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www.gza.com



June 15, 2020
File No. 15.0166597.03

City of Nashua
Zoning Board of Adjustment
Attn: Jean-Paul G. Boucher, Chairman
229 Main Street
PO Box 2019
Nashua, New Hampshire 03060

Re: Special Exception Application
Liberty Utilities
Site Grading, Paving, and Impermeable Cap Project
25 Van Buren Street & 38 Bridge Street, Nashua, New Hampshire

Dear Chair Boucher:

This letter transmits a Special Exception Application and associated fees totaling \$345.00 for a proposed Site Grading, Paving, and Impermeable Cap Project located at 25 Van Buren Street and 38 Bridge Street in Nashua, New Hampshire; Tax Map 41, Lot 11, and Tax Map 39, Lot 26, respectively (i.e., the Site; see attached **Figure 1 – Site Locus**). On behalf of the Site Owner, Liberty Utilities (Liberty), GZA GeoEnvironmental, Inc. (GZA) is requesting consideration of a Special Exception for work within the 75-ft prime wetland buffer of the Nashua River for:

- installation of a proposed impermeable cap in an area of the Site, as required by the New Hampshire Department of Environmental Services; and
- improvements to the Site's stormwater management system.

The project also entails regrading, repaving, and expansion of the Site's existing parking lot, but this work is proposed outside the 75-ft prime wetland buffer of the Nashua River.

The Site was formerly used as a manufactured gas plant (MGP) between the 1850s and 1950s and is currently used by Liberty for storage and distribution of natural gas and propane. The Site is zoned as "General Industrial" and includes an office building and warehouse, each with associated parking, as well as numerous storage tanks, storage bays, pipes, and associated infrastructure. The Site is bounded to the north by the Nashua River, to the east by Boston & Maine Corporation railroad, to the south by residential properties and Bridge Street, and to the west by a Public Service Company of NH electrical substation. The developed portion of the Site totals approximately 207,000 square feet (sq ft), and is separated from the Nashua River by a vegetated buffer strip totaling approximately 29,540 sq ft.



GZA delineated Site wetlands in April 2018 in accordance with 1987 *Corps of Engineers Wetlands Delineation Manual*¹ and using the *Routine Determination Method* in conjunction with the *Regional Supplement*² to the Corps of Engineers Wetland Delineation Manual, the National Plant List: 2016 wetlands rakings³, *Field Indicators of Hydric Soils in the United States Version 8*,⁴ and *Field Indicators for Identifying Hydric Soils in New England*.⁵ Observed wetlands were classified in accordance with the *Classification of Wetlands and Deepwater Habitats of the United States*.⁶ One wetland system, the Nashua River, was identified primarily adjacent to the Site. GZA completed a wetland function-value assessment of the Nashua River using the *Highway Methodology Workbook Supplement*⁷. GZA assessed 13 functions and values including groundwater recharge/discharge, floodflow alteration, fish and shellfish habitat, sediment/toxicant retention, nutrient removal, production export, sediment/shoreline stabilization, wildlife habitat, recreation, educational/scientific value, uniqueness/heritage, visual quality/aesthetics and endangered species habitat.

The northeasterly portion of the developed Site is located within the 75-ft prime wetland buffer of the Nashua River and is composed of compacted sand and gravel (See attached **Figure 2 – Wetlands Overlay**). The project proposes the installation of an impermeable cap consisting of heavy duty asphalt pavement over the compacted sand and gravel portion of the Site within the wetland buffer referenced above. The impermeable cap is required by the New Hampshire Department of Environmental Services (NHDES) as part of an approved Remedial Action Plan to cover former Gas Holder #1 and Gas Holder #2 and thus eliminate potential human exposure (inhalation, ingestion, direct contact) to surface soils that may contain asbestos-containing materials and manufacturing gas plant residuals as a result of the former gas holder structures (see attached **Drawing Set entitled "Site Grading, Paving, and Impervious Cap – Liberty Utilities, 38 Bridge Street, Nashua, NH"**).

Proposed work within the 75-ft wetland buffer totals approximately 9,825 sq. ft., of which approximately 4,085 sq. ft. represents site alteration for the proposed impermeable cap. The remaining 5,740 sq. ft. of proposed work in the buffer zone is for the installation of storm drains, manholes, and catch basins related to improvements to the Site's stormwater management system (see attached **Figure 2**). The entire area of proposed work within the buffer is previously developed. There are no proposed impacts to the vegetated buffer strip, and the project does not propose clearing of vegetation.

In accordance with Article 11, Section 190-115 of the Nashua Land Use Code, a Wetlands Application Special Exception may be issued by the Zoning Board of Adjustment for activity proposed within a wetland or wetland buffer provided that all of the following conditions are met:

1. ***That the use or activity proposed and its attendant impacts cannot reasonably be avoided.*** The project proposes to install an asphalt pavement cap over former Gas Holder #1 and #2 in the northeasterly portion

¹ U.S. Army Corps of Engineers, Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

² U.S. Army Corps of Engineers, 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, C.V. Noble and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, Mississippi; U.S. Army Engineer Research and Development Center.

³ Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Plant List: 2016 wetland rakings*. Phytoneuron 2016-30: 1-17.

⁴ United States Department of Agriculture, Natural Resource Conservation Service, 2016. *Field Indicators of Hydric Soils in the United States*, Version 8. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

⁵ New England Hydric Soils Technical Committee. 2017 Version 4. *Field Indicators for Identifying Hydric Soils in New England*, New England Interstate Water Pollution Control Commission, Lowell, Massachusetts.

⁶ Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31. U.S. Department of the Interior, Fish and Wildlife Service.

⁷ U.S. Army Corps of Engineers. 1999. *Wetlands Functions and Values: A Descriptive Approach*. USACO New England Division, BAEEP-360-1-30a.



of the Site. The proposed work area overlaps a small portion of the Nashua River 75-ft prime wetland buffer. The cap is required by NHDES as part of an approved Remedial Action Plan to address contamination in groundwater and surface water and to eliminate potential human exposure to surface soils that may contain asbestos containing materials and manufacturing gas plant residuals as a result of the former gas holders. The cap is proposed in an existing impervious and developed portion of the Site, and does not propose clearing of vegetation or land conversion. In addition, the proposed cap area has been limited to the area required in the Remedial Action Plan and does not propose any additional work than is necessary within the wetland buffer. Therefore, the proposed activity and impact to the wetland buffer cannot be avoided and is necessary per the approved Remedial Action Plan.

2. ***That the least damaging route and methodology have been selected, and that which is being proposed is the best practicable alternative available.*** As previously mentioned, proposed work within the wetland buffer is limited to what is necessary and required per the Remedial Action Plan approved by NHDES. Therefore, impacts to the wetland buffer have been minimized to the greatest extent practicable. In addition, the project proposes to improve the Site's stormwater management system by accepting and conveying runoff from proposed new bituminous concrete pavement areas to a new catch basin system connected to an oil/grit separator, then to a subsurface infiltration system which will improve the quality of stormwater runoff leaving the site. Where feasible, the subsurface infiltration system will have a high-level overflow connection to existing stormwater management infrastructure. Lastly, the proposed new concrete area within the wetland buffer is proposed to address potential stormwater contamination from former Gas Holder #1 and #2. Therefore, the proposed project is the best practicable alternative available.
3. ***That reasonable and acceptable impact mitigation measures have been incorporated where necessary and appropriate to minimize wetland loss or degradation.*** The proposed project does not result in wetland loss or degradation. The project does not include wetland impacts and includes stormwater improvements which ultimately serve to improve water quality of the Nashua River. The proposed work area is an existing developed portion of the Site, and the project does not propose an increase of impervious surface within the wetland buffer. In addition, the proposed cap is an approved remedial action which will serve to eliminate the potential for human exposure to surface soils that may contain asbestos containing materials and manufacturing gas plant residuals at the Site
4. ***That the overall impact of encroaching into wetland or buffer areas is necessary for the productive use of adjoining buildable land and, as such non-encroachment, is outweighed by the benefits thereby derived.*** The proposed alteration within the wetland buffer is an existing developed portion of the Site, and does not propose additional land conversion or further encroachment into vegetated portions of the wetland buffer. The proposed project is necessary to prevent stormwater contamination by expanding the existing pavement area over the former Gas Holder #1 and #2 to act as an impervious cap. The proposed area to be paved currently consists of impervious compacted sand and gravel. There are no proposed alterations to natural wetland buffer.
5. ***That no significant impact on the habitat of rare or endangered species or exemplary communities, as listed by the State of New Hampshire or federal government, will result.*** As part of the proposed project, a New Hampshire Natural Heritage Bureau (NHNHB) Data Check was submitted for the proposed project area. The NHNHB determined that although there was an NHB record present in the vicinity, it was not expected that it would be impacted by the proposed project. Therefore, the project does not propose impacts to the habitat of rare or endangered species or exemplary communities.



6. ***That the best available adequate erosion and sedimentation control methods are incorporated.*** Erosion and sedimentation controls are proposed as part of the proposed project. Best management practices will be followed in accordance with "NHDOT Guidelines for Temporary Erosion and Sediment Control and Stormwater Management" NHDOT, May 2002, consistent with the New Hampshire Storm Water Manual. Erosion controls including silt fence will be installed prior to the start of work to prevent sedimentation into the Nashua River. Temporarily disturbed areas will be stabilized using seed and straw mulch, and monitored for continued stabilization.
7. ***That the proposed activity or use shall not significantly impair wetland capacity to provide important wildlife and fishery functions, including habitat, food, shelter, breeding, migratory and over-wintering.*** The Site does not contain any wetland systems; however, the Nashua River borders the northern edge of the Site and the 75-foot buffer to the river overlaps the Site boundary. The section of the river is classified as a riverine, lower perennial system with an unconsolidated bottom (R2UB). The tree layer along the river bank includes silver maple (*Acer saccharinum*), black oak (*Quercus velutina*), and American elm (*Ulmus americana*). The shrub/sapling layer includes honeysuckle (*Lonicera* spp.), box elder (*Acer negundo*), black cherry (*Prunus serotina*), and honey locust (*Gleditsia triacanthos*). Plants within the herbaceous layer include oriental bittersweet (*Celastrus orbiculatus*), Japanese knotweed (*Fallopia japonica*), and poison ivy (*Toxicodendron radicans*). The bordering portion of the Nashua River provides floodflow alteration, fish/shellfish habitat, production export, sediment/shoreline stabilization, wildlife habitat, and uniqueness heritage as principal functions. The wetland also provides groundwater discharge, sediment/toxicant retention and nutrient removal as capable functions. The Nashua River is a designated prime wetland. Since the proposed project is located within an existing developed footprint, and does not increase impervious surface or include wetland impacts, the project does not propose to impair/alter the current functions and values of the wetland system. The project includes stormwater improvements, which ultimately serve to detain stormwater and improve water quality, which is beneficial to wildlife, fish habitat, and floodflow alteration wetland functions.
8. ***That the project shall not impair the stability of a water body's bank.*** The proposed project is located within an existing impervious and developed portion of the Site, and does not include bank impacts. The installation of an impervious cap over the proposed project work area will not impair or affect the stability of the Nashua River's bank.

In addition, in accordance with Article 11, Section 190-115, uses adjacent to wetlands or buffer areas must comply with the following performance standards;

1. ***That no significant impact on the habitat of rare or endangered species or exemplary communities, as listed by the State of New Hampshire or the Federal government, will result.*** As part of the proposed project, a New Hampshire Natural Heritage Bureau (NHNHB) Data Check was submitted for the proposed project area. The NHNHB determined that although there was an NHB record present in the vicinity, it was not expected that it would be impacted by the proposed project. Therefore, the project does not include impacts to habitats of rare or endangered species or exemplary communities.
2. ***That the filtration of stormwater runoff is adequately provided for and controlled both during and after construction.*** During construction, all catch basins or other drain inlets which may receive stormwater from disturbed areas shall be provided with suitable inlet protection. In addition, the project proposes to improve Site stormwater management by installing new catch basins which will be piped to an oil/grit separator, and then to a subsurface infiltration system. This will ultimately improve the stormwater quality at the Site.



3. ***That the topography and required regrading of the subject property accounts for and adequately reflects the proximity of a nearby wetland area.*** The project proposes to improve stormwater management by conveying a portion of the Site's stormwater runoff to a subsurface infiltration system, treating it for water quality before infiltrating to groundwater. Therefore, the design of the stormwater management on Site avoids a direct discharge of stormwater to the Nashua River and initially routes stormwater away from the river to an improved stormwater management system.
4. ***All landscaping requirements and maintenance regiments for a project will ensure that fertilizer and chemical runoff shall not enter the wetland.*** The proposed project does not include landscaping maintenance as the proposed project is located entirely within an existing developed area that is predominantly paved and graveled.
5. ***For any wetland area utilized for water runoff, the applicant shall demonstrate that excess flow on wetlands shall not cause excessive ponding and retention, thereby causing environmental damage to existing flora and fauna.*** The project does not propose utilization of a wetland system primarily for stormwater runoff. The proposed stormwater management system includes a subsurface infiltration system with a high-level overflow connection to existing stormwater management infrastructure. The overflow connection would be utilized if a 50-year storm event were to occur. If overflow were to occur during such a storm event, the overflow spillway is located in uplands over approximately 200-feet from the Nashua River wetland system. It is not anticipated that excess flow will cause excessive ponding and retention or damage to existing flora and fauna.
6. ***Where land is proposed to be subdivided, the applicant shall demonstrate that there is adequate non-wetland area to contain all proposed uses, structures, and utilities in accordance with these regulations.*** The project does not propose to subdivide the property.

Please feel free to contact us with any questions.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Steven T. D'Ambrosio
Project Manager

Thomas E. Jenkins
Consultant/Reviewer

John C. Murphy, CCM, CHMM
Principal-in-Charge

STD/JCM/TEJ

p:\15\jobs\15.0166597.03 liberty utilities permitting\special exception zba\final 15 0166597 03 liberty utilities special exception 06152020.docx

Attachments: Nashua Special Exception Application Form
Photo Log
List of Abutters



June 15, 2020
15.0166597.03

Liberty Utilities Site Grading, Paving, and Impermeable Cap Project
Page | 6

Natural Heritage Bureau Report #NHB20-0347

Wetland Function and Value Assessment Form

Figure 1 – Site Locus

Figure 2 – Wetlands Overlay

Figure 3 – Wildlife Action Plan Overlay

Figure 4 – National Wetland Inventory Overlay

Figure 5 – Conservation Land Overlay

Drawing Set entitled "Site Grading, Paving, and Impervious Cap, Liberty Utilities, 38 Bridge Street, Nashua, NH," dated February 27, 2020, Revised June 9, 2020

Application Fee



City of Nashua
Planning Department
 229 Main Street
 Nashua, New Hampshire 03061-2019

Planning & Zoning 589-3090
 WEB www.nashuanh.gov

7

SPECIAL EXCEPTION APPLICATION (ZBA)

PLEASE NOTE: INCOMPLETE OR ILLEGIBLE APPLICATIONS WILL BE RETURNED TO APPLICANT.

This application must be completed and submitted to the Planning Department no later than the dates listed on the Zoning Board of Adjustment (ZBA) schedule sheet. Please print clearly or type.

1. SPECIAL EXCEPTION INFORMATION

a. ADDRESS OF REQUEST
 Zoning District Sheet Lot

b. SPECIAL EXCEPTION(S) REQUESTED:

The project proposes to install an impermeable cap as required by an approved NH Department of Environmental Services remedial action plan. Additionally, the project proposes to regrade, repave, and expand the Site's existing parking lot, and improve the Site's stormwater management system. The installation of the impermeable cap and associated stormwater management system improvements require impact within the 75-ft buffer of the Nashua River.

2. GENERAL INFORMATION

a. **APPLICANT / OPTIONEE** (List both individual name and corporate name if applicable)

(Print Name):
 Applicant's signature Digitally signed by DDorn
 DN: cn=DDorn, o, ou,
 email=douglas.dorn@libertyutilities.com Date: 2020.06.15 09:25:03 -04'00'
 Applicant's address
 Telephone number H: C: E-mail:

b. **PROPERTY OWNER (Print Name):**

*Owner's signature _____ Date
 Owner's address
 Telephone number H: C: E-mail:

*Agents and/or option holders must supply written authorization to submit on behalf of owner(s).

OFFICE USE ONLY Date Received _____ Date of hearing 7/14/20 Application checked for completeness: _____

PLR# A20-0056 Board Action _____

\$ _____ application fee Date Paid _____ Receipt # _____

\$ _____ signage fee Date Paid _____ Receipt # _____

\$ _____ certified mailing fee Date Paid _____ Receipt # _____

Land Use Code Section(s) Requesting Variances From: _____

[Redacted Address]

3. PURPOSE OF REQUEST

Answer all questions below. Provide as much information as available to give the ZBA the necessary facts to review your case. Attach additional sheets if necessary. Please see "Procedures for Filing a Special Exception" for further information.

a. Describe the nature of your proposal. Please be specific.

The project proposes to install an impermeable cap as required by an approved NH Department of Environmental Services remedial action plan. Additionally, the project proposes to regrade, repave, and expand the Site's existing parking lot, and improve the Site's stormwater managemnet system. The installation of the impermeable cap and associated stormwater management system improvements require impact within the 75-ft buffer of the Nashua River.

b. Does your proposal involve the physical construction or expansion of a structure? Yes [] No [X]

If yes, describe how the size of the addition (and any existing structure) compares with the physical size of surrounding properties.

N/A

c. Do you anticipate the need for additional on-site parking space as a result of your proposal? Yes [] No [X]

If yes, approximately how many square feet of paved or designated parking space will be provide for both existing and proposed usage?

N/A

d. What effects would the requested use have upon surrounding traffic congestion and pedestrian safety?

The project does not propose an increase in the number of buildings on Site and does not anticipate an increase in the number of employees or vehicles entering or exiting the Site. Therefore, it is not anticipated that there will be effects upon surrounding traffic congestion and pedestrian safety as a result of the proposed project.

e. What measures will be taken (if any) to insure that your proposal will not impair the integrity or be out of character with the zoning district or immediate neighborhood?

The project proposes to expand pavement within an already exsiting and developed portion of the Site that is currently used for site operations. The project is not proposing to clear vegetation between the Site and the Nashua River. The proposed project will ehcnace the integrity of the Site and immediate neighborhood by installing the proposed impermeable cap as required by the NH Department of Environmental Services (see attached narrative for more detail).

4. SPECIAL EXCEPTION – ADDITIONAL QUESTIONS

Please answer all questions below that are applicable. Your answers to these questions will allow staff to better understand your request.

a. Total number of employees [38] Number of employees per shift [1st - 38; 2nd - 38; 3rd - 0 (unless called)]

b. Hours and days of operation [24 hours per day, 7 days per week.]

c. Number of daily and weekly visits to the premises by customers, clients, vendors, and solicitors [25-50 per week]

* vendors and contractors only

[Redacted Address]

d. Number of daily and weekly commercial deliveries to the premises

e. Number of parking spaces available

f. Describe your general business operations:

The Site is currently used by Liberty Utilities for storage and distribution of natural gas and propane. The Site is zoned as "General Industrial" and includes an office building and warehouse each with associated parking, as well as numerous storage tanks, storage bays, pipes, and associated infrastructure.
Outside the 75-ft Nashua River wetland buffer, the project proposes to expand the existing paved parking lot west of the existing warehouse in the western portion of the Site to accommodate Site operations and employee vehicle movements.

g. Describe any proposed site renovations, including, but not limited to – landscaping, lighting, pavement, structural changes, signage, access, and circulation:

Within the 75-ft Nashua River wetland buffer, the project proposes to install an impermeable cap consisting of heavy duty asphalt pavement over existing compacted gravel and soil areas as required by the NH Department of Environmental Services as part of an approved remedial action plan. Work will also include improvements to the Site's stormwater management system and improvements to paved portions of the property.

I hereby acknowledge that I have read this application and state that the above is correct and agree to comply with all the city ordinances and state laws regulating construction. I understand that only those point specifically mentioned are affected by action taken on this appeal.

DDorn

Digitally signed by DDorn
DN: cn=DDorn, o, ou,
email=douglas.dorn@libertyutilities.com,
c=US

Signature of Applicant

Date: 2020.06.15 09:25:34 -04'00'

Print Name

Date

Date

PHOTO LOG
Site Grading and Parking Lot Design Project
25 Van Buren Street and 38 Bridge Street, Nashua, New Hampshire

Photos Taken: February 4, 2020



Photograph No. 3: Looking northerly towards above-ground storage tanks.



Photograph No. 4: Looking westerly behind above-ground storage tanks along the fence line near the Nashua River. The existing vegetated buffer to the river will be maintained as part of the project.

PHOTO LOG
Site Grading and Parking Lot Design Project
25 Van Buren Street and 38 Bridge Street, Nashua, New Hampshire

Photos Taken: February 4, 2020



Photograph No. 1: Looking easterly across a portion of the Site to be re-paved, and the proposed area of remedial cap to the northeast.



Photograph No. 2: Looking northeasterly at the proposed remedial cap.

PHOTO LOG
Site Grading and Parking Lot Design Project
25 Van Buren Street and 38 Bridge Street, Nashua, New Hampshire

Photos Taken: February 4, 2020



Photograph No. 5: Looking northerly at Nashua River. The project is proposed stormwater improvements which will serve to protect the water quality of the river.



NEW HAMPSHIRE NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Lindsey White, GZA GeoEnvironmental
5 Commerce Park North
Suite 201
Bedford, NH 03110

From: NH Natural Heritage Bureau

Date: 2/11/2020 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau of request submitted 2/3/2020

NHB File ID: NHB20-0347

Applicant: Liberty Utilities

Location: Nashua
Tax Maps: 41-11

Project

Description: Proposed resurfacing of driveway, resurface paved parking areas at the Site, expand pavement west of existing warehouse, improve surface drainage and expand existing storm water management system.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 2/3/2020, and cannot be used for any other project.



MAP OF PROJECT BOUNDARIES FOR: **NHB20-0347**

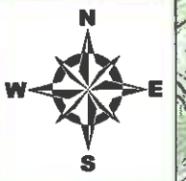
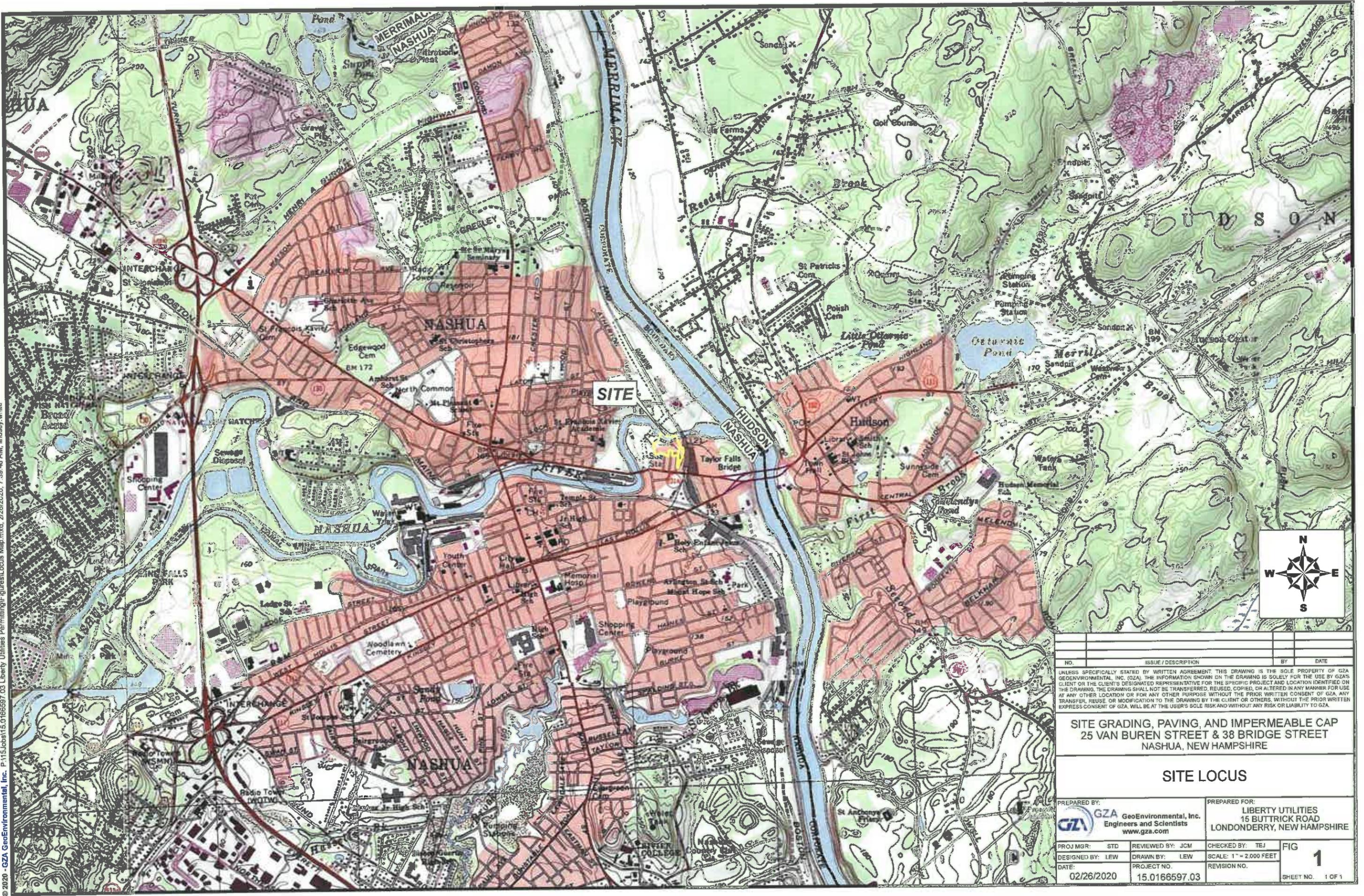
NHB20-0347





**LIBERTY UTILITIES SITE GRADING, PAVING, AND IMPERMEABLE
CAP PROJECT
NASHUA, NEW HAMPSHIRE**

File No: 15.0166597.03		WETLAND FUNCTION – VALUE EVALUATION FORM			Date: 4/30/2018, 2/4/2020, & 3/11/2020
Wetland ID: Nashua River – R2UB					GZA Personnel: Lindsey White and Tracy Tarr, CWS
Function/Value	Capability Y N	Rationale (Reference #)	Summary	Principal Yes/No	
Groundwater Recharge/Discharge	Y	1, 2, 7	Wetland hydrology of the Nashua River is supported by both surface flow and groundwater discharge. Aquifer transmissivity present in this wetland system.	Y	
Floodflow Alteration	Y	3, 4, 13, 14	The river outlets into the Merrimack River and directs and detains flows in a highly developed landscape.	Y	
Fish and Shellfish Habitat	Y	3, 4, 5, 6, 10, 11, 14, 17	Wetland is associated with the Nashua River. River spans over 100-feet. Nashua River outlets to the Merrimack River with no barriers.	Y	
Sediment/Toxicant Retention	Y	1, 2, 3, 5, 6, 8, 10	Wetland is a section of the Nashua River. The river receives sediments and toxicants from adjacent land uses. This section of the Nashua River is a flow through system and wetland retention at the Site is low. However, floodplain wetlands exist upstream that contribute to sediment/toxicant retention.		
Nutrient Removal	Y	1, 2, 3, 4, 5, 10, 12, 14	The Nashua River receives nutrients from surrounding uplands and vegetated areas upstream provide nutrient removal.		
Production Export	Y	1, 3, 6, 10	Export is occurring through stream flow and wildlife use in the wetland.	Y	
Sediment/Shoreline Stabilization	Y	2, 3, 4, 6, 9	Steep slope exists between uplands and Nashua River. Trees and shrubs on the bank provide shoreline stabilization.	Y	
Wildlife Habitat	Y	6, 8, 18	The river provides habitat for a diversity of riverine species and borders highest ranked habitat and supporting landscapes (see Wildlife Action Plan overlay).	Y	
Recreation	Y	2, 5, 9	The Nashua River provides a variety of recreational opportunities including fishing and boating. However, the river is not accessible from the Site.		
Educational/Scientific Value	N	5, 11, 9	Further upstream, the Nashua River borders a public park and a school system. There are no primary access locations from the Site.		
Uniqueness/Heritage	Y	1, 2, 8, 11, 14, 19, 28	The Nashua River is designated as a prime wetland in the City of Nashua and is within a quarter mile of the Merrimack River which is a NH State Designated River.	Y	
Visual Quality/Aesthetics	N	8	The Nashua River is a prime wetland in the City of Nashua. Upstream portions of the River cross through public parks. The Site itself does not have a primary viewing location and is not accessible to the general public.		
Endangered Species Habitat	Y	1 or 2	The NHB indicates that although records of rare species are known near the Site, it is not anticipated that rare species will be affected by the proposed project (see NHB memo dated NHB20-0347).		



NO.	ISSUE / DESCRIPTION	BY	DATE

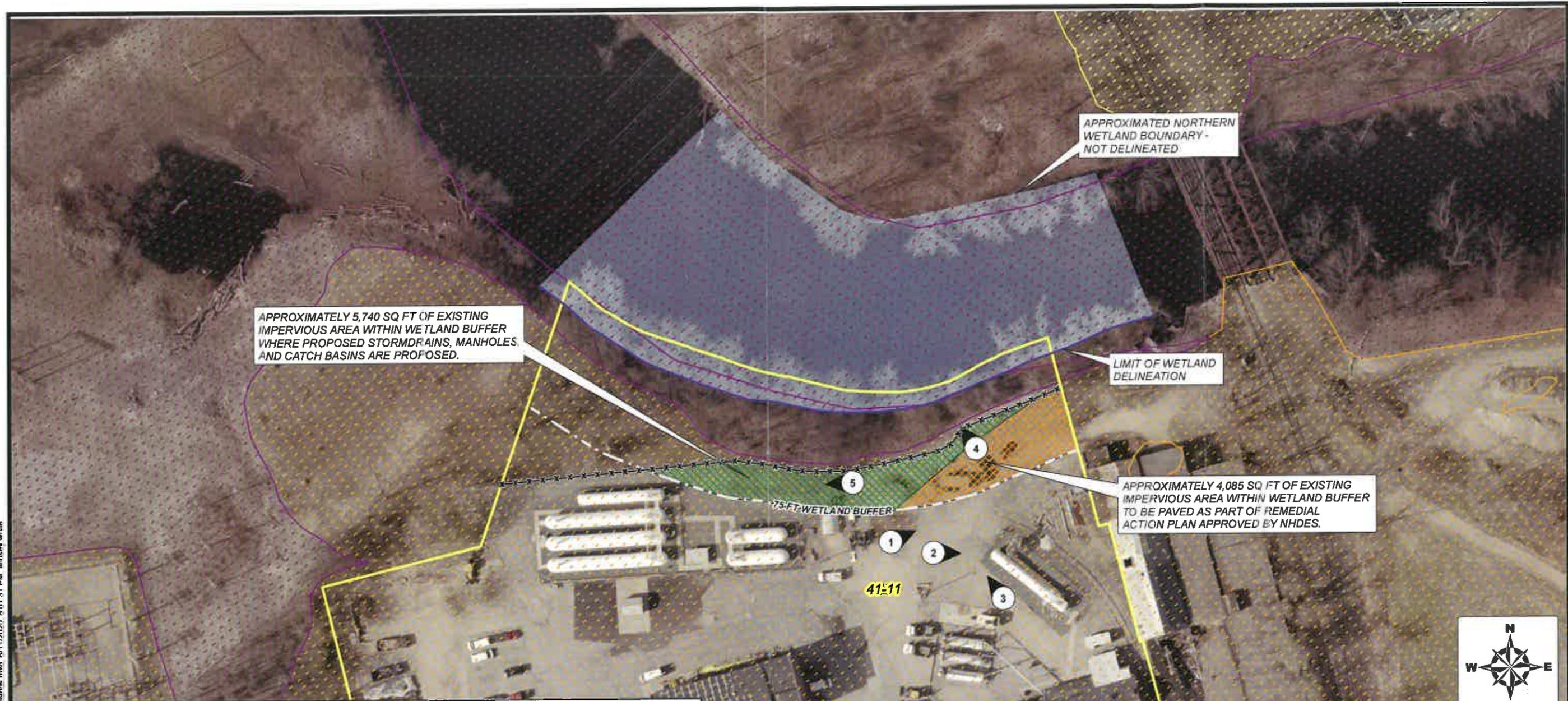
UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

**SITE GRADING, PAVING, AND IMPERMEABLE CAP
25 VAN BUREN STREET & 38 BRIDGE STREET
NASHUA, NEW HAMPSHIRE**

SITE LOCUS

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	PREPARED FOR: LIBERTY UTILITIES 15 BUTTRICK ROAD LONDONDERRY, NEW HAMPSHIRE		
PROJ MGR: STD	REVIEWED BY: JCM	CHECKED BY: TEJ	FIG
DESIGNED BY: LEW	DRAWN BY: LEW	SCALE: 1" = 2,000 FEET	1
DATE: 02/26/2020	PROJECT NO: 15.0166597.03	REVISION NO.	SHEET NO. 1 OF 1

© 2020 - GZA GeoEnvironmental, Inc. C:\Users\lindsay.white\Desktop\Liberty\Figures\Wetlands.mxd 6/11/2020 5:01:31 PM Lindsay White



Legend

- Existing Fence
- 75-Ft Prime Wetland Buffer Extent
- Extent of Wetland Delineation
- Wetland
- Site Boundary
- Additional Work Area
- New Asphalt Pavement

FLOOD ZONE

- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- AE ZONE - 1 PCT ANNUAL CHANCE FLOOD HAZARD
- X ZONE - PROTECTED BY LEVEE - MINIMAL FLOOD HAZARD

- Source**
1. Aerial Imagery was obtained from Esri online basemaps.
 2. Wetlands were delineated by GZA, GeoEnvironmental, Inc. in April 2018 in accordance with the 1987 Army Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, and in accordance with the Army Corps of Engineers 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0).
 3. "Site Boundary" and "Parcel Boundary" were obtained from NH Granit Clearinghouse.
 4. "Existing Fence" was approximated using aerial imagery.
 5. Flood Zone data was obtained from NH Granit Clearinghouse.



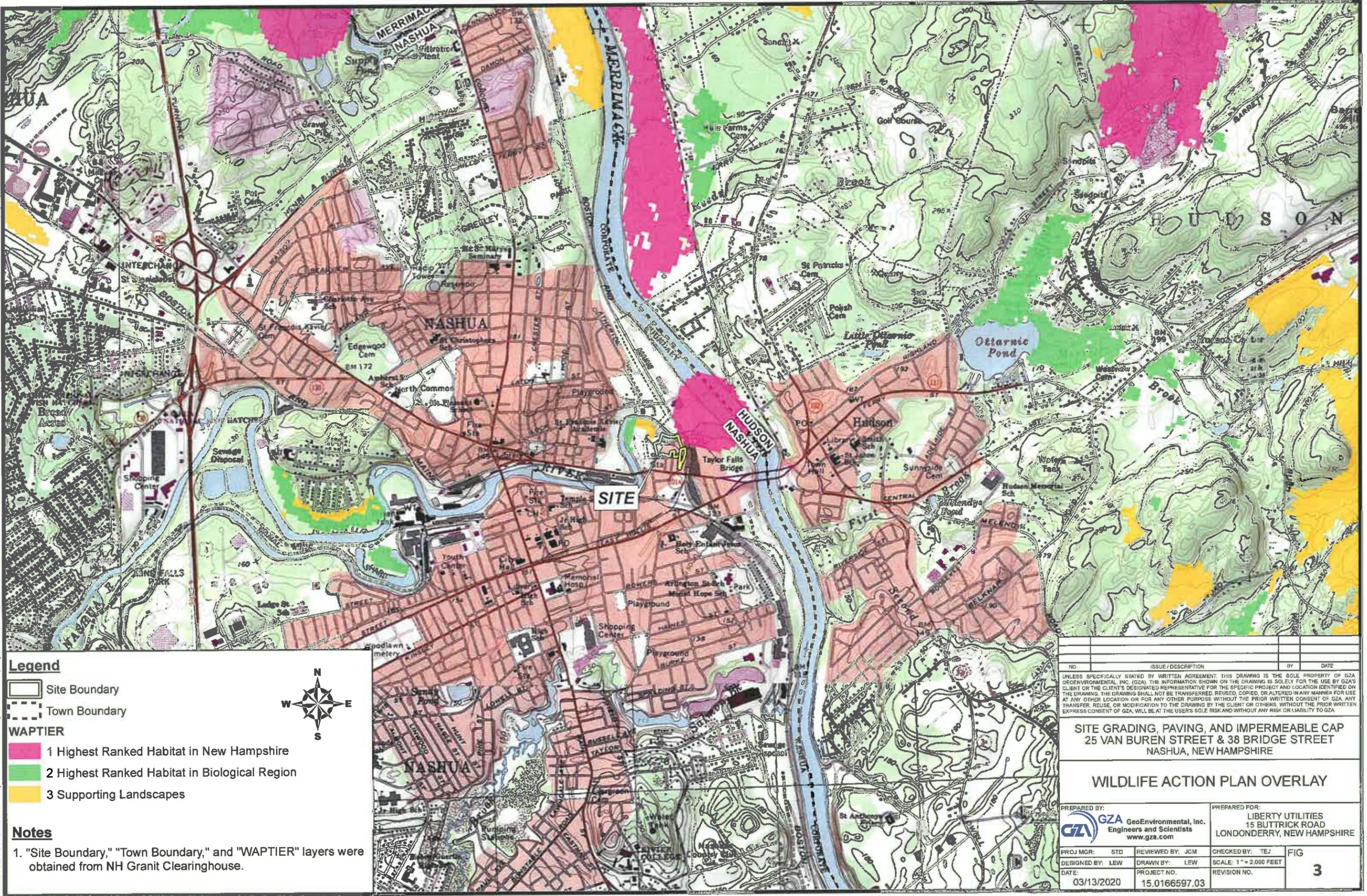
NO.	ISSUE / DESCRIPTION	BY	DATE

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SITE GRADING, PAVING, AND IMPERMEABLE CAP
25 VAN BUREN STREET & 38 BRIDGE STREET
NASHUA, NEW HAMPSHIRE

WETLAND OVERLAY

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	PREPARED FOR: LIBERTY UTILITIES 15 BUTTRICK ROAD LONDON DERRY, NEW HAMPSHIRE		
PROJ MGR: STD	REVIEWED BY: JCM	CHECKED BY: TEJ	FIG 2
DESIGNED BY: LEW	DRAWN BY: LEW	SCALE: 1" = 75 FEET	
DATE: 06/11/2020	PROJECT NO.: 15.0166597.03	REVISION NO.:	



Legend

-  Site Boundary
-  Town Boundary

WAPTIER

-  1 Highest Ranked Habitat in New Hampshire
-  2 Highest Ranked Habitat in Biological Region
-  3 Supporting Landscapes



Notes

1. "Site Boundary," "Town Boundary," and "WAPTIER" layers were obtained from NH Granit Clearinghouse.

NO	ISSUE / DESCRIPTION	BY	DATE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

**SITE GRADING, PAVING, AND IMPERMEABLE CAP
25 VAN BUREN STREET & 38 BRIDGE STREET
NASHUA, NEW HAMPSHIRE**

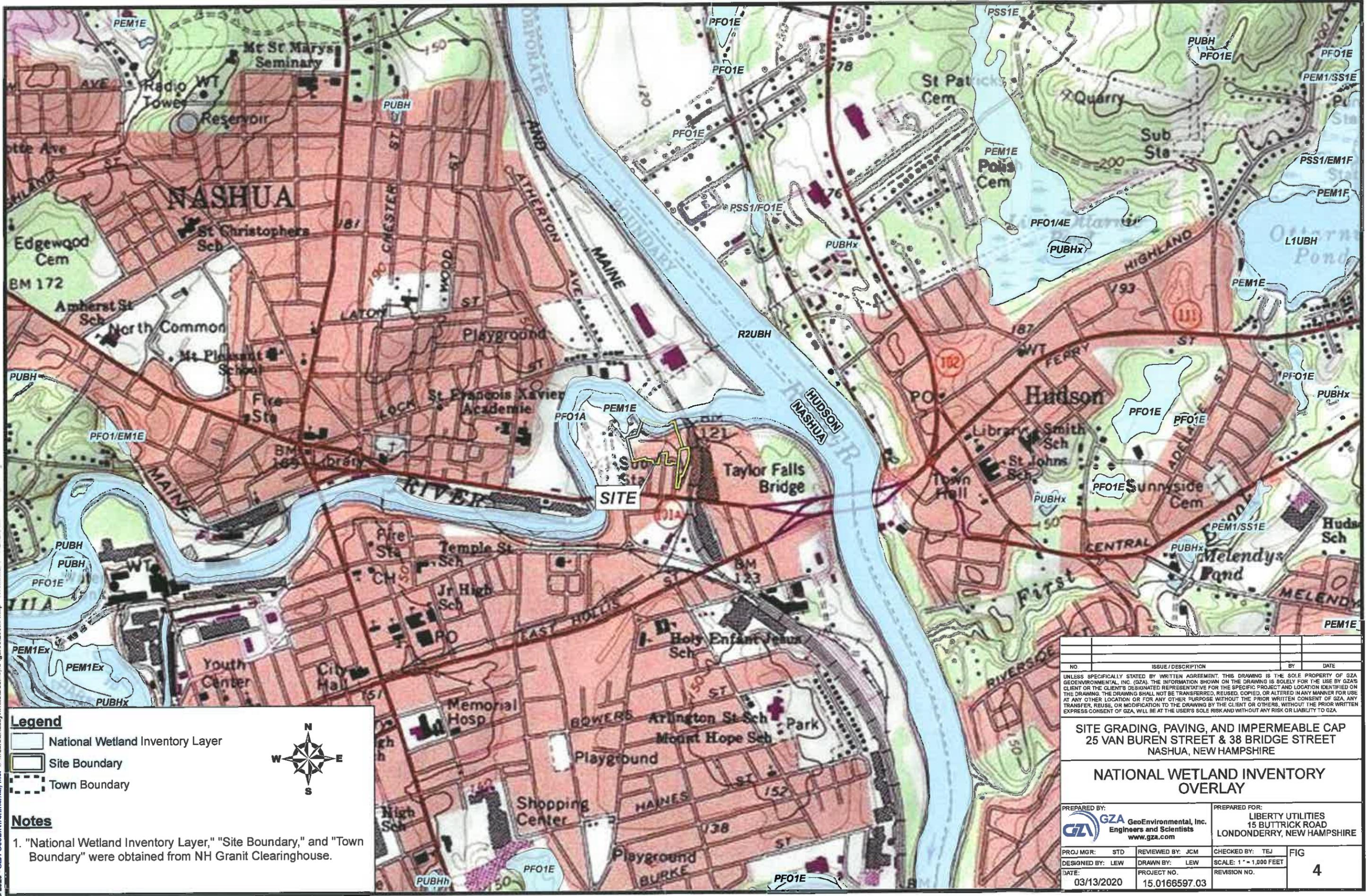
WILDLIFE ACTION PLAN OVERLAY

PREPARED BY:  **GZA** GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
**LIBERTY UTILITIES
15 BUTTRICK ROAD
LONDONDERRY, NEW HAMPSHIRE**

PROJ MGR: STD	REVIEWED BY: JCM	CHECKED BY: TEJ	FIG
DESIGNED BY: LEW	DRAWN BY: LEW	SCALE: 1" = 2,000 FEET	3
DATE: 03/13/2020	PROJECT NO: 15.0166597.03	REVISION NO:	

© 2020 - GZA GeoEnvironmental, Inc. C:\Users\lindsay.white\Desktop\Figures\Locust Map - NWI.mxd 3/13/2020 9:37:19 AM lindsay.white



- Legend**
- National Wetland Inventory Layer
 - Site Boundary
 - Town Boundary



Notes

1. "National Wetland Inventory Layer," "Site Boundary," and "Town Boundary" were obtained from NH Granit Clearinghouse.

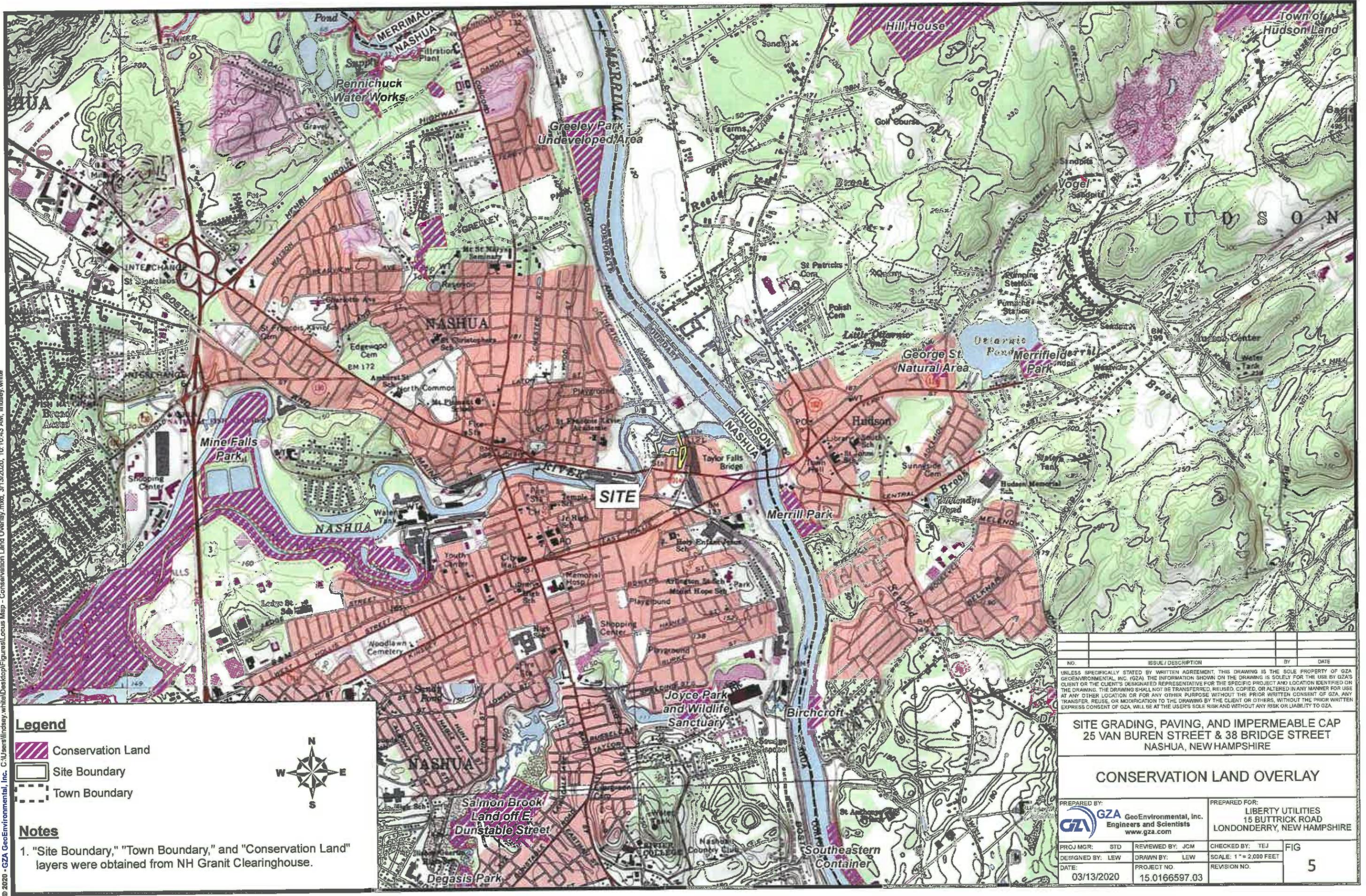
NO	ISSUE / DESCRIPTION	BY	DATE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

**SITE GRADING, PAVING, AND IMPERMEABLE CAP
25 VAN BUREN STREET & 38 BRIDGE STREET
NASHUA, NEW HAMPSHIRE**

**NATIONAL WETLAND INVENTORY
OVERLAY**

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	PREPARED FOR: LIBERTY UTILITIES 15 BUTTRICK ROAD LONDONDERRY, NEW HAMPSHIRE		
PROJ MGR: STD	REVIEWED BY: JCM	CHECKED BY: TEJ	FIG
DESIGNED BY: LEW	DRAWN BY: LEW	SCALE: 1" = 1,000 FEET	4
DATE: 03/13/2020	PROJECT NO: 15.0166597.03	REVISION NO.	



Legend

- Conservation Land
- Site Boundary
- Town Boundary



Notes

- "Site Boundary," "Town Boundary," and "Conservation Land" layers were obtained from NH Grant Clearinghouse.

NO.	ISSUE / DESCRIPTION	BY	DATE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

**SITE GRADING, PAVING, AND IMPERMEABLE CAP
25 VAN BUREN STREET & 38 BRIDGE STREET
NASHUA, NEW HAMPSHIRE**

CONSERVATION LAND OVERLAY

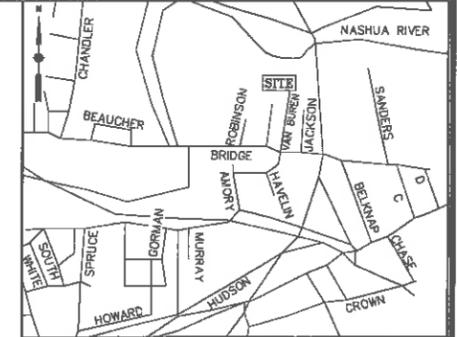
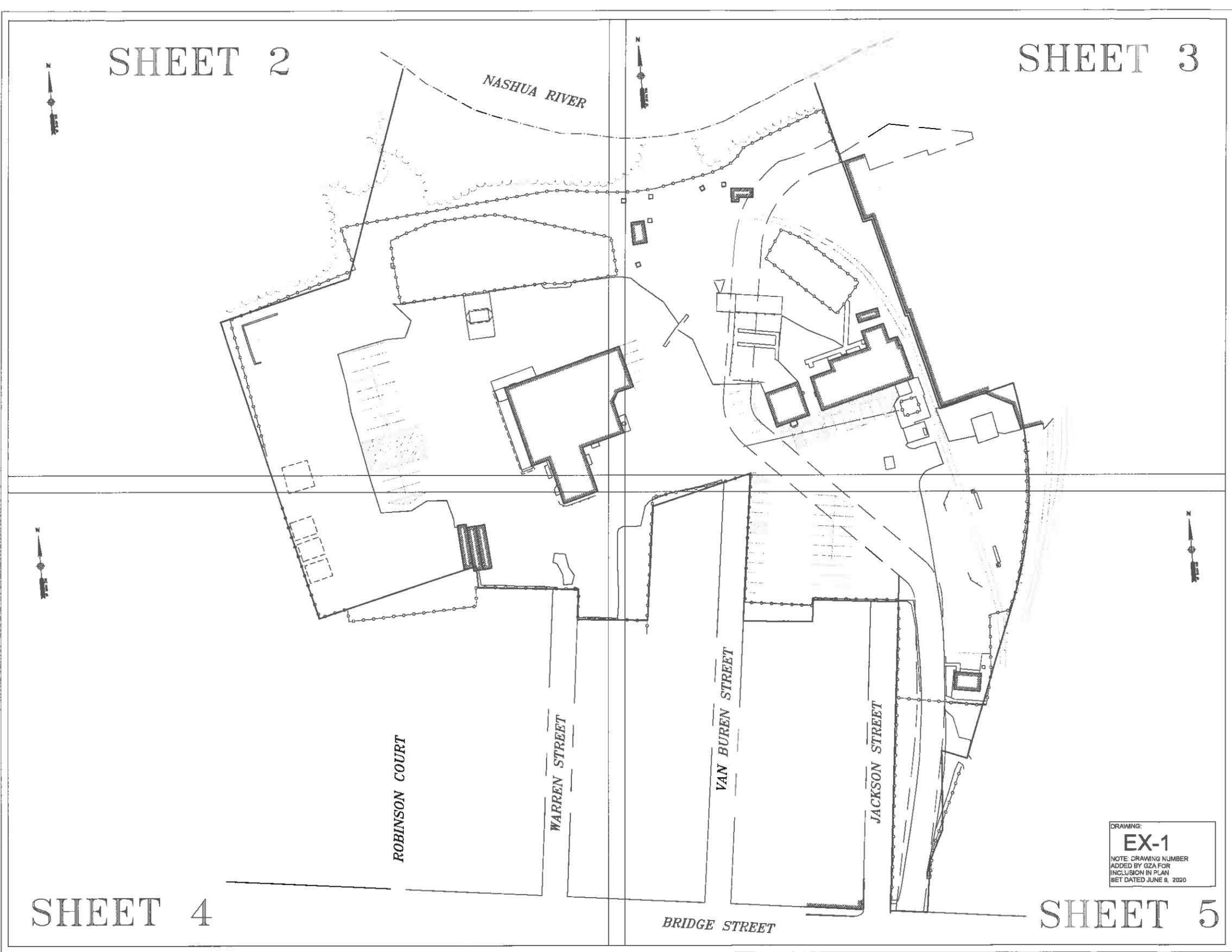
PREPARED BY:
GZA GeoEnvironmental, Inc.
 Engineers and Scientists
 www.gza.com

PREPARED FOR:
LIBERTY UTILITIES
 15 BUTTRICK ROAD
 LONDONDERRY, NEW HAMPSHIRE

PROJ MGR: STD	REVIEWED BY: JCM	CHECKED BY: TEJ	FIG
DESIGNED BY: LEW	DRAWN BY: LEW	SCALE: 1" = 2,000 FEET	5
DATE: 03/13/2020	PROJECT NO: 15.0166597.03	REVISION NO.	

SHEET 2

SHEET 3



LOCUS MAP (N.T.S.)

UTILITY STATEMENTS

THE LOCATION OF THE UTILITIES AS SHOWN HEREON HAVE BEEN COMPILED FROM VISIBLE STRUCTURES AND INFORMATION OBTAINED FROM VARIOUS SOURCES. THE ACTUAL LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES SHALL BE CONSIDERED APPROXIMATE AND SHALL BE VERIFIED BY THE OWNER PRIOR TO ANY CONSTRUCTION. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.

NOTES

1. THIS PLAN WAS PREPARED FROM AN ACTUAL ON THE GROUND FIELD SURVEY CONDUCTED BY WSP IN MAY 2018.
2. THE HORIZONTAL DATUM SHOWN HEREON REFERENCES THE NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM NAD83.
3. THE VERTICAL DATUM SHOWN HEREON REFERENCES NAVD83.
4. THE SURVEYED PROPERTY IS SUBJECT BUT NOT LIMITED TO THE INFORMATION SHOWN HEREON. ALL INFORMATION THAT MAY AFFECT THE QUALITY OF THE TITLE TO BOTH THE SUBJECT AND ADJOINING PARCELS SHOULD BE VERIFIED BY AN ACCURATE AND CURRENT TITLE REPORT. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT.
5. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON LABELED WITH AN (R) ARE FROM RECORD DOCUMENTS. ADDITIONAL FIELD INVESTIGATION WILL BE REQUIRED BY OTHERS TO DETERMINE THE ACTUAL PIPE SIZE(S) AND TYPE(S).
6. THE METFLAGS SHOWN HEREON WERE SET BY OTHERS AND FIELD LOCATED BY WSP DURING MAY OF 2018.

PLAN REFERENCES

1. PLAN ENTITLED "GAS SERVICE, INC., PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE", DATED JANUARY 1973, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 708B IN DRAWER 6.
2. PLAN ENTITLED "BRIDGE STREET SUBDIVISION AND CONSOLIDATION (LAND SWAP) OF LAND OF GAS SERVICE, INC.", DATED JULY 1987, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 21859 IN DRAWER 90.
3. SEWER EASEMENT PLANS FILED AT CITY OF NASHUA DEPARTMENT OF PUBLIC WORKS - SHEETS 2/38 & 3/38.
4. BOSTON AND MAINE RAILROAD VAL. MAP NUMBER V.21-1, FILED AT CITY OF NASHUA DEPARTMENT OF PUBLIC WORKS.
5. PLAN ENTITLED "GAS SERVICE COMPANY, INC., PLOT PLAN, NASHUA RIVER INTERCEPTOR - I, CITY OF NASHUA", DATED AUGUST 17, 1972, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 6179 IN DRAWER 26A, SHEET 39 OF 93.



DAVID PRINCE, L.L.S.
REG. NO. 977
WSP USA, Inc.
155 MAIN DUNSTABLE ROAD
NASHUA, NEW HAMPSHIRE
07/19/18

REVISION	DATE	DESCRIPTION

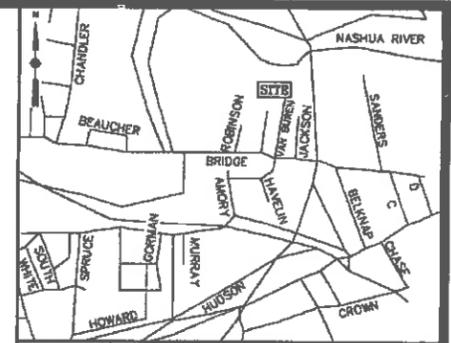
EXISTING CONDITIONS SURVEY
25 VAN BUREN STREET AND
38 BRIDGE STREET
NASHUA, NEW HAMPSHIRE
PREPARED FOR
GZA GEOENVIRONMENTAL, INC.

DRAWING:
EX-1
NOTE: DRAWING NUMBER
ADDED BY GZA FOR
INCLUSION IN PLAN
SET DATED JUNE 8, 2020

SHEET 4

SHEET 5

<p>WSP USA, Inc. 155 Main Dunstable Rd, Suite 120 & 125 Nashua, NH 03060 603.595.7900</p>	Drawn By	CG	Date	MAY 19, 2018	Job No.	190072B
	Surveyed By	TO - JT	Scale	1" = 40'	Sheet No.	1 OF 5
	Checked By	DPP	Book No.	N-255A		



LOCUS MAP (N.T.S.)

UTILITY STATEMENTS
 THE LOCATION OF THE UTILITIES AS SHOWN HEREON HAVE BEEN COMPILED FROM VISIBLE STRUCTURES AND INFORMATION OBTAINED FROM VARIOUS SOURCES. THE ACTUAL LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES SHALL BE CONSIDERED APPROXIMATE AND SHALL BE VERIFIED BY THE OWNER PRIOR TO ANY CONSTRUCTION. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICES OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.

NOTES
 1. THIS PLAN WAS PREPARED FROM AN ACTUAL ON THE GROUND FIELD SURVEY CONDUCTED BY WSP IN MAY 2018.
 2. THE HORIZONTAL DATUM SHOWN HEREON REFERENCES THE NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM MADE3.
 3. THE VERTICAL DATUM SHOWN HEREON REFERENCES NAVD83.
 4. THE SURVEYED PROPERTY IS SUBJECT BUT NOT LIMITED TO THE INFORMATION SHOWN HEREON. ALL INFORMATION THAT MAY AFFECT THE QUALITY OF THE TITLE TO BOTH THE SUBJECT AND ADJOINING PARCELS SHOULD BE VERIFIED BY AN ACCURATE AND CURRENT TITLE REPORT. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT.
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 6. THE NETLAGS SHOWN HEREON WERE SET BY OTHERS AND FIELD LOCATED BY WSP DURING MAY OF 2018.

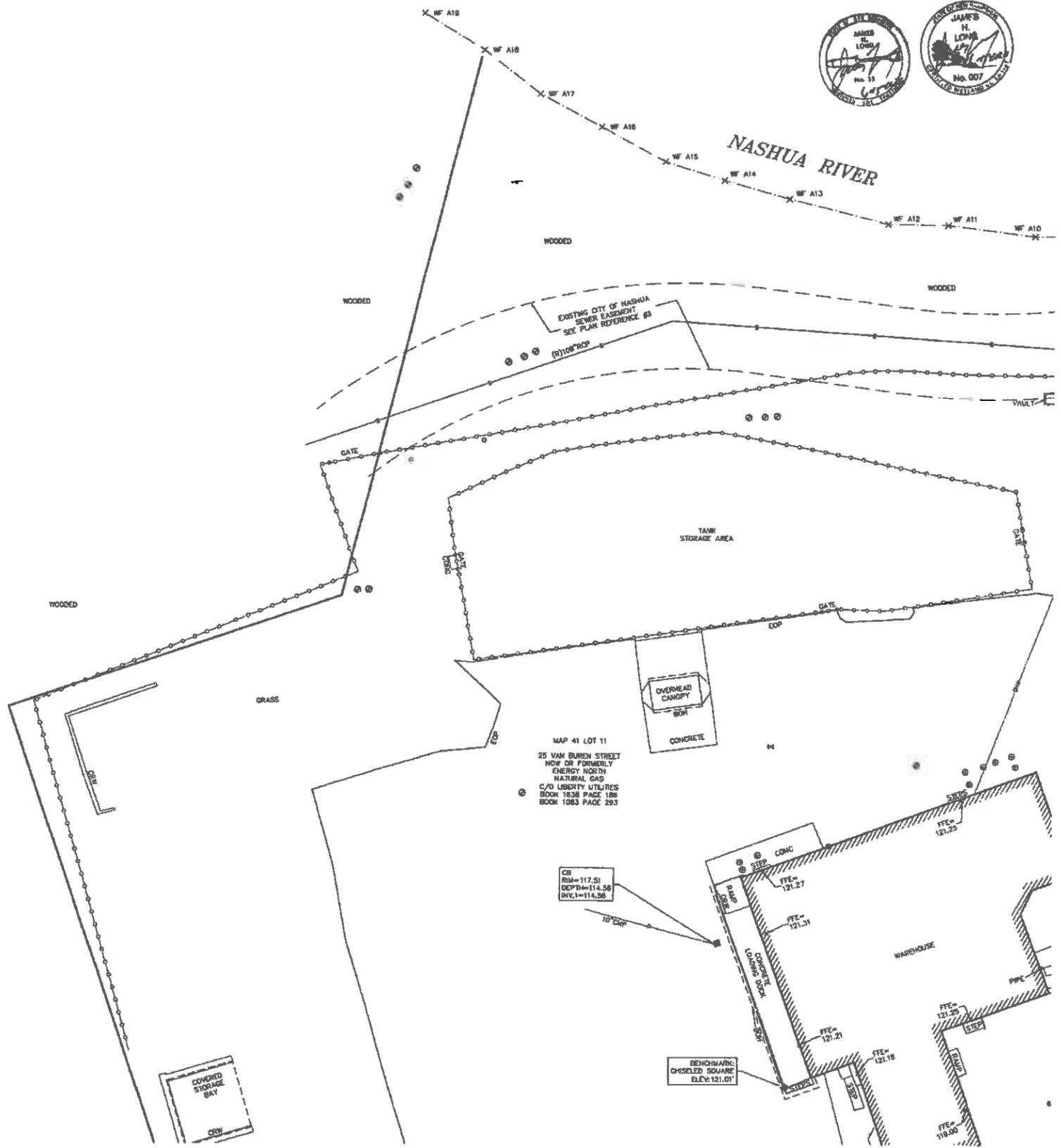
PLAN REFERENCES
 1. PLAN ENTITLED "GAS SERVICE, INC., PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE", DATED JANUARY 1972, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 7088 IN DRAWER 6.
 2. PLAN ENTITLED "BRIDGE STREET SUBDIVISION AND CONSOLIDATION (LAND SWAP) OF LAND OF GAS SERVICE INC." DATED JULY 1917, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 21889 IN DRAWER 90.
 3. SEWER EASEMENT PLANS FILED AT CITY OF NASHUA DEPARTMENT OF PUBLIC WORKS - SHEETS 2/38 & 3/38.
 4. BOSTON AND MAINE RAILROAD VAL MAP NUMBER V-21-1, FILED AT CITY OF NASHUA DEPARTMENT OF PUBLIC WORKS.
 5. PLAN ENTITLED "GAS SERVICE COMPANY, INC., PLOT PLAN, NASHUA RIVER INTERCEPTOR - 8, CITY OF NASHUA", DATED AUGUST 17, 1972, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 6178 IN DRAWER 25A, SHEET 30 OF 53.

LEGEND

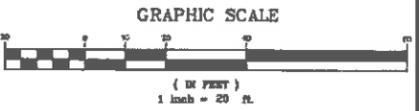
- | | |
|--|---|
| <ul style="list-style-type: none"> FDG FIRE DEPARTMENT CONNECTION UPR UTILITY POLE WITH RISER UP UTILITY POLE UPL UTILITY POLE WITH LIGHT UTR UTILITY POLE WITH TRANSFORMER UTR UTILITY WITH RISER AND TRANSFORMER SHRUB SN SIGN (SINGLE POSTED) BOMO BOLT OVER MAIN OUTLET EDP EDGE OF PAVEMENT VGC VERTICAL GRANITE CURB CC CONCRETE CURB LSA LANDSCAPED AREA FFV FINISHED FLOOR ELEVATION CRW CONCRETE RETAINING WALL BOH BUILDING OVERHANG JB JERSEY BARRIER CMP CORRUGATED METAL PIPE PVC POLYVINYL CHLORIDE CI CAST IRON INV. INVERT (R) RECORD INFORMATION UTO UNABLE TO OBSERVE CND COULD NOT OPEN | <ul style="list-style-type: none"> IR IRON ROD FOUND SBM STONE BOUND WITH DRILL HOLE SR STONE ROUND FA FIRE ALARM GM GAS MANHOLE RCB ROUND CATCH BASIN CB CATCH BASIN DM DRAIN MANHOLE NLM NO LABEL MANHOLE SM SEWER MANHOLE EB ELECTRIC BOX EHE ELECTRIC HANDHOLE EM ELECTRIC METER EMH ELECTRIC MANHOLE GM GAS METER GV GAS VALVE WG WATER GATE FH FIRE HYDRANT SD SIGN (DOUBLE POSTED) POST MW MONITORING WELL LP LIGHT POLE BOLL BOLLARD HP HANDICAP PARKING VALVE BENCH BENCHMARK ALB ABUTTERS LOT LINE ROW RIGHT OF WAY PL PROPERTY LINE EASE EASEMENT CLF CHAIN LINK FENCE MG METAL GUARDRAIL BOV BUILDING OVERHANG SL SEWER LINE DL DRAIN LINE WL WATER LINE GL GAS LINE OW OVERHEAD WIRES TL TREE LINE IC INTERMEDIATE CONTOURS IX INDEX CONTOURS WET WETLAND LINE |
|--|---|

MAP 41 LOT 1
 1 JACKSON SQUARE
 NOW OR FORMERLY
 PUBLIC SERVICE COMPANY OF
 NEW HAMPSHIRE
 BOOK 1024 PAGE 339

MAP 41 LOT 11
 25 VAN BUREN STREET
 NOW OR FORMERLY
 ENERGY NORTH
 NATURAL GAS
 C/O LIBERTY UTILITIES
 BOOK 1838 PAGE 186
 BOOK 1083 PAGE 283



DRAWING
EX-2
 NOTE: DRAWING NUMBER
 ADDED BY GZA FOR
 INCLUSION IN PLAN
 SET DATED JUNE 9, 2020



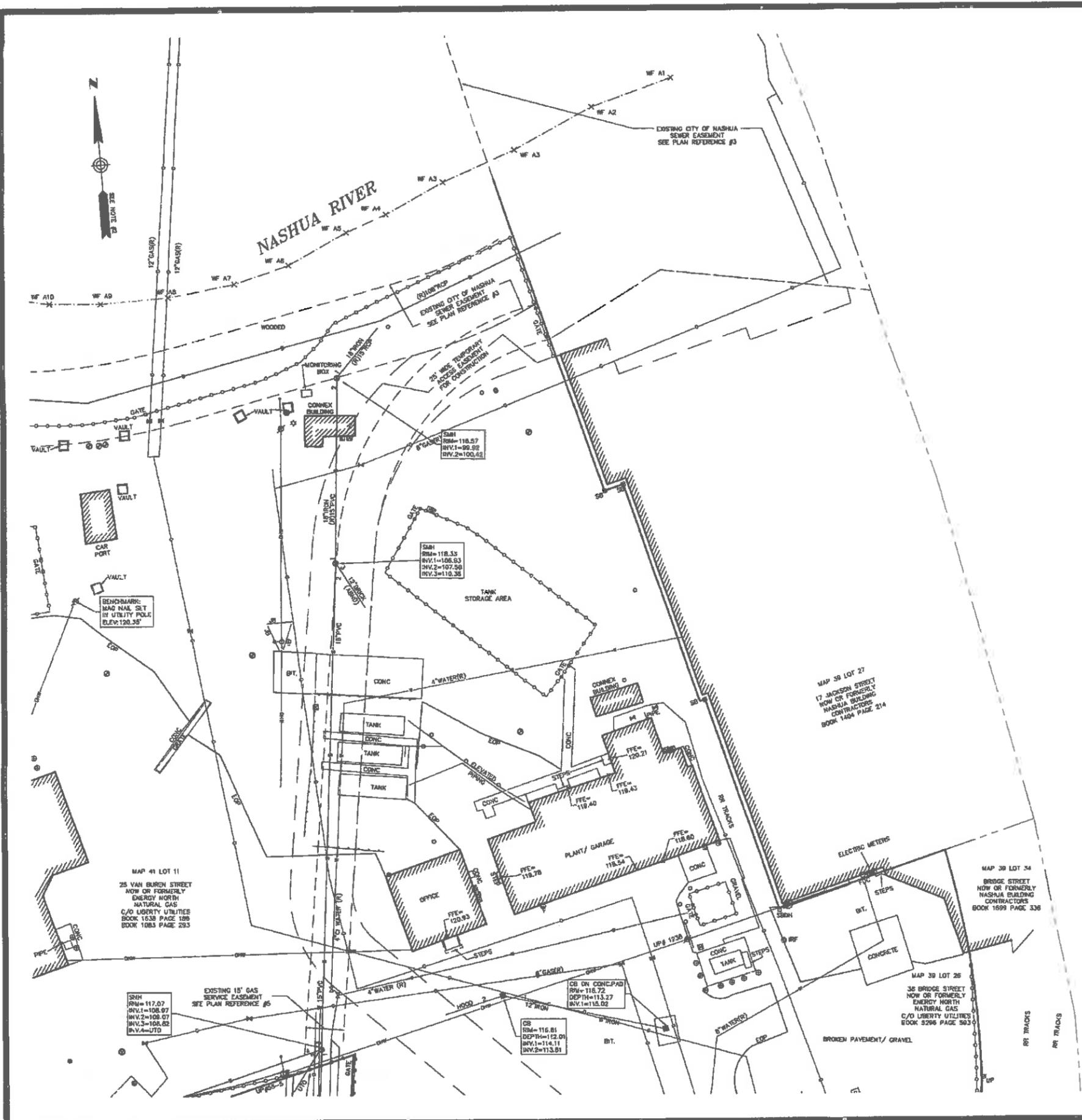
REVISION	DATE	DESCRIPTION

EXISTING CONDITIONS SURVEY
 25 VAN BUREN STREET AND
 38 BRIDGE STREET
 NASHUA, NEW HAMPSHIRE
 PREPARED FOR
GZA GEONVIRONMENTAL, INC.

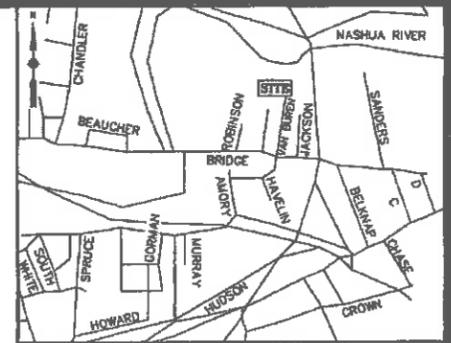


Drawn By CG	Date MAY 18, 2018	Job No. 1900728
Surveyed By TO - JT	Scale 1" = 20'	Sheet No. 2 OF 5
Checked By DPP	Book No. N-255A	

1900728-1.dwg



- LEGEND**
- FC FIRE DEPARTMENT CONNECTION
 - UP UTILITY POLE WITH RISER
 - U UTILITY POLE
 - UL UTILITY POLE WITH LIGHT
 - UT UTILITY POLE WITH TRANSFORMER
 - UR UTILITY WITH RISER AND TRANSFORMER
 - S SHRUB
 - SP SIGN (SINGLE POSTED)
 - SB BOLT OVER MAIN OUTLET
 - EP EDGE OF PAVEMENT
 - VC VERTICAL GRANITE CURB
 - CC CONCRETE CURB
 - LSA LANDSCAPED AREA
 - FFE FINISHED FLOOR ELEVATION
 - CRW CONCRETE RETAINING WALL
 - BOB BUILDING OVERHANG
 - JB JERSEY BARRIER
 - OMP CORRUGATED METAL PIPE
 - PVC POLYVINYL CHLORIDE
 - CI CAST IRON
 - INV INVERT
 - (R) RECORD INFORMATION
 - UTD UNABLE TO OBSERVE
 - CND COULD NOT OPEN
 - IR IRON ROD FOUND
 - SBDS STONE BOUND WITH DRILL HOLE
 - SBMS STONE BOUND
 - FA FIRE ALARM
 - GM GAS MANHOLE
 - RCB ROUND CATCH BASIN
 - CB CATCH BASIN
 - DM DRAIN MANHOLE
 - SM SEWER MANHOLE
 - NLM NO LABEL MANHOLE
 - EB ELECTRIC BOX
 - EH ELECTRIC HANDHOLE
 - EM ELECTRIC METER
 - EMH ELECTRIC MANHOLE
 - GM GAS METER
 - GV GAS VALVE
 - WD WATER GATE
 - WH FIRE HYDRANT
 - SPD SIGN (DOUBLE POSTED)
 - P POST
 - MW MONITORING WELL
 - LP LIGHT POLE
 - B BOLLARD
 - HP HANDICAP PARKING
 - V VALVE
 - BM BENCHMARK
 - AL ABUTTERS LOT LINE
 - RW RIGHT OF WAY
 - PL PROPERTY LINE
 - E EASEMENT
 - CL CHAIN LINK FENCE
 - MG METAL GUARDRAIL
 - BO BUILDING OVERHANG
 - SL SEWER LINE
 - DL DRAIN LINE
 - WL WATER LINE
 - GL GAS LINE
 - OW OVERHEAD WIRES
 - TL TREE LINE
 - IL INTERMEDIATE CONTOURS
 - WC WOOD CONTOURS
 - ML METAL LINE



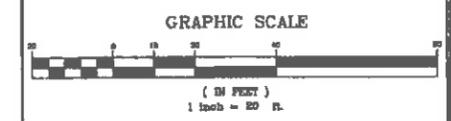
LOCUS MAP (N.T.S.)

UTILITY STATEMENTS
 THE LOCATION OF THE UTILITIES AS SHOWN HEREON HAVE BEEN COMPILED FROM VISIBLE STRUCTURES AND INFORMATION OBTAINED FROM VARIOUS SOURCES. THE ACTUAL LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES SHALL BE CONSIDERED APPROXIMATE AND SHALL BE VERIFIED BY THE OWNER PRIOR TO ANY CONSTRUCTION. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA. EITHER IN SERVICES OR ABANDONED, THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.

- NOTES**
- THIS PLAN WAS PREPARED FROM AN ACTUAL ON THE GROUND FIELD SURVEY CONDUCTED BY WSP IN MAY 2018.
 - THE HORIZONTAL DATUM SHOWN HEREON REFERENCES THE NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM RADSS.
 - THE VERTICAL DATUM SHOWN HEREON REFERENCES NAVD83.
 - THE SURVEYED PROPERTY IS SUBJECT BUT NOT LIMITED TO THE INFORMATION SHOWN HEREON. ALL INFORMATION THAT MAY AFFECT THE QUALITY OF THE TITLE TO BOTH THE SUBJECT AND ADJOINING PARCELS SHOULD BE VERIFIED BY AN ACCURATE AND CURRENT TITLE REPORT. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT.
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 - THE NETLAGS SHOWN HEREON WERE SET BY OTHERS AND FIELD LOCATED BY WSP DURING MAY OF 2018.

- PLAN REFERENCES**
- PLAN ENTITLED "GAS SERVICE, INC., PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE", DATED JANUARY 1973, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 1088 IN DRAWER 6.
 - PLAN ENTITLED "BRIDGE STREET SUBDIVISION AND CONSOLIDATION (LAND SWAP) OF LAND OF GAS SERVICE, INC." DATED JULY 1987, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 21689 IN DRAWER 90.
 - SEWER EASEMENT PLANS FILED AT CITY OF NASHUA DEPARTMENT OF PUBLIC WORKS - SHEETS 2/38 & 3/38.
 - BOSTON AND MAINE RAILROAD VAL MAP NUMBER V.21-1, FILED AT CITY OF NASHUA DEPARTMENT OF PUBLIC WORKS.
 - PLAN ENTITLED "GAS SERVICE COMPANY, INC. PLOT PLAN, NASHUA RIVER INTERCEPTOR - II, CITY OF NASHUA", DATED AUGUST 17, 1972, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 6179 IN DRAWER 29A, SHEET 39 OF 53.

DRAWING
EX-3
 NOTE: DRAWING NUMBER ADDED BY GZA FOR INCLUSION IN PLAN SET DATED JUNE 9, 2020



REVISION	DATE	DESCRIPTION
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EXISTING CONDITIONS SURVEY
 25 VAN BUREN STREET AND
 38 BRIDGE STREET
 NASHUA, NEW HAMPSHIRE
 PREPARED FOR
 GZA GEOTECHNICAL, INC.



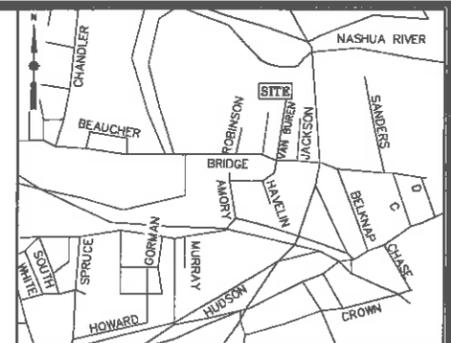
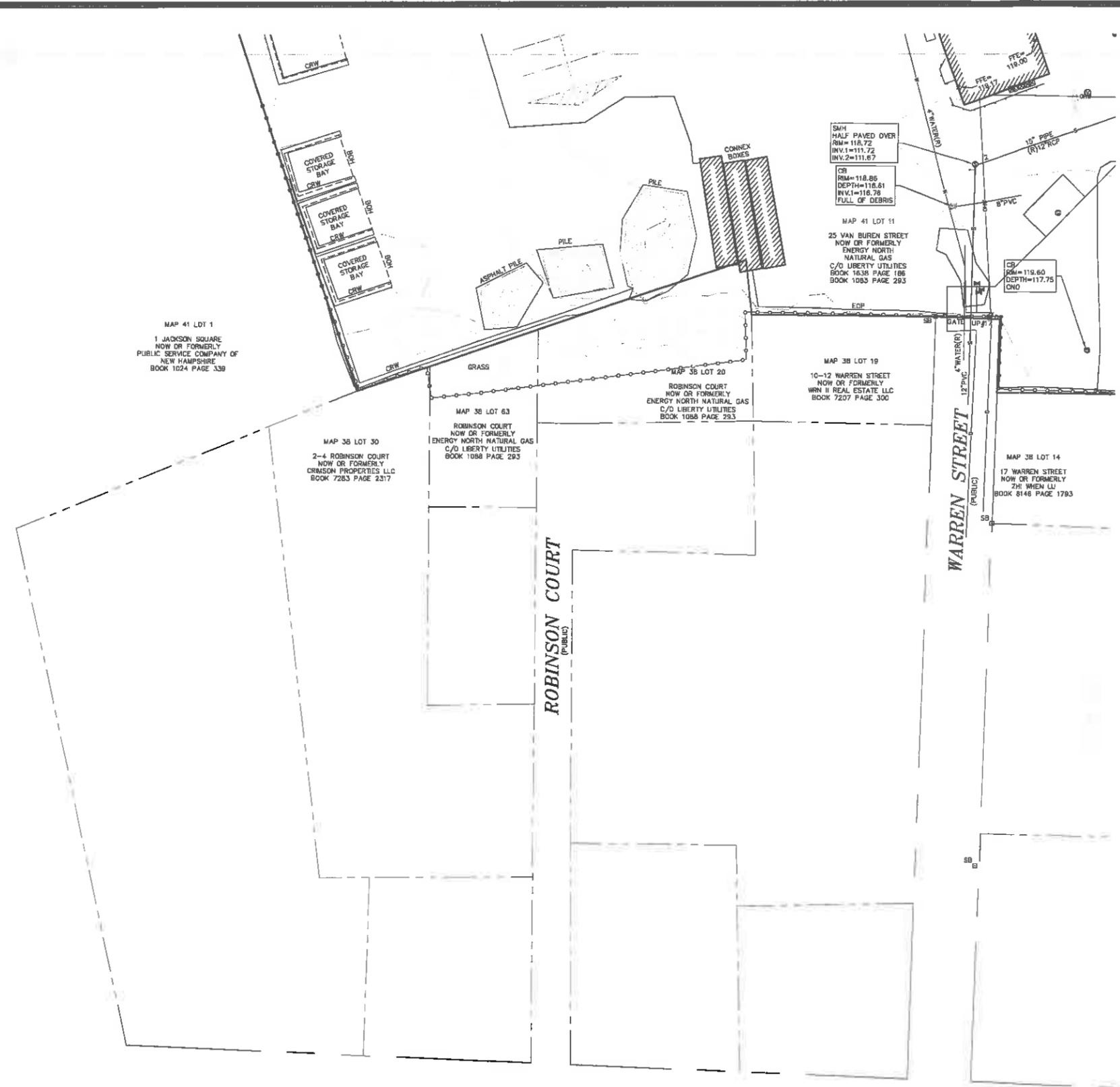
wsp WSP USA Inc.
 155 Main Dunstable Rd. Suites 120 & 125
 Nashua, NH 03060
 603.595.7800

Drawn By	CG	Date	MAY 18, 2018	Job No.	190072B
Surveyed By	TO - JT	Scale	1" = 20'	Sheet No.	3 OF 5
Checked By	DPP	Book No.	N-255A		



LEGEND

- | | | | |
|------|------------------------------------|-----|-----------------------------|
| FD | FIRE DEPARTMENT CONNECTION | RF | IRON ROD FOUND |
| UP | UTILITY POLE WITH RISER | SD | STONE BOUND WITH DRILL HOLE |
| U | UTILITY POLE | SB | STONE BOUND |
| UL | UTILITY POLE WITH LIGHT | FA | FIRE ALARM |
| UT | UTILITY POLE WITH TRANSFORMER | GM | GAS MANHOLE |
| UR | UTILITY WITH RISER AND TRANSFORMER | RCB | ROUND CATCH BASIN |
| S | SHRUB | C | CATCH BASIN |
| SP | SIGN (SINGLE POSTED) | DM | DRAIN MANHOLE |
| BM | BOLT OVER MAIN OUTLET | NLM | NO LABEL MANHOLE |
| EDP | EDGE OF PAVEMENT | SM | SEWER MANHOLE |
| VGC | VERTICAL GRANITE CURB | EB | ELECTRIC BOX |
| CC | CONCRETE CURB | EH | ELECTRIC HANDHOLE |
| LSA | LANDSCAPED AREA | EM | ELECTRIC METER |
| FFE | FINISHED FLOOR ELEVATION | EMH | ELECTRIC MANHOLE |
| CRW | CONCRETE RETAINING WALL | GM | GAS METER |
| BCH | BUILDING OVERHANG | GV | GAS VALVE |
| JB | JERSEY BARRIER | WG | WATER GATE |
| CMP | CORRUGATED METAL PIPE | FH | FIRE HYDRANT |
| PVC | POLYVINYL CHLORIDE | SDP | SIGN (DOUBLE POSTED) |
| CI | CAST IRON | P | POST |
| INV. | INVERT | MW | MONITORING WELL |
| (R) | RECORD INFORMATION | LP | LIGHT POLE |
| UTO | UNABLE TO OBSERVE | B | BOLLARD |
| CNO | COULD NOT OPEN | HP | HANDICAP PARKING |
| | | V | VALVE |
| | | B | BENCHMARK |
| | | AL | ABUTTERS LOT LINE |
| | | RW | RIGHT OF WAY |
| | | PL | PROPERTY LINE |
| | | E | EASEMENT |
| | | CLF | CHAIN LINK FENCE |
| | | MG | METAL GUARDRAIL |
| | | BO | BUILDING OVERHANG |
| | | S | SEWER LINE |
| | | D | DRAIN LINE |
| | | W | WATER LINE |
| | | G | GAS LINE |
| | | OW | OVERHEAD WIRES |
| | | T | TREE LINE |
| | | IC | INTERMEDIATE CONTOURS |
| | | IX | INDEX CONTOURS |
| | | WL | WETLAND LINE |



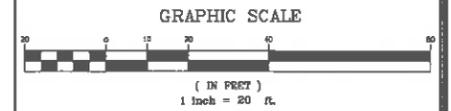
LOCUS MAP (N.T.S.)

UTILITY STATEMENTS
 THE LOCATION OF THE UTILITIES AS SHOWN HEREON HAVE BEEN COMPILED FROM VISIBLE STRUCTURES AND INFORMATION OBTAINED FROM VARIOUS SOURCES. THE ACTUAL LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES SHALL BE CONSIDERED APPROXIMATE AND SHALL BE VERIFIED BY THE OWNER PRIOR TO ANY CONSTRUCTION. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.

- NOTES**
1. THIS PLAN WAS PREPARED FROM AN ACTUAL ON THE GROUND FIELD SURVEY CONDUCTED BY WSP IN MAY 2018.
 2. THE HORIZONTAL DATUM SHOWN HEREON REFERENCES THE NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM NAD83.
 3. THE VERTICAL DATUM SHOWN HEREON REFERENCES NAVD83.
 4. THE SURVEYED PROPERTY IS SUBJECT BUT NOT LIMITED TO THE INFORMATION SHOWN HEREON. ALL INFORMATION THAT MAY AFFECT THE QUALITY OF THE TITLE TO BOTH THE SUBJECT AND ADJOINING PARCELS SHOULD BE VERIFIED BY AN ACCURATE AND CURRENT TITLE REPORT. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT.
 5. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON LABELED WITH AN (R) ARE FROM RECORD DOCUMENTS. ADDITIONAL FIELD INVESTIGATION WILL BE REQUIRED BY OTHERS TO DETERMINE THE ACTUAL PIPE SIZE(S) AND TYPE(S).
 6. THE METFLAGS SHOWN HEREON WERE SET BY OTHERS AND FIELD LOCATED BY WSP DURING MAY OF 2018.

- PLAN REFERENCES**
1. PLAN ENTITLED "GAS SERVICE, INC., PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE", DATED JANUARY 1973, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 7085 IN DRAWER 6.
 2. PLAN ENTITLED "BRIDGE STREET SUBDIVISION AND CONSOLIDATION (LAND SWAP) OF LAND OF GAS SERVICE, INC." DATED JULY 1987, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 21869 IN DRAWER 90.
 3. SEWER EASEMENT PLANS FILED AT CITY OF NASHUA DEPARTMENT OF PUBLIC WORKS - SHEETS 2/38 & 3/38.
 4. BOSTON AND MAINE RAILROAD VAL. MAP NUMBER V.21-1, FILED AT CITY OF NASHUA DEPARTMENT OF PUBLIC WORKS.
 5. PLAN ENTITLED "GAS SERVICE COMPANY, INC., PLOT PLAN, NASHUA RIVER INTERCEPTOR - 3, CITY OF NASHUA", DATED AUGUST 17, 1972, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 8178 IN DRAWER 26A, SHEET 39 OF 52.

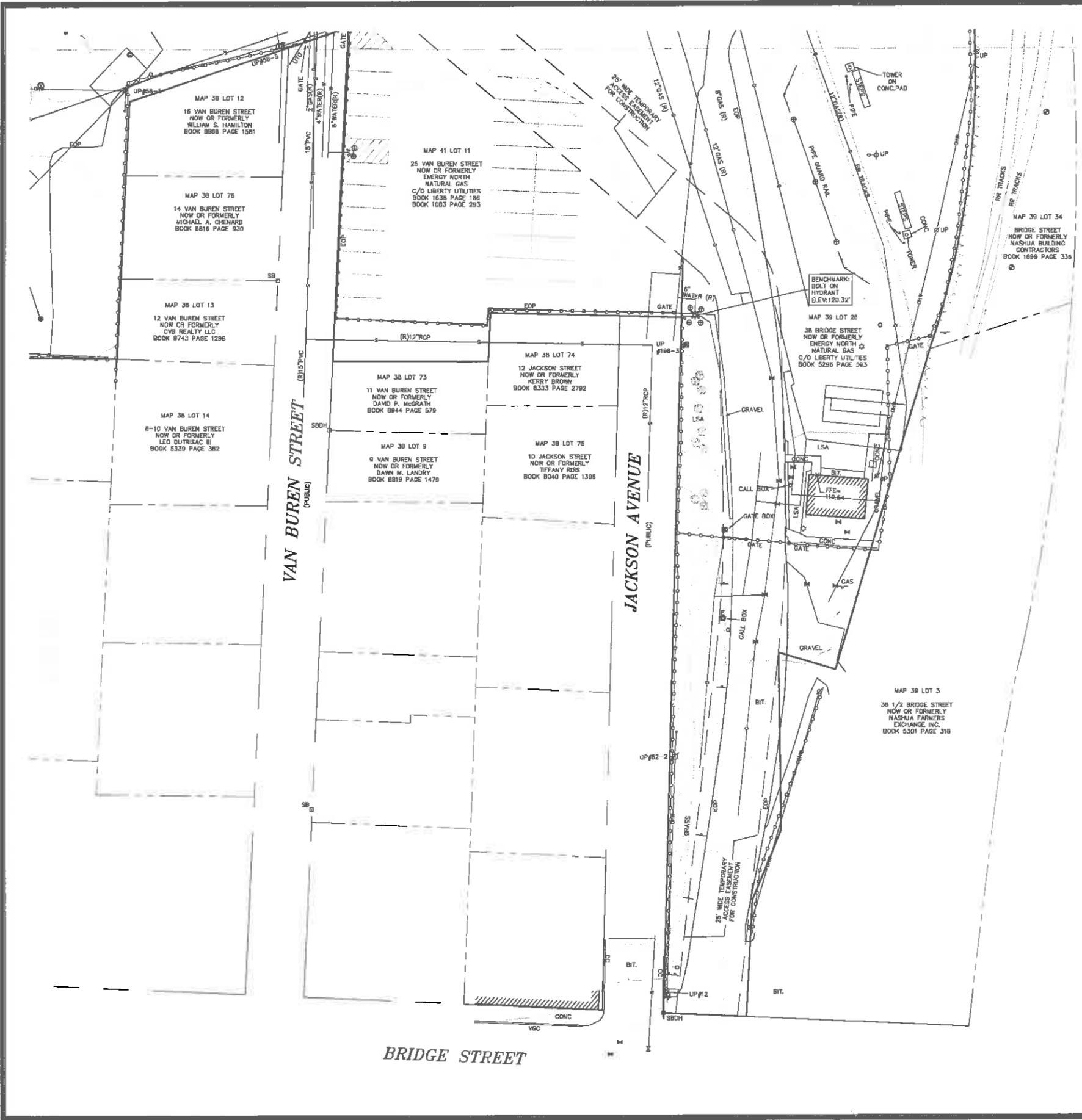
DRAWING:
EX-4
 NOTE: DRAWING NUMBER
 ADDED BY GZA FOR
 INCLUSION IN PLAN
 SET DATED JUNE 9, 2020



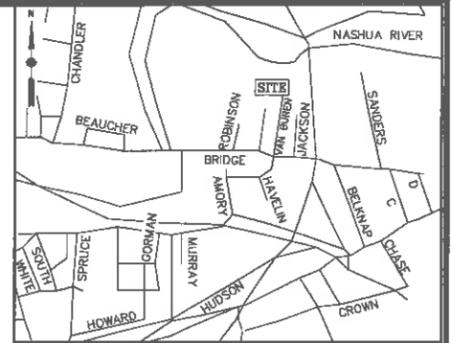
REVISION	
DATE	DESCRIPTION
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EXISTING CONDITIONS SURVEY 25 VAN BUREN STREET AND 38 BRIDGE STREET NASHUA, NEW HAMPSHIRE PREPARED FOR GZA GEOENVIRONMENTAL, INC.	

wsp WSP USA Inc.
 155 Main Dunstable Rd, Guites 120 & 125
 Nashua, NH 03080
 603.585.7800

Drawn By	CG	Date	MAY 18, 2018	Job No.	190072B
Surveyed By	TO - JT	Checked By	DPP	Scale	1" = 20'
Book No.	N-255A			Sheet No.	4 OF 5



- LEGEND**
- | | |
|--|---|
| <ul style="list-style-type: none"> FCO FIRE DEPARTMENT CONNECTION UP UTILITY POLE WITH RISER UP UTILITY POLE UL UTILITY POLE WITH LIGHT UT UTILITY POLE WITH TRANSFORMER UTR UTILITY WITH RISER AND TRANSFORMER SHR SHRUB SIGN (SINGLE POSTED) BOMO BOLT OVER MAIN OUTLET EOP EDGE OF PAVEMENT VGC VERTICAL GRANITE CURB CC CONCRETE CURB LSA LANDSCAPED AREA FFE FINISHED FLOOR ELEVATION CRW CONCRETE RETAINING WALL BOH BUILDING OVERHANG JB JERSEY BARRIER CMP CORRUGATED METAL PIPE PVC POLYVINYL CHLORIDE CI CAST IRON INV. INVERT (R) RECORD INFORMATION UTO UNABLE TO OBSERVE CNO COULD NOT OPEN | <ul style="list-style-type: none"> 1/4" IRON ROD FOUND SBDC STONE BOUND WITH DRILL HOLE SB STONE BOUND GAS MANHOLE ROUND CATCH BASIN CATCH BASIN DRAIN MANHOLE NO LABEL MANHOLE SEWER MANHOLE ELECTRIC BOX ELECTRIC HANDHOLE ELECTRIC METER ELECTRIC MANHOLE GAS METER GAS VALVE WATER GATE FIRE HYDRANT SIGN (DOUBLE POSTED) POST MONITORING WELL LIGHT POLE BOLLARD HANDICAP PARKING VALVE BENCHMARK ABUTTERS LOT LINE RIGHT OF WAY PROPERTY LINE EASEMENT CHAIN LINK FENCE METAL GUARDRAIL BUILDING OVERHANG SEWER LINE DRAIN LINE WATER LINE GAS LINE OVERHEAD WIRES TREE LINE INTERMEDIATE CONTOURS INDEX CONTOURS WETLAND LINE |
|--|---|



LOCUS MAP (N.T.S.)

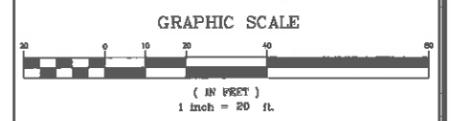
UTILITY STATEMENTS

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- NOTES**
1. THIS PLAN WAS PREPARED FROM AN ACTUAL ON THE GROUND FIELD SURVEY CONDUCTED BY WSP IN MAY 2018.
 2. THE HORIZONTAL DATUM SHOWN HEREON REFERENCES THE NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM NAD83.
 3. THE VERTICAL DATUM SHOWN HEREON REFERENCES NAVD83.
 4. THE SURVEYED PROPERTY IS SUBJECT BUT NOT LIMITED TO THE INFORMATION SHOWN HEREON. ALL INFORMATION THAT MAY AFFECT THE QUALITY OF THE TITLE TO BOTH THE SUBJECT AND ADJOINING PARCELS SHOULD BE VERIFIED BY AN ACCURATE AND CURRENT TITLE REPORT. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT.
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 6. THE NETLAGS SHOWN HEREON WERE SET BY OTHERS AND FIELD LOCATED BY WSP DURING MAY OF 2018.

- PLAN REFERENCES**
1. PLAN ENTITLED "GAS SERVICE, INC., PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE," DATED JANUARY 1973, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 7088 IN DRAWER 4.
 2. PLAN ENTITLED "BRIDGE STREET SUBDIVISION AND CONSOLIDATION (LAND SWAP) OF LAND OF GAS SERVICE, INC.," DATED JULY 1987, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 21689 IN DRAWER 90.
 3. SEWER EASEMENT PLANS FILED AT CITY OF NASHUA DEPARTMENT OF PUBLIC WORKS - SHEETS 2/38 & 3/38.
 4. BOSTON AND MAINE RAILROAD VAL MAP NUMBER V.21-1, FILED AT CITY OF NASHUA DEPARTMENT OF PUBLIC WORKS.
 5. PLAN ENTITLED "GAS SERVICE COMPANY, INC., PLOT PLAN, NASHUA RIVER INTERCEPTOR - II, CITY OF NASHUA," DATED AUGUST 17, 1972, RECORDED AT HILLSBOROUGH COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 6179 IN DRAWER 28A, SHEET 39 OF 53.

DRAWING
EX-5
NOTE: DRAWING NUMBER
ADDED BY GZA FOR
INCLUSION IN PLAN
SET DATED JUNE 9, 2020

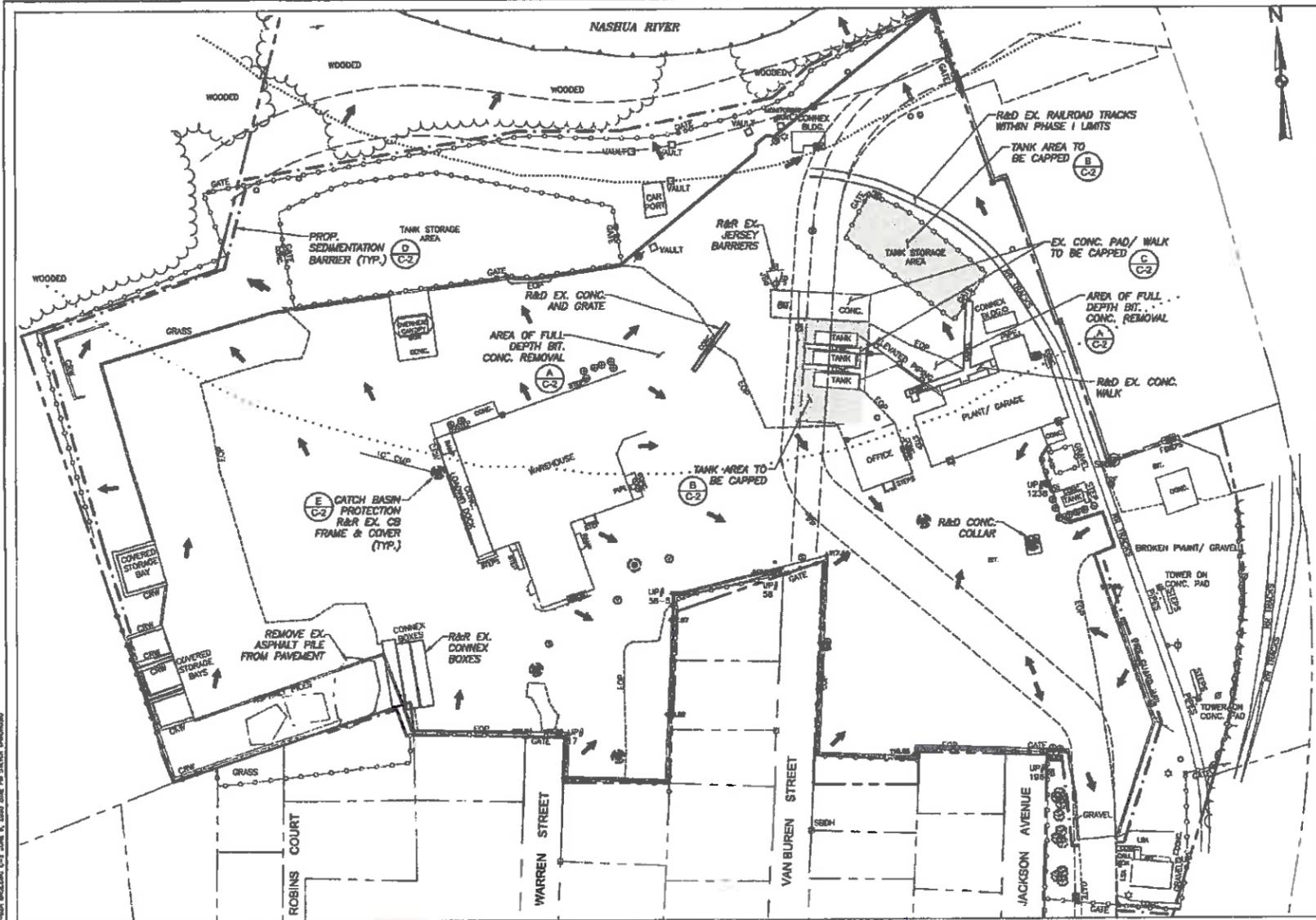


REVISION	DATE	DESCRIPTION
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EXISTING CONDITIONS SURVEY
25 VAN BUREN STREET AND
38 BRIDGE STREET
NASHUA, NEW HAMPSHIRE
PREPARED FOR
GZA GEOENVIRONMENTAL, INC.



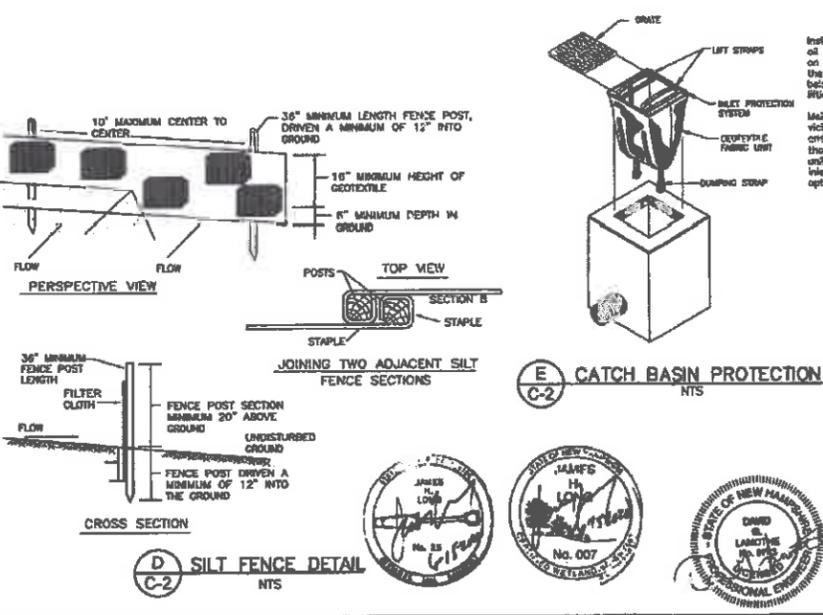
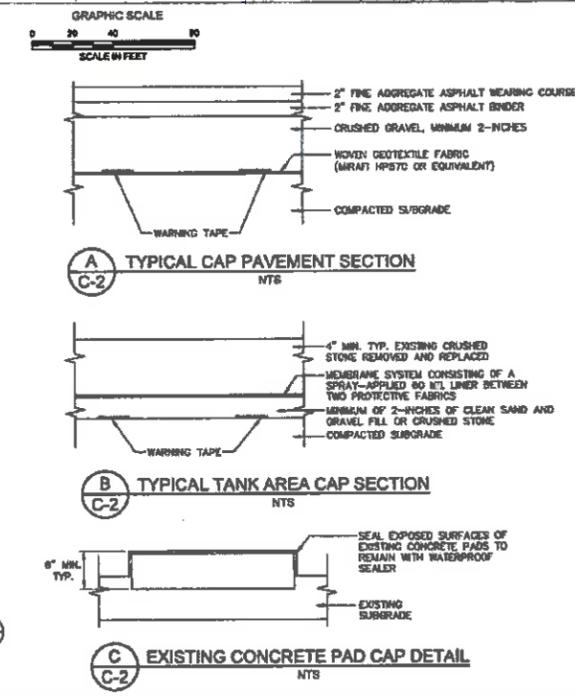
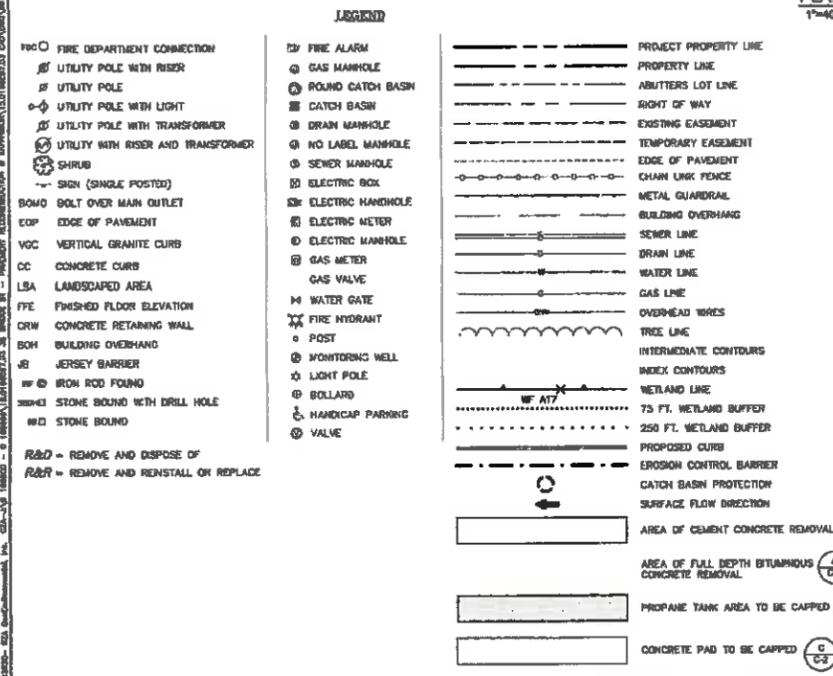
Drawn By	CC	Date	MAY 18, 2018	Job No.	190072B
Surveyed by	TO - JT	Scale	1" = 20'	Sheet No.	5 OF 5
Checked By	DPP	Book No.	N-255A		



- CAP CONSTRUCTION NOTES:**
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH WRITES APPROVED ASBESTOS DISPOSAL SITE (ADS) WORK PLAN. IN GENERAL, WORK SHALL BE DONE WITHOUT RELEASE OF FUGITIVE EMISSIONS AND DUST.
 - LOOSE SURFICIAL DEBRIS (BRICK, WOOD, CONCRETE) GREATER THAN TWO INCHES SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH APPROVED WORK PLAN.
 - AREAS REQUIRING EXCAVATION TO MEET GRADES OR REMOVAL OF PAVEMENT AND OR CONCRETE SHALL BE DONE IN ACCORDANCE OF THE APPROVED WORK PLAN.
 - UTILITY STRUCTURES AND MONITORING WELLS IN CAP AREAS WILL BE RAISED TO MEET FINISHED GRADES.
 - EXCESS EXCAVATED SOIL SHALL BE CHARACTERIZED FOR DISPOSAL AND DISPOSED OF AT A FACILITY PERMITTED TO ACCEPT THE WASTE.
 - PAVING AND CAPPING OF RAILROAD SPUR WILL BE PERFORMED IN ACCORDANCE WITH AREA SPECIFICATIONS.
 - GENERAL PAVEMENT CAP AREAS (DETAIL A)**
 - ONCE THE SUBGRADE HAS BEEN REDGRADED, THE SUBGRADE SHALL BE PROOF-COMPACTED WITH FOUR PASSES OF A LARGE SELF-PROPELLED ROLLER.
 - HIGH STRENGTH WOVEN GEOTEXTILE FABRIC CONSISTING OF MIRAFL HP570 OR EQUIVALENT SHALL BE PLACED OVER THE SUBGRADE AND OVERLAPPED A MINIMUM 12-INCHES WITH ADJOINING SECTIONS.
 - A MINIMUM OF 2-INCHES OF CRUSHED GRAVEL (FREE-DRAINING SAND AND GRAVEL) MEETING THE FOLLOWING SPECIFICATIONS:

Sieve Designation	Percent Passing
3/4" In.	100
1/2" In.	85-100
No. 4	50-80
No. 200	20-85
	0-10
 - THE CRUSHED GRAVEL SHALL BE COMPACTED WITH A MINIMUM 6 PASSES OF A LARGE VIBRATORY ROLLER.
 - PAVEMENT SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL DETAIL PAVEMENT WEARING COURSE SHALL CONSIST OF 1/2" DOT 3/8-INCH MIX. PAVEMENT BRIDGE COURSE SHALL CONSIST OF 1/2" DOT 3/8-INCH MIX. AIR Voids SHALL NOT EXCEED 4%. ASPHALT SHALL BE PLACED AND COMPACTED IN 1-INCH LIFTS.
 - TANKS/VAPORIZER CAP AREAS (DETAIL B)**
 - REMOVE UP TO FOUR INCHES OF EXISTING CRUSHED STONE BELOW TANK AND VAPORIZER AREAS. DO NOT REMOVE SOIL BELOW THE CRUSHED STONE.
 - CRUSHED STONE REMOVAL SHALL BE VISUALLY INSPECTED FOR EVIDENCE OF ASBESTOS CONTAINING MATERIALS (ACM) IN ACCORDANCE WITH APPROVED ADS WORK PLAN. CRUSHED STONE THAT CONTAINS ACM WILL BE RELOCATED AND CAPPED TO AN ALTERNATE LOCATION WITHIN THE PROPOSED CAP AREA OR DISPOSED OF AT A FACILITY PERMITTED TO ACCEPT THE WASTE.
 - ONCE THE STONE HAS BEEN REMOVED THE AREA SHOULD BE GRADED AND CROWNED TO PROMOTE DRAINAGE TO THE SURROUNDING PAVED AREAS AND PARKING LOT. FREE-DRAINING SAND AND GRAVEL SOIL CAN BE USED TO GRADE THE AREA. A MEMBRANE SYSTEM CONSISTING OF A SPRAY-APPLIED 60 MIL LINER BETWEEN TWO PROTECTIVE FABRICS WILL BE PLACED IN THE TANK AND VAPORIZER AREAS.
 - A MINIMUM OF 4-INCHES OF CRUSHED STONE SHALL BE PLACED OVER THE MEMBRANE SYSTEM. THE CRUSHED STONE MAY CONSIST OF THE EXISTING CRUSHED STONE OR EQUIVALENT IMPORTED CRUSHED STONE.
 - THE CONCRETE SIDEWALKS WITHIN THE TANK/VAPORIZER AREAS WILL BE MAINTAINED AND THE CRUSHED STONE SHOULD MEET THE GRADES OF THE CONCRETE SIDEWALKS.
 - SPRAY-ON MEMBRANE - MEMBRANE SHALL CONSIST OF A SINGLE COURSE, HIGH BUILD, POLYMER MODIFIED, ASPHALT EMULSION, WATERBORNE AND SPRAY APPLIED AT AMBIENT TEMPERATURES. A NOMINAL THICKNESS OF 60 DRY MILS. NON-TOXIC AND ODORLESS.
 - EXISTING CONCRETE PAD CAP AREAS (DETAIL C)**
 - CONCRETE PAD SHALL BE CLEANED AND PREPARED IN ACCORDANCE WITH SEALER MANUFACTURER INSTRUCTIONS.
 - CONCRETE PADS WILL BE SEALED WITH A WATER-PROOF SEALER (LITH-TEX 9500 OR EQUIVALENT).
 - CAP SURFACE AREAS WILL BE GRADED TO ALLOW DISCHARGE TO THE EXISTING STORMWATER SYSTEM AT THE SITE. THE CAP SYSTEM WILL BE INTEGRATED INTO THE CAPITAL IMPROVEMENTS FOR THE SITE WHICH WILL INCLUDE REGRADING AND REPAIRING THE EXISTING PARKING LOT, AS PART OF THE CAPITAL IMPROVEMENTS. THE STORMWATER SYSTEM WILL BE EVALUATED AND ADDITIONAL STORMWATER CAPACITY WILL BE ADDED AS NEEDED TO COMPENSATE FOR THE ADDITIONAL IMPERVIOUS CAP AREAS.

- SEDIMENT AND EROSION CONTROL NOTES:**
- SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
 - THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE SEDIMENT AND EROSION CONTROL PLAN PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURES UNTIL THE AREAS DRAINING TO THEM ARE FINAL STABILIZED. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN EFFECT OPERATING CONVEYOR ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED. CONDUCT INSPECTIONS AND REPORTING IN ACCORDANCE WITH ALL PERMITS.
 - IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES (BMPs) TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION. THE CONTRACTOR SHALL INSTALL AND MAINTAIN AT NO ADDITIONAL COST TO THE OWNER ANY ADDITIONAL EROSION CONTROL MEASURES DEEMED NECESSARY FOR PERMIT COMPLIANCE BY THE CONTRACTOR, THE OWNER AND/OR THEIR REPRESENTATIVES, OR BY FEDERAL/STATE/LOCAL GOVERNMENT INSPECTORS.
 - ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH APPLICABLE PUBLISHED STANDARDS AND SPECIFICATIONS AND THE "WISDOT GUIDELINES FOR TEMPORARY EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT" (9/00T, MAY 2002).
 - THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVELLED PUBLIC THROUGHFARES. ALL MATERIALS DEPOSITED ONTO PUBLIC THROUGHFARES SHALL BE REMOVED IMMEDIATELY.
 - ALL SEDIMENT BASINS, TRAP CHAMBERS, SHALES, PERIMETER Dikes, AND PERMANENT SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOO, SEEDS AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. NO AREAS OUTSIDE OF THE PERIMETER SEDIMENT CONTROL BARRIER OR LIMIT OF WORK SHALL BE DISTURBED.
 - THE CONTRACTOR SHALL APPLY SOO, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN 14 CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED OR THAT AREA MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.
 - STOCKPILES WHICH HAVE NOT BEEN USED FOR 14 CALENDAR DAYS, SHALL BE STABILIZED THROUGH THE APPLICATION OF SOO, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES.
 - ALL CATCH BASINS OR OTHER DRAIN INLETS WHICH MAY RECEIVE STORMWATER FROM DISTURBED AREAS SHALL BE PROVIDED WITH SUITABLE INLET PROTECTION CONSISTING OF AN OPEN-TOP FILTER FABRIC BAG THAT IS DESIGNED TO HANG UNDERNEATH A STORM GRATE TO FILTER SEDIMENT-LADEN STORMWATER.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND ORY FOGGING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING, CALCIUM CHLORIDE, OR OTHER EFFECTIVE MEANS OF CONTROL.
 - ALL WASTE MATERIALS GENERATED AT THE SITE SHALL BE IMMEDIATELY REMOVED AND DISPOSED OF OR STORED IN A SECURELY COVERED CONTAINER IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS. CONTAINER SHALL BE EMPTIED ON A REGULAR BASIS AND AS NECESSARY. NO CONSTRUCTION WASTE OR DEBRIS SHALL BE BURIED ON-SITE.
 - FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS OR OPENINGS.
 - PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES THE CONTRACTOR SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS USING SOO OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOO AMENDMENTS AND AN APPROVED ANCHORED MULCH. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN 14 CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS WHEN PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH OR OTHER ACCEPTABLE MEANS SHALL BE APPLIED TO DISTURBED AREAS.
 - TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED WITHIN (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CLEANED AND CONVERTED TO THEIR PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL. ALL STORM DRAINAGE STRUCTURES, Sumps, AND PIPES SHALL BE CLEANED OF ALL SEDIMENTS PRIOR TO FINAL PAVEMENT.



Maintenance: Remove all accumulated sediment and debris from vicinity of unit after each storm event. After each storm event one of regular intervals, look into the geotextile fabric unit. If the containment area is more than 1/2 full of sediment, the unit must be emptied. To empty unit, lift the unit out of the inlet using the lifting straps and remove the grate. If using optional absorbent filter, replace absorbent when near saturation.

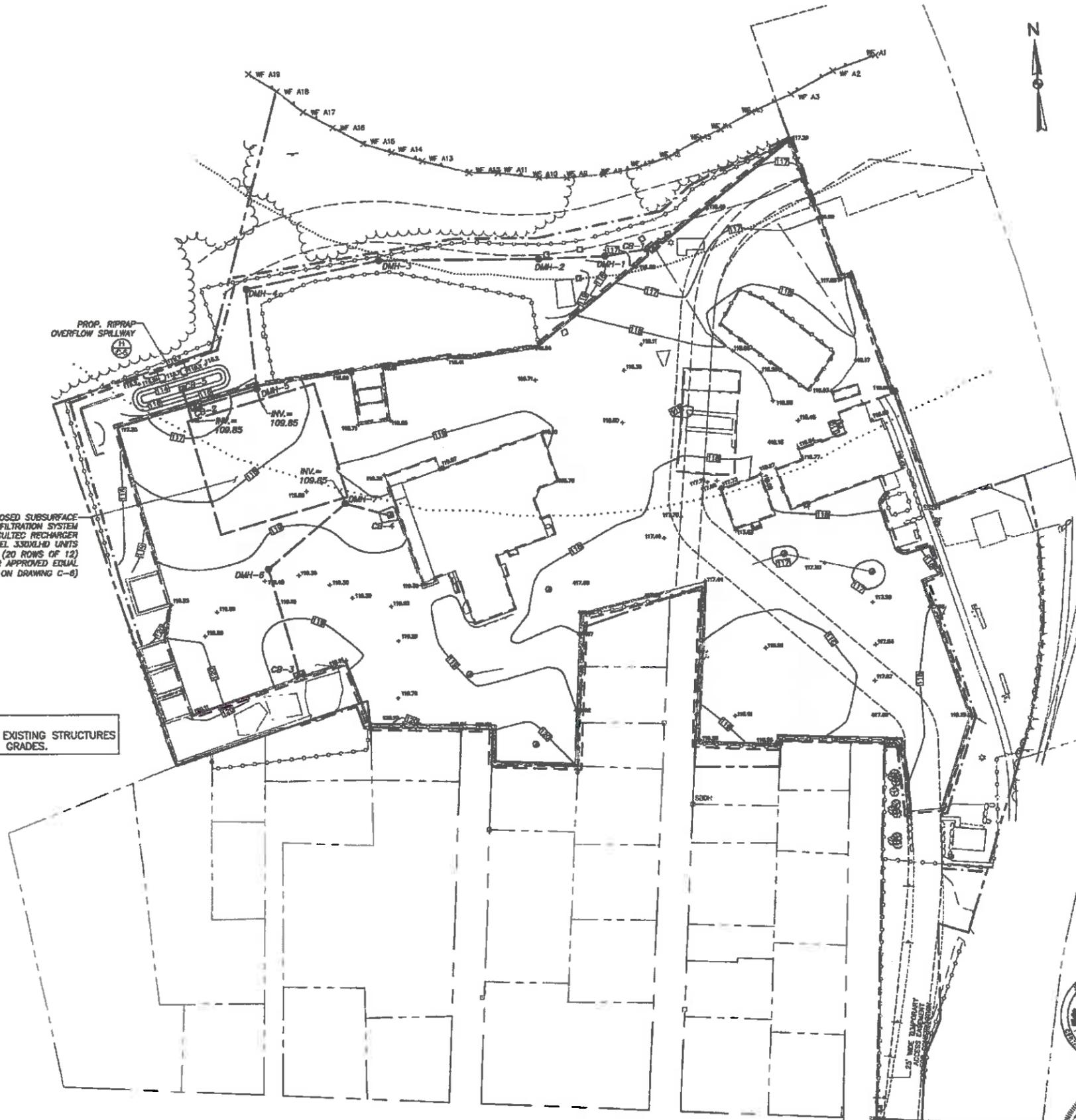
NO.	ISSUE/DESCRIPTION	BY	DATE
SITE GRADING, PAVING AND IMPERVIOUS CAP LIBERTY UTILITIES 38 BRIDGE STREET, NASHUA, NH			
SITE PREPARATION & DEMOLITION PLAN AND SEDIMENT & EROSION CONTROL PLAN			
PREPARED BY:	GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	REVIEWED BY: STD	DATE: FEB. 27, 2020
DESIGNED BY: STD	DRAWN BY: EDM	CHECKED BY: TEL	DRAWING NO. AS NOTED
PROJECT NO.	15.0106597.03	REVISION NO.	
PREPARED FOR: LIBERTY UTILITIES (NEW HAMPSHIRE) 15 BUTTRICK ROAD LONDONDERRY, NH 03053			C-2

PROPOSED STORM DRAIN SCHEDULE

CB-1 RIM=116.0 INV. OUT=112.25 (DMH-1) 18" HDPE-34 L.F. @ 0.5%
DMH-1 RIM=118.0 INV. IN=112.08 (CB-1) INV. OUT=111.98 (DMH-2) 18" HDPE-45 L.F. @ 0.5%
DMH-2 RIM=117.8 INV. IN=111.75 (DMH-1) INV. OUT=111.65 (DMH-3) 18" HDPE-115 L.F. @ 0.5%
DMH-3 RIM=116.8 INV. IN=111.07 (DMH-2) INV. OUT=110.97 (DMH-4) 18" HDPE-87 L.F. @ 0.5%
DMH-4 RIM=116.5 INV. IN=111.48 (DMH-3) INV. OUT=110.38 (DMH-5) 18" HDPE-71 L.F. @ 0.5%
DMH-5 RIM=117.4 INV. IN (W)=110.02 (DMH-4) INV. IN (E)=110.02 (CB-2) INV. OUT=109.92 (CULTEC) 18" HDPE-9 L.F. @ 0.5%
CB-2 RIM=116.5 INV. OUT=111.25 (DMH-5) 15" HDPE-44 L.F. @ 2.8%
CB-3 RIM=118.5 INV. OUT=113.25 (DMH-6) 15" HDPE-78 L.F. @ 2.0%
DMH-6 RIM=119.3 INV. IN=111.89 (CB-3) INV. OUT=111.59 (DMH-7) 15" HDPE-71 L.F. @ 2.0%
CB-4 RIM=117.5 INV. OUT=112.5 (DMH-7) 12" HDPE-31 L.F. @ 5.0%
DMH-7 RIM=118.4 INV. IN (W)=110.17 (DMH-6) INV. IN (E)=110.95 (CB-4) INV. OUT=110.07 (CULTEC) 15" HDPE-5 L.F. @ 4.4%
CB-5 RIM=114.0 INV. OUT=109.85 (CULTEC) 18" HDPE-24 L.F. @ 0.0%

PROPOSED SUBSURFACE INFILTRATION SYSTEM
240 CULTEC RECHARGER
MODEL 330ALND UNITS
(20 ROWS OF 12)
OR APPROVED EQUAL
(SEE DETAILS ON DRAWING C-8)

NOTE:
ADJUST EXISTING STRUCTURES
TO NEW GRADES.



LEGEND

FIRE DEPARTMENT CONNECTION	IRON ROD FOUND
UTILITY POLE WITH RISER	STONE BOUND WITH DRILL HOLE
UTILITY POLE	STONE BOUND
UTILITY POLE WITH LIGHT	FIRE ALARM
UTILITY POLE WITH TRANSFORMER	GAS MANHOLE
UTILITY WITH RISER AND TRANSFORMER	ROUND CATCH BASIN
SHRUB	CATCH BASIN
SIGN (SINGLE POSTED)	DRAIN MANHOLE
BOLT OVER MAIN OUTLET	NO LABEL MANHOLE
EDGE OF PAVEMENT	SEWER MANHOLE
VERTICAL GRANITE CURB	ELECTRIC BOX
CONCRETE CURB	ELECTRIC HANDHOLE
LANDSCAPED AREA	ELECTRIC METER
FINISHED FLOOR ELEVATION	ELECTRIC MANHOLE
CONCRETE RETAINING WALL	GAS METER
BUILDING OVERHANG	GAS VALVE
JERSEY BARRIER	WATER GATE
CORRUGATED METAL PIPE	FIRE HYDRANT
POLYETHYLENE GLYCOL	SIGN (DOUBLE POSTED)
CAST IRON	POST
INVERT	MONITORING WELL
RECORD INFORMATION	LIGHT POLE
UNABLE TO OBSERVE	GOLLARD
COULD NOT OPEN	HANDICAP PARKING
	VALVE
	BENCHMARK
---	PROJECT PROPERTY LINE
---	PROPERTY LINE
---	ADJUTERS LOT LINE
---	RIGHT OF WAY
---	EXISTING EASEMENT
---	TEMPORARY EASEMENT
---	EDGE OF PAVEMENT
---	CHAIN LINK FENCE
---	METAL GUARDRAIL
---	BUILDING OVERHANG
---	SEWER LINE
---	DRAIN LINE
---	WATER LINE
---	GAS LINE
---	OVERHEAD WIRES
---	TREE LINE
---	INTERMEDIATE CONTOURS
---	INDEX CONTOURS
---	WETLAND LINE
---	75 FT. WETLAND BUFFER
---	250 FT. WETLAND BUFFER
---	LIMIT OF NEW PAVEMENT
---	PHASE LIMITS
---	EROSION CONTROL BARRIER
---	PROPOSED CURB (C-5)
---	PROPOSED CONTOUR
---	PROPOSED SPOT GRADE
---	PROPOSED CATCH BASIN (A, C-5)
---	NEW CATCH BASIN FRAME & GRATE (A, C-5)
---	PROPOSED DRAIN MANHOLE (B, C-5)
---	PROPOSED STORMDRAIN
---	PROPOSED AREA OF NEW PAVEMENT (A, C-5)

GRAPHIC SCALE
0 20 40 60
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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SITE GRADING, PAVING AND IMPERVIOUS CAP
LIBERTY UTILITIES
38 BRIDGE STREET, NASHUA, NH

GRADING PLAN

PREPARED BY G2A GeoEnvironmental, Inc. Engineers and Scientists www.g2a.com	PREPARED FOR LIBERTY UTILITIES (NEW HAMPSHIRE) 15 BUTTRICK ROAD LONDONDERRY, NH 03053
DESIGNED BY: STD DRAWN BY: EDM DATE: FEB. 27, 2020	CHECKED BY: TBJ SCALE: 1"=40' REVISION NO.: DRAWING: C-4



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