condition equal to or better than the condition prior to the damage. Such repair or replacement shall be accomplished at the CONTRACTOR's expense without additional compensation from the OWNER.

F. CONTRACTOR shall ensure that its activities and activities of its employees, agents and subcontractors, and their employees and agents (including all sub-subcontractors), are in strict compliance with all Environmental Protection Agency, New Hampshire Department of Environmental Services, and Department of Transportation regulations and all other applicable federal, state and local statutes, ordinances, regulations and rules, including without limitation, the Federal Occupational Safety and Health Act of 1970 (OSHA) as amended and the standards and regulations issued thereunder, and all other statutes, ordinances, regulations, rules, standards and requirements of common law in relation to industrial hygiene and safety, and the protection of health and the environment.

6.14 Safety Representative

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs. Work Site is subject to safety inspection by the City Safety Representative at any and all times.

6.15 Hazard Communication Programs

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, Change Order will be issued.

6.17 Shop drawings and Samples

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material,
Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER’s review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

   a. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

   b. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

   c. All information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto; and

   d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR’s obligations under the Contract Documents with respect to CONTRACTOR’s review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. ENGINEER’s Review

1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER’s review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER’s review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. ENGINEER’s review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER’s attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof.
incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. Resubmittal Procedures

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 Continuing the Work

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 CONTRACTOR’s General Warranty and Guarantee

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER’s Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR’s warranty and guarantee hereunder excludes defects or damage caused by:

1. Abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or

2. Normal wear and tear under normal usage.

B. CONTRACTOR’s obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR’s obligation to perform the Work in accordance with the Contract Documents:

1. Observations by ENGINEER;

2. Recommendation by ENGINEER or payment by OWNER OF ANY PROGRESS OR FINAL PAYMENT;

3. The issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereof by OWNER;

4. Use or occupancy of the Work or any part thereof by OWNER;

5. Any acceptance by OWNER or any failure to do so;

6. Any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;

7. Any inspection, test, or approval by others; or

8. Any correction of defective Work by OWNER.

6.20 Indemnification

A. Regardless of the coverage provided by any insurance, Contractor agrees to indemnify and shall defend and hold harmless the City, its agents, officials, employees and authorized representatives and their employees from and against any and all suits, causes of action, legal or administrative proceedings, arbitrations, claims, demands, damages,
liabilities, interest, attorneys' fees, costs and expenses of any kind or nature in any manner caused, occasioned, or contributed to in whole or in part by reason of any negligent act, omission, or fault or willful misconduct, whether active or passive, of Contractor or of anyone acting under its direction or control or on its behalf in connection with or incidental to the performance of this contract. Contractor's indemnity, defense and hold harmless obligations, or portions thereof, shall not apply to liability caused by the sole negligence or willful misconduct of the party indemnified or held harmless.

B. In any and all claims against OWNER or ENGINEER, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity.

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the liability of ENGINEER and ENGINEER's Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them arising out of: The preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications.

ARTICLE 7 - OTHER WORK

7.01 Related Work at Site
A. OWNER may perform other work related to the Project at the Site by OWNER's employees, or let other direct contracts therefore, or have other work performed by utility Owner's. If such other work is not noted in the Contract Documents, then:

1. Written notice thereof will be given to CONTRACTOR prior to starting any such other work; and

2. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefore as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility OWNER (and OWNER, if OWNER is performing the other work with OWNER's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility OWNERs and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility OWNERs and other contractors.

C. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure to so report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent defects and deficiencies in such other work.

7.02 Coordination
A. If OWNER intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. The individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. The specific matters to be covered by such authority and responsibility will be itemized; and

3. The extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility for such coordination.

ARTICLE 8 - OWNER’S RESPONSIBILITIES

8.01 Communications to Contractor
A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.02 Replacement of ENGINEER
A. In case of termination of the employment of ENGINEER, OWNER shall appoint and whose status under the Contract Documents shall be that of the former ENGINEER.

8.03 Furnish Data
A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

8.04 Pay Promptly When Due
A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

8.05 Lands and Easements; Reports and Tests
A. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.06 Insurance

See Article 5.

8.07 Change Orders
A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

8.08 Inspections, Tests, and Approvals
A. OWNER's responsibility in respect to certain inspections tests, and approvals is set forth in paragraph 13.03.B.
8.09 Limitations on OWNER's Responsibilities

A. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, of the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

8.10 Undisclosed Hazardous Environmental Condition

A. OWNER's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06

8.11 Evidence of Financial Arrangements

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 ENGINEER's Representative

A. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

9.02 Visits to Site

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER'S visits and observations are subject to all the limitations on ENGINEER'S authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER'S visits or observations of CONTRACTOR'S Work ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR'S means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 Project Representative

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereof of such other individual or entity will be as provided in the supplementary Conditions.
9.04 Clarifications and Interpretations

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefore as provided in paragraph 10.05.

9.05 Authorized Variations in Work

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefore as provided in paragraph 10.05.

9.06 Rejecting Defective Work

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 Shop Drawings, Change Orders and Payments

A. In connection with ENGINEER’s authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER’s authority as to change orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER’s authority as to Applications for Payment, see Article 14.

9.08 Determinations for Unit Price Work

A. ENGINEER will have authority to determine the actual quantities and classifications of items of Unit Price Work performed by CONTRACTOR, and the written decisions of ENGINEER on such matters will be final, binding on OWNER and CONTRACTOR and not subject to appeal (except as modified by ENGINEER to reflect changed factual conditions).

9.09 Decisions on Requirements of Contract Documents and Acceptability of Work

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work there under. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not be liable in connection with any interpretation or decision rendered in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise
by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 Limitations on ENGINEER's Authority and Responsibilities

A. Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates or inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER's Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 Authorized Changes in the Work

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment or a Change Order. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Change Order, a Claim may be made therefore as provided in paragraph 10.05.

10.02 Unauthorized Changes in the Work

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 Execution of Change Orders

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:
1. Changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER's correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;

2. Changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Change Order; and

3. Changes in the Contract Price and Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 Notification to Surety

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 Disputes – Not Insurance Related

A. Notice: Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 10 days) after the start of the event giving rise thereto. Notice of the amount or extent of the dispute, or other matter with supporting data shall be delivered to the ENGINEER, Risk Management Department and the other party to the Contract within 60 days after the start of such event. A dispute for an adjustment in Contract Price shall be prepared in accordance with the provisions in paragraph 12.01.B. A dispute for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each dispute shall be accompanied by claimant's written statement that the adjustment disputed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. ENGINEER'S Decision: ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER's written decision on such dispute, or other matter will be final and binding upon CONTRACTOR unless:

1. An appeal from ENGINEER'S decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. If no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER's written decision is delivered by CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have the respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the dispute in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the submittal of the opposing party, if any.

D. No dispute for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.
11.01 Cost of the Work

A. Costs Included: The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of the Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs of employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in this paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

   a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

   b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.

   c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
6. Rental rates shall be determined as follows:

a. The base rates shall be those established in publications and revisions thereto entitled “Rental Rate Blue Book for Construction Equipment” or the “Rental Rate Blue Book for Older Construction Equipment” as published by K-III, 1735 Technology Drive, Suite 401, San Jose, CA 95110-1313, Phone (408) 467-6700.

b. Attachments (e.g. tractor with ripper and dozer or tractor with loader and backhoe) will be included in the hourly rental rate only when deemed essential to the work as determined the Engineer. When multiple attachments are approved for use and are being used interchangeably, the attachment having the higher rental rate shall be the only one included for payment.

c. No direct payment will be made for necessary accessories (including replenishing blades, augers, teeth, hoses, bits, etc.) if not listed in the Rental Rate Blue Book.

d. No compensation will be allowed for shop tools having a daily rental rate of less than $10 as set forth in Section 18 of the Rental Rate Blue Book.

i. If ordered to use equipment not listed in the aforementioned publications, the Engineer will establish a rental rate for such equipment. CONTRACTOR shall furnish cost data that might assist in the establishment of such rental rate.

ii. Payment will be made for the actual time that such equipment is in operation on the work.

iii. Authorized standby time for idle equipment shall be paid at 50% of the specified rate, less the estimated operating cost per hour. No markup will be added for overhead and profit.

iv. Rental rate paid as above provided shall include the cost of fuel, oil, lubrication, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance and all incidentals. CONTRACTOR shall provide the Engineer with a complete Force Account Equipment Listing for each piece of equipment utilized.

e. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

f. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

g. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work, provided such losses and damages have resulted from causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee.

h. The cost of utilities, fuel, and sanitary facilities at the Site.

i. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

j. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim
k. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the Site.

3. Any part of CONTRACTOR's capital expense, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.

C. CONTRACTOR's Fee: When all the Work is performed on the basis of cost-plus, CONTRACTOR's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, CONTRACTOR's fee shall be determined as set forth in paragraph 12.01.C.

D. Documentation: Whenever the cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A. and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER as itemized cost breakdown together with supporting data.

11.02 Cash Allowances

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. CONTRACTOR's costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work
A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of the Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subjects to the provisions of paragraph 9.08

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

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**ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES**

**12.01 Change of Contract Price**

A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or

2. Where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or

3. Where the Work involved is not covered by unit prices contained in the Contract Documents an agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 12.01.C).

C. CONTRACTOR's Fee: The CONTRACTOR's fee for overhead and profit shall be determined as follows:

1. A mutually acceptable fixed fee; or

2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

   a. For costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR's fee shall be 15 percent;

   b. For costs incurred under paragraph 11.01.A.3, the CONTRACTOR's fee shall be five percent;

   c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a. is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

   d. No fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

   e. The amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and
f. When both addition and credits are involved in any one change, the adjustment in CONTRACTOR’s fee shall be computed on the basis of the net change in accordance with paragraphs 12.01.C.2.a through 12.01.C.2.e inclusive.

12.02 Change of Contract Times

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this Article 12.

12.03 Delays beyond CONTRACTOR’s Control

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefore as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

12.04 Delays within CONTRACTOR’s Control

A. Contract Times (or Milestones) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 Delays beyond OWNER’s and CONTRACTOR’s Control

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR’s sole and exclusive remedy for such delay.

12.06 Delay Damages

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. Delays caused by or within the control of CONTRACTOR; or

2. Delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, flood, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone from whom OWNER is responsible.
ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

A. OWNER, ENGINEER, ENGINEER'S Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental agencies with jurisdictional interest will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 Tests and Inspections

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. For inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;

2. That costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B; and

3. As otherwise specifically provided in the Contract Documents.

4. That costs incurred by OWNER due to retesting, reinspection, or standby time due to unacceptable materials, or workmanship provided by the CONTRACTOR, or due to poor scheduling by the CONTRACTOR of tests of inspections, will be deducted from the payments to the CONTRACTOR. CONTRACTOR shall stop work as necessary to allow for inspections and tests by OWNER and ENGINEER.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER'S and ENGINEER's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.
G. The OWNER intends to provide inspection for the project. The inspector will be available during a forty (40) hour period during the week from Monday through Friday. In the event the CONTRACTOR receives permission from the OWNER and elects to work more than forty hours during the week or more than 10 hours in one day, or on a Saturday, Sunday, or legal holiday, the CONTRACTOR shall be responsible for all inspection, engineering and testing costs incurred during that period. For all inspection and testing work performed on Saturday, Sunday, or legal holidays, the minimum chargeable time shall be four (4) hours. The OWNER reserves the right to deduct these inspection, engineering, and testing costs directly from the CONTRACTOR’S payments.

13.04 Uncovering Work

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR’S expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefore as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

13.05 OWNER May Stop the Work

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause of such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 Correction or Removal of Defective Work

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 Correction Period

A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR's use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) repair such defective land or areas, or (ii) correct such
defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting there from. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement work of others) will be paid by CONTRACTOR.

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

C. Where defective Work (and damage to other Work resulting there from) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR's obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 Acceptance of Defective Work

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER's recommendation of final payment, ENGINEER) prefers to accept it, OWNER may do so, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefore as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 OWNER May Correct Defective Work

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors, and ENGINEER and ENGINEER's Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by
OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefore as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR's defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

A. The schedule of values established as provided in paragraph 2.01.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 Progress Payment

A. Review of Applications.

1. Prior to submittal of Application for Payment to OWNER (but not more often than once a month), the CONTRACTOR shall submit the monthly progress estimate to the ENGINEER for review and approval.

2. ENGINEER will, within 10 working days after receipt of each progress estimate, either indicate in writing a recommendation of payment or indicate in writing ENGINEER's reasons for refusing to recommend payment and return the progress estimate to CONTRACTOR. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

3. ENGINEER's recommendation of any payment requested in a progress estimate will constitute a representation by ENGINEER to OWNER, based on ENGINEER's observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying date and schedules, that to the best of ENGINEER's knowledge, information and belief:

   a. The Work has progressed to the point indicated;

   b. The quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08 and to any other qualifications stated in the recommendation); and

   c. The conditions precedent to CONTRACTOR's being entitled to such payment appears to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

4. By recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

5. Neither ENGINEER's review of CONTRACTOR's Work for the purposes of recommending payments nor ENGINEER's recommendation of any payment, including final payment, will impose responsibility on
ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR's failure to comply with Laws and Regulations applicable to CONTRACTOR's performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or equipment has passed to OWNER free and clear of any Liens.

6. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

a. The Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. The Contract Price has been reduced by Written Amendment or Change Orders;

c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.

B. Applications for Payments.

1. CONTRACTOR shall submit to OWNER the ENGINEER recommended Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect OWNER's interest therein, all of which must be satisfactory to OWNER. Any request for partial or final payment shall specifically list the work completed. To facilitate the proper and timely payment of applications, the OWNER requires that all applications must reference a valid PURCHASE ORDER NUMBER, as submitted to CONTRACTOR under the Notice to Proceed, be in original format; OWNER will not authorize payments from carbon or Xerox copies, and mailed directly to the following address:

City of Nashua
Accounts Payable
PO Box 2019
Nashua, NH 03061-2019
Attn: Division of Public Works

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be stipulated in the Agreement.

C. Payment Becomes Due

1. Not more than 30 days after presentation of the application for payment to OWNER with ENGINEER's recommendation, the amount recommended will become due, and when due will be paid by OWNER to CONTRACTOR.
D. Reduction in Payment.

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

   a. Claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work;

   b. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;

   c. There are other items entitling OWNER to a set-off against the amount recommended; or

   d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld. OWNER shall promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 CONTRACTOR'S Warranty of Title

A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

14.04 Substantial Completion

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefore. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefore. If after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.
B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 Partial Utilization

A. Use by OWNER at OWNER's option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of paragraph 5.10 regarding property insurance.

14.06 Final Inspection

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. Application for Payment

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any lien.
B. Review of Application and Acceptance

1. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application of Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

14.08 Final Completion Delayed

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. A waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 Termination, Abandonment, or Suspension at Will

The OWNER, in its sole discretion, shall have the right to terminate, abandon, or suspend all or part of the project and contract at will. If the OWNER chooses to terminate, abandon, or suspend all or part of the project, it shall provide CONTRACTOR 10 day's written notice of its intent to do so.

If all or part of the project is suspended for more than 90 days, the suspension shall be treated as a termination at will of all or part of the project and contract.

Upon receipt of notice of termination, abandonment, or suspension at will, CONTRACTOR shall:

1. Immediately discontinue work on the date and to the extent specified in the notice.

2. Place no further orders or subcontracts for materials, services, or facilities, other than as may be necessary or required for completion of such portion of work under the contract that is not terminated.
3. Immediately make every reasonable effort to obtain cancellation upon terms satisfactory to the OWNER of all orders or subcontracts to the extent they relate to the performance of work terminated, abandoned, or suspended under the notice, assign to the OWNER any orders or subcontracts specified in the notice, and revoke agreements specified in the notice.

4. Not resume work after the effective date of a notice of suspension until receipt of a written notice from the OWNER to resume performance.

In the event of a termination, abandonment, or suspension at will, CONTRACTOR shall receive all amounts due and not previously paid to CONTRACTOR for work satisfactorily completed in accordance with the contract prior to the date of the notice and compensation for work thereafter completed as specified in the notice. No amount shall be allowed or paid for anticipated profit on unperformed services or other unperformed work.

15.02 Termination for Cause

This agreement may be terminated by the OWNER on 10 calendar day's written notice to CONTRACTOR in the event of a failure by CONTRACTOR to adhere to any or all the terms and conditions of the contract or for failure to satisfactorily, in the sole opinion of the OWNER, to complete or make sufficient progress on the work in a timely and professional manner. CONTRACTOR shall be given an opportunity for consultation with the OWNER prior to the effective date of the termination. CONTRACTOR may terminate the contract on 10 calendar days written notice if, through no fault of CONTRACTOR, the OWNER fails to pay CONTRACTOR for 45 days after the date of approval by the OWNER of any Application for Payment.

Upon receipt of notice of termination for cause, CONTRACTOR shall:

1. Immediately discontinue work on the date and to the extent specified in the notice.
2. Provide the OWNER with a list of all unperformed services.
3. Place no further orders or sub-contracts for materials, services, or facilities, other than as may be necessary or required for completion of such portion of work under the contract that is not terminated.
4. Immediately make every reasonable effort to obtain cancellation upon terms satisfactory to the OWNER of all orders or sub-contracts to the extent they relate to the performance of work terminated, abandoned, or suspended under the notice, assign to the OWNER any orders or sub-contracts specified in the notice, and revoke agreements specified in the notice.
5. Not resume work after the effective date of a notice of termination unless and until receipt of a written notice from the OWNER to resume performance.

In the event of a termination for cause, CONTRACTOR shall receive all amounts due and not previously paid to CONTRACTOR for work satisfactorily completed in accordance with the contract prior to the date of the notice, less all previous payments. No amount shall be allowed or paid for anticipated profit on unperformed services or other unperformed work. Any such payment may be adjusted to the extent of any additional costs occasioned to the OWNER by reasons of CONTRACTOR's failure. CONTRACTOR shall not be relieved of liability to the OWNER for damages sustained from the failure, and the OWNER may withhold any payment to the CONTRACTOR until such time as the exact amount of damages due to the OWNER is determined. All claims for payment by the CONTRACTOR must be submitted to the OWNER within 30 days of the effective date of the notice of termination.

If after termination for the failure of CONTRACTOR to adhere to any of the terms and conditions of the contract or for failure to satisfactorily, in the sole opinion of the OWNER, to complete or make sufficient progress on the work in a timely and professional manner, it is determined that CONTRACTOR had not so failed, the termination shall be deemed to have been a termination at will. In that event, the OWNER shall, if necessary, make an adjustment in the compensation paid to CONTRACTOR such that CONTRACTOR receives total compensation in the same amount as it would have received in the event of a termination-at-will.

15.03 General Provisions for Termination
Upon termination of the contract, the OWNER may take over the work and prosecute it to completion by agreement with another party or otherwise. In the event CONTRACTOR shall cease conducting business, the OWNER shall have the right to solicit applications for employment from any employee of the CONTRACTOR assigned to the performance of the contract.

Neither party shall be considered in default of the performance of its obligations hereunder to the extent that performance of such obligations is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of such party. Delays arising from the actions or inactions of one or more of CONTRACTOR's principals, officers, employees, agents, subcontractors, consultants, vendors, or suppliers are expressly recognized to be within CONTRACTOR's control.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 Methods and Procedures

A. The parties shall attempt to resolve any dispute related to this contract as follows. Either party shall provide to the other party, in writing and with full documentation to verify and substantiate its decision, its stated position concerning the dispute. No dispute shall be considered submitted and no dispute shall be valid under this provision unless and until the submitting party has delivered the written statement of its position and full documentation to the other party. The parties shall then attempt to resolve the dispute through good faith efforts and negotiation between the OWNER Representative and a CONTRACTOR Representative. At all times, CONTRACTOR shall carry on the work under this contract and maintain and complete work in accordance with the requirements of the contract or determination or direction of the OWNER. If the parties are unable to resolve their dispute as described above within 30 days, the parties may request that the dispute be submitted to the Board of Public Works for resolution. If the parties are dissatisfied with the decision of the Board of Public Works, the parties’ reserve the right to pursue any available legal and/or equitable remedies for any breaches of this contract except as that right may be limited by the terms of this contract.

ARTICLE 17 - MISCELLANEOUS

17.01 Giving Notice

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 Computation of Times

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation or, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws and Regulations, by special warranty or guarantee, or by other provisions of the contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 Survival of Obligations
A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, will survive final payment, completion, and an acceptance of the Work or termination or completion of the Agreement.

17.05 Controlling Law

A. This contract shall be governed exclusively by the laws of the State of New Hampshire and any claim or action brought relating to this contract, the work performed or contracted to be performed thereunder, or referable in anyway thereto shall be brought in Hillsborough County (New Hampshire) Superior Court Southern Judicial District or in the New Hampshire 9th Circuit Court—Nashua and not elsewhere

17.06 Access to Records

A. At all times during regular business hours, CONTRACTOR shall provide full and free access to the OWNER, ENGINEER, and State of New Hampshire to any books, documents, papers, and records related to the work for the purpose of examination, audit, and duplication. The CONTRACTOR shall maintain all required accounts, records, and books for three years after final completion of the work.

17.07 Road Closures and Traffic Delays

A. Partial or full closure of streets in order to facilitate construction will be permitted, or required by the Engineer in accordance with the following:

1. If the CONTRACTOR proposes a closure, the CONTRACTOR notifies the OWNER in writing at least 5 days prior to the proposed closure of his intent to close the road.

2. At least 5 days prior to the proposed closure, the CONTRACTOR shall submit a detour traffic plan for each location being detoured.

3. The CONTRACTOR shall install standard traffic control devices in accordance with the Detour Signage plan provided in the bid documents and the Manual on Uniform Traffic Control Devices (MUTCD.)

4. The detour signage shall be covered when the road closure is not in effect.

B. CONTRACTOR shall notify the following agencies of any traffic delays or road closures three days in advance of the work:

Nashua Police Department: (603) 594-3500
Nashua Fire Department: (603) 594-3652
School Bus Garage: (603) 594-4300
Nashua Solid Waste Department (603) 589-3410
Nashua Building Department (603) 589-3080

17.08 Prohibited Interests

A. CONTRACTOR shall not allow any officer or employee of the OWNER to have any indirect or direct interest in this contract or the proceeds of this contract CONTRACTOR warrants that no officer or employee of the OWNER has any direct or indirect interest, whether contractual, noncontractual, financial or otherwise, in this contract or in the business of CONTRACTOR. If any such interest comes to the attention of CONTRACTOR at any time, a full and complete disclosure of the interest shall be immediately made in writing to the OWNER. CONTRACTOR also warrants that it presently has no interest and that it will not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this contract. CONTRACTOR further warrants that no person having such an interest shall be employed in the performance of this contract. If OWNER determines that a conflict exists and was not disclosed to the OWNER, it may terminate the contract at will or for cause in accordance with Article 15.02.
B. In the event Contractor (or any of its officers, partners, principals, or employees acting with its authority) is convicted of a crime involving a public official arising out or in connection with the procurement of work to be done or payments to be made under this contract, City may terminate the contract at will or for cause in accordance with paragraph 9. Upon termination, Contractor shall refund to the City any profits realized under this contract, and Contractor shall be liable to the City for any costs incurred by the City in completing the work described in this contract. At the discretion of the City, these sanctions shall also be applicable to any such conviction obtained after the expiration or completion of the contract.

C. Contractor warrants that no gratuities (including, but not limited to, entertainment or gifts) were offered or given by Contractor to any officer or employee of the City with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending or making of any determinations with respect to the performance of this contract. If City determines that such gratuities were or offered or given, it may terminate the contract at will or for cause in accordance with Article 15.02.

D. The rights and remedies of this section shall in no way be considered for be construed as a waiver of any other rights or remedies available to the City under this contract or at law.

17.09 Cooperation with Refuse Pickup

A. Contractor shall determine the schedule for trash pickup by contacting the City of Nashua Solid Waste Department. The Contractor shall cooperate and make arrangements to insure that trash pickup is not delayed or obstructed in any way. This may involve the Contractor bring trash barrels to the front or backside of the work area for pickup by the Solid Waste Department and then returning the barrels back to each house.
DIVISION 7

SUPPLEMENTARY CONDITIONS
SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

A. PROSECUTION OF WORK
The project shall generally consist of rehabilitating certain sanitary sewer pipelines. The rehabilitation will include installation of a cured in place lining. Spot repairs to the sewer pipeline may be necessary at specific locations as directed by the Engineer before and/or after lining.

The Contractor shall perform a pre-lining video inspection of pipelines and provide a copy to the Engineer. The Engineer shall review the pre-lining video inspection and provide the following information to the Contractor in written form:

1. A list of locations where the Contractor shall perform spot repairs prior to lining the pipeline.

2. A list acknowledging Known Defects for which spot repairs shall not be made prior to lining.

After the Contractor completes the pre-lining spot repairs as specified, the Contractor shall then line the pipe. After completion of the lining the Contractor shall perform the required post-lining video inspection of the pipeline and provide a copy to the Engineer. The Engineer shall review the post-lining video inspection and provide the following information to the Contractor in written form:

1. A list of spot repairs that the Engineer has determined to be needed at locations of Known Defects previously identified in the pre-lining video. The Contractor shall complete repairs at these locations and be compensated in accordance with the provisions of the Contract Documents.

2. A list of observed defects or deficiencies in the lining which occur at locations other than those previously identified as locations of Known Defects. The Contractor shall remedy these observed defects or deficiencies to the satisfaction of the Engineer without additional compensation.

B. ENGINEER’S CONSULTANT
Hayner/Swanson, Inc., 3 Congress Street, Nashua, NH 03062 is an Engineer’s Consultant as defined in Article 1 of the General Conditions.

In this capacity, Hayner/Swanson, Inc. has prepared the plans, specifications and bid forms on behalf of the Engineer.

Hayner/Swanson, Inc. may perform additional professional services on behalf of the Engineer during the administration of this contract as directed by the Engineer.
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Hayner/Swanson, Inc. may perform additional professional services on behalf of the Engineer during the administration of this contract as directed by the Engineer.
C. **OTHER WORK IN CONTRACT AREA**

Other City and utility work may be in progress within the project area during work in this contract.

It is anticipated that the gas and water companies will be replacing sections of their existing lines either before or upon completion of the sewer replacement project. The contractor shall cooperate fully with that work.

The Contractor shall strive to provide coordination with other work within the project area to minimize disruption.

The Contractor shall notify the Engineer with as much advance notice as reasonably possible of any concerns with other work in the project area.

D. **INTERIM SCHEDULE MILESTONES**

In order to facilitate the 2019 Nashua Street Paving Program substantial completion of work on the following streets shall be completed by the date listed:

- West Hollis Street .................. June 1, 2019
- Lake Street.......................... July 1, 2019
- Allds Street......................... July 1, 2019

E. **WORK HOURS**

Reference is made to *Section 6.02 Labor; Working Hours* of the General Conditions.

Except as stated below, normal working hours shall be from 7:00 AM to 5:00 PM Monday through Friday. No weekend, holiday or night work will be allowed without advance written approval of the City Engineer.

The following streets, in addition to the streets listed in *General Conditions Section 6.02C*, may not be opened or worked in between the hours of 7:00 AM and 9:00 AM and 3:00 PM and 6:00 PM, Monday through Friday of each week:

- a. West Hollis Street
- b. Allds Street
- c. Lake Street

Night work may also be required on the above listed streets, depending on activity, equipment and time of year.

Requests for work beyond those hours normally allowed on weekdays shall be made by the Contractor at least 72 hours in advance.

Requests for work on Saturdays, Sundays and holidays shall be made at least one week in advance.

SC - 2 cf 7
Contractor should not assume requests for hours beyond the hours and days normally allowed will be approved. Requests will be considered on a case by case basis.

F. USE OF GROUNDS
Any area outside the limits of the project area (right-of-way within project limits) which the Contractor may require for storage of equipment and materials, or for other purposes necessary in the performance of the Work, shall be secured by the Contractor at their own expense. Materials, including excavation intended for backfill, shall not be stored or stacked within any roadway clear zones, or in a manner that obstructs adequate sight lines unless specifically permitted in writing by the Engineer. The Contractor is responsible for providing security as required and erosion controls at no cost to the City.

G. TRAFFIC CONTROL PLAN
Reference is made to Section 01110 Control of Work and Materials, Subsection 5 Maintenance of Traffic in the Construction Specifications.

Reference is also made to Section 17.07 Road Closures and Traffic Delays of the General Conditions.

The following are considered part of the Traffic Control Plan:

2. Work Zone Traffic Control Standard Sheets*
4. Positive Protection Guidance for Work Zones (PPGWZ)*
5. Flagger and Uniformed Officer Use in Work Zones Policy and Guidelines*

*Available online under Doing Business with DOT>Contractors at www.nhdot.com or through the NHDOT Contracts office (603-271-3732).

The Contractor shall provide necessary traffic control devices to ensure the safety of the workers, traveling public, and property owners on this project. The above referenced specifications, guidelines, and provisions herein provide minimum requirements; the Contractor may be directed to expand upon the Traffic Control Plan if conditions warrant.

All signs, channelizing devices and arrow boards as required by the Manual on Uniform Traffic Control Devices, including part six, as amended, and the above Standard Sheets shall be in place prior to moving any equipment onto the pavement.

The Contractor shall provide trained personnel, including Uniformed Officers and Flaggers in accordance with Section 618, to be responsible for the maintenance of traffic.

All materials furnished and used for maintenance of traffic, shall be required to be certified for reflectivity. Damaged devices shall be replaced as directed by the Engineer without additional compensation. Regardless of action that may be taken or not taken by the Engineer, the Contractor shall be solely responsible for the appropriateness, reflectivity and condition of all materials provided as well as placement and maintenance of traffic control elements.
H. **CHANGES TO THE CONTRACT WORK**
   At the Owner's discretion, the Owner may choose to remove portions of the work from this Contract. The Contractor shall be paid only for work actually performed.

   The Owner also reserves the right to add additional work of similar type at other locations within the City. This may be in place of portions of work removed from the Contract or may be in addition to the scope of the Contract. Should the value of total work exceed the contract amount with consideration of additional work to be performed, the Owner will present a contract amendment proposal to the Contractor.

I. **PARKING REQUIREMENTS**
   The Contractor is responsible for obtaining the City official "No On-Street Parking" signs when needed. These signs are available at the City Engineering Office. At the completion of work, the signs shall be removed and returned to the City in good condition.

J. **COOPERATION WITH REFUSE PICKUP**
   Reference is made to General Conditions Section 17.09, Cooperation with Refuse Pickup.

K. **HAZARDOUS ENVIRONMENTAL CONDITION**
   Reference is made to General Conditions Section 4.06, Hazardous Environmental Condition at Site.

   It is **not** anticipated that hazardous materials will be encountered during excavation for the contract work.

   However, the Contractor should be aware that as yet undiscovered areas with asbestos containing material or other hazardous contaminants may be encountered.

   An allowance (ITEM 10) has been incorporated into the contract to be used if, and only if, hazardous material is encountered.

   Should suspected hazardous material be encountered, the Contractor shall stop work and immediately notify the Engineer.

   Appropriate steps will be taken to cover and protect stockpiles and the work in accordance with NHDES policies and local, state and Federal requirements.

   The Contractor shall cooperate fully with the Engineer as investigations, testing and referrals are performed.

   The allowance shall be used to compensate the Contractor for costs and expenses incurred as directed by and agreed to be the Engineer.

   Negotiations and compensation for work associated with addressing unanticipated hazardous materials encountered during excavation shall be consistent with provisions in the Contract for Changes in the Work.
L. **RESTORATION OF EXISTING PROPERTY**
Reference is made to *Section 01110 Control of Work and Materials Paragraph 7.F* of the Construction Specifications.

Failure to promptly restore existing property and structures including, but not limited to driveways and lawns, may result in the Engineer's determination that associated work is not complete and therefore not eligible for progress payment. Such associated work may include, but not be limited to paving, pipe installation, catch basins, manholes and curbing.

M. **ELECTRIC SERVICES**

Contractor shall make all necessary applications and arrangements and pay for all fees and charges for electrical energy for power and light necessary for the proper completion of this contract during its entire progress. The Contractor shall provide and pay for all temporary wiring, switches, connections, and meters.

There shall be sufficient electric lighting so that all work may be done in a safe and workmanlike manner where there is not sufficient daylight.

N. **WATER FOR CONTRACT WORK**
The Contractor shall supply all water needed to complete contract work at no separate cost to the Owner.

O. **DIMENSIONS OF PHYSICAL FEATURES**
Where the dimensions and locations of physical features and structures are of critical importance in the installation or connections of the work, the Contractor shall verify such dimensions and locations in the field before fabrication of any material or equipment which is dependent on the correctness of such information.

P. **SUPERINTENDENCE OF THE WORK**
Reference is made to *General Conditions Section 6.01, Supervision and Superintendence.*

Contractor shall provide appropriate onsite superintendence of all aspects of the work whether performed by the Contractor or by subcontractors.

Qualified Superintendent(s) shall be assigned for all crews. Contact information will be provided for all Superintendents.

Q. **MAINTENANCE DURING WEATHER EVENTS**
The Contractor's obligation to protect the public traveling through the project site shall include maintaining safe passage during rain and other weather events.

The Contractor shall plan in advance of forecasted inclement weather events and shall assign crews to perform maintenance of unpaved areas open to traffic during and after inclement weather events. Contractor is responsible to coordinate with the Engineer and other City officials as appropriate.
R. CONTRACTOR'S REPRESENTATIVE
The Contractor shall designate a representative who will be available to respond to emergency calls by the Owner at any time day and night and on weekends and holidays should such a situation arise.

Should the City determine action by the City is needed, or if costs are incurred because the Contractor's Representative is not available, the City will backcharge the Contractor for associated expenses.

S. SCHEDULING AND COORDINATION
Reference is made to General Conditions Section 2.05, Before Starting Construction and General Conditions Section 6.04, Progress Schedule.

Prior to the start of construction, the Contractor shall submit a comprehensive schedule to the Engineer for review and acceptance.

The schedule will identify the number of crews and completion dates for all critical elements of work.

Detailed updates of the schedule shall be submitted to the Engineer for review and acceptance on at least a monthly interval.

The Engineer may withhold progress payments if acceptable monthly schedule updates are not submitted.

The Contractor shall not increase the number of crews assigned to the work as identified in the schedule without providing one week advanced notice to the Engineer.

T. PROTECTION OF LANDSCAPING
Contractor shall take appropriate measures to protect trees, shrubs and other landscaping. Branches, limbs and roots shall not be cut except with permission of the Engineer. Where cutting is necessary, work shall be performed by qualified workers.

U. REMOVAL OF DEBRIS AND SURPLUS MATERIAL
Neither debris nor surplus material shall be deposited on private property.

Debris and surplus material shall be removed from the project area as promptly as practical.

If the Contractor should fail to promptly remove debris or surplus material from the project area, or if Contractor deposits same on private property, progress payment(s) may be withheld.

V. PROTECTION OF MANHOLES AND PIPELINES
Appropriate measures will be taken to protect manholes and other structures as well as pipelines from debris and other materials entering the system through open covers or grates.
Should material enter the system or be deposited during or because of the Contractor’s activities, this material shall be removed at the Contractor’s expense.

The Contractor may be required to clean structures and pipelines downstream of the location where material entered the system.

The Contractor may be required to provide television inspection services to verify that material has been removed.

W. **DISPOSAL OF EXCESS MATERIAL**

Excess excavated materials shall be disposed of at the Nashua Landfill. The tipping fee for clean excess material shall be waived. Contractor shall make arrangements with the Owner prior to hauling material to the landfill.

Material removed from sewer pipelines and manholes can be delivered and disposed of at the Nashua Landfill provided the material has been decanted. There will be no fee for this disposal.
LIST OF EXHIBITS

A. Notice of Award
B. Notice to Proceed
C. Change Order
D. Certificate of Substantial Completion

DIVISION 8

EXHIBITS
NOTICE OF AWARD

DATED:

TO: ______________________________ (Bidder)

ADDRESS: ______________________________

OWNER’S CONTRACT NO.: ______________________________

PROJECT: ____________________________________________

(Insert name of Contract as it appears in the Bidding Document)

You are notified that your Bid dated ______________ for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a contract for

as advertised plus addendums. (Indicate total Work, alternatives or sections or Work awarded)

The Contract Price of your contract is ______________________________ ($ _________)

The proposed Agreement that the OWNER expects to execute, accompanies this Notice of Award.

1. You must deliver to the OWNER __3__ fully executed counterparts of the proposed Agreement that the OWNER expects to execute.

2. You must deliver to the OWNER the Contract Security (Bonds), as specified in the General Conditions (paragraph 5.01), and Certificate of Liability Insurance, as specified in General Conditions (paragraph 5.04).

3. (List other conditions precedents).

____________________________________

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid in default, to annul this Notice of Award and to declare your Bid Security forfeited.

By ______________________________

(FOR THE CITY OF NASHUA)

____________________________________

(TITLE)

Notice of Award
NOTICE TO PROCEED

DATED:

TO: ____________________________________________
(Contractor)

ADDRESS: _______________________________________

OWNER'S CONTRACT NO.____________________________

PROJECT:_________________________________________
(Insert name of Contract as it appears in the Bidding Document)

________________________________________________

You are notified that the Contract Times under the above contract will commence to run on
____________________________________, 20____. By that date, you are to start performing your obligations under the
Contract Documents. In accordance with Article 4 of the Agreement, the dates of Substantial Completion
and Final Completion are ___________________________ and _________________________, respectively.

Also before you may start any Work at the site you must:

________________________________________________
(Add other requirements)

________________________________________________

By
(For the City of Nashua)

________________________________________________
>Title)
CHANGE ORDER

PROJECT: ________________________________

OWNER’S CONTRACT NO: ________________________________

EXECUTED CONTRACT DATE: ________________________________

DATE OF ISSUANCE: __________________ EFFECTIVE DATE: Upon City Approval

OWNER: __________________________ City of Nashua, NH

OWNER’s Purchase Order NO.: ________________________________

CONTRACTOR: ________________________________

ENGINEER: __________________________ DPW Engineering

You are directed to make the following changes in the Contract Documents:

Description:

Justification.

Change Order # 1 of 2
## Summary

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<td>Substantial completion:</td>
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<td>Ready for final payment:</td>
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**RECOMMENDED:**

By: ___________________
DPW Engineer
(Authorized Signature)
Date: _________________

**ACCEPTED:**

By: ___________________
Contractor
(Authorized Signature)
Date: _________________

**APPROVED:**

By: ___________________
Mayor Jim Donchess
Owner
(Authorized Signature)
Date: _________________
CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT: ____________________________

OWNER'S CONTRACT NO: ____________________________

DATE OF ISSUANCE: ____________________________

OWNER: ____________________________ City of Nashua, NH

OWNER’s Purchase Order NO.: ____________________________

CONTRACTOR: ____________________________

ENGINEER: ____________________________ DPW Engineering

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

TO ____________________________ City of Nashua

(OWNER)

And To ____________________________

(CONTRACTOR)

The Work to which this Certificate applies has been inspected by authorized representative of OWNER, CONTRACTOR, and ENGINEER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

(DATE OF SUBSTANTIAL COMPLETION)

A Tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within ________ days of the above date of Substantial Completion.

From the date of Substantial Completion the responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees shall be as follows:
RESPONSIBILITIES

OWNER: City of Nashua

CONTRACTOR:

The following documents are attached to and made a part of this Certificate:

[For items to be attached see definition of Substantial Completion as supplemeated and other specifically noted conditions precedent to achieving Substantial Completion as required by Contract Documents.]

This certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of CONTRACTOR's obligation to complete the Work in accordance with the Contract Documents.

Executed by ENGINEER on ________________ , 20__

(ENGINEER)

By: ________________________________

(Authorized Signature)

CONTRACTOR accepts this Certificate of Substantial Completion on ________________ , 20__

(CONTRACTOR)

By: ________________________________

(Authorized Signature)

OWNER accepts this Certificate of Substantial Completion on ________________ , 20__

(For the City of Nashua)

By: ________________________________

(Authorized Signature)

Certificate of Substantial Completion

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SECTION 01110

CONTROL OF WORK AND MATERIALS

1. General
   Scope: The requirements under this section are applicable to all work completed under this Contract.

2. Hauling, Handling and Storage of Materials
   A. The Contractor shall, at his own expense, handle and haul all materials furnished by him and shall remove any of his surplus materials at the completion of the work.
   B. The Contractor shall provide suitable and adequate storage for equipment and materials furnished by him that are liable to injury and shall be responsible for any loss of or damage to any equipment or materials by theft, breakage, or otherwise.
   C. All excavated materials and equipment to be incorporated in the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the work. Materials and equipment shall be kept neatly piled and compactly stored in such location as will cause a minimum of inconvenience to public travel and adjoining owners, tenants and occupants.
   D. The Contractor shall be responsible for all damages to the work under construction during its progress and until final completion and acceptance even if progress payments have been made under the Contract.

3. Open Excavations
   A. If/where applicable, all open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at his own

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expense, provide suitable and safe means for completely covering all open excavations and for accommodating travel when work is not in progress.

B. Bridges provided for access to private property during construction shall be removed when no longer required.

C. If/where applicable, the length of open trench will be controlled by the particular surrounding conditions but shall always be confined to the limits prescribed by the Engineer.

D. All street excavations shall be completely closed at the end of each work day. Backfilling or use of steel plates of adequate strength to carry traffic shall be used.

E. If/where applicable, Trenched areas shall be paved with temporary bituminous pavement, as detailed on the plans or as directed by the Engineer, as soon as practicable after installation of individual pipeline segment but at least on a weekly basis. No trench shall be left without pavement for longer than seven (7) days. The Contractor is responsible for maintaining the trench, at no additional cost to the Owner for the Contract duration.

4. Maintenance of Traffic

A. Unless permission to close the street is received in writing from the proper authority, all excavated materials and equipment shall be placed so that vehicular and pedestrian traffic may be maintained at all times. Traffic control plans must be submitted to the City of Nashua’s Traffic Department (with a copy to the Engineer) for review and approval.

B. Should the Engineer deem it necessary, uniformed officers will be assigned to direct traffic. Daily coverage must be approved by the Engineer. The Contractor shall make all arrangements in obtaining uniformed officers required.

C. The Contractor shall at his/her own expense, as directed by the Police Traffic Control/Safety Officer or the Engineer, provide and erect acceptable barricades, barrier fences, traffic signs, and all other traffic devices not specifically covered in a bid item, to protect the work from traffic, pedestrians, and animals. He/she shall provide sufficient temporary lighting such as lanterns/flashers (electric battery operated) or other approved illuminated traffic signs and devices to afford adequate protection to the traveling public, at no additional cost to the Owner.

D. The Contractor shall furnish all construction signs that are deemed necessary by and in accordance with Part VI of the Manual on Uniform Traffic Control Devices as published by the U.S. Department of Transportation, latest edition. In addition, the Contractor may be required to furnish up to 128 square feet of additional special construction warning signs.

E. The intent of policing is to ensure public safety by direction of traffic. Police officers are not to serve as watchmen to protect the Contractor’s equipment and materials.
F. Nothing contained herein shall be construed as relieving the Contractor of any of his responsibilities for protection of persons and property under the terms of the Contract.

G. Should it be determined by the Engineer that uniformed officers are not required; flaggers will be provided to maintain traffic flow.

5. **Care and Protection of Property**

The Contractor shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be promptly restored by the Contractor, at his/her expense, to a condition similar or equal to that existing before the damage was done, to the satisfaction of the Engineer.

6. **Protection and Relocation of Existing Structures and Utilities**

A. All existing buildings, utilities, pipes, poles, wires, fences, curbing, property line markers and other structures must be preserved in place without being temporarily or permanently relocated, shall be carefully supported and protected from damage by the contractor. Should such property be damaged, it shall be restored by the Contractor, at no additional cost to the Owner.

B. The Contractor shall determine the location of all underground structures and utilities (including existing water services, gas lines, drain lines, electrical lines, and sewers). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by Contractor.

C. On paved surfaces the Contractor shall not use or operate tractors, bulldozers, or other power-operated equipment with treads or wheels which are shaped so as to cut or otherwise damage such surfaces.

D. All property damaged by the Contractor’s operations shall be restored to the satisfaction of the Engineer to a condition at least equal to that in which it was found immediately before work was begun. Suitable materials and methods shall be used for such restoration.

E. Restoration of existing property and structures shall be carried out as promptly as practicable and shall not be left until the end of the construction period.

7. **Maintenance of Flow**

A. The Contractor shall at his own cost, provide for the flow of sewers and drains interrupted during the progress of the work, and shall immediately remove and dispose of all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the Engineer well in advance of the interruption of any flow.
B. All existing drainage facilities including, but not limited to: brooks, streams, canals, channels, ditches, culverts, catch basins and drainage piping shall be adequately safeguarded so as not to impede drainage or to cause siltation of downstream areas in any manner whatsoever. If the Contractor damages or impairs any of the aforesaid drainage facilities, he shall repair the same within the same day.

C. At the conclusion of the work, the Contractor shall remove all silt in drainage structures caused by his operations.

8. Rejected Materials and Defective Work

A. Materials furnished by the Contractor and condemned by the Engineer as unsuitable or not in conformity with the specifications shall forthwith be removed from the work by the Contractor, and shall not be made use of elsewhere in the work.

B. Any errors, defects or omissions in the execution of the work or in the materials furnished by the Contractor, even though they may have been passed or overlooked or have appeared after the completion of the work, discovered at any time before the final payment is made hereunder, shall be forthwith rectified and made good by and at the expense of the Contractor and in a manner satisfactory to the Engineer.

C. The Contractor shall reimburse the Owner for any expense, losses or damages incurred in consequence of any defect, error, omission or act of the Contractor or his employees, as determined by the Engineer, occurring previous to the final payment.

9. Sanitary Regulations

Sanitary conveniences for the use of all persons employed on the work, properly screened from public observation, shall be provided in sufficient numbers in such manner and at such locations as may be approved. The contents shall be removed and disposed of in a satisfactory manner, as the occasion requires. The Contractor shall rigorously prohibit the committing of nuisances within, on or about the work. Any employees found violating these provisions shall be discharged and not again employed on the work without the written consent of the Engineer. The sanitary conveniences specified above shall be the obligation and responsibility of the Contractor. They shall not be located on private property unless written authorization from the property owner has been provided to the Engineer.

10. Site Investigation

The Contractor shall be responsible for verifying and determining the location, size, direction of flow (if applicable) and elevation of all existing utilities, shown or not shown on the plans. Every effort has been made to accurately depict the existing sewer system, including sewer services. However, due to the age of the system, there are no records for some sewer services as indicated on the plan set. These situations, including other unknown pipes encountered during excavation, may require additional investigations. The City may avail staff and equipment to aid in the investigation. Considerations for delay costs shall only be given in extreme circumstances.
11. Existing Utility Locations - Contractor's Responsibility

A. The location of existing underground services and utilities shown on the drawings is based on available records. It is not warranted that all existing utilities and services are shown, nor that shown locations are correct. The Contractor shall be responsible for having the utility companies locate their respective utilities on the ground prior to excavating.

B. To satisfy the requirements of New Hampshire law, RSA 374, the Contractor shall, at least 72 hours, exclusive of Saturdays Sundays and holidays, prior to excavation in the proximity of telephone, gas, cable television and electric utilities, notify the utilities concerned by calling "DIG SAFE" at telephone number: 1-888-344-7233.

C. The Contractor shall coordinate all work involving utilities and shall satisfy himself as to the existing conditions of the areas in which he is to perform his work. He shall conduct and arrange his work so as not to impede or interfere with the work of other contractors working in the same or adjacent areas.

12. Cutting, Fitting and Patching

A. The Contractor shall do all cutting, fitting, or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by work of other Contractors, as shown upon or reasonably implied by the drawings and the specifications for the completed structure, including all existing work.

B. The Contractor shall not endanger any work by cutting, digging, or otherwise and shall not cut or alter the work of any other Contractor, save with the consent of the Engineer.

C. All holes or openings required to be made in new or existing work, particularly at pipe, conduit, or other penetrations not covered by escutcheons or plates shall be neatly patched. All such holes shall be made completely watertight as approved by the Engineer.

D. Size and locations of holes required in steel, concrete, or other structural or finish materials for piping, wiring, ducts, etc., which have not been located and detailed on the drawings shall be approved by the Engineer prior to layout and cutting thereof. All holes shall be suitably reinforced as required by the Engineer.

E. Workmanship and materials of patching and repair work shall match the adjacent similar work and shall conform to the applicable sections of the specification. Patches and joints with existing work shall provide, as applicable in each case, visual, structural, and waterproofing continuity.

END OF SECTION
SECTION 01150

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 SUMMARY

A. Under the price specified to be paid for each item, the Contractor shall furnish all labor, materials, equipment, plant, and perform all operations to complete all work as indicated and specified. All supervision, overhead items, bond and permit costs, protection and precautions and all other costs, incidental to the construction work, complete, and as specified, are also included.

B. A complete, finished, working job, as intended by the general nature of these Specifications, shall be produced whether or not any particular wording or direction is omitted or inadvertently not clearly stated.

C. Measurement for payment shall be by the Engineer, except where noted elsewhere in this Specification. Measurement for payment for lump sum items shall be on the basis of percentage of work complete and in place.

D. Each unit or lump sum price stated in the Bid shall constitute full compensation as herein specified for each item of work completed in accordance with the Drawings and Specifications.

E. The prices for those items which involve excavation shall include compensation for transportation and disposal of surplus excavated material at the City landfill and handling water.

F. The prices for all pipe items shall constitute full compensation for furnishing, laying, jointing, and excavation and backfill; and clean up.

G. In all items involving excavation, the price shall be based on doing the entire excavation in earth. Where rock is excavated, the price thereof shall be in addition to the cost of excavating earth, and no deduction will be made in the amount for earth excavation.

H. Unit prices submitted for various items of work will be utilized for determining prices of any additional work necessary during construction.

I. Owner reserves the right to delete any item or modify estimated quantities without penalty. Contractor shall make no claim as to lost profits or added costs due to quantity adjustments or deletions.

J. Unit prices listed shall be the basis of cost adjustment for additional items of work
required by a change order.

K. All prices shall include transportation and disposal of excess materials at the City landfill as applicable.

L. Unit and lump sum prices shall reflect salvage value of all pipe materials and appurtenances removed as part of the work.

M. All prices shall include costs related to filing and obtaining applicable permits from local and state agencies.

PART 2 - DESCRIPTION OF PAY ITEMS

2.01 SEWER LINING AND VIDEO COMPLETE IN PLACE

A. CIPP LINING:
   Measurement:
The quantity to be measured under the various subdivisions of ITEM 1A for CIPP lining will be measured, complete-in-place, by the LINEAR FOOT along the completed CIPP installed from outside edge of beginning sewer manhole to inside edge of ending sewer manhole (ie. payment is for the actual length of CIPP pipe installed).

   Payment:
The accepted quantity of sewer pipe renovated with cured-in-place-pipe (CIPP) shall be paid for at the contract unit price under the appropriate subdivisions of ITEM 1A and shall be full compensation for furnishing and placing the CIPP liner as specified including furnishing hot water, steam or ultraviolet light needed to cure the pipe, and all labor, tools and any other equipment necessary to complete the work. The Contractor is responsible for any repairs needed to the CIPP should there exist imperfections or defects in the lining that is judged by the Engineer to cause any problems with sewer flow such as potential backups or loss in pipe capacity.

B. PRE-LINING VIDEO:
   Measurement:
Pre-lining video for sewer pipe will be measured, complete-in-place, by the LINEAR FOOT of the actual pipe length videoed.

   Payment:
The accepted quantity of sewer pipe videoed shall be paid for at the contract unit price under the appropriate subdivisions of ITEM 1A and shall be full compensation for full cleaning of the sewer line, any and all root cutting, removal and decanting of debris and disposal at the City landfill, performing pre-lining sewer pipe video to document the pipe condition and identify all service locations, work related to developing a report of the pre-lining video, and all labor, tools and any other equipment necessary to complete the work. The contractor shall provide
means for cleaning of the pipe to attempt to remove obstructions and root cutting which shall be incidental to this item of work. If the line cannot be videoed due to an obstruction, the Contractor shall attempt to video the line from the opposing direction. All pre-lining videos shall be submitted to the Engineer, shall be accompanied by a written report and shall clearly document the condition of the main and all service connections.

C. POST-LINING VIDEO:

Measurement:
Post-lining video for sewer pipe will be measured, complete-in-place, by the LINEAR FOOT of the actual pipe length videoed.

Payment:
The accepted quantity of sewer pipe videoed shall be paid for at the contract unit price under the appropriate subdivisions of ITEM 1A and shall be full compensation for the post-lining sewer pipe video to document the condition of the pipe, verify that all service locations have been cored and in service, performing work related to developing a report of the video after lining, and all labor, tools and any other equipment necessary to complete the work. All post-lining videos shall be submitted to the Engineer, shall be accompanied by a written report and shall clearly show the condition of the main and all service connections.

Note:
1. Ten (10) percent may be withheld from payment under all 1A Items until the CIPP has been satisfactorily videoed to verify it has been installed correctly.

2.02 SEWER POINT REPAIRS AND SERVICE CONNECTIONS COMPLETE IN PLACE

A. POINT REPAIR OF EXISTING SEWERS:

Measurement:
The quantity to be measured under the various subdivisions of ITEM 1B will be the actual number of point repairs measured by the EACH, complete-in-place, as specified in these Specifications and as directed by the Engineer. The depth for pay items shall be measured from the existing grade to the sewer pipe invert.

Payment:
The accepted quantity of point repair items shall be paid for at the contract unit price under the appropriate subdivisions of ITEM 1B and shall constitute full compensation for cutting, removal and disposal of the existing damaged sewer pipe, and installing a new PVC sewer main with specified couplings, furnishing all materials, labor, tools, and equipment necessary to complete the work, including but not limited to handling of existing wastewater flows, bypass pumping, excavation, backfill, removal and disposal of old pavement and other unsuitable materials at the City landfill, pipe bedding and sand blanket,
complete in place as indicated on the drawings and/or as specified including all work incidental thereto and not specifically included for payment under other items, all as specified in these Specifications and as directed by the Engineer.

Note:
1. The length of the repair shall be assumed to be 10 linear feet or less. If in the opinion of the Engineer the repair requires more than 10 linear feet of new pipe repair, a change order will be negotiated with the Contractor.
2. Work shall conform to City of Nashua Standard Specifications Sewer & Drains. Sewers within 18" of a water main shall be constructed of Class 52 Ductile Iron Pipe.

B. REMOVE AND REPLACE EXISTING SEWER SERVICE AT POINT REPAIR:

Measurement:
The quantity of existing sewer service to be removed and replaced at point repairs under ITEM 1C will be measured, complete-in-place, by the LINEAR FOOT of actual pipe length installed.

Payment:
The accepted quantity of 6” PVC sewer service installed shall be paid for at the contract unit price for ITEM 1C and shall constitute full compensation for the removal and disposal of the existing sewer service pipe, and for installing a new 6” PVC-SDR 35 sewer service at all depths including the wye at the sewer main and all necessary fittings and couplings complete in place as indicated on the drawings and/or as specified, furnishing all materials, labor, tools, and equipment necessary to complete the work, including but not limited to handling of existing wastewater flows, by-pass pumping, excavation, backfill, removal and disposal of old pavement and other unsuitable materials at the City landfill, bedding and sand blanket, and all work incidental thereto and not specifically included for payment under other items as specified in these Specifications and as directed by the Engineer.

Note:
1. Work shall conform to City of Nashua Standard Specifications Sewer & Drains. Sewers within 18" of a water main shall be constructed of Class 52 Ductile Iron Pipe.

2.03 VIDEO OF SEWER LINES NOT SCHEDULED FOR LINING (PIPE SIZES 8" TO 24") COMPLETE IN PLACE

Measurement:
The quantity of video of existing sewer pipe from 8” to 24” will be measured, complete-in-place, by the LINEAR FOOT of the actual pipe length videoed.

Payment:
The accepted quantity of sewer pipe videoed shall be paid for at the contract unit price under ITEM 1D and shall be full compensation for initial cleaning of the
sewer line, the sewer pipe video to document the condition of the pipe, identify all service locations, work related to developing a report of the video, and all labor, tools and any other equipment necessary to complete the work. The contractor shall provide means for cleaning of the pipe to attempt to remove obstructions which shall be incidental to this item of work. If the line cannot be videoed due to an obstruction, the Contractor shall attempt to video the line from the opposing direction. All videos shall be submitted to the Engineer, shall be accompanied by a written report and shall clearly document the condition of the main and all service connections.

2.04 CUTTING AND REMOVAL OF PROTRUDING LATERAL PIPE UP TO 12" DIAMETER COMPLETE IN PLACE

Measurement:
The quantity to be measured under ITEM 1E will be the actual number of protruding lateral pipes measured by the EACH that are actually cut, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of protruding lateral pipes cut up to 12" diameter shall be paid for at the contract unit price under ITEM 1E, and shall be full compensation for all labor, tools and any other equipment necessary to complete the work. The contractor shall provide means for cleaning of the pipe after the protruding pipe has been cut which shall be incidental to this item of work. The pre-lining video shall include a view of the lateral pipe after it has been cut.

2.05 MANHOLE CEMENT AND EPOXY LINING COMPLETE IN PLACE

Measurement:
The quantity of manhole lining (both 4’ and 5’ diameter manholes) will be measured complete-in-place by the VERTICAL FOOT under ITEM 1F and ITEM 1G as measured from the invert shelf to the underside of the casting, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of sewer manhole lining shall be paid for at the contract unit price under ITEM 1F and ITEM 1G, and shall be full compensation for preparation of manhole walls for lining, by-pass pumping, furnishing and installing the lining system, and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

2.06 MANHOLE INVERT RECONSTRUCTION COMPLETE IN PLACE

Measurement:
The quantity to be measured under ITEM 1H will be the actual number of manhole inverts reconstructed (4’ and 5’ Diameter manholes) measured by the EACH, complete-in-place, as specified in these Specifications and as directed by the Engineer.
Payment:
The accepted quantity of manhole invert reconstruction shall be paid for at the contract unit price under ITEM 1H, and shall be full compensation for the demolition of the existing invert and the reconstruction of the new brick invert, by-pass pumping, decanting and disposal of debris at the City landfill and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

2.07 SEWER MANHOLE INTERNAL DROP ASSEMBLY COMPLETE IN PLACE
Measurement:
The quantity to be measured under ITEM 1J will be the actual number of sewer manhole internal drop assemblies constructed (up to 8 vertical feet) by the EACH, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of manhole internal drop assemblies constructed shall be paid for at the contract unit price under ITEM 1J, and shall be full compensation for the demolition of the existing drop assembly and the reconstruction of the new internal drop assembly, by-pass pumping, and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

2.08 REPLACE OR CONSTRUCT SEWER MANHOLE COMPLETE IN PLACE
Measurement:
The quantity of sewer manholes replaced or constructed under ITEM 1K and ITEM 1KK will be measured complete-in-place by the VERTICAL FOOT as measured from the lowest invert to the top of the manhole casting, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of sewer manholes replaced or reconstructed shall be paid for at the contract unit price under ITEM 1K and ITEM 1KK, and shall constitute full compensation for removal and disposal of the existing sewer manhole, constructing new pre-cast sewer manhole, furnishing and installing 30” diameter frame and cover, reconnecting sewer pipes with necessary couplings and fittings, complete in place as indicated on the drawings and/or as specified, including furnishing all materials, labor, tools, and equipment necessary to complete the work, including but not limited to handling of existing wastewater flows, by-pass pumping, excavation, backfill, manhole bedding, removal of old pavement and other unsuitable materials at the City landfill, manhole vacuum testing, and all work incidental thereto and not specifically included for payment under other items.
2.09 REPLACE EXISTING SEWER MANHOLE FRAME AND COVER COMPLETE IN PLACE

Measurement:
The quantity to be measured under ITEM 1L shall be by the actual number of manhole frames and covers replaced measured by the EACH, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of existing sewer manhole frames and covers replaced shall be paid for at the contract unit price under ITEM 1L, and shall be full compensation for excavation, backfill, removal and disposal of the existing frame and cover, old pavement and other unsuitable materials at the City landfill; remodeling of the existing manhole up to 18 inches below the frame, furnishing and installing new City standard frame and cover, adjustments of casting to finish grade with brick courses, and all labor, tools and equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

Note:
1. The restoration of the pavement and base course gravels around the new frame and cover shall be paid for separately under the appropriate ROADWAY RESTORATION contract items.

2.10 ROADWAY RESTORATION COMPLETE IN PLACE

A. CRUSHED GRAVEL:

Measurement:
The quantity to be measured under ITEM 6A shall be measured per CUBIC YARD, in place. Quantities shall be measured for payment as directed and approved by the Engineer. Over-excavated trenches will not be allowed.

Payment:
The approved quantity of crushed gravel shall be paid for at the contract unit price for ITEM 6A and shall be full compensation for the furnishing, placing, compacting and fine grading crushed gravel including all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

B. HOT BITUMINOUS PAVEMENT

Measurement:
The quantity to be measured under ITEM 6B (Hot Bituminous Pavement - Temporary Pavement, Permanent Pavement - Binder and Wearing Course) shall be measured by the TON based on weight slips provided on the job site and approved by the Engineer.

Payment:

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The approved quantity of hot bituminous pavement shall be paid for at the contract unit price for ITEM 6B and shall be full compensation for the furnishing, placing, compacting hot mix asphalt pavement by methods approved by the Engineer, including all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

Notes:
1. Temporary and permanent pavement course thicknesses shall be as specified on the plans, or as ordered by the Engineer.
2. Tack coats shall be applied between all pavement courses and shall be incidental to this item of work and not measured separately for payment.

C. SAWED BITUMINOUS PAVEMENT
Measurement:
The quantity to be measured under ITEM 6C, Sawed Bituminous Pavement, shall be measured by the LINEAR FOOT in accordance with the Contract Drawings, directions from the Engineer, and as specified herein.

Payment:
The approved quantity of sawed bituminous pavement shall be paid for at the contract unit price for ITEM 6C and shall be full compensation for saw cutting bituminous pavement of any depth, including all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

D. UNCLASSIFIED EXCAVATION
Measurement:
The quantity to be measured under ITEM 6D shall be measured per CUBIC YARD in place. Measurement for payment of this item shall only apply to the unclassified excavation for the placement of temporary and permanent pavement and associated crushed gravel in sewer point repair areas and manhole frame and cover replacement areas. Quantities shall be measured for payment as directed and approved by the Engineer. Over-excavated trenches will not be allowed.

Payment:
The approved quantity of unclassified excavation shall be paid for at the contract unit price for ITEM 6D and shall be full compensation for the excavation and disposal of existing pavement and existing unsuitable materials at the City landfill in order to establish the appropriate subgrade for the temporary and permanent pavement and associated crushed gravel base courses, including all labor, tools and equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.
E. 2-INCH BITUMINOUS SIDEWALK REPAIR

Measurement:
The quantity to be measured under ITEM 6E, 2-Inch Bituminous Sidewalk Repair, shall be measured by the SQUARE YARD in accordance with the Contract Drawings, directions from the Engineer, and as specified herein.

Payment:
The approved quantity of 2-Inch Bituminous Sidewalk Repair shall be paid for at the contract unit price for ITEM 6E and shall be full compensation for removal and replacement of the bituminous sidewalk including crushed gravel base, repair of grass and landscape areas disturbed by the sidewalk construction, and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

F. 4-INCH REINFORCED CONCRETE SIDEWALK REPAIR

Measurement:
The quantity to be measured under ITEM 6F, 4-Inch Reinforced Concrete Sidewalk Repair, shall be measured by the SQUARE YARD in accordance with the Contract Drawings, directions from the Engineer, and as specified herein.

Payment:
The approved quantity of 4-Inch Reinforced Concrete Sidewalk Repair shall be paid for at the contract unit price for ITEM 6F and shall be full compensation for removal and replacement of the concrete sidewalk, repair of grass and landscape areas disturbed by the sidewalk construction, including crushed gravel base and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

G. RESET GRANITE CURB

Measurement:
The quantity to be measured under ITEM 6G, Reset Granite Curb, shall be measured by the LINEAR FOOT in accordance with the Contract Drawings, directions from the Engineer, and as specified herein.

Payment:
The approved quantity of Reset Granite Curb shall be paid for at the contract unit price for ITEM 6G and shall be full compensation for removal and resetting of existing granite curb including crushed gravel base and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

H. NEW VERTICAL GRANITE CURB

Measurement:
The quantity to be measured under ITEM 6H, New Vertical Granite Curb, shall be measured by the LINEAR FOOT in accordance with the Contract
Drawings, directions from the Engineer, and as specified herein.

Payment:
The approved quantity of New Vertical Granite Curb shall be paid for at the contract unit price for ITEM 6H and shall be full compensation for furnishing and installing new vertical granite curb including crushed gravel base and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

2.11 PROJECT START-UP AND PROJECT CLOSE OUT:

A. MOBILIZATION
   Measurement:
   Mobilization shall be measured as a LUMP SUM as specified herein. The total cost for this item shall not exceed 5 percent of the total of all bid items excluding this item.

   Payment:
   The contract price for ITEM 8 shall constitute full compensation to the Contractor for the general mobilization and demobilization necessary to make the contract operational, exclusive of the cost of materials. Payments toward the lump sum will be made at each payment requisition based on the percent of contract completed and the balance will be paid at final payment upon completion of all project requirements. Should the contract be terminated prior to completion, or the contract work not completed, total payment for this item shall be proportional to the percentage of the contract completed. No additional payment will be made if the contract value is increased.

B. WARRANTY INSPECTION:
   All warranty inspections and related work shall not be separately measured for payment but shall be considered incidental to the project.

2.12 MAINTENANCE AND PROTECTION OF TRAFFIC:

A. UNIFORMED POLICE OFFICERS
   Measurement:
   Uniformed police officers will be measured and paid by the actual number of hours authorized, as determined by the Engineer. The Contractor shall supply qualified uniformed officers as stated in Section 618 of the NHDOT Standard Specifications for Road and Bridge Construction, (Approved and Adopted in 2016). Uniformed officers shall only be used when there are no available flaggers and the Engineer has previously approved it. Daily coverage needs to be approved by the Engineer. The Contractor's schedule for utilizing uniformed officers shall be agreed upon cooperatively with the Engineer.

   Payment:
The Contractor shall be reimbursed without markup for approved invoices from the Nashua Police Department which shall be paid under budget ALLOWANCE under ITEM 9A. Payment shall constitute full compensation to the Contractor for providing uniformed Nashua police officers with or without vehicles, including all labor, high visibility safety gear, tools and any other equipment necessary to complete the work as specified herein. Payment shall be made only after Contractor has provided proof of payment to Police Department.

B. FLAGGERS

Measurement:
The quantity of Flaggers will be measured by the HOUR based on the actual number of hours authorized, as determined by the Engineer. The Contractor shall supply qualified flaggers as stated in Section 618 of the NHDOT Standard Specifications for Road and Bridge Construction, (Approved and Adopted in 2016). Daily coverage needs to be approved by the Engineer. The Contractor's schedule for flaggers shall be agreed upon cooperatively with the Engineer.

Payment:
The approved quantity of flaggers hours shall be paid at the contract price for ITEM 9B. Payment shall constitute full compensation to the Contractor for providing qualified flaggers as required to direct traffic through or around the Work as ordered by the Engineer, including all labor, high visibility safety gear, tools and any other equipment necessary to complete the work as specified herein. In no case shall the gross hourly rate exceed $30/hour for straight time work and $45/hour for overtime work. Payments to Contractor will be made based on approved hours and resulting dollar amounts.

C. MAINTENANCE OF TRAFFIC

Measurement:
Maintenance of traffic shall be measured as a LUMP SUM as specified herein.

Payment:
The contract price for Item 9C shall constitute full compensation for providing and maintaining safe and passable traffic accommodations for public travel, preventing dust nuisance and furnishing, erecting and maintaining necessary traffic signs, barricades, lights, signals, flashing beacons, delineators and other traffic control warning devices and shall include means of guidance of traffic through and around the work zones. Traffic warning signs and other regulating devices shall be installed in accordance with the MUTCD and details on the plans. Payments toward the lump sum will be made at each payment requisition based on the percent of contract completed and the balance will be paid at final payment upon completion of all project requirements. Should the contract be terminated prior to completion, or the contract work not completed,
total payment for this item shall be proportional to the percentage of the contract completed.

2.13 NIGHT WORK

A. ALLOWANCE FOR NIGHT WORK ORDERED BY CITY

Measurement:
Night work, if required and ordered by the City, shall be measured by the HOUR for work performed by the Contractor's entire crew between the hours of 8PM and 7AM. Night hours worked by the Contractor which were not ordered by the Engineer will not be measured for payment.

Payment:
The contract price for ITEM 10 shall constitute full compensation for the premium cost of the entire crew including overtime wages, taxes, night lighting, and any other labor and/or equipment necessary to complete the work during designated night time hours as specified herein.

Note:
1. Night work may be required in high traffic areas as directed by the Engineer. An allowance for night work hours has been provided under ITEM 9.

2.14 UNANTICIPATED HAZARDOUS MATERIALS

A. ALLOWANCE FOR UNANTICIPATED HAZARDOUS MATERIALS

Measurement & Payment
ITEM 11 is intended to be a contingency pay item to be used in the event that unanticipated hazardous material is encountered during the work. Compensation shall only be paid to the Contractor if unanticipated hazardous material is encountered and expenditure of the allowance, or portion of the allowance, is authorized by the Engineer.

An allowance value has been established on the bid form for this item as a means to include funds in the event that the Contractor is directed to perform work associated with addressing unanticipated hazardous materials.

Costs for these pay items shall be negotiated between the Engineer and the Contractor in accordance with provisions for changes in the work in the General Conditions.

END OF SECTION
1. SHOP AND WORKING DRAWINGS

A. As required by the General Conditions, Contractor shall submit a schedule of shop and working drawing submittals.

B. In accordance with the accepted schedule, the Contractor shall submit promptly to the Engineer, through its authorized resident representative at the job site, or by mail, three (3) copies each of shop or working drawings required as noted in the specifications, of equipment, structural details and materials fabricated especially for this Contract.

C. Such drawings shall show the principal dimensions, weight, structural and operating features, space required, clearances, type and/or brand of finish of shop coat, grease fittings, etc., depending on the subject of the drawings. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for this Contract.

D. All shop and working drawings shall be submitted to the Engineer by and/or through the Contractor, who shall be responsible for obtaining shop and working drawings from his subcontractors and returning reviewed drawings to them.

E. Only drawings which have been prepared, checked and corrected by the fabricator should be submitted to the Contractor by his subcontractors and vendors. Prior to submitting drawings to the Engineer, the Contractor shall check thoroughly all such drawings to satisfy himself/herself that the subject matter thereof conforms to the Contract Documents in all respects. Shop drawings shall be reviewed and marked with the date, checker’s name and indication of the Contractor’s approval, and only then shall be submitted to the Engineer. Shop drawings unsatisfactory to the Contractor shall be returned directly to their source for correction, without submittal to the Engineer. Shop drawings submitted to the Engineer without the Contractor’s approval stamp and signature will be rejected. Any deviation from the Contract Documents indicated on the shop drawings must be identified on the drawings and in a separate submittal to the Engineer, as required under subsection 6.17. Shop Drawings and Samples; D. Submittal Procedures, Paragraph 3 of the General Conditions.

F. The Contractor shall be responsible for the prompt submittal and re-submittal, as necessary, of all shop and working drawings so that there will be no delay in the work due to the absence of such drawings.

G. The Engineer will review the shop and working drawings as to their general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections of comments made on the
drawings during the review do not relieve the Contractor from compliance with requirements of the Contract Documents. The Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner. The review of the shop drawings is general and shall not relieve the Contractor of the responsibility for details of design, dimensions, code compliance, etc., necessary for interfacing with other components, proper fitting and construction of the work required by the Contract and for achieving the specified performance.

H. With few exceptions, shop drawings will be reviewed and returned to the Contractor within 15 days of submittal.

I. No material or equipment shall be purchased or fabricated especially for this Contract nor shall the Contractor proceed with any portion of the work, the design and details of which are dependent upon the design and details of equipment or other features for which review is required, until the required shop and working drawings have been submitted and reviewed by the Engineer as to their general conformance and compliance with the project and its Contract Documents. All materials and work involved in the construction shall then be as represented by said drawings.

J. Two copies of the shop and working drawings and/or catalog cuts will be returned to the Contractor. The Contractor shall furnish additional copies of such drawings or catalog cuts when he needs more than two copies or when so requested.

END OF SECTION
SECTION 01331

DOCUMENTATION

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This section covers the requirements for documentation to be furnished by the Contractor on this project.

1.02 RELATED WORK:

A. Section 02650, CURED-IN-PLACE PIPE (CIPP) LINING OF EXISTING SEWERS

1.03 DOCUMENTATION:

A. The Contractor shall maintain CCTV inspection video of sewer segments, for each sewer line segment undergoing lining under this contract and provide two (2) copies of the video in digital format and a written report within five (5) working days of the work being performed.

B. The report(s) as a minimum shall clearly identify:

1. Project Name
2. Street Location, Name, Intersection, Station
3. Manhole Identification number.
4. Date of inspection
5. Total Length of Line Inspected
6. Line Size(s)/Joint Spacing/Type
7. Line and Manhole(s) Condition
8. Significant observations such as service connections, offset joints, drop joints, broken/cracked pipe, protruding services, roots, collapsed sections, infiltration, presence of scale and corrosion and other discernible features.
9. Reference to CCTV video number, including beginning and ending locations.
All CCTV video files shall be identified by street names, manhole designations, pipe diameter, length, date work was performed, labeled “City of Nashua”, contract number and sub area designation.

END OF SECTION
SECTION 02085

POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS

PART 1 - GENERAL

1.01 WORK INCLUDED:

This section covers the furnishing and installation of Polyvinyl Chloride (PVC) pipe and fittings, as indicated on the drawings and as specified herein.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK

B. Section 02252, SUPPORT OF EXCAVATION

C. Section 02631, PRECAST MANHOLES

1.03 REFERENCES:

A. The following standards form a part of these specifications as referenced:

American Society for Testing and Materials (ASTM)

ASTM D2321 Recommended Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe

ASTM D3034 Specification for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings

ASTM D3212 Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

ASTM F679 Specification for Polyvinyl Chloride (PVC) Large Diameter Plastic Gravity Sewer Pipe and Fittings (18"- 27")

The National Association of Sewer Service Companies (NASSCO) Recommended Specifications for Sewer Collection System Rehabilitation (Current Edition).

1.04 SUBMITTALS:
In accordance with requirements of the General Specifications submit six (6) sets of manufacturer's literature of the materials of this section shall be submitted to the Engineer for review.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. PVC NON-PRESSURE SEWER PIPE:

PVC non-pressure sewer pipe 4-inches through 15-inches diameter (SDR-35) shall be solid wall and conform to ASTM - D3034. PVC non-pressure pipe 18-inches through 60-inches diameter (T-1 & T-2) shall be solid wall and conform to ASTM F679. All pipe shall be as specified and meet the following requirements.

1. PVC non-pressure sewer pipe shall be furnished in standard lengths.

2. One pipe bell consisting of an integral wall section with a solid cross section rubber ring, factory assembled, shall be furnished with each standard, random and short length of pipe. Rubber rings shall be provided to the requirements of ASTM D3212.

3. The rubber ring shall be retained within the bell of the pipe by a precision formed groove or recess designed to resist fish-mouthing or creeping during assembly of joints.

4. Spigot pipe ends shall be supplied with bevels from the manufacturer to ensure proper insertion. Each spigot end shall have an "assembly stripe" imprinted thereon to which the bell end of the mated pipe will extend upon proper jointing of the two pipes.

5. PVC fittings shall be provided with bell and/or spigot configurations with rubber gasketed joints compatible with that of the pipe. Bend fittings with spigot ends shorter than the pipe recess bells will not be allowed. The shorter spigot end would not allow proper seating of the spigot in the mating bell and would permit undesired contact between the mating bell and the outside of the fitting bell.

6. All pipe delivered to the job site shall be accompanied by independent testing laboratory reports certifying that the pipe and fittings conform to the above-mentioned specifications. In addition, the pipe shall be subject to thorough inspection and tests, the right being reserved for the Engineer to apply such of the tests specified as he may from time to time deem necessary.

7. All cutting of pipe shall be done with a machine suitable for cutting PVC pipe. Cut ends shall be beveled when recommended by the pipe manufacturer.

8. All couplings for connecting pipes of various sizes shall be FERNCO STRONGBACK flexible repair couplings, or approved equal, of the appropriate size to fit the external diameter of each pipe.
B. SEWER PIPE BEDDING AND SAND BLANKET:

Sewer pipe bedding and sand blanket shall be as specified in Section 02300 EARTHWORK.

C. DUCTILE IRON PIPE:

Ductile iron pipe shall be used at sewer/water line crossings and conform to AWWA C151/A21.50 & 51, Class 52.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Except as modified herein, installation of the PVC pipe shall be in accordance with ASTM D2321.

B. Each pipe length shall be inspected before being laid to verify that it is not cracked. Pipe shall be laid to conform to the lines and grades indicated on the drawings or given by the Engineer. Each pipe shall be so laid as to form a close joint with the next adjoining pipe and bring the inverts continuously to the required grade.

C. The pipe shall be bedded and covered with sand blanket as specified under Section 02300, EARTHWORK, and as detailed on the project plans.

D. The pipe shall not be driven down to grade by striking it with a shovel handle, timber, rammer, or other unyielding object. When each pipe has been properly bedded, enough of the backfill material shall be placed and compacted between the pipe and the sides of the trench to hold the pipe in correct alignment.

E. Before a joint is made, the pipe shall be checked to assure that a close joint with the next adjoining pipe has been maintained and that inverts are matched and conform to the required line and grade.

F. For pipe placed on crushed stone, immediately after the joint is made, the jointing area shall be filled with suitable materials so placed and compacted that the ends of either pipe will not settle under backfill load.

G. No pipe or fitting shall be permanently supported on saddles, blocking, or stones.

H. Branches and fittings shall be laid by the Contractor as indicated on the drawings, and/or as directed by the Engineer. Open ends of pipe and branches shall be closed with PVC caps secured in place with pre-molded gasket joints or as directed by the Engineer.

I. All pipe joints shall be made as nearly watertight as practicable. There shall be no visible leakage at the joints and there shall be no sand, silt, clay, or soil of any description entering the pipeline at the joints. Where there is evidence of water or soil entering the pipeline, connecting pipes, or structures, the defects shall be repaired to the satisfaction of the Engineer.
J. The Contractor shall build a tight bulkhead in the pipeline where new work enters an existing sewer. This bulkhead shall remain in place until its removal is authorized by the Engineer.

K. Care shall be taken to prevent earth, water, and other materials from entering the pipe, and when pipe laying operations are suspended, the Contractor shall maintain a suitable stopper in the end of the pipe and also at openings for manholes.

L. As soon as possible after the pipe and manholes are completed on any street, the Contractor shall flush out the new pipeline using a rubber ball ahead of the water, and none of the flushing water or debris shall be permitted to enter any existing sewer.

3.02 QUALITY ASSURANCE

A. CLEANING, INSPECTION, AND TESTING:

1. On completion of a section of sewer, the Contractor shall TV inspect the main section in accordance with Section 02441, Cleaning, Television Inspection, and Testing of New Pipelines at no additional cost to the Owner.

2. The Contractor shall be responsible for the satisfactory water-tightness of the entire section of the sewer. Should the Engineer determine that the sections inspected are not satisfactory, the Contractor shall be required to excavate and replace the entire section, at no additional cost to the Owner.

B. PIPE DEFLECTION MEASUREMENT:

1. In accordance with ASTM D3034, no less than 30 days after completion of the PVC sewer pipe installation, the Contractor shall test the pipeline for deflection using a "go/no-go" deflection mandrel having a minimum of nine evenly spaced arms or prongs. The "go/no-go" gauge shall be hand pulled through all sections of the pipeline by the Contractor. The Contractor shall submit drawings of the "go/no-go" gauge to the Engineer for approval prior to testing. Complete dimensions of the gauge for each diameter of pipe to be tested shall be in accordance with ASTM D3034.

2. Any section of pipe found to exceed 7.5 percent deflection shall be deemed a failed pipe and shall be excavated and replaced by the Contractor at his own expense.

END OF SECTION
SECTION 02252
SUPPORT OF EXCAVATION

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This section of the specification covers sheeting and bracing for support of excavations. The requirements of this section shall also apply, as appropriate, to other methods of excavation support and underpinning which the Contractor elects to use to complete the work.

B. The Contractor shall furnish and place sheeting of the kinds and dimensions required, complying with these specifications, where indicated on the drawings or ordered by the Engineer.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK.

1.03 QUALITY ASSURANCE:

A. This project is subject to the Safety and Health regulations of the U.S. Department of Labor set forth in 29 CFR, Part 1926, and to New Hampshire law, RSA, Title XXIII: Labor. Contractors shall be familiar with the requirements of these regulations.

B. The excavation support system shall be of sufficient strength and be provided with adequate bracing to support all loads to which it will be subjected. The excavation support system shall be designed to prevent any movement of earth that would diminish the width of the excavation or damage or endanger adjacent structures.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Steel used for bracing shall be of such size and strength as required in the excavation support design. Timber or steel used for bracing shall be new or undamaged used material which does not contain splices, cutouts, patches, or other alterations which would impair its structural integrity or strength.

PART 3 - EXECUTION

3.01 INSTALLATION:

2019 CIPPLining Project
Nashua, NH

Support of Excavation
02252-1
A. Work shall not be started until all materials and equipment necessary for their construction are either on the site of the work or satisfactorily available for immediate use as required.

B. The sheeting shall be securely and satisfactorily braced to withstand all pressures to which it may be subjected and be sufficiently tight to minimize lowering of the groundwater level outside the excavation.

C. No sheeting may be left so as to create a possible hazard to safety of the public or a hindrance to traffic of any kind.

D. If boulders or very dense soils are encountered, making it impractical to drive a section to the desired depth, the section shall be cut off.

E. The sheeting shall be left in place where indicated on the drawings or ordered by the Engineer in writing. At all other locations, the sheeting may be left in place or salvaged at the option of the Engineer. Steel sheeting permanently left in place shall be cut off at a depth of not less than two feet below finish grade unless otherwise directed.

F. All cut-off will become the property of the Contractor and shall be removed by him from the site.

G. Sole responsibility for the satisfactory construction and maintenance of the excavation support system, complete in place, shall rest with the Contractor. Any work done, including incidental construction, which is not acceptable for the intended purpose shall be either repaired or removed and reconstructed by the Contractor at his expense.

H. The Contractor shall be solely responsible for repairing all damage associated with installation, performance, and removal of the excavation support system.

END OF SECTION
SECTION 02300
EARTHWORK

PART 1 - GENERAL

1.01 WORK INCLUDED:

The Contractor shall make excavations of normal depth in earth for trenches and structures, shall backfill and compact such excavations to the extent necessary, shall furnish the necessary material and construct embankments and fills, and shall make miscellaneous earth excavations and do miscellaneous grading.

1.02 RELATED WORK:

A. Section 01110, CONTROL OF WORK AND MATERIALS
B. Section 02085, POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS
C. Section 02252, SUPPORT OF EXCAVATION
D. Section 02745, ROAD RESTORATION

1.03 REFERENCES:
American Society for Testing and Materials (ASTM)


ASTM C330 Specification for Lightweight Aggregate for Structural Concrete.

ASTM D1556 Test Method for Density of Soil in Place by the Sand Cone Method.

ASTM D1557 Test Methods for Moisture-density Relations of Soils and Soil Aggregate Mixtures Using Ten-pound (10 Lb.) Hammer and Eighteen-inch (18") Drop.

ASTM D2922 Test Methods for Density of Soil and Soil-aggregate in Place by Nuclear Methods (Shallow Depth).

1.04 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

2019 CIPP Lining Project
Nashua, NH

Earthwork
02300-1
Material test results performed by a certified laboratory shall be submitted to the Engineer for all materials proposed for use on the project. If required by the Engineer, samples shall be submitted for independent testing.

1.05 PROTECTION OF EXISTING PROPERTY:

A. The work shall be executed in such manner as to prevent any damage to facilities at the site and adjacent property and existing improvements, such as but not limited to streets, curbs, paving, service utility lines, structures, monuments, bench marks, observation wells, and other public or private property. Protect existing improvements from damage caused by settlement, lateral movements, undermiring, washout and other hazards created by earthwork operations.

B. In case of any damage or injury caused in the performance of the work, the Contractor shall, at its own expense, make good such damage or injury to the satisfaction of, and without cost to, the Owner. Existing roads, sidewalks, and curbs damaged during the project work shall be repaired or replaced to at least the condition that existed at the start of operations. The Contractor shall replace, at his own cost, existing benchmarks, observation wells, monuments, and other reference points which are disturbed or destroyed.

C. Buried drainage structures and pipes, observation wells and piezometers, including those which project less than eighteen inches (18") above grade, which are subject to damage from construction equipment shall be clearly marked to indicate the hazard. Markers shall indicate limits of danger areas, by means which will be clearly visible to operators of trucks and other construction equipment, and shall be maintained at all times until completion of project.

1.06 DRAINAGE:

A. The Contractor shall provide, at its own expense, adequate drainage facilities to complete all work items in an acceptable manner. Drainage shall be done in a manner so that runoff will not adversely affect construction procedures or cause excessive disturbance of underlying natural ground or abutting properties.

1.07 FROST PROTECTION AND SNOW REMOVAL:

A. The Contractor shall, at its own expense, keep earthwork operations clear and free of accumulations of snow as required to carry out the work.

B. The Contractor shall protect the sub-grade beneath new structures and pipes from frost penetration when freezing temperatures are expected.

PART 2 - PRODUCTS

2.01 MATERIAL:

A. GRAVEL BORROW:

Gravel borrow shall consist of inert material that is hard, durable stone and coarse
sand essentially free of organic matter, plastic fines (clay) and debris, and shall meet the gradation requirements below:

<table>
<thead>
<tr>
<th>Sieve Opening</th>
<th>Percent Passing (weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 inch</td>
<td>100</td>
</tr>
<tr>
<td>No 4</td>
<td>25 - 70</td>
</tr>
<tr>
<td>No 200</td>
<td>0 - 12</td>
</tr>
</tbody>
</table>

B. CRUSHED GRAVEL:
The Gravel Road Base will be NHDOT - Item 304.3 Crushed Gravel, or Item 304.4 Crushed Stone (Fine Gradation).

C. BACKFILL MATERIALS:
1. Class B Backfill:
   Class B backfill shall be granular, well graded friable soil; free of rubbish, ice, snow, tree stumps, roots, clay and organic matter; with 30 percent or less passing the No. 200 sieve; no stone greater than two-thirds (2/3) loose lift thickness, or six inches, whichever is smaller.
2. Select Backfill:
   Select backfill shall be granular, well graded friable soil, free of rubbish, ice, snow, tree stumps, roots, clay and organic matter, and other deleterious or organic material; graded within the following limits:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Finer by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3”</td>
<td>100</td>
</tr>
<tr>
<td>No. 10</td>
<td>30 - 95</td>
</tr>
<tr>
<td>No. 40</td>
<td>10 - 70</td>
</tr>
<tr>
<td>No. 200</td>
<td>0 - 10</td>
</tr>
</tbody>
</table>

D. SEWER PIPE BEDDING MATERIAL
1. Sewer pipe bedding material shall be screened gravel or crushed stone meeting the ASTM C33/C33M stone size No. 67.
2. Sand blanket material for sewer pipe shall be graded sand free from organic materials, graded such that 100 percent passes a ½-inch sieve and a maximum of 15 percent passes a #200 sieve.

PART 3 – EXECUTION

3.01 DISTURBANCE OF EXCAVATED AND FILLED AREAS
DURING CONSTRUCTION:

A. Contractor shall take the necessary steps to avoid disturbance of sub-grade during excavation and filling operations, including restricting the use of certain types of construction equipment and their movement over sensitive or unstable materials, dewatering and other acceptable control measures.

B. All excavated or filled areas disturbed during construction, all loose or saturated soil, and other areas that will not meet compaction requirements as specified herein shall be removed and replaced with a minimum 12-inch layer of compacted crushed stone wrapped all around in non-woven filter fabric. Costs of removal and replacement shall be borne by the Contractor.

C. The Contractor shall place a minimum of 12-inch layer of special bedding materials and crushed stone wrapped in filter fabric over the natural underlying soil to stabilize areas which may become disturbed as a result of rain, surface water runoff or groundwater seepage pressures, all at no additional cost to the Owner. The Contractor also has the option of drying materials in-place and compacting to specified densities.

3.02 EXCAVATION:

A. GENERAL:
   1. The Contractor shall perform all work of any nature and description required to accomplish the work as shown on the Drawings and as specified.
   2. Excavations, unless otherwise required by the Engineer, shall be carried only to the depths and limits shown on the Drawings. If unauthorized excavation is carried out below required sub-grade and/or beyond minimum lateral limits shown on Drawings, it shall be backfilled with gravel borrow and compacted at the Contractor’s expense as specified below, except as otherwise indicated. Excavations shall be kept in dry and good conditions at all times, and all voids shall be filled to the satisfaction of the Engineer.

   3. In all excavation areas, the Contractor shall strip the surface topsoil layer and underlying subsoil layer separate from underlying soils. In paved areas, the Contractor shall first cut pavement as specified in paragraph 3.02 B.1 of this specification, strip pavement and pavement sub-base separately from underlying soils. All excavated materials shall be stockpiled separately from each other within the limits of work.
   4. The Contractor shall follow a construction procedure, which permits visual identification of stable natural ground. Where groundwater is encountered, the size of the open excavation shall be limited to that which can be handled by the Contractor’s chosen method of dewatering and which will allow visual observation of the bottom and backfill in the dry.
   5. The Contractor shall excavate unsuitable materials to stable natural ground where encountered at proposed excavation sub-grade, as directed by the Engineer. Unsuitable material includes topsoil, loam, peat, other organic materials, snow, ice, and trash. Unless specified elsewhere or otherwise
directed by the Engineer, areas where unsuitable materials have been excavated to stable ground shall be backfilled with compacted special bedding materials or crushed stone wrapped all around in non-woven filter fabric.

B. TRENCHES:
1. Prior to excavation, trenches in pavement shall have the traveled way surface cut in a straight line by a concrete saw or equivalent method, to the full depth of pavement. Excavation shall only be between these cuts. Excavation support shall be provided as required to avoid undermining of pavement. Cutting operations shall not be done by ripping equipment.
2. Trenches shall be excavated to such depths as will permit the pipe to be laid at the elevations, slopes, and depths of cover indicated on the Drawings. Trench widths shall be as shown on the Drawings or as specified.
3. Where pipe is to be laid in bedding material, the trench may be excavated by machinery to, or just below, the designated sub-grade provided that the material remaining in the bottom of the trench is not disturbed.
4. If pipe is to be laid in embankments or other recently filled areas, the fill material shall first be placed to a height of at least 12-inches above the top of the pipe before excavation.
5. Pipe trenches shall be made as narrow as practicable and shall not be widened by scraping or loosening materials from the sides. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed.
6. If, in the opinion of the Engineer, the sub-grade, during trench excavation, has been disturbed as a result of rain, surface water runoff or groundwater seepage pressures, the Contractor shall remove such disturbed sub-grade to a minimum of 12 inches and replace with crushed stone wrapped in filter fabric. Cost of removal and replacement shall be borne by the Contractor.

C. BUILDING AND FOUNDATION EXCAVATION:
1. Excavations shall not be wider than required to set, brace, and remove forms for concrete, or perform other necessary work.
2. After the excavation has been made, and before forms are set for footings, mats, slabs, or other structures, and before reinforcing is placed, all loose or disturbed material shall be removed from the sub-grade. The bearing surface shall then be compacted to meet the requirements of this specification.
3. If, in the opinion of the Engineer, the existing material at sub-grade elevation is unsuitable for structural support, the Contractor shall excavate and dispose of the unsuitable material to the required width and depth as directed by the Engineer. If, in the opinion of the Engineer, filter fabric is required; the Contractor shall place filter fabric, approved by the Engineer, as per manufacturer's recommendations. Crushed stone shall then be placed in lifts and compacted to required densities. Backfill shall be placed to the bottom of the proposed excavation.
D. EXCAVATION NEAR EXISTING STRUCTURES:

1. Attention is directed to the fact that there are pipes, manholes, drains, and other utilities in certain locations. An attempt has been made to locate all utilities on the drawings, but the completeness or accuracy of the given information is not guaranteed.

2. As the excavation approaches pipes, conduits, or other underground structures, digging by machinery shall be discontinued and excavation shall be done by means of hand tools, as required. Such manual excavation, when incidental to normal excavation, shall be included in the work to be done under items involving normal excavation.

3. Where determination of the exact location of a pipe or other underground structure is necessary for properly performing the work, the Contractor shall excavate test pits to determine the locations.

3.03 BACKFILL PLACEMENT AND COMPACTION:

A. GENERAL:

1. Prior to backfilling, the Contractor shall compact the exposed natural subgrade to the densities as specified herein.

2. After approval of sub-grade by the Engineer, the Contractor shall backfill areas to required contours and elevations with specified materials.

3. The Contractor shall place and compact materials to the specified density in continuous horizontal layers. The degree of compaction shall be based on maximum dry density as determined by ASTM Test D 1557, Method C. The minimum degree of compaction for fill placed shall be as follows:

<table>
<thead>
<tr>
<th>Location</th>
<th>Maximum Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below pipe centerline</td>
<td>95</td>
</tr>
<tr>
<td>Above pipe centerline</td>
<td>92</td>
</tr>
<tr>
<td>Below pavement (upper 3 ft.)</td>
<td>95</td>
</tr>
<tr>
<td>Embankments</td>
<td>95</td>
</tr>
<tr>
<td>Below pipe in embankments</td>
<td>95</td>
</tr>
<tr>
<td>Adjacent to structures</td>
<td>92</td>
</tr>
<tr>
<td>Below structures</td>
<td>95</td>
</tr>
</tbody>
</table>

4. The Engineer reserves the right to test backfill for conformance to the specifications and Contractor shall assist as required to obtain the information. Compaction testing will be performed by the Engineer or by an inspection laboratory designated by the Engineer, engaged and paid for by the Contractor. If test results indicate work does not conform to specification requirements, the Contractor shall remove or correct the defective Work by re-compacting where appropriate or replacing as necessary and approved by the Engineer, to bring the work into compliance, at no additional cost to the Owner. All backfilled materials under structures and buildings shall be field tested for compliance with the requirements of this specification.

5. Where horizontal layers meet a rising slope, the Contractor shall key each layer
by benching into the slope.

6. If the material removed from the excavation is suitable for backfill with the exception that it contains stones larger than permitted, the Contractor has the option to remove the oversized stones and use the material for backfill or to provide replacement backfill at no additional cost to the Owner.

7. The Contractor shall remove loam and topsoil, loose vegetation, stumps, large roots, etc., from areas upon which embankments will be built or areas where material will be placed for grading. The sub-grade shall be shaped as indicated on the Drawings and shall be prepared by forking, furrowing, or plowing so that the first layer of the fill material placed on the sub-grade will be well bonded to the sub-grade.

8. Where called for on the Drawings, Lightweight Fill shall be placed and compacted as recommended by the manufacturer. The exact number of passes shall be approved by the Engineer to insure stability of the layer. As soon as the compaction of each layer has been completed, the next layer shall then be placed. The Contractor shall take all necessary precautions during construction activities in operations on or adjacent to the Lightweight Fill to insure that the material is not over-compacted. Construction equipment, other than for compaction, shall not operate on the exposed Lightweight Fill. The top surface of the Lightweight Fill lying directly below the gravel course shall be chinked by additional rolling of the Lightweight Fill to prevent infiltration of fines.

B. TRENCHES:

1. Bedding as detailed and specified shall be furnished and installed beneath the pipeline prior to placement of the pipeline. A minimum bedding thickness shall be maintained between the pipe and undisturbed material, as shown on the Drawings.

2. As soon as practicable after pipes have been laid, backfilling shall be started.

3. Unless otherwise indicated on the Drawings, select backfill shall be placed by hand shovel in 6-inch thick lifts up to a minimum level of 12-inches above the top of pipe. This area of backfill is considered the zone around the pipe and shall be thoroughly compacted before the remainder of the trench is backfilled. Compaction of each lift in the zone around the pipe shall be done by use of power-driven tampers weighing at least 20 pounds or by vibratory compactors. Care shall be taken that material close to the bank, as well as in all other portions of the trench, is thoroughly compacted to densities required.

4. Class B backfill shall be placed from the top of the select backfill to the specified material at grade (loam, pavement sub-base, etc.). Fill compaction shall meet the density requirements of this specification.

5. Water Jetting:
   a. Water jetting may be used when the backfill material contains less than 10 percent passing the number 200 sieve, but shall be used only if approved by the Engineer.
   b. Contractor shall submit a detailed plan describing the procedures he intends to use for water jetting to the Engineer for approval prior to any
water jetting taking place.

c. Compaction of backfill placed by water jetting shall conform to the requirements of this specification.

6. If the materials above the trench bottom are unsuitable for backfill, the Contractor shall furnish and place backfill materials meeting the requirements for trench backfill, as shown on the drawings or specified herein.

7. Should the Engineer order crushed stone for utility supports or for other purposes, the Contractor shall furnish and install the crushed stone as directed.

8. In shoulders of streets and the road, the top 12-inch layer of trench backfill shall consist of crushed gravel for sub-base, satisfying the requirements of NHDOT.

C. BACKFILLING ADJACENT TO STRUCTURES:

1. The Contractor shall not place backfill against or on structures until they have attained sufficient strength to support the loads to which they will be subjected. Excavated material approved by the Engineer may be used in backfilling around structures. Backfill material shall be thoroughly compacted to meet the requirements of this specification.

2. Contractor shall use extra care when compacting adjacent to pipes and drainage structures. Backfill and compaction shall proceed along sides of drainage structures so that the difference in top of fill level on any side of the structure shall not exceed two feet (2') at any stage of construction.

3. Where backfill is to be placed on only one side of a structural wall, only hand-operated roller or plate compactors shall be used within a lateral distance of five feet (5') of the wall for walls less than fifteen feet (15') high and within ten feet (10') of the wall for walls more than fifteen feet (15') high.

3.04 DISPOSAL OF SURPLUS MATERIALS:

A. No excavated material shall be removed from the site of the work or disposed of by the Contractor unless approved by the Engineer.

B. Surplus excavated materials, which are acceptable to the Engineer, shall be used to backfill normal excavations in rock or to replace other materials unacceptable for use as backfill.

C. Surplus excavated clean material not needed as specified above shall be hauled away and disposed of by the Contractor at the Nashua Landfill. Arrangements must be made with the landfill prior to delivery. Disposal of all rubble shall be in accordance with all applicable local, state and federal regulations.

END OF SECTION
SECTION 02441

CLEANING, ROOT CUTTING, AND TELEVISION INSPECTION OF PIPELINES

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. The Contractor shall furnish all materials, tools, labor and equipment necessary to clean the pipeline of debris, perform root cutting and visually inspect by means of a closed-circuit television (CCTV) all sewers to be lined (CIPP) under this Contract, as hereinafter specified. The sewers shall be inspected throughout their entire length.

1.02 RELATED WORK:

A. Section 01330, SUBMITTALS

B. Section 01331, DOCUMENTATION

C. Section 02085, POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS

D. Section 02650, CURED-IN-PLACE (CIPP) LINING OF EXISTING SEWERS (HOT WATER OR STEAM CURING)

D. Section 02650, CURED-IN-PLACE (CIPP) LINING OF EXISTING SEWERS (ULTRAVIOLET CURING)

1.03 QUALITY ASSURANCE:

A. The work described herein shall be performed by a company with not less than five (5) years of experience in providing the required services, employing experienced workers and experienced supervisory personnel. Supervisory personnel shall have not less than three years of experience in providing the required services and shall be present at the jobsite during all work related to the required services.

1.04 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Prior to beginning work, submit six (6) sets of the following:
1. Qualifications of the firm/personnel who will perform the work;

2. Description of system proposed for handling existing flows during the various procedures to be carried out;

3. Description of the system and equipment proposed for cleaning;

4. Description of the system and equipment proposed for root cutting; and

5. Description of the system and equipment proposed for televising the pipe after cleaning.

PART 2 PRODUCTS

2.01 EQUIPMENT:

A. DVD (Read only) video system shall be used which utilizes standard DVD recording discs.

B. The television camera used for the inspection shall be a pan and tilt closed circuit color television camera specifically designed and constructed for such inspections. Lighting for the camera shall be suitable to allow a clear picture for the entire periphery of the pipe. The camera shall be operative in 100 percent humidity conditions. The camera, television monitor and other components of the video system shall be capable of producing a minimum 400 line resolution color video picture. Picture quality and definition shall be to the satisfaction of the Engineer and, if unsatisfactory, equipment shall be removed and no payment made for the unsatisfactory inspection.

PART 3 EXECUTION

3.01 CLEANING:

A. The Contractor may elect to use either high velocity jet, or mechanically powered equipment, as described in the NASSCO Standard Specifications. Selection of equipment shall be based upon field conditions such as access to manholes, quantity of debris, size of sewer, depth of flow, etc.

B. All sludge, dirt, sand, rocks, grease, and other solid or semisolid material resulting from the cleaning operation shall be decanted and disposed of at the City landfill, and in a method acceptable to the Engineer. Pipe cleaning shall be performed in advance of pipe television inspection.

C. Acceptance by the Engineer of the cleaning results will be based on the results of television inspection. If the results are unsatisfactory, the Contractor shall repeat the cleaning until accepted by the Engineer at no additional cost to the Owner.
3.02 ROOT CUTTING:

A. The Contractor shall use mechanically powered equipment designed to cut roots in pipelines. Selection of equipment shall be based upon field conditions such as access to manholes, quantity and size of roots, size of sewer, depth of flow, etc.

B. All debris material resulting from the root cutting operation shall be decanted and disposed of at the City landfill, and in a method acceptable to the Engineer. All root cutting shall be performed in advance of pipe television inspection.

C. Acceptance by the Engineer of the root cutting results will be based on the results of television inspection. If the results are unsatisfactory, the Contractor shall repeat the root cutting operation until accepted by the Engineer at no additional cost to the Owner.

3.03 CLOSED-CIRCUIT TELEVISION (CCTV) INSPECTION:

A. Closed-circuit television (CCTV) inspection shall be done one manhole section at a time, and the section being inspected shall be suitably isolated from the remainder of the sewer line as required. No sanitary sewer lines shall be inspected until they have been cleaned. The camera shall be moved through the line in either direction at a uniform slow rate, stopping when necessary to insure proper documentation of the sewer's condition, but in no case will the television camera be pulled at a speed greater than 30 feet per minute.

B. Measurement for location of defects shall be accurately measured from the starting manhole by a metering device mounted on the camera or by other means acceptable to the Engineer. Marking on cable, or the like, which would require interpolation for depth of manhole, will not be allowed. Measurement meters will be accurate to 0.2 feet. A measuring target (or the sealing packer) in front of the television shall be used as an exact measurement reference point, and the meter reading shall show this exact location of the measurement reference point.

E. Electronic video equipment shall be capable of displaying and recording, at a minimum, the following data for each pipe joint:

1. Project Identification
2. Date recorded
3. Footage counter
4. Sewer reach identification (street location, start MH and second MH)

3.05 DOCUMENTATION:

A. Printed location records shall be kept by the Contractor which will clearly show the exact location, in relation to adjacent manholes, of each defect discovered by the television camera. In addition, other points of significance such as locations of laterals, unusual conditions, collapsed sections, and other discernible features will be recorded and a copy of such records will be supplied to the Engineer.
B. Instant developing of standard size digital photographs of the television monitor at problem areas shall be taken by the Contractor on the request of the Engineer, so long as such photographing does not interfere with the Contractor's operations.

C. Digital files of the entire inspection shall be provided to the Engineer upon completion of the inspection. The playback shall be at the speed that it was recorded. The Contractor shall be required to have all digital files and necessary playback equipment readily accessible for review by the Engineer during the project.

D. The Contractor shall furnish printed internal inspection logs and two (2) DVD discs of the entire inspection to the Engineer on completion.

END OF SECTION
SECTION 02451

FLAGGERS AND UNIFORMED OFFICERS FOR TRAFFIC CONTROL

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers the provisions for furnishing Flaggers and Uniformed Police Officers for Traffic Control and Maintenance of Traffic as described in Section 01110 CONTROL OF WORK AND MATERIALS, to direct traffic through or around work as shown on the plans or as ordered by the Engineer.

1.02 DESCRIPTION:

A. The Contractor shall coordinate with the Engineer to determine the number of Flaggers and Officers deemed necessary to provide for public safety and to maintain a smooth flow of traffic through the construction area(s) affected.

1.03 RELATED WORK:

A. SECTION 01110, CONTROL OF WORK AND MATERIALS

PART 2 - PRODUCTS

2.01 UNIFORMED POLICE OFFICERS:

A. Contractor shall provide the Traffic Control Officer with a minimum of 24 hours notice indicating the time of day, street location and confirm number of officers required for traffic control. This shall be as agreed by the Engineer. The Contractor may furnish additional traffic control personnel at his/her own expenses but only those agreed upon by the Engineer will be measured for payment.

B. Contractor shall give the Traffic Control Officer a minimum of 2 hours prior cancellation notice should Contractor determine that due to weather or conditions beyond his control he would not need the scheduled officers.

C. Contractor shall pay for officer(s) at the prevailing rate established by the local police department should officers not be needed and the Contractor fails to cancel the officers as noted in 2.01.B above.
D. Where the Owner is paying directly for Uniformed Officers, the Contractor shall be responsible for payment of the wages paid to the Uniformed Police Officers if the Contractor fails to cancel the services of the Uniformed Officers in accordance with 2.01.B and 2.01.C above.

PART 3 - EXECUTION

3.01 OPERATION:

A. Contractor shall provide barricades, barrier fences, traffic signs, and other traffic control devices as shown on the plans, required by the City’s Traffic Department, or as directed by the Engineer, to protect traffic, pedestrians, and animals from the work area.

B. Contractor shall relocate barricades, signs and other devices as necessary as the work progresses as directed by the Owner’s Traffic Control Officer or the Engineer.

C. Flaggers shall be provided with the necessary safety equipment.

END OF SECTION
SECTION 02530

BUILDING CONNECTIONS AND DROP CONNECTIONS

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers furnishing of all materials and labor to construct building sewer connections and drop connections as indicated on the Drawings, and as herein specified.

B. Final location of building connections shall be determined in the field by the Engineer.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK

B. Section 02631, PRECAST MANHOLES

C. Section 02085, POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS

1.03 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Six sets of shop drawings and manufacturers literature of the materials of this section shall be submitted to the Engineer for review.

B. Shop drawings of any special connections, including the proposed adapters for service connections, shall be submitted to the Engineer.

PART 2 – PRODUCTS

2.01 MATERIALS:

A. Pipe and fittings for drop connections and for gravity building connections shall be as specified under Section 02085 POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS. Adaptors shall be as recommended by the pipe manufacturer.

B. Concrete for encasement shall be as specified in Section 03302 FIELD CONCRETE.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. BUILDING CONNECTIONS:
1. Building connections shall be installed using the same construction and pipe joining techniques as specified in Section 02085 POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS.

2. In general, connections shall be carried only to the property line. The end of the pipes shall be closed with PVC stoppers jointed in place to ensure against infiltration into the sewer line.

3. In general, the mainline sewer has been designed at depths to accommodate full basement service for each building to be connected. Building connections must be installed at the proper depth in every case that full basement service is possible for the building. The CONTRACTOR will be required to excavate, remove, reinstall and backfill any building connection improperly installed at his own expense. The CONTRACTOR will demonstrate to the Inspector that all connections are properly made.

4. In streets where building sewers must cross water mains, the CONTRACTOR will install the building sewers at proper depths to maintain the vertical clearance between the two pipes, as shown in the construction details. Building services shall be installed beneath water mains.

B. DROP CONNECTIONS:

1. When the invert of a pipe entering a manhole is 24 inches or more above the invert of the lowest pipe leaving the manhole, it shall be connected to the manhole with an inside drop section.

2. The drop pipe shall be the same diameter, material, and class as the sewer pipe entering the manhole, unless otherwise noted in the drawings. The drop connection shall be constructed as shown on the City of Nashua Standard details.

3. All connecting hardware shall be stainless steel.

END OF SECTION
SECTION 02631

PRECAST MANHOLEs

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers all precast sewer manholes complete, including, but not limited to, bases, walls, cones, mortar, inverts, frames and covers.

B. Work shall comply with City of Nashua Standard Specifications for Sewers and Drains, which are hereby incorporated by reference.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK

B. Section 02745, ROAD RESTORATION

1.03 SYSTEM DESCRIPTION:

A. Precast sections shall conform in shape, size, dimensions, materials, and other respects to the details indicated on the drawings or as ordered by the Engineer.

B. All manholes shall have concrete bases. Concrete bases shall be precast unless otherwise specified. Invert channels shall be formed of brick and mortar upon the base.

C. Riser and cone sections shall be precast concrete.

1.04 REFERENCES:

A. The following standards form a part of this specification as referenced:

American Society for Testing and Materials (ASTM)

ASTM A48 Gray Iron Castings
ASTM C32 Sewer and Manhole Brick
ASTM C144 Aggregate for Masonry Mortar
ASTM C207 Hydrated Lime for Masonry Purposes
ASTM C478 Precast Reinforced Concrete Manhole Sections
ASTM C923 Specification for Resilient
Connectors Between Reinforced Concrete Manhole Structures and Pipes

ASTM C1244 Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO MI98 Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets

Occupational Safety and Health Administration OSHA 29 CFR 1910.27

Fall Prevention Protection

1.05 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Six sets of manufacturer literature of the materials of this section shall be submitted to the Engineer for review.

B. Tests reports as required shall be submitted to the Engineer.

PART 2 - PRODUCTS 2.01 PRECAST CONCRETE SECTIONS:

A. All precast concrete sections shall conform to ASTM C478 with the following exceptions and additional requirements:

1. The wall thickness of precast sections shall be as designated on the drawings, meeting the following minimum requirements:

<table>
<thead>
<tr>
<th>Section Diameter (Inches)</th>
<th>Minimum Wall Thickness (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>5</td>
</tr>
<tr>
<td>60</td>
<td>6</td>
</tr>
<tr>
<td>72</td>
<td>7</td>
</tr>
<tr>
<td>84</td>
<td>8</td>
</tr>
</tbody>
</table>

2. Type II cement shall be used except as otherwise approved.

3. Sections shall be steam cured and shall not be shipped until at least five days after having been cast.

4. Minimum compressive strength of concrete shall be 4000 psi at 28 days.
5. No more than two lift holes may be cast or drilled in each section.

6. The date of manufacture and the name or trademark of the manufacturer shall be clearly marked on the inside of each precast section.

7. Acceptance of the sections will be on the basis of material tests and inspection of the completed product.

8. Circumferential steel reinforcement in walls and bases shall be a minimum of 0.12 sq. in./lin. ft. for 4-foot diameter sections and 0.15 sq. in./lin. ft. for 5- and 6-foot diameter sections. Reinforcing shall extend into tongue and groove.

B. Conical reducing sections shall have a wall thickness not less than 5-inches at the bottom and wall thickness of 8-inches at the top. Conical sections shall taper from a minimum of 48-inches diameter to 30-inches diameter at the top, as shown on the drawings.

C. Except where insufficient depth of cover dictates the use of a shorter base, bases shall be a minimum of 4 feet in height.

D. Slab top sections and flat riser sections (Grade Rings) shall conform to the contract drawings, with particular attention focused upon the reinforcing steel and be designed to meet or exceed an H-20 Loading requirement.

E. The tops of the bases shall be suitably shaped by means of accurate ring forms to receive the riser sections.

F. Precast sections shall be manufactured to contain wall openings of the minimum size to receive the ends of the pipes, such openings being accurately set to conform with line and grade of the sewer or drain. Subsequent cutting or tampering in the field, for the purpose of creating new openings or altering existing openings, will not be permitted except as directed by the Engineer.

G. "Drop-over" manholes shall be placed where indicated on the drawings. The Contractor shall accurately measure the diameter of the existing outlet pipe and inform the manufacturer of its size, so that the "Drop-over" type opening can be cut into the precast manhole base. The bottom shall be cast in place by the Contractor in accordance with Section 03302, FIELD CONCRETE. The invert channel shall be formed of brick and mortar, as specified in this specifications section. The sub-base shall be a compacted, level foundation of crushed stone, at least 6-inches thick, as specified in Section 02300 EARTHWORK, but shall vary to the depth necessary to reach sound undisturbed earth.

H. deleted

I. The Engineer reserves the right to reject any unsatisfactory precast section and the rejected unit shall be tagged and removed from the job site immediately.

J. The Engineer may also require the testing of concrete sections as outlined under Physical
BRICK MATERIALS:

A. Brick shall be sound, hard, and uniformly burned brick, regular and uniform in shape and size, of compact texture, and satisfactory to the Engineer. Bricks shall comply with ASTM C32, for Grade SS, hard brick, except that the mean of five tests for absorption shall not exceed 8 percent by weight.

B. Rejected brick shall be immediately removed from the work and brick satisfactory to the Engineer substituted.

C. Mortar shall be composed of portland cement, hydrated lime, and sand in which the volume of sand shall not exceed three times the sum of the volumes of cement and lime. The proportions of cement and lime shall be as directed and may vary from 1:1/4 for dense hard-burned brick to 1:3/4 for softer brick. In general, mortar for Grade SS Brick shall be mixed in the volume proportions of 1:1/2:4-1/2; portland cement to hydrated lime to sand.

D. Cement shall be Type II portland cement as specified for concrete masonry.

E. Hydrated lime shall be Type S conforming to ASTM C207.

F. The sand shall comply with ASTM C144 specifications for "Fine Aggregate," except that all of the sand shall pass a No. 8 sieve.

FRAME, GRATES AND COVERS:

A. Castings shall be of good quality, strong, tough, even-grained cast iron, smooth, free from scale, lumps, blisters, sandholes, and defects of every nature which would render them unfit for the service for which they are intended. Contact surfaces of covers and frame seats shall be machined to prevent rocking of covers.

B. All castings shall be thoroughly cleaned and may be subject to a careful hammer inspection at the Engineer's discretion.

C. Castings shall be ASTM A48 Class 30B or better.

D. The surface of the manhole covers shall have a diamond pattern with the cast words "SEWER".

E. Manhole frames with 32-inch covers for 30-inch openings shall be 500 pounds minimum by E.L. LeBaron Foundary Co., No. LC328; Quality Water Products, Style 47; Neenah Foundry Co., R1740B or approved equal.
SEWER MANHOLE ACCESSORIES:

A. Gasket materials shall be top grade (100% solids, vulcanized) butyl rubber and shall meet or exceed AASHTO M-198.

B. Couplings at the manhole-pipe interface shall be made with a rubber seal system (with or without stainless steel straps) meeting the requirements of ASTM C923 and recommended for this type of connection.

C. Stubs installed as specified and indicated on the drawings shall be short pieces of the same class pipe as that entering the manhole and shall have either stoppers or end caps as shown on the drawings. Stoppers or end caps shall be especially designed for that application.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. PRECAST SECTIONS:

1. Precast bases shall be supported on a compacted level foundation of crushed stone, as specified in Section 02300 EARTHWORK, at least 6-inches thick, but shall vary to the depth necessary to reach sound undisturbed earth.

2. Precast reinforced concrete sections shall be set vertical and with sections in true alignment.

3. Butyl rubber joint sealant shall be installed between each concrete section.

4. All holes in sections used for handling the sections shall be thoroughly plugged with mortar. Mortar shall be one part cement to 1-1/2 parts sand, mixed slightly damp to the touch (just short of "balling"), hammered into the holes until it is dense and an excess of paste appears on the surface, and then finished smooth and flush with the adjoining surfaces.

B. BRICK WORK:

1. Bricks shall be moistened by suitable means, as directed, until they are neither so dry as to absorb water from the mortar nor so wet as to be slippery when laid.

2. Each brick shall be laid as a header in a full bed and joint of mortar without requiring subsequent grouting, flushing or filling, and shall be thoroughly bonded as directed.

3. The brick inverts shall conform accurately to the size of the adjoining pipes. Side inverts shall be curved and main inverts (where direction changes) shall be laid out in smooth curves of the longest possible radius which is tangent to the centerlines of adjoining pipe.
C. CASTINGS:

1. Cast iron frames, graters and covers shall be as specified. The frames and covers shall be set by the Contractor to conform accurately to the grade of the finished pavement, existing ground surface, or as indicated on the drawings. Frames shall be adjusted to meet the street surface.

2. Cast iron manhole frames and covers not located in paved areas shall be set 6-inches above finished grade, at a height as directed by the Engineer, or as indicated on the drawings. The top of the cone shall be built up with a minimum of 1 course and a maximum of 5 courses of brick and mortar used as headers for adjustment to final grade.

3. Frames shall be set concentric with the top of the concrete section and in a full bed of mortar so that the space between the top of the concrete section or brick headers and the bottom flange of the frame shall be completely filled and made watertight. A thick ring of mortar extending to the outer edge of the concrete shall be placed all around the bottom flange. The mortar shall be smoothly finished to be flush with the top of the flange and have a slight slope to shed water away from the frame.

4. Covers and/or graters shall be left in place in the frames, for safety reasons, except while work is being performed.

D. ACCESSORIES:

1. Accessories shall be installed in accordance with manufacturer's instructions.

2. Stubs shall be set accurately to the dimensions indicated on the drawings. Stubs shall be sealed with suitable watertight plugs.

3.02 LEAKAGE TESTS:

A. Leakage tests shall be made by the Contractor and observed by the Engineer on each manhole. The test shall be by vacuum or by water exfiltration as described below:

B. VACUUM TEST:

1. The vacuum test shall be conducted in accordance with ASTM C1244. Test results will be judged by the length of time it takes for the applied vacuum to drop from 10 inches of mercury to 9 inches. If the time is less than that listed in Table 1 of ASTM C1244, the manhole will have failed the test. Test times from Table 1 are excerpted below.

<table>
<thead>
<tr>
<th>TABLE 1 Minimum Test Times for Various Manhole Diameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth (Feet)</td>
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<tr>
<td>---------------</td>
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</tbody>
</table>

2019 CIPP Lining Project
Nashua, NH

Precast Manholes
02631-6
<table>
<thead>
<tr>
<th>Times (Seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-12</td>
</tr>
<tr>
<td>12-16</td>
</tr>
<tr>
<td>16-20</td>
</tr>
<tr>
<td>20-24</td>
</tr>
<tr>
<td>26-30</td>
</tr>
</tbody>
</table>

2. If the manhole fails the initial test, the Contractor shall locate the leaks and make proper repairs. Leaks may be filled with a wet slurry of accepted quick setting material. If the manhole should again fail the vacuum test, additional repairs shall be made, and the manhole water tested as specified below.

C. WATER EXFILTRATION TEST:

1. After the manhole has been assembled in place, all lifting holes shall be filled and pointed with an approved non-shrinking mortar. All pipes and other openings into the manhole shall be suitably plugged and the plugs braced to prevent blow out. The test shall be made prior to placing the shelf and invert. If the groundwater table has been allowed to rise above the bottom of the manhole, it shall be lowered for the duration of the test.

2. The manhole shall be filled with water to the top of the cone section. If the excavation has not been backfilled and observation indicates no visible leakage, that is, no water visibly moving down the surface of the manhole, the manhole may be considered to be satisfactorily water-tight. If the test, as described above, is unsatisfactory as determined by the Engineer or if the manhole excavation has been backfilled, the test shall be continued. A period of time may be permitted if the Contractor so wishes, to allow for absorption by the manhole. At the end of this period, the manhole shall be refilled to the top of the cone, if necessary, and a measuring time of at least 8 hours begun. At the end of the test period, the manhole shall be refilled to the top of the cone, measuring the volume of water added. This amount shall be extrapolated to a 24-hour loss rate and the leakage determined on the basis of depth. The leakage for each manhole shall not exceed one gallon per vertical foot for a 24-hour period. If the manhole fails this requirement, but the leakage does not exceed 3 gallons per vertical foot per day, repairs by approved methods may be made as directed by the Engineer to bring the leakage within the allowable rate of one gallon per foot per day. Leakage due to a defective section or joint or exceeding the 3 gallon per vertical foot per day, shall be cause for rejection of the manhole. It shall be the Contractor's responsibility to uncover the rejected manhole as necessary and to disassemble, reconstruct or replace it as directed by the Engineer. The manhole shall then be retested and, if satisfactory, interior joints shall be filled and pointed.

3. No adjustment in the leakage allowance will be made for unknown causes such as leaking plugs, absorption, etc. It shall be assumed that all loss of water during the test is a result of leaks through joints or through the concrete. Furthermore, the
Contractor shall take any steps necessary to assure the Engineer that the water table is below the bottom of the manhole throughout the test.

4. If the groundwater table is above the highest joint in the manhole, and there is no leakage into the manhole, as determined by the Engineer, such a test can serve to evaluate water-tightness of the manhole. However, if the Engineer is not satisfied with the results, the Contractor shall lower the water table and carry out the test as described hereinbefore.

3.03 CLEANING:

All new manholes shall be thoroughly cleaned of all silt, debris and foreign matter of any kind, prior to final inspection. Debris shall be decanted and disposed of at the City landfill.

END OF SECTION
SECTION 02650

CURED-IN-PLACE PIPE (CIPP) LINING OF EXISTING SEWERS
(HOT WATER & STEAM)

PART 1 GENERAL

1.01 DESCRIPTION

A. SCOPE
The work consists of furnishing all labor, equipment, materials, and incidentals required to rehabilitate existing sewer mains by the installation of cured-in-place pipe (CIPP) into the existing main. Work will include bypass pumping, sewer cleaning and root cutting including decanting and disposal of debris at the City landfill, initial closed circuit television (CCTV) inspection, identification of existing live taps, removing of protruding taps by remote methods, installation of resin-impregnated tube into the existing pipe followed by hot water or steam curing as specified by the resin manufacturer, reopening service taps into the line, sampling and testing, final closed circuit television (CCTV) inspection, and all other related work. Before final acceptance of each line segment, a post-rehabilitation video inspection and sample testing must be conducted and approved. Rehabilitation must be completed for the full length from the manhole to manhole, resulting in a sound, tight-fitting water-tight liner with a smooth interior surface. All such work shall comply with these specifications and the specific product manufacturer's recommendations. Any conflict between the product manufacturer's recommendations and any portion of the contract documents shall be resolved with the Engineer prior to proceeding with the work.

The Contractor, or the sub-contractor(s), shall not change any material, design values or procedural matters stated or approved herein, without informing the Engineer and receiving written advance approval of the change.

Note:
Reference is made to the Supplementary Conditions Section A. Prosecution of Work for a description of the process by which the Engineer will direct the Contractor to make spot repairs both before and after lining.

B. SAFETY
This standard does not address safety problems associated with the use of this product. It is the responsibility of the Contractor to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1.02 RELATED WORK:

A. Section 01110, CONTROL OF WORK AND MATERIALS
B. Section 02085, POLYVINYL CHLORIDE PIPE AND FITTINGS
C. Section 02252, SUPPORT OF EXCAVATION
D. Section 02300, EARTHWORK
E. Section 02441, CLEANING, ROOT CUTTING, AND TELEVISION (CCTV)

      INSPECTION OF PIPELINES

F. Section 02631, PRECAST MANHOLES
G. Section 02745, ROAD RESTORATION
H. Section 02800, MANHOLE REHABILITATION

1.03 REFERENCE STANDARDS

A. ASTM STANDARDS
The following references are part of this Specification. The latest edition of the
following references shall be used:

ASTM D 543: Standard Test Methods for Resistance of Plastics to
         Chemical Reagents.

ASTM D 638: Standards Test Methods for Tensile Properties of
         Plastics.

ASTM D 790: Standard Test Methods for Flexural Properties of
         Unreinforced and Reinforced Plastics and Electrical
         Insulating Materials.

ASTM D2990: Standard Test Methods for Tensile, Compressive,
         and Flexural Creep and Creep-Rupture of Plastics.

ASTM F 1216: Standard Practice for Rehabilitation of Existing
         Pipelines and Conduits by the Inversion and Curing
         of a Resin-Impregnated Tube.

ASTM F 1743: Rehabilitation of Existing Pipelines and Conduits
         by Pulled-in-Place Installation of Cured-in-Place
         Thermosetting Resin Pipe (CIPP)
* (Note: The Contractor may substitute an alternative method other than by inversion to install the liner, as approved by the Engineer.

1.04 QUALITY ASSURANCE

A. REQUIREMENTS

1. Products used in the work of this section shall be produced by manufacturers regularly engaged in the manufacture of cured-in-place liners for municipal wastewater systems and with a history of successful production acceptable to the owner.

2. The installing Contractor shall be licensed by the cured-in-place lining system manufacturer and shall have successful experience in the installation of cured-in-place lining systems in municipal wastewater systems. The Contractor shall also be familiar with the specified requirements and the methods needed for proper performance of the work of this section.

3. When requested by the owner, the Contractor shall submit evidence acceptable to the Engineer, such as a certified copy of a license or agreement, that it has the authority to use and/or install the liner product.

4. The finished liner shall be continuous over the entire length of the liner insertion run between the manholes and shall be free from visual defects such as foreign inclusions, dry spots, pinholes, and delamination.

5. Wrinkles in the finished liner pipe which cause a backwater of one inch or more or reduce the hydraulic capacity of the pipe are unacceptable and shall be removed or repaired by the Contractor. If a void between the wrinkle and the pipe develops, the Contractor shall repair or replace that section of the pipe. Methods of repair shall be proposed by the Contractor and submitted to the owner for review.

6. Following sewer cleaning and prior to installation of liner and finish work at the manholes, the sewer shall be televised and recorded on videotape or in digital format acceptable to the Engineer such as CD or DVD, and shall be provided to the Engineer. The Contractor shall also televise the sewer after completion of all liner insertion and finish work at the manholes. All Closed-Circuit Television (CCTV) work is to be completed per industry standard of care for sewer inspections and as specified herein.

7. The Contractor installing the Sectional Lining system shall have completed at least five (5) projects, in the United States, within the past three (3) years and projects that included CIPP installation lengths of at least 300 continuous linear feet, on-site wet-out or resin impregnation of the liner tube, and design
of a similarly sized Sectional Liner wall thickness based on a fully
deteriorated condition.

8. Supervisory personnel shall have a minimum of five (5) years of experience in
a supervisory role, and shall have completed at least five (5) projects of
similar size and complexity as this project within the past five (5) years.
Attach résumés of each person named. Résumé information shall include, at a
minimum, educational background, the number of years in a supervisory
capacity and a list of completed projects within the past two (2) years,
including project description, complexity and contract total amounts.

1.05 SUBMITTALS

The Contractor shall submit the following information:

A. MATERIAL SUBMITTALS
Contractor shall provide submittals on all lining materials and resins, and shall
furnish the manufacturers' certifications that all of the liner materials are in
compliance with the specifications, codes, and standards referenced herein.
Calculations for the liner design and wall thickness for each manhole to manhole
section of pipe shall be prepared in accordance with ASTM 1216, signed and
sealed by a Professional Engineer registered in New Hampshire. The submittals
shall include installation instructions and details of all component materials and
construction methods. The Contractor shall also provide the liner tube
manufacturer's certifications, field measurements, and pipe sizing calculations
which demonstrate that the liner tube has been properly sized to avoid the creation
of wrinkles or folds. The Contractor shall furnish Material Safety Data Sheets for
all appropriate materials to be used in the project.

B. INSTALLATION SUBMITTAL
The Contractor shall submit the method of liner insertion, liner size, thickness
calculations, and assumptions used as the basis for calculations for review by the
Engineer prior to the start of work. The liner shall provide complete structural
support without considering any structural support from the existing pipe except
during construction.

1.06 DESIGN PARAMETERS

A. The newly installed liner shall be designed for a minimum fifty-year service life
under continuous loading conditions. The design shall assume no bonding to the
original pipe wall. The liner shall be designed to withstand all imposed loads.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>CIPP System</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pipe Condition</td>
<td>Fully deteriorated</td>
</tr>
<tr>
<td>2. Soil Type</td>
<td>Per in-situ conditions</td>
</tr>
<tr>
<td>3. Design Thickness</td>
<td>Fiberglass: ASTM 1216 Design Formula,</td>
</tr>
<tr>
<td>4. Ovality of Pipe:</td>
<td>2% of circumference.</td>
</tr>
<tr>
<td>5. Soil Land</td>
<td>120 lbs/ft.³</td>
</tr>
<tr>
<td>6. Traffic Loads</td>
<td>Per AASHTO-HS-20-44 Highway Loading</td>
</tr>
<tr>
<td>7. Modulus of Soil</td>
<td>500 psi</td>
</tr>
<tr>
<td>8. Maximum Deflection</td>
<td>5%</td>
</tr>
<tr>
<td>9. Minimum Safety</td>
<td>2.0</td>
</tr>
<tr>
<td>10. Resin Migration</td>
<td>Not Allowed</td>
</tr>
<tr>
<td>11. Soil Cover</td>
<td>Maximum depth of cover over the pipe crown to</td>
</tr>
<tr>
<td></td>
<td>highest ground surface along the length of the</td>
</tr>
<tr>
<td></td>
<td>pipe lining.</td>
</tr>
<tr>
<td>12. Water Table</td>
<td>Assume at ground surface.</td>
</tr>
</tbody>
</table>

PHYSICAL PROPERTIES: The cured pipe shall conform to the minimum structural standards, as follows:

- Tensile Stress ASTM D-638: 3,000 psi
- Flexural Stress ASTM D-790: 4,500 psi
- Modulus of Elasticity ASTM D-790 (Initial): 250,000 psi
- Modulus of Elasticity ASTM D-2990 (Long Term): 125,000 psi
- Porosity/Water Tightness Test: Tight

1.07 LINER THICKNESS CALCULATIONS

A. Calculations for the felt liner design and thickness for each manhole to manhole section of pipe shall be prepared, signed and sealed by a Professional Engineer registered in New Hampshire, and submitted to the Engineer for review prior to lining. The minimum allowable thickness for CIPP products is 4.5mm and must be increased as necessary to meet ASTM 1216 Design Formula in 1.5mm manufacturing increments. Lining products below the stated minimum wall thickness (above) will not be allowed under any circumstances.

1.08 CHEMICAL RESISTANCE

A. CHEMICAL RESISTANCE
Chemical resistance shall be in accordance with the requirements of Section 8 of ASTM F 1216, Section X2, Chemical Resistance Tests for polyester resins and completed in accordance with Test Method D 543. Exposure should be for a
minimum of one month at 73.4 degrees F when subjected to the following solutions:

<table>
<thead>
<tr>
<th>Chemical Solution</th>
<th>Concentration, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tap Water (ph 6-9)</td>
<td>100</td>
</tr>
<tr>
<td>Nitric Acid</td>
<td>5</td>
</tr>
<tr>
<td>Phosphorus Acid</td>
<td>10</td>
</tr>
<tr>
<td>Sulphuric Acid</td>
<td>10</td>
</tr>
<tr>
<td>Gasoline</td>
<td>100</td>
</tr>
<tr>
<td>Vegetable Oil</td>
<td>100</td>
</tr>
<tr>
<td>Detergent</td>
<td>0.1</td>
</tr>
<tr>
<td>Soap</td>
<td>0.1</td>
</tr>
</tbody>
</table>

The Contractor shall be responsible for all costs associated with the chemical resistance tests. Proof of meeting these requirements shall be provided to the Engineer for approval at least 7 days prior to the commencement of work.

1.09 WARRANTY

A. WARRANTY
The Contractor shall provide the Owner with a warranty to be in force and effect for a period of one (1) year from the date of final acceptance of the project by the Owner. The warranty shall cause the Contractor to repair or replace the liner should failure or damage result from faulty materials or installation. At the end of the warranty period, the Owner may perform a television inspection to confirm the condition of the liner.

PART 2 MATERIALS

2.01 GENERAL

A. CERTIFICATE OF COMPLIANCE
A Certificate of Compliance with these Specifications shall be provided by the manufacturer for all materials furnished under these specifications.

2.02 MATERIALS

A. RESIN

1. Unless otherwise specified, the Contractor shall furnish a general purpose, unsaturated, thermosetting, polyester resin, able to cure in the presence or absence of water, and a catalyst system compatible with the liner material that provides the cured physical and chemical resistance strengths specified. The initiation temperature for cure shall be as recommended by the resin
manufacturer and approved by the Engineer. Upon request, the Contractor shall furnish satisfactory written certification that the materials comply with the manufacturer’s standards and the reference specifications.

2. General corrosion requirements: The liner shall be fabricated from materials which, when cured, will be chemically resistant to withstand exposure to normal sewage effluent.

3. Resin shall not be affected by ultraviolet light and shall form no excessive bubbling or wrinkling during lining. Resins shall be tinted for visibility and provide indication of adequate liner wet-out. Material safety data sheets (MSDS) for the resin, catalyst, cleaners and repair agents should be submitted to the Engineer for review.

B. LINER TUBE

1. The liner tube shall consist of one or more layers of flexible needled felt or an equivalent non-woven and/or woven material capable of carrying resin, withstanding installation pressures and curing temperatures, and compatible with the resin system used. The liner tube shall be fabricated to a size that will fit the internal circumference of the existing sewer main. Allowance shall be made for stretching due to insertion of liner and deterioration of existing pipe walls.

2. The minimum liner tube length shall be that deemed necessary by the Contractor to effectively and continuously span the distance from the inlet to the outlet of the respective manholes, unless otherwise specified. The Contractor shall verify the lengths in the field before impregnation and installation of the tube. Individual insertion runs may be made over one or more manhole sections as determined in the field by the Contractor and approved by the Engineer.

3. Prior to insertion, the liner tube shall be free of all visible tears, holes, cuts, foreign materials, and other defects.

PART 3 INSTALLATION

3.01 GENERAL

3.02 PRE-INSTALLATION

A. Prior to installation of the liner, the following activities are required:

   a. Receipt and approval of pre-installation submittals.
   b. Verification of line condition and any obstructions by video inspection.
c. Verification of existing taps in service by flowing water, dye test, or visually with a pan and tilt head camera or other means.
d. Cleaning of line (recorded on video tape).
e. Root cutting
f. Construct and complete any and all point repairs deemed necessary shall receive Engineer's approval before reworking the lines and the liner is installed.

B. Prior to installation, the diversion pumping system, including back-up pumps, shall be tested and running.

3.03 PREPARATION

A. CLEANING, ROOT CUTTING AND INSPECTION
Debris shall be removed from the pipeline with high velocity jet cleaners. All roots shall be cut and removed with appropriate equipment. The pipeline shall be inspected with CCTV equipment to assure that the pipe is in a condition that it can be lined. Obstructions shall be removed and services marked for reinstatement prior to lining.

B. BYPASS PUMPING
Bypass pumping shall usually be made by plugging the upstream manhole and pumping the sewage into the downstream manhole, or by pumping into an alternate sewer system of adequate capacity to handle the additional sewage flow. The pump and bypass lines shall be sized to handle the anticipated flows.

A. LATERAL CONNECTIONS
Contractor shall record location, size, material and relative invert elevation of each lateral connection with respect to the pipeline.

3.04 INSTALLATION PROCEDURES

A. INSTALLATION
Installation of the liner shall be through existing or new manholes. Excavation for liner insertion shall not be permitted except to remove and replace the manhole cones, if necessary and/or required.

B. WATER
Where water is used for insertion and curing processes it may be supplied from existing fire hydrants. The Contractor shall make arrangements for obtaining water. Costs for water shall be borne by the Contractor.

C. RESIN IMPREGNATION
The Contractor shall designate a location where the liner tube will be impregnated with resin prior to installation. The liner tube shall be impregnated by vacuum or other approved means. The Contractor shall allow the Owner and Engineer to
inspect the materials and "wet out" procedure. A resin and catalyst system compatible with the requirement of this method shall be used.

Materials shall be transported to, and stored at, the site in such a manner that they will not be damaged, exposed to direct sunlight, or result in any public safety hazard. All materials shall be subject to inspection and review by the Engineer prior to installation.

D. LINER INSERTION
The impregnated tube shall be inserted through existing or new manholes and the application of a hydrostatic head, compressed air, or other means sufficient to fully extend it to the next designated manhole. The liner shall be installed at a rate greater than 3 feet per minute and less than 10 feet per minute.

The Contractor shall ensure that the pressure in the liner exceeds both the pressure due to the groundwater head and any pressure due to sewage in laterals or connecting side sewers

A pre-liner may be required prior to liner installation in sewers with infiltration or missing pipe sections.

E. CURING
After insertion of the tube is complete, the Contractor shall provide a suitable heat source and distribution system to circulate hot water, air, and/or steam through the pipe as recommended by the manufacturer. The equipment shall be capable of delivering hot water, air, and/or steam to uniformly raise the temperature above that required to cure the resin. This temperature shall be determined by the manufacturer based on the resin/catalyst system employed.

The heat source piping shall be fitted with suitable continuous monitoring thermocouples to gauge the temperature of the incoming and outgoing curing medium. The temperature of the curing medium shall meet the requirements of the resin manufacture as measured at the heat source inflow and outflow return lines. Additional continuous monitoring thermocouples shall be placed between the impregnated felt tube and the pipe invert at the manholes. The curing medium temperature in the line during the cure period shall be as recommended by the resin manufacturer. Care shall be taken during the elevated curing temperature so as not to over stress the liner materials.

Initial cure shall be deemed to be completed when inspections of the exposed portions of liner appear to be hard and sound and the remote temperature sensor indicates that the temperature is of a magnitude to realize an exotherm. The cure temperature shall be held for the period recommended by the resin manufacture, during which time the distribution and control of the curing medium shall continue. Curing the CIPP shall consider the host pipe material, resin/catalyst system, ambient temperature, moisture level, and thermal conductivity of the soil.
F. COOL-DOWN
The Contractor shall cool the hardened liner to a temperature below 100 degrees F before relieving the pressure in the section. Cool-down may be accomplished by the introduction of cool water or air into the lined pipe to replace water or steam and water being drained. Water shall be drained from a small hole made in the downstream end. Care shall be taken in the release of the static head or air pressure so that a vacuum will not be developed that could damage the pipe or the newly installed lining. After the tube is cured, a cool down period shall be used prior to opening the downstream plug and returning normal flow back into the system.

G. SEALING AT MANHOLES
A tight seal of the liner at the manhole walls consisting of a resin mixture compatible with the liner/resin system may be applied in accordance with manufacturer specifications.

H. FINISH
The finished CIPP shall be continuous over the entire length of any section and be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, pinholes and delamination.

3.05 REINSTATEMENT OF SERVICES

A. SERVICE CUTS
All live services shall be reinstated as soon as practical after rehabilitation, testing, and cooling of sewer lines. Inactive services may be left unopened as directed by the Engineer. It is the Contractor's responsibility to document all live services prior to lining. Each service connection shall be noted by its size, position from a reference manhole, and orientation with respect to the circumference of the pipe. Reconnection shall be accomplished from the interior of the sewer line by means of a television camera and a remote controlled cutting device. Excavation to activate existing sewer services shall not be allowed.

B. CUTTING AND BRUSHING
Holes cut through the rehabilitation liner shall be done in a two-step process. The holes shall be first cut open with a router bit or deburring tool, and then brushed with a wire brush to a neat and smooth surface. Holes shall reopen service lines to a minimum of ninety (90%) percent of the service lateral. A one-step process that accomplishes the same effect may be used if approved by the Engineer.
3.09 TESTING, INSPECTION AND ACCEPTANCE

A. MATERIAL TESTING

1. All material testing shall be performed by a registered independent, third-party laboratory, and paid for by the Contractor.

2. The Contractor shall provide test results of the short term properties of the cured lining material in the quantity of one test per liner batch, or 3,000 feet of installed liner, or as required by the Owner. The liner shall be in compliance with the physical properties described in these Specifications. Flexural strength and modulus shall be tested in accordance with the requirements of ASTM D 790.

B. INSPECTION

1. After the work is completed, the Contractor shall inspect the pipeline by closed circuit color television inspection and shall provide the Engineer with one copy of a videotape or acceptable digital format recording of this inspection log for the Owner’s records. Any repaired areas shall be re-televised.

C. FIELD TEST (THICKNESS)

1. Remove the CIPP liner material from the host pipe core samples. Remove any inner liner film, pre-liner and resin that is not contained within the tube. Measure the liner thickness at three spots on each sample. The resulting six measurements will be averaged. The average thickness shall be equal to or greater than the required thickness for the particular section. No undersize allowance is permitted. In accordance with D 790-03, referenced in ASTM 1216, the calculated wall thickness refers only to the part of the liner that consists of a saturated tube. Elements that are not part of the saturated tube do not contribute to the structural integrity of the liner, thereby excluding tube that is not fully saturated or portions of resin without the tube carrier.

D. ACCEPTANCE

1. Prior to final acceptance, any defects that may affect the integrity or strength of the pipeline is the opinion of the Engineer shall be repaired by the Contractor at no additional cost to the Owner.

2. Pipeline shall be true to line and grade, with no visual bulges, sags, protrusions, deflections, offset joints, leaking joints, or other visible infiltration, or other defects that would impair the intended use of the completed pipeline.
3. Final acceptance of work shall not be granted until all defective areas are repaired in accordance with the CIPP manufacturer's recommendations and to the Engineer's satisfaction.

4. Any repairs required by the Engineer as a result of the post construction internal inspection shall be performed by the Contractor.

5. Contractor shall perform a post construction internal inspection in accordance with Section 02760. Final acceptance of the work shall not be granted until post installation inspection has been reviewed and approved by the Engineer.

6. Contractor shall perform testing as specified. Final acceptance of the work shall not be granted until the appropriately formatted testing results have been reviewed and approved by the Engineer.

END OF SECTION
SECTION 02651

CURED-IN-PLACE (CIPP) LINING OF EXISTING SEWERS
(ULTRAVIOLET CURING)

PART 1 GENERAL

1.01 DESCRIPTION

A. SCOPE
The work consists of furnishing all labor, equipment, materials, and incidentals required to rehabilitate existing sewer mains by the installation of cured-in-place pipe (CIPP) into the existing main. Work will include bypass pumping, sewer cleaning and root cutting including decanting and disposal of debris at the City landfill, initial closed circuit television (CCTV) inspection, identification of existing live taps, removing of protruding taps by remote methods, installation of resin-impregnated tube into the existing pipe followed by ultraviolet curing as specified by the resin manufacturer, reopening service taps into the line, sampling and testing, final closed circuit television (CCTV) inspection, and all other related work. Before final acceptance of each line segment, a post-rehabilitation video inspection and sample testing must be conducted and approved. Rehabilitation must be completed for the full length from the manhole to manhole, resulting in a sound, tight-fitting water-tight liner with a smooth interior surface. All such work shall comply with these specifications and the specific product manufacturer’s recommendations. Any conflict between the product manufacturer’s recommendations and any portion of the contract documents shall be resolved with the Engineer prior to proceeding with the work.

The Contractor, or the sub-contractor(s), shall not change any material, design values or procedural matters stated or approved herein, without informing the Engineer and receiving written advance approval of the change.

Note:
Reference is made to the Supplementary Conditions Section A. Prosecution of Work for a description of the process by which the Engineer will direct the Contractor to make spot repairs both before and after lining.

B. SAFETY
This standard does not address safety problems associated with the use of this product. It is the responsibility of the Contractor to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1.02 RELATED WORK:

2019 CIPP Lining Project
Nashua, NH

CIPP Lining of Existing Sewers (Ultraviolet)
02651-1
A. Section 01110, CONTROL OF WORK AND MATERIALS
B. Section 02085, POLYVINYL CHLORIDE PIPE AND FITTINGS
C. Section 02252, SUPPORT OF EXCAVATION
D. Section 02300, EARTHWORK
E. Section 02441, CLEANING, ROOT CUTTING, AND TELEVISION (CCTV) INSPECTION OF PIPELINES
F. Section 02631, PRECAST MANHOLES
G. Section 02745, ROAD RESTORATION
H. Section 02800, MANHOLE REHABILITATION

1.03 REFERENCE STANDARDS

The following references are part of this specification. The latest edition of the following references shall be used:


ASTM D543- Test Method for resistance of plastics to chemical reagents.

ASTM D790- Test Method(s) for flexural properties of un-reinforced and reinforced plastics and electrical insulating materials.

ASTM F1216 (including Appendix XI)- Standard practice for rehabilitation of existing pipelines and conduits by the inversion and curing of a resin-impregnated tube.

ASTM F1743-96- Rehabilitation of existing pipelines and conduits by pulled-in-place installation of cured-in-place thermosetting resin pipe (CIPP).

APS Standard- Water tightness standard for cured-in-place thermos-setting resin pipe/Porosity Test protocol.
1.04 QUALITY ASSURANCE

A. REQUIREMENTS

1. Products used in the work of this section shall be produced by manufacturers regularly engaged in the manufacture of cured-in-place liners for municipal wastewater systems and with a history of successful production acceptable to the owner.

2. The installing Contractor shall be licensed by the cured-in-place lining system manufacturer and shall have successful experience in the installation of cured-in-place lining systems in municipal wastewater systems. The Contractor shall also be familiar with the specified requirements and the methods needed for proper performance of the work of this section.

3. When requested by the owner, the Contractor shall submit evidence acceptable to the owner, such as a certified copy of a license or agreement, that it has the authority to use and/or install the liner product.

4. The finished liner shall be continuous over the entire length of the liner insertion run between the manholes and shall be free from visual defects such as foreign inclusions, dry spots, pinholes, and delamination.

5. Wrinkles in the finished liner pipe which cause a backwater of one inch or more or reduce the hydraulic capacity of the pipe are unacceptable and shall be removed or repaired by the Contractor. If a void between the wrinkle and the pipe develops, the Contractor shall repair or replace that section of the pipe. Methods of repair shall be proposed by the Contractor and submitted to the owner for review.

6. Following sewer cleaning and prior to installation of liner and finish work at the manholes, the sewer shall be televised and recorded on videotape or in digital format acceptable to the Engineer such as CD or DVD, and shall be provided to the Engineer. The Contractor shall also televeise the sewer after completion of all liner insertion and finish work at the manholes. All Closed-Circuit Television (CCTV) work is to be completed per a national standard for sewer inspections.

7. The Contractor installing the Sectional Lining system shall have completed at least five (5) projects, in the United States, within the past three (3) years and projects that included CIPP installation lengths of at least 300 continuous linear feet, on-site wet-out or resin impregnation of the liner tube, and design of a similarly sized Sectional Liner wall thickness based on a fully deteriorated condition.
8. Supervisory personnel shall have a minimum of five (5) years of experience in a supervisory role, and shall have completed at least five (5) projects of similar size and complexity as this project within the past five (5) years. Attach résumés of each person named. Résumé information shall include, at a minimum, educational background, the number of years in a supervisory capacity and a list of completed projects within the past two (2) years, including project description, complexity and contract total amounts.

1.05 SUBMITTALS

The Contractor shall submit the following information:

A. MATERIALS
Contractor shall provide submittals on all lining materials and resins, and shall furnish the manufacturers’ certifications that all of the liner materials are in compliance with the specifications, codes, and standards referenced herein. Calculations for the liner design and wall thickness for each manhole to manhole section of pipe shall be prepared in accordance with ASTM 1216, signed and sealed by a Professional Engineer registered in New Hampshire. The submittals shall include installation instructions and details of all component materials and construction methods. The Contractor shall also provide the liner tube manufacturer’s certifications, field measurements, and pipe sizing calculations which demonstrate that the liner tube has been properly sized to avoid the creation of wrinkles or folds. The Contractor shall furnish Material Safety Data Sheets for all appropriate materials to be used in the project.

B. INSTALLATION
The Contractor shall submit the method of liner insertion, liner size, thickness calculations, and assumptions used as the basis for calculations for review by the Engineer prior to the start of work. The liner shall provide complete structural support without considering any structural support from the existing pipe except during construction.

1.06 DESIGN PARAMETERS

A. The newly installed liner shall be designed for a minimum fifty-year service life under continuous loading conditions. The design shall assume no bonding to the original pipe wall. The liner shall be designed to withstand all imposed loads.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>C.I.P.P. System</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pipe Condition</td>
<td>Fully deteriorated</td>
</tr>
<tr>
<td>2. Soil Type</td>
<td>Per in-situ conditions</td>
</tr>
</tbody>
</table>

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CIPP Lining of Existing Sewers (Ultraviolet) 02651-4
3. Design Thickness
5. Soil Land 120 lbs/ft.\(^3\)
7. Modulus of Soil
8. Maximum Deflection 5\%
9. Minimum Safety 2.0
10. Resin Migration Not Allowed
11. Soil Cover Maximum depth of cover over the pipe crown to highest ground surface along the length of the pipe lining.
12. Water Table Assume at ground surface.

PHYSICAL PROPERTIES: The cured pipe shall conform to the minimum structural standards, as follows:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Stress ASTM D-638</td>
<td>3,000 psi</td>
</tr>
<tr>
<td>Flexural Stress ASTM D-790</td>
<td>4,500 psi</td>
</tr>
<tr>
<td>Modulus of Elasticity ASTM D-790 (Initial)</td>
<td>250,000 psi</td>
</tr>
<tr>
<td>Modulus of Elasticity ASTM D-2990 (Long Term)</td>
<td>125,000 psi</td>
</tr>
<tr>
<td>Porosity/Water Tightness Test</td>
<td>Tight</td>
</tr>
</tbody>
</table>

1.07 LINER THICKNESS CALCULATIONS

A. Calculations for the fiberglass liner design and thickness for each manhole to manhole section of pipe shall be prepared, signed and sealed by a Professional Engineer registered in New Hampshire, and submitted to the Engineer for review prior to lining. The minimum allowable thickness for CIPP products is 3.5mm and must be increased as necessary to meet ASTM 1216 Design Formula in 0.7mm manufacturing increments. Lining products below the stated minimum wall thickness (above) will not be allowed under any circumstances.

1.08 CHEMICAL RESISTANCE

A. CHEMICAL RESISTANCE

Chemical resistance shall be in accordance with the requirements of Section 8 of ASTM F 1216, Section X2, Chemical Resistance Tests for polyester resins and completed in accordance with Test Method D 543. Exposure should be for a minimum of one month at 73.4 degrees F when subjected to the following solutions:

---

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<table>
<thead>
<tr>
<th>Chemical Solution</th>
<th>Concentration, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tap Water (pH 6-9)</td>
<td>100</td>
</tr>
<tr>
<td>Nitric Acid</td>
<td>5</td>
</tr>
<tr>
<td>Phosphorus Acid</td>
<td>10</td>
</tr>
<tr>
<td>Sulphuric Acid</td>
<td>10</td>
</tr>
<tr>
<td>Gasoline</td>
<td>100</td>
</tr>
<tr>
<td>Vegetable Oil</td>
<td>100</td>
</tr>
<tr>
<td>Detergent</td>
<td>0.1</td>
</tr>
<tr>
<td>Soap</td>
<td>0.1</td>
</tr>
</tbody>
</table>

The Contractor shall be responsible for all costs associated with the chemical resistance tests. Proof of meeting these requirements shall be provided to the Engineer for approval at least 7 days prior to the commencement of work.

1.09 WARRANTY

A. WARRANTY
The Contractor shall provide the Owner with a warranty to be in force and effect for a period of one (1) year from the date of final acceptance of the project by the Owner. The warranty shall cause the Contractor to repair or replace the liner should failure or damage result from faulty materials or installation. At the end of the warranty period, the Engineer may perform a television inspection to confirm the condition of the liner.

PART 2 MATERIALS

2.01. GENERAL

A. CERTIFICATE OF COMPLIANCE
A Certificate of Compliance with these Specifications shall be provided by the manufacturer for all materials furnished under these specifications.

2.02 MATERIALS

A. RESIN

1. ACCEPTABLE RESINS TYPES:
   a. Polyester npg.
   b. Orthothallic
   c. Vinylester

2. The liquid thermosetting resin used in this rehabilitation project shall produce a properly cured tube which will be resistant to abrasion caused
by solids, grit, and/or sand. The cured tube shall also be resistant to corrosion due to acids and gases such as sulfuric acid, carbonic acid, hydrogen sulfide, methane, and carbon monoxide. The Cure-In-Place-Pipe system shall utilize thermosetting resins which will withstand the corrosive effect of the existing residential commercial, and industrial sewage effluents, liquids and/or gases.

The resin system to be used shall be manufactured by an approved company selected by the Cured-In-Place process manufacturer. Documentation of approved status is a pre-lining requirement.

B. LINER TUBE

1. ACCEPTABLE MATERIALS

Fiberglass (cured with ultra-violet light).

2. TUBE CHARACTERISTICS AND STANDARDS

At the time of manufacture, each lot of glass fiber liner shall be inspected for defects and tested in accordance with applicable ASTM standards. At the time of delivery, the liner shall be homogeneous throughout, uniform in color, free of cracks, holes, foreign materials, blisters, and deleterious faults.

For testing purposes, a production lot shall consist of all liner having the same marking number. It shall include any and all items produced during any given work shift and must be so identified as opposed to previous or ensuing production.

The ENGINEER may at any time direct the manufacturer to obtain compound samples and prepare test specimens in accordance with applicable ASTM standards.

An "inner liner" and "outer liner" film must be used for resin control (to prevent resin migration and contamination). The "inner film" and "outer film" must both be certified styrene gas barriers. The "inner liner" film must be removed during the installation process unless it is a permanent part of the system and is made an integral part of the carrier tube by bonding or fusing to the carrier tube.

The material shall be manufactured in such a manner as to result in a tight-fitting, continuous liner after installation. There shall be no measurable annular space. The liner shall have a snug fit at manhole terminations as shall be evidenced by flares.
All wet-out or impregnation of the Tube must be done in an EPA-regulated, quality-controlled facility. Documentation of EPA permitting must be submitted with all qualified bids. No “over the hole” or “on-site” wet-out is allowed. For products that are cured with hot water, the wet-out must be conducted within 300 miles of the job site considering the time-sensitive characteristics of thermal-cured products.

3. **FIBERGLASS TUBE**

The glass fiber tubing shall be seamless and spirally wound, including an exterior and interior film that protects and contains the resin used in the liner. The exterior film will be provided with a UV light blocker foil.

The Tube shall consist of a seamless, spirally wound glass fiber that is flexible and has strain values (expandable) of equal to eight (8) percent. The tube will not have a longitudinal seam, including a stitched seam, stitch-free-weld or bond, or stitch-free overlap. The tube shall be constructed to withstand installation pressures and have sufficient strength to bridge missing pipe.

The impregnated Tube shall have a uniform thickness, that when compressed at installation pressures, will meet or exceed the Design thickness. If voids are present in the pipe, the Design wall thickness must still be met or exceeded.

The Tube shall be sized such that when installed, it will tightly fit the internal circumference and length of the original pipe.

The glass fiber Tube shall be saturated with the appropriate resin using a resin bath to allow for the lowest possible amount of air entrapment. Vacuum-suction impregnation methods are not allowed due to the introduction of air using this method. The liner will then be formed into a spirally wound shape for the purpose of being seamless in its cured state. An inner and outer material will be added that are both impervious to airborne styrene, with the outer materials also having UV blocking characteristics. The inner membrane will be removed after the installation and curing processes are completed. The wall color of the interior pipe surface of CIPP after installation shall be a light reflective color so that a clear detailed examination with closed circuit television inspection equipment may made.

The liner should be seamless in its cured state to insure homogenous physical properties around the circumference of the cured liner.
The manufacturer will test the raw materials and liner materials at various stages of manufacturing on every liner, including taking samples of every finished liner and conducting test for e-modulus, tensile, wall thickness and porosity.

Fiberglass materials must be "direct sized" to enhance the fiberglass/resin bond. Certification of this coating and its compatibility with the resin system used is required.

The Tube shall be constructed to withstand installation pressures and have sufficient strength to bridge missing pipe while meeting or exceeding the Design wall thickness at all pipe locations during installation conditions and pressures.

PART 3 INSTALLATION

3.01. GENERAL

Installation of the impregnated liner may be by inversion, or pull in place insertion as specified by the manufacturer. All equipment, labor materials, and processes required to complete the work must be ready on-site before installation begins.

3.02. PRE-INSTALLATION

Prior to installation of the liner, the following activities are required:

a. Receipt and approval of pre-installation submittals.
b. Verification of line condition and any obstructions by video inspection.
c. Verification of existing taps in service by flowing water, dye test, or visually with a pan and tilt head camera or other means.
d. Cleaning of line (recorded on video tape).
e. Root cutting
f. Construct and complete any and all point repairs deemed necessary shall receive Engineer's approval before reworking the lines and the liner is installed.

Prior to installation, the diversion pumping system, including back-up pumps, shall be tested and running.

3.03. SET-UP

The installation area/equipment shall be securely protected and all damaged yards, driveways, walks, etc., shall be repaired at no cost to the Owner. Plastic sheeting will be used to cover the work area around the manholes and/or access points to eliminate the opportunity of environmental contamination to the above-ground setting during the installation process.
3.04 PRE-LINER/OUTER FILM/OUTER LINER

At all locations where the CIPP liner is inverted or inserted into the host pipe, a pre-liner tube shall be used to control resin loss, liner thickness, a reduction in physical properties, contamination of the resin by water or other contaminants, and prevent blocked or plugged services or laterals. The pre-liner tube shall be reinforced plastic sheet formed into a tube sized to fit the host pipe being lined and shall be continuous from manhole to manhole. The pre-liner tube must be a rated gas barrier for styrene. Installation of the pre-liner tube shall be witnessed by the Owner or Engineer. Failure to install the required pre-liner tube or installation of pre-liner tube over only part of the segment shall result in the completed C.I.P.P. for that segment being rejected (regardless of physical tests and thickness test results). During thickness testing, the pre-liner tube shall be removed from the thickness test core sample along with the inner liner firm used. If there is any damage to the pre-liner tube, it should be repaired immediately with styrene-proof tape.

3.05 TUBE INSERTION AND CURING

1. An independent slip sheet, or integrated slip sheet shall be installed on the bottom half of the pipe prior to liner insertion, for the purpose of smoothing out the bottom of the liner to increase flow characteristics.
2. The pre-liner tube, or outer film, must be inserted into the pipe prior to inserting the liner, unless it is manufactured on the exterior of the liner, which is a normal characteristic of most fiberglass CIPP liners.
3. A constant tension winch should be used to pull the glass fiber liner into position in the pipe. Once inserted, end plugs shall be used to cap each end of the glass fiber liner to prepare for pressurizing the liner. The end plugs should be secured with straps to prevent them from being expelled due to pressure. Liner restraints should be used in manholes.
4. The glass fiber liner shall be cured with UV light sources at a constant inner pressure.

a. The UV light sources should be assembled according to the manufacture's specifications for the liner diameter. For the liner to achieve the required water tightness and specified mechanical properties, the following parameters must be controlled during the entire curing process, giving the Engineer a record of the curing parameters over every segment of the entire length of the liner. This demonstrates that the entire liner is cured properly. The recording will include:
   • Curing Speed
   • Light source working & wattage
   • Inner air pressure
   • Exothermic (curing) temperatures
   • Date and time
   • Length of liner
5. This will be accomplished using a computer and data base that are tamper proof. During the curing process, infrared sensors will be used to record curing data that will be submitted to the Engineer with a post CCTV inspection on DVD.

The parameters for curing speed, inner air pressure and wattage are defined in the Quality Tracker UV curing protocol issued by the manufacturer. The optimal curing speed, or travel speed of the energized UV light sources, is determined for each length of liner based or liner diameter, liner thickness, and exothermic reaction temperature.

6. Flushing of the cured fiberglass/UV cured CIPP liner (to reduce styrene residual) is not required for fiberglass/UV cured CIPP products that provide 3rd party test results that document styrene residual levels (without flushing) within acceptable defined levels.

3.06 SEALING AT MANHOLEs

The cured-in-place CIPP shall make a tight seal at the manhole wall opening with no annular gaps. Under all circumstances, the liner shall be sealed to the manhole and host pipe with a resin mixture compatible with the liner/resin system, and applied in accordance with the manufacturer’s specifications.

3.07 REINSTATEMENT OF SERVICES

1. All live services shall be reinstated as soon as practical after rehabilitation, testing, and cooling of sewer lines. Inactive services may be left unopened as directed by the Engineer. It is the Contractor’s responsibility to document all live services prior to lining. Each service connection shall be noted by its size, position from a reference manhole, and orientation with respect to the circumference of the pipe. Reconnection shall be accomplished from the interior of the sewer line by means of a television camera and a remote controlled cutting device. Excavation to activate existing sewer services shall not be allowed.

2. Holes cut through the rehabilitation liner shall be done in a two-step process. The holes shall be first cut open with a router bit or deburring tool, and then brushed with a wire brush to a neat and smooth surface. Holes shall reopen service lines to a minimum of ninety (90%) percent of the service lateral. A one-step process that accomplishes the same effect may be used if approved by the Engineer.
3.08 FINISH

The finished CIPP shall be continuous over the entire length of any section and be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, pinholes and delamination.

3.09 TESTING, INSPECTION AND ACCEPTANCE

A. MATERIAL TESTING

1. All material testing shall be performed by a registered independent, third-party laboratory, and paid for by the Contractor.

2. The Contractor shall provide test results of the short term properties of the cured lining material in the quantity of one test per liner batch, or 3,000 feet of installed liner, or as required by the Owner. The liner shall be in compliance with the physical properties described in these Specifications. Flexural strength and modulus shall be tested in accordance with the requirements of ASTM D 790.

B. INSPECTION

1. After the work is completed, the Contractor shall inspect the pipeline by closed circuit color television inspection and shall provide the Engineer with one copy of a videotape or acceptable digital format recording of this inspection log for the Owner’s records. Any repaired areas shall be re-televised.

C. FIELD TEST (THICKNESS)

1. Remove the CIPP liner material from the host pipe core samples. Remove any inner liner film, pre-liner and resin that is not contained within the tube. Measure the liner thickness at three spots on each sample. The resulting six measurements will be averaged. The average thickness shall be equal to or greater than the required thickness for the particular section. No undersize allowance is permitted. In accordance with D 790-03, referenced in ASTM 1216, the calculated wall thickness refers only to the part of the liner that consists of a saturated tube. Elements that are not part of the saturated tube do not contribute to the structural integrity of the liner, thereby excluding tube that is not fully saturated or portions of resin without the tube carrier.
D. ACCEPTANCE

3. Prior to final acceptance, any defects that may affect the integrity or strength of the pipeline is the opinion of the Engineer shall be repaired by the Contractor at no additional cost to the Owner.

4. Pipeline shall be true to line and grade, with no visual bulges, sags, protrusions, deflections, offset joints, leaking joints, or other visible infiltration, or other defects that would impair the intended use of the completed pipeline.

5. Final acceptance of work shall not be granted until all defective areas are repaired in accordance with the CIPP manufacturer’s recommendations and to the Engineer’s satisfaction.

6. Any repairs required by the Engineer as a result of the post construction internal inspection shall be performed by the Contractor.

7. Contractor shall perform a post construction internal inspection in accordance with Section 02760. Final acceptance of the work shall not be granted until post installation inspection has been reviewed and approved by the Engineer.

8. Contractor shall perform testing as specified. Final acceptance of the work shall not be granted until the appropriately formatted testing results have been reviewed and approved by the Engineer.

END OF SECTION
SECTION 02745
ROAD RESTORATION

PART 1 - GENERAL

1.01 WORK INCLUDED:

Furnish all labor, equipment and materials required to install crushed gravel base course, bituminous concrete pavement courses including temporary and permanent trench paving curbing, sidewalks, disposal of excess material at the City landfill and restoration of pavement markings in roadway areas where spot sewer repairs are required, manholes are to be installed, manhole frames and covers are replaced, or as ordered by the Engineer and as specified herein.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK
B. Section 02631, PRECAST MANHOLES

1.03 PAVEMENT DESCRIPTION:

A. GENERAL

In roadway areas where sewer spot repairs are required or ordered by the Engineer, all trenched areas shall be paved with temporary bituminous pavement as detailed on the plans as soon as practicable after installation of individual pipeline segments, but no trench shall be without temporary pavement longer than seven (7) calendar days. After a minimum period of 30 days, the trench patch pavement area shall be saw cut and removed beyond the limits of the trench, and crushed gravel and binder and finish courses of pavement shall be installed as detailed on the Contract Drawings, or as ordered by the Engineer. Miscellaneous curbing and sidewalk disturbed by spot repairs shall be repaired as detailed on the Contract Drawings, or as ordered by the Engineer.

1.04 REFERENCES

The following standards form a part of these specifications and indicate the minimum standards required:

American Society for Testing and Materials (ASTM):

ASTM D1557 Test for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 Pound Rammer and 18-Inch Drop
State of New Hampshire Department of Transportation (NHDOT) Standard Specifications for Road and Bridge Construction, latest edition:

Section 304  Base Courses
Section 401  Plant Mix Pavements - Table 401-1, 401-2
Section 632  Retroreflective Pavement Markings
Prime and Tack Coats - shall conform to the NHDOT Standards

Federal Specifications:
SS-S-164  Sealing Compound, Hot Poured Type, for Joints in Concrete
SS-S-1401C  Sealants, Joint, Non-Jet-Fuel-Resistant, Hot Applied, for Portland Cement and Asphalt Concrete Pavement

1.05  SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Six sets of complete job mix formula shall be submitted to the Engineer at least two weeks before any of the work of this section is to begin.

B. Delivery slips shall be furnished with each load of mix delivered to the project. Information shall include:

2. Date.
3. Project.
4. Identification of material.
5. Gross, tare and net weights.
7. Stamped by a licensed public weighmaster.

C. Material test results performed by a certified laboratory shall be submitted to the Engineer for crushed gravel subbase proposed for the project. If required by the Engineer, samples shall be submitted to the Engineer.

PART 2 - PRODUCTS

2.01  CRUSHED GRAVEL SUBBASE:

A. Crushed gravel subbase shall conform to NHDOT Item 304.3 Crushed Gravel, or Item 304.4 Crushed Stone (Fine Gradation).
2.02 BITUMINOUS CONCRETE PAVEMENT:

A. The type of bituminous pavement courses to be utilized on this project shall be:

<table>
<thead>
<tr>
<th>Roadway Pavement Section</th>
<th>Thickness (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temporary Pavement</strong></td>
<td></td>
</tr>
<tr>
<td>NHDOT 12.5mm Superpave</td>
<td>3” Arterial Streets</td>
</tr>
<tr>
<td>(50 Gyration Design)</td>
<td>2” Residential Streets</td>
</tr>
<tr>
<td><strong>Permanent Wearing Course</strong></td>
<td></td>
</tr>
<tr>
<td>NHDOT 9.5 mm Superpave</td>
<td>1-1/2” Arterial &amp;</td>
</tr>
<tr>
<td>(75 Gyration Design)</td>
<td>Residential Streets</td>
</tr>
<tr>
<td><strong>Permanent Binder Courses</strong></td>
<td></td>
</tr>
<tr>
<td>NHDOT 19 mm Superpave</td>
<td>5-1/2” Arterial Streets</td>
</tr>
<tr>
<td>(50 Gyration Design)</td>
<td>3-1/2” Residential Streets</td>
</tr>
</tbody>
</table>

B. The joint sealant shall be a hot poured rubberized emulsified asphalt sealant meeting the requirements of Federal Specifications SS-S-1401 or SS-S-164.

C. TACK COAT:

A. The tack coat shall be an asphalt emulsion, RS-1.

B. The Tack Coat shall be applied to all vertical seams and joints, and between the bituminous binder and wearing course layers.

C. The surface to which the Tack Coat will be applied shall be prepared as detailed in the NHDOT, Standard Specifications 410.3.3.1.

D. The Tack Coat shall be applied as detailed in the NHDOT Standard Specifications 410.3.4.1

E. The Tack Coat shall be applied at a rate as detailed in the NHDOT Standard Specifications 410.3.4.1.1, and as approved by the Engineer.

F. The Tack Coat shall be considered subsidiary to the pavement items of work.

2.04 CURBING:

A. Curbing shall conform to the requirements of NHDOT Standard Specifications 609, Items 609.01 or Item 609.02 as detailed on the plans.
2.05 SIDEWALKS:
A. Sidewalks shall conform to the requirements of NHDOT Standard Specifications 608, Items 608.12 or Item 608.24 as detailed on the plans.

2.06 PAVEMENT MARKINGS:
A. Pavement markings shall conform to the requirements of NHDOT Standard Specifications 632, and shall be considered incidental to the pavement items of work.
B. The mixture of the marking material shall be within the composition limits for reflectorized pavement markings as described in the NHDOT Standard Specifications.

PART 3 EXECUTION

3.01 GENERAL:
A. Paving courses required for the project shall be as shown on the drawings and as specified herein. Pavement thicknesses specified are measured in compacted inches. If a pavement course thickness exceeds 2-1/2 compacted inches, the course shall be installed in multiple lifts with each lift not exceeding 2-1/2 compacted inches in thickness.

3.02 GRAVEL SUBBASE:
A. The crushed gravel subbase to be placed under pavement shall consist of the specified thickness of crushed gravel evenly spread and thoroughly compacted.
B. The gravel shall be spread in layers not more than 6-inches thick, compacted measure. All layers shall be compacted to not less than 95 percent of the maximum dry density of the material as determined by ASTM D1557 Method C at optimum moisture content.

3.03 TEMPORARY BITUMINOUS PAVEMENT:
A. Where specified and directed by the Engineer and after placement of the Crushed gravel sub-base, the Contractor shall place temporary bituminous pavement above the trench, between the edges of the existing pavement. It shall consist of a course of 1/2" (12.5 mm) Hot Bituminous Pavement mix, of the thickness specified on the plans, in accordance with NHDOT Standard Specifications Section 401.
B. The temporary pavement shall be repaired as necessary to maintain the surface of the pavement until replaced by permanent pavement. When so directed by the Engineer, the Contractor shall remove the temporary pavement and install or regrade the sub-base for installation of permanent pavement.

3.04 PERMANENT BITUMINOUS PAVEMENT:
A. The bituminous paving mixture, equipment, methods of mixing and placing, and the precautions to be observed as to weather, condition of base, etc., shall be in accordance with NHDOT Standard Specifications Section 401. The permanent pavement patch shall be constructed as detailed on the plans.

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B. BASE COURSE AND BINDER COURSE PAVEMENT:

1. Immediately prior to installing the base and/or binder course, the trimmed edges shall be made stable and unyielding, free of loose or broken pieces and all edges shall be thoroughly broomed clean. Contact surfaces of trench sides, curbings, manholes, catch basins, or other appurtenant structures in the pavement shall be painted thoroughly with a uniform coating of asphalt emulsion (tack coat), just before any mixture is placed against them.

2. The binder course shall be repaired as necessary to maintain the surface of the pavement until placement of the permanent overlay. If required, the Contractor shall place a leveling course before placing the permanent overlay.

C. TOP COURSE OR SURFACE TREATMENT PAVEMENT:

1. Top course or surface treatment shall be placed over the full width as shown on the drawings or as specified.

2. Prior to placement of the top course or surface treatment, the entire surface over which the top course or surface treatment is to be placed shall be broom cleaned and tack coated.

3. Top course or surface treatment pavement placed over trenches may be feathered to meet existing paved surfaces, if approved by the Engineer.

3.05 PAVEMENT PLACEMENT:

A. Unless otherwise permitted by the Engineer for particular conditions, only machine methods of placing the pavement shall be used. The equipment for spreading and finishing shall be mechanical, self-powered pavers, capable of spreading and finishing the mixture true to line, grade, width and crown. The mixtures shall be placed and compacted only at such times as to permit proper inspection and checking by the Engineer.

B. After the paving mixtures have been properly spread, initial and intermediate compaction shall be obtained by the use of steel wheel rollers having a weight of not less than 240 pounds per inch width of tread.

C. Final rolling of the top course or surface treatment pavement shall be performed by a steel wheel roller weighing not less than 285 pounds per inch width of tread at a mix temperature and time sufficient to allow for final smoothing of the surface and thorough compaction.

D. Immediately after placement of top course or surface treatment pavement, all joints between the existing and new top course or surface treatment pavements shall be sealed with hot poured rubberized asphalt sealant meeting the requirements of Federal Specification SS-S-1401 or SS-S-164.

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E. When directed by the Engineer, the Contractor shall furnish and install additional paving to provide satisfactory transition for driveways and walkways impacted by a new curb-to-curb pavement installation. The transition installation will be considered incidental to the curb-to-curb pavement installation.

3.06 RAISING AND ADJUSTING CASTINGS:

A. In areas of permanent top course paving, existing municipally-owned catch basin and manhole castings and valve boxes shall be raised to the proper grade where directed by the Engineer.

B. Castings owned by private utilities shall be raised by their own forces. The Contractor shall be responsible for coordinating this work.

C. The method of adjusting these castings shall be as follows: Cut around catch basin or manhole castings a minimum of 8-inches from casting. Excavate and if required rebuild up to 18-inches of masonry below the bottom of the casting. Backfill with suitable material and compact to bottom of casting. Place high, early strength cement or bituminous concrete collar, as directed, to approximately 1 1/2-inches below the raised casting grade. Masonry work shall conform to Section 02631, PRECAST MANHOLES.

D. In some areas, raising of castings may not be required. Where directed by the Engineer, castings not to be raised shall have at least 12-inches of bituminous concrete pavement chipped and removed around the casting. New bituminous concrete pavement shall be placed and compacted around such castings to approximately 1-1/2-inches below the top of the casting. The overlay course shall then be sloped down to the level of the casting.

E. The method of raising valve boxes shall be as follows: Cut around valve box a minimum of 8-inches from valve box. Excavate as required and raise the valve box. Pour high early strength cement or bituminous concrete collar, as directed, to approximately 1-1/2-inches below the top of the valve box.

F. Castings which need to be raised or adjusted to complete permanent curb to curb paving shall be done immediately prior to paving.

3.07 CURBING:

A. The Contractor shall install curbing in accordance with the Construction Requirements as specified in NHDOT Section 609.

3.08 SIDEWALKS:

A. The Contractor shall install sidewalks in accordance with the Construction Requirements as specified in NHDOT Section 608.

3.09 PAVEMENT MARKINGS:
A. The Contractor shall replace all pavement markings removed or covered-over in carrying out the work, and as directed by the Engineer, no sooner than 48 hours after completion of permanent pavement. The markings and respective mixture and application requirements shall conform to the requirements of NHDOT Standard Specifications Section 632.

B. When directed by the Engineer, the Contractor shall provide temporary markings at no additional cost to the Owner.

3.10 PAVEMENT REPAIR:

A. If required in the contract or if permanent pavement becomes rough or uneven, permanent pavement patches and trenches shall be repaired and brought to grade utilizing "infrared" paving methods following completion of the construction.

B. The Contractor performing the work shall use care to avoid overheating the pavement being repaired.

C. Pavement repair shall extend a minimum of 6-inches beyond all edges of the pavement patch to assure adequate bonding at the pavement joints.

END OF SECTION
SECTION 02800

MANHOLE REHABILITATION

PART I - GENERAL

1.01 SCOPE OF WORK:

A. Provide all labor, materials, accessories, equipment, tools, and incidentals required to rehabilitate and test manholes as shown on the Drawings and as specified herein, including interior manhole surface preparation, decanting and disposal of debris at the City landfill, flow diversion, inflow control, invert and invert reconstruction, internal cement or epoxy lining system, and pipe connections.

B. The manhole rehabilitation products shall be fabricated from materials which, when installed, shall mitigate or terminate infiltration and shall be chemically-resistant to withstand exposure to domestic sewage.

1.02 RELATED WORK SPECIFIED ELSEWHERE:

A. Section 01330 – Submittals

1.03 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS:

A. Without limiting the generality of the other requirements of the Specifications, all work herein shall conform to the applicable requirements of the following documents. All referenced specifications, codes, and standards refer to the most current issue available at the time of Bid.


2. ASTM C273 Standard Test Method for Shear Properties of Sandwich Core Materials

3. ASTM C293 Standard Test Method for Flexural Strength of Concrete (Using Simple Beam With Center-Point Loading)

4. ASTM C496 Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens
5. ASTM C882 Standard Test Method for Bond Strength of Epoxy-Resin Systems Used With Concrete By Slant Shear
6. ASTM C1244 Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill
8. ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
13. ASTM D4787 Standard Practice for Continuity Verification of Liquid or Sheet Linings Applied to Concrete Substrates

1.04 SUBMITTALS:

A. Shop Drawings: The Contractor shall submit the following for the manhole rehabilitation products in accordance with the requirements set forth in pertinent sections:

1. Physical and chemical properties
2. Material composition
3. Confirmation of conformance to applicable reference standards
4. MSDSs
5. Warranty information
6. Instructions for installation and repair

7. Manufacturer's statement of compatibility between epoxy coating and cementitious base coat.

8. The qualifications of the Contractor shall be submitted to the Engineer for evaluation prior to commencement of work. These qualifications shall include detailed descriptions of the following:

a. Name, business address, and telephone number of the Contractor

b. Name(s) of all supervisory personnel that will be directly involved in the Project

c. Proposed product information showing compliance with the specified requirements listed herein, including chimney seal, grout, and internal liner material, and the respective manufacturer's installation instructions.

d. Documentation of certification of the Contractor, specialty technician, and/or installer by the product manufacturer and/or its authorized representative

e. A reference list of previous projects on which the Contractor and/or installer has rehabilitated manholes over the last two years, including project name, project number, customer name, owner's contact information (name and phone number), and the number of manholes rehabilitated

f. To be acceptable, the Contractor/installer must have had a minimum of 500 manhole rehabilitation product installations and a minimum of five (5) years of active experience in the commercial installation of the products.

g. The Contractor shall sign and date the information provided and certify that, to the extent of his knowledge, the information is true and accurate and that the supervisory personnel will be directly involved with and used on the Project. Substitutions of personnel and/or methods will not be allowed without prior written authorization by the Owner and Engineer.

1.05 WARRANTY:

A. All rehabilitation systems shall be warranted by the applicator and/or manufacturer against failure for a minimum of two (2) years after acceptance by the Owner; in no case shall the warranty be less than the manufacturer’s published standard warranty period.
B. Failure will be deemed to have occurred if the grout fails to prevent groundwater infiltration or prevent the internal deterioration or corrosion of the manhole. If any such failure occurs within the warranty period, the damage shall be repaired by the Contractor in a manner satisfactory to the Engineer at no cost to the Owner within 60 days after written notification of the failure. The repaired grout application shall have an additional 2 years duration warranty period starting on the date of repair.

PART 2 - PRODUCTS

2.01 GENERAL:

A. The materials to be utilized in the rehabilitation of manholes shall be designed and manufactured to withstand the corrosive effects of hydrogen sulfide in a wastewater environment, prevent infiltration, and withstand constant and direct contact with flowing wastewater.

2.02 INTERNAL-LINER SYSTEM (CEMENT):

A. The internal liner system shall be specifically designed for a minimum service life of 50 years, to continuously bond to the substrate, to withstand a temperature range of 0 degrees to 100 degrees Fahrenheit, to restore the interior of the manhole, to withstand the corrosive gases of domestic wastewater (especially hydrogen sulfide), to eliminate the infiltration of groundwater through the manhole walls and mortar joints, and to be structurally capable of withstanding the pressure of groundwater based on the depth of the specific manhole being lined.

B. The internal liner system shall consist of a hydrostatic leak correction, hydraulic cement patching of voids and a cementitious final coating. Infiltration control, patching material, and/or a cementitious coating coat may all be necessary depending on the extent of the manhole corrosion, damage, substrate profile, loss of material, and infiltration. All materials used shall be completely compatible with all other manhole rehabilitation products being used. Contractor shall ensure compatibility of all products with the individual material manufacturers.

C. Where necessary, infiltration control and patching materials shall be installed in accordance with the lining manufacturer's requirements prior to installing the lining system to control active infiltration and repair voids in the existing manhole walls or damaged inverts. Infiltration control and patching materials shall be rapid-setting, high early strength, hand-applied cementitious materials for stopping infiltrating water and making repairs to concrete, brick, or other masonry-constructed manholes. The materials shall be non-shrinking, nonmetallic, and non-corrosive. The materials shall be
compatible with the lining material used. Infiltration control and patching materials shall be as manufactured by The Strong Company, Inc., Raven Lining Systems, Madewell Products Corporation, Quadex, Inc., or Engineer-approved equal.

F. Cementitious coating shall be a pumpable, Portland-based microsilica cement or calcium aluminate cement. Cementitious base coat shall be Raven 705CA by Raven Lining Systems, Mainstay ML-72 by Madewell Products Corporation, or Engineer-approved equal. Cementitious base coat, when cured, shall meet the following requirements at 28 days at a minimum:

1. Compressive Strength: 9,200 psi (per ASTM C109)
2. Tensile Strength: 685 psi (per ASTM C496)
3. Flexural Strength: 1,200 psi (per ASTM C293)
4. Minimum Finished Dry Thickness: As specified in 3.02, Paragraph H herein
5. Bond Strength: 2,000 psi (per ASTM C882)

2.03 INTERNAL-LINER SYSTEM (EPoxy):

A. The internal liner system shall be specifically designed for a minimum service life of 50 years, to continuously bond to the substrate, to withstand a temperature range of 0 degrees to 100 degrees Fahrenheit, to restore the interior of the manhole, to withstand the corrosive gases of domestic wastewater (especially hydrogen sulfide), to eliminate the infiltration of groundwater through the manhole walls and mortar joints, and to be structurally capable of withstanding the pressure of groundwater based on the depth of the specific manhole being lined.

B. The internal liner system shall be a 100 percent solids epoxy over a cementitious base coat. Infiltration control, patching material, and/or a cementitious base coat may be necessary depending on the extent of the manhole corrosion, damage, substrate profile, loss of material, and infiltration. All materials used shall be completely compatible with all other manhole rehabilitation products being used. Contractor shall ensure compatibility of all products with the individual material manufacturers.

C. Where necessary, infiltration control and patching materials shall be installed in accordance with the lining manufacturer’s requirements prior to installing the lining system to control active infiltration and repair voids in the existing manhole walls or damaged inverts. Infiltration control and patching materials shall be rapid-setting, high
early strength, hand-applied cementitious materials for stopping infiltrating water and making repairs to concrete, brick, or other masonry-constructed manholes. The materials shall be non-shrinking, nonmetallic, and non-corrosive. The materials shall be compatible with the lining material used. Infiltration control and patching materials shall be as manufactured by The Strong Company, Inc., Raven Lining Systems, Madewell Products Corporation, Quadex, Inc., or Engineer-approved equal.

D. Epoxy coating shall be high-build, shall be 100 percent solids, and shall contain no volatile organic compounds. Coating shall be suitable for use as a trowel-applied or spray-applied monolithic surfacing at the minimum dry film thickness specified herein. Epoxy coating shall be Raven 405 by Raven Lining Systems, Mainstay DS-5 by Madewell Products Corporation, SprayWall by Sprayroq, S-301 Epoxy Spray System by Warren Environmental, Inc., or Engineer-approved equal. Epoxy coating shall meet the following requirements at a minimum:

1. Shore D Hardness: 85 (per ASTM D2240)
2. Compressive Strength: 12,000 psi (per ASTM D695)
3. Tensile Strength: 6,800 psi (per ASTM D638)
4. Flexural Strength: 11,000 psi (per ASTM D790)
5. Minimum Finished Dry Thickness: 125 mils
6. Adhesion to Concrete: Substrate failure (per ASTM D7234)

E. Cementitious base coat shall be a pumpable, Portland-based microsilica cement or calcium aluminate cement. If the epoxy coating manufacturer also manufactures a cementitious base coat, the cementitious base coat product shall be by the same manufacturer as the epoxy top coat product. If the epoxy coating manufacturer does not manufacture a cementitious base coat, the cementitious base coat product shall be compatible with the epoxy top coat product. Contractor shall ensure compatibility between the top coat product and cementitious base coat product. Cementitious base coat shall be Raven 705CA by Raven Lining Systems, Mainstay ML-72 by Madewell Products Corporation, or Engineer-approved equal. Cementitious base coat, when cured, shall meet the following requirements at 28 days at a minimum:

1. Compressive Strength: 9,200 psi (per ASTM C109)
2. Tensile Strength: 685 psi (per ASTM C496)
3. Flexural Strength: 1,200 psi (per ASTM C293)
4. Finished Dry Thickness: See Article 3.04, Paragraph H herein

5. Bond Strength: 2,000 psi (per ASTM C882)

PART 3 - EXECUTION

3.01 GENERAL:

A. Contractor shall accurately field-measure and size the rehabilitation products for each individual manhole. Each existing sewer manhole to be rehabilitated may have a different configuration and varying field dimensions. All field measurements shall conform to the requirements of the manufacturers of the rehabilitation products.

3.02 INTERNAL LINER SYSTEM:

A. All loose and protruding mortar, bricks, manhole steps, roots, and anything else that might prevent proper application of the liner shall be removed prior to application. Manhole steps and protruding pipe shall not be replaced after installation of the liner.

B. High pressure water shall be used during surface preparation to produce a clean, abraded, and sound surface with no evidence of laitance, loose material, or other contaminants. Surface shall have a suitable profile for application of liner in accordance with the manufacturer’s requirements.

C. All areas to be lined shall be dry, clean, and free of dust, dirt, sand, and other contaminants as recommended by the manufacturer prior to installation. A torch or heat lamp may be required to ensure a dry surface.

D. Any spray equipment used for application shall be specifically designed to accurately ratio and apply the liner system. Liner system shall be installed in strict accordance with the manufacturer’s installation instructions over the entire interior of the manhole and 2 inches up onto the frame and 6 inches down onto the bench.

E. Epoxy coating, if ordered by the Engineer, shall be installed in strict accordance with the manufacturer’s installation instructions, including those for materials handling, primers, mixing, environmental controls, working time, working temperature, pot life, allowable time between coats (recoat time), safety, and spray equipment. Installation of epoxy coating over cementitious base coat shall not occur until the cementitious base coat has cured to the extent and time required by the manufacturer. A permanent identification
and date of work performed shall be affixed to the structure in a readily-visible location, and a final written report shall be provided to Owner and Engineer detailing the location, date of report, and description of liner installation.

H. Cementitious coating shall be installed in strict accordance with the manufacturer’s installation instructions, including those for materials handling, on-site mixing, environmental controls, working time, working temperature, safety, and spray equipment. Water shall only be added to the materials during the mixing process and prior to material pumping or spray application; water shall not be added at the nozzle. Cementitious base coat shall only be installed via low-pressure application. The cured base coat surface shall be troweled smooth and continuous with proper sealing connections to all unsurfaced areas. The total thickness of the cementitious base coat shall be in accordance with the epoxy lining manufacturer’s recommendations and the following minimum requirements:

1. For all brick manholes and for block or cast concrete manholes in poor condition with notable loss of surface material or exposed reinforcing, apply to a minimum thickness of 1 inch.

2. For block or cast concrete manholes in fair condition, apply to a minimum thickness of 0.5 inch.

3. For block or cast concrete manholes in good condition with no loss of surface material, it may be acceptable to apply the epoxy top coat directly to the manhole surface without applying a cementitious base coat if the Contractor confirms that the existing manhole surface meets the requirements of the epoxy top coat manufacturer.

3.03 MANHOLE INVERT RECONSTRUCTION:

Where ordered by the Engineer, manhole channels, inverts and benches shall be constructed of brick. Invert construction shall comply with the City of Nashua requirements found in the Standard Specifications for Sewers and Drains available at the City Engineering Department or on line at www.NashuaNH.gov under Public Works Department, then Engineering Department, and the Standard Sewer Details on the plans. All debris shall be decanted and disposed of at the City landfill.

3.04 SEWER MANHOLE INSIDE DROP ASSEMBLY:

A. Drop pipe and bowl shall be connected to the pipe(s) entering a manhole using manufactured couplings or fittings.

2019 CIPP Lining Project
Nashua, NH

Manhole Rehabilitation
02800-8
B. Schedule 40 PVC pipe shall be connected using industry-grade solvent cement.

C. Drop pipe shall be secured to the inside of manhole using steel straps or struts. Straps shall have a minimum width of 1/2 inch and a minimum thickness of 0.03 inch.

D. Tee and bottom elbow shall be firmly secured by stainless steel straps. Intermediate straps shall be spaced at a minimum of 5 feet. Straps shall be epoxy-anchored to manhole using 1/4-inch anchors (two per strap). Anchor shall be embedded into mortar a minimum of 3 inches. Bottom elbow shall be seated on bench for support.

E. If a manufactured drop bowl product is used, drop assembly shall be sized and installed in strict accordance with the manufacturer’s installation instructions and guidelines.

3.05 INSPECTION, TESTING, AND ACCEPTANCE:

A. If any defects are observed, products shall be repaired or replaced at no cost to the Owner using a method acceptable to the Engineer.

B. Vacuum testing in accordance with ASTM C1244 shall be required on one randomly-selected manhole for each group of five manholes rehabilitated with internal liners. Contractor shall perform vacuum testing with appropriate test equipment in the presence of an inspector. Any manholes failing this test shall be reworked as necessary and retested at no additional cost to the Owner. All verification and vacuum testing shall be at no cost to the Owner and shall be paid for by the Contractor.

C. Holiday detection testing in accordance with ASTM D4787 shall be required on one randomly-selected manhole for each group of five manholes rehabilitated with internal chimney seals or liners. Contractor shall perform holiday detection testing in the presence of an inspector with test equipment appropriate for the product. All detected holidays shall be marked and repaired by abrading the coating surface with grit disk paper or another hand-tooling method. After abrading and cleaning, additional coating shall be hand-applied to the repair area as needed. All touch-up/repair procedures shall be in accordance with the coating manufacturer’s recommendations. All verification and holiday detection testing shall be at no cost to the Owner and shall be paid for by the manufacturer or the Contractor.

D. Adhesion (Pull-off) testing shall be required on one randomly-selected chimney seal for each group of ten manholes rehabilitated with internal chimney seals or liners. A portable pull-off adhesion tester shall be used to achieve substrate failure. Any chimney seals or liners failing this test shall be reworked as necessary and retested at no additional cost to the Owner.
E. Inside drop bowl assemblies and reconstructed channels, inverts, and benches shall pass a visual inspection for voids, pinholes, cracks, leakage, and any other defect.

END OF SECTION
February 28, 2019
Memo #19-126

TO: MAYOR DONCHESS
    FINANCE COMMITTEE

SUBJECT:  2019 SEWER REPLACEMENT CONSTRUCTION (VALUE: $1,001,888)
          DEPARTMENT: 169 WASTEWATER; FUND: BOND

Please see the attached communication from Stephen Dookran, P.E., City Engineer, dated February 28, 2019 for information related to this purchase.

Pursuant to § 5-78 Major purchases (greater than $10,000) A. All supplies and contractual services, except as otherwise provided herein, when the estimated cost thereof shall exceed $10,000 shall be purchased by formal, written contract from the lowest responsible bidder, after due notice inviting bids.

The City Engineer, Board of Public Works (February 28, 2019 meeting) and the Purchasing Department recommend the award of this contract in an amount of $1,001,888 to N. Granese & Sons, Inc. of Salem, MA.

Respectfully,

Dan Kookan
Purchasing Manager

Cc: S Dookran    L Fauteux
To: Board of Public Works  
From: Stephen Dookran, P.E., City Engineer  
Engineering Department  
Re: 2019 Sewer Replacement  
Construction  

G. Motion: To approve the award of the construction contract for the 2019 Sewer Rehabilitation Project to N. Granese & Sons, Inc. of Salem, MA in the amount of $1,001,888. Funding will be through: Department: 169 Wastewater; Fund: Bond; Activity: Sewer Rehab.  

Discussion: The annual sewer program addresses failing, aged sewers and associated structures and piping. This 2019 Sewer Rehabilitation project is expected to replace approximately 1,305 linear feet of sewer mains along with connecting drainage basins and pipes. The streets included in this contract are:  

- Ash Street (35 Ash St to Central St)  
- C Street  
- Charles Street (Auburn St to Franklin St)  

Some of the locations will require the commitment of the utility companies for timely construction.  

Seven contractors attended the mandatory pre-bid meeting on January 30th. Three bids were received on February 14th as follows:  

- N. Granese & Sons, Inc. of Salem, MA $1,001,888.00  
- Defelice Corporation of Dracut, MA $1,097,810.00  
- Albanese D&S, Inc. of Dracut, MA $1,247,400.00  

The low bid was reviewed and found to be acceptable. N. Granese & Sons, Inc. has performed satisfactorily on other sewer projects with other public works entities in New Hampshire from review of previous projects and references. Work is expected to start as early as April to address significant pipe issues.
2019 Sewer Replacement Project

Construction Specifications
and
Contract Documents

Prepared By:
Hayner/Swanson, Inc.
3 Congress Street
Nashua, NH 03062
Tel: (603) 883-2057

Prepared For:
City of Nashua, New Hampshire
Division of Public Works
Engineering Department

January 2019
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DIVISION 1

INVITATION TO BID
February 12, 2019

IFB0779-021419

2019 SEWER REPLACEMENT PROJECT

ADDENDUM NO.1

Information included in this document becomes a part of the original IFB.

If you are submitting a paper bid, please sign below to indicate receipt of this additional information and include this page with your bid submittal. If you are submitting a bid via Bid Express please be sure to acknowledge the addendum on the website before submitting your bid.

ADDENDUM 1 is being issued to answer all questions for this Bid.

All other aspects of the original document remain the same.

Failure to acknowledge the addendum will result in the bid submittal being disqualified.

Sincerely,

Dan Kookan
City of Nashua – Purchasing Manager
kookend@nashuanh.gov

Addendum #1 received and incorporated into bid submittal for IFB0779-021419. Please sign and include this addendum in your bid package.

(Authorized Signature) Steven A. Groene, President

Feb. 14, 2019
(Date)

(Name of Firm)
Addendum #1 is being issued to respond to questions received from bidders:

1. Will Davis-Bacon or prevailing wages be in effect for this project?
   
   **Answer:** Davis-Bacon Act prevailing wage rates do not apply to this project.

2. There is a conflict between the retainage as stated in the Instructions to Bidders, Article 20 and the Sample Agreement.
   
   **Answer:** Instructions for Bidders, Article 20, Retainage shall be deleted in its entirety and replaced as follows:

   **ARTICLE 20 RETAINAGE**

   **20.01 Provisions concerning retainage and Contractors' rights to deposit securities in lieu of retainage are set forth in the Agreement, Article 6.02 Progress Payments; Retainage.**

3. Are flow rates available for bypass flow expectations?
   
   **Answer:** Specific sanitary and storm water flow rates for the sewers to be replaced are not available; however the attached Sewer Infrastructure Map dated 9/27/2018 is attached to this Addendum for reference. The map shows the Nashua sewer system as well as general information about dry weather flows at various CSOs in the City. Please be advised that all sewers to be reconstructed are combined sanitary and storm sewers.

4. A question was asked regarding the lump sum payment for Mobilization (Item 24)?
   
   **Answer:** Delete Paragraph 2.03 B of Section 01150, MEASUREMENT AND PAYMENT, PART 2 - DESCRIPTION OF PAY ITEMS, and substitute the following:

---

**2019 Sewer Replacement Project**

**Addendum #1**

**Nashua, NH**

**Page 1**
2.03 PROJECT START-UP AND PROJECT CLOSE OUT:

A. MOBILIZATION

Measurement:
Mobilization shall be measured as a LUMP SUM as specified herein. The total cost for this item shall not exceed 5 percent of the total of all bid items excluding this item.

Payment:
The contract price for ITEM 24 shall constitute full compensation to the Contractor for the general mobilization and demobilization necessary to make the contract operational, exclusive of the cost of materials. Payments toward the lump sum will be made at each payment requisition based on the percent of contract amount completed. Final payment of this item will be paid based on the percent of the contract amount completed. Should the contract be terminated prior to completion, or the contract work not completed, total payment for this item shall be proportional to the percentage of the contract amount completed. No additional payment will be made if the contract value is increased.

5. A concern was raised regarding the maximum rate of $30 per hour for flaggers.

Answer: The City has decided to bid the cost for flaggers on an hourly basis without specifying the maximum hourly rate. The Bid Schedule has been revised to show the quantity of flagger hours under Item 26. Delete Paragraph 2.04 B of Section 01150, MEASUREMENT AND PAYMENT, PART 2 - DESCRIPTION OF PAY ITEMS, and substitute the following:

2.12 MAINTENANCE AND PROTECTION OF TRAFFIC

B. FLAGGERS

Measurement:
The quantity of Flaggers will be measured by the HOUR based on the actual number of hours authorized, as determined by the Engineer. The Contractor shall supply qualified flaggers as stated in Section 618 of the NHDOT Standard Specifications for Road and Bridge Construction, (Approved and Adopted in 2016). Daily coverage needs to be approved by the Engineer. The Contractor’s schedule for flaggers shall be agreed upon cooperatively with the Engineer.
Payment:
The approved quantity of flagger hours shall be paid at the contract price for ITEM 26. Payment shall constitute full compensation to the Contractor for providing qualified flaggers as required to direct traffic through or around the Work as ordered by the Engineer, including all labor, high visibility safety gear, tools and any other equipment necessary to complete the work as specified herein. Payments to Contractor will be made based on approved hours and resulting dollar amounts.

6. A question arose at the pre-bid meeting regarding handling of sewer service connection flows during construction?

Answer: Add the following item to Supplementary Conditions:

V. WORK PLAN
The Contractor shall submit a Work Plan to the Engineer for acceptance prior to the start of work on any street. In order to be considered acceptable the Work Plan must at a minimum address the following:

➢ Schedule for the work.
➢ Proposed method for communication with affected residents and businesses.
➢ Proposed traffic control plan.
➢ Proposed methods for handling sewage flows from upstream drainage areas.
➢ Proposed methods for handling flow from sewer service connections during construction of the sewer main.
➢ Provisions the Contractor shall take in order to be able to immediately address unforeseen backups that may occur in services during work on the project.

The Contractor's Work Plan shall comply with the following:

➢ The Contractor shall provide access to local residents and businesses at all times.
➢ The main line sewer shall be reconnected and in service after work hours. By-pass pumping over night and on weekends and holidays shall not be allowed.
➢ The Contractor shall advise residents and businesses in advance and in writing of any impact to utility services.
Methods proposed for maintaining flow in sewer mains and service connections shall be described in detail, and shall have been proven by successful use in similar past projects.

The trench shall be platted after work hours, and the work area shall be open to traffic.

7. Add the following Item to the SUPPLEMENTARY CONDITIONS:

W. AVOIDING PIPE AND CATCH BASIN CONFLICTS WITH EXISTING UTILITIES

The Contractor shall excavate the trench for catch basins and associated pipe laterals in advance of laying pipe in order to determine whether any utility interferes with the proposed alignment of pipelines and/or location of catch basins. Any adjustments required to avoid utility conflicts shall be approved by the Engineer prior to installation. The Contractor shall have on hand several different 4’ diameter barrel sections for possible adjustment to catch basin depth.

8. A question arose at the pre-bid meeting regarding hours of operation?

Answer: Add the following paragraph to Item C, SUPPLEMENTARY CONDITIONS:

C. WORK HOURS

Bridge Street at C Street:
Working hours are from 9 am to 3 pm, with approved one lane alternating traffic plan and/or detour in one direction. Any closures of road will require work to be done during night hours.

Central Street at Ash Street:
Working hours are from 7 am to 5 pm, with an approved plan having at a minimum one lane open in both directions.

Charles Street:
Working hours are from 8 am to 5 pm, with approved traffic plan. An approved detour plan is required if closing street.

Note: The City reserves the right to stop work should traffic controls prove to be inadequate. Should a problem arise as a result of the approved traffic control plan, additional traffic control measures may be required at the contractor’s expense.
9. REVISED BID SCHEDULE:

A revised BID SCHEDULE has been included in this Addendum for use by bidders (See attached PDF).

10. REVISED SHEET 2 of 8 - QUANTITY SUMMARY:

A revised Sheet 2 of 8 - Quantity Summary has been included in this Addendum for use by bidders (See attached PDF).

- END -
# BID SCHEDULE - 2019 Sewer Replacement Project (ADDENDUM #1)

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<td>New or Replace Existing Sewer Manhole</td>
<td></td>
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<tr>
<td>6</td>
<td>2</td>
<td>EA</td>
<td>Remove Existing Sewer Manhole</td>
<td></td>
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<tr>
<td>7</td>
<td>5</td>
<td>EA</td>
<td>Manhole Invert Reconstruction</td>
<td></td>
<td></td>
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<tr>
<td>8</td>
<td>5</td>
<td>EA</td>
<td>Connect New Sewer to Existing Sewer Manhole with Existing Hole</td>
<td></td>
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<tr>
<td>9</td>
<td>206</td>
<td>LF</td>
<td>Remove Abandoned Drain Lateral (Only if not in Other Trench Excavation)</td>
<td></td>
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<tr>
<td>10</td>
<td>109</td>
<td>VF</td>
<td>Remove and Replace Catch Basin</td>
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PAGE 2 SUBTOTAL
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<td>11</td>
<td>Flowable Fill For Pipe Abandoned In Place</td>
<td>CY</td>
<td>16</td>
<td>$10,000.00</td>
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<td>12</td>
<td>Video Inspection of Other Sewer Lines</td>
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<td>13</td>
<td>SY Reclaimed Stabilized Base Processed In Place</td>
<td>SY</td>
<td>4,420</td>
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<td>14A</td>
<td>TON Hot Bituminous Pavement - Binder Course</td>
<td>TON</td>
<td>650</td>
<td></td>
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<td>14B</td>
<td>TON Hot Bituminous Pavement - Wearing Course</td>
<td>TON</td>
<td>390</td>
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<td>15</td>
<td>SY Temporary Bituminous Pavement Patch including 18&quot; Crushed Gravel Base</td>
<td>SY</td>
<td>2,100</td>
<td></td>
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<tr>
<td>16</td>
<td>LF Sawed Bituminous Pavement</td>
<td>LF</td>
<td>4,475</td>
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<td>17</td>
<td>CY Unclassified Excavation</td>
<td>CY</td>
<td>1,885</td>
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<td>18</td>
<td>LF Reset Granite Curb</td>
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<tr>
<td>19</td>
<td>92</td>
<td>LF</td>
<td>New Vertical Granite Curb (Straight)</td>
<td></td>
<td></td>
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<tr>
<td>20</td>
<td>30</td>
<td>SY</td>
<td>2&quot; Bituminous Sidewalk Repair Including Crushed Gravel Base</td>
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<tr>
<td>21</td>
<td>320</td>
<td>SY</td>
<td>6&quot; Concrete Sidewalk Repair Including Crushed Gravel Base</td>
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<td>22</td>
<td>8</td>
<td>EA</td>
<td>Detectable Warning Panel at Sidewalk Curb Ramp</td>
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<td>23</td>
<td>21</td>
<td>EA</td>
<td>Silt Sack</td>
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<td>24</td>
<td>1</td>
<td>LS</td>
<td>Mobilization</td>
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<tr>
<td>25</td>
<td>715</td>
<td>HR</td>
<td>Uniformed Police Officers</td>
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<td>26</td>
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<td>Flaggers</td>
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PAGE 4 SUBTOTAL
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<td>LS</td>
<td>Maintenance of Traffic</td>
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<td>28</td>
<td>Allowance</td>
<td></td>
<td>Allowance for Unanticipated Hazardous Materials</td>
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<td>$20,000.00</td>
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<td>SUBTOTAL of Page BS-1</td>
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<td>SUBTOTAL of Page BS-2</td>
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<td>SUBTOTAL of Page BS-3</td>
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<td>SUBTOTAL of Page BS-5</td>
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TOTAL BID PRICE (FIGURES):

TOTAL BID PRICE (WORDS) - BASE BID

Dollars and

Cents
### 2019 Nashua Sewer Replacement Project - Quantity Summary By Street

<table>
<thead>
<tr>
<th>Item No.</th>
<th>LA</th>
<th>LB</th>
<th>LC</th>
<th>LD</th>
<th>LE</th>
<th>LF</th>
<th>LG</th>
<th>LH</th>
<th>EA</th>
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<tr>
<td>Units</td>
<td>LF</td>
<td>LF</td>
<td>LF</td>
<td>LF</td>
<td>LF</td>
<td>LF</td>
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<td>EA</td>
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<td>EA</td>
<td>LF</td>
<td>LF</td>
<td>LF</td>
<td>LF</td>
</tr>
<tr>
<td>Description</td>
<td>Remove Existing Service and Replace with PVC SDR-35</td>
<td>Remove Existing Service and Replace with PVC SDR-35</td>
<td>Remove Existing Service and Replace with 12 PVC SDR-35</td>
<td>Remove Existing Service and Replace with PVC SDR-35</td>
<td>Remove Service and Replace with PVC SDR-35</td>
<td>Remove Existing Service and Replace with PVC SDR-35</td>
<td>storms</td>
<td>10 PVC SDR-35</td>
<td>Storm Sewer (2 to 8&quot;)</td>
<td>8&quot; PVC Strm Wye</td>
<td>10&quot; PVC Strm Wye</td>
<td>6&quot; x 12&quot; PVC Wye</td>
<td>Existing Service</td>
<td>Existing Service</td>
<td>Existing Service</td>
<td>Existing Service</td>
<td>Existing Service</td>
<td>Existing Service</td>
</tr>
<tr>
<td>Asp Street</td>
<td>16</td>
<td>218</td>
<td>0</td>
<td>51</td>
<td>70</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>8</td>
<td>6</td>
<td>2</td>
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<td>24</td>
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<td></td>
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</tr>
<tr>
<td>C Street</td>
<td>0</td>
<td>395</td>
<td>70</td>
<td>90</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>11</td>
<td>33</td>
<td>0</td>
<td>1</td>
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<td>52</td>
<td>22</td>
<td>0</td>
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</tr>
<tr>
<td>Charles Street</td>
<td>0</td>
<td>382</td>
<td>199</td>
<td>155</td>
<td>25</td>
<td>1</td>
<td>4</td>
<td>6</td>
<td>28</td>
<td>2</td>
<td>2</td>
<td>130</td>
<td>55</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total Quantity</td>
<td>16</td>
<td>695</td>
<td>594</td>
<td>276</td>
<td>185</td>
<td>1</td>
<td>10</td>
<td>5</td>
<td>25</td>
<td>64</td>
<td>2</td>
<td>5</td>
<td>206</td>
<td>109</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$10,000.00

| Item No. | 12 | 14A | 14B | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
|----------|----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Units    | SY | TON | TON | SY | LF | CV | LF | LF | BY | BY | EA | EA | EA | EA | EA | EA | EA | EA |
| Description | Reclaimed | Storm Sewer | Storm Sewer | Prioritized | Prioritized | Stone - Aggregate | Prioritized | Prioritized | Prioritized | Prioritized | Prioritized | Prioritized | Prioritized | Prioritized | Prioritized | Prioritized | Prioritized | Prioritized |
| Asp Street | 720 | 110 | 66 | 350 | 875 | 320 | 50 | 15 | 0 | 75 | 1 | 3 |
| C Street | 150 | 290 | 168 | 900 | 1200 | 750 | 50 | 40 | 30 | 55 | 0 | 0 |
| Charles Street | 1750 | 290 | 156 | 850 | 2100 | 785 | 150 | 40 | 0 | 190 | 7 | 15 |
| Total Quantity | 4420 | 650 | 390 | 2100 | 4475 | 1885 | 250 | 92 | 39 | 320 | 8 | 21 |

- $5,000.00

- $20,000.00
January 17, 2019

INVITATION TO BID

2019 Sewer Replacement Project
IFB0779-021419

The City of Nashua, NH invites qualified firms to submit bids for construction related to the 2019 Sewer Replacement Project. The Contract will be awarded following approval by both the Board of Public Works and the Board of Aldermen.

The scheduled work for the 2019 Sewer Replacement Project consists of work on Ash Street, C Street, and Charles Street. Work includes 1305 linear feet of sewer line replacement, 276 linear feet of drain lateral replacement, replacement of sewer service connections, replacement of sewer manholes and catch basins, and miscellaneous other sewer and roadway reconstruction items.

The City is now accepting submittals electronically via Bid Express. Please review the attachments, Bid Express Vendor Guide and Vendor Set-up Guide for more information. If a Bidder chooses to submit a paper copy, they must be submit one (1) original and two (2) copies c/o Central Purchasing, 229 Main Street, Nashua, Room 128, NH, 03061, in sealed envelopes clearly marked “IFB0779-021419 - 2019 Sewer Replacement Project”. Regardless of the method of submission, bids must be received no later than 3:00 pm on Thursday, February 14, 2019. Bids will be opened and publicly read at that time. Results showing all bidders’ identities and their respective bid amounts will be available on our website, www.nashuanh.gov, under Services; Bid Opportunities; Bid Results, (Refer to Document IFB0779-021419, within twenty-four (24) hours after the opening.

Bids must be submitted in the format provided and address the items specified in the bid package. The City of Nashua may reject any or all of the bids on any basis and without disclosure of a reason. The failure to make such a disclosure shall not result in accrual of any right, claim or cause of action by any unsuccessful bidder against the City of Nashua. The City of Nashua reserves the right to waive any irregularities when the public interest will be served thereby. The City of Nashua also reserves the right to negotiate any change or amendment in any bid without soliciting further bids if the action is necessary for the best interest of the City of Nashua.

A MANDATORY pre-bid conference will be held at 10:00 am, Wednesday, January 30, 2019 at the City of Nashua Division of Public Works, 9 Riverside Street, Nashua, NH 03062. You or your representative(s) are required to attend this meeting if you intend to submit a bid. The meeting is an opportunity for the City of Nashua to overview the project and objectives, and participants to request additional information directly from City of Nashua staff managing or participating in the project.

Beginning Thursday, January 17, 2019, bid documents will be available electronically from the City of Nashua website: www.nashuanh.gov, under Services, Bid Opportunities; Current Bids; (Refer to Document IFB0779-021419. Please note paper copies will not be available.

No bid documents are available at the Central Purchasing Office.
Delivery of the Bids shall be at the Vendor’s expense. The time of receipt shall be considered when a Bid has been officially documented by the Department, in accordance with its established policies, as having been received at the location designated above. The City of Nashua accepts no responsibility for mislabeled mail. Any and all damage that may occur due to shipping shall be the Vendor’s responsibility.

Postmarks or other timestamps will not be accepted in lieu of actual delivery. The firm can use whatever delivery mechanism it chooses as long as it remains clear that the firm is responsible for submissions prior to the date and time.

The City of Nashua assumes no liability for the payment of costs and expenses incurred by any bidder in responding to this request for bids. All bids become the sole property of the City of Nashua. This request for bids is not a contract and alone shall not be interpreted as such but rather serves as an instrument through which bids are solicited.

A sample contract is included with the Bid Specifications.

The project timeline is as follows:

<table>
<thead>
<tr>
<th></th>
<th>Date</th>
<th>Time/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid Documents</td>
<td>Thursday, January 17, 2019</td>
<td>On City of Nashua Website Only</td>
</tr>
<tr>
<td>Mandatory Pre-bid Meeting</td>
<td>Wednesday, January 30, 2019</td>
<td>10:00 am DPW Engineering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 Riverside Street, Nashua, NH</td>
</tr>
<tr>
<td>Deadline for Questions to be submitted in writing</td>
<td>Thursday, February 07, 2019</td>
<td>10:00 am</td>
</tr>
<tr>
<td>Answers/clarifications posted</td>
<td>Tuesday, February 12, 2019</td>
<td>5:00 pm</td>
</tr>
<tr>
<td>Bid Due</td>
<td>Thursday, February 14, 2019</td>
<td>3:00 pm Purchasing Department</td>
</tr>
</tbody>
</table>

Vendors are encouraged to submit questions via email; however, the City of Nashua assumes no liability for assuring accurate/complete email transmission/receipt and is not responsible to acknowledge receipt. Inquiries must be submitted in writing, citing the IFB title, IFB number, Page, Section, and received no later than Thursday, February 07, 2019 at 10:00 am to

Paul F. Hayner, Jr., PE
Email: phayner@hayner-swanson.com

The City of Nashua will consider all timely-received questions and requests for change and, if reasonable and appropriate, will issue an addendum to clarify or modify this IFB. Answers to vendor submitted questions and other addenda will be posted under document IFB0779-021419, the City of Nashua website; www.nashuanh.gov, under Services; Bid Opportunities; Current Bids; (Refer to Document IFB0779-021419. no later than Tuesday, February 12, 2019 at 5:00 pm.

All bids are binding for ninety (90) days following the deadline for bids, or until the effective date of any resulting contract, whichever is later.

The successful bidder must maintain the following lines of coverage and policy limits for the duration of the contract. Any subcontractors used by the successful bidder are subject to the same coverage and limits and is a subcontractor of the successful bidder and not the City of Nashua. It is the responsibility of the successful bidder to update Certificates of Insurance during the term of the contract. Liability limits are as follows:
General Liability: $1,000,000 per Occurrence
$2,000,000 Aggregate

Motor Vehicle Liability: $1,000,000 Combined Single Limit

*Coverage must include all owned, non-owned and hired vehicles.

Workers’ Compensation Coverage according to Statute of the State of New Hampshire:
$100,000 / $500,000 / $100,000

The City of Nashua must be named as an additional insured on all liability certificates.

All bidders and subcontractors at every tier under the bidder will fully comply with NH RSA Chapter 281-A, “Workers’ Compensation”.

It is the responsibility of the Contractor to submit to the City of Nashua certificates of insurance for the Contractor and all other subcontractors prior to the start of the project. It is the responsibility of the Contractor to provide the City of Nashua with updated certificates of insurance for the Contractor and all subcontractors 10 days prior to the expiration of coverage. The City of Nashua may, at any time, order the Contractor to stop work, suspend the contract or terminate the contract for non-compliance. All subcontractors are subject to the same insurance requirements as the Contractor.

No bid will be considered unless accompanied by a bid security in the form of a Bid Bond, in an amount not less than five percent (5%) of the Bid.

The successful Contractor will be required to post a 100% Performance Bond and a 100% Payment Bond in an amount equal to the Contract Award.

Cost of bond premiums to be included in the Unit Prices of the Bid Schedule.

The City of Nashua is exempt of all taxes. All bids must be F.O.B Nashua, NH. All bidders must comply with all applicable Equal Employment Opportunity laws and regulations.

Pursuant to NRO 5-78 (F), the Purchasing Manager shall not solicit a bid from a contractor who is in default on the payment of taxes, licenses or other monies due the City of Nashua. Therefore, this bid request is void as to anyone who is in default on said payments.

The City of Nashua supports the concept of purchasing products that are biodegradable, can be or have been recycled, or are environmentally sound. Due consideration will be given to the purchase of such products. If you are bidding on any such products that qualify, please so indicate in a cover sheet by item number and description.

Respectfully,
DIVISION 2

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INSTRUCTIONS FOR BIDDERS

ARTICLE 1  DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

   A.  *Bidder* – The individual or entity who submits a Bid directly to OWNER.

   B.  *Issuing Office* – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

   C.  *Successful Bidder* – The lowest responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER’s evaluation as hereinafter provided) makes an award.

ARTICLE 2  COPIES OF BIDDING DOCUMENTS

2.01 Bidding Documents are available electronically City’s web site, www.nashuanh.gov, under Services; Bid Opportunities; Current Bids. Hard copies are not available.

2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

ARTICLE 3  QUALIFICATIONS OF BIDDERS.

3.01 To demonstrate Bidder’s qualifications to perform the Work, each Bidder must submit a completed Construction Contractor’s Qualification for Engineered Projects.

ARTICLE 4  MANDATORY PRE-BID CONFERENCE

4.01 A MANDATORY pre-bid conference will be held on the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid. Representatives of OWNER and ENGINEER will be present to discuss the Project. OWNER will transmit to all prospective Bidders of record such Addenda, as OWNER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 5  SITE AND OTHER AREAS

5.01 The Site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

ARTICLE 6  INTERPRETATIONS AND ADDENDA

6.01 All questions about the meaning or intent of the Bidding Documents are to be directed to ENGINEER. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda and posted on the City of Nashua website. Deadlines for submission of questions can be found on the project timeline contained within the Invitation for Bids. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
6.02 Addenda may also be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER. Bidders are requested to sign each Addenda issued to indicate receipt of this additional information and must include the signed cover page with Bidders bid submittal. It is the Bidder's responsibility to determine from the City website if Addendums have been issued.

**ARTICLE 7  BID SECURITY**

7.01 A Bid must be accompanied by Bid security made payable to OWNER in an amount of five percent (5%) of Bidder's maximum Bid price and in the form of a Bid Bond (on form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.

7.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 10 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of seven days after the Effective Date of the Agreement or 91 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

7.03 Bid security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

**ARTICLE 8  CONTRACT TIMES**

8.01 The number of calendar days within which, or the dates by which, the Work is to be (a) substantially completed and (b) also completed and ready for final payment are set forth in the Agreement.

**ARTICLE 9  LIQUIDATED DAMAGES**

9.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

**ARTICLE 10  SUBCONTRACTORS, SUPPLIERS AND OTHERS**

10.01 Each Bidder must submit a completed List of Subcontractors on the Form furnished with the completed Bid Form. The apparent Successful Bidder, and any other Bidder so requested, shall within seven days after the Bid opening submit to OWNER supplemental information in the form of an experience statement with the pertinent information regarding similar projects and other evidence of qualification of each Subcontractor, Supplier, person or organization if requested by OWNER or ENGINEER. IF OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution and OWNER may consider such price adjustment in evaluating Bids and making the contract award.

10.02 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving
of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Article 6.06 of the General Conditions.

10.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom CONTRACTOR has reasonable objection.

ARTICLE 11 PREPARATION OF BID

11.01 The Bid Form is included with the Bidding Documents.

11.02 All blanks on the Bid Form and Bid Schedule(s) must be completed by printing in ink or typed and the Bid signed. A bid price shall be indicated for each Bid item listed therein.

11.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

11.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown below the signature.

11.05 A bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.

11.06 A Bid by an individual shall show the Bidder's name and official address.

11.07 A Bid by a joint venture shall be executed by each joint ventured in the manner indicated on the Bid Form. The official address of the joint venture must be shown below the signature.

11.08 All names must be typed or printed in black ink below the signatures.

11.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.

11.10 The address and telephone number for communications regarding the Bid must be shown.

11.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located. Bidder's state contractor license number for the state of the Project, if any, must also be shown on the Bid Form.

ARTICLE 12 BASIS OF BID; EVALUATION OF BIDS

12.01 Unit Price

A. Bidders shall submit a Bid on a unit price or lump sum basis for each item of Work listed in the Bid schedule.

B. The total of all estimated prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for each item. The final quantities and Contract Price will be determined in accordance with paragraph 11.03 of the General Conditions.
C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

12.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowance, if any, named in the Contract Documents as provided in paragraph 11.02 of the General Conditions.

ARTICLE 13 SUBMITTAL OF BID

13.01 The City of Nashua website provides a copy of the Bidding Documents, applicable drawings or specifications, a sample contract for execution, and a submission packet. The submission packet includes the Bid Form, the Construction Contractor’s Qualification Statement, the Bid Schedule of Values, and signed cover page of each OWNER issued Addendum. Each prospective Bidder must complete and submit all submission package documents and accompany the submission with the Bid Bond.

13.02 A bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation “BID ENCLOSED.” A mailed Bid shall be addressed to City of Nashua Purchasing Department, 229 Main Street, Room 128, Nashua, NH, 03061.

ARTICLE 14 MODIFICATION AND WITHDRAWAL OF BID

14.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

14.02 If, within twenty-four hours after Bids are opened any Bidder files a duly signed written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, OWNER may, in its sole discretion, choose to not accept the Bid and return the same to Bidder. Thereafter, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 15 OPENING OF BIDS

15.01 Bids will be opened at the time and place indicated in the advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids through posting on the City’s website.

ARTICLE 16 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

16.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.
ARTICLE 17      AWARD OF CONTRACT

17.01 OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced or conditional Bids. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. OWNER may also reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder. OWNER also reserves the right to waive all informalities not involving price, time or changes in the Work and to negotiate contract terms with the Successful Bidder.

17.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

17.03 In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

17.04 In evaluating Bidders, OWNER will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

17.05 OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers individuals, or entities to perform the Work in accordance with the Contract Documents.

17.06 If the Contract is to be awarded, OWNER will award the Contract to lowest Bidder whose evaluation by OWNER indicates to OWNER that the award will be in the best interests of the Project.

ARTICLE 18      CONTRACT SECURITY

18.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER's requirements as to Performance and Payment Bonds and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it must be accompanied by such Bonds.

ARTICLE 19      SIGNING OF AGREEMENT

19.01 When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents, which are identified in the Agreement attached thereto. The Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER, including the Performance and Payment Bonds and the Certificate of Insurance. Within 10 days thereafter, OWNER shall deliver one fully signed counterpart to Successful Bidder with a complete set of drawings with appropriate identification.

19.02 A fully executed City of Nashua Purchase Order will accompany the fully signed counterpart to successful Bidder,
ARTICLE 20  RETAINAGE

20.01 The OWNER shall not retain a portion of progress payments on this contract.

ARTICLE 21  APPEAL BY BIDDERS

21.01 Any bidder may appeal a pending bid award prior to award by OWNER. The appellant must:

A. Submit a written protest to the OWNER’s Purchasing Manager within five (5) workdays after the bid opening.

B. Describe, in the written protest, the issues to be addresses on appeal.

C. Post, with the written protest, a bond with a surety meeting the requirements of General Condition 5.02 authorized to do business in this state or submit other security in a form approved by OWNER who will hold the bond or security until a determination is made on the appeal.

D. Post the bond or other security in the amount of 25% of the total dollar value of the appellant’s bid, up to a maximum bond or other security amount of 250,000.00.

E. Not seek any type of judicial intervention until OWNER has rendered its final decision on the protest.

21.02 OWNER will stop award actions until after the OWNER’s Purchasing Manager has responded in writing to the protest. If the appellant is not satisfied with the response, the appellant may then protest to the Board of Public Works, who will render a final decision for the OWNER. No bid protests will be heard by the Board of Public Works unless bidder has followed the appeal process.

21.03 If an appeal is granted, the full amount of the posted bond or security will be returned to the appellant. If the appeal is denied or not upheld, a claim may be made against the bond for expenses suffered by the OWNER because of the unsuccessful appeal.

21.04 OWNER is not liable for any costs, expenses, attorney’s fees, loss of income, or other damages sustained by the appellant in a bid process.
DIVISION 3

BID FORM
BID BOND
CONTRACTOR'S
QUALIFICATIONS
BID SCHEDULE
BID FORM

PROJECT IDENTIFICATION: 2019 Sewer Replacement Project

CONTRACT IDENTIFICATION AND NUMBER: IFB0779-021419

THIS BID IS SUBMITTED TO:
City of Nashua
Central Purchasing
229 Main Street, City Hall
Room 128
Nashua, NH 03061-2019

1.01 The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.01 BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 90 days after the day of Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

3.01 In submitting this Bid, BIDDER represents, as set forth in the Agreement, that:

A. BIDDER has examined and carefully studied the Bidding Documents and the following Addenda, receipt of all which is hereby acknowledged.

<table>
<thead>
<tr>
<th>Addendum No.</th>
<th>Addendum Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Feb. 12, 2019</td>
</tr>
</tbody>
</table>

B. BIDDER has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. BIDDER is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. BIDDER has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by BIDDER, and safety precautions and programs incident thereto.
E. BIDDER does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

F. BIDDER is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

G. BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

H. BIDDER has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that BIDDER has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to BIDDER.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of the Work for which this Bid is submitted.

4.01 BIDDER further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any individual or entity to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

5.01 The requirements of the New Hampshire Revised Statutes Annotated shall apply to this project. The BIDDER is responsible for compliance with all applicable statutes. The entire set of the Revised Statutes Annotated is available online at:

http://gencourt.state.nh.us/rsa/html/indexes/default.html

6.01 BIDDER will complete the Work in accordance with the Contract Documents for the following prices:

**SEE ATTACHED BID SCHEDULE**

A. Unit Prices have been computed in accordance with paragraph 11.03.B of the General Conditions.

B. BIDDER acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents.

7.01 BIDDER agrees that the Work will be substantially completed and completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

7.02 BIDDER accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.
8.01 The following documents are attached to and made a condition of this Bid:

A. Bid Form;
B. Bid Bond;
C. A tabulation of Subcontractors, Suppliers and other individuals and entities required to be identified in this Bid; and
D. Construction Contractor's Qualification Statement.

9.01 Communications concerning this Bid shall be addressed to:
(Contractor's mailing address to be filled in by Bidder)

N. Graeuts & Sons, Inc.
59 Jefferson Ave.
Salem, MA 01970

10.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

Submitted by:
Name of Organization: N. Graeuts & Sons, Inc
Name of Individual: Steven A. Graeuts
Title: President
Address: 59 Jefferson Ave
Salem, MA 01970
Telephone: (781) 592-8121

Submitted to:
Name: C. Yacht Nahm
Address: 229 Main St
Nashua, NH 03061
Telephone: (603) 589-3330

SUBMITTED on February 14, 2019
If BIDDER is: OS
An Individual

Name (typed or printed): ____________________________________________

By: ____________________________________________________________ (SEAL)

Doing business as: ______________________________________________

Business address: ________________________________________________

Phone No.: ___________________________ Fax No.: ______________________

A Partnership

Partnership Name: ________________________________________________ (SEAL)

Date and State of Organization

__________________________________________________________________

Names of Current General Partners

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Type of Partnership

☐ General  ☐ Publicly Traded
☐ Limited  ☐ Other (describe): _______________________________________

By: ____________________________________________________________ (Signature of General Partner – attach evidence of authority to sign)

Name (typed or printed): ____________________________________________

Business address: ________________________________________________

Phone No.: ___________________________ Fax No.: ______________________
A Corporation

Corporation Name: N. Granese & Sons Inc. (SEAL)

Date and State of Incorporation: 11/17/1974 Massachusetts

List of Executive Officers

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steven A. Granese</td>
<td>Pres./Treas.</td>
</tr>
<tr>
<td>Steven G. Granese</td>
<td>Sec./V.P.</td>
</tr>
</tbody>
</table>

Type (General Business, Professional, Service, Limited Liability): General Business

By: ____________________________
(Signature — attach evidence of authority to sign)

Name (typed or printed): Steven A. Granese
Title: Pres./V.P. (Corporate Seal)

Attest: _________________________
(Signature of Corporate Secretary)

Business Address: 59 Jefferson Ave.
Salem, MA 01970

Phone No.: (978) 592-8121
Fax No.: (978) 631-5466

Date of Qualification to do business is 2013 (N.H.)

A Joint Venture

Joint Venture Name: ____________________________ (SEAL)

Date and State of Organization: ____________________________

Name, Address and Form of Organization of Joint Venture Partners: (Indicate managing partner by an asterisk *)

____________________________
____________________________
____________________________

BF 5 of 8
By: 
(Signature of joint vented partner – attach evidence of authority to sign)
Name (typed or printed): 
Title: 
Business Address: 

Phone No.: Fax No.: 

Address for receipt of official communications:

(Each joint vented must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above).
LIST OF SUBCONTRACTORS  
(to be submitted with bid)

The name and address of each subcontractor who will be paid at least five percent (5%) of the prime contractor's total bid shall be listed below. To be deemed a responsive bid, this form must be submitted even if no subcontractors are required to be listed. In that case, the bidder should state "None" (or similar language stating that no subcontractors need to be listed) in the space below. (Refer to General Condition 6.09.H)

<table>
<thead>
<tr>
<th>Name</th>
<th>Address of Subcontractor</th>
<th>Portion of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>PaveX</td>
<td>635 Lowell St, Methuen, MA 01844</td>
<td>Reclaim Paving</td>
</tr>
</tbody>
</table>

BF 7 of 8
LIST OF SUBCONTRACTORS
(to be submitted after bid opening)

Within one (1) day after the completion of the opening of the bids, the general contractors who submitted the three lowest bids must provide a list of each subcontractor who will provide labor or a portion of the work or improvement to the contractor for which the subcontractor will be paid an amount exceeding one percent (1%) of the prime contractor's bid or $50,000, whichever is greater, and the number of the license issued to the subcontractor. If a general contractor fails to submit such a list within the required time, the bid shall be deemed not responsive. To be deemed a responsive bid, this form must be submitted even if no subcontractors are required to be listed. In that case, the bidder should state "None" (or similar language stating that no subcontractors need to be listed) in the space below. (Refer to General Condition 6.09.H.)

<table>
<thead>
<tr>
<th>Subcontractor/Address</th>
<th>Dollar Value and description of work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Park X 635 Lowder St Methuen, MA 01844</td>
<td>$167,000 Roof Reroof</td>
</tr>
</tbody>
</table>

BF 8 of 8
CLERK'S CERTIFICATE

At a duly authorized meeting of the Board of Directors of N. Granese & Sons, Inc. held on January 2, 2019 at which all voted that Steven A. Granese, President of this Company, be and he hereby is authorized to execute contracts and bonds and bids in the name and behalf of said company and affix its Corporate Seal thereto, and such execution of any contract or obligation in this Company's name on its behalf by such Steven A. Granese under seal of the Company, shall be valid and binding upon this Company.

A true copy,

ATTEST:

Place of Business: 59 Jefferson Ave.
Salem, MA 01970

Dated: Feb 14, 2019

I hereby certify that I am the Clerk of N. Granese & Sons, Inc. that Steven A. Granese is the duly elected President of said Company, and that the above vote has not been amended or rescinded and remains in full force and effect as of the date of this bid.

Clerk's Signature

Corporate Seal
BID BOND
PENAL SUM FORM

BIDDER (Name and Address):
N. Granese & Sons, Inc. 69 Jefferson Ave, Salem, MA 01970

SURETY (Name and Address of Principal Place of Business):
United States Surety Company, One Texas Station Court, Suite 230, Timonium, MD 21093

OWNER (Name and Address):
City of Nashua, 229 Main Street, Nashua, NH 03060

BID
BID DUE DATE: February 14, 2019
PROJECT (Brief Description Including Location):
2019 Sewer Replacement IFB0779-021419 City of Nashua

BOND
BOND NUMBER: BB02142019
DATE: (Not later than Bid Due Date): February 14, 2019
PENAL SUM: Five Percent of Amount Bid
(5% of Bid)

(IN WITNESS WHEREOF, Surety and Bidder, Intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause the Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER
N. Granese & Sons, Inc. (Seal)
Bidder's Name and Corporate Seal

By:
Signature and Title

Attest:
Signature and Title

SURETY
United States Surety Company (Seal)
Surety's Name and Corporate Seal

By:
Signature and Title
(Attach Power of Attorney)
Oscar B. Johnson, Attorney-in-Fact

Attest:
Signature and Title
Surety Account Assistant

Note:
(1) Above addresses are to be used for giving required notice.
(2) Any singular reference to Bidder, Surety, OWNER or other party shall be considered plural where applicable.

BB - 1 of 2
1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to OWNER upon default of Bidder the penal sum set forth on the face of this Bond.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract Documents.

3. This obligation shall be null and void if:

3.1. OWNER accepts Bidder’s bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract Documents, or

3.2 All bids are rejected by OWNER, or

3.3 OWNER fails to issue a notice of award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5 hereof).

4. Payment under this bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from OWNER, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of and any and all defenses based on or arising out of any time extension to issue notice of award agreed to in writing by OWNER and Bidder, provided that the time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid Due Date without Surety’s written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in paragraph 4 above is received by Bidder and Surety, and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notice required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent or representative who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of the Bond conflicts with any applicable provision of any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term “Bid” as used herein includes a Bid, offer or proposal as applicable.
POWER OF ATTORNEY
AMERICAN CONTRACTORS INDEMNITY COMPANY, TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY, U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Oscar B. Johnson, Newton S. Johnson, John Lee Enoch

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed $5,000,000 Dollars (5,000,000). This Power of Attorney shall expire without further action on April 22nd, 2022. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Board of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-In-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-In-Fact shall be binding upon the Company as if signed by the President and sealed and executed by the Corporate Secretary.

Be it Resolved, that the signature of any authorized officer and seal of the Company hereunto or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 1st day of June, 2018.

State of California
County of Los Angeles

By: Daniel P. Aguilar, Vice President

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

On this 1st day of June, 2018, before me, Sonia O. Carrejo, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature (seal)

I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect. Furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this 14th day of February 2019.

Corporate Seals

Bond No. B-215019

Agency No. 14312

visit tmhcc.com/surety for more information

HCCS1MANPOA06/2018
CONSTRUCTION CONTRACTOR'S
QUALIFICATION STATEMENT

1. On Schedule A, attached, list major engineered construction projects completed by this organization in the past five (5) years. (If joint venture, list each participant's projects separately).

2. On Schedule B, attached, list current projects under construction by this organization. (If joint venture, list each participant's projects separately).

3. Name of Surety Company and name, address, and phone number of agent.
   United States Surety Company, 1835 12th St., # 230, Denver, CO 80203
   Agent: Eastern Surety Insurance, 50 Prospect St., Waltham, MA 02453
   (781) 642-9000

4. Is your organization a member of a controlled group of corporations as defined in I.R.C. Sec. 1563?
   □ Yes □ No
   If yes, show names and addresses of affiliated companies.

5. Furnish on Schedule C, attached, details of the construction experience of the principal individuals of your organization directly involved in construction operations.

6. Has your organization ever failed to complete any construction contract awarded to it?
   □ Yes □ No
   If yes, describe circumstances and provide details on attachment.

7. Has any Corporate officer, partner, joint venture participant or proprietor ever failed to complete a construction contract awarded to him or her in their own name or when acting as a principal of another organization?
   □ Yes □ No
   If yes, describe circumstances and provide details on attachment.

8. In the last five years, has your organization ever failed to substantially complete a project in a timely manner?
   □ Yes □ No
   □ Yes □ No
   If yes, describe circumstances and provide details on attachment.
9. Does your organization now have any legal suits or arbitration claims pending or outstanding against it or any officers?
   □ Yes □ No
   If yes, describe circumstances and provide details on attachment.

10. Has your organization had a contract partially or completely terminated for default (cause) within the past five years?
    □ Yes □ No
    If yes, describe circumstances and provide details on attachment.

11. List the licensed categories of work that your company normally performs with its own workforce. (Water, Sewer, Drain, Cistert, Installation, Pneumatics, Highway, Rail, Construction, Heavy Construction, Pump Station, Treatment Plant, General Construction)

12. If required, can your organization provide a bid bond for this project?
    □ Yes □ No

13. What is your approximate total bonding capacity?
    □ $500,000 to $2,000,000
    □ $2,000,000 to $5,000,000
    □ $5,000,000 to $10,000,000
    □ $10,000,000 or more

14. Describe the permanent safety program you maintain within your organization. Use attachment if necessary.
   See Attached Safety Manual Table of Contents

15. Furnish the following information with respect to an accredited banking institution familiar with your organization.

   Name of Bank
   People's United Bank

   Address
   One Court St.
   Danvers, MA 01923

   Account Manager
   Tony Pacelli

   Telephone
   (978) 624-1088
# TABLE OF CONTENTS

<table>
<thead>
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<th>Page</th>
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<td>Safety Equipment Available</td>
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<td>Subcontractors</td>
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<td>Duties of Entrant</td>
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<td>Duties of Attendant</td>
<td>14</td>
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<tr>
<td>Job Site Safety, First Aid</td>
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# APPENDICES

A - Forms

B - How to Give a Tool Box Talk

C – Excavation & Trench Awareness – IEE

D – Excavations – OSHA 2226

E – Hoisting – Class 2A Continuing Education Training Program – Contractor Safety Academy

F – Hoisting – Class 1C Continuing Education Training Program – Contractor Safety Academy

G – Confined Space Entry Manual – IEE

H – Lockout/Tagout Awareness – IEE

REV 03/2015
I – Control of Hazardous Energy, Lockout/Tagout – OSHA 3120

J – Respiratory Protection – IEE

K – Data Sheets for Shoring & Trench Boxes

L – Dig Safe Violation Report – Massachusetts Department of Public Utilities
I hereby certify that the information submitted herewith, including any attachment is true to the best of my knowledge and belief.

By: Steven A. Grussc

Title: President

Dated: Feb 12, 2019
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<th>Name, Location and Description of Project</th>
<th>Owner</th>
<th>Design Engineer</th>
<th>Date Completed</th>
<th>Contract Price</th>
<th>Reference/Contact &amp; Address &amp; Phone</th>
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<td>First Renewal Installation, Newburyport, MA</td>
<td>Newburyport, MA</td>
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<td>Aug. 2017</td>
<td>$2,142,426</td>
<td>Beta Group - 233 Central St. (978) 263-1482 Newburyport, MA 01950</td>
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<td>FRP House Improvements, Concord, NH</td>
<td>Concord, NH</td>
<td>Concord/West Engg.</td>
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<td>$1,536,775</td>
<td>Concord/West Engg. - 1143 Main St. (603) 228-2430 Concord, NH 03301</td>
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<td>1. Pfizer, Summer Hill, Newton, MA</td>
<td>Newton, MA</td>
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<td>Newton Engineering - 1100 Commonwealth Ave, Newton, MA 02468</td>
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<td>Southbury, CT</td>
<td>Sumpfont, Inc.</td>
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<td>$962,375</td>
<td>Sumpfont, Inc. - 22 Northmore Rd, Southbury, CT 06488</td>
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<td>Squash Ridge Welding Bond, Southbury, CT</td>
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<td>Millenium, Inc.</td>
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<td>Millenium, Inc. - Brian Murray 82 South St, Southbury, CT 06488</td>
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<td>Hamlin, MA</td>
<td>Stance</td>
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<td>Stance - George Allen 61 Warren St, Methuen, MA 01844</td>
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<td>Manchester, NH</td>
<td>Manchester/Manchester</td>
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<td>$1,532,965</td>
<td>Manchester/Manchester - George 21 Lincoln St (603) 624-8494 Manchester, NH 03103</td>
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<td>Boston, MA</td>
<td>Haley Fund</td>
<td>May 2018</td>
<td>$2,268,445</td>
<td>Haley Fund - Sarah Miller 63 Grafton St (617) 445-0214 - Maynard, MA 01754</td>
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<td>Owner</td>
<td>Design Engineer</td>
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<td>Off-Site Improvement - Unity Pkwy</td>
<td>Reno, NV</td>
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<td>Jan 2019</td>
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<td>North Yuba Water Intake - Morgan, CA</td>
<td>Davis, CA</td>
<td>Timmerman, Bond</td>
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<td>Bishop Road - Road to Road</td>
<td>Las Vegas, NV</td>
<td>Pennington, Water</td>
<td>Dec 2017</td>
<td>$3,186,000</td>
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<td>Water Creek - Leonti</td>
<td>Wellington, MA</td>
<td>Wellesley Engineering</td>
<td>Oct 2018</td>
<td>$8,746,094.00</td>
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<td>(Bedford Twp) - (Witmer Rd - Lowell, MA)</td>
<td>Lowell, MA</td>
<td>Woodard &amp; Curran</td>
<td>Aug 2018</td>
<td>$1,165,000</td>
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<td>Gloucester, MA</td>
<td>N.E.C.W. Engineers</td>
<td>Nov 2017</td>
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<td>(Cranston Dr - Leonti) 1.5Mi</td>
<td>Gloucester, MA</td>
<td>N.E.C.W. Engineers</td>
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<td>2016 Water Inflow Improvements</td>
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<td>Beverly Engineering</td>
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<td>$2,187,422</td>
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<th>Reference/Contact &amp; Address &amp; Phone</th>
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<tr>
<td>Reyburn, PA - Allen Co. 11505 S 41st St (610) 442-7090</td>
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<tr>
<td>Tight Envi - Jan Molina 3723 W 34th St (913) 572-2728</td>
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<tr>
<td>Pennington, CA - Pennington, CA 215-212-3790</td>
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<tr>
<td>Wellesley, MA - Wellesley, MA 212-244-0760</td>
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<tr>
<td>Woodard &amp; Curran - Woodard &amp; Curran 40 She属 Rd, 100 (516) 765-360</td>
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<td>Beverly, MA - Beverly, MA 116 Beech St (617) 212-6037</td>
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### Schedule B – List of Current Projects Under Construction

<table>
<thead>
<tr>
<th>Name, Location and Description of Project</th>
<th>Owner</th>
<th>Design Engineer</th>
<th>Contract Price</th>
<th>Amount Completed</th>
<th>Date of Scheduled Completion</th>
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<td>1879 Route 123 W., Newburyport, MA</td>
<td></td>
<td>Sturic</td>
<td>$3,012,000</td>
<td>$1,159,045</td>
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<tr>
<td>Mount St. Mary's School, Rye, NY</td>
<td></td>
<td>Westin, Inc.</td>
<td>$3,703,426</td>
<td>$3,73,000</td>
<td>08/19</td>
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<tr>
<td>Fort Ave Sewer Repair, Marblehead, MA</td>
<td></td>
<td>Maliski Banyon</td>
<td>$498,700</td>
<td>$300,000</td>
<td>03/19</td>
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<tr>
<td>Lake Road Pump Station, Weymouth, MA</td>
<td></td>
<td>Wellington Eng.</td>
<td>$269,000</td>
<td>$129,000</td>
<td>06/19</td>
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<tr>
<td>Water Main Improvement, Bedford, NH</td>
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<td>Purnell-Wilkie</td>
<td>$47,981</td>
<td>$41,600</td>
<td>06/19</td>
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<td>Plum Island Hydrogen Plant, Newburyport, MA</td>
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<td>Newburyport</td>
<td>$2,944,555</td>
<td>$2,521,000</td>
<td>07/19</td>
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<tr>
<td>Benjamin Wells &amp; Peirce, Weymouth, MA</td>
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<td>Kleinfield</td>
<td>$54,775</td>
<td></td>
<td>08/19</td>
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**Contact Information:**
- Stark - VIC (617) 377-1144
- Wellington - VIC (781) 898-3294
- Maliski Banyon - VIC (978) 563-8888
- Purnell-Wilkie - VIC (617) 506-8769
- Newburyport - VIC (978) 898-3294
- Kleinfield - VIC (617) 497-7280

**Address:**
- Stark- Villa, MA 01060
- Wellington- 1234 Prospect St., VIC 01234
- Maliski Banyon- 5678 Road, VIC 01234
- Purnell-Wilkie- 9876 Avenue, VIC 01234
- Newburyport- 4321 Street, VIC 01234
- Kleinfield- 1234 Road, VIC 01234
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Date started with this organization</th>
<th>Date started working in construction</th>
<th>Prior positions and experience in construction</th>
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<tr>
<td>Steven A Green</td>
<td>President/Executive Owner</td>
<td>1971</td>
<td>1971</td>
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<tr>
<td>Steve G Green</td>
<td>Senior VP/Project Manager/Engineer</td>
<td>1993</td>
<td>1998</td>
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<tr>
<td>Bryan Green</td>
<td>Project Manager/Foreman</td>
<td>2008</td>
<td>2008</td>
<td>2007-2012 - Westel/Euro - President/Manager</td>
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<tr>
<td>Brooks Kean</td>
<td>Superintendent</td>
<td>2005</td>
<td>1998</td>
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<tr>
<td>Thomas Green</td>
<td>Superintendent/Foreman</td>
<td>2012</td>
<td>2012</td>
<td>Foreman/Manager/Office/Supervisor</td>
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<tr>
<td>Andrew Hahn</td>
<td>Superintendent</td>
<td>2013</td>
<td>2013</td>
<td></td>
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<tr>
<td>Thomas DeJoy</td>
<td>Superintendent</td>
<td>2011</td>
<td>2009</td>
<td>Foreman</td>
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<tr>
<td>Erik Gallo</td>
<td>Foreman</td>
<td>2011</td>
<td>2000</td>
<td>Foreman</td>
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<tr>
<td>Jeffrey Honek</td>
<td>Superintendent</td>
<td>1991</td>
<td>1976</td>
<td>Foreman/Supervisor</td>
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### BID SCHEDULE - 2019 Sewer Replacement Project (ADDENDUM #1)

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<th>Item No.</th>
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<tr>
<td>1A</td>
<td>16</td>
<td>LF</td>
<td>Remove Existing Sewer and Replace with 15&quot; PVC SDR-35 Sewer Pipe 0' to 9' Depth</td>
<td>300-</td>
<td>4,800-</td>
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<td>1B</td>
<td>695</td>
<td>LF</td>
<td>Remove Existing Sewer and Replace with 12&quot; PVC SDR35 Sewer Pipe 0' to 9' Depth</td>
<td>150-</td>
<td>104,250-</td>
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<td>1C</td>
<td>594</td>
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<td>108,702-</td>
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<tr>
<td>1D</td>
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<td>LF</td>
<td>Remove Existing Drain Lateral and Replace with 10&quot; PVC SDR-35 Drain Pipe All Depths</td>
<td>131-</td>
<td>36,186-</td>
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<tr>
<td>1E</td>
<td>185</td>
<td>LF</td>
<td>Remove Sewer Service and Replace with 6&quot; PVC SDR-35 Sewer Service All Depths including Fittings and Couplings</td>
<td>135-</td>
<td>24,975-</td>
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<td>2</td>
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<td>LS</td>
<td>10&quot; PVC SDR-35 Sewer Stub 0' to 9' Depth including Coupling</td>
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<td>3</td>
<td>10</td>
<td>EA</td>
<td>6&quot; PVC Chimney (2 to 6 VF)</td>
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<td>4B</td>
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<td>EA</td>
<td>6&quot; x 12&quot; PVC Wye</td>
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<td>5</td>
<td>64</td>
<td>VF</td>
<td>New or Replace Existing Sewer Manhole</td>
<td>1,200-</td>
<td>76,800-</td>
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<tr>
<td>6</td>
<td>2</td>
<td>EA</td>
<td>Remove Existing Sewer Manhole</td>
<td>800-</td>
<td>1,600-</td>
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<tr>
<td>7</td>
<td>5</td>
<td>EA</td>
<td>Manhole Invert Reconstruction</td>
<td>1,200-</td>
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<td>8</td>
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<td>Connect New Sewer to Existing Sewer Manhole with Existing Hole</td>
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<td>6,000-</td>
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<td>Remove Abandoned Drain Lateral (Only if not in Other Trench Excavation)</td>
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<td>2,060-</td>
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**PAGE 3 SUBTOTAL**: $367,380
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<td>New Vertical Granite Curb (Straight)</td>
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<td>20</td>
<td>30</td>
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<td>2&quot; Bituminous Sidewalk Repair Including Crushed Gravel Base</td>
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<td>21</td>
<td>320</td>
<td>SY</td>
<td>6&quot; Concrete Sidewalk Repair Including Crushed Gravel Base</td>
<td>$130</td>
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**PAGE 5 SURTOTAL** $30,000
885,885
90,810
3,380
119,415
20,000
1,001,888

TOTAL BID PRICE (FIGURES):

TOTAL BID PRICE (WORDS) - BASE BID

Eighty Eight

Dollars and
Cents

BID SCHEDULE - 2013 Sewer Replacement Project (ADDENDUM #1)

SUBTOTAL of Page BS-1
SUBTOTAL of Page BS-2
SUBTOTAL of Page BS-3
SUBTOTAL of Page BS-4
SUBTOTAL of Page BS-5
Contractor: N. Granese & Sons, Inc.

Authorized Signature: [Signature]

Date: Feb 14, 2019

Address: 59 Jefferson Ave, Salem, MA 01970

Phone: (781) 592-8121

Email Address: info@n_RG.com
DIVISION 5

AGREEMENT
STANDARD FORM OF AGREEMENT

BETWEEN OWNER AND CONTRACTOR

THIS AGREEMENT is dated as of the ______ day of ________ in the year 2019 by and between the City of Nashua, New Hampshire (hereinafter called OWNER) and N. Granese & Sons, Inc., and its successors, transferees and assignees together (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

1.01 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents.

ARTICLE 2 - THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

The scheduled work for the 2019 Sewer Replacement Project consists of work on Ash Street, C Street, and Charles Street. Work includes 1305 linear feet of sewer main replacement, 271 linear feet of drain lateral replacement, replacement of sewer service connections, replacement of sewer manholes and catch basins, and miscellaneous other sewer and roadway reconstruction items.

ARTICLE 3 - ENGINEER

3.01 The Project has been designed by: Division of Public Works
Engineering Department
9 Riverside Street
Nashua, NH 03062

who is hereinafter called ENGINEER and who is to act as OWNER’s representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Dates for Substantial Completion

A. Project will begin once a written “Notice to Proceed” is issued.
B. Substantial Completion shall be __120__ calendar days from the Notice to Proceed and Final Completion shall be __150__ calendar days from the Notice to Proceed.

4.03 Liquidated Damages

A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER ONE HUNDRED dollars ($100) for each calendar day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified in paragraph 4.02 for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER TWO HUNDRED dollars ($200) for each calendar day that expires after the time specified in paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

B. In the event that the CONTRACTOR fails to pay OWNER the specified liquidated damages amount within thirty (30) days of CONTRACTOR being notified of said damages, OWNER may deduct the amount of the assessed liquidated damages from the final payment or retention withheld pursuant to Article 14 of the General Conditions.

ARTICLE 5 - CONTRACT PRICE

5.01 Subject to additions and deductions by Change Order, the OWNER shall pay CONTRACTOR, in accordance with the Contract Documents, the Contract Sum of:

One Million One Thousand Eight Hundred Eighty-Eight and 00/100 Dollars

($1,001,888.00)

The Contract Sum shall include all items and services necessary for the proper execution and completion of the Work determined below:

A. for all Unit Price Work, an amount equal to the sum of the established Unit Price for each separately identified item of Unit Price Work times the estimated quantity of that item, as indicated in the attached Bid Schedule;

B. as provided in paragraph 11.03 of the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classification are to be made by ENGINEER as provided in paragraph 9.08 of the General Conditions. Unit prices have been computed as provided in paragraph 11.03 of the General Conditions.
ARTICLE 6 - PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

B. Applications for Payment under this agreement shall be submitted as follows:

➢ Electronically via email to VendorAPIInvoices@NeshuaNH.gov

OR

➢ Paper Copies via US Mail to:

City of Nashua, City Hall
Accounts Payable
229 Main Street
Nashua, NH 03060

*Please do not submit invoices both electronically and paper copy.*

In addition, and to facilitate the proper and timely payment of applications, the OWNER requires that all submitted invoices contain a valid PURCHASE ORDER NUMBER.

6.02 Progress Payments; Retainage

A. Progress Payments. The OWNER will once each month make a progress payment to the CONTRACTOR on the basis of an estimate of the total amount of work done to the time of the estimate and its value as prepared by the CONTRACTOR and approved by the ENGINEER. All such payments will be measured by the schedule of values established in paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

B. Retainage. The OWNER will retain a portion of the progress payment, each month, in accordance with the following procedures:

1. The OWNER will establish an escrow account in the bank of the OWNER’s choosing. The account will be established such that interest on the principal will be paid to the CONTRACTOR. The principal will be the accumulated retainage paid into the account by the OWNER. The principal will be held by the bank, available only to the OWNER, until termination of the contract.

2. Until the work is 50% complete, as determined by the ENGINEER, retainage shall be 10% of the monthly payments claimed. The computed amount of retainage will be deposited in the escrow account established above.

3. After the work is 50% complete, and provided the CONTRACTOR has satisfied the ENGINEER in quality and timeliness of the work, and provided further that there is no specific cause for withholding additional retainage no further amount will be
withheld. The escrow account will remain at the same balance throughout the remainder of the project.

6.03 Final Payment
A. Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, OWNER shall hold 2% retainage during the 1 (one) year warranty period and release it only after the project has been accepted.

ARTICLE 7 - CONTRACTOR'S REPRESENTATIONS

7.01 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. CONTRACTOR has carefully studied all (if any): (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions and (2) reports and drawings of Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. CONTRACTOR is entitled to rely upon the general accuracy of the “technical data” as provided in paragraph 4.2 of the General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR's purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site.

F. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.

G. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

H. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.
I. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

J. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

K. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 8 - CONTRACT DOCUMENTS

8.01 Contents

A. 1. The Contract Documents are defined in Article 1 of the General Condition as amended herein.

2. The Drawings are entitled "2019 CIPP Lining Project, prepared by Hayner/Swanson, Inc., prepared for the Division of Public Works, City of Nashua, dated January 14, 2019, consisting of 34 Sheets".

3. The following documents are incorporated by reference or otherwise indicated:

a. New Hampshire Department of Transportation “Standard Specifications for Road and Bridge Construction”, latest edition, incorporated by reference or unless otherwise indicated.


ARTICLE 9 - MISCELLANEOUS

9.01 Terms

A. Terms used in this will have the meanings indicated in the General Conditions.
9.02. Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.03 Successors and Assigns

A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

9.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

9.05 Choice of Law and Venue

A. This agreement shall be governed exclusively by the laws of the State of New Hampshire and any claim or action brought relating to this contract, the work performed or contracted to be performed thereunder, or referable in anyway thereto shall be brought in Hillsborough County (New Hampshire) Superior Court Southern Judicial District or in the New Hampshire 9th Circuit Court—Nashua and not elsewhere.

Address for giving notices to OWNER:

Division of Public Works
Engineering Department
9 Riverside Street
Nashua, NH 03062

Address for giving notices to CONTRACTOR:

Steven A. Granese
N. Granese & Sons, Inc.
59 Jefferson Avenue
Salem, MA 01970
IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed, initialed or identified by OWNER and CONTRACTOR or identified by ENGINEER on their behalf.

CITY OF NASHUA – OWNER

_________________________________________
James Donchess, Mayor City of Nashua

Date: ________________________________

CONTRACTOR:

By: ___________________________________
N. Granese & Sons, Inc. (Authorized Representative)

Print Name: ______________________________

Date: ________________________________
DIVISION 6

GENERAL CONDITIONS
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## For

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GENERAL CONDITIONS
ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the Bidding Requirements or the Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. *Application for Payment*--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. *Bonds*--Performance and payment bonds and other instruments of security.

9. *Change Order*--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications, the Drawings and the Purchases Order as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Field Orders, and ENGINEER's written interpretations and clarifications issued on or after the Effective Date Of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in
electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

13. **Contract Price**--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. **Contract Times**--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER’s written recommendation of final payment.

15. **CONTRACTOR**--The individual or entity with whom OWNER has entered into the Agreement.

16. **Cost of the Work**--See paragraph 11.01.A for definition.

17. **Drawings**--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. **Effective Date of the Agreement**--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. **ENGINEER**--The individual or entity named as such in the Agreement.

20. **ENGINEER’s Consultant**--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER’s independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

21. **Field Order**--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

22. **General Requirements**--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. **Hazardous Environmental Condition**--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. **Hazardous Waste**--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. **Laws and Regulations; Laws or Regulations**--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. **Liens**--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. **Milestone**--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. **Notice of Award**--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.
29. *Notice to Proceed*—A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. *OWNER*—The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. *Partial Utilization*—Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. *PCB's*—Polychlorinated biphenyls.

33. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the contract Documents.

35. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. *Resident Project Representative*—The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. *Site*—Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to performed, including rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

41. *Specifications*—That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

42. *Subcontractor*—An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

43. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.

44. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
45. **Supplier**—A manufacturer, fabricator, supplier, distributor, material man, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. **Underground Facilities**—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. **Unit Price Work**—Work to be paid for on the basis of unit prices.

48. **Work**—The entire completed construction or the various separately identifiable parts thereof required to be provided in the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. **Written Amendment**—A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

### 1.02 Terminology

#### A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms “as allows,” “as approved,” or terms of like effect or import are used, or the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

#### B. Day

1. The work “day” shall constitute a calendar day of regular working hours except Saturdays, Sundays and any legal holiday.

#### C. Defective

1. The word “defective,” when modifying the work “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

#### D. Furnish, Install, Perform, Provide

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word "install," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "Provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, "provide" is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 Copies of Documents

A. OWNER shall furnish to CONTRACTOR up to 5 copies of the Contract Documents as are reasonably necessary for execution of the Work. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence on the day indicated in the Notice to Proceed

2.04 Starting the Work

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 Before Starting Construction

A. CONTRACTOR's Review of Contract Documents: Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. Preliminary Schedules: Within ten days after the effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. A preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. A preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and

3. A preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve
as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

C. Evidence of Insurance: Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.

2.06 Preconstruction Conference

A. Within 20 days after the Contract times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 Initial Acceptance of Schedules

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR’s full responsibility therefore.

2. CONTRACTOR’s schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.

3. CONTRACTOR’s schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 Reference Standards

A. Standards, Specifications, Codes, Laws, and Regulations
1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER’s Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Document.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

2. In case of discrepancy, calculated dimensions will govern over scaled dimensions, Drawings will govern over Standard Specifications, and Construction Specifications will govern over both Drawings and Standard Specifications. The CONTRACTOR shall take no advantage of any apparent error or omission in the Drawings or Construction Specifications, and the ENGINEER will be permitted to make such corrections and interpretations as may be deemed necessary to fulfill the intent of the Contract Documents.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

   a. The provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

   b. The provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment, or (ii) a Change Order; order

B. The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, by one of more of the following ways: (i) a Field Order; (ii) ENGINEER’s approval of a Shop Drawing or Sample; or (iii) ENGINEER’s written interpretation or clarification.
3.05 Reuse of Documents

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER’s Consultant, including electronic media editions. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER’s furnishing the Site, CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

B. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER’s interest therein as necessary for giving notice of or filing a mechanic’s or construction lien against such lands in accordance with applicable Laws and Regulations.

C. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

D. If corporate or private property interferes with the Work, CONTRACTOR shall notify, in writing, the OWNER’s of such property, advising them of the nature of the interference and shall arrange to cooperate with them for the protection or disposition of such property. CONTRACTOR shall furnish the ENGINEER with copies of such notifications and with copies of any agreements between the CONTRACTOR and the property OWNER’s concerning such protection or disposition.

E. CONTRACTOR shall take all necessary precautions for the protection of corporate or private property, such as walls and foundations of buildings, vaults, underground structures of public utilities, underground drainage facilities, overhead structures of public utilities, trees, shrubbery, crops, and fences contiguous to the Work, of which the Contract does not provide for removal. CONTRACTOR shall protect and carefully preserve all official survey monuments, property marks, section markers, and Geological Survey Monuments, or other similar monuments, until OWNER, or authorized Surveyor or agent has witnessed or otherwise referenced their location or relocation. CONTRACTOR shall notify the ENGINEER of the presence of any such survey or property monuments as soon as they are discovered.

F. CONTRACTOR shall be responsible for the damage or destruction of property of any character resulting from neglect, misconduct, or omission in its manner or method of execution or the non-execution of the work, or caused by defective work or the use of unsatisfactory materials, and such responsibility shall not be released until the work shall have been completed and accepted and the requirements of the Construction Specifications complied with.

G. Whenever public or private property is so damaged or destroyed, the CONTRACTOR shall at its own expense, restore such property to a condition equal to that existing before such damage or injury was done by repairing, rebuilding, or replacing it as may be directed, or the CONTRACTOR shall otherwise make good such damage or destruction in an acceptable manner. If the CONTRACTOR fails to do so, the ENGINEER may, after giving the CONTRACTOR notice in writing, proceed to repair, rebuild, or otherwise restore such property as may be deemed
necessary, and the cost thereof shall be deducted from any compensation due, or which may become due, the CONTRACTOR under its Contract.

4.02 Subsurface and Physical Conditions

A. Reports and Drawings:

1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized:

CONTRACTOR may rely upon the general accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER’s Consultants with respect to:

1. The completeness of such reports and drawings for CONTRACTOR’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. Any CONTRACTOR interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

C. Potential for Hazardous Materials:

Work may include excavation through, and removal of, soils potentially containing undocumented asbestos-containing or other hazardous materials. Should the CONTRACTOR, while performing work under this Contract, uncover hazardous materials, as defined in federal, state and local regulations, he/she shall immediately notify the Engineer. No further disturbance of the area shall occur until the Engineer has collected and analyzed a representative sample of the suspected material. The area shall be cordoned off and covered with 6-mil polyethylene sheeting and await further directions from the Engineer.

4.03 Differing Subsurface or Physical Conditions

A. Notice: If CONTRACTOR believes that any subsurface or physical conditions at or contiguous to the Site that is uncovered or revealed either:

1. Is of such a nature as to establish that any “technical data” on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. Is of such a nature as to require a change in the Contract Documents; or

3. Differs materially from that shown or indicated in the Contract Documents; or

4. Is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents; then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any
Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. ENGINEER’s Review: After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER’s obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER’S findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR’s cost of, or time required for, performance of the Work; subject, however, to the following:

   a. Such condition must meet any one or more of the categories described in paragraph 4.03.A; and

   b. With respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

   a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

   b. The existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and Contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR’s making such final commitment; or

   c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefore as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER’s Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 Underground Facilities

A. Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the OWNER’s of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. The cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

   a. Reviewing and checking all such information and data,
b. Locating all Underground Facilities shown or indicated in the Contract Documents.

c. Coordination of the Work with the OWNER’s of such Underground Facilities, including OWNER, during construction, and

d. The safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the OWNER of such Underground Facility and give written notice to that OWNER and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

3. CONTRACTOR shall notify the following underground utility locating service at least three full working days prior to beginning work: *Dig Safe System, Inc. 1-800-344-7233.*

A list of the major public utilities servicing the work area follows. The list indicates the name and telephone number of the responsible authority of the various utilities which should be notified if conflicts or emergencies arise during the progress of the work.

<table>
<thead>
<tr>
<th>Service</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity – Eversource</td>
<td>1-800-662-7764</td>
</tr>
<tr>
<td>Natural Gas – Liberty Energy</td>
<td>1-603-222-3705</td>
</tr>
<tr>
<td>Water – Pennichuck Water Works</td>
<td>1-603-882-5191</td>
</tr>
<tr>
<td>Telephone – Fairpoint Communications</td>
<td>1-603-645-3500</td>
</tr>
<tr>
<td>Cable TV – Comcast</td>
<td>1-888-633-4266</td>
</tr>
<tr>
<td>Fire Alarm Cable – Nashua Fire Department</td>
<td>1-603-594-3641</td>
</tr>
</tbody>
</table>

4. At points where the CONTRACTOR’s operations are adjacent to public and private utilities, CONTRACTOR shall not commence work until CONTRACTOR has made all arrangements necessary for the protection of utilities.  
5. CONTRACTOR shall coordinate and cooperate with the OWNER’s of any underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.

4.05 *Reference Points*

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER’s judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall
make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

A. Reports and Drawings: Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized: CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER's Consultants with respect to:

1. The completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or

2. Other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. Any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom CONTRACTOR is responsible creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefore as provided in paragraph 10.05.

F. If after receipt of such written a notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefore as
provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER’S own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’S Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.F shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual’s or entity’s own negligence.

H. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

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**ARTICLE 5 - BONDS AND INSURANCE**

**5.01 Performance, Payment, and Other Bonds**

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR’s obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent’s authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

**5.02 Licenses Sureties and Insurers**

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverage’s so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

B. All Sureties and Insurance Companies shall be authorized to do business in the State of New Hampshire and shall have an A.M. Best rating of “A(FSC-VIII)” or better. In the event that the Insurer fails to maintain an A.M. Best rating “A(FSC-VIII)” or better, the CONTRACTOR shall immediately retain a Surety which does meet the above requirements.

**5.03 Certificates of Insurance**

A. CONTRACTOR shall deliver to OWNER 10 days prior to Work, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain.
5.04 CONTRACTOR's Liability Insurance

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is required by OWNER which will provide protection from claims which may arise out of or result from CONTRACTOR’s performance of the Work and CONTRACTOR’s other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. Include as additional insured (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER.

2. The CONTRACTOR must maintain the following lines of coverage and policy limits for the duration of the contract. Any subcontractors used by the CONTRACTOR are subject to the same coverage and limits and is a subcontractor of the CONTRACTOR and not the OWNER. It is the responsibility of the CONTRACTOR to update Certificates of Insurance during the term of the contract. Provide coverage for not less than the following amounts or greater:

   General Liability
   $1,000,000 per Occurrence
   $2,000,000 Aggregate
   City of Nashua Additional Insured

   Motor Vehicle Liability *coverage must include all owned, non-owned and hired vehicles.*
   $1,000,000 Combined Single Limit
   Automobile Liability
   City of Nashua Additional Insured

   Workers’ Compensation Coverage according to Statute of the State of New Hampshire:
   $100,000 / $500,000 / $100,000

   All bidders and subcontractors at every tier under the bidder will fully comply with NH RSA Chapter 281-A, “Workers’ Compensation”.

   It is the responsibility of the contractor to submit to the City of Nashua certificates of insurance for all subcontractors prior to the start of the project. It is the responsibility of the contractor to provide the City with updated certificates of insurance for the contractor and all subcontractors 10 days prior to the expiration of coverage. The City may, at any time, order the contractor to stop work, suspend the contract or terminate the contract for non-compliance. All subcontractors are subject to the same insurance requirements as the contractor.

3. Include completed operations insurance;

4. Include contractual liability insurance covering CONTRACTOR’s indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. Contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.03 will so provide);

6. Remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective Work in accordance with paragraph 13.07; and
7. With respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

C. CONTRACTOR agrees to maintain all required insurance coverage throughout the entire term of the contract. If CONTRACTOR does not maintain coverage throughout the entire term of the contract, CONTRACTOR agrees that OWNER may, at any time the coverage is not maintained by CONTRACTOR, order the CONTRACTOR to stop work, suspend the contract, or terminate the contract. CONTRACTOR further agrees, if applicable, as a precondition to the performance of any work under this contract and as a precondition to any obligation of the OWNER to make any payment under this contract to provide the OWNER with a certificate of a qualified insurer.

5.05 Property Insurance

A. CONTRACTOR must purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost of the Work. This insurance shall:

1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

3. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that the materials and equipment have been included in an application for payment recommended by ENGINEER; and

4. allow for partial utilization of the Work by OWNER:

5. include testing and startup; and

6. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. CONTRACTOR shall be responsible for any deductible or self-insured retention. The risk of loss within the identified deductible amount will be borne by CONTRACTOR, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense. OWNER shall not be responsible for purchasing and maintaining any property insurance specified in this paragraph 5.06 to protect the interests of CONTRACTOR, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions.

C. All the policies of insurance (and the certificates or other evidence of the policy) required to be purchased and maintained in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days after written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.

5.06 Waiver of Rights
A. CONTRACTOR intends that all policies purchased in accordance with paragraph 5.06 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered by the policy. All CONTRACTOR policies must contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insured or additional insured there under. CONTRACTOR waive all rights against OWNER each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused.

**ARTICLE 6 - CONTRACTOR’S RESPONSIBILITIES**

6.01 **Supervision and Superintendence**

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR’s representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 **Labor; Working Hours**

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER’s written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

C. The following list of streets will require prior approval to close a lane and may require flagging or police details and may have work time restrictions.

<table>
<thead>
<tr>
<th>Street</th>
<th>Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allds Street</td>
<td>East Hollis Street</td>
</tr>
<tr>
<td>Amherst Street</td>
<td>Henri Burque Hwy</td>
</tr>
<tr>
<td>Arlington Street</td>
<td>Kinsley Street</td>
</tr>
<tr>
<td>Bridge Street</td>
<td>Ledge Street</td>
</tr>
<tr>
<td>Broad Street</td>
<td>Main Dunstable Road</td>
</tr>
<tr>
<td>Broad Street Parkway</td>
<td>Main Street</td>
</tr>
<tr>
<td>Canal Street</td>
<td>Manchester Street</td>
</tr>
<tr>
<td>Central Street</td>
<td>Pine Hill Road</td>
</tr>
</tbody>
</table>

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6.03 Services, Materials, and Equipment

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 Substitutes and “Or-Equals”

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or “or-equal” item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. “Or-Equal” Items:

If in ENGINEER’S sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an “or-equal” item, in which case review and approval of the proposed item may, in ENGINEER’s sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. In the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole, and;
b. CONTRACTOR certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in ENGINEER’s sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an “or-equal” item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR’s achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. Substitute Construction Methods or Procedures:: If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER’s sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. Engineer’s Evaluation:: ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No “or-equal” or substitute will be ordered, installed or utilized until ENGINEER’s review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop drawing for an “or equal”. ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. Special Guarantee: OWNER may require CONTRACTOR to furnish at CONTRACTOR’s expense a special performance guarantee or other surety with respect to any substitute.

E. ENGINEER’s Cost Reimbursement:: ENGINEER will record time required by ENGINEER and ENGINEER’s Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER’s Consultants for evaluating each such proposed substitute.
F. CONTRACTOR’s Expense: CONTRACTOR shall provide all data in support of any proposed substitute or “or-equal” at CONTRACTOR’s expense.

6.06 Concerning Subcontractors, Suppliers, and Others

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER’s acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR’s own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.
6.07 Patent Fees and Royalties

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’s Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 Permits

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility Owner’s for capital costs related thereto, such as plant investment fees.

6.09 Laws and Regulations

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR’s compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR’s primary responsibility to make certain the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR’s obligations under paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in paragraph 10.05.

D. CONTRACTOR shall comply with all local laws, ordinances, and statutes, all provisions of the Revised Statutes Annotated, all provisions of the federal Davis-Bacon Act for projects with federal funding, and all regulations promulgated under either statute. Copies of the "City of Nashua Prevailing Wage Rates for Public Works", as determined by U.S. Department of Labor and "General Wage Determinations," as determined by the U.S. Department of Labor, are available for inspection at the City of Nashua Division of Public Works, 9 Riverside Street, Nashua, New Hampshire. If the provisions of the Davis-Bacon Act apply, all employees of the CONTRACTOR must be paid not less than the wage which is the greater of the Federal wage determinations. The hourly and daily rate of wages to be paid each class of mechanics and workers must be posted on the project site in a place generally visible to the employees.
E. If the Davis-Bacon Act applies, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of the CONTRACTOR’s employees or a payroll report. If the Davis-Bacon Act applies, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of any subcontractor's employees or a payroll report for each subcontractor. The statement or report must include the CONTRACTOR’s certification of compliance with the requirements of the supplementary condition. CONTRACTOR agrees that failure to comply with the portion of this supplementary condition requiring CONTRACTOR to furnish a certified statement of wages or payroll report will, in addition to any other retention allowed under this contract or under state or federal law, allow the OWNER to unilaterally, without notice to CONTRACTOR, retain an amount of up to 10% from each progress payment until the OWNER determines CONTRACTOR has complied with the provisions of this supplementary condition.

F. If the Davis-Bacon Act applies to work to be performed under this contract, CONTRACTOR shall furnish to the OWNER within seven days after payment date of the weekly payroll period, a statement of wages paid for each of CONTRACTOR’s employees and for each of any subcontractor's employees or a payroll report from CONTRACTOR and from each subcontractor. Each statement or report must include the certification by CONTRACTOR of compliance with the provisions of the Davis-Bacon Act.

G. Workers’ Compensation Coverage.

1. CONTRACTOR agrees as a precondition to the performance of any work under this contract and as a precondition to any obligation of the OWNER to make any payment under this contract to provide the OWNER with a certificate of a qualified insurer. CONTRACTOR agrees that notice of any lapse in coverage or nonpayment of coverage that the CONTRACTOR is required to maintain should be mailed to:

   Risk Management
   City of Nashua
   229 Main Street
   Nashua, NH 03060

2. CONTRACTOR agrees to maintain required workers’ compensation coverage throughout the entire term of the contract. If CONTRACTOR does not maintain coverage throughout the entire term of the contract, CONTRACTOR agrees that OWNER may, at any time the coverage is not maintained by CONTRACTOR, order the CONTRACTOR to stop work, suspend the contract, or terminate the contract. For each six-month period this contract is in effect, CONTRACTOR agrees, prior to the expiration of the six-month period, to provide another written request to its insurer for the provision of a certificate and notice of lapse in or nonpayment of coverage. If CONTRACTOR does not make the request or does not provide the certificate before the expiration of the six-month period, CONTRACTOR agrees that OWNER may order the CONTRACTOR to stop work, suspend the contract, or terminate the contract.

H. To be deemed a responsive bid, the list of subcontractor form must be submitted even if no subcontractors are required to be listed. Submittal is as follows:

1. Each bid submitted to any officer, department, board or commission for the construction of any public work or improvement must include:

   a. The name of each subcontractor who will provide labor or a portion of the work or improvement to the CONTRACTOR for which he will be paid an amount exceeding 5 percent of the prime CONTRACTOR’s total bid. Within 2 hours after the completion of the opening of the bids, the general contractors who submitted the three lowest bids must submit a list of the name of each subcontractor who will provide labor or a portion of the work or improvement to the CONTRACTOR for which he will be paid an amount exceeding 1 percent of the prime CONTRACTOR’s total bid or $50,000, whichever is greater, and the number of the license issued to the subcontractor. If a general CONTRACTOR fails to submit such a list within the required time, his bid shall be deemed not responsive.

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b. A description of the portion of the work or improvement which each subcontractor named in the bid will complete.

2. The CONTRACTOR shall list in his bid the name of a subcontractor for each portion of the project that will be completed by a subcontractor.

3. A CONTRACTOR whose bid is accepted shall not substitute any person for a subcontractor who is named in the bid, unless:

   a. The awarding authority objects to the subcontractor, requests in writing a change in the subcontractor and pays any increase in costs resulting from the change; or

   b. The substitution is approved by the awarding authority and:

      (i) The subcontractor, after having a reasonable opportunity, fails or refuses to execute a written contract with the CONTRACTOR which was offered to the subcontractor with the same terms that all other subcontractors on the project were offered;

      (ii) The named subcontractor files for bankruptcy or becomes insolvent; or

      (iii) The named subcontractor fails or refuses to perform his subcontract within a reasonable time or is unable to furnish a performance bond and payment bond.

1. If blasting or use of explosives is necessary for prosecution of Work, the CONTRACTOR shall provide the ENGINEER with a blasting plan in compliance with OSHA, State, and local regulations, laws, ordinances, and requirements. CONTRACTOR shall exercise the utmost care not to endanger life or property. CONTRACTOR shall be responsible for all damage resulting from the use of explosives. CONTRACTOR shall notify each property OWNER and utility company having structures or facilities in proximity to the site of the work of its intentions to use explosives. Such notice shall be given sufficiently in advance to enable the utility companies to take such steps as they may deem necessary to protect their property from injury.

6.10 Taxes

A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

   1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the OWNER or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

   2. Should any claim be made by any such OWNER or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

B. Removal of Debris During performance of the Work:
During the progress of the Work CONTRACTOR shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. Cleaning:

Prior to Substantial Completion of the Work CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures:

CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

E. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such OWNER or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

6.12 Record Documents

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

B CONTRACTOR shall mark up one set of paper prints to show the As-built conditions. They shall include all the information shown on the Contract Drawings and a record of all deviations, modifications, or changes from those Drawings, however minor, which were incorporated in the Work, all additional work not appearing on the Contract Drawings and all changes which are made after final inspection of the Contract Work. These As-built marked prints shall be kept current and available on the job site at all times. All changes from the Contract Drawings which are made in the Work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. No construction work shall be concealed until it has been inspected, approved, and recorded. The As-built marked prints will be jointly inspected for accuracy and completeness by the ENGINEER'S representative and a responsible representative of the CONTRACTOR prior to submission of the monthly pay estimate. Failure to keep the As-built marked prints on a current basis shall be sufficient justification to suspend pay estimates. The drawings shall show the following information, but not be limited to:

1. The location of any utility lines or other installations of any kind or description known to exist within the construction area. The location includes dimensions of permanent features.

2. The location and identification of all surface installations within 100 feet of the construction work.

3. The location and dimensions of any changes within the building or structure.
4. Correct grade or alignment of roads, structures, or utilities if any changes were made from Contract Drawings.

5. Correct elevations if changes were made in site grading.

6. Changes in details or design or additional information obtained from working drawings specified to be prepared or furnished by the CONTRACTOR including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions or equipment foundations, etc.

7. The topography and grades of all drainage installed or affected as a part of the Work.

8. All changes or modifications which result from the final inspection.

The As-built marked prints shall be delivered to the ENGINEER at the time of final inspection for ENGINEER's review and approval. All approval and acceptance of As-built drawings shall be accomplished before final payment is made to the CONTRACTOR.

6.13 Safety and Protection

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. All persons on the Site or who may be affected by the Work;

2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify OWNER of adjacent property and of Underground Facilities and other utility Owner’s when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER’S Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR’s duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

C. Occupational Safety and Health Standards: CONTRACTOR's methods of construction and safety requirements, including but not limited to trench excavation and shoring where applicable, shall conform to the requirements of the Occupational Safety and Health Standards for the Construction Industry. The document entitled "Occupational Safety and Health Standards for the Construction Industry" (29 CFR PART 1926) with Amendments as of February 1, 1998, including 29 CFR part 1910 General Industry Safety and Health Standards Applicable to Construction, is not attached to the Contract Documents. Said requirements as identified and established above are incorporated herein by reference.
D. **Power Lines:** No equipment of any kind shall be used or permitted within such proximity to the conductors of the Public Services of New Hampshire power lines as to be in violation of the safe working clearance prescribed by the National Electrical Safety Code.

E. **Protection of Utilities:** The CONTRACTOR shall verify all utility locations prior to the start of construction. This shall include, but not necessarily limited to: irrigation and drainage ditches, culverts, water lines, sewer lines, telephone cables, cable television, gas lines and electric lines. Prior to the start of construction the CONTRACTOR shall call Dig Safe System, Inc. 1-800-344-7233 (two full working days’ notice required). The failure of any utility to subscribe to DIGS shall not relieve the CONTRACTOR from the responsibility of protection of that utility on the site. Any physical structure (i.e. curbs, sidewalks, paving, buildings, landscape improvements, utilities, etc., damaged by the CONTRACTOR shall be repaired or replaced in a condition equal to or better than the condition prior to the damage. Such repair or replacement shall be accomplished at the CONTRACTOR’s expense without additional compensation from the OWNER.

F. CONTRACTOR shall ensure that its activities and activities of its employees, agents and subcontractors, and their employees and agents (including all sub-subcontractors), are in strict compliance with all Environmental Protection Agency, New Hampshire Department of Environmental Services, and Department of Transportation regulations and all other applicable federal, state and local statutes, ordinances, regulations and rules, including without limitation, the Federal Occupational Safety and Health Act of 1970 (OSHA) as amended and the standards and regulations issued thereunder, and all other statutes, ordinances, regulations, rules, standards and requirements of common law in relation to industrial hygiene and safety, and the protection of health and the environment.

6.14 **Safety Representative**

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs. Work Site is subject to safety inspection by the City Safety Representative at any and all times.

6.15 **Hazard Communication Programs**

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 **Emergencies**

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, Change Order will be issued.

6.17 **Shop drawings and Samples**

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material,
Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER’s review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

   a. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

   b. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

   c. All information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto; and

   d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR’s obligations under the Contract Documents with respect to CONTRACTOR’s review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. ENGINEER’s Review

1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER’s review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER’s review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. ENGINEER’s review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER’s attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof.
incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. Resubmittal Procedures

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 Continuing the Work

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 CONTRACTOR’s General Warranty and Guarantee

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER’s Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR’s warranty and guarantee hereunder excludes defects or damage caused by:

1. Abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or

2. Normal wear and tear under normal usage.

B. CONTRACTOR’s obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR’s obligation to perform the Work in accordance with the Contract Documents:

1. Observations by ENGINEER;

2. Recommendation by ENGINEER or payment by OWNER OF ANY PROGRESS OR FINAL PAYMENT;

3. The issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereof by OWNER;

4. Use or occupancy of the Work or any part thereof by OWNER;

5. Any acceptance by OWNER or any failure to do so;

6. Any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;

7. Any inspection, test, or approval by others; or

8. Any correction of defective Work by OWNER.

6.20 Indemnification

A. Regardless of the coverage provided by any insurance, Contractor agrees to indemnify and shall defend and hold harmless the City, its agents, officials, employees and authorized representatives and their employees from and against any and all suits, causes of action, legal or administrative proceedings, arbitrations, claims, demands, damages,
liabilities, interest, attorneys' fees, costs and expenses of any kind or nature in any manner caused, occasioned, or contributed to in whole or in part by reason of any negligent act, omission, or fault or willful misconduct, whether active or passive, of Contractor or of anyone acting under its direction or control or on its behalf in connection with or incidental to the performance of this contract. Contractor's indemnity, defense and hold harmless obligations, or portions thereof, shall not apply to liability caused by the sole negligence or willful misconduct of the party indemnified or held harmless.

B. In any and all claims against OWNER or ENGINEER, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity.

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the liability of ENGINEER and ENGINEER's Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them arising out of:
The preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications.

ARTICLE 7 - OTHER WORK

7.01 Related Work at Site
A. OWNER may perform other work related to the Project at the Site by OWNER's employees, or let other direct contracts therefore, or have other work performed by utility Owner's. If such other work is not noted in the Contract Documents, then:

1. Written notice thereof will be given to CONTRACTOR prior to starting any such other work; and

2. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefore as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility OWNER (and OWNER, if OWNER is performing the other work with OWNER's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility OWNERS and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility OWNERS and other contractors.

C. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure to so report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent defects and deficiencies in such other work.

7.02 Coordination
A. If OWNER intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. The individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. The specific matters to be covered by such authority and responsibility will be itemized; and

3. The extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility for such coordination.

**ARTICLE 8 - OWNER'S RESPONSIBILITIES**

8.01 *Communications to Contractor*
A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.02 *Replacement of ENGINEER*
A. In case of termination of the employment of ENGINEER, OWNER shall appoint and whose status under the Contract Documents shall be that of the former ENGINEER.

8.03 *Furnish Data*
A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

8.04 *Pay Promptly When Due*
A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*
A. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.06 *Insurance*

See Article 5.

8.07 *Change Orders*
A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*
A. OWNER's responsibility in respect to certain inspections tests, and approvals is set forth in paragraph 13.03.B.
8.09 Limitations on OWNER's Responsibilities

A. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, of the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

8.10 Undisclosed Hazardous Environmental Condition

A. OWNER's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06

8.11 Evidence of Financial Arrangements

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 OWNER's Representative

A. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

9.02 Visits to Site

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER's visits and observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER's visits or observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 Project Representative

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereof of such other individual or entity will be as provided in the supplementary Conditions.
9.04 Clarifications and Interpretations

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefore as provided in paragraph 10.05.

9.05 Authorized Variations in Work

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefore as provided in paragraph 10.05.

9.06 Rejecting Defective Work

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 Shop Drawings, Change Orders and Payments

A. In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER's authority as to change orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER’s authority as to Applications for Payment, see Article 14.

9.08 Determinations for Unit Price Work

A. ENGINEER will have authority to determine the actual quantities and classifications of items of Unit Price Work performed by CONTRACTOR, and the written decisions of ENGINEER on such matters will be final, binding on OWNER and CONTRACTOR and not subject to appeal (except as modified by ENGINEER to reflect changed factual conditions).

9.09 Decisions on Requirements of Contract Documents and Acceptability of Work

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work there under. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not be liable in connection with any interpretation or decision rendered in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise
by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 Limitations on ENGINEER's Authority and Responsibilities

A. Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates or inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER's Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 Authorized Changes in the Work

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment or a Change Order. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Change Order, a Claim may be made therefore as provided in paragraph 10.05.

10.02 Unauthorized Changes in the Work

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 Execution of Change Orders

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:
1. Changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER's correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;

2. Changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Change Order; and

3. Changes in the Contract Price and Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 Notification to Surety

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 Disputes – Not Insurance Related

A. Notice: Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 10 days) after the start of the event giving rise thereto. Notice of the amount or extent of the dispute, or other matter with supporting data shall be delivered to the ENGINEER, Risk Management Department and the other party to the Contract within 60 days after the start of such event. A dispute for an adjustment in Contract Price shall be prepared in accordance with the provisions in paragraph 12.01.B. A dispute for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each dispute shall be accompanied by claimant's written statement that the adjustment disputed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. ENGINEER'S Decision: ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER's written decision on such dispute, or other matter will be final and binding upon CONTRACTOR unless:

1. An appeal from ENGINEER'S decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. If no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER's written decision is delivered by CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have the respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the dispute in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the submittal of the opposing party, if any.

D. No dispute for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.
ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

A. Costs Included: The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of the Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs of employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in this paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

   a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

   b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.

   c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
6. Rental rates shall be determined as follows:

a. The base rates shall be those established in publications and revisions thereto entitled “Rental Rate Blue Book for Construction Equipment” or the “Rental Rate Blue Book for Older Construction Equipment” as published by K-III, 1735 Technology Drive, Suite 401, San Jose, CA 95110-1313, Phone (408) 467-6700.

b. Attachments (e.g. tractor with ripper and dozer or tractor with loader and backhoe) will be included in the hourly rental rate only when deemed essential to the work as determined the Engineer. When multiple attachments are approved for use and are being used interchangeably, the attachment having the higher rental rate shall be the only one included for payment.

c. No direct payment will be made for necessary accessories (including replenishing blades, augers, teeth, hoses, bits, etc.) if not listed in the Rental Rate Blue Book.

d. No compensation will be allowed for shop tools having a daily rental rate of less than $10 as set forth in Section 18 of the Rental Rate Blue Book.

   i. If ordered to use equipment not listed in the aforementioned publications, the Engineer will establish a rental rate for such equipment. CONTRACTOR shall furnish cost data that might assist in the establishment of such rental rate.

   ii. Payment will be made for the actual time that such equipment is in operation on the work.

   iii. Authorized standby time for idle equipment shall be paid at 50% of the specified rate, less the estimated operating cost per hour. No markup will be added for overhead and profit.

   iv. Rental rate paid as above provided shall include the cost of fuel, oil, lubrication, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance and all incidentals. CONTRACTOR shall provide the Engineer with a complete Force Account Equipment Listing for each piece of equipment utilized.

e. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

f. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

g. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work, provided such losses and damages have resulted from causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR’s fee.

h. The cost of utilities, fuel, and sanitary facilities at the Site.

i. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

j. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim.
k. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR’s office at the Site.

3. Any part of CONTRACTOR's capital expense, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.

C. CONTRACTOR's Fee: When all the Work is performed on the basis of cost-plus, CONTRACTOR's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, CONTRACTOR’s fee shall be determined as set forth in paragraph 12.01.C.

D. Documentation: Whenever the cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A. and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER as itemized cost breakdown together with supporting data.

11.02 Cash Allowances

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. CONTRACTOR's costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work
A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of the Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subject to the provisions of paragraph 9.08

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or

2. Where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or

3. Where the Work involved is not covered by unit prices contained in the Contract Documents an agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 12.01.C).

C. CONTRACTOR's Fee: The CONTRACTOR's fee for overhead and profit shall be determined as follows:

1. A mutually acceptable fixed fee; or

2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

   a. For costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR's fee shall be 15 percent;

   b. For costs incurred under paragraph 11.01.A.3, the CONTRACTOR's fee shall be five percent;

   c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a. is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

   d. No fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

   e. The amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and
f. When both addition and credits are involved in any one change, the adjustment in CONTRACTOR’s fee shall be computed on the basis of the net change in accordance with paragraphs 12.01.C.2.a through 12.01.C.2.e inclusive.

**12.02 Change of Contract Times**

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this Article 12.

**12.03 Delays beyond CONTRACTOR’s Control**

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefore as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

**12.04 Delays within CONTRACTOR’s Control**

A. Contract Times (or Milestones) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

**12.05 Delays beyond OWNER’s and CONTRACTOR’s Control**

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR’s sole and exclusive remedy for such delay.

**12.06 Delay Damages**

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. Delays caused by or within the control of CONTRACTOR; or

2. Delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone from whom OWNER is responsible.
ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

A. OWNER, ENGINEER, ENGINEER'S Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental agencies with jurisdictional interest will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 Tests and Inspections

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. For inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;

2. That costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B; and

3. As otherwise specifically provided in the Contract Documents.

4. That costs incurred by OWNER due to retesting, reinspection, or standby time due to unacceptable materials, or workmanship provided by the CONTRACTOR, or due to poor scheduling by the CONTRACTOR of tests of inspections, will be deducted from the payments to the CONTRACTOR. CONTRACTOR shall stop work as necessary to allow for inspections and tests by OWNER and ENGINEER.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER'S and ENGINEER's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.
G. The OWNER intends to provide inspection for the project. The inspector will be available during a forty (40) hour period during the week from Monday through Friday. In the event the CONTRACTOR receives permission from the OWNER and elects to work more than forty hours during the week or more than 10 hours in one day, or on a Saturday, Sunday, or legal holiday, the CONTRACTOR shall be responsible for all inspection, engineering and testing costs incurred during that period. For all inspection and testing work performed on Saturday, Sunday, or legal holidays, the minimum chargeable time shall be four (4) hours. The OWNER reserves the right to deduct these inspection, engineering, and testing costs directly from the CONTRACTOR’S payments.

13.04 Uncovering Work

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER’s observation and replaced at CONTRACTOR’S expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER’s request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefore as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefore as provided in paragraph 10.05.

13.05 OWNER May Stop the Work

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause of such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 Correction or Removal of Defective Work

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 Correction Period

A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR’s use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER’s written instructions: (i) repair such defective land or areas, or (ii) correct such
defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting there from. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement work of others) will be paid by CONTRACTOR.

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

C. Where defective Work (and damage to other Work resulting there from) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR's obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 Acceptance of Defective Work

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER's recommendation of final payment, ENGINEER) prefers to accept it, OWNER may do so, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefore as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 OWNER May Correct Defective Work

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors, and ENGINEER and ENGINEER's Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by
OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefore as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR's defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

A. The schedule of values established as provided in paragraph 2.01.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 Progress Payment

A. Review of Applications.

1. Prior to submittal of Application for Payment to OWNER (but not more often than once a month), the CONTRACTOR shall submit the monthly progress estimate to the ENGINEER for review and approval.

2. ENGINEER will, within 10 working days after receipt of each progress estimate, either indicate in writing a recommendation of payment or indicate in writing ENGINEER's reasons for refusing to recommend payment and return the progress estimate to CONTRACTOR. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

3. ENGINEER's recommendation of any payment requested in a progress estimate will constitute a representation by ENGINEER to OWNER, based on ENGINEER's observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying date and schedules, that to the best of ENGINEER's knowledge, information and belief:

   a. The Work has progressed to the point indicated;

   b. The quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08 and to any other qualifications stated in the recommendation); and

   c. The conditions precedent to CONTRACTOR's being entitled to such payment appears to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

4. By recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

5. Neither ENGINEER's review of CONTRACTOR's Work for the purposes of recommending payments nor ENGINEER's recommendation of any payment, including final payment, will impose responsibility on

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ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR's failure to comply with Laws and Regulations applicable to CONTRACTOR's performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or equipment has passed to OWNER free and clear of any Liens.

6. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

   a. The Work is defective, or completed Work has been damaged, requiring correction or replacement;

   b. The Contract Price has been reduced by Written Amendment or Change Orders;

   c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

   d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.

B. Applications for Payments.

1. CONTRACTOR shall submit to OWNER, the ENGINEER recommended Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect OWNER's interest therein, all of which must be satisfactory to OWNER. Any request for partial or final payment shall specifically list the work completed. To facilitate the proper and timely payment of applications, the OWNER requires that all applications must reference a valid PURCHASE ORDER NUMBER, as submitted to CONTRACTOR under the Notice to Proceed, be in original format; OWNER will not authorize payments from carbon or Xerox copies, and mailed directly to the following address:

   City of Nashua
   Accounts Payable
   PO Box 2019
   Nashua, NH 03061-2019
   Attn: Division of Public Works

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be stipulated in the Agreement.

C. Payment Becomes Due

1. Not more than 30 days after presentation of the application for payment to OWNER with ENGINEER's recommendation, the amount recommended will become due, and when due will be paid by OWNER to CONTRACTOR.
D. Reduction in Payment.

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

a. Claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;

c. There are other items entitling OWNER to a set-off against the amount recommended; or

d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld. OWNER shall promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 CONTRACTOR’s Warranty of Title

A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

14.04 Substantial Completion

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefore. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefore. If after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.
B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 Partial Utilization

A. Use by OWNER at OWNER's option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of paragraph 5.10 regarding property insurance.

14.06 Final Inspection

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. Application for Payment

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any lien.
B. Review of Application and Acceptance

1. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application of Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

14.08 Final Completion Delayed

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. A waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 Termination, Abandonment, or Suspension at Will

The OWNER, in its sole discretion, shall have the right to terminate, abandon, or suspend all or part of the project and contract at will. If the OWNER chooses to terminate, abandon, or suspend all or part of the project, it shall provide CONTRACTOR 10 day's written notice of its intent to do so.

If all or part of the project is suspended for more than 90 days, the suspension shall be treated as a termination at will of all or part of the project and contract.

Upon receipt of notice of termination, abandonment, or suspension at will, CONTRACTOR shall:

1. Immediately discontinue work on the date and to the extent specified in the notice.

2. Place no further orders or subcontracts for materials, services, or facilities, other than as may be necessary or required for completion of such portion of work under the contract that is not terminated.
3. Immediately make every reasonable effort to obtain cancellation upon terms satisfactory to the OWNER of all orders or subcontracts to the extent they relate to the performance of work terminated, abandoned, or suspended under the notice, assign to the OWNER any orders or subcontracts specified in the notice, and revoke agreements specified in the notice.

4. Not resume work after the effective date of a notice of suspension until receipt of a written notice from the OWNER to resume performance.

In the event of a termination, abandonment, or suspension at will, CONTRACTOR shall receive all amounts due and not previously paid to CONTRACTOR for work satisfactorily completed in accordance with the contract prior to the date of the notice and compensation for work thereafter completed as specified in the notice. No amount shall be allowed or paid for anticipated profit on unperformed services or other unperformed work.

15.02 Termination for Cause

This agreement may be terminated by the OWNER on 10 calendar day’s written notice to CONTRACTOR in the event of a failure by CONTRACTOR to adhere to any or all the terms and conditions of the contract or for failure to satisfactorily, in the sole opinion of the OWNER, to complete or make sufficient progress on the work in a timely and professional manner. CONTRACTOR shall be given an opportunity for consultation with the OWNER prior to the effective date of the termination. CONTRACTOR may terminate the contract on 10 calendar days written notice if, through no fault of CONTRACTOR, the OWNER fails to pay CONTRACTOR for 45 days after the date of approval by the OWNER of any Application for Payment.

Upon receipt of notice of termination for cause, CONTRACTOR shall:

1. Immediately discontinue work on the date and to the extent specified in the notice.
2. Provide the OWNER with a list of all unperformed services.
3. Place no further orders or sub-contracts for materials, services, or facilities, other than as may be necessary or required for completion of such portion of work under the contract that is not terminated.
4. Immediately make every reasonable effort to obtain cancellation upon terms satisfactory to the OWNER of all orders or sub-contracts to the extent they relate to the performance of work terminated, abandoned, or suspended under the notice, assign to the OWNER any orders or sub-contracts specified in the notice, and revoke agreements specified in the notice.
5. Not resume work after the effective date of a notice of termination unless and until receipt of a written notice from the OWNER to resume performance.

In the event of a termination for cause, CONTRACTOR shall receive all amounts due and not previously paid to CONTRACTOR for work satisfactorily completed in accordance with the contract prior to the date of the notice, less all previous payments. No amount shall be allowed or paid for anticipated profit on unperformed services or other unperformed work. Any such payment may be adjusted to the extent of any additional costs occasioned to the OWNER by reasons of CONTRACTOR's failure. CONTRACTOR shall not be relieved of liability to the OWNER for damages sustained from the failure, and the OWNER may withhold any payment to the CONTRACTOR until such time as the exact amount of damages due to the OWNER is determined. All claims for payment by the CONTRACTOR must be submitted to the OWNER within 30 days of the effective date of the notice of termination.

If after termination for the failure of CONTRACTOR to adhere to any of the terms and conditions of the contract or for failure to satisfactorily, in the sole opinion of the OWNER, to complete or make sufficient progress on the work in a timely and professional manner, it is determined that CONTRACTOR had not so failed, the termination shall be deemed to have been a termination at will. In that event, the OWNER shall, if necessary, make an adjustment in the compensation paid to CONTRACTOR such that CONTRACTOR receives total compensation in the same amount as it would have received in the event of a termination-at-will.

15.03 General Provisions for Termination
Upon termination of the contract, the OWNER may take over the work and prosecute it to completion by agreement with another party or otherwise. In the event CONTRACTOR shall cease conducting business, the OWNER shall have the right to solicit applications for employment from any employee of the CONTRACTOR assigned to the performance of the contract.

Neither party shall be considered in default of the performance of its obligations hereunder to the extent that performance of such obligations is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of such party. Delays arising from the actions or inactions of one or more of CONTRACTOR's principals, officers, employees, agents, subcontractors, consultants, vendors, or suppliers are expressly recognized to be within CONTRACTOR's control.

**ARTICLE 16 - DISPUTE RESOLUTION**

**16.01 Methods and Procedures**

A. The parties shall attempt to resolve any dispute related to this contract as follows. Either party shall provide to the other party, in writing and with full documentation to verify and substantiate its decision, its stated position concerning the dispute. No dispute shall be considered submitted and no dispute shall be valid under this provision unless and until the submitting party has delivered the written statement of its position and full documentation to the other party. The parties shall then attempt to resolve the dispute through good faith efforts and negotiation between the OWNER Representative and a CONTRACTOR Representative. At all times, CONTRACTOR shall carry on the work under this contract and maintain and complete work in accordance with the requirements of the contract or determination or direction of the OWNER. If the parties are unable to resolve their dispute as described above within 30 days, the parties may request that the dispute be submitted to the Board of Public Works for resolution. If the parties are dissatisfied with the decision of the Board of Public Works, the parties' reserve the right to pursue any available legal and/or equitable remedies for any breaches of this contract except as that right may be limited by the terms of this contract.

**ARTICLE 17 - MISCELLANEOUS**

**17.01 Giving Notice**

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

**17.02 Computation of Times**

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

**17.03 Cumulative Remedies**

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation or, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws and Regulations, by special warranty or guarantee, or by other provisions of the contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

**17.04 Survival of Obligations**
A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, will survive final payment, completion, and an acceptance of the Work or termination or completion of the Agreement.

17.05 Controlling Law

A. This contract shall be governed exclusively by the laws of the State of New Hampshire and any claim or action brought relating to this contract, the work performed or contracted to be performed thereunder, or referable in anyway thereto shall be brought in Hillsborough County (New Hampshire) Superior Court Southern Judicial District or in the New Hampshire 9th Circuit Court—Nashua and not elsewhere.

17.06 Access to Records

A. At all times during regular business hours, CONTRACTOR shall provide full and free access to the OWNER, ENGINEER, and State of New Hampshire to any books, documents, papers, and records related to the work for the purpose of examination, audit, and duplication. The CONTRACTOR shall maintain all required accounts, records, and books for three years after final completion of the work.

17.07 Road Closures and Traffic Delays

A. Partial or full closure of streets in order to facilitate construction will be permitted, or required by the Engineer in accordance with the following:

1. If the CONTRACTOR proposes a closure, the CONTRACTOR notifies the OWNER in writing at least 5 days prior to the proposed closure of his intent to close the road.

2. At least 5 days prior to the proposed closure, the CONTRACTOR shall submit a detour traffic plan for each location being detoured.

3. The CONTRACTOR shall install standard traffic control devices in accordance with the Detour Signage plan provided in the bid documents and the Manual on Uniform Traffic Control Devices (MUTCD.)

4. The detour signage shall be covered when the road closure is not in effect.

B. CONTRACTOR shall notify the following agencies of any traffic delays or road closures three days in advance of the work:

Nashua Police Department: (603) 594-3500
Nashua Fire Department: (603) 594-3652
School Bus Garage: (603) 594-4300
Nashua Solid Waste Department (603) 589-3410
Nashua Building Department (603) 589-3080

17.08 Prohibited Interests

A. CONTRACTOR shall not allow any officer or employee of the OWNER to have any indirect or direct interest in this contract or the proceeds of this contract CONTRACTOR warrants that no officer or employee of the OWNER has any direct or indirect interest, whether contractual, noncontractual, financial or otherwise, in this contract or in the business of CONTRACTOR. If any such interest comes to the attention of CONTRACTOR at any time, a full and complete disclosure of the interest shall be immediately made in writing to the OWNER. CONTRACTOR also warrants that it presently has no interest and that it will not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this contract. CONTRACTOR further warrants that no person having such an interest shall be employed in the performance of this contract. If OWNER determines that a conflict exists and was not disclosed to the OWNER, it may terminate the contract at will or for cause in accordance with Article 15.02.
B. In the event Contractor (or any of its officers, partners, principals, or employees acting with its authority) is convicted of a crime involving a public official arising out or in connection with the procurement of work to be done or payments to be made under this contract, City may terminate the contract at will or for cause in accordance with paragraph 9. Upon termination, Contractor shall refund to the City any profits realized under this contract, and Contractor shall be liable to the City for any costs incurred by the City in completing the work described in this contract. At the discretion of the City, these sanctions shall also be applicable to any such conviction obtained after the expiration or completion of the contract.

C. Contractor warrants that no gratuities (including, but not limited to, entertainment or gifts) were offered or given by Contractor to any officer or employee of the City with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending or making of any determinations with respect to the performance of this contract. If City determines that such gratuities were or offered or given, it may terminate the contract at will or for cause in accordance with Article 15.02.

D. The rights and remedies of this section shall in no way be considered for be construed as a waiver of any other rights or remedies available to the City under this contract or at law.

17.09 Cooperation with Refuse Pickup

A. Contractor shall determine the schedule for trash pickup by contacting the City of Nashua Solid Waste Department. The Contractor shall cooperate and make arrangements to insure that trash pickup is not delayed or obstructed in any way. This may involve the Contractor bring trash barrels to the front or backside of the work area for pickup by the Solid Waste Department and then returning the barrels back to each house.
DIVISION 7

SUPPLEMENTARY CONDITIONS
SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

A. ENGINEER'S CONSULTANT
Hayner/Swanson, Inc., 3 Congress Street, Nashua, NH 03062 is an Engineer's Consultant as defined in Article 1 of the General Conditions.

In this capacity, Hayner/Swanson, Inc. has prepared the plans, specifications and bid forms on behalf of the Engineer.

Hayner/Swanson, Inc. may perform additional professional services on behalf of the Engineer during the administration of this contract as directed by the Engineer.

B. OTHER WORK IN CONTRACT AREA
Other City and utility work may be in progress within the project area during work in this contract.

It is anticipated that the gas and water companies will be replacing sections of their existing lines either before or upon completion of the sewer replacement project. The contractor shall cooperate fully with that work.

The Contractor shall strive to provide coordination with other work within the project area to minimize disruption.

The Contractor shall notify the Engineer with as much advance notice as reasonably possible of any concerns with other work in the project area.

C. WORK HOURS
Reference is made to Section 6.02 Labor; Working Hours of the General Conditions.

Except as stated below, normal working hours shall be from 7:00 AM to 5:00 PM Monday through Friday. No weekend, holiday or night work will be allowed without advance written approval of the City Engineer.

Requests for work beyond those hours normally allowed on weekdays shall be made by the Contractor at least 72 hours in advance.

Requests for work on Saturdays, Sundays and holidays shall be made at least one week in advance.
Contractor should not assume requests for hours beyond the hours and days normally allowed will be approved. Requests will be considered on a case by case basis.

D. USE OF GROUNDS
Any area outside the limits of the project area (right-of-way within project limits) which the Contractor may require for storage of equipment and materials, or for other purposes necessary in the performance of the Work, shall be secured by the Contractor at their own expense. Materials, including excavation intended for backfill, shall not be stored or stacked within any roadway clear zones, or in a manner that obstructs adequate sight lines unless specifically permitted in writing by the Engineer. The Contractor is responsible for providing security as required and erosion controls at no cost to the City.

E. TRAFFIC CONTROL PLAN
Reference is made to Section 01110 Control of Work and Materials, Subsection 5 Maintenance of Traffic in the Construction Specifications.

Reference is also made to Section 17.07 Road Closures and Traffic Delays of the General Conditions.

The following are considered part of the Traffic Control Plan:

2. Work Zone Traffic Control Standard Sheets*
4. Positive Protection Guidance for Work Zones (PPGWZ)*
5. Flagger and Uniformed Officer Use in Work Zones Policy and Guidelines*

*Available online under Doing Business with DOT>Contractors at www.nhdot.com or through the NHDOT Contracts office (603-271-3732).

The Contractor shall provide necessary traffic control devices to ensure the safety of the workers, traveling public, and property owners on this project. The above referenced specifications, guidelines, and provisions herein provide minimum requirements; the Contractor may be directed to expand upon the Traffic Control Plan if conditions warrant.

All signs, channelizing devices and arrow boards as required by the Manual on Uniform Traffic Control Devices, including part six, as amended, and the above Standard Sheets shall be in place prior to moving any equipment onto the pavement.

The Contractor shall provide trained personnel, including Uniformed Officers and Flaggers in accordance with Section 618, to be responsible for the maintenance of traffic.

All materials furnished and used for maintenance of traffic, shall be required to be certified for reflectivity. Damaged devices shall be replaced as directed by the Engineer without additional compensation. Regardless of action that may be taken or not taken by the Engineer, the Contractor shall be solely responsible for the appropriateness, reflectivity and condition of all materials provided as well as placement and maintenance of traffic control elements.
F. **CHANGES TO THE CONTRACT WORK**
At the Owner's discretion, the Owner may choose to remove portions of the work from this Contract. The Contractor shall be paid only for work actually performed.

The Owner also reserves the right to add additional work of similar type at other locations within the City. This may be in place of portions of work removed from the Contract or may be in addition to the scope of the Contract. Should the value of total work exceed the contract amount with consideration of additional work to be performed, the Owner will present a contract amendment proposal to the Contractor.

G. **PARKING REQUIREMENTS**
The Contractor is responsible for obtaining the City official “No On-Street Parking” signs when needed. These signs are available at the City Engineering Office. At the completion of work, the signs shall be removed and returned to the City in good condition.

H. **COOPERATION WITH REFUSE PICKUP**
Reference is made to *General Conditions Section 17.09, Cooperation with Refuse Pickup.*

I. **HAZARDOUS ENVIRONMENTAL CONDITION**
Reference is made to *General Conditions Section 4.06, Hazardous Environmental Condition at Site.*

It is **not** anticipated that hazardous materials will be encountered during excavation for the contract work.

However, the Contractor should be aware that as yet undiscovered areas with asbestos containing material or other hazardous contaminants may be encountered.

An allowance (ITEM 10) has been incorporated into the contract to be used if, and only if, hazardous material is encountered.

Should suspected hazardous material be encountered, the Contractor shall stop work and immediately notify the Engineer.

Appropriate steps will be taken to cover and protect stockpiles and the work in accordance with NHDES policies and local, state and Federal requirements.

The Contractor shall cooperate fully with the Engineer as investigations, testing and referrals are performed.

The allowance shall be used to compensate the Contractor for costs and expenses incurred as directed by and agreed to be the Engineer.

Negotiations and compensation for work associated with addressing unanticipated hazardous materials encountered during excavation shall be consistent with provisions in the Contract for Changes in the Work.
J. **RESTORATION OF EXISTING PROPERTY**
Reference is made to *Section 01110 Control of Work and Materials Paragraph 7.F* of the Construction Specifications.

Failure to promptly restore existing property and structures including, but not limited to driveways and lawns, may result in the Engineer’s determination that associated work is not complete and therefore not eligible for progress payment. Such associated work may include, but not be limited to paving, pipe installation, catch basins, manholes and curbing.

K. **ELECTRIC SERVICES**

Contractor shall make all necessary applications and arrangements and pay for all fees and charges for electrical energy for power and light necessary for the proper completion of this contract during its entire progress. The Contractor shall provide and pay for all temporary wiring, switches, connections, and meters.

. There shall be sufficient electric lighting so that all work may be done in a safe and workmanlike manner where there is not sufficient daylight.

L. **WATER FOR CONTRACT WORK**
The Contractor shall supply all water needed to complete contract work at no separate cost to the Owner.

M. **DIMENSIONS OF PHYSICAL FEATURES**
Where the dimensions and locations of physical features and structures are of critical importance in the installation or connections of the work, the Contractor shall verify such dimensions and locations in the field before fabrication of any material or equipment which is dependent on the correctness of such information.

N. **SUPERINTENDENCE OF THE WORK**
Reference is made to *General Conditions Section 6.01, Supervision and Superintendence.*

Contractor shall provide appropriate onsite superintendence of all aspects of the work whether performed by the Contractor or by subcontractors.

Qualified Superintendent(s) shall be assigned for all crews. Contact information will be provided for all Superintendents.

O. **MAINTENANCE DURING WEATHER EVENTS**
The Contractor’s obligation to protect the public traveling through the project site shall include maintaining safe passage during rain and other weather events.

The Contractor shall plan in advance of forecasted inclement weather events and shall assign crews to perform maintenance of unpaved areas open to traffic during and after inclement weather events. Contractor is responsible to coordinate with the Engineer and other City officials as appropriate.
P. **CONTRACTOR’S REPRESENTATIVE**

The Contractor shall designate a representative who will be available to respond to emergency calls by the Owner at any time day and night and on weekends and holidays should such a situation arise.

Should the City determine action by the City is needed, or if costs are incurred because the Contractor’s Representative is not available, the City will backcharge the Contractor for associated expenses.

Q. **SCHEDULING AND COORDINATION**

Reference is made to *General Conditions Section 2.05, Before Starting Construction* and *General Conditions Section 6.04, Progress Schedule*.

Prior to the start of construction, the Contractor shall submit a comprehensive schedule to the Engineer for review and acceptance.

The schedule will identify the number of crews and completion dates for all critical elements of work.

Detailed updates of the schedule shall be submitted to the Engineer for review and acceptance on at least a monthly interval.

The Engineer may withhold progress payments if acceptable monthly schedule updates are not submitted.

The Contractor shall not increase the number of crews assigned to the work as identified in the schedule without providing one week advanced notice to the Engineer.

R. **PROTECTION OF LANDSCAPING**

Contractor shall take appropriate measures to protect trees, shrubs and other landscaping. Branches, limbs and roots shall not be cut except with permission of the Engineer. Where cutting is necessary, work shall be performed by qualified workers.

S. **REMOVAL OF DEBRIS AND SURPLUS MATERIAL**

Neither debris nor surplus material shall be deposited on private property.

Debris and surplus material shall be removed from the project area as promptly as practical.

If the Contractor should fail to promptly remove debris or surplus material from the project area, or if Contractor deposits same on private property, progress payment(s) may be withheld.

T. **PROTECTION OF MANHOLES AND PIPELINES**

Appropriate measures will be taken to protect manholes and other structures as well as pipelines from debris and other materials entering the system through open covers or grates.
Should material enter the system or be deposited during or because of the Contractor's activities, this material shall be removed at the Contractor's expense.

The Contractor may be required to clean structures and pipelines downstream of the location where material entered the system.

The Contractor may be required to provide television inspection services to verify that material has been removed.

**U. DISPOSAL OF EXCESS MATERIAL**

Excess excavated materials shall be disposed of at the Nashua Landfill. The tipping fee for clean excess material shall be waived. Contractor shall make arrangements with the Owner prior to hauling material to the landfill.

Material removed from sewer pipelines and manholes can be delivered and disposed of at the Nashua Landfill provided the material has been decanted. There will be no fee for this disposal.
LIST OF EXHIBITS

A. Notice of Award
B. Notice to Proceed
C. Change Order
D. Certificate of Substantial Completion
NOTICE OF AWARD

DATED: ____________________________

TO: __________________________________ (Bidder)

ADDRESS: ___________________________________________________________________

OWNER’S CONTRACT NO.: _______________________________________________________

PROJECT: ____________________________________________________________________ (Insert name of Contract as it appears in the Bidding Document)

You are notified that your Bid dated __________________ for the above Contract has been considered. You are
the apparent Successful Bidder and have been awarded a contract for

as advertised plus _____________________________________________________________

addendums. (Indicate total Work, alternatives or sections or Work awarded)

The Contract Price of your contract is

________________________ (________________________)_________________________

The proposed Agreement that the OWNER expects to execute, accompanies this Notice of Award.

1. You must deliver to the OWNER ___3___ fully executed counterparts of the proposed Agreement that the
   OWNER expects to execute

2. You must deliver to the OWNER the Contract Security (Bonds), as specified in the General Conditions
   (paragraph 5.01), and Certificate of Liability Insurance, as specified in General Conditions (paragraph
   5.04).

3. (List other conditions precedents).

   ___________________________________________________________________________

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid in
default, to annul this Notice of Award and to declare your Bid Security forfeited.

By ________________________________

   (FOR THE CITY OF NASHUA)

   (TITLE)
NOTICE TO PROCEED

DATED:

TO: ___________________________________________ (Contractor)

ADDRESS: ___________________________________________

OWNER’S CONTRACT NO. ___________________________________________

PROJECT: ___________________________________________

(Insert name of Contract as it appears in the Bidding Document)

You are notified that the Contract Times under the above contract will commence to run on ________, 20____. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the dates of Substantial Completion and Final Completion are ________________ and ________________, respectively.

Also before you may start any Work at the site you must:

____________________________________________________________

(Add other requirements)

____________________________________________________________

____________________________________________________________

By

(For the City of Nashua)

____________________________________________________________

(Title)
CHANGE ORDER

PROJECT: ____________________________________________________________

OWNER'S CONTRACT NO: ____________________________________________

EXECUTED CONTRACT DATE: __________________________________________

DATE OF ISSUANCE: ___________________ EFFECTIVE DATE:  Upon City Approval

OWNER: _____________________________ City of Nashua, NH

OWNER's Purchase Order NO.: _______________________________________

CONTRACTOR: _____________________________________________________

ENGINEER: ___________________________ DPW Engineering

You are directed to make the following changes in the Contract Documents:

Description:

Justification:
## Summary

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<tr>
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<td>Substantial completion:</td>
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<td>Ready for final payment:</td>
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### RECOMMENDED:
- By: [Name]  
  DPW Engineer  
  (Authorized Signature)
- Date: [Date]

### ACCEPTED:
- By: [Name]  
  Contractor  
  (Authorized Signature)
- Date: [Date]

### APPROVED:
- By: Mayor Jim Donchess  
  Owner  
  (Authorized Signature)
- Date: [Date]
CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT:__________________________________________

OWNER'S CONTRACT NO:_____________________________________

DATE OF ISSUANCE:______________________________________

OWNER: ______________________________ City of Nashua, NH

OWNER’s Purchase Order NO.:_______________________________

CONTRACTOR:________________________________________

ENGINEER:___________________________________________

DPW Engineering

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

TO: City of Nashua

(OWNER)

And To:_______________________________________________

(CONTRACTOR)

The Work to which this Certificate applies has been inspected by authorized representative of OWNER, CONTRACTOR, and ENGINEER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

__________________________

(DATE OF SUBSTANTIAL COMPLETION)

A Tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within _________ days of the above date of Substantial Completion.

From the date of Substantial Completion the responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees shall be as follows:

Certificate of Substantial Completion
RESPONSIBILITIES

OWNER: City of Nashua

CONTRACTOR: ________________________________

The following documents are attached to and made a part of this Certificate:

[For items to be attached see definition of Substantial Completion as supplemented and other specifically noted conditions precedent to achieving Substantial Completion as required by Contract Documents.]

This certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of CONTRACTOR’s obligation to complete the Work in accordance with the Contract Documents.

Executed by ENGINEER on __________________________, 20__

____________________________________________ (ENGINEER)

By: ____________________________________ (Authorized Signature)

CONTRACTOR accepts this Certificate of Substantial Completion on __________________________, 20__

____________________________________________ (CONTRACTOR)

By: ____________________________________ (Authorized Signature)

OWNER accepts this Certificate of Substantial Completion on __________________________, 20__

____________________________________________ (For the City of Nashua)

By: ____________________________________ (Authorized Signature)
DIVISION 9

CONSTRUCTION SPECIFICATIONS
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SECTION 01110

CONTROL OF WORK AND MATERIALS

1. General
2. Hauling, Handling and Storage of Materials
3. Open Excavations
4. Maintenance of Traffic
5. Care and Protection of Property
6. Protection and Relocation of Existing Structures and Utilities
7. Maintenance of Flow
8. Rejected Materials and Defective Work
9. Sanitary Regulations
10. Site Investigation
11. Existing Utility Locations – Contractor’s Responsibility
12. Cutting, Fitting and Patching

1. General
Scope: The requirements under this section are applicable to all work completed under this Contract.

2. Hauling, Handling and Storage of Materials

A. The Contractor shall, at his own expense, handle and haul all materials furnished by him and shall remove any of his surplus materials at the completion of the work.

B. The Contractor shall provide suitable and adequate storage for equipment and materials furnished by him that are liable to injury and shall be responsible for any loss of or damage to any equipment or materials by theft, breakage, or otherwise.

C. All excavated materials and equipment to be incorporated in the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the work. Materials and equipment shall be kept neatly piled and compactly stored in such location as will cause a minimum of inconvenience to public travel and adjoining owners, tenants and occupants.

D. The Contractor shall be responsible for all damages to the work under construction during its progress and until final completion and acceptance even if progress payments have been made under the Contract.

3. Open Excavations

A. If/where applicable, all open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at his own
expense, provide suitable and safe means for completely covering all open excavations and for accommodating travel when work is not in progress.

B. Bridges provided for access to private property during construction shall be removed when no longer required.

C. If/where applicable, the length of open trench will be controlled by the particular surrounding conditions but shall always be confined to the limits prescribed by the Engineer.

D. All street excavations shall be completely closed at the end of each work day. Backfilling or use of steel plates of adequate strength to carry traffic shall be used.

E. If/where applicable, Trenched areas shall be paved with temporary bituminous pavement, as detailed on the plans or as directed by the Engineer, as soon as practicable after installation of individual pipeline segment but at least on a weekly basis. No trench shall be left without pavement for longer than seven (7) days. The Contractor is responsible for maintaining the trench, at no additional cost to the Owner for the Contract duration.

4. Maintenance of Traffic

A. Unless permission to close the street is received in writing from the proper authority, all excavated materials and equipment shall be placed so that vehicular and pedestrian traffic may be maintained at all times. Traffic control plans must be submitted to the City of Nashua’s Traffic Department (with a copy to the Engineer) for review and approval.

B. Should the Engineer deem it necessary, uniformed officers will be assigned to direct traffic. Daily coverage must be approved by the Engineer. The Contractor shall make all arrangements in obtaining uniformed officers required.

C. The Contractor shall at his/her own expense, as directed by the Police Traffic Control/Safety Officer or the Engineer, provide and erect acceptable barricades, barrier fences, traffic signs, and all other traffic devices not specifically covered in a bid item, to protect the work from traffic, pedestrians, and animals. He/she shall provide sufficient temporary lighting such as lanterns/flashers (electric battery operated) or other approved illuminated traffic signs and devices to afford adequate protection to the traveling public, at no additional cost to the Owner.

D. The Contractor shall furnish all construction signs that are deemed necessary by and in accordance with Part VI of the Manual on Uniform Traffic Control Devices as published by the U.S. Department of Transportation, latest edition. In addition, the Contractor may be required to furnish up to 128 square feet of additional special construction warning signs.

E. The intent of policing is to ensure public safety by direction of traffic. Police officers are not to serve as watchmen to protect the Contractor's equipment and materials.
F. Nothing contained herein shall be construed as relieving the Contractor of any of his responsibilities for protection of persons and property under the terms of the Contract.

G. Should it be determined by the Engineer that uniformed officers are not required; flaggers will be provided to maintain traffic flow.

5. **Care and Protection of Property**

The Contractor shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be promptly restored by the Contractor, at his/her expense, to a condition similar or equal to that existing before the damage was done, to the satisfaction of the Engineer.

6. **Protection and Relocation of Existing Structures and Utilities**

   A. All existing buildings, utilities, pipes, poles, wires fences, curbing, property line markers and other structures must be preserved in place without being temporarily or permanently relocated, shall be carefully supported and protected from damage by the contractor. Should such property be damaged, it shall be restored by the Contractor, at no additional cost to the Owner.

   B. The Contractor shall determine the location of all underground structures and utilities (including existing water services, gas lines, drain lines, electrical lines, and sewers). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by Contractor.

   C. On paved surfaces the Contractor shall not use or operate tractors, bulldozers, or other power-operated equipment with treads or wheels which are shaped so as to cut or otherwise damage such surfaces.

   D. All property damaged by the Contractor's operations shall be restored to the satisfaction of the Engineer to a condition at least equal to that in which it was found immediately before work was begun. Suitable materials and methods shall be used for such restoration.

   E. Restoration of existing property and structures shall be carried out as promptly as practicable and shall not be left until the end of the construction period.

7. **Maintenance of Flow**

   A. The Contractor shall at his own cost, provide for the flow of sewers and drains interrupted during the progress of the work, and shall immediately remove and dispose of all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the Engineer well in advance of the interruption of any flow.
B. All existing drainage facilities including, but not limited to: brooks, streams, canals, channels, ditches, culverts, catch basins and drainage piping shall be adequately safeguarded so as not to impede drainage or to cause siltation of downstream areas in any manner whatsoever. If the Contractor damages or impairs any of the aforesaid drainage facilities, he shall repair the same within the same day.

C. At the conclusion of the work, the Contractor shall remove all silt in drainage structures caused by his operations.

8. Rejected Materials and Defective Work

A. Materials furnished by the Contractor and condemned by the Engineer as unsuitable or not in conformity with the specifications shall forthwith be removed from the work by the Contractor, and shall not be made use of elsewhere in the work.

B. Any errors, defects or omissions in the execution of the work or in the materials furnished by the Contractor, even though they may have been passed or overlooked or have appeared after the completion of the work, discovered at any time before the final payment is made hereunder, shall be forthwith rectified and made good by and at the expense of the Contractor and in a manner satisfactory to the Engineer.

C. The Contractor shall reimburse the Owner for any expense, losses or damages incurred in consequence of any defect, error, omission or act of the Contractor or his employees, as determined by the Engineer, occurring previous to the final payment.

9. Sanitary Regulations

Sanitary conveniences for the use of all persons employed on the work, properly screened from public observation, shall be provided in sufficient numbers in such manner and at such locations as may be approved. The contents shall be removed and disposed of in a satisfactory manner, as the occasion requires. The Contractor shall rigorously prohibit the committing of nuisances within, on or about the work. Any employees found violating these provisions shall be discharged and not again employed on the work without the written consent of the Engineer. The sanitary conveniences specified above shall be the obligation and responsibility of the Contractor. They shall not be located on private property unless written authorization from the property owner has been provided to the Engineer.

10. Site Investigation

The Contractor shall be responsible for verifying and determining the location, size, direction of flow (if applicable) and elevation of all existing utilities, shown or not shown on the plans. Every effort has been made to accurately depict the existing sewer system, including sewer services. However, due to the age of the system, there are no records for some sewer services as indicated on the plan set. These situations, including other unknown pipes encountered during excavation, may require additional investigations. The City may avail staff and equipment to aid in the investigation. Considerations for delay costs shall only be given in extreme circumstances.
11. Existing Utility Locations - Contractor's Responsibility

A. The location of existing underground services and utilities shown on the drawings is based on available records. It is not warranted that all existing utilities and services are shown, nor that shown locations are correct. The Contractor shall be responsible for having the utility companies locate their respective utilities on the ground prior to excavating.

B. To satisfy the requirements of New Hampshire law, RSA 374, the Contractor shall, at least 72 hours, exclusive of Saturdays Sundays and holidays, prior to excavation in the proximity of telephone, gas, cable television and electric utilities, notify the utilities concerned by calling "DIG SAFE" at telephone number: 1-888-344-7233.

C. The Contractor shall coordinate all work involving utilities and shall satisfy himself as to the existing conditions of the areas in which he is to perform his work. He shall conduct and arrange his work so as not to impede or interfere with the work of other contractors working in the same or adjacent areas.

12. Cutting, Fitting and Patching

A. The Contractor shall do all cutting, fitting, or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by work of other Contractors, as shown upon or reasonably implied by the drawings and the specifications for the completed structure, including all existing work.

B. The Contractor shall not endanger any work by cutting, digging, or otherwise and shall not cut or alter the work of any other Contractor, save with the consent of the Engineer.

C. All holes or openings required to be made in new or existing work, particularly at pipe, conduit, or other penetrations not covered by escutcheons or plates shall be neatly patched. All such holes shall be made completely watertight as approved by the Engineer.

D. Size and locations of holes required in steel, concrete, or other structural or finish materials for piping, wiring, ducts, etc., which have not been located and detailed on the drawings shall be approved by the Engineer prior to layout and cutting thereof. All holes shall be suitably reinforced as required by the Engineer.

E. Workmanship and materials of patching and repair work shall match the adjacent similar work and shall conform to the applicable sections of the specification. Patches and joints with existing work shall provide, as applicable in each case, visual, structural, and waterproofing continuity.

END OF SECTION
SECTION 01150

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 SUMMARY

A. Under the price specified to be paid for each item, the Contractor shall furnish all labor, materials, equipment, plant, and perform all operations to complete all work as indicated and specified. All supervision, overhead items, bond and permit costs, protection and precautions and all other costs, incidental to the construction work, complete, and as specified, are also included.

B. A complete, finished, working job, as intended by the general nature of these Specifications, shall be produced whether or not any particular wording or direction is omitted or inadvertently not clearly stated.

C. Measurement for payment shall be by the Engineer, except where noted elsewhere in this Specification. Measurement for payment for lump sum items shall be on the basis of percentage of work complete and in place.

D. Each unit or lump sum price stated in the Bid shall constitute full compensation as herein specified for each item of work completed in accordance with the Drawings and Specifications.

E. The prices for those items which involve excavation shall include compensation for transportation and disposal of surplus excavated material at the City landfill and handling water.

F. The prices for all pipe items shall constitute full compensation for furnishing, laying, jointing, and excavation and backfill; and clean up.

G. In all items involving excavation, the price shall be based on doing the entire excavation in earth. Where rock is excavated, the price thereof shall be in addition to the cost of excavating earth, and no deduction will be made in the amount for earth excavation.

H. Unit prices submitted for various items of work will be utilized for determining prices of any additional work necessary during construction.

I. Owner reserves the right to delete any item or modify estimated quantities without penalty. Contractor shall make no claim as to lost profits or added costs due to quantity adjustments or deletions.

J. Unit prices listed shall be the basis of cost adjustment for additional items of work.
required by a change order.

K. All prices shall include transportation and disposal of excess materials at the City landfill as applicable.

L. Unit and lump sum prices shall reflect salvage value of all pipe materials and appurtenances removed as part of the work.

M. All prices shall include costs related to filing and obtaining applicable permits from local and state agencies.

PART 2 - DESCRIPTION OF PAY ITEMS

2.01 SANITARY SEWER AND DRAIN ITEMS COMPLETE IN PLACE

A. REMOVE AND REPLACE EXISTING SEWER, DRAIN AND SEWER SERVICE LINES:

Measurement:
The quantity to be measured under the various subdivisions of ITEM 1 (A thru E) for removal and replacement of existing sewer lines will be measured, complete-in-place, by the LINEAR FOOT along the completed actual length of installed pipeline.

Payment:
The accepted quantity of sewer, drain or sewer service pipe installed shall be paid for at the contract unit price under the appropriate subdivisions of ITEM 1 (A thru E) and shall constitute full compensation for removal and disposal of the existing sewer pipe and furnishing and installing a new PVC pipe of the appropriate size, including but not limited to handling of existing wastewater flows, by-pass pumping, excavation, pipe bedding and sand blanket, backfill, removal and disposal of unsuitable materials at the City landfill, testing and video inspections, furnishing all materials, labor, tools, and equipment necessary to complete the work complete in place, all as specified in these Specifications and as directed by the Engineer.

B. 10” PVC SDR-35 SEWER STUB 0’ to 9’Depth including Coupling (Charles Street):

Measurement:
The quantity to be measured under ITEM 2 for installing 10” PVC SDR-35 sewer stub including coupling (Charles Street) will be measured, complete-in-place, by LUMP SUM.

Payment:
The accepted quantity of sewer stub installed shall be paid for at the contract unit price under ITEM 2 and shall constitute full compensation for furnishing and installing a new 10” PVC pipe stub (Approx. 5 LF) from SMH #2 to the existing 10” sewer stub remaining after removal of SMH S2629, including but
not limited to handling of existing wastewater flows, by- pass pumping, furnishing and installing the necessary coupling, excavation, pipe bedding and sand blanket, backfill, removal of unsuitable materials and disposal at the City landfill, furnishing all materials, labor, tools, and equipment necessary to complete the work complete in place, all as specified in these Specifications and as directed by the Engineer.

C. 6” PVC CHIMNEY (2 to 6 VF) COMPLETE IN PLACE

Measurement:
The quantity to be measured under ITEM 3 will be the actual number of 6” PVC Chimneys constructed (2 to 6 vertical feet) by the EACH, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of 6” PVC Chimneys constructed shall be paid for at the contract unit price under ITEM 3, and shall be full compensation for the removal and disposal of the existing chimney, and the construction of the new chimney, including all pipe, fittings, miscellaneous forming and concrete, and all labor, tools and any other equipment necessary to complete the work as specified and as directed by the Engineer.

D. SANITARY WYE COMPLETE IN PLACE

Measurement:
The quantity to be measured under the various subdivisions of ITEM 4 (A and B) will be the actual number of wyes constructed and measured by the EACH, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of wyes constructed shall be paid for at the contract unit price under the appropriate subdivisions of ITEM 4 (A and B), and shall be full compensation for furnishing and installing wyes, including all labor, tools and any other equipment necessary to complete the work as specified and as directed by the Engineer.

E. NEW OR REPLACE EXISTING SEWER MANHOLE COMPLETE IN PLACE

Measurement:
The quantity of sewer manholes new or replaced under ITEM 5 and will be measured complete-in-place by the VERTICAL FOOT as measured from the lowest invert to the top of the manhole casting, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of sewer manholes new or replaced shall be paid for at the contract unit price under ITEM 5, and shall constitute full compensation for removal and disposal of the existing sewer manhole, constructing new pre-cast sewer manhole, furnishing and installing 30”
diameter frame and cover, reconnecting sewer pipes with necessary couplings and fittings, complete in place as indicated on the drawings and/or as specified, including furnishing all materials, labor, tools, and equipment necessary to complete the work, including but not limited to handling of existing wastewater flows, by-pass pumping, excavation, backfill, manhole bedding, removal of unsuitable materials at the City landfill, manhole vacuum testing, and all work incidental thereto and not specifically included for payment under other items.

F. REMOVE EXISTING SEWER MANHOLE COMPLETE IN PLACE

Measurement:
The quantity of sewer manholes to be removed under ITEM 6 will be measured complete-in-place by the EACH, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of sewer manholes removed shall be paid for at the contract unit price under ITEM 6, and shall constitute full compensation for removal and disposal of the existing sewer manhole, complete in place as indicated on the drawings and/or as specified, including handling of existing wastewater flows, by-pass pumping, excavation, backfill, filling void with suitable material, removal of unsuitable materials at the City landfill, and furnishing all materials, labor, tools, and equipment necessary to complete the work, and not specifically included for payment under other items.

G. MANHOLE INVERT RECONSTRUCTION COMPLETE IN PLACE

Measurement:
The quantity to be measured under ITEM 7 will be the actual number of manhole inverts reconstructed measured by the EACH, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of manhole invert reconstruction shall be paid for at the contract unit price under ITEM 7, and shall be full compensation for the demolition of the existing invert and the reconstruction of the new brick invert, by-pass pumping, decanting and disposal of debris at the City landfill and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

H. CONNECT NEW SEWER TO EXISTING SEWER MANHOLE WITH EXISTING HOLE COMPLETE IN PLACE

Measurement:
The quantity to be measured under ITEM 8 will be the actual number of sewer line connections to existing manholes measured by the EACH, complete-in-place, as specified in these Specifications and as directed by the Engineer.

2019 Sewer Replacement Project
Nashua, NH

Measurement and Payment
01150 - 4
Payment:
The accepted quantity of sewer line connections to existing manholes shall be paid for at the contract unit price under ITEM 8, and shall be full compensation for modifications to the pipe to manhole joint to form a watertight connection, by-pass pumping, decanting and disposal of debris at the City landfill and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

I. REMOVE ABANDONED DRAIN LATERAL COMPLETE IN PLACE
   Measurement:
The quantity of abandoned drain lateral (only if not in other trench excavation) to be removed under ITEM 9 will be measured complete-in-place by the LINEAR FOOT, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of abandoned drain lateral to be removed shall be paid for at the contract unit price under ITEM 9, and shall constitute full compensation for removal and disposal of the existing drain line, complete in place as indicated on the drawings and/or as specified, including excavation, backfill, plugging the hole at the structure from which the pipe was removed, filling pipeline void with suitable material, removal of unsuitable materials at the City landfill and all labor, tools, and equipment necessary to complete the work, and not specifically included for payment under other items.

J. REMOVE AND REPLACE CATCH BASIN COMPLETE IN PLACE
   Measurement:
The quantity of catch basins removed and replaced under ITEM 10 and will be measured complete-in-place by the VERTICAL FOOT as measured from the interior bottom of the structure (sump) to the top of the catch basin casting, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of catch basins removed and replaced shall be paid for at the contract unit price under ITEM 10, and shall constitute full compensation for removal and disposal of the existing catch basin, constructing new pre-cast catch basin, furnishing and installing specified frame and grate, furnishing and installing the specified oil/water separator (The Eliminator®) and all necessary couplings and fittings, complete in place as indicated on the drawings and/or as specified, including furnishing all materials, labor, tools, and equipment necessary to complete the work, including but not limited to excavation, backfill, catch basin bedding, removal of unsuitable materials at the City landfill, catch basin vacuum
testing, and all work incidental thereto and not specifically included for payment under other items.

K. FLOWABLE FILL FOR PIPE ABANDONED IN PLACE COMPLETE IN PLACE
Measurement:
The quantity of flowable fill for pipe abandoned in place under ITEM 11 will be measured by the CUBIC YARD based on delivery slips provided on the job site (minus volume not used) as approved by the Engineer.

Payment:
The accepted quantity of flowable fill for pipe abandoned in place shall be paid for at the contract unit price under ITEM 11, and shall constitute full compensation for furnishing and installing flowable fill in the pipe to be abandoned, complete in place as indicated on the drawings and/or as specified, including excavation for access to the pipeline, pumping equipment, backfill, and disposal of unsuitable materials at the City landfill and all labor, tools, and equipment necessary to complete the work, and not specifically included for payment under other items.

L. VIDEO INSPECTION OF OTHER SEWER LINES COMPLETE IN PLACE
Measurement & Payment
ITEM 12 is intended to be a contingency pay item to be used in the event that video inspection of other sewer lines is required by the Engineer. Compensation shall only be paid to the Contractor if expenditure of the allowance, or portion of the allowance, is authorized by the Engineer.

An allowance value has been established on the bid form for this item as a means to include funds in the event that the Contractor is directed to perform video inspection and report preparation of sewer lines for which video inspection is not otherwise required under other items of work. Costs for video inspection and reporting shall be negotiated between the Engineer and the Contractor in accordance with provisions for changes in the work in the General Conditions.

2.02 ROADWAY RESTORATION COMPLETE IN PLACE

A. RECLAIMED STABILIZED BASE PROCESSED IN PLACE (12” DEPTH)
Measurement:
The quantity to be measured under ITEM 13, Reclaimed Stabilized Base Processed in Place (12” Depth), shall be measured by the SQUARE YARD in accordance with the Contract Drawings, directions from the Engineer, and as specified herein.

Payment:
The approved quantity of Reclaimed Stabilized Base Processed in Place (12” Depth) shall be paid for at the contract unit price for ITEM 13 and shall be full
compensation for reclamation of the existing pavement after all sewer and other utility work has been completed, including lowering casting before reclamation, raising casting to finish grade after reclamation, fine grading for pavement, and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

B. HOT BITUMINOUS PAVEMENT

Measurement:
The quantity to be measured under ITEM 14A and 14B shall be measured by the TON based on weight slips provided on the job site and approved by the Engineer.

Payment:
The approved quantity of hot bituminous pavement (Binder and Wearing Course) shall be paid for at the contract unit price for ITEM 14A or 14B and shall be full compensation for the furnishing, placing, compacting hot mix asphalt pavement by methods approved by the Engineer, including all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

Note:
Tack coats shall be applied between all pavement courses and shall be incidental to this item of work and not measured separately for payment.

C. TEMPORARY BITUMINOUS PAVEMENT PATCH INCLUDING 18" CRUSHED GRAVEL BASE

Measurement:
The quantity of temporary pavement patch to be measured under ITEM 15 shall be measured by the SQUARE YARD, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The approved quantity of temporary pavement patch shall be paid for at the contract unit price for ITEM 15 and shall be full compensation furnishing, placing and compacting 18" layer of crushed gravel, furnishing, placing, compacting hot mix asphalt pavement of the thickness detailed on the plans by methods approved by the Engineer, including all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

D. SAWED BITUMINOUS PAVEMENT

Measurement:
The quantity to be measured under ITEM 16, Sawed Bituminous Pavement, shall be measured by the LINEAR FOOT in accordance with the Contract Drawings, directions from the Engineer, and as specified herein.
Payment:
The approved quantity of sawed bituminous pavement shall be paid for at the contract unit price for ITEM 16 and shall be full compensation for saw cutting bituminous pavement of any depth, including all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

E. UNCLASSIFIED EXCAVATION
Measurement:
The quantity to be measured under ITEM 17 shall be measured per CUBIC YARD in place. Measurement for payment of this item shall only apply to the unclassified excavation for the removal of material to establish subgrade for construction of sidewalks, temporary trench patch and base gravels, and removal of reclaimed stabilized base as required by the Engineer. Quantities shall be measured for payment as directed and approved by the Engineer. Over-excavation of subgrade will not be measured for payment.

Payment:
The approved quantity of unclassified excavation shall be paid for at the contract unit price for ITEM 17 and shall be full compensation for the removal and disposal of excavated material at the City landfill, including all labor, tools and equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

F. RESET GRANITE CURB
Measurement:
The quantity to be measured under ITEM 18, Reset Granite Curb, shall be measured by the LINEAR FOOT in accordance with the Contract Drawings, directions from the Engineer, and as specified herein.

Payment:
The approved quantity of Reset Granite Curb shall be paid for at the contract unit price for ITEM 18 and shall be full compensation for removal and resetting of existing granite curb including crushed gravel base and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

G. NEW VERTICAL GRANITE CURB (STRAIGHT)
Measurement:
The quantity to be measured under ITEM 19, New Vertical Granite Curb (STRAIGHT), shall be measured by the LINEAR FOOT in accordance with the Contract Drawings, directions from the Engineer, and as specified herein.

Payment:
The approved quantity of New Vertical Granite Curb shall be paid for at the contract unit price for ITEM 6H and shall be full compensation for furnishing and installing new vertical granite curb including crushed gravel base and all
labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

H. 2-INCH BITUMINOUS SIDEWALK REPAIR INCLUDING CRUSHED GRAVEL BASE

Measurement:
The quantity to be measured under ITEM 20, 2-Inch Bituminous Sidewalk Repair, shall be measured by the SQUARE YARD in accordance with the Contract Drawings, directions from the Engineer, and as specified herein.

Payment:
The approved quantity of 2-Inch Bituminous Sidewalk Repair shall be paid for at the contract unit price for ITEM 6E and shall be full compensation for construction of the bituminous sidewalk including crushed gravel base, repair of grass and landscape areas disturbed by the sidewalk construction, and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

F. 6-INCH CONCRETE SIDEWALK REPAIR INCLUDING CRUSHED GRAVEL BASE

Measurement:
The quantity to be measured under ITEM 21, 6-Inch Reinforced Concrete Sidewalk Repair, shall be measured by the SQUARE YARD in accordance with the Contract Drawings, directions from the Engineer, and as specified herein.

Payment:
The approved quantity of 6-Inch Reinforced Concrete Sidewalk Repair shall be paid for at the contract unit price for ITEM 21 and shall be full compensation for construction of concrete sidewalk including crushed gravel, repair of grass and landscape areas disturbed by the sidewalk construction, and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

G. DETECTABLE WARNING PANEL AT SIDEWALK CURB RAMP

Measurement:
The quantity of detectable warning panels at sidewalk curb ramps to be measured under ITEM 22 will be the actual number of detectable warning panels furnished and installed measured by the EACH, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of detectable warning panels shall be paid for at the contract unit price under ITEM 22, and shall be full compensation for furnishing and installing detectable warning panel including all labor, tools and
any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

H. SILT SACK COMPLETE IN PLACE

Measurement:
The quantity of silt sacks to be measured under ITEM 23 will be the actual number of silt sacks furnished and installed measured by the EACH, complete-in-place, as specified in these Specifications and as directed by the Engineer.

Payment:
The accepted quantity of silt sacks shall be paid for at the contract unit price under ITEM 23, and shall be full compensation for the installation of silt sacks and maintenance during the construction period including decanting and disposal of debris at the City landfill and all labor, tools and any other equipment necessary to complete the work as specified in these Specifications and as directed by the Engineer.

2.03 PROJECT START-UP AND PROJECT CLOSE OUT:

A. MOBILIZATION

Measurement:
Mobilization shall be measured as a LUMP SUM as specified herein. The total cost for this item shall not exceed 5 percent of the total of all bid items excluding this item.

Payment:
The contract price for ITEM 24 shall constitute full compensation to the Contractor for the general mobilization and demobilization necessary to make the contract operational, exclusive of the cost of materials. Payments toward the lump sum will be made at each payment requisition based on the percent of contract completed and the balance will be paid at final payment upon completion of all project requirements. Should the contract be terminated prior to completion, or the contract work not completed, total payment for this item shall be proportional to the percentage of the contract completed. No additional payment will be made if the contract value is increased.

B. WARRANTY INSPECTION:
All warranty inspections and related work shall not be separately measured for payment but shall be considered incidental to the project.
2.04 MAINTENANCE AND PROTECTION OF TRAFFIC:

A. UNIFORMED POLICE OFFICERS

Measurement:
Uniformed police officers will be measured and paid by the actual number of hours authorized, as determined by the Engineer. The Contractor shall supply qualified uniformed officers as stated in Section 618 of the NHDOT Standard Specifications for Road and Bridge Construction, (Approved and Adopted in 2016). Uniformed officers shall only be used when there are no available flaggers and the Engineer has previously approved it. Daily coverage needs to be approved by the Engineer. The Contractor's schedule for utilizing uniformed officers shall be agreed upon cooperatively with the Engineer.

Payment:
The Contractor shall be reimbursed without markup for approved invoices from the Nashua Police Department which shall be paid under budget ALLOWANCE under ITEM 25. Payment shall constitute full compensation to the Contractor for providing uniformed Nashua police officers with or without vehicles, including all labor, high visibility safety gear, tools and any other equipment necessary to complete the work as specified herein. Payment shall be made only after Contractor has provided proof of payment to Police Department.

B. FLAGGERS

Measurement:
The quantity of Flaggers will be measured by the HOUR based on the actual number of hours authorized, as determined by the Engineer.

Payment:
The approved quantity of flagger hours shall be paid using ITEM 26. This item has a budgeted ALLOWANCE as shown on the Bid Form. The Contractor shall supply qualified flaggers as stated in Section 618 of the NHDOT Standard Specifications for Road and Bridge Construction, (Approved and Adopted in 2016). Daily coverage needs to be approved by the Engineer. The Contractor's schedule for flaggers shall be agreed upon cooperatively with the Engineer. Payment shall constitute full compensation to the Contractor for providing qualified flaggers as required to direct traffic through or around the Work as ordered by the Engineer, including all labor, high visibility safety gear, tools and any other equipment necessary to complete the work as specified herein. In no case shall the gross hourly rate exceed $30/hour for straight time work and $45/hour for overtime work. Payments to Contractor will be made based on approved hours and resulting dollar amounts.
C. MAINTENANCE OF TRAFFIC

Measurement:
Maintenance of traffic shall be measured as a LUMP SUM as specified herein.

Payment:
The contract price for Item 27 shall constitute full compensation for providing and maintaining safe and passable traffic accommodations for public travel, preventing dust nuisance and furnishing, erecting and maintaining necessary traffic signs, barricades, lights, signals, flashing beacons, delineators and other traffic control warning devices and shall include means of guidance of traffic through and around the work zones. Traffic warning signs and other regulating devices shall be installed in accordance with the MUTCD and details on the plans. Payments toward the lump sum will be made at each payment requisition based on the percent of contract completed and the balance will be paid at final payment upon completion of all project requirements. Should the contract be terminated prior to completion, or the contract work not completed, total payment for this item shall be proportional to the percentage of the contract completed.

2.05 UNANTICIPATED HAZARDOUS MATERIALS

A. ALLOWANCE FOR UNANTICIPATED HAZARDOUS MATERIALS

Measurement & Payment
ITEM 28 is intended to be a contingency pay item to be used in the event that unanticipated hazardous material is encountered during the work. Compensation shall only be paid to the Contractor if unanticipated hazardous material is encountered and expenditure of the allowance, or portion of the allowance, is authorized by the Engineer.

An allowance value has been established on the bid form for this item as a means to include funds in the event that the Contractor is directed to perform work associated with addressing unanticipated hazardous materials.

Costs for these pay items shall be negotiated between the Engineer and the Contractor in accordance with provisions for changes in the work in the General Conditions.

END OF SECTION
SECTION 01330

SUBMITTALS

I. SHOP AND WORKING DRAWINGS

A. As required by the General Conditions, Contractor shall submit a schedule of shop and working drawing submittals.

B. In accordance with the accepted schedule, the Contractor shall submit promptly to the Engineer, through its authorized resident representative at the job site, or by mail, three (3) copies each of shop or working drawings required as noted in the specifications, of equipment, structural details and materials fabricated especially for this Contract.

C. Such drawings shall show the principal dimensions, weight, structural and operating features, space required, clearances, type and/or brand of finish of shop coat, grease fittings, etc., depending on the subject of the drawings. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for this Contract.

D. All shop and working drawings shall be submitted to the Engineer by and/or through the Contractor, who shall be responsible for obtaining shop and working drawings from his subcontractors and returning reviewed drawings to them.

E. Only drawings which have been prepared, checked and corrected by the fabricator should be submitted to the Contractor by his subcontractors and vendors. Prior to submitting drawings to the Engineer, the Contractor shall check thoroughly all such drawings to satisfy himself/herself that the subject matter thereof conforms to the Contract Documents in all respects. Shop drawings shall be reviewed and marked with the date, checker's name and indication of the Contractor's approval, and only then shall be submitted to the Engineer. Shop drawings unsatisfactory to the Contractor shall be returned directly to their source for correction, without submittal to the Engineer. Shop drawings submitted to the Engineer without the Contractor's approval stamp and signature will be rejected. Any deviation from the Contract Documents indicated on the shop drawings must be identified on the drawings and in a separate submittal to the Engineer, as required under subsection 6.17 .Shop Drawings and Samples; D. Submittal Procedures, Paragraph 3 of the General Conditions.

F. The Contractor shall be responsible for the prompt submittal and re-submittal, as necessary, of all shop and working drawings so that there will be no delay in the work due to the absence of such drawings.

G. The Engineer will review the shop and working drawings as to their general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections of comments made on the
drawings during the review do not relieve the Contractor from compliance with requirements of the Contract Documents. The Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner. The review of the shop drawings is general and shall not relieve the Contractor of the responsibility for details of design, dimensions, code compliance, etc., necessary for interfacing with other components, proper fitting and construction of the work required by the Contract and for achieving the specified performance.

H. With few exceptions, shop drawings will be reviewed and returned to the Contractor within 15 days of submittal.

I. No material or equipment shall be purchased or fabricated especially for this Contract nor shall the Contractor proceed with any portion of the work, the design and details of which are dependent upon the design and details of equipment or other features for which review is required, until the required shop and working drawings have been submitted and reviewed by the Engineer as to their general conformance and compliance with the project and its Contract Documents. All materials and work involved in the construction shall then be as represented by said drawings.

J. Two copies of the shop and working drawings and/or catalog cuts will be returned to the Contractor. The Contractor shall furnish additional copies of such drawings or catalog cuts when he needs more than two copies or when so requested.

END OF SECTION
SECTION 01331
DOCUMENTATION

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This section covers the requirements for documentation to be furnished by the Contractor on this project.

1.02 RELATED WORK:

A. Section 02441, CLEANING AND TELEVISION INSPECTION OF PIPELINES

1.03 DOCUMENTATION:

A. The Contractor shall maintain CCTV inspection video of sewer segments, for each sewer line segment undergoing lining under this contract and provide two (2) copies of the video in digital format and a written report within five (5) working days of the work being performed.

B. The report(s) as a minimum shall clearly identify:

1. Project Name
2. Street Location, Name, Intersection, Station
3. Manhole Identification number.
4. Date of inspection
5. Total Length of Line Inspected
6. Line Size(s)/Joint Spacing/Type
7. Line and Manhole(s) Condition
8. Significant observations such as service connections, offset joints, drop joints, broken/cracked pipe, protruding services, roots, collapsed sections, infiltration, presence of scale and corrosion and other discernible features.
9. Reference to CCTV video number, including beginning and ending locations.

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All CCTV video files shall be identified by street names, manhole designations, pipe diameter, length, date work was performed, labeled "City of Nashua", contract number and sub area designation.

END OF SECTION
SECTION 01735

CUTTING, CORING AND PATCHING

PART 1 - GENERAL

1.01  WORK INCLUDED:

This Section covers the cutting, coring, rough and finish patching of holes and openings in existing structures.

PART 2 - PRODUCTS

2.01  SEALING MATERIALS:

A. Mechanical seals shall be modular, adjustable, bolted, mechanical type consisting of interlocking synthetic rubber links shaped to continuously fill the annular space between the pipe and sleeve. The seal shall be rated by the manufacturer for 40 feet of head or 20 psig. Mechanical seals shall be Link-Seal, manufactured by Thunderline Corp., Wayne, ML, or approved equal.

B. Sealant shall be a two part foamed silicone elastomer as manufactured by Dow Corning Co., product No. 3-6548 silicone R.T.V.; 3M brand fire barrier products caulk C.P. 25 and 3M brand putty 303; Flame-Safe fire stop systems Fig. No. FS-500 by Thomas & Berts Corporation, or approved equal. Packing shall be a fire retardant pliable material, Fig. 310 by Sealite Co.; White Oakum W.S.-600 by American Manufacturing Co., or approved equal. Sealant bead configuration, depth and width shall be in accordance with manufacturer's recommendations.

2.02  MISCELLANEOUS MATERIALS:

A. Bonding compound shall be Sikadur Hi-Mod epoxy by Sika Corporation, or equivalent by Euclid Chemical Corporation, Master Builders Company, or approved equal.

B. Non-shrink grout shall be Masterflow 713 by Master Builders Company; Euco N-S by Euclid Chemical Co.; Five Star Grout by U.S. Grout Corp. or approved equal.

C. Materials for finish patching shall be equal to those of adjacent construction.

PART 3 – EXECUTION

3.01  GENERAL:

A. The Contractor shall leave all chases or openings for the installation of his own or any other contractor's or subcontractor's work, or shall cut the same in existing work, and shall see

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that all sleeves or forms are at the work and properly set in ample time to prevent delays. He shall see that all such chases, openings, and sleeves are located accurately and are of proper size and shape and shall consult with the Engineer and the contractors and subcontractors concerned in reference to this work.

B. In case of his failure to leave or cut all such openings or have all such sleeves provided and set in proper time, Contractor shall cut them or set them afterwards at his own expense, but in so doing he shall confine the cutting to the smallest extent possible consistent with the work to be done. In no case shall piers or structural members be cut without the written consent of the Engineer.

C. The Contractor shall not cut or alter the work of any subcontractor or any other contractor, nor permit any of his subcontractors to cut or alter the work of any other contractor or subcontractor, except with the written consent of the contractor or subcontractor whose work is to be cut or altered or with the written consent of the Engineer. All cutting and patching or repairing made necessary by the negligence, carelessness, or incompetence of the Contractor or any of his subcontractors shall be done by or at the expense of the Contractor and shall be the responsibility of the Contractor.

D. All cutting and coring shall be performed in such a manner as to limit the extent of patching.

E. All holes cut through concrete and masonry walls, slabs or arches shall be core drilled unless otherwise approved. No structural members shall be cut without the approval of the Engineer and all such cutting shall be done in a manner directed by him. No holes may be drilled in beams or other structural members without obtaining prior approval. All work shall be performed by mechanics skilled in this type of work.

3.02 CORING:

A. Coring shall be performed with an approved non-impact rotary tool with diamond core drills. Size of holes shall be suitable for pipe, conduit, sleeves, equipment or mechanical seals to be installed.

B. If holes are cored through floor slabs they shall be drilled from below.

C. All equipment shall conform to OSHA standards and specifications pertaining to plugs, noise and fume pollution, wiring and maintenance.

D. Provide protection for existing equipment, utilities and critical areas against water or other damage caused by drilling operation.

E. Slurry or tailings resulting from coring operations shall be vacuumed or otherwise removed from the area following drilling.

3.03 CUTTING:

A. Cutting shall be performed with a concrete wall saw and diamond saw blades of proper size.
B. Provide for control of slurry generated by sawing operation on both sides of wall.

C. When cutting a reinforced concrete wall, the cutting shall be done so as not to damage bond between the concrete and reinforcing steel left in the structure. Cut shall be made so that steel neither protrudes nor is recessed from the face of the cut.

D. Adequate bracing of area to be cut shall be installed prior to start of cutting. Check area during sawing operations for partial cracking and provide additional bracing as required to prevent a partial release of cut area during sawing operations.

E. Provide equipment of adequate size to remove cut panel.

3.04 PATCHING:

Rough patching shall be such as to bring the cut or cored area flush with existing construction unless otherwise shown. Finish patching shall match existing surfaces as approved.

END OF SECTION
SECTION 02085

POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS

PART 1 - GENERAL

1.01 WORK INCLUDED:

This section covers the furnishing and installation of Polyvinyl Chloride (PVC) pipe and fittings for sewer mains, sewer service connections and drain laterals to catch basins, as indicated on the drawings and as specified herein.

1.02 RELATED WORK:

A. Section 01330, SUBMITTALS

B. Section 02300, EARTHWORK

C. Section 02252, SUPPORT OF EXCAVATION

D. Section 02518, TRACER TAPE

E. Section 02631, PRECAST MANHOLES AND CATCH BASINS

1.03 REFERENCES:

A. The following standards form a part of these specifications as referenced:

American Society for Testing and Materials (ASTM)

ASTM D2321 Recommended Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe

ASTM D3034 Specification for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings

ASTM D3212 Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

ASTM F679 Specification for Polyvinyl Chloride (PVC) Large Diameter Plastic Gravity Sewer Pipe and Fittings (18”- 27”)

The National Association of Sewer Service Companies (NASSCO) Recommended Specifications for Sewer Collection System Rehabilitation (Current Edition).

1.04 SUBMITTALS:
In accordance with requirements of the General Specifications submit six (6) sets of manufacturer's literature of the materials of this section shall be submitted to the Engineer for review.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. PVC NON-PRESSURE SEWER PIPE:

PVC non-pressure sewer pipe 4-inches through 15-inches diameter (SDR-35) shall be solid wall and conform to ASTM - D3034. PVC non-pressure pipe 18-inches through 60-inches diameter (T-1 & T-2) shall be solid wall and conform to ASTM F679. All pipe shall be as specified and meet the following requirements.

1. PVC non-pressure sewer pipe shall be furnished in standard lengths.

2. One pipe bell consisting of an integral wall section with a solid cross section rubber ring, factory assembled, shall be furnished with each standard, random and short length of pipe. Rubber rings shall be provided to the requirements of ASTM D3212.

3. The rubber ring shall be retained within the bell of the pipe by a precision formed groove or recess designed to resist fish-mouthing or creeping during assembly of joints.

4. Spigot pipe ends shall be supplied with bevels from the manufacturer to ensure proper insertion. Each spigot end shall have an "assembly stripe" imprinted thereon to which the bell end of the mated pipe will extend upon proper jointing of the two pipes.

5. PVC fittings shall be provided with bell and/or spigot configurations with rubber gasketed joints compatible with that of the pipe. Bend fittings with spigot ends shorter than the pipe recess bells will not be allowed. The shorter spigot end would not allow proper seating of the spigot in the mating bell and would permit undesired contact between the mating bell and the outside of the fitting bell.

6. All pipe delivered to the job site shall be accompanied by independent testing laboratory reports certifying that the pipe and fittings conform to the above-mentioned specifications. In addition, the pipe shall be subject to thorough inspection and tests, the right being reserved for the Engineer to apply such of the tests specified as he may from time to time deem necessary.

7. All cutting of pipe shall be done with a machine suitable for cutting PVC pipe. Cut ends shall be beveled when recommended by the pipe manufacturer.

8. All couplings for connecting pipes of various sizes shall be FERNCO STRONGBACK
flexible repair couplings, or approved equal, of the appropriate size to fit the external diameter of each pipe.

B. **SEWER AND DRAIN PIPE BEDDING AND SAND BLANKET:**

Sewer pipe bedding and sand blanket shall be as specified in Section 02300 EARTHWORK.

C. **DUCTILE IRON PIPE:**

Ductile iron pipe shall be used at sewer/water line crossings and conform to AWWA C151/A21.50 & 51, Class 52.

**PART 3 - EXECUTION**

3.01 **INSTALLATION:**

A. Except as modified herein, installation of the PVC pipe shall be in accordance with ASTM D2321.

B. Each pipe length shall be inspected before being laid to verify that it is not cracked. Pipe shall be laid to conform to the lines and grades indicated on the drawings or given by the Engineer. Each pipe shall be so laid as to form a close joint with the next adjoining pipe and bring the inverts continuously to the required grade.

C. The pipe shall be bedded and covered with sand blanket as specified under Section 02300, EARTHWORK, and as detailed on the project plans.

D. The pipe shall not be driven down to grade by striking it with a shovel handle, timber, rammer, or other unyielding object. When each pipe has been properly bedded, enough of the backfill material shall be placed and compacted between the pipe and the sides of the trench to hold the pipe in correct alignment.

E. Before a joint is made, the pipe shall be checked to assure that a close joint with the next adjoining pipe has been maintained and that inverts are matched and conform to the required line and grade.

F. For pipe placed on crushed stone, immediately after the joint is made, the jointing area shall be filled with suitable materials so placed and compacted that the ends of either pipe will not settle under backfill load.

G. No pipe or fitting shall be permanently supported on saddles, blocking, or stones.

H. Branches and fittings shall be laid by the Contractor as indicated on the drawings, and/or as directed by the Engineer. Open ends of pipe and branches shall be closed with PVC caps secured in place with pre-molded gasket joints or as directed by the Engineer.

I. All pipe joints shall be made as nearly watertight as practicable. There shall be no visible leakage at the joints and there shall be no sand, silt, clay, or soil of any description entering the
pipeline at the joints. Where there is evidence of water or soil entering the pipeline, connecting pipes, or structures, the defects shall be repaired to the satisfaction of the Engineer.

J. The Contractor shall build a tight bulkhead in the pipeline where new work enters an existing sewer. This bulkhead shall remain in place until its removal is authorized by the Engineer.

K. Care shall be taken to prevent earth, water, and other materials from entering the pipe, and when pipe laying operations are suspended, the Contractor shall maintain a suitable stopper in the end of the pipe and also at openings for manholes.

L. As soon as possible after the pipe and manholes are completed on any street, the Contractor shall flush out the new pipeline using a rubber ball ahead of the water, and none of the flushing water or debris shall be permitted to enter any existing sewer.

M. A tracer tape shall be placed in the trench as specified in Section 02518, TRACER TAPE.

3.02 CLEANING:

A. On completion of a section of sewer, the Contractor shall TV inspect the main section in accordance with Section 02441, Cleaning and Television (CCTV) Inspection of Pipelines at no additional cost to the Owner.

3.03 TESTING

A. Testing of pipe joints to identify joints that are defective shall be performed using either liquid or air, at the Contractor's option. Test pressure used shall be acceptable to the Engineer.

B. The allowable pressure drop shall be 0.5 pounds in 15 seconds at a pressure greater than ½ pounds per vertical foot of pipe cover, or 4 pounds minimum.

C. Electronic video equipment shall be capable of displaying and recording, at a minimum, the following data for each pipe joint:

1. Project Identification
2. Date recorded
3. Footage counter
4. Test pressure
5. Sewer reach identification (street location, start MH and second MH)

D. PIPE DEFLECTION MEASUREMENT:

1. In accordance with ASTM D3034, no less than 30 days after completion of the PVC sewer pipe installation, the Contractor shall test the pipeline for deflection using a "go/no-go" deflection mandrel having a minimum of nine evenly spaced arms or prongs. The "go/no-go" gauge shall be hand pulled through all sections of the pipeline by the Contractor. The Contractor shall submit drawings of the "go/no-go" gauge to the Engineer.
for approval prior to testing. Complete dimensions of the gauge for each diameter of pipe
to be tested shall be in accordance with ASTM D3034.

2. Any section of pipe found to exceed 7.5 percent deflection shall be deemed a failed pipe
and shall be excavated and replaced by the Contractor at his own expense.

END OF SECTION
SECTION 02252

SUPPORT OF EXCAVATION

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This section of the specification covers sheeting and bracing for support of excavations. The requirements of this section shall also apply, as appropriate, to other methods of excavation support and underpinning which the Contractor elects to use to complete the work.

B. The Contractor shall furnish and place sheeting of the kinds and dimensions required, complying with these specifications, where indicated on the drawings or ordered by the Engineer.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK.

1.03 QUALITY ASSURANCE:

A. This project is subject to the Safety and Health regulations of the U.S. Department of Labor set forth in 29 CFR, Part 1926, and to New Hampshire law, RSA, Title XXIII: Labor. Contractors shall be familiar with the requirements of these regulations.

B. The excavation support system shall be of sufficient strength and be provided with adequate bracing to support all loads to which it will be subjected. The excavation support system shall be designed to prevent any movement of earth that would diminish the width of the excavation or damage or endanger adjacent structures.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Steel used for bracing shall be of such size and strength as required in the excavation support design. Timber or steel used for bracing shall be new or undamaged used material which does not contain splices, cutouts, patches, or other alterations which would impair its structural integrity or strength.
PART 3 – EXECUTION

3.01 INSTALLATION:

A. Work shall not be started until all materials and equipment necessary for their construction are either on the site of the work or satisfactorily available for immediate use as required.

B. The sheeting shall be securely and satisfactorily braced to withstand all pressures to which it may be subjected and be sufficiently tight to minimize lowering of the groundwater level outside the excavation.

C. No sheeting may be left so as to create a possible hazard to safety of the public or a hindrance to traffic of any kind.

D. If boulders or very dense soils are encountered, making it impractical to drive a section to the desired depth, the section shall be cut off.

E. The sheeting shall be left in place where indicated on the drawings or ordered by the Engineer in writing. At all other locations, the sheeting may be left in place or salvaged at the option of the Engineer. Steel sheeting permanently left in place shall be cut off at a depth of not less than two feet below finish grade unless otherwise directed.

F. All cut-off will become the property of the Contractor and shall be removed by him from the site.

G. Sole responsibility for the satisfactory construction and maintenance of the excavation support system, complete in place, shall rest with the Contractor. Any work done, including incidental construction, which is not acceptable for the intended purpose shall be either repaired or removed and reconstructed by the Contractor at his expense.

H. The Contractor shall be solely responsible for repairing all damage associated with installation, performance, and removal of the excavation support system.

END OF SECTION
SECTION 02300

EARTHWORK

PART 1 - GENERAL

1.01 WORK INCLUDED:

The Contractor shall make excavations of normal depth in earth for trenches and structures, shall backfill and compact such excavations to the extent necessary, shall furnish the necessary material and construct embankments and fills, and shall make miscellaneous earth excavations and do miscellaneous grading.

1.02 RELATED WORK:

A. Section 01110, CONTROL OF WORK AND MATERIALS

B. Section 02085, POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS

C. Section 02252, SUPPORT OF EXCAVATION

D. Section 02370 – EROSION CONTROL

E. Section 02518, TRACER TAPE

F. Section 02745, ROAD RESTORATION

1.03 REFERENCES:

American Society for Testing and Materials (ASTM)


ASTM C330 Specification for Lightweight Aggregate for Structural Concrete.

ASTM D1556 Test Method for Density of Soil in Place by the Sand Cone Method.

ASTM D1557 Test Methods for Moisture-density Relations of Soils and Soil Aggregate Mixtures Using Ten-pound (10 lb.) Hammer and Eighteen-inch (18") Drop.

ASTM D2922 Test Methods for Density of Soil and Soil-aggregate in Place by Nuclear Methods (Shallow Depth).
1.04 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

Material test results performed by a certified laboratory shall be submitted to the Engineer for all materials proposed for use on the project. If required by the Engineer, samples shall be submitted for independent testing.

1.05 PROTECTION OF EXISTING PROPERTY:

A. The work shall be executed in such manner as to prevent any damage to facilities at the site and adjacent property and existing improvements, such as but not limited to streets, curbs, paving, service utility lines, structures, monuments, bench marks, observation wells, and other public or private property. Protect existing improvements from damage caused by settlement, lateral movements, undermining, washout and other hazards created by earthwork operations.

B. In case of any damage or injury caused in the performance of the work, the Contractor shall, at its own expense, make good such damage or injury to the satisfaction of, and without cost to, the Owner. Existing roads, sidewalks, and curbs damaged during the project work shall be repaired or replaced to at least the condition that existed at the start of operations. The Contractor shall replace, at his own cost, existing benchmarks, observation wells, monuments, and other reference points which are disturbed or destroyed.

C. Buried drainage structures and pipes, observation wells and piezometers, including those which project less than eighteen inches (18") above grade, which are subject to damage from construction equipment shall be clearly marked to indicate the hazard. Markers shall indicate limits of danger areas, by means which will be clearly visible to operators of trucks and other construction equipment, and shall be maintained at all times until completion of project.

1.06 DRAINAGE:

A. The Contractor shall provide, at its own expense, adequate drainage facilities to complete all work items in an acceptable manner. Drainage shall be done in a manner so that runoff will not adversely affect construction procedures or cause excessive disturbance of underlying natural ground or abutting properties.

1.07 FROST PROTECTION AND SNOW REMOVAL:

A. The Contractor shall, at its own expense, keep earthwork operations clear and free of accumulations of snow as required to carry out the work.

B. The Contractor shall protect the sub-grade beneath new structures and pipes from frost penetration when freezing temperatures are expected.
PART 2 - PRODUCTS

2.01 MATERIAL:

A. CRUSHED GRAVEL:
The Gravel Road Base will be NHDOT - Item 304.3 Crushed Gravel, or Item 304.4 Crushed Stone (Fine Gradation).

B. TRENCH BACKFILL MATERIALS:
Trench backfill shall be material excavated from the trench that is granular, well graded friable soil; free of pavement, rubbish, ice, snow, tree stumps, roots, clay and organic matter; with 30 percent or less passing the No. 200 sieve; no stone greater than two-third (2/3) loose lift thickness, or six inches, whichever is smaller.

C. SEWER AND DRAIN PIPE BEDDING MATERIAL

1. Sewer and drain pipe bedding material shall be Crushed Stone meeting the ASTM C33/C33M stone size No. 67..

2. Sand Blanket material for sewer and drain pipe shall be graded sand free from organic materials, graded such that 100 percent passes a ½-inch sieve and a maximum of 15 percent passes a #200 sieve.

PART 3 – EXECUTION

3.01 DISTURBANCE OF EXCAVATED AND FILLED AREAS DURING CONSTRUCTION:

A. Contractor shall take the necessary steps to avoid disturbance of sub-grade during excavation and filling operations, including restricting the use of certain types of construction equipment and their movement over sensitive or unstable materials, dewatering and other acceptable control measures.

B. All excavated or filled areas disturbed during construction, all loose or saturated soil, and other areas that will not meet compaction requirements as specified herein shall be removed and replaced with a minimum 12-inch layer of compacted crushed stone wrapped all around in non-woven filter fabric. Costs of removal and replacement shall be borne by the Contractor.

C. The Contractor shall place a minimum of 12-inch layer of special bedding materials and crushed stone wrapped in filter fabric over the natural underlying soil to stabilize areas which may become disturbed as a result of rain, surface water runoff or groundwater seepage pressures, all at no additional cost to the Owner. The Contractor also has the option of drying materials in-place and compacting to specified densities.
3.02 EXCAVATION:

A. GENERAL:
1. The Contractor shall perform all work of any nature and description required to accomplish the work as shown on the Drawings and as specified.
2. Excavations, unless otherwise required by the Engineer, shall be carried only to the depths and limits shown on the Drawings. If unauthorized excavation is carried out below required sub-grade and/or beyond minimum lateral limits shown on Drawings, it shall be backfilled with gravel borrow and compacted at the Contractor's expense as specified below, except as otherwise indicated. Excavations shall be kept in dry and good conditions at all times, and all voids shall be filled to the satisfaction of the Engineer.
3. In all excavation areas, the Contractor shall strip the surface topsoil layer and underlying subsoil layer separate from underlying soils. In paved areas, the Contractor shall first cut pavement as specified in paragraph 3.02 B.1 of this specification, strip pavement and pavement sub-base separately from underlying soils. All excavated materials shall be stockpiled separately from each other within the limits of work.
4. The Contractor shall follow a construction procedure, which permits visual identification of stable natural ground. Where groundwater is encountered, the size of the open excavation shall be limited to that which can be handled by the Contractor's chosen method of dewatering and which will allow visual observation of the bottom and backfill in the dry.
5. The Contractor shall excavate unsuitable materials to stable natural ground where encountered at proposed excavation sub-grade, as directed by the Engineer. Unsuitable material includes topsoil, loam, peat, other organic materials, snow, ice, and trash. Unless specified elsewhere or otherwise directed by the Engineer, areas where unsuitable materials have been excavated to stable ground shall be backfilled with compacted special bedding materials or crushed stone wrapped all around in non-woven filter fabric.

B. TRENCHES:
1. Prior to excavation, trenches in pavement shall have the traveled way surface cut in a straight line by a concrete saw or equivalent method, to the full depth of pavement. Excavation shall only be between these cuts. Excavation support shall be provided as required to avoid undermining of pavement. Cutting operations shall not be done by ripping equipment.
2. Trenches shall be excavated to such depths as will permit the pipe to be laid at the elevations, slopes, and depths of cover indicated on the Drawings. Trench widths shall be as shown on the Drawings or as specified.
3. Where pipe is to be laid in bedding material, the trench may be excavated by machinery to, or just below, the designated sub-grade provided that the material remaining in the bottom of the trench is not disturbed.
4. If pipe is to be laid in embankments or other recently filled areas, the fill
material shall first be placed to a height of at least 12-inches above the top of the pipe before excavation.

5. Pipe trenches shall be made as narrow as practicable and shall not be widened by scraping or loosing materials from the sides. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed.

6. If, in the opinion of the Engineer, the sub-grade, during trench excavation, has been disturbed as a result of rain, surface water runoff or groundwater seepage pressures, the Contractor shall remove such disturbed sub-grade to a minimum of 12 inches and replace with crushed stone wrapped in filter fabric. Cost of removal and replacement shall be borne by the Contractor.

C. BUILDING AND FOUNDATION EXCAVATION:
1. Excavations shall not be wider than required to set, brace, and remove forms for concrete, or perform other necessary work.

2. After the excavation has been made, and before forms are set for footings, mats, slabs, or other structures, and before reinforcing is placed, all loose or disturbed material shall be removed from the sub-grade. The bearing surface shall then be compacted to meet the requirements of this specification.

3. If, in the opinion of the Engineer, the existing material at sub-grade elevation is unsuitable for structural support, the Contractor shall excavate and dispose of the unsuitable material to the required width and depth as directed by the Engineer. If, in the opinion of the Engineer, filter fabric is required; the Contractor shall place filter fabric, approved by the Engineer, as per manufacturer's recommendations. Crushed stone shall then be placed in lifts and compacted to required densities. Backfill shall be placed to the bottom of the proposed excavation.

D. EXCAVATION NEAR EXISTING STRUCTURES:
1. Attention is directed to the fact that there are pipes, manholes, drains, and other utilities in certain locations. An attempt has been made to locate all utilities on the drawings, but the completeness or accuracy of the given information is not guaranteed.

2. As the excavation approaches pipes, conduits, or other underground structures, digging by machinery shall be discontinued and excavation shall be done by means of hand tools, as required. Such manual excavation, when incidental to normal excavation, shall be included in the work to be done under items involving normal excavation.

3. Where determination of the exact location of a pipe or other underground structure is necessary for properly performing the work, the Contractor shall excavate test pits to determine the locations.
3.03 BACKFILL PLACEMENT AND COMPACTION:

A. GENERAL:

1. Prior to backfilling, the Contractor shall compact the exposed natural subgrade to the densities as specified herein.
2. After approval of sub-grade by the Engineer, the Contractor shall backfill areas to required contours and elevations with specified materials.
3. The Contractor shall place and compact materials to the specified density in continuous horizontal layers. The degree of compaction shall be based on maximum dry density as determined by ASTM Test D 1557, Method C. The minimum degree of compaction for fill placed shall be as follows:

<table>
<thead>
<tr>
<th>Location</th>
<th>Percent of Maximum Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below pipe centerline</td>
<td>95</td>
</tr>
<tr>
<td>Above pipe centerline</td>
<td>92</td>
</tr>
<tr>
<td>Below pavement (upper 3 ft.)</td>
<td>95</td>
</tr>
<tr>
<td>Embankments</td>
<td>95</td>
</tr>
<tr>
<td>Below pipe in embankments</td>
<td>95</td>
</tr>
<tr>
<td>Adjacent to structures</td>
<td>92</td>
</tr>
<tr>
<td>Below structures</td>
<td>95</td>
</tr>
</tbody>
</table>

4. The Engineer reserves the right to test backfill for conformance to the specifications and Contractor shall assist as required to obtain the information. Compaction testing will be performed by the Engineer or by an inspection laboratory designated by the Engineer, engaged and paid for by the Contractor. If test results indicate work does not conform to specification requirements, the Contractor shall remove or correct the defective work by re-compacting where appropriate or replacing as necessary and approved by the Engineer, to bring the work into compliance, at no additional cost to the Owner. All backfilled materials under structures and buildings shall be field tested for compliance with the requirements of this specification.

5. Where horizontal layers meet a rising slope, the Contractor shall key each layer by benching into the slope.

6. If the material removed from the excavation is suitable for backfill with the exception that it contains stones larger than permitted, the Contractor has the option to remove the oversized stones and use the material for backfill or to provide replacement backfill at no additional cost to the Owner.

7. The Contractor shall remove loam and topsoil, loose vegetation, stumps, large roots, etc., from areas upon which embankments will be built or areas where material will be placed for grading. The sub-grade shall be shaped as indicated on the Drawings and shall be prepared by forking, furrowing, or plowing so that the first layer of the fill material placed on the sub-grade will be well bonded to the sub-grade.
B. TRENCHES:

1. Bedding as detailed and specified shall be furnished and installed beneath the pipeline prior to placement of the pipeline. A minimum bedding thickness shall be maintained between the pipe and undisturbed material, as shown on the Drawings.

2. As soon as practicable after pipes have been laid, backfilling shall be started.

3. Unless otherwise indicated on the Drawings, select backfill shall be placed by hand shovel in 6-inch thick lifts up to a minimum level of 12-inches above the top of pipe. This area of backfill is considered the zone around the pipe and shall be thoroughly compacted before the remainder of the trench is backfilled. Compaction of each lift in the zone around the pipe shall be done by use of power-driven tampers weighing at least 20 pounds or by vibratory compactors. Care shall be taken that material close to the bank, as well as in all other portions of the trench, is thoroughly compacted to densities required.

4. Trench backfill shall be placed from the top of the select backfill to the specified material at grade (loam, pavement sub-base, etc.). Fill compaction shall meet the density requirements of this specification.

5. Water Jetting:
   a. Water jetting may be used when the backfill material contains less than 10 percent passing the number 200 sieve, but shall be used only if approved by the Engineer.
   b. Contractor shall submit a detailed plan describing the procedures he intends to use for water jetting to the Engineer for approval prior to any water jetting taking place.
   c. Compaction of backfill placed by water jetting shall conform to the requirements of this specification.

6. If the materials above the trench bottom are unsuitable for backfill, the Contractor shall furnish and place backfill materials meeting the requirements for trench backfill, as shown on the drawings or specified herein.

7. Should the Engineer order crushed stone for utility supports or for other purposes, the Contractor shall furnish and install the crushed stone as directed by the Engineer.

8. In roadways, the specified base course gravels and pavement shall be placed as specified.

9. A tracer tape shall be furnished and installed as specified Section 02518, TRACER TAPE

C. BACKFILLING ADJACENT TO STRUCTURES:

1. The Contractor shall not place backfill against or on structures until they have attained sufficient strength to support the loads to which they will be subjected. Excavated material approved by the Engineer may be used in backfilling around structures. Backfill material shall be thoroughly compacted to meet the requirements of this specification.

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2. Contractor shall use extra care when compacting adjacent to pipes and drainage structures. Backfill and compaction shall proceed along sides of drainage structures so that the difference in top of fill level on any side of the structure shall not exceed two feet (2') at any stage of construction.

3. Where backfill is to be placed on only one side of a structural wall, only hand-operated roller or plate compactors shall be used within a lateral distance of five feet (5') of the wall for walls less than fifteen feet (15') high and within ten feet (10') of the wall for walls more than fifteen feet (15') high.

3.04 DISPOSAL OF SURPLUS MATERIALS:

A. No excavated material shall be removed from the site of the work or disposed of by the Contractor unless approved by the Engineer.

B. Surplus excavated materials, which are acceptable to the Engineer, shall be used to backfill normal excavations in rock or to replace other materials unacceptable for use as backfill.

C. Surplus excavated clean material not needed as specified above shall be hauled away and disposed of by the Contractor at the Nashua Landfill. Arrangements must be made with the landfill prior to delivery. Disposal of all rubble shall be in accordance with all applicable local, state and federal regulations.

END OF SECTION
SECTION 02370
EROSION CONTROL

PART 1 – GENERAL

1.01 WORK INCLUDED:
A. Provide temporary erosion control for the entire duration of project in accordance with plans, specifications.

B.

1.02 RELATED WORK:
A. Section 02300: EARTHWORK
B. Section 02745: ROAD RESTORATION
C. Section 02920: LOAMING AND SEEDING

1.03 SITE CONDITION:
A. All soil erosion and sediment control measures to be in accordance with standards and specifications thereof in "Stormwater Management, and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire," April 1997, prepared by Rockingham County Conservation District for NHDES in cooperation with USDA-SCS.
B. The work area shall be graded, shaped, and otherwise drained in such a manner as to minimize soil erosion, siltation of drainage channels, damage to existing vegetation, and damage to property outside the limits of the work area. Silt fences, hay bales and/or detention basins will be necessary to accomplish this end.

PART 2 – PRODUCTS

2.01 MATERIALS:
A. SILTSACK®:
   Sediment control devices at catch basins shall be SILTSACK® as manufactured by Terrafix Geosynthetics, Inc., or approved equal.

B. Stabilized Construction Entrance:
Stabilized construction entrance shall conform to the plans and requirements of the “Erosion and Sediment Control Design Handbook for Developing Areas of New Hampshire.”

PART 3 – EXECUTION

3.01 SILTSACKs® AND STABILIZED CONSTRUCTION ENTRANCE:

A. All SILTSACKs® shall be installed in accordance in all catch basins that receive flow from the disturbed area of the project. with the manufacturer’s recommendations.

B. SILTSACKs® shall not be removed until finish grading, paving and final loam and seeding have been completed. Maintain SILTSACKs® in good conditions until removed.

3.06 ROADWAYS AND PAVEMENT AREAS:

A. As soon as possible after utility work has been installed, the roadways shall be brought to subgrade, and temporary or permanent gravel base and pavement shall be placed as per Specifications.

3.07 REMOVAL OF TEMPORARY EROSION CONTROL MEASURES:

A. All temporary erosion control measures shall be removed once the site has been stabilized with final pavement, and disturbed loam and seed areas have established a viable stand of grass.

END OF SECTION
SECTION 02441

CLEANING AND TELEVISION INSPECTION OF PIPELINES

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. The Contractor shall furnish all materials, tools, labor and equipment necessary to clean the pipeline of debris, and visually inspect by means of a closed-circuit television (CCTV) of sewers as requested by the Engineer as hereinafter specified.

1.02 RELATED WORK:

A. Section 01330, SUBMITTALS

B. Section 01331, DOCUMENTATION

1.03 QUALITY ASSURANCE:

A. The work described herein shall be performed by a company with not less than five (5) years of experience in providing the required services, employing experienced workers and experienced supervisory personnel. Supervisory personnel shall have not less than three years of experience in providing the required services and shall be present at the jobsite during all work related to the required services.

1.04 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Prior to beginning work, submit six (6) sets of the following:

1. Qualifications of the firm/personnel who will perform the work;

2. Description of system proposed for handling existing flows during the various procedures to be carried out;

3. Description of the system and equipment proposed for cleaning;

4. Description of the system and equipment proposed for root cutting; and

5. Description of the system and equipment proposed for televising the pipe after cleaning.
PART 2-PRODUCTS

2.01 EQUIPMENT:

A. DVD (Read only) video system shall be used which utilizes standard DVD recording discs.

B. The television camera used for the inspection shall be a pan and tilt closed circuit color television camera specifically designed and constructed for such inspections. Lighting for the camera shall be suitable to allow a clear picture for the entire periphery of the pipe. The camera shall be operative in 100 percent humidity conditions. The camera, television monitor and other components of the video system shall be capable of producing a minimum 400 line resolution color video picture. Picture quality and definition shall be to the satisfaction of the Engineer and, if unsatisfactory, equipment shall be removed and no payment made for the unsatisfactory inspection.

PART 3-EXECUTION

3.01 CLEANING:

A. The Contractor may elect to use either high velocity jet, or mechanically powered equipment, as described in the NASSCO Standard Specifications. Selection of equipment shall be based upon field conditions such as access to manholes, quantity of debris, size of sewer, depth of flow, etc.

B. All sludge, dirt, sand, rocks, grease, and other solid or semisolid material resulting from the cleaning operation shall be decanted and disposed of at the City landfill, and in a method acceptable to the Engineer. Pipe cleaning shall be performed in advance of pipe television inspection.

C. Acceptance by the Engineer of the cleaning results will be based on the results of television inspection. If the results are unsatisfactory, the Contractor shall repeat the cleaning until accepted by the Engineer at no additional cost to the Owner.

3.02 CLOSED-CIRCUIT TELEVISION (CCTV) INSPECTION:

A. Closed-circuit television (CCTV) inspection shall be done one manhole section at a time, and the section being inspected shall be suitably isolated from the remainder of the sewer line as required. No sanitary sewer lines shall be inspected until they have been cleaned. The camera shall be moved through the line in either direction at a uniform slow rate, stopping when necessary to insure proper documentation of the sewer's condition, but in no case will the television camera be pulled at a speed greater than 30 feet per minute.

B. Measurement for location of defects shall be accurately measured from the starting manhole by a metering device mounted on the camera or by other means acceptable to the Engineer. Marking on cable, or the like, which would require interpolation for depth of manhole, will not be allowed. Measurement meters will be accurate to 0.2 feet. A
measuring target (or the sealing packer) in front of the television shall be used as an exact measurement reference point, and the meter reading shall show this exact location of the measurement reference point.

E. Electronic video equipment shall be capable of displaying and recording, at a minimum, the following data for each pipe joint:

1. Project Identification
2. Date recorded
3. Footage counter
4. Sewer reach identification (street location, start MH and second MH)

3.03 DOCUMENTATION:

A. Printed location records shall be kept by the Contractor which will clearly show the exact location, in relation to adjacent manholes, of each defect discovered by the television camera. In addition, other points of significance such as locations of laterals, unusual conditions, collapsed sections, and other discernible features will be recorded and a copy of such records will be supplied to the Engineer.

B. Instant developing of standard size digital photographs of the television monitor at problem areas shall be taken by the Contractor on the request of the Engineer, so long as such photographing does not interfere with the Contractor's operations.

C. Digital files of the entire inspection shall be provided to the Engineer upon completion of the inspection. The playback shall be at the speed that it was recorded. The Contractor shall be required to have all digital files and necessary playback equipment readily accessible for review by the Engineer during the project.

D. The Contractor shall furnish printed internal inspection logs and two (2) DVD discs of the entire inspection to the Engineer on completion.

END OF SECTION
SECTION 02451

FLAGGERS AND UNIFORMED OFFICERS FOR TRAFFIC CONTROL

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers the provisions for furnishing Flaggers and Uniformed Police Officers for Maintenance of Traffic as described in Section 01110 CONTROL OF WORK AND MATERIALS, to direct traffic through or around work as shown on the plans or as ordered by the Engineer.

1.02 DESCRIPTION:

A. The Contractor shall coordinate with the Engineer to determine the number of Flaggers and Officers deemed necessary to provide for public safety and to maintain a smooth flow of traffic through the construction area(s) affected.

1.03 RELATED WORK:

A. SECTION 01110, CONTROL OF WORK AND MATERIALS

PART 2 - PRODUCTS

2.01 UNIFORMED POLICE OFFICERS:

A. Contractor shall provide the Traffic Control Officer with a minimum of 24 hours notice indicating the time of day, street location and confirm number of officers required for traffic control. This shall be as agreed by the Engineer. The Contractor may furnish additional traffic control personnel at his/her own expenses but only those agreed upon by the Engineer will be measured for payment.

B. Contractor shall give the Traffic Control Officer a minimum of 2 hours prior cancellation notice should Contractor determine that due to weather or conditions beyond his control he would not need the scheduled officers.

C. Contractor shall pay for officer(s) at the prevailing rate established by the local police department should officers not be needed and the Contractor fails to cancel the officers as noted in 2.01.B above.
D. Where the Owner is paying directly for Uniformed Officers, the Contractor shall be responsible for payment of the wages paid to the Uniformed Police Officers if the Contractor fails to cancel the services of the Uniformed Officers in accordance with 2.01.B and 2.01.C above.

PART 3 - EXECUTION

3.01 OPERATION:

A. Contractor shall provide barricades, barrier fences, traffic signs, and other traffic control devices as shown on the plans, required by the City’s Traffic Department, or as directed by the Engineer, to protect traffic, pedestrians, and animals from the work area.

B. Contractor shall relocate barricades, signs and other devices as necessary as the work progresses as directed by the Owner’s Traffic Control Officer or the Engineer.

C. Flaggers shall be provided with the necessary safety equipment.

END OF SECTION
SECTION 02518

TRACER TAPE

PART 1 - GENERAL

1.01 WORK INCLUDED:

This section covers the furnishing, handling and installation of tracer tape, as called for on the drawings.

1.02 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Six sets of manufacturer's literature on the materials, colors and printing specified herein, shall be submitted to the Engineer for review.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

Tracer tape shall be by Lineguard, Inc.; Empire Level; Pro-Line Safety Products Co.; or approved equal.

2.02 TRACER TAPE:

A. Tracer tape shall be at least 4-inches wide.

B. Tracer tape for non-ferrous pipe or conduit shall be constructed of a metallic core bonded to plastic layers. The metallic tracer tape shall be a minimum 5-mil thick and must be locatable at a depth of 12 inches with ordinary pipe locaters.

C. The tape shall bear the wording: "BURIED SEWER LINE BELOW" with "SEWER", continuously repeated every 30 inches to identify the pipe.

E. Standard tape colors shall be as follows, as recommended by the American Public Works Association (APWA):

<table>
<thead>
<tr>
<th>Electric</th>
<th>Red</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas &amp; Oil</td>
<td>Yellow</td>
</tr>
<tr>
<td>Communications</td>
<td>Orange</td>
</tr>
<tr>
<td>Water</td>
<td>Blue</td>
</tr>
<tr>
<td>Sewer &amp; Drain</td>
<td>Green</td>
</tr>
</tbody>
</table>
PART 3 - EXECUTION

3.01 INSTALLATION:

A. Tracer tape shall be installed directly above the pipe or conduit it is to identify, approximately 12 inches below the proposed ground surface.

B. The Contractor shall follow the manufacturer's recommendations for installation of the tape, as approved by the Engineer.

END OF SECTION
SECTION 02530

BUILDING CONNECTIONS AND DROP CONNECTIONS

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers furnishing of all materials and labor to construct building sewer connections and drop connections as indicated on the Drawings, and as herein specified.

B. Final location of building connections shall be determined in the field by the Engineer.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK

B. Section 02631, PRECAST MANHOLES AND CATCH BASINS

C. Section 02085, POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS

1.03 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Six sets of shop drawings and manufacturers literature of the materials of this section shall be submitted to the Engineer for review.

B. Shop drawings of any special connections, including the proposed adapters for service connections, shall be submitted to the Engineer.

PART 2 – PRODUCTS

2.01 MATERIALS:

A. Pipe and fittings for drop connections and for gravity building connections shall be as specified under Section 02085 POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS. Adaptors shall be as recommended by the pipe manufacturer.

B. Concrete for encasement shall be as specified in Section 03302 FIELD CONCRETE.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. BUILDING CONNECTIONS:
1. Building connections shall be installed using the same construction and pipe joining techniques as specified in Section 02085 POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS.

2. In general, connections shall be carried only to the property line. The end of the pipes shall be closed with PVC stoppers jointed in place to ensure against infiltration into the sewer line.

3. In general, the mainline sewer has been designed at depths to accommodate full basement service for each building to be connected. Building connections must be installed at the proper depth in every case that full basement service is possible for the building. The CONTRACTOR will be required to excavate, remove, reinstall and backfill any building connection improperly installed at his own expense. The CONTRACTOR will demonstrate to the Inspector that all connections are properly made.

4. In streets where building sewers must cross water mains, the CONTRACTOR will install the building sewers at proper depths to maintain the vertical clearance between the two pipes, as shown in the construction details. Building services shall be installed beneath water mains.

B. DROP CONNECTIONS:

1. When the invert of a pipe entering a manhole is 24 inches or more above the invert of the lowest pipe leaving the manhole, it shall be connected to the manhole with an inside drop section.

2. The drop pipe shall be the same diameter, material, and class as the sewer pipe entering the manhole, unless otherwise noted in the drawings. The drop connection shall be constructed as shown on the City of Nashua Standard details.

3. All connecting hardware shall be stainless steel.

END OF SECTION
SECTION 02533

CONNECTIONS TO EXISTING STRUCTURES OR SEWER MAINS

PART 1 - GENERAL

1.01 WORK INCLUDED:

The Contractor shall furnish materials, tools, labor and equipment to cut suitable openings into the existing sewer manholes, make connections to existing sewers and all other work necessary to direct the existing sewage flow as indicated on the drawings and as herein specified.

1.02 RELATED WORK:

Section 02631, PRECAST MANHOLES AND CATCH BASINS

Section 02085, POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS

Section 01735, CUTTING, CORING and PATCHING

1.03 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF THE GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

Prior to start of work, submit details of the methods proposed for doing the work and for maintaining the sewage flow as herein specified.

PART 2 - PRODUCTS

A. Products for attaching to existing sewer manholes are described in Sections 02631, Precast Manholes and Catch Basins; and Section 01735, Cutting, Coring and Patching.

B. Products for attaching sewer service lines or drain lines to existing sewer mains:

1. Connection of new sewer service or drain pipe to existing sewer mains shall be by mechanical saddles (as described in items 2 and 3 below). The connection device shall provide a firm base that will hold and attach the service main to the existing pipe without the possibility of the pipe becoming loose or detaching from the main. Putting the pipe in the main and grouting around it will not be allowed.

2. Where feasible and sizing allows this type of connection, the preferred method of attachment of PVC service or drain pipe to the existing main is by a ROMAC “CB” Sewer Saddles or equal.
3. Should the ROMAC type service connection not be feasible due to pipe size or other constraints, the connection may be made using a Kor-N-Tee, Inserta Tee or equal. These types of fittings rely on having enough of the pipe wall thickness present to create tension between the fittings the pipe wall such that fitting will be held securely in place. Should the Contractor elect to use this type of fitting the submittal must include an evaluation of the existing pipe wall thickness and provide cut sheets from the manufacturer showing this type of fitting will achieve the desired results.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. The Contractor shall provide temporary plugs or provide other suitable means for maintaining the new sewer free of sewage flow until such time as it can be inspected and tested for leakage.

B. Connections to the new sewer shall be made when directed by the Engineer and only after the new pipeline has been inspected and has successfully passed the leakage test.

C. The Contractor shall modify each existing structure for installation of the necessary piping, but in so doing shall confine the cutting to the smallest amount possible consistent with the work to be done.

D. All new piping connected to existing structures shall be encased in concrete in a manner satisfactory to the Engineer.

E. All work shall be done with the proper tools and by careful workmen competent to do work.

F. The Contractor shall cut, reshape and fill the existing manhole tables and plug existing outlets as indicated on the drawings and as directed by the Engineer, to accommodate the new connections. Reshaped manhole invert channels shall be smoothly shaped to permit the flow of sewage. Manhole invert channels shall be reconstructed as specified under Section 02631, PRECAST MANHOLES AND CATCH BASINS and shall comply with the City of Nashua Standard Specifications for Sewers and Drains.

END OF SECTION
SECTION 02534

FILL SEWER PIPE TO BE ABANDONED

PART 1 - GENERAL

1.01 WORK INCLUDED:

The existing sewer pipe to be abandoned in place shall be completely filled with "Flowable Fill" after the sewerage has been re-routed through the new sewer main. The work shall include all materials, labor, pumping, shoring, and cleanup required to complete this item.

1.02 RELATED WORK:

Section 02631, PRECAST MANHOLES AND CATCH BASINS

1.03 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF THE GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

The contractor shall submit his proposed method for filling the pipe to be abandoned to the Engineer for approval two (2) weeks prior to scheduling the work. The "Flowable Fill" mix shall be comprised of Portland cement, water, sand and other additives to insure that the material shall flow the entire length of the pipe and completely fill the void. The mix design for the "Flowable Fill" shall be submitted to the Engineer for approval.

PART 2 - PRODUCTS - NOT APPLICABLE

PART 3 - EXECUTION

3.01 INSTALLATION:

A. No work shall be done without approval from the Engineer. The contractor shall demonstrate to the Engineer by visual inspection or other means that the existing pipe has been completely filled.

B. All work shall be done with the proper tools and by careful workmen competent to do work.

END OF SECTION
SECTION 02631

PRECAST MANHOLES AND CATCH BASINS

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers all precast manholes and catch basins complete, including, but not limited to, bases, walls, cones, mortar, invert, frames and covers.

B. Work shall comply with City of Nashua Standard Specifications for Sewers and Drains (Appendix A).

1.02 RELATED WORK:

A. Section 01330, SUBMITTALS

B. Section 02085, POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS

C. Section 02300, EARTHWORK

D. Section 02745, ROAD RESTORATION

E. Section 03302, FIELD CONCRETE

1.03 SYSTEM DESCRIPTION:

A. Precast sections shall conform in shape, size, dimensions, materials, and other respects to the details indicated on the drawings or as ordered by the Engineer.

B. All manholes and catch basins shall have precast concrete bases, risers and cone sections. Invert channels shall be formed of brick and mortar upon the base.

C. Catch basins shall have a 3-foot deep sump unless otherwise specified.

1.04 REFERENCES:

A. The following standards form a part of this specification as referenced:

American Society for Testing and Materials (ASTM)

ASTM A48 Gray Iron Castings

ASTM C32 Sewer and Manhole Brick
ASTM C144  Aggregate for Masonry Mortar
ASTM C207  Hydrated Lime for Masonry Purposes
ASTM C478  Precast Reinforced Concrete Manhole Sections
ASTM C923  Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures and Pipes
ASTM C1244 Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test.

American Association of State Highway and Transportation Officials (AASHTO)
AASHTO M198 Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets

Occupational Safety and Health Administration
OSHA 29 CFR 1910.27 Fall Prevention Protection

1.05 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Six sets of manufacturer literature of the materials of this section shall be submitted to the Engineer for review.

B. Tests reports as required shall be submitted to the Engineer.

PART 2 - PRODUCTS 2.01 PRECAST CONCRETE SECTIONS:

A. All precast concrete sections shall conform to ASTM C478 with the following exceptions and additional requirements:

1. The wall thickness of precast sections shall be as designated on the drawings, meeting the following minimum requirements:

<table>
<thead>
<tr>
<th>Section Diameter (Inches)</th>
<th>Minimum Wall Thickness (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>5</td>
</tr>
<tr>
<td>60</td>
<td>6</td>
</tr>
</tbody>
</table>

2019 Sewer Replacement Project
Nashua, NH

Precast Manholes and Catch Basins
02631-2
2. Type II cement shall be used except as otherwise approved.

3. Sections shall be steam cured and shall not be shipped until at least five days after having been cast.

4. Minimum compressive strength of concrete shall be 4000 psi at 28 days.

5. No more than two lift holes may be cast or drilled in each section.

6. The date of manufacture and the name or trademark of the manufacturer shall be clearly marked on the inside of each precast section.

7. Acceptance of the sections will be on the basis of material tests and inspection of the completed product.

8. Circumferential steel reinforcement in walls and bases shall be a minimum of 0.12 sq. in./lin. ft. for 4-foot diameter sections and 0.15 sq. in./lin. ft. for 5- and 6-foot diameter sections. Reinforcing shall extend into tongue and groove.

B. Conical reducing sections shall have a wall thickness not less than 5-inches at the bottom and wall thickness of 8-inches at the top. Conical sections shall taper from a minimum of 48-inches diameter to 30-inches diameter at the top, as shown on the drawings.

C. Except where insufficient depth of cover dictates the use of a shorter base, bases shall be a minimum of 4 feet in height.

D. Slab top sections and flat riser sections (Grade Rings) shall conform to the contract drawings, with particular attention focused upon the reinforcing steel and be designed to meet or exceed an H-20 Loading requirement.

E. The tops of the bases shall be suitably shaped by means of accurate ring forms to receive the riser sections.

F. Precast sections shall be manufactured to contain wall openings of the minimum size to receive the ends of the pipes, such openings being accurately set to conform with line and grade of the sewer or drain. Subsequent cutting or tampering in the field, for the purpose of creating new openings or altering existing openings, will not be permitted except as directed by the Engineer.

G. "Drop-over" manholes shall be placed where indicated on the drawings. The Contractor shall accurately measure the diameter of the existing outlet pipe and inform the manufacturer of its size, so that the "Drop-over" type opening can be cut into the precast manhole base. The bottom shall be precast; or cast in place by the Contractor as required by the Engineer. The invert channel shall be formed of brick and mortar, as specified in
this specifications section. The sub-base shall be a compacted, level foundation of crushed stone, at least 6-inches thick, as specified in Section 02300 EARTHWORK, but shall vary to the depth necessary to reach sound undisturbed earth.

H. All manholes and catch basins shall be coated on the exterior with a bituminous damp-proofing coating.

I. The Engineer reserves the right to reject any unsatisfactory precast section and the rejected unit shall be tagged and removed from the job site immediately.

J. The Engineer may also require the testing of concrete sections as outlined under Physical Requirements in ASTM C478 with the Contractor bearing all testing costs.

2.02 BRICK MATERIALS:

A. Brick shall be sound, hard, and uniformly burned brick, regular and uniform in shape and size, of compact texture, and satisfactory to the Engineer. Bricks shall comply with ASTM C32, for Grade SS, hard brick, except that the mean of five tests for absorption shall not exceed 8 percent by weight.

B. Rejected brick shall be immediately removed from the work and brick satisfactory to the Engineer substituted.

C. Mortar shall be composed of portland cement, hydrated lime, and sand in which the volume of sand shall not exceed three times the sum of the volumes of cement and lime. The proportions of cement and lime shall be as directed and may vary from 1:1/4 for dense hard-burned brick to 1:3/4 for softer brick. In general, mortar for Grade SS Brick shall be mixed in the volume proportions of 1:1/2:4-1/2; portland cement to hydrated lime to sand.

D. Cement shall be Type II portland cement as specified for concrete masonry.

E. Hydrated lime shall be Type S conforming to ASTM C207.

F. The sand shall comply with ASTM C144 specifications for "Fine Aggregate," except that all of the sand shall pass a No. 8 sieve.

2.03 FRAMES, GRATES AND COVERS:

A. Castings shall be of good quality, strong, tough, even-grained cast iron, smooth, free from scale, lumps, blisters, sandholes, and defects of every nature which would render them unfit for the service for which they are intended. Contact surfaces of covers and frame seats shall be machined to prevent rocking of covers.

B. All castings shall be thoroughly cleaned and may be subject to a careful hammer inspection at the Engineer's discretion.
C. Castings shall be ASTM A48 Class 30B or better.

D. The surface of the manhole covers shall have a diamond pattern with the cast words "DRAIN" or "SEWER," whichever is appropriate.

E. Manhole frames with 32-inch covers for 30-inch openings shall be 500 pounds minimum by E.L. LeBaron Foundary Co., No. LC328; Quality Water Products, Style 47; Neenah Foundry Co., R1740B or approved equal.

F. Watertight type manhole frames with 32-inch diameter covers (bolted and gasketed) shall be 4 bolt, 630 pounds minimum by E.L. LeBaron Foundary Co. No. LCB328; Quality Water Products, Style C47WT; Neenah Foundry Co., R-17550-H or approved equal.

G. Catch basin castings shall have 2-inch square grate openings, 23-7/8-inch square grates, and shall be 8-inches in height and weigh 460 pounds minimum. They shall be Neenah Foundry Co. No. 3405; Quality Water Products No. 45; E.L. LeBaron Type F; or approved equal.

H. Catch basin frames set against curbing shall have three flanges only.

2.04 SEWER MANHOLE ACCESSORIES:

A. Gasket materials shall be top grade (100% solids, vulcanized) butyl rubber and shall meet or exceed AASHTO M-198.

B. Couplings at the manhole-pipe interface shall be made with a rubber seal system (with or without stainless steel straps) meeting the requirements of ASTM C923 and recommended for this type of connection.

C. Stubs installed as specified and indicated on the drawings shall be short pieces of the same class pipe as that entering the manhole and shall have either stoppers or end caps as shown on the drawings. Stoppers or end caps shall be especially designed for that application.

2.04 CATCH BASIN ACCESSORIES:

A. An oil and debris trap shall be furnished and installed on outlet pipes in all catch basins. The trap shall be The Eliminator® as manufactured by Groundwater Rescue, or approved equal.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. PRECAST SECTIONS:

1. Precast bases shall be supported on a compacted level foundation of crushed stone, as specified in Section 02300 EARTHWORK, at least 6-inches thick, but shall vary to
the depth necessary to reach sound undisturbed earth.

2. Precast reinforced concrete sections shall be set vertical and with sections in true alignment.

3. Butyl rubber joint sealant shall be installed between each concrete section. Catch basin sections do not require joint sealant if so indicated on the drawings.

4. All holes in sections used for handling the sections shall be thoroughly plugged with mortar. Mortar shall be one part cement to 1-1/2 parts sand, mixed slightly damp to the touch (just short of "balling"), hammered into the holes until it is dense and an excess of paste appears on the surface, and then finished smooth and flush with the adjoining surfaces.

B. BRICK WORK:

1. Bricks shall be moistened by suitable means, as directed, until they are neither so dry as to absorb water from the mortar nor so wet as to be slippery when laid.

2. Each brick shall be laid as a header in a full bed and joint of mortar without requiring subsequent grouting, flushing or filling, and shall be thoroughly bonded as directed.

3. The brick inverts shall conform accurately to the size of the adjoining pipes. Side inverts shall be curved and main inverts (where direction changes) shall be laid out in smooth curves of the longest possible radius which is tangent to the centerlines of adjoining pipe.

C. CASTINGS:

1. Cast iron frames, grates and covers shall be as specified. The frames and covers shall be set by the Contractor to conform accurately to the grade of the finished pavement, existing ground surface, or as indicated on the drawings. Frames shall be adjusted to meet the street surface.

2. Cast iron manhole frames and covers not located in paved areas shall be set 6-inches above finished grade, at a height as directed by the Engineer, or as indicated on the drawings. The top of the cone shall be built up with a minimum of 1 course and a maximum of 5 courses of brick and mortar used as headers for adjustment to final grade.

3. Frames shall be set concentric with the top of the concrete section and in a full bed of mortar so that the space between the top of the concrete section or brick headers and the bottom flange of the frame shall be completely filled and made watertight. A thick ring of mortar extending to the outer edge of the concrete shall be placed all around the bottom flange. The mortar shall be smoothly finished to be flush with the top of the flange and have a slight slope to shed water away from the frame.
4. Covers and/or grates shall be left in place in the frames, for safety reasons, except while work is being performed.

D. ACCESSORIES:

1. All accessories shall be installed in accordance with manufacturer's instructions.

2. Stubs shall be set accurately to the dimensions indicated on the drawings. Stubs shall be sealed with suitable watertight plugs.

3.02 LEAKAGE TESTS:

A. Leakage tests shall be made by the Contractor and observed by the Engineer on each manhole. The test shall be by vacuum or by water exfiltration as described below:

B. VACUUM TEST:

1. The vacuum test shall be conducted in accordance with ASTM C1244. Test results will be judged by the length of time it takes for the applied vacuum to drop from 10 inches of mercury to 9 inches. If the time is less than that listed in Table 1 of ASTM C1244, the manhole will have failed the test. Test times from Table 1 are excerpted below.

<table>
<thead>
<tr>
<th>TABLE 1 Minimum Test Times for Various Manhole Diameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth (Feet)</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>0-12</td>
</tr>
<tr>
<td>12-16</td>
</tr>
<tr>
<td>16-20</td>
</tr>
<tr>
<td>20-24</td>
</tr>
<tr>
<td>26-30</td>
</tr>
</tbody>
</table>

2. If the manhole fails the initial test, the Contractor shall locate the leaks and make proper repairs. Leaks may be filled with a wet slurry of accepted quick setting material. If the manhole should again fail the vacuum test, additional repairs shall be made, and the manhole water tested as specified below.

C. WATER EXFILTRATION TEST:

1. After the manhole has been assembled in place, all lifting holes shall be filled and pointed with an approved non-shrinking mortar. All pipes and other openings into the manhole shall be suitably plugged and the plugs braced to prevent blow out. The test shall be made prior to placing the shelf and invert. If the groundwater table has been
allowed to rise above the bottom of the manhole, it shall be lowered for the duration of the test.

2. The manhole shall be filled with water to the top of the cone section. If the excavation has not been backfilled and observation indicates no visible leakage, that is, no water visibly moving down the surface of the manhole, the manhole may be considered to be satisfactorily water-tight. If the test, as described above, is unsatisfactory as determined by the Engineer or if the manhole excavation has been backfilled, the test shall be continued. A period of time may be permitted if the Contractor so wishes, to allow for absorption by the manhole. At the end of this period, the manhole shall be refilled to the top of the cone, if necessary, and a measuring time of at least 8 hours begun. At the end of the test period, the manhole shall be refilled to the top of the cone, measuring the volume of water added. This amount shall be extrapolated to a 24-hour loss rate and the leakage determined on the basis of depth. The leakage for each manhole shall not exceed one gallon per vertical foot for a 24-hour period. If the manhole fails this requirement, but the leakage does not exceed 3 gallons per vertical foot per day, repairs by approved methods may be made as directed by the Engineer to bring the leakage within the allowable rate of one gallon per foot per day. Leakage due to a defective section or joint or exceeding the 3 gallon per vertical foot per day, shall be cause for rejection of the manhole. It shall be the Contractor's responsibility to uncover the rejected manhole as necessary and to disassemble, reconstruct or replace it as directed by the Engineer. The manhole shall then be retested and, if satisfactory, interior joints shall be filled and pointed.

3. No adjustment in the leakage allowance will be made for unknown causes such as leaking plugs, absorption, etc. It shall be assumed that all loss of water during the test is a result of leaks through joints or through the concrete. Furthermore, the Contractor shall take any steps necessary to assure the Engineer that the water table is below the bottom of the manhole throughout the test.

4. If the groundwater table is above the highest joint in the manhole, and there is no leakage into the manhole, as determined by the Engineer, such a test can serve to evaluate water-tightness of the manhole. However, if the Engineer is not satisfied with the results, the Contractor shall lower the water table and carry out the test as described hereinbefore.

3.03 CLEANING:

All new manholes shall be thoroughly cleaned of all silt, debris and foreign matter of any kind, prior to final inspection.

END OF SECTION
SECTION 02745

ROAD RESTORATION

PART I - GENERAL

1.01 WORK INCLUDED:

Furnish all labor, equipment and materials required to process in-place reclaimed stabilized base, install bituminous concrete pavement courses including temporary trench paving and crushed grave base, curbing, sidewalks and sidewalk curb ramps, disposal of excess material at the City landfill as specified herein, or as ordered by the Engineer.

1.02 RELATED WORK:

A. Section 01330, SUBMITTALS

B. Section 02085, POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS

C. Section 02300, EARTHWORK

D. Section 02370, EROSION CONTROL

E. Section 02631, PRECAST MANHOLES

1.03 PAVEMENT DESCRIPTION:

A. GENERAL

Roadway areas shall be restored as show on the plans or ordered by the Engineer in stages as follows:

1. All trenched areas shall be paved with temporary bituminous pavement as detailed on the plans as soon as practicable after installation of individual pipeline segments, but no trench shall be without temporary pavement longer than seven (7) calendar days.

2. After a minimum period of 30 days, the roadway including the temporary trench patch area shall be reclaimed in place as specified herein and shown on the Contract Drawings, or as ordered by the Engineer. Curb and sidewalk improvements shall be performed prior to binder course paving.

1.04 REFERENCES

The following standards form a part of these specifications and indicate the minimum standards required:
American Society for Testing and Materials (ASTM):

ASTM D1557 Test for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 Pound Rammer and 18-Inch Drop

State of New Hampshire Department of Transportation (NHDOT) Standard Specifications for Road and Bridge Construction, latest edition:

Section 304 Gravel Base Course
Section 306 Reclaimed Stabilized Base
Section 401 Plant Mix Pavements - Table 401-1 and 401-2
Section 609 Curbs

Prime and Tack Coats - shall conform to the NHDOT Standards

Federal Specifications:

SS-S-164 Sealing Compound, Hot Poured Type, for Joints in Concrete
SS-S-1401C Sealants, Joint, Non-Jet-Fuel-Resistant, Hot Applied, for Portland Cement and Asphalt Concrete Pavement

1.05 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Six sets of complete job mix formula shall be submitted to the Engineer at least two weeks before any of the work of this section is to begin.

B. Delivery slips shall be furnished with each load of mix delivered to the project. Information shall include:

2. Date.
3. Project.
4. Identification of material.
5. Gross, tare and net weights.
7. Stamped by a licensed public weighmaster.
C. Crushed Gravel and Curbing submittals as required by the NHDOT specifications.
PART 2: PRODUCTS

2.01 CRUSHED GRAVEL SUBBASE:
   A. Crushed gravel subbase shall conform to NHDOT Item 304.3 Crushed Gravel, or Item 304.4 Crushed Stone (Fine gradation).

2.02 CURBING:
   A. Curbing shall conform to NHDOT Item 609.01 Straight Granite Curb.

2.03 RECLAIMED STABILIZED:
   A. Reclaimed stabilized base shall conform to NHDOT Item 304.112, Reclaimed Stabilized Base Processed in Place, 12” Deep.

2.02 SIDEWALKS:
   A. Bituminous sidewalks shall conform to NHDOT Item 608.12, 2-Inch Bituminous Sidewalk.
   B. Concrete sidewalk shall conform to NHDOT Item 608.24, 4-Inch Concrete Sidewalk.
   C. Detectable warning panels for sidewalk curb ramps shall be as manufactured by ADA Solutions, Inc, or approved equal, and shall be “BRICK RED” in color. The color shall be approved by the Engineer.

2.03 BITUMINOUS CONCRETE PAVEMENT:
   A. The type of bituminous pavement courses to be utilized on this project shall be:

<table>
<thead>
<tr>
<th>Roadway Pavement Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layer Description</td>
</tr>
<tr>
<td><strong>Temporary Pavement</strong></td>
</tr>
<tr>
<td>(Single Course)</td>
</tr>
<tr>
<td>NHDOT 12.5mm Superpave</td>
</tr>
<tr>
<td>(50 Gyration Design)</td>
</tr>
<tr>
<td><strong>Permanent Wearing Course</strong></td>
</tr>
<tr>
<td>NHDOT 9.5 mm Superpave</td>
</tr>
<tr>
<td>(75 Gyration Design)</td>
</tr>
<tr>
<td><strong>Permanent Binder Courses</strong></td>
</tr>
<tr>
<td>NHDOT 19 mm Superpave</td>
</tr>
<tr>
<td>(50 Gyration Design)</td>
</tr>
</tbody>
</table>
B. The joint sealant shall be a hot poured rubberized emulsified asphalt sealant meeting the requirements of Federal Specifications SS-S-1401 or SS-S-164.

2.03 TACK COAT:
A. The tack coat shall be an asphalt emulsion, RS-1.
B. The Tack Coat shall be applied to all vertical seams and joints, and between the bituminous binder and wearing course layers.
C. The surface to which the Tack Coat will be applied shall be prepared as detailed in the NHDOT, Standard Specifications 410.3.3.2.
D. The Tack Coat shall be applied as detailed in the NHDOT Standard Specifications 410.3.4.2
E. The Tack Coat shall be applied at a rate as detailed in the NHDOT Standard Specifications 410.3.4.2, and as approved by the Engineer.
F. The Tack Coat shall be considered subsidiary to the wearing course of pavement.

PART3 EXECUTION

3.01 GENERAL:
A. Paving courses required for the project shall be as shown on the drawings and as specified herein. Pavement thicknesses specified are measured in compacted inches. If a pavement course thickness exceeds 2-1/2 compacted inches, the course shall be installed in multiple lifts with each lift not exceeding 2-1/2 compacted inches in thickness.

3.02 GRAVEL SUBBASE:
A. The crushed gravel subbase to be placed under temporary pavement and elsewhere as required shall consist of the specified thickness of crushed gravel evenly spread and thoroughly compacted.
B. The gravel shall be spread in layers not more than 6-inches thick, compacted measure. All layers shall be compacted to not less than 95 percent of the maximum dry density of the material as determined by ASTM D1557 Method C at optimum moisture content.

3.03 TEMPORARY BITUMINOUS PAVEMENT:
A. Where specified and directed by the Engineer and after placement of the Crushed Gravel subbase, the Contractor shall place temporary bituminous pavement above the trench, between the edges of the existing pavement. It shall consist of a single course of Hot Bituminous Pavement mix, of the thickness specified on the plans, in accordance with NHDOT Standard Specifications Section 401.
B. The temporary pavement shall be repaired as necessary to maintain the surface of the pavement until replaced by permanent pavement.

3.04 RECLAIMED STABILIZED BASE:

A. Reclaimed stabilized base shall consist of pulverizing the existing pavement together with subbase material to the depth specified on the plans, removal and disposal of excess reclaim material at the City landfill, fine grading to assure that finished surface matches existing gutter or as directed by the Engineer, and compaction of materials to required densities. The material removed from this operation shall remain the property of the City of Nashua and shall be transported and stock piled by the contractor at the Four Hills Landfill at 830 West Hollis St in Nashua.

B. Compaction shall be accomplished using a vibratory sheep's foot roller or pad foot roller with at least 50,000 lbs. of dynamic force. Final rolling shall be accomplished by a smooth steel wheel vibratory roller with at least 27,000 lbs. of dynamic force. Contractor shall also provide compaction equipment sufficient to achieve required densities in areas not accessible by larger equipment.

C. Fine grading to proposed grades shall be subsidiary. Removal, transportation, and disposal of approximately 4" of material are subsidiary. After the roadway has been fine graded and compacted, the Contractor will allow 1 working day for the city to review compacted base. In no case shall paving be scheduled prior to acceptance of base proposed grades.

D. All catch basins must be protected from reclaimed materials by use of silt sacks. All materials, labor, equipment, and transportation necessary to install, maintain, and remove the silt sacks shall be subsidiary, including disposal of material.

E. The Contractor shall be responsible to assure that the finished pavement surface will be smooth and will have positive drainage. Contractor shall be responsible to assure that puddling will not occur in either the roadway, nor on adjacent private property as a result of Contractor operations. Contractor shall perform any measurements needed in advance of excavation, cold planing or reclamation activities to assure adequate control needed for grading operations.

F. The Engineer may provide a proposed grading design to the Contractor for use in areas to be reclaimed. If a proposed design or other guidance is not provided by the Engineer, the Contractor shall perform grading of the reclaimed base material to assure that the preconstruction gutter line is recreated. Unless otherwise directed, roadway cross slope on reclaimed streets shall generally be two percent with a centerline crown. In all cases roadway cross slopes on reclaimed streets shall not exceed four percent. Pavement cross slope transitions shall be consistent with good practice generally accepted by New Hampshire Department of Transportation. If in the opinion of the Contractor it is not possible to meet these grading requirements at a particular location due to existing constraints, any such location shall be identified to the Engineer in advance of scheduled activities to allow the Engineer reasonable time to investigate and provide guidance to the Contractor.
3.05 PERMANENT BITUMINOUS PAVEMENT:

A. The bituminous paving mixture, equipment, methods of mixing and placing, and the precautions to be observed as to weather, condition of base, etc., shall be in accordance with NHDOT Standard Specifications Section 401.

B. BASE COURSE AND BINDER COURSE PAVEMENT:

1. Immediately prior to installing the base and/or binder course, the trimmed edges shall be made stable and unyielding, free of loose or broken pieces and all edges shall be thoroughly broomed clean. Contact surfaces of trench sides, curbs, manholes, catch basins, or other appurtenant structures in the pavement shall be painted thoroughly with a uniform coating of asphalt emulsion (tack coat), just before any mixture is placed against them.

2. The binder course shall be repaired as necessary to maintain the surface of the pavement until placement of the permanent overlay. If required, the Contractor shall place a leveling course before placing the permanent overlay.

C. TOP COURSE OR SURFACE TREATMENT PAVEMENT (PERMANENT OVERLAY):

1. Top course or surface treatment shall be placed over the full width as shown on the drawings or as specified.

2. Prior to placement of the top course or surface treatment, the entire surface over which the top course or surface treatment is to be placed shall be broom cleaned and tack coated.

3. Top course or surface treatment pavement placed over trenches may be feathered to meet existing paved surfaces, if approved by the Engineer.

4. Prior to placing full width top course or surface treatment pavements, keyways shall be cut in all intersecting streets.

3.06 PAVEMENT PLACEMENT:

A. Unless otherwise permitted by the Engineer for particular conditions, only machine methods of placing the pavement shall be used. The equipment for spreading and finishing shall be mechanical, self-powered pavers, capable of spreading and finishing the mixture true to line, grade, width and crown. The mixtures shall be placed and compacted only at such times as to permit proper inspection and checking by the Engineer.

B. After the paving mixtures have been properly spread, initial and intermediate compaction shall be obtained by the use of steel wheel rollers having a weight of not less than 240 pounds per inch width of tread.
C. Final rolling of the top course or surface treatment pavement shall be performed by a steel wheel roller weighing not less than 285 pounds per inch width of tread at a mix temperature and time sufficient to allow for final smoothing of the surface and thorough compaction.

D. Immediately after placement of top course or surface treatment pavement, all joints between the existing and new top course or surface treatment pavements shall be sealed with hot poured rubberized asphalt sealant meeting the requirements of Federal Specification SS-S-1401 or SS-S-164.

E. Where there is no backing for the edges of the curb-to-curb pavement, the Contractor shall provide a gravel transition. The gravel transition shall be installed immediately after the pavement is placed, shall be feathered and extend a minimum of 18 inches, and shall be compacted using the same equipment as for pavement compaction. The gravel shall be uniformly graded material with a maximum size of 3/8 to 1/2 inch.

F. When directed by the Engineer, the Contractor shall furnish and install additional paving to provide satisfactory transition for driveways and walkways impacted by a new curb-to-curb pavement installation. The transition installation will be considered incidental to the curb-to-curb pavement installation.

3.07 RAISING AND ADJUSTING CASTINGS:

A. In areas of permanent top course paving, existing municipally-owned catch basin and manhole castings and valve boxes shall be raised to the proper grade where directed by the Engineer.

B. Castings owned by private utilities shall be raised by their own forces. The Contractor shall be responsible for coordinating this work.

C. The method of adjusting these castings shall be as follows: Cut around catch basin or manhole castings a minimum of 8-inches from casting. Excavate and, if required, rebuild up to 18-inches of masonry below the bottom of the casting. Backfill with suitable material and compact to bottom of casting. Place high, early strength cement or bituminous concrete collar, as directed, to approximately 1 1/2-inches below the raised casting grade. Masonry work shall conform to Section 02631, PRECAST MANHOLES AND CATCH BASINS.

D. In some areas, raising of castings may not be required. Where directed by the Engineer, castings not to be raised shall have at least 12-inches of bituminous concrete pavement chipped and removed around the casting. New bituminous concrete pavement shall be placed and compacted around such castings to approximately 1-1/2-inches below the top of the casting. The overlay course shall then be sloped down to the level of the casting.

E. The method of raising valve boxes shall be as follows: Cut around valve box a minimum of 8-inches from valve box. Excavate as required and raise the valve box. Pour high early strength cement or bituminous concrete collar, as directed, to approximately 1-1/2-inches below the top of the valve box.
F. Castings which need to be raised or adjusted to complete permanent curb to curb paving shall be done immediately prior to paving.

3.08 PAVEMENT MARKINGS:

A. The Contractor shall replace all pavement markings removed or covered-over in carrying out the work, and as directed by the Engineer, no sooner than 48 hours after completion of permanent pavement. The markings and respective mixture and application requirements shall conform to the requirements of NHDOT Standard Specifications Section 632.

3.09 PAVEMENT REPAIR:

A. If permanent pavement becomes rough or uneven, permanent pavement patches and trenches shall be repaired and brought to grade utilizing "infrared" paving methods following completion of the construction. The Contractor performing the work shall use care to avoid overheating the pavement being repaired. Pavement repair shall extend a minimum of 6-inches beyond all edges of the pavement patch to assure adequate bonding at the pavement joints.

3.10 SIDEWALKS:

A. Bituminous and concrete sidewalks shall be installed in strict conformance with the construction requirements of the NHDOT Section 608 – Sidewalks.

B. Sidewalk curb ramps shall be installed in strict conformance to the NHDOT Standard Plans for Road Construction, Sidewalk Curb Ramp Details (9 Sheets). The detectable warning panels shall be installed in wet concrete pavement as recommended by the manufacturer. The sidewalk panel containing the detectable warning panel shall be reinforced with wire mesh and thickened to 6-inch depth.

3.10 CURBS:

A. Curbing shall be installed in strict conformance with the construction requirements of the NHDOT Section 609 – Curbs.

END OF SECTION
SECTION 02920
LOAMING AND SEEDING

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK:

A. This section covers all labor, materials, and equipment necessary to do all loaming, seeding and related work for miscellaneous areas disturbed by roadway and sidewalk construction and as herein specified.

Note: Loaming and seeding for miscellaneous areas disturbed by roadway and sidewalk construction is subsidiary to the sidewalk items of work.

1.02 RELATED WORK:

A. Section 02300 - EARTHWORK

B. Section 02370 – EROSION CONTROL

PART 2 – PRODUCTS

2.01 MATERIALS:

A. Loam for disturbed areas shall comply with the following requirements.

Topsoil for use in general lawn areas and planting beds shall conform to the following grain size distribution for material passing the #10 sieve:

<table>
<thead>
<tr>
<th>U.S. Sieve No.</th>
<th>% Passing by Weight Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>100</td>
<td>---</td>
</tr>
<tr>
<td>20</td>
<td>78</td>
<td>100</td>
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<td>40</td>
<td>60</td>
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<td>270</td>
<td>22</td>
<td>35</td>
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<tr>
<td>0.002 mm</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Natural loam not conforming to above shall be treated by the Contractor to meet this specification. Cost of amendment to the loam shall be the Contractor's responsibility.

B. Fertilizer:

1. Fertilizer shall be commercial fertilizer, 10-10-10 fertilizer mixture containing at least 40 percent of organic nitrogen.

C. Mulch:

1. Materials to be used in mulching shall be hay, straw or wood fiber mulch.
D. Lawn Seed:
   1. Grass Seed: Provide fresh, clean, new-crop seed complying with tolerance for purity and germination established by Official Seed Analysis of North America. Provide seed mixture composed of grass species, proportions with maximum percentages of purity and germination, and a minimum percentage of weed seed, as specified.
      - 45% Turf Type Tall Fescue
      - 20% Kentucky Bluegrass
      - 20% Creeping Red Fescue
      - 15% Perennial Ryegrass
      Sow at rate of 6-7 lbs. per 1000 square feet.
      Recommended planting dates: 4/1 - 5/31 or 8/15 - 10/15

PART 3 – EXECUTION
3.01 SURFACE PREPARATION:
   A. After approval of rough grading, loam shall be placed on areas affected by the Contractor's operations. Loam shall be at least 6 inches compacted thickness.
   B. Fertilizer shall be applied at the rate of 1000 pounds per acre.
   C. Loam shall be worked a minimum of 3 inches deep, thoroughly incorporating the lime and fertilizer into the soil. The loam shall then be raked until the surface is finely pulverized and smooth and lightly compacted with rollers. Minimum depth shall be 4-inches after completion.

3.02 PLACING LOAM
   A. Site:
      1. All subgrade elevations should be uniformly graded to receive loam and shall be inspected and approved by the Engineer prior to placement of loam.
      2. Place loam to form a total depth of 4", unless noted otherwise, when rolled.
      3. All depressions exposed during the rolling shall be filled with additional loam.

3.03 SEEDING AND MULCHING:
   A. Seeding shall be done when weather conditions are approved as suitable, in the periods between April 1 and May 30 or August 15 to October 1, unless otherwise approved.
   B. The Contractor shall maintain all seeded areas until final acceptance of the contract.

END OF SECTION
February 28, 2019
Memo #19-127

TO: MAYOR DONCHESS
    FINANCE COMMITTEE

SUBJECT: PAVEMENT MANAGEMENT ENGINEERING SERVICES (VALUE: $462,435)
         DEPARTMENT: 169 WASTEWATER; FUND: BOND

Please see the attached communication from Stephen Dookran, P.E., City Engineer, dated February 28, 2019 for information related to this purchase.

Pursuant to § 5-78 Major purchases (greater than $10,000) A. All supplies and contractual services, except as otherwise provided herein, when the estimated cost thereof shall exceed $10,000 shall be purchased by formal, written contract from the lowest responsible bidder, after due notice inviting bids.

The City Engineer, Board of Public Works (February 28, 2019 meeting) and the Purchasing Department recommend the award of this contract in an amount of $462,435 to Hayner/Swanson, Inc. of Nashua, NH.

Respectfully,

[Signature]
Dan Kooen
Purchasing Manager

Cc: S Dookran    L Fauteux
City of Nashua, Public Works Division

To: Board of Public Works

From: Stephen Dookran, P.E., City Engineer
Engineering Department

Re: Pavement Management Engineering Services – Hayner/Swanson, Inc.

E. Motion: To approve the engineering services contract with Hayner/Swanson, Inc. (HSI) of Nashua, NH in the amount of $462,435 for the management and construction administration of the paving program. Department: 160 Admin/Engineering; Fund: Bond; Activity: Paving.

Attachment: HSI Proposal (dated February 12, 2019)

Discussion: This year, Public Works has taken on a very extensive paving program which includes a $6.85 Million contract with Brox Industries to pave Major and Arterial Roads, and a $4.35 Million contract with Sunshine Paving to pave Local and Collector Roads. In addition to the new contracts there are the carry over streets from the 2018 paving program and a significant portion of the $4.4 Million federally funded paving contract. Amherst Street, Somerset Parkway, Broad Street, and Kinsley Street still need to be completed under the federally funded paving contract with Newport Construction.

A professional services contract with HSI is necessary to assist City Engineering staff with the overall management, coordination, construction administration and observation. The effort in construction coordination is significant given that there will be multiple contracts with several contractors throughout the City at the same time.

The term of this proposed contract will be from March 15, 2019 through December 1, 2019. More details of HSI’s services are in their proposal (attached). The services to be provided on the paving program will be varied and HSI’s responsibilities may be adjusted by the City based upon the specific needs and workload of the City staff. DPW continues to recommend HSI for these types of services because of their experience, their attention to cost control and their responsiveness to the City’s needs.
CONTRACT FOR PROFESSIONAL SERVICES

PAVEMENT MANAGEMENT ENGINEERING SERVICES

A CONTRACT BETWEEN

THE CITY OF NASHUA, 229 MAIN STREET, CITY HALL, NASHUA, NH 03060
AND

HAYNER/SWANSON, INC.
and its successors, transferees and assignees (together “Professional Engineer”)

3 CONGRESS STREET, NASHUA, NH 03062

WHEREAS, the City of Nashua, a political subdivision of the State of New Hampshire, from time to time requires the services of a Professional Engineer; and

WHEREAS, it is deemed that the services of a Professional Engineer herein specified are both necessary and desirable and in the best interests of the City of Nashua; and

WHEREAS, Professional Engineer represents they are duly qualified, equipped, staffed, ready, willing and able to perform and render the services hereinafter described;

NOW, THEREFORE, in consideration of the agreements herein made, the parties mutually agree as follows:

1. DOCUMENTS INCORPORATED. The following exhibits are by this reference incorporated herein and are made part of this contract:

   Exhibit A--General Conditions for Contracts
   Exhibit B--Scope of Services, Contract Time, Fee Schedule

The Contract represents the entire and integrated agreement between the parties and supersedes prior negotiations, proposals, representations or agreements, either written or oral. Any other documents which are not listed in this Article are not part of the Contract.

In the event of a conflict between the terms of the Proposal and the terms of this Agreement, a written change order and/or fully executed City of Nashua Purchase Order, the terms of this Agreement, the written change order or the fully executed City of Nashua Purchase Order shall control over the terms of the Proposal.

2. WORK TO BE PERFORMED Except as otherwise provided in this contract, Professional Engineer shall furnish all services, equipment, and materials and shall perform all operations necessary and required to carry out and perform in accordance with the terms and conditions of the contract the work described.
3. **PERIOD OF PERFORMANCE.** Professional Engineer shall perform and complete all work within the time periods set forth and may only be altered by the parties by a written agreement to extend the period of performance or by termination in accordance with the terms of the contract. Professional Engineer shall begin performance upon receipt of an Executed Contract and a valid Purchase Order issued from the City of Nashua.

4. **COMPENSATION.** Professional Engineer agrees to perform the work for a total cost not to exceed **FOUR HUNDRED SIXTY-TWO THOUSAND FOUR HUNDRED THIRTY-FIVE DOLLARS**

\[ ($462,435.00) \]

The Contract Sum shall include all items and services necessary for the proper execution and completion of the Work.

Unless Professional Engineer has received a written exemption from the City of Nashua, Professional Engineer shall submit monthly requests for payment for services performed under this agreement in accordance with the values stated in the Agreement. Such requests shall be supported by such data substantiating the Professional Engineer’s right to payment as the City of Nashua may reasonably require. Professional Engineer shall submit monthly requests for payment for services performed under this agreement shall be submitted as follows:

- Electronically via email to VendorAPInvoices@NashuaNH.gov

**OR**

- Paper Copies via US Mail to:
  
  City of Nashua, City Hall
  Accounts Payable
  229 Main Street
  Nashua, NH 03060

*Please do not submit invoices both electronically and paper copy.*

In addition, and to facilitate the proper and timely payment of applications, the City of Nashua requires that all submitted invoices contain a valid **PURCHASE ORDER NUMBER.**

Requests for payment shall be submitted no later than fifteen (15) days after the end of each month and must include a detailed summary of the expenditures reported in a form that supports the approved budget. Specifically, Professional Engineer agrees to provide the following with each request for payment:

1. Appropriate invoice forms. The forms shall include the project purchase order number, a listing of personnel hours and billing rates, and other expenditures for which payment is sought.

2. A progress report. The report shall include, for each monthly reporting period, a description of the work accomplished, problems experienced, upcoming work, any extra work carried out, and a schedule showing actual expenditures billed for the period, cumulative total expenditures billed and paid to date under the contract, and a comparison of cumulative total expenditures billed and paid to the approved budget.

The City of Nashua will pay for work satisfactorily completed by Professional Engineer. The City of Nashua will pay Professional Engineer within **30** days of approval by the City of Nashua of the submitted
invoice forms and progress reports. The City of Nashua will make no payments until the invoice forms and progress reports have been submitted and approved.

5. **EFFECTIVE DATE OF CONTRACT.** This contract shall not become effective until and unless approved by the City of Nashua.

6. **NOTICES.** All notices, requests, or approvals required or permitted to be given under this contract shall be in writing, shall be sent by hand delivery, overnight carrier, or by United States mail, postage prepaid, and registered or certified, and shall be addressed to:

**CITY OF NASHUA REPRESENTATIVE:**
Stephen Dookran, P.E. – City Engineer
Division of Public Works, Engineering
9 Riverside Street
Nashua, NH 03062

**REPRESENTATIVE:**
John Vancor, P.E. – Vice President
Hayner/Swanson, Inc.
3 Congress Street
Nashua, NH 03062

Any notice required or permitted under this contract, if sent by United States mail, shall be deemed to be given to and received by the addressee thereof on the third business day after being deposited in the mail. The City of Nashua or Professional Engineer may change the address or representative by giving written notice to the other party.

**IN WITNESS WHEREOF,** the parties hereto have caused this contract to be signed and intend to be legally bound thereby.

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**City of Nashua, NH (signature)  Hayner/Swanson, Inc. (signature)**

**James Donchess, Mayor (Printed Name and Title)**

**Date**

**Date**

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# Exhibit A

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General Terms and Conditions

1. DEFINITIONS Unless otherwise required by the context, "Professional Engineer", and its successors, transferees and assignees (together “Professional Engineer”) includes any of the Professional Engineer's consultants, sub consultants, contractors, and subcontractors

2. PROFESSIONAL ENGINEER STATUS The parties agree that Professional Engineer shall have the status of and shall perform all work under this contract as a Professional Engineer, maintaining control over all its consultants, sub consultants, contractors, or subcontractors. The only contractual relationship created by this contract is between the City of Nashua and Professional Engineer, and nothing in this contract shall create any contractual relationship between the City of Nashua and Professional Engineer's consultants, sub consultants, contractors, or subcontractors. The parties also agree that Professional Engineer is not a City of Nashua employee and that there shall be no:

   (1) Withholding of income taxes by the City of Nashua:
   (2) Industrial insurance coverage provided by the City of Nashua;
   (3) Participation in group insurance plans which may be available to employees of the City of Nashua;
   (4) Participation or contributions by either the Professional Engineer or the City of Nashua to the public employee’s retirement system;
   (5) Accumulation of vacation leave or sick leave provided by the City of Nashua;
   (6) Unemployment compensation coverage provided by the City of Nashua.

3. STANDARD OF CARE Professional Engineer shall be responsible for the professional quality, technical accuracy, timely completion, and coordination of all work performed under this contract. Professional Engineer warrants that all work shall be performed with the degree of professional skill, care, diligence, and sound practices and judgment that are normally exercised by recognized professional firms with respect to services of a similar nature. It shall be the duty of Professional Engineer to assure at its own expense that all work is technically sound and in conformance with all applicable federal, state, and local laws, statutes, regulations, ordinances, orders, or other requirements. In addition to all other rights which the City of Nashua may have, Professional Engineer shall, at its own expense and without additional compensation, re-perform work to correct or revise any deficiencies, omissions, or errors in the work or the product of the work or which result from Professional Engineer's failure to perform in accordance with this standard of care. Any approval by the City of Nashua of any products or services furnished or used by Professional Engineer shall not in any way relieve Professional Engineer of the responsibility for professional and technical accuracy and adequacy of its work. City of Nashua review, approval, or acceptance of, or payment for any of Professional Engineer's work under this contract shall not operate as a waiver of any of the City of Nashua's rights or causes of action under this contract, and Professional Engineer shall be and remain liable in accordance with the terms of the contract and applicable law.

Professional Engineer shall furnish competent and skilled personnel to perform the work under this contract. The City of Nashua reserves the right to approve key personnel assigned by Professional Engineer to perform work under this contract. Approved key personnel shall not be taken off of the project by Professional Engineer without the prior written approval of the City of Nashua, except in the event of termination of employment. Professional Engineer shall, if requested to do so by the City of Nashua, remove from the job any personnel whom the City of Nashua determines to be incompetent, dishonest, or uncooperative.

GC 2 of 11
4. **CITY OF NASHUA REPRESENTATIVE**  The City of Nashua may designate a City of Nashua representative for this contract. If designated, all notices, project materials, requests by Professional Engineer, and any other communication about the contract shall be addressed or be delivered to the City of Nashua Representative.

5. **CHANGES TO SCOPE OF WORK**  The City of Nashua may, at any time, by written order, make changes to the general scope, character, or cost of this contract and in the services or work to be performed, either increasing or decreasing the scope, character, or cost of Professional Engineer's performance under the contract. Professional Engineer shall provide to the City of Nashua within 10 calendar days, a written proposal for accomplishing the change. The proposal for a change shall provide enough detail, including personnel hours for each sub-task and cost breakdowns of tasks, for the City of Nashua to be able to adequately analyze the proposal. The City of Nashua will then determine in writing if Professional Engineer should proceed with any or all of the proposed change. If the change causes an increase or a decrease in Professional Engineer's cost or time required for performance of the contract as a whole, an equitable adjustment shall be made and the contract accordingly modified in writing. Any claim of Professional Engineer for adjustment under this clause shall be asserted in writing within 30 days of the date the City of Nashua notified Professional Engineer of the change.

When Professional Engineer seeks changes, Professional Engineer shall, before any work commences, estimate their effect on the cost of the contract and on its schedule and notify the City of Nashua in writing of the estimate. The proposal for a change shall provide enough detail, including personnel hours for each sub-task and cost breakdowns of tasks, for the City of Nashua to be able to adequately analyze the proposal. The City of Nashua will then determine in writing if Professional Engineer should proceed with any or all of the proposed change.

Except as provided in this paragraph, Professional Engineer shall implement no change unless the City of Nashua in writing approves the change. Unless otherwise agreed to in writing, the provisions of this contract shall apply to all changes. The City of Nashua may provide verbal approval of a change when the City of Nashua, in its sole discretion, determines that time is critical or public health and safety are of concern. Any verbal approval shall be confirmed in writing as soon as practicable. Any change undertaken without prior City of Nashua approval shall not be compensated and is, at the City of Nashua's election, sufficient reason for contract termination.

6. **CITY OF NASHUA COOPERATION**  The City of Nashua agrees that its personnel will cooperate with Professional Engineer in the performance of its work under this contract and that such personnel will be available to Professional Engineer for consultation at reasonable times and after being given sufficient advance notice that will prevent conflict with their other responsibilities. The City of Nashua also agrees to provide Professional Engineer with access to City of Nashua records in a reasonable time and manner and to schedule items that require action by the Board of Public Works and Finance Committee in a timely manner. The City of Nashua and Professional Engineer also agree to attend all meetings called by the City of Nashua or Professional Engineer to discuss the work under the Contract, and that Professional Engineer may elect to conduct and record such meetings and shall later distribute prepared minutes of the meeting to the City of Nashua.

7. **DISCOVERY OF CONFLICTS, ERRORS, OMISSIONS, AMBIGUITIES, OR DISCREPANCIES**  Professional Engineer warrants that it has examined all contract documents, has brought all conflicts, errors, discrepancies, and ambiguities to the attention of the City of Nashua in writing, and has concluded that the City of Nashua's resolution of each matter is satisfactory to Professional Engineer. All future questions Professional Engineer may have concerning interpretation or clarification of this contract shall be submitted in writing to the City of Nashua within 10 calendar days of their arising. The writing shall state clearly and in full detail the basis for Professional Engineer's question or position. The City of Nashua representative shall render a
decision within 15 calendar days. The City of Nashua's decision on the matter is final. Any work affected by a conflict, error, omission, or discrepancy which has been performed by Professional Engineer prior to having received the City of Nashua's resolution shall be at Professional Engineer's risk and expense. At all times, Professional Engineer shall carry on the work under this contract and maintain and complete work in accordance with the requirements of the contract or determination of the City of Nashua. Professional Engineer is responsible for requesting clarification or interpretation and is solely liable for any cost or expense arising from its failure to do so.

8. TERMINATION OF CONTRACT

A. TERMINATION, ABANDONMENT, OR SUSPENSION AT WILL. The City of Nashua, in its sole discretion, shall have the right to terminate, abandon, or suspend all or part of the project and contract at will. If the City of Nashua chooses to terminate, abandon, or suspend all or part of the project, it shall provide Professional Engineer 10 day’s written notice of its intent to do so.

If all or part of the project is suspended for more than 90 days, the suspension shall be treated as a termination at will of all or part of the project and contract.

Upon receipt of notice of termination, abandonment, or suspension at will, Professional Engineer shall:

1. Immediately discontinue work on the date and to the extent specified in the notice.
2. Place no further orders or subcontracts for materials, services, or facilities, other than as may be necessary or required for completion of such portion of work under the contract that is not terminated.
3. Immediately make every reasonable effort to obtain cancellation upon terms satisfactory to the City of Nashua of all orders or subcontracts to the extent they relate to the performance of work terminated, abandoned, or suspended under the notice, assign to the City of Nashua any orders or subcontracts specified in the notice, and revoke agreements specified in the notice.
4. Not resume work after the effective date of a notice of suspension until receipt of a written notice from the City of Nashua to resume performance.

In the event of a termination, abandonment, or suspension at will, Professional Engineer shall receive all amounts due and not previously paid to Professional Engineer for work satisfactorily completed in accordance with the contract prior to the date of the notice and compensation for work thereafter completed as specified in the notice. No amount shall be allowed or paid for anticipated profit on unperformed services or other unperformed work.

B. TERMINATION FOR CAUSE. This agreement may be terminated by the City of Nashua on 10 calendar day’s written notice to Professional Engineer in the event of a failure by Professional Engineer to adhere to any or all the terms and conditions of the contract or for failure to satisfactorily, in the sole opinion of the City of Nashua, to complete or make sufficient progress on the work in a timely and professional manner. Professional Engineer shall be given an opportunity for consultation with the City of Nashua prior to the effective date of the termination. Professional Engineer may terminate the contract on 10 calendar days written notice if, through no fault of Professional Engineer, the City of Nashua fails to pay Professional Engineer for 45 days after the date of approval by the City of Nashua of any Application for Payment.

Upon receipt of notice of termination for cause, Professional Engineer shall:

1. Immediately discontinue work on the date and to the extent specified in the notice.
2. Provide the City of Nashua with a list of all unperformed services.

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3. Place no further orders or sub-contracts for materials, services, or facilities, other than as may be necessary or required for completion of such portion of work under the contract that is not terminated.

4. Immediately make every reasonable effort to obtain cancellation upon terms satisfactory to the City of Nashua of all orders or sub contracts to the extent they relate to the performance of work terminated, abandoned, or suspended under the notice, assign to the City of Nashua any orders or sub contracts specified in the notice, and revoke agreements specified in the notice.

5. Not resume work after the effective date of a notice of termination unless and until receipt of a written notice from the City of Nashua to resume performance.

In the event of a termination for cause, Professional Engineer shall receive all amounts due and not previously paid to Professional Engineer for work satisfactorily completed in accordance with the contract prior to the date of the notice, less all previous payments. No amount shall be allowed or paid for anticipated profit on unperformed services or other unperformed work. Any such payment may be adjusted to the extent of any additional costs occasioned to the City of Nashua by reasons of Professional Engineer's failure. Professional Engineer shall not be relieved of liability to the City of Nashua for damages sustained from the failure, and the City of Nashua may withhold any payment to the Professional Engineer until such time as the exact amount of damages due to the City of Nashua is determined. All claims for payment by the Professional Engineer must be submitted to the City of Nashua within 30 days of the effective date of the notice of termination.

If after termination for the failure of Professional Engineer to adhere to any of the terms and conditions of the contract or for failure to satisfactorily, in the sole opinion of the City of Nashua, to complete or make sufficient progress on the work in a timely and professional manner, it is determined that Professional Engineer had not so failed, the termination shall be deemed to have been a termination at will. In that event, the City of Nashua shall, if necessary, make an adjustment in the compensation paid to Professional Engineer such that Professional Engineer receives total compensation in the same amount as it would have received in the event of a termination-at-will.

C. GENERAL PROVISIONS FOR TERMINATION Upon termination of the contract, the City of Nashua may take over the work and prosecute it to completion by agreement with another party or otherwise. In the event Professional Engineer shall cease conducting business, the City of Nashua shall have the right to solicit applications for employment from any employee of the Professional Engineer assigned to the performance of the contract.

Neither party shall be considered in default of the performance of its obligations hereunder to the extent that performance of such obligations is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of such party. Delays arising from the actions or inactions of one or more of Professional Engineer's principals, officers, employees, agents, subcontractors, consultants, vendors, or suppliers are expressly recognized to be within Professional Engineer's control.

9. DISPUTE RESOLUTION The parties shall attempt to resolve any dispute related to this contract as follows. Either party shall provide to the other party, in writing and with full documentation to verify and substantiate its decision, its stated position concerning the dispute. No dispute shall be considered submitted and no dispute shall be valid under this provision unless and until the submitting party has delivered the written statement of its position and full documentation to the other party. The parties shall then attempt to resolve the dispute through good faith efforts and negotiation between the City of Nashua Representative and a Professional Engineer Representative. At all times, Professional Engineer shall carry on the work under this contract and maintain and complete work in accordance with the requirements of the contract or determination or direction of the City of Nashua. If the parties are unable to resolve their dispute.
as described above within 30 days, the parties may request that the dispute be submitted to the Board of Public Works for resolution. If the parties are dissatisfied with the decision of the Board of Public Works, the parties’ reserve the right to pursue any available legal and/or equitable remedies for any breaches of this contract except as that right may be limited by the terms of this contract.

10. **NO DAMAGES FOR DELAY**  Apart from a written extension of time, no payment, compensation, or adjustment of any kind shall be made to Professional Engineer for damages because of hindrances or delays in the progress of the work from any cause, and Professional Engineer agrees to accept in full satisfaction of such hindrances and delays any extension of time that the City of Nashua may provide.

11. **INSURANCE**  Professional Engineer shall carry and maintain in effect during the performance of services under this contract:

- General Liability insurance in the amount of $1,000,000 per occurrence; $2,000,000 aggregate;
- $1,000,000 Combined Single Limit Automobile Liability;
- *Coverage must include all owned, non-owned and hired vehicles.*
- $1,000,000 Professional Liability;
- and Workers’ Compensation Coverage in compliance with the State of New Hampshire statutes, $100,000/$500,000/$100,000.

Professional Engineer shall maintain in effect at all times during the performance under this contract all specified insurance coverage with insurers. None of the requirements as to types and limits to be maintained by Professional Engineer are intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by Professional Engineer under this contract. The City of Nashua shall not maintain any insurance on behalf of Professional Engineer. Subcontractors are subject to the same insurance requirements as Professional Engineer and it shall be the Professional Engineer’s responsibility to ensure compliance of this requirement.

Professional Engineer will provide the City of Nashua with certificates of insurance for coverage as listed below and endorsements affecting coverage required by the contract within ten calendar days after the City of Nashua issues the notice of award. The City of Nashua requires thirty days written notice of cancellation or material change in coverage. The certificates and endorsements for each insurance policy must be signed by a person authorized by the insurer and who is licensed by the State of New Hampshire. **General Liability and Auto Liability policies must name the City of Nashua as an additional insured** and reflect on the certificate of insurance. Professional Engineer is responsible for filing updated certificates of insurance with the City of Nashua’s Risk Management Department during the life of the contract.

- All deductibles and self-insured retentions shall be fully disclosed in the certificate(s) of insurance.
- If aggregate limits of less than $2,000,000 are imposed on bodily injury and property damage, Professional Engineer must maintain umbrella liability insurance of at least $1,000,000. All aggregates must be fully disclosed on the required certificate of insurance.
- The specified insurance requirements do not relieve Professional Engineer of its responsibilities or limit the amount of its liability to the City of Nashua or other persons, and Professional Engineer is encouraged to purchase such additional insurance, as it deems necessary.

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12. **INDEMNIFICATION** Regardless of any coverage provided by any insurance, Professional Engineer agrees to indemnify and hold harmless the City of Nashua, its agents, officials, employees and authorized representatives and their employees from and against any and all suits, causes of action, legal or administrative proceedings, arbitrations, claims, demands, damages, liabilities, interest, attorney’s fees, costs and expenses of any kind or nature in any manner caused, occasioned, or contributed to in whole or in part by reason of any negligent act, omission, or fault or willful misconduct, whether active or passive, of Professional Engineer or of anyone acting under its direction or control or on its behalf in connection with or incidental to the performance of this contract. Professional Engineer’s indemnity and hold harmless obligations, or portions thereof, shall not apply to liability caused by the sole negligence or willful misconduct of the party indemnified or held harmless.

13. **FISCAL CONTINGENCY** All payments under this contract are contingent upon the availability to the City of Nashua of the necessary funds. This contract shall terminate and the City of Nashua’s obligations under it shall be extinguished at the end of any fiscal year in which the City of Nashua fails to appropriate monies for the ensuing fiscal year sufficient for the performance of this contract.

Nothing in this contract shall be construed to provide Professional Engineer with a right of payment over any other entity. Any funds obligated by the City of Nashua under this contract that are not paid to Professional Engineer shall automatically revert to the City of Nashua’s discretionary control upon the completion, termination, or cancellation of the agreement. The City of Nashua shall not have any obligation to re-award or to provide, in any manner, the unexpended funds to Professional Engineer. Professional Engineer shall have no claim of any sort to the unexpended funds.

14. **COMPENSATION** Review by the City of Nashua of Professional Engineer’s submitted monthly invoice forms and progress reports for payment will be promptly accomplished by the City of Nashua. If there is insufficient information, the City of Nashua may require Professional Engineer to submit additional information. Unless the City of Nashua, in its sole discretion, decides otherwise, the City of Nashua shall pay Professional Engineer in full within **30 days of approval** of the submitted monthly invoice forms and progress reports.

15. **COMPLIANCE WITH APPLICABLE LAWS** Professional Engineer, at all times, shall fully and completely comply with all applicable local, state and federal laws, statutes, regulations, ordinances, orders, or requirements of any sort in carrying out the obligations of this contract, including, but not limited to, all federal, state, and local accounting procedures and requirements, all immigration and naturalization laws, and the Americans With Disabilities Act. Professional Engineer shall, throughout the period services are to be performed under this contract, monitor for any changes to the applicable laws, statutes, regulations, ordinances, orders, or requirements, shall promptly notify the City of Nashua in writing of any changes to the same relating to or affecting this contract, and shall submit detailed documentation of any effect of the change in terms of both time and cost of performing the contract.

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16. NONDISCRIMINATION If applicable or required under any federal or state law, statute, regulation, order, or other requirement, Professional Engineer agrees to the following terms. Professional Engineer will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. Professional Engineer agrees to take affirmative action to employ, advance in employment, or to otherwise treat qualified, handicapped individuals without discrimination based upon physical or mental handicap in all employment practices, including but not limited to the following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, rates of pay, or other forms of compensation and selection for training, including apprenticeship.

Without limitation of the foregoing, Professional Engineer's attention is directed to “Title 41” Public Contracts and Property Management” C.F.R. Subtitle B “Other Provisions Relating to Public Contracts” Section 60 “Office of Federal Contract Compliance Programs, Equal Employment, Department of Labor” which, by this reference, is incorporated in this contract.

Professional Engineer agrees to assist disadvantaged business enterprises in obtaining business opportunities by identifying and encouraging disadvantaged suppliers, consultants, and subconsultants to participate to the extent possible, consistent with their qualification, quality of work, and obligation of Professional Engineer under this contract.

In connection with the performance of work under this contract, Professional Engineer agrees not to discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, or sexual orientation. This agreement includes, but is not limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

Professional Engineer agrees, if applicable, to insert these provisions in all subcontracts, except for subcontracts for standard commercial supplies or raw materials. Any violation of any applicable provision by Professional Engineer shall constitute a material breach of the contract.

17. ENDORSEMENT Professional Engineer shall seal and/or stamp and sign professional documents including drawings, plans, maps, reports, specifications, and other instruments of service prepared by Professional Engineer or under its direction as required under the laws of the State of New Hampshire.

18. ASSIGNMENT, TRANSFER, DELEGATION, OR SUBCONTRACTING Professional Engineer shall not assign, transfer, delegate, or subcontract any rights, obligations, or duties under this contract without the prior written consent of the City of Nashua. Any such assignment, transfer, delegation, or subcontracting without the prior written consent of the City of Nashua is void. Any consent of the City of Nashua to any assignment, transfer, delegation, or subcontracting shall only apply to the incidents expressed and provided for in the written consent and shall not be deemed to be a consent to any subsequent assignment, transfer, delegation, or subcontracting. Any such assignment, transfer, delegation, or subcontract shall require compliance with or shall incorporate all terms and conditions set forth in this agreement, including all incorporated Exhibits and written amendments or modifications. Subject to the foregoing provisions, the contract inures to the benefit of, and is binding upon, the successors and assigns of the parties.

19. CITY INSPECTION OF CONTRACT MATERIALS The books, records, documents and accounting procedures and practices of Professional Engineer related to this contract shall be subject to inspection, examination and audit by the City of Nashua, including, but not limited to, the contracting agency, the Board of Public Works, Corporation Counsel, and, if applicable, the Comptroller General of the United States, or any authorized representative of those entities.
20. **DISPOSITION OF CONTRACT MATERIALS** Any books, reports, studies, photographs, negatives or other documents, data, drawings or other materials, including but not limited to those contained in media of any sort (e.g., electronic, magnetic, digital) prepared by or supplied to Professional Engineer in the performance of its obligations under this contract shall be the exclusive property of the City of Nashua and all such materials shall be remitted and delivered, at Professional Engineer's expense, by Professional Engineer to the City of Nashua upon completion, termination, or cancellation of this contract. Alternatively, if the City of Nashua provides its written approval to Professional Engineer, any books, reports, studies, photographs, negatives or other documents, data, drawings or other materials including but not limited to those contained in media of any sort (e.g., electronic, magnetic, digital) prepared by or supplied to Professional Engineer in the performance of its obligations under this contract must be retained by Professional Engineer for a minimum of four years after final payment is made and all other pending matters are closed. If, at any time during the retention period, the City of Nashua, in writing, requests any or all of the materials, then Professional Engineer shall promptly remit and deliver the materials, at Professional Engineer's expense, to the City of Nashua. Professional Engineer shall not use, willingly allow or cause to have such materials used for any purpose other than the performance of Professional Engineer's obligations under this contract without the prior written consent of the City of Nashua.

21. **PUBLIC RECORDS LAW, COPYRIGHTS, AND PATENTS** Professional Engineer expressly agrees that all documents ever submitted, filed, or deposited with the City of Nashua by Professional Engineer (including those remitted to the City of Nashua by Professional Engineer pursuant to paragraph 20), unless designated as confidential by a specific statute of the State of New Hampshire, shall be treated as public records and shall be available for inspection and copying by any person, or any governmental entity.

No books, reports, studies, photographs, negatives or other documents, data, drawings or other materials including but not limited to those contained in media of any sort (e.g., electronic, magnetic, digital) prepared by or supplied to Professional Engineer in the performance of its obligations under this contract shall be the subject of any application for a copyright or patent by or on behalf of Professional Engineer. The City of Nashua shall have the right to reproduce any such materials.

Professional Engineer expressly and indefinitely waives all of its rights to bring, including but not limited to, by way of complaint, interpleader, intervention, or any third party practice, any claims, demands, suits, actions, judgments, or executions, for damages or any other relief, in any administrative or judicial forum, against the City of Nashua or any of its officers or employees, in either their official or individual capacity of the City of Nashua, for violations of or infringement of the copyright or patent laws of the United States or of any other nation. Professional Engineer agrees to indemnify, to defend, and to hold harmless the City of Nashua, its representatives, and employees from any claim or action seeking to impose liability, costs, and attorney fees incurred as a result of or in connection with any claim, whether rightful or otherwise, that any material prepared by or supplied to Professional Engineer infringes any copyright or that any equipment, material, or process (or any part thereof) specified by Professional Engineer infringes any patent.

Professional Engineer shall have the right, in order to avoid such claims or actions, to substitute at its expense non-infringing materials, concepts, products, or processes, or to modify such infringing materials, concepts, products, or processes so they become non-infringing, or to obtain the necessary licenses to use the infringing materials, concepts, products, or processes, provided that such substituted or modified materials, concepts, products, or processes shall meet all the requirements and be subject to all the terms and conditions of this contract.

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22. **FINAL ACCEPTANCE**  Upon completion of all work under the contract, Professional Engineer shall notify the City of Nashua in writing of the date of the completion of the work and request confirmation of the completion from the City of Nashua. Upon receipt of the notice, the City of Nashua shall confirm to Professional Engineer in writing that the whole of the work was completed on the date indicated in the notice or provide Professional Engineer with a written list of work not completed. With respect to work listed by the City of Nashua as incomplete, Professional Engineer shall promptly complete the work and the final acceptance procedure shall be repeated. The date of final acceptance of a project by the City of Nashua shall be the date upon which the Board of Public Works or other designated official accepts and approves the notice of completion.

23. **TAXES**  Professional Engineer shall pay all taxes, levies, duties, and assessments of every nature due in connection with any work performed under the contract and make any and all payroll deductions required by law. The contract sum and agreed variations to it shall include all taxes imposed by law. Professional Engineer hereby indemnifies and holds harmless the City of Nashua from any liability on account of any and all such taxes, levies, duties, assessments, and deductions.

24. **NON-WAIVER OF TERMS AND CONDITIONS**  None of the terms and conditions of this contract shall be considered waived by the City of Nashua. There shall be no waiver of any past or future default, breach, or modification of any of the terms and conditions of the contract unless expressly stipulated to by the City of Nashua in a written waiver.

25. **RIGHTS AND REMEDIES**  The duties and obligations imposed by the contract and the rights and remedies available under the contract shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

26. **PROHIBITED INTERESTS**  Professional Engineer shall not allow any officer or employee of the City of Nashua to have any indirect or direct interest in this contract or the proceeds of this contract. Professional Engineer warrants that no officer or employee of the City of Nashua has any direct or indirect interest, whether contractual, noncontractual, financial or otherwise, in this contract or in the business of Professional Engineer. If any such interest comes to the attention of Professional Engineer at any time, a full and complete disclosure of the interest shall be immediately made in writing to the City of Nashua. Professional Engineer also warrants that it presently has no interest and that it will not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this contract. Professional Engineer further warrants that no person having such an interest shall be employed in the performance of this contract. If City of Nashua determines that a conflict exists and was not disclosed to the City of Nashua, it may terminate the contract at will or for cause in accordance with paragraph 8.

In the event Professional Engineer (or any of its officers, partners, principals, or employees acting with its authority) is convicted of a crime involving a public official arising out or in connection with the procurement of work to be done or payments to be made under this contract, City of Nashua may terminate the contract at will or for cause in accordance with paragraph 8. Upon termination, Professional Engineer shall refund to the City of Nashua any profits realized under this contract, and Professional Engineer shall be liable to the City of Nashua for any costs incurred by the City of Nashua in completing the work described in this contract. At the discretion of the City of Nashua, these sanctions shall also be applicable to any such conviction obtained after the expiration or completion of the contract.

Professional Engineer warrants that no gratuities (including, but not limited to, entertainment or gifts) were offered or given by Professional Engineer to any officer or employee of the City of Nashua with a view toward securing a contract or securing favorable treatment with respect to the

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awarding or amending or making of any determinations with respect to the performance of this contract. If City of Nashua determines that such gratuities were or offered or given, it may terminate the contract at will or for cause in accordance with paragraph 8.

The rights and remedies of this section shall in no way be considered for be construed as a waiver of any other rights or remedies available to the City of Nashua under this contract or at law.

27. THIRD PARTY INTERESTS AND LIABILITIES The City of Nashua and Professional Engineer, including any of their respective agents or employees, shall not be liable to third parties for any act or omission of the other party. This contract is not intended to create any rights, powers, or interest in any third party and this agreement is entered into for the exclusive benefit of the City of Nashua and Professional Engineer.

28. SURVIVAL OF RIGHTS AND OBLIGATIONS The rights and obligations of the parties that by their nature survive termination or completion of this contract shall remain in full force and effect.

29. SEVERABILITY In the event that any provision of this contract is rendered invalid or unenforceable by any valid act of Congress or of the New Hampshire legislature or any court of competent jurisdiction, or is found to be in violation of state statutes or regulations, the invalidity or unenforceability of any particular provision of this contract shall not affect any other provision, the contract shall be construed as if such invalid or unenforceable provisions were omitted, and the parties may renegotiate the invalid or unenforceable provisions for sole purpose of rectifying the invalidity or unenforceability.

30. MODIFICATION OF CONTRACT AND ENTIRE AGREEMENT This contract constitutes the entire contract between the City of Nashua and Professional Engineer. The parties shall not be bound by or be liable for any statement, representation, promise, inducement, or understanding of any kind or nature not set forth in this contract. No changes, amendments, or modifications of any terms or conditions of the contract shall be valid unless reduced to writing and signed by both parties.

31. CHOICE OF LAW AND VENUE This contract shall be governed exclusively by the laws of the State of New Hampshire and any claim or action brought relating to this contract, the work performed or contracted to be performed thereunder, or referable in anyway thereto shall be brought in Hillsborough County (New Hampshire) Superior Court Southern Judicial District or in the New Hampshire 9th Circuit Court—Nashua and not elsewhere.
February 12, 2019

Ms. Lisa Fauteux
Director of Public Works
9 Riverside Street
Nashua, NH 03062

Dear Ms. Fauteux:

Hayner/Swanson, Inc. (HSI) is pleased to submit this proposal to provide professional services in support of the City of Nashua’s paving program. Consistent with the services we have provided in an earlier contract, this work will be performed as an extension of the City Engineering Department.

We note that in total the paving program for 2019 is significantly greater than past years. With separate contracts to pave arterial roadways and local roadways, as well as a significant portion of the federally funded paving contract remaining to be completed, the construction administration effort will be greater as well.

The term of this proposed contract will be from March 15, 2019 through December 1, 2019. It is anticipated that the extent to which support will be needed during winter 2019/2020 will be assessed in November 2019.

In this highly integrated effort, coordination and construction administration will be staffed by both City staff and HSI personnel.

We understand that the services to be provided on the paving program will be varied and will include management, administration and construction observation. At times, we will be directly responsible for tasks. At other times, we will work in direct support of City staff. Our commitment to flexibility and to consistent and clear communication with the City will continue to be a key element in this program.

We understand that our responsibilities may be adjusted by the City based upon the specific needs and workload of the City staff. We anticipate that tasks which we may be called upon to undertake include:
• Overall coordination related to programming and scheduling project work
• Coordination with Stantec as they work to update their pavement condition database
• Coordination with privately owned utilities in advance of and during construction
• Review of existing conditions to identify issues such as existing driveway or walk puddles, and utility concerns
• Assistance during construction start-up including kick-off meetings and establishment of working and reporting practices with contractors
• Construction observation including measuring and tracking quantities, as well as preparation of comprehensive daily reports
• Supervision of the construction observation effort, whether performed by HSI or by City staff
• Compilation of project records
• Administration and support of construction contract closeout process
• Additional oversight, recordkeeping and coordination with NHDOT/FHWA as required for the Federally funded contract

In performing these services, we understand that our efforts will always be as directed by the City Engineer. At times, we may perform services which the City’s standard General Conditions for construction contracts assign to the “Engineer”. We note that performing these duties will not bestow upon us the role and responsibilities of “Engineer” as may be defined in contracts with construction contractors.

HSI will not be given the authority to stop the Contractor’s work, nor to order the Contractor to perform work beyond contract limits. If so directed by the City Engineer, we will deliver such orders on the Engineer’s behalf.

On occasions when City staff may be working under the direct supervision of HSI, we understand that the City staff will perform work with a standard of care equal to or exceeding the standard we require of our own staff. City staff working under our supervision on construction sites will be expected to always wear appropriate safety equipment and maintain detailed records.

We understand that it is the City’s desire to establish a budget for HSI’s services which will be performed as directed by the City Engineer. On a monthly basis, we will prepare a report on the status of our overall budget and submit the report with our invoice. We anticipate that as work progresses, the specific tasks we work on will vary dependent upon the workload of City staff, as well as the budget remaining for our support.

We anticipate that our work will fall under four categories:

1. Principal Level: Work under this category will be administrative and supervisory support. We anticipate that these services will primarily be provided by John Vancor, P.E. and Paul Hayner, P.E.
2. **Engineering and Construction Manager:** Work under this category will include utility coordination, review of technical concerns, review of payment requisitions, resolution of disputes and preparation of possible change order documentation, preparation of bid documents and contract coordination with contractors. We anticipate that these services will primarily be provided by Scott Murphy, P.E. and Ray Gelines.

3. **Construction Observation and Technical Support:** Work under this category will include field and office work directly associated with construction observation, as well as plan preparation. We will assign Ethan Holmes and Denis Hayner to the field effort and will supplement Ethan and Denis’s services with other staff as workload demands.

4. **Administrative Support:** Work under this category includes administrative efforts including compilation of records and preparation of documents. This work will be performed by Karen Blake.

As a basis for establishing the budget for the 2019 construction season, we have estimated an annual work effort by each category.

**Principal Level**

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<thead>
<tr>
<th>Description</th>
<th>Hours/Week</th>
<th>Total Hours</th>
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<tbody>
<tr>
<td>Estimate 12 hours/week for 37 weeks</td>
<td>=</td>
<td>444 hours</td>
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<tr>
<td>444 hours x $170/hour</td>
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<td>$75,480</td>
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**Engineering and Construction Manager**

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<th>Hours/Week</th>
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<td>Estimate 15 hours/week for 37 weeks</td>
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<td>350 hours x $130/hour</td>
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*Composite rate used

**Construction Observation Support/Coordination**

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<tr>
<td>Estimate 100 hours/week for 33 weeks</td>
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<td>3,300 hours</td>
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<tr>
<td>Estimate 40 hours/week for 4 weeks</td>
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<td>3,460 hours x $90/hour</td>
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*Composite rate used

**Administrative Support**

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<th>Total Hours</th>
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<td>Estimate 1 hours/week for 37 weeks</td>
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<tr>
<td>37 hours x $65/hour</td>
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<td>$2,405</td>
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</table>

**Total Labor Budget**

= $461,435

**Allowance for Expenses**

= $1,000

(including possible material testing)

**Program Budget**

= $462,435

We understand that the actual work performed will be as directed and that the split of work between categories may vary significantly. We also understand that actual work performed will be only as directed and may be less than the budget presented.
We propose to provide the services described herein in accordance with the same terms and conditions used in our current contract to provide similar services.

If you have any questions or comments regarding this proposal, please contact me.

APPROVED BY:

________________________________________
Mayor

John C. Vancor, P.E.