1. Planning Board Regular Zoom Meeting Agenda

   Documents:

   20201008 NCPB AGENDA.PDF

2. Planning Board Staff Reports And Plans

   Documents:

   20201008 207 MANCHESTER STREET CUP STAFF REPORT.PDF
   20201008 207 MANCHESTER STREET CUP PLAN.PDF
   20201008 117 WEST GLENWOOD STREET LOT LINE RELOCATION STAFF REPORT.PDF
   20201008 117 WEST GLENWOOD STREET LOT LINE RELOCATION PLAN.PDF
   20201008 1 MORNINGSIDE DRIVE SUBDIVISION STAFF REPORT.PDF
   20201008 1 MORNINGSIDE DRIVE SUBDIVISION PLAN.PDF
   20201008 599 WEST HOLLIS STREET SUBDIVISION PLAN STAFF REPORT.PDF
   20201008 599 WEST HOLLIS STREET SUBDIVISION PLAN.PDF
   20201008 453 SOUTH MAIN STREET SUBDIVISION PLAN.PDF
   20201008 453 SOUTH MAIN STREET SUBDIVISION STAFF REPORT.PDF
   20201008 207 MANCHESTER STREET SITE PLAN STAFF REPORT.PDF
   20201008 207 MANCHESTER STREET SITE PLAN.PDF
   20201008 117 WEST HOBART STREET SITE PLAN STAFF REPORT.PDF
   20201008 117 WEST HOBART STREET SITE PLAN.PDF
   20201008 190 BROAD STREET SITE PLAN STAFF REPORT.PDF
   20201008 190 BROAD STREET SITE PLAN.PDF
   20201008 278 DANIEL WEBSTER HIGHWAY SITE PLAN STAFF REPORT.PDF
   20201008 278 DANIEL WEBSTER HWY SITE PLAN.PDF

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

Planning & Zoning 589-3090
Fax 589-3119
WEB www.nashuanh.gov

September 25, 2020

AGENDA

To: NCPB Members

From: Planning Staff

Re: Regular Meeting and Public Hearing, October 8, 2020

Notice is hereby given that a Public hearing of the City of Nashua Planning Board will meet on Thursday, October 8, 2020 at 7:00 PM via a Zoom Meeting. Real-time public comment can be addressed to the Board utilizing Zoom virtual meeting software for remote access. This application will allow users to view the meeting and ask questions to the Board via the chat function. The public is also encouraged to submit their comments via email **planningdepartment@nashuanh.gov** to the Department email or by mail (please make sure to include your name/address and comments) by 5pm on October 8, 2020 and read into the record at the appropriate time. Letters should be addressed to City of Nashua, Planning Department, P.O. Box 2019, Nashua, NH 03061. Plans can be viewed on online starting October 2, 2020 at **www.nashuanh.gov** in the Calendar or Agendas and Minutes.

To access Zoom***: https://us02web.zoom.us/j/84790844687?pwd=Ynd2d3htcjZMeEtnZFZpREthc1h2QT09***

Meeting number/access code: **847 9084 4687**– Password: **359526**

To join by phone: **1 (929) 436-2866 -** Meeting number/access code**: 847 9084 4687**

If for some reason you can't connect to Zoom, please contact us at **(603) 589-3115.**

A. Call to Order
B. Roll Call
C. Approval of Minutes – September 24, 2020
D. Communications
E. Report of Chairman, Committee, & Liaison
F. Executive Session

OLD BUSINESS – CONDITIONAL / SPECIAL USE PERMITS

None

OLD BUSINESS - SUBDIVISION PLANS

None

OLD BUSINESS – SITE PLANS

None

NEW BUSINESS – CONDITIONAL / SPCIAL USE P-RMITS

1. City of Nashua (Owner) – Application and acceptance of proposed Conditional Use Permit for changes to Pennichuck Middle School. Property is located at 207 Manchester Street. Sheet 54 - Lot 32. Zoned "R18" Suburban Residence. Ward 3.

NEW BUSINESS –SUBDIVISION PLANS

2. Roscommon Investments, LLC and MAG RE Holdings-Nashua, LLC (Owners). - Application and acceptance of proposed lot line adjustment. Property is located at 117 West Glenwood Street and "L" West Hobart Street. Sheet 132 - Lots 84 & 31. Zoned "RA" Urban Residence. Ward 7. **Postponed from the September 24, 2020 meeting)**
3. MG Holdings (Owner) - Proposed three lot subdivision. Application and acceptance of property is located at 1 Morningside Drive. Sheet 118 - Lot 129. Zoned "RA" Urban Residence. Ward 7. **(Postponed from the September 24, 2020 meeting)**
4. Crimson Properties, LLC (Owner) – Application and acceptance of proposed four lot subdivision. Property is located at 599 West Hollis Street. Sheet E - Lot 66. Zoned "R9" Suburban Residence. Ward 5.
5. Stellos Family Investment Properties, LLC (Owner) – Application and acceptance of proposed five lot subdivision and dedication of land. Property is located at 453 South Main Street. Sheet 112 - Lot 11. Zoned "RA" Urban Residence. Ward 7.

NEW BUSINESS – SITE PLANS

6. City of Nashua (Owner) – Application and acceptance of proposed site plan amendment to Pennichuck Middle School to construct additions, complete various renovations and upgrade the existing school layout. Site layout changes include a realigned perimeter access road, a new curb-cut from Manchester Street for a one-way drive for bus/emergency traffic, a new bus loop and additional parking. Property is located at 207 Manchester Street. Sheet 54 - Lot 32. Zoned "R18" Suburban Residence. Ward 3.
7. Roscommon Investments, LLC (Owner) - Application and acceptance of proposed site plan to construct a new 22,560 sf auto body shop with parking, vehicle storage, and associated site improvements. Property is located at 117 West Hobart Street, "L" Glenwood Street, and "L" West Hobart Street . Sheet 132, Lots 84 & 38. Sheet 128, Lots 31, 32, & 84. Zoned "HB" Highway Business and "RA" Urban Residence. Ward 7. **(Postponed from the September 24, 2020 meeting)**
8. Granite State Credit Union (Owner) - Application and acceptance of proposed amendment to NR2186 to show a proposed 2-story, 10,000 sf credit union with drive-through facilities and associated site improvements. Property is located at 190 Broad Street. Sheet E - Lot 744. Zoned "GB" General Business. Ward 1. **(Postponed from the September 24, 2020 meeting)**
9. 278 Daniel Webster Highway, LLC (Owner) – Application and acceptance of proposed site plan amendment to show the redevelopment of an existing retail building and associated site improvements. The property is located at 278 Daniel Webster Highway. Sheet A - Lot 133. Zoned "HB" Highway Business & "TOD" Transit Oriented Development. Ward 7.
10. Liberty Utilities (Owner) - Application and acceptance of proposed amendment to install an impermeable cap over former Gas Holders #1 & #2 to meet requirements of the NH Department of Environmental Services, regrade, repave and expand the site's existing parking lot and improve the stormwater management system. Property is located at 25 Van Buren & 38 Bridge Streets. Sheets 4 & 39 - Lots 11 & 26. Zoned "TOD" Transit Oriented Development and GI-General Industrial. Ward 7. **(Postponed until October 22, 2020 meeting)**

OTHER BUSINESS

1. Review of tentative agenda to determine proposals of regional impact.

DISCUSSION ITEM

1. Merritt Parkway

NONPUBLIC SESSION

The Planning Board will need to make a motion to enter into a Nonpublic Session under RSA 91-A:3, II (e) for consideration or negotiation of pending claims or litigation which has been threatened in writing or filed against the public body.

NEXT MEETING

October 22, 2020

ADJOURN

WORKSHOP

ACCOMMODATIONS FOR THE SENSORY IMPAIRED

"SUITABLE ACCOMMODATIONS FOR THE SENSORY IMPAIRED WILL BE PROVIDED UPON ADEQUATE ADVANCE NOTICE."

CONDUCT AT PLANNING BOARD MEETING

When the meeting is called to order, the only talking allowed in the Auditorium will be remarks addressed to the Chairman. Except for the original presentation of the subject or application, each person speaking for or against shall be limited to five (5) minutes until all have been given an opportunity to be heard, at which time each person may be allowed additional time if deemed necessary by the Board or the Chairman. When you are recognized by the Chairman, proceed to the podium, using the microphone, state your name and address and then make your comments. Courtesy is shown when you reserve your comments for the proper time.

PLEASE BE COURTEOUS

By Order of the Chair

NASHUA CITY PLANNING BOARD
STAFF REPORT

TO: Nashua City Planning Board
FROM: Linda McGhee, Deputy Planning Manager
FOR: October 8, 2020
RE: **New Business #1 - Conditional Use Permit**

Owner:	City of Nashua
Proposal:	Conditional Use Permit to construct additions and upgrade the existing school layout
Location:	207 Manchester Street
Total Site Area:	21.33 acres
Existing Zoning:	R18-Suburban Residence
Surrounding Uses:	Residential

II. Background Information:

Pennichuck Middle School was constructed in the 1980s . To the north and east are wooded areas, Manchester Street to the west and the Henry Burque Highway to the south. The school has approximately 112 staff members and 639 students enrolled. The school uses 11 buses to transport approximately 435 students and another 228 students walk to and from school.

III. Project Description:

The proposal is for a conditional use permit for modifications to the school includes a number of building additions, interior renovations and upgrades to the existing site layout. The change to the school is only permitted conditionally in the R18 Zone. There are nine approval criteria for a conditional use permit found in NRO § 190-133(F). The applicant addresses the criteria in the attached letter.

City Staff reviewed the plans; there are no outstanding issues.

IV. Staff Recommendations and Findings:

The Planning Board should make a determination that the plan meets, or does not meet, the requirements outlined in the Site Plan NRO Section 190-133(F). The Board should review these prior to making a motion. If the Planning Board chooses to disapprove the plan, they should state specific reasons. If the Planning Board chooses to approve this plan, the staff recommends the following stipulation be made part of that approval:

None

THE UNDERSIGNED DOES HEREBY AGREE TO PERFORM ALL OF THE IMPROVEMENTS AS SHOWN ON THIS PLAN AND AS CONDITIONED OR STIPULATED BY THE NASHUA CITY PLANNING BOARD. ALL REQUIRED SITE IMPROVEMENTS MUST BE COMPLETED OR GUARANTEED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

DATE:

APPROVED - NASHUA CITY PLANNING BOARD

CHAIR: DATE:

SECRETARY: DATE:

DATE:

DATE:

DATE:

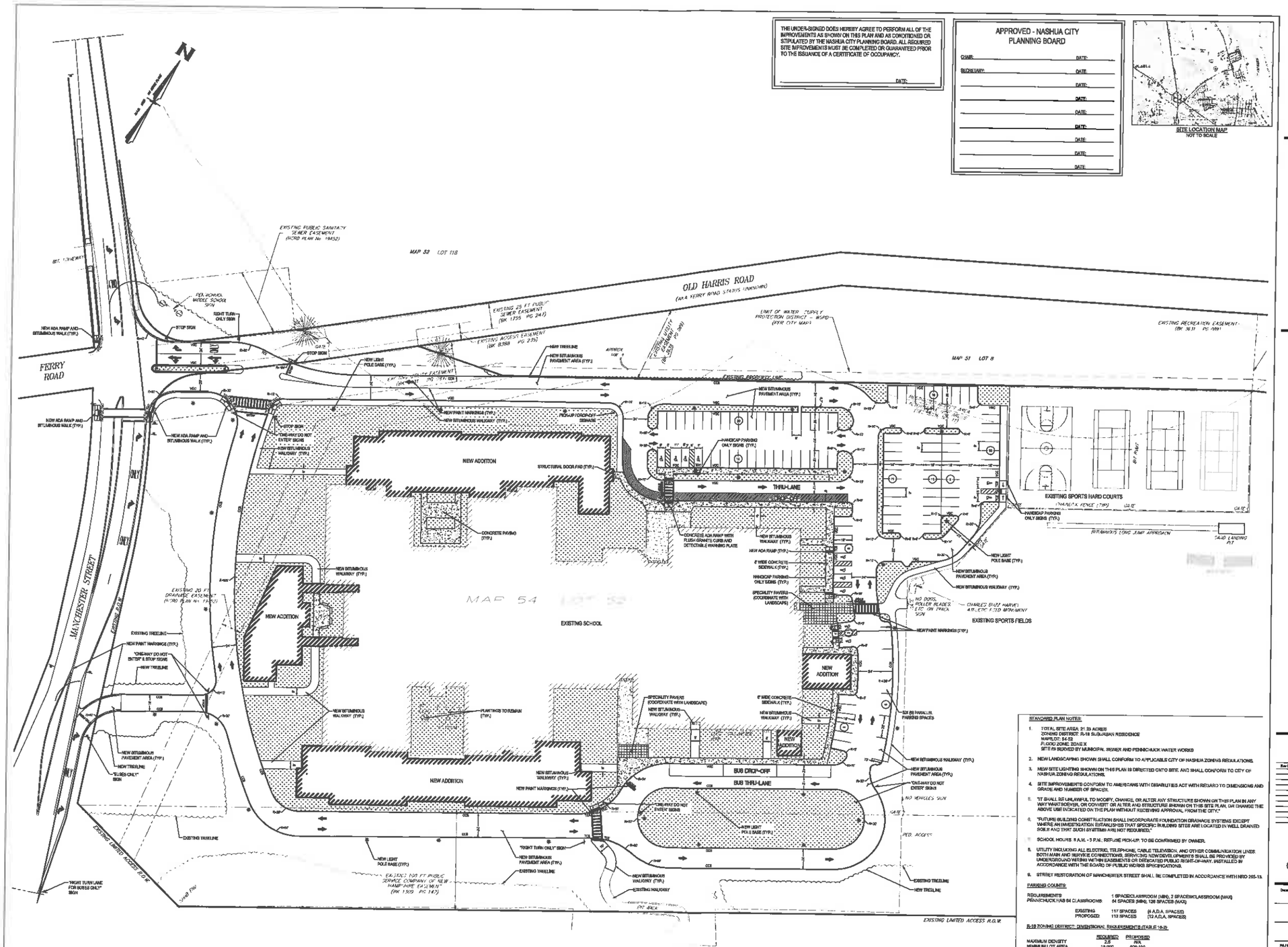
DATE:

DATE:

DATE:

DATE:

SITE LOCATION MAP
NOT TO SCALE



STANDARD PLAN NOTES:

1. TOTAL SITE AREA 21.33 ACRES
   ZONING DISTRICT: R-18 SUBURBAN RESIDENCE
   MAPLOT: 54-52
   FLOOD ZONE: ZONE X
   SITE IS SERVED BY MUNICIPAL SEWER AND PENNICHUCK WATER WORKS
2. NEW LANDSCAPING SHOWN SHALL CONFORM TO APPLICABLE CITY OF NASHUA ZONING REGULATIONS.
3. NEW SITE LIGHTING SHOWN ON THIS PLAN IS DIRECTED ONTO SITE AND SHALL CONFORM TO CITY OF NASHUA ZONING REGULATIONS.
4. SITE IMPROVEMENTS CONFORM TO AMERICANS WITH DISABILITIES ACT WITH REGARD TO DIMENSIONS AND GRADE AND NUMBER OF SPACES.
5. "IT SHALL BE UNLAWFUL TO MODIFY, CHANGE, OR ALTER ANY STRUCTURE SHOWN ON THIS PLAN IN ANY WAY WHATSOEVER, OR CONVERT OR ALTER AN STRUCTURE SHOWN ON THIS SITE PLAN, OR CHANGE THE ABOVE USE INDICATED ON THE PLAN WITHOUT RECEIVING APPROVAL FROM THE CITY."
6. "FUTURE BUILDING CONSTRUCTION SHALL INCORPORATE FOUNDATION DRAINAGE SYSTEMS EXCEPT WHERE AN INVESTIGATION ESTABLISHES THAT SPECIFIC BUILDING SITES ARE LOCATED IN WELL DRAINED SOILS AND THAT SUCH SYSTEMS ARE NOT REQUIRED."
7. SCHOOL HOURS: 8 A.M. - 3 P.M.; REFUSE PICK-UP TO BE CONFIRMED BY OWNER.
8. UTILITY INCLUDING ALL ELECTRIC, TELEPHONE, CABLE TELEVISION, AND OTHER COMMUNICATION LINES BOTH MAIN AND SERVICE CONNECTIONS, SERVICING NEW DEVELOPMENTS SHALL BE PROVIDED BY UNDERGROUND WIRING WITHIN EASEMENTS OR DEDICATED PUBLIC RIGHT-OF-WAY, INSTALLED IN ACCORDANCE WITH THE BOARD OF PUBLIC WORKS SPECIFICATIONS.
9. STREET RESTORATION OF MANCHESTER STREET SHALL BE COMPLETED IN ACCORDANCE WITH NRO 265-13.

PARKING COUNTS:

REQUIREMENTS: 1 SPACE/CLASSROOM (MIN); 2 SPACES/CLASSROOM (MAX)
PENNICHUCK HAS 54 CLASSROOMS: 54 SPACES (MIN); 108 SPACES (MAX)

EXISTING	117 SPACES	(6 A.D.A. SPACES)
PROPOSED	112 SPACES	(10 A.D.A. SPACES)

R-18 ZONING DISTRICT: DIMENSIONAL REQUIREMENTS (TABLE 18-3):

	REQUIRED	PROPOSED
MAXIMUM DENSITY	2.5	N/A
MINIMUM LOT AREA	18,000	928,100
MINIMUM LOT WIDTH	120	950
MINIMUM FRONTAGE	100	620
MINIMUM LOT DEPTH	100	1,000+
MINIMUM FRONT SETBACK	20	125
MAXIMUM FRONT SETBACK	-	-
MINIMUM SIDE SETBACK	20	55
MAXIMUM SIDE SETBACK	-	-
MINIMUM REAR SETBACK	40	N/A
MAXIMUM HEIGHT	36	18
MAXIMUM STORIES	2 1/2	N/A
OPEN SPACE PERCENTAGE	50	70+
MAXIMUM FLOOR AREA RATIO	-	-

NOTES:

1. SIGNAGE FOR THE NEW PARENT PICKUP/DROP-OFF SHALL BE COORDINATED AND APPROVED BY THE CITY OF NASHUA JOINT SPECIAL SCHOOL BUILDING COMMITTEE AND SHALL CONFORM TO APPLICABLE CITY OF NASHUA ZONING REGULATIONS.

HARRIMAN

NASHUA BOSTON PORTLAND PORTSMOUTH

NASHUA SCHOOL DISTRICT
PENNICHUCK MIDDLE SCHOOL
ADDITIONS AND RENOVATIONS

NASHUA, NEW HAMPSHIRE

Harriman Project No. 20022

Key Plan | Prel Month

GRAPHIC SCALE
(1 inch = 20 feet)

SITE PLAN APPLICATION
AUGUST 27, 2020

For Date	Revision Description

PRELIMINARY
NOT FOR
CONSTRUCTION

Drawing Status	
PM / PE: SKF	© 2020 Harriman Associates
Drawn by: BMW/HAS	

SITE
OVERVIEW
PLAN

C00-1

NASHUA CITY PLANNING BOARD
STAFF REPORT

TO: Nashua City Planning Board
FROM: Linda McGhee, Deputy Planning Manager
FOR: September 10, 2020
RE: **New Business #3 - Subdivision**

I. Project Statistics:

Owner :	Roscommon Investments, LLC and MAG RE Holdings-Nashua, LLC
Proposal:	Lot line relocation plan and consolidation
Location:	117 West Glenwood Street and "L" West Hobart Street
Total Site Area:	3.761 acres (163,828 sf)
Existing Zoning:	RA-Urban Residence
Surrounding Uses:	Residential and commercial

II. Background Information:

Lot 84 ("L" West Hobart Street) is a vacant lot that is mostly wooded. On August 4, 2016 the planning board approved a site plan for a 163 space parking lot on Lot 31 (117 West Glenwood Street); the approval letter and staff report are attached.

III. Project Description:

The purpose of this plan is to show a proposed lot line adjustment and consolidation for Sheet 132, Lot 84 and Sheet 132 Lot 31. A proposed access easement will be created to benefit Roscommon Investments, LLC. Parcel "A" as shown on the plan will be consolidated with Sheet 132, Lot 84. Parcels "B" & "C" as shown on the plan will be consolidated with Sheet 132, Lot 31. A site plan has also been submitted as part of the project.

The applicant has requested a waiver from the requirement to show physical features on site and within 1,000 feet.

The plan was reviewed by City staff; comments are attached.

Staff Recommendations and Findings:

The Planning Board should make a determination that the plan meets, or does not meet the requirements outlined in the Subdivision NRO § 190-138(G). The Board should review these prior to making a motion. If the Planning Board chooses to disapprove the plan, specific reasons should be given. If the Planning Board chooses to approve this plan, staff recommends the following stipulation be made part of that approval:

1. The request for a waiver of § 190-282(B)(9), which requires an existing conditions plan, **is/is not** granted, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation.

2. Prior to the Chair signing the plan, all minor drafting corrections will be made.

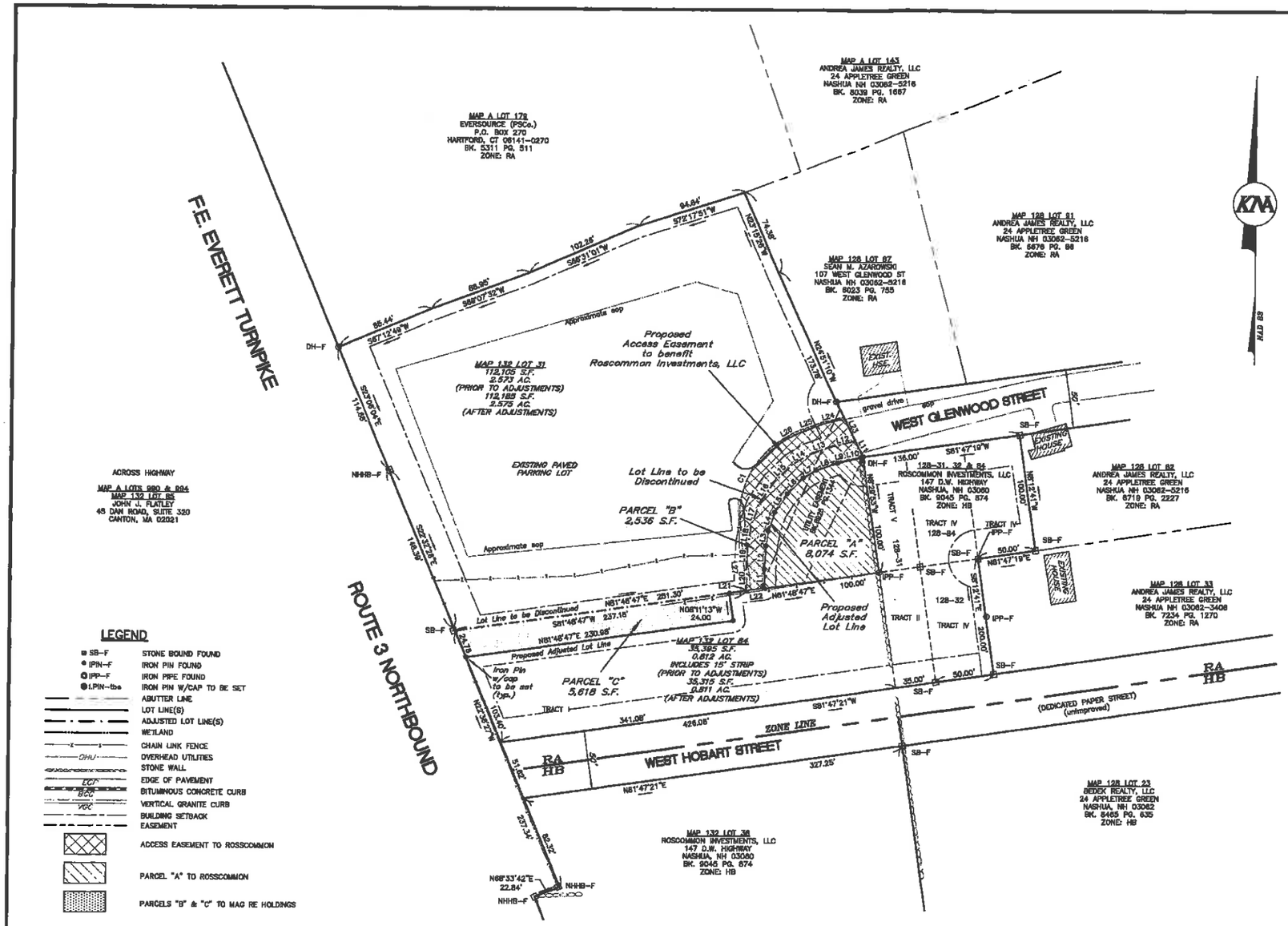
3. Prior to the Chair signing the plan, all comments in an e-mail from Joe Mendola, Street Construction Engineer dated _____ shall be addressed to the satisfaction of the Engineering Department.

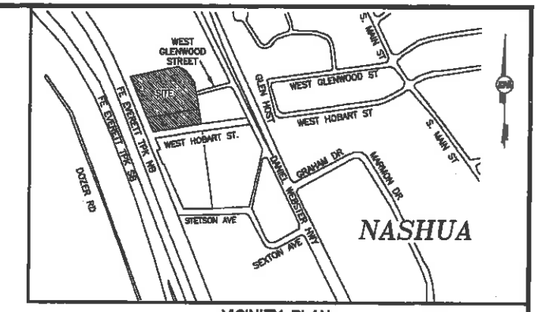
4. Prior to recording of the plan, all conditions from the Planning Board approval letter will be added to the final mylar and paper copies submitted to the City.

5. Prior to recording the plan, the electronic file of the plan shall be submitted to the City of Nashua.

6. Any easements will be submitted to Planning staff for review and recorded with the plan at the applicant's expense.

7. The site plan for 117 West Glenwood Street will need to be amended to show the change in lot size.





VICINITY PLAN

SCALE: 1" = 500' +/-

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT PROPOSED LOT LINE ADJUSTMENTS AND CONSOLIDATIONS ON ASSESSOR'S MAP 128 LOT 84 AND MAP 132 LOT 31 SITUATED ON THE WESTERLY END OF WEST GLENWOOD STREET IN NASHUA, NEW HAMPSHIRE. FURTHER TO SHOW INFORMATION FOR A PROPOSED ACCESS EASEMENT FOR THE BENEFIT OF ROSSCOMMON INVESTMENTS, LLC AND NO OTHER PURPOSE.
2. LOT AREAS PRIOR TO ADJUSTMENTS: MAP 132 LOT 31: 112,105 SF, OR 2.573 ACRES.
   MAP 132 LOT 84: 35,385 S.F. OR 0.812 ACRES.
3. PARCEL "A" IS TO BE CONSOLIDATED WITH MAP 132 LOT 84.
   PARCELS "B" & "C: TO BE CONSOLIDATED WITH MAP 132 LOT 31.
4. ZONING: URBAN RESIDENCE DISTRICT (R-A)
   MINIMUM BUILDING SETBACKS:
   - FRONT 25 FT
   - SIDE 10 FT
   - REAR 25 FT
   HIGHWAY BUSINESS DISTRICT (HB)
   - FRONT 20 FT
   - SIDE 10 FT
   - REAR 20 FT
5. BOUNDARY AND TOPOGRAPHIC INFORMATION IS BASED ON A FIELD SURVEY PERFORMED BY THIS OFFICE IN DECEMBER OF 2017 AND JANUARY OF 2019 HAVING A MINIMUM ERROR OF CLOSURE OF NOT LESS THAN ONE PART IN TEN THOUSAND(1:10,000).
6. HORIZONTAL DATUM IS NAD 83, NORTH ORIENTATION IS NAD 83, VERTICAL DATUM IS NGVD29.
7. EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE CITY OF NASHUA NEW HAMPSHIRE, HILLSBOROUGH COUNTY, COMMUNITY PANEL NUMBER 330007 0692E PANEL NUMBER 652 OF 701. EFFECTIVE DATE: APRIL 19, 2011 INDICATES THAT NO PORTION OF THE SUBJECT PREMISES IS LOCATED WITHIN A DESIGNATED FLOOD HAZARD AREA.
8. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
9. EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
10. BOUNDARY INFORMATION FOR MAP 132 LOT 31 IS BASED ON REFERENCE PLAN 1. THE BEARINGS SHOWN ON REFERENCE PLAN 4 HAVE BEEN TRANSLATED TO MATCH THE BEARING SYSTEM OF THE SURVEY WORK BY THIS OFFICE.
11. SUBJECT TRACTS HAVE AVAILABLE MUNICIPAL SEWER SERVICE AND PENNICHUCK WATER WORKS WATER SERVICE.
12. ANY FUTURE BUILDING CONSTRUCTION SHALL INCORPORATE FOUNDATION DRAINAGE SYSTEMS, EXCEPT WHERE AN INVESTIGATION ESTABLISHES THAT SPECIFIC BUILDING SITES ARE LOCATED WITHIN WELL DRAINED SOILS AND THAT SUCH SYSTEMS ARE NOT REQUIRED.
13. A WAIVER IS REQUESTED FROM SECTION LUC 190-282(8)(9) SINCE AN EXISTING CONDITIONS PLAN IS DETAILED IN THE ACCOMPANYING SITE PLAN.

REFERENCE PLANS:

1. EASEMENT PLAN, MAP 132 LOT 31, 117 WEST GLENWOOD STREET, NASHUA, NEW HAMPSHIRE. DATED: 30 SEPTEMBER 2016. SCALE: 1"=30'. PREPARED BY HAYNER/SWANSON INC. HCRD PLAN #39110.
2. BOUNDARY PLAN – SIENKIEWICZ PROPERTY, WEST GLENWOOD STREET, NASHUA, NEW HAMPSHIRE. SCALE: 1"=50'. DATED: JANUARY 22, 2018. PREPARED BY THIS OFFICE. RECORDED AT THE HCRD AS PLAN #39572.

GRAPHIC SCALE

50' 0' 25' 50' 100' 200'

(IN FEET)
1 inch = 50 ft.

LEGEND

SB-F	STONE BOUND FOUND
IPIN-F	IRON PIN FOUND
IPP-F	IRON PIPE FOUND
I.PIN-tbs	IRON PIN W/CAP TO BE SET
	ABUTTER LINE
	LOT LINE(S)
	ADJUSTED LOT LINE(S)
	WETLAND
	CHAIN LINK FENCE
OHU	OVERHEAD UTILITIES
	STONE WALL
EOP	EDGE OF PAVEMENT
BCC	BITUMINOUS CONCRETE CURB
VGC	VERTICAL GRANITE CURB
	BUILDING SETBACK
	EASEMENT
	ACCESS EASEMENT TO ROSSCOMMON
	PARCEL "A" TO ROSSCOMMON
	PARCELS "B" & "C" TO MAG RE HOLDINGS

DIG SAFE
811 CALL TOLL FREE
81-JAN-AN-47-NH
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

LINE TABLE

LINE	LENGTH	BEARING	LINE	LENGTH	BEARING
L1	16.19	N00°28'13"E	L12	19.76	S78°16'50"W
L2	20.41	N03°04'07"E	L13	22.00	S70°27'58"W
L3	12.79	N08°37'06"E	L14	16.03	S59°32'30"W
L4	17.21	N18°43'40"E	L15	22.84	S49°10'07"W
L5	18.61	N33°35'37"E	L16	22.28	S33°35'37"W
L6	19.42	N45°10'07"E	L17	20.49	S18°43'40"W
L7	12.70	N59°32'30"E	L18	14.84	S08°37'06"W
L8	19.81	N70°27'58"E	L19	21.49	S03°04'07"W
L9	20.94	N78°12'26"E	L20	16.54	S00°28'13"W
L10	1.43	N81°36'00"E	L21	2.28	S03°52'30"E
L11	15.48	N26°16'58"W	L22	15.00	N81°48'47"E
			L23	22.44	S26°17'03"E
			L24	19.04	N76°16'50"E
			L25	24.56	N70°27'58"E
			L26	10.87	S59°32'30"W
			L27	59.83	N05°12'25"W

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	75.00'	84.76'	80.32'	S27°10'02"W	64°44'55"

UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN DRAWN FROM FIELD SURVEY INFORMATION AND OR PLOTTED FROM EXISTING DRAWINGS. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, KEACH-NORDSTROM ASSOCIATES, INC. DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. KEACH-NORDSTROM ASSOCIATES, INC. HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

OWNER'S SIGNATURE BLOCK

ROSCOMMON INVESTMENTS, LLC — DATE 6/18/2020

MAG RE HOLDINGS-NASHUA, LLC — DATE 6/22/20

APPROVED – NASHUA CITY PLANNING BOARD

CHAIRMAN — DATE

SECRETARY — DATE

SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER BY DIRECT SUPERVISION. FURTHER, THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND BY THIS OFFICE DURING DECEMBER OF 2017 AND JANUARY OF 2018. SAID SURVEY HAS AN ERROR OF CLOSURE BETTER THAN ONE PART IN TEN THOUSAND (1:10,000).

LICENSED LAND SURVEYOR — DATE 9-24-2020

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 714 MICHAEL R. DALBERG SIGNATURE

Lot Line Adjustment & Consolidation Plan

between the lands of

ROSCOMMON INVESTMENTS, LLC & MAG RE HOLDINGS-NASHUA, LLC

MAP 132 LOTS 31 & 84 and MAP 128 LOTS 31, 32 & 84
117 WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNERS OF RECORD:

ROSCOMMON INVESTMENTS, LLC
147 D.W. HIGHWAY
NASHUA, NH 03060
H.C.R.D. BK. 9045 PG. 874
(603) 888-5050

MAG RE HOLDINGS-NASHUA, LLC
777 WASHINGTON STREET
NEWTON, MA 02460
H.C.R.D. BK. 8926 PG. 2664
(617) 928-5400

KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/24/20	MINOR REVISIONS	PCM
2	9/23/20	MINOR REVISIONS	PCM

DATE: JUNE 15, 2020	SCALE: 1"=50'
PROJECT NO: 17-1011-1	SHEET 1 OF 1

NASHUA CITY PLANNING BOARD
STAFF REPORT

TO: Nashua City Planning Board
FROM: Linda McGhee, Deputy Planning Manager
FOR: September 10, 2020
RE: **New Business #5 - Subdivision Plan**

I. Project Statistics:

Owners: MG Holdings
Proposal: Three lot subdivision
Location: 1 Morningside Drive
Total Site Area: 0.68 acres 29,714 sf
Existing Zoning: RA-Urban Residence
Surrounding Uses: Residential and Rivier University

II. Background Information:

According to city records, presently on the lot is a single family2-story home with a basement. There is a pool and shed also on the property.

III. Project Description:

The purpose of this plan is to subdivide the parcel into three residential lots. The existing home will remain on Lot 129 and contain 12,276 sf. Lot 131 will contain 7,822 sf and have an address of 7 Morningside Drive. Lot 132 will contain 9,616 sf and have an address of 11 Morningside Drive. The minimum lot area in the RA zone is 7,500 sf and all lots meet the minimum requirements. The pool and shed will be removed. Underground utilities are being proposed.

Three waivers are being requested. The first waiver is from the requirement to show physical features on site and within 1,000 feet of the subdivision. The applicant has requested a waiver from the requirement to show existing waterlines on the plan.

The final waiver is for sidewalks. While there is a significant need for sidewalks and pedestrian facilities throughout the City of Nashua, Morningside Drive and Taft Street are not on the sidewalk priority list and does meet the standards for granting a waiver. The site meets the criteria in § 190-212(D) and the owner would be eligible to make a contribution in lieu of sidewalk construction. The applicant has offered to make a contribution in the amount of $13,576.50, which is based on $50 per linear foot along the entire frontage of the lots on Morningside Drive, subtracting a driveway width of 36 feet (18 feet per lot for the driveway). If the frontage on Taft Street is included in the sidewalk calculation of $50 per linear foot (131.90 feet – 18 feet for a driveway), an additional $5,695.00 contribution (or a total of $19,271.50 would be required.

City Staff reviewed the plans; comments are attached.

Staff Recommendations and Findings:

The Planning Board should make a determination that the plan meets, or does not meet the requirements outlined in the Subdivision NRO § 190-138(G). The Board should review these prior to making a motion. If the Planning Board chooses to disapprove the plan, specific reasons should be given. If the Planning Board chooses to approve this plan, staff recommends the following stipulation be made part of that approval:

1. The request for a waiver of § 190-282(B)(9), which requires physical features on site and within 1,000 feet, **is/is not** granted, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation.

2. The request for a waiver of § 190-282(B)(28), which waterlines to be shown for new subdivisions, **is/is not** granted, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation.

3. The request for a waiver § 190-212(A)(1), which requires that a sidewalk be located on at least one side of the street**, is/is not** granted, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation. The applicant has agreed to make a contribution in the amount of $_____ in lieu of sidewalk construction pursuant to §190-212(D)(2), payment to be made prior to recording the plan.

4. Prior to the Chair signing the plan, all minor drafting corrections will be made.

5. Prior to recording the plan, all comments in an e-mail from Joe Mendola, Street Construction Engineer, dated August 31, 2020 shall be addressed to the satisfaction of the Engineering Department.

6. Prior to recording of the plan, all conditions from the Planning Board approval letter will be added to the cover page of the final mylar and paper copies submitted to the City.

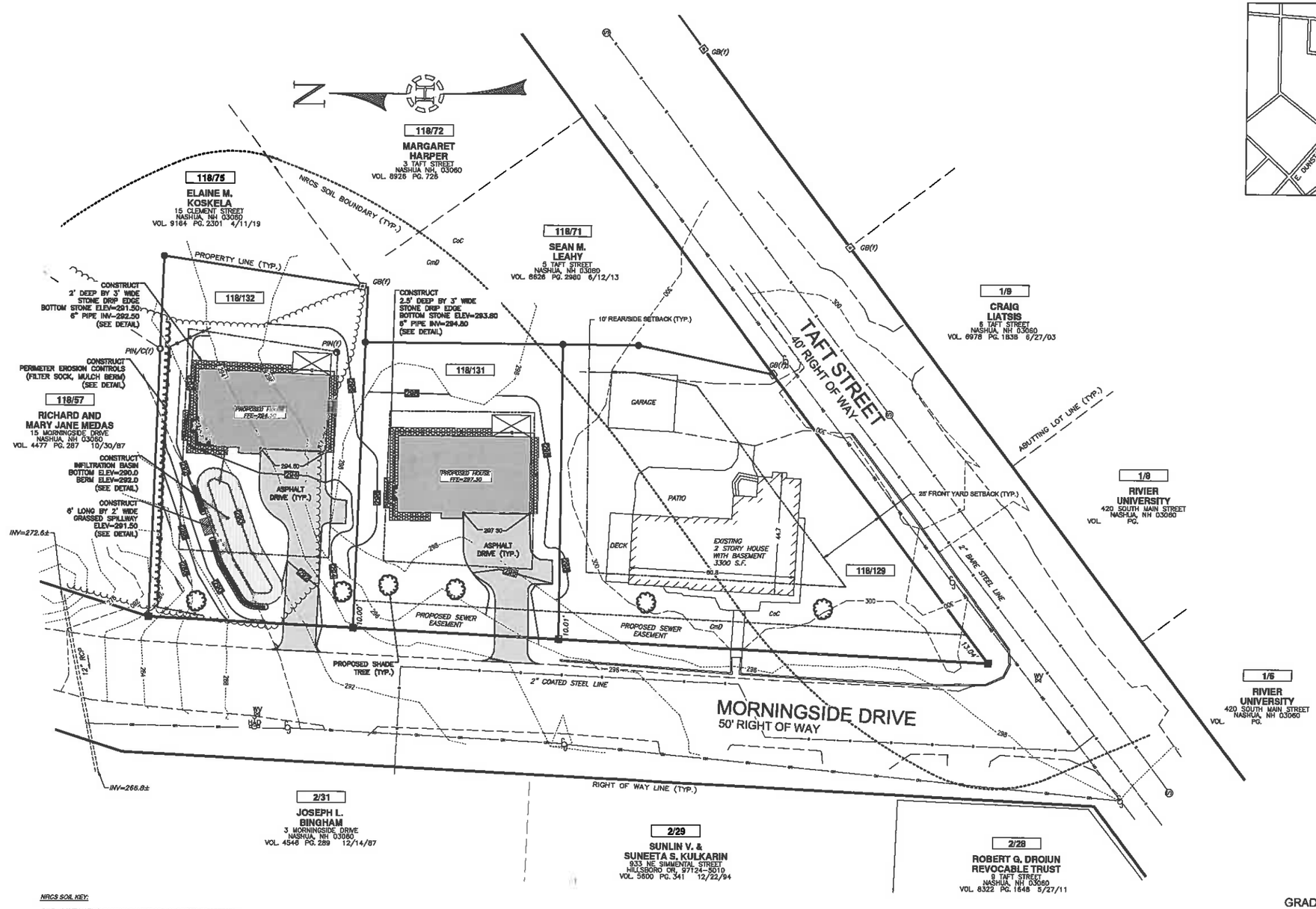
7. Prior to recording of the plan, addresses shall be shown on the plan as assigned by the Fire Marshal.

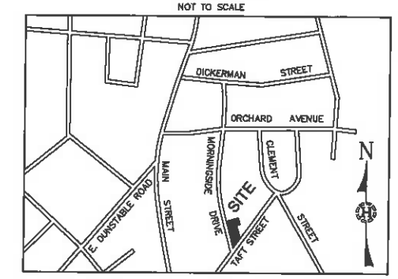
8. Prior to recording the plan, a drainage report shall be submitted to Planning and Engineering staff for review.

9. Stormwater documents and utility easements will be submitted to Planning staff for review and recorded with the plan at the applicant's expense.

10. Prior to the issuance of a building permit, the plan electronic file of the subdivision plan shall be submitted to the City of Nashua.

11. Prior to any work, a pre-construction meeting shall be held and a financial guarantee shall be approved.





LEGEND:

- EXISTING PAVEMENT
- LOT LINE
- BUILDING SETBACK LINE
- FENCE
- CONCRETE
- GRANITE CURB
- TREE LINE
- 2' CONTOUR INTERVAL
- 10' CONTOUR INTERVAL
- UNDERGROUND SEWER LINE
- OVERHEAD ELECTRIC LINE
- UNDERGROUND GAS LINE
- UNDERGROUND WATER LINE
- PROPOSED SHADE TREE
- WATER VALVE
- ELECTRIC UTILITY POLE
- PIN/CAP TO BE SET
- GRANITE BOUND TO BE SET
- SEWER MANHOLE
- HYDRANT

NRCS SOIL KEY:

CmD - CANTON FINE SANDY LOAM, 15-25% SLOPES, VERY STONY

CoC - CANTON-URBAN LAND COMPLEX, 3-15% SLOPES

REV.	DATE	DESCRIPTION	BY
B	7/31/20	REV. PER TOWN COMMENTS	DBH
A	7/13/20	REV. PER TOWN COMMENTS	DBH

SCALE: 1"=20'

20' 10' 0' 20' 40'

CIVIL ENGINEERING SERVICES PROVIDED BY:

MERIDIAN LAND SERVICES, INC.
ENGINEERING | SURVEYING | PERMITTING
SOIL & WETLAND MAPPING | SEPTIC DESIGN
31 OLD NASHUA ROAD, AMHERST, NH 03031 TEL. 603-673-1441
MERIDIANLANDSERVICES.COM FAX 603-673-1584

STATE OF NEW HAMPSHIRE
DOUGLAS V. BROGEUR
No. 12989
LICENSED
PROFESSIONAL ENGINEER

GRADING AND DRAINAGE PLAN
PREPARED FOR:

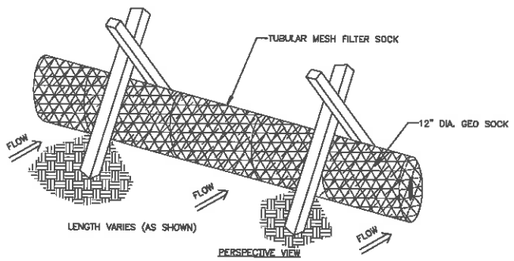
MG HOLDINGS

1 MORNING SIDE DRIVE

TAX MAP 118 LOT 129
NASHUA, NEW HAMPSHIRE

JUNE 18, 2020

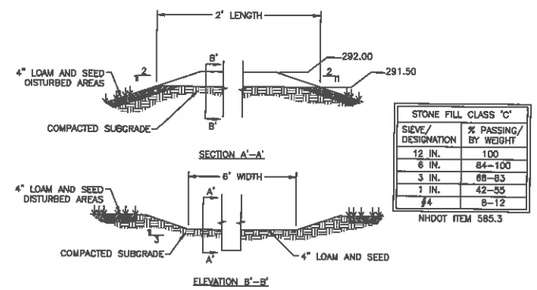
HIGGINSON LAND SERVICES
LAND SURVEYING – SEPTIC SYSTEM DESIGNS – PERMITTING
76 PATTERSON HILL ROAD HENNIKER, NH 03242
TEL: 603-660-6412 | NOTE BOOK #18 | JOB #625



1.THE FILTER SOCK SHALL BE A MESH TUBE FILLED WITH COMPOSTED MATERIAL.
2.MINIMAL CLEARING MAY BE REQUIRED TO INSTALL FILTER SOCKS.
3.INSTALL FILTER SOCKS PRIOR TO ANY CLEARING OR GRUBBING.

FILTER SOCK (ALTERNATE) — 1

MAR. 23, 2010
SCALE: NONE

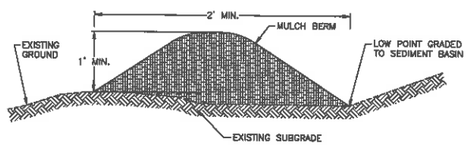


STONE FILL CLASS 'C'	
SIEVE/ DESIGNATION	% PASSING/ BY WEIGHT
12 IN.	100
6 IN.	84-100
3 IN.	68-83
1 IN.	42-55
#4	8-12

NHDOT ITEM 585.3

INFILTRATION BASIN SPILLWAY — 3

DEC. 11, 2013
SCALE: NONE

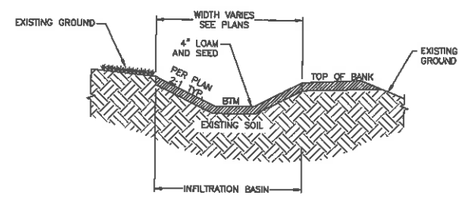


NOTES:

1. MULCH BERM MUST CONSIST PRIMARILY OF ORGANIC MATERIAL AND MAY INCLUDE THE FOLLOWING: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK OR ACCEPTABLE MANUFACTURED WOOD PRODUCTS.
2. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPOSSESSED WOOD PRODUCTS ARE NOT ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
3. EROSION CONTROL MIX SHOULD CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER.
4. THE ORGANIC MATTER CONTENT SHOULD BE BETWEEN 25% AND 65% ON A DRY WEIGHT BASIS.
5. THE MIX SHOULD NOT CONTAIN SILTS, CLAYS OR SANDS.
6. REFER TO THE NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOL. 3 SECTION 4.2 FOR COMPLETE DETAILS.

TYPICAL MULCH BERM - ALTERNATE — 2

AUG. 29, 2016
SCALE: NONE

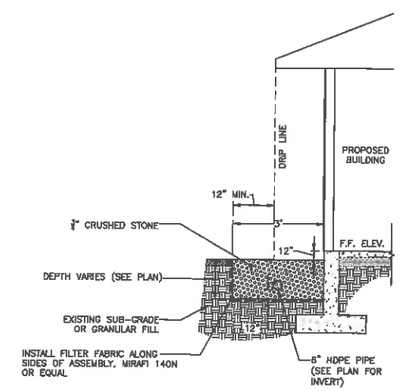


NOTES:

1. TO PREVENT DEGRADATION OF INFILTRATION FUNCTION:
   A. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.
   B. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE BIO-RETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
2. DO NOT PLACE INFILTRATION BASINS INTO SERVICE UNTIL THE CONTRIBUTING AREA HAS BEEN COMPLETELY STABILIZED.
3. PREPARE THE BOTTOM OF THE INFILTRATION BASIN BED WITH 4" OF LOAM AND SEED.

INFILTRATION BASIN - TYPICAL CROSS-SECTION — 4

NOV. 13, 2008
SCALE: NONE



ROOF DRIP LINE — 5

JULY 15, 2013
SCALE: NONE

REV.	DATE	DESCRIPTION	BY
B	7/31/20	REV. PER TOWN COMMENTS	DBH
A	7/13/20	REV. PER TOWN COMMENTS	DBH

CIVIL ENGINEERING SERVICES PROVIDED BY:

MERIDIAN LAND SERVICES, INC.
ENGINEERING | SURVEYING | PERMITTING
SOIL & WETLAND MAPPING | SEPTIC DESIGN
31 OLD NASHUA ROAD, AMHERST, NH 03031 TEL. 603-673-1441
MERIDIANLANDSERVICES.COM FAX 603-673-1584

STATE OF NEW HAMPSHIRE
DOUGLAS V. BRODEUR
No. 12986
LICENSED
PROFESSIONAL ENGINEER

SITE DETAILS
PREPARED FOR:

MG HOLDINGS

1 MORNING SIDE DRIVE

TAX MAP 118 LOT 129

NASHUA, NEW HAMPSHIRE

JUNE 18, 2020

HIGGINSON LAND SERVICES
LAND SURVEYING - SEPTIC SYSTEM DESIGNS - PERMITTING
76 PATTERSON HILL ROAD HENNIKER, NH 03242
TEL: 603-660-6412 | NOTE BOOK #16 | JOB #625

NASHUA CITY PLANNING BOARD
STAFF REPORT

TO: Nashua City Planning Board
FROM: Linda McGhee, Deputy Planning Manager
FOR: October 10, 2020
RE: **New Business # - Subdivision Plan**

I. Project Statistics:

Owner: Crimson Properties, LLC
Proposal: Four lot subdivision
Location: 599 West Hollis Street
Total Site Area: 1.028 acres (44,792 sf)
Existing Zoning: R9-Suburban Residence
Surrounding Uses: Residential and charter school

II. Background Information:

Currently the property is developed and contains a one-story dwelling, two sheds, a mobile home and a shared driveway. Access to the site is via two curb cuts onto West Hollis Street. The high point of the lot is in the northwest corner to a low point at the intersection of Wellesley Road and West Hollis Street off of the southeast corner for a total grade change of approximately 16 feet. The mobile home and two sheds will be demolished.

III. Project Description:

The purpose of this plan is to subdivide the parcel into four residential lots as follows;

Lot #	**Address**	**Lot Size**
Lot 66 (with existing house)	599 West Hollis Street	9,206 sf
Lot 2251	601 West Hollis Street	14,012 sf
Lot 2252	2 Wellesley Road	10,624 sf
Lot 2253	4 Wellesley Road	10,951 sf

All lots will meet the minimum zoning requirements. The applicant's engineer has provided a stormwater report. It is being proposed to install gutters, downspouts and leaching roof units (catch basins) adjacent to the three new houses plus the one existing house (see attached). Approximately 4,940 sf of new impervious area will be added as part of the proposed subdivision. There are no wetland or wetland buffer impacts and no new street lights are being proposed.

Two waivers are being requested. The applicant has requested a waiver from the requirement to provide underground utilities; overhead utilities are proposed.

The second waiver is for sidewalks. This is a corner lot and there is an existing sidewalk on the southerly side of West Hollis Street. While there is a significant need for sidewalks and pedestrian facilities throughout the City of Nashua, Wellesley Road is not on the sidewalk

priority list. The site meets the criteria in § 190-212(D) and the owner would be eligible to make a contribution in lieu of sidewalk construction; the applicant's engineer is offering to make a contribution of $8,700 based on $50 per linear foot along the entire frontage of Wellesley Road (210 linear feet) and subtracting a driveway width of 36 feet (18 feet per lot on Wellesley Road).

City Staff reviewed the plans; comments are attached.

Staff Recommendations and Findings:

The Planning Board should make a determination that the plan meets, or does not meet the requirements outlined in the Subdivision NRO § 190-138(G). The Board should review these prior to making a motion. If the Planning Board chooses to disapprove the plan, specific reasons should be given. If the Planning Board chooses to approve this plan, staff recommends the following stipulation be made part of that approval:

The request for a waiver of § 190-221(C), which requires underground utilities for new subdivisions, is/is not granted, finding that the waiver will/will not be contrary to the spirit and intent of the regulation.

The request for a waiver § 190-212(A)(1), which requires that a sidewalk be located on at least one side of the street, is/is not granted, finding that the waiver will/will not be contrary to the spirit and intent of the regulation. The applicant has agreed to make a contribution in the amount of $_____ in lieu of sidewalk construction pursuant to §190-212(D)(2), payment to be made prior to recording the plan.

Prior to the chair signing the plan, all minor drafting corrections will be made.

Prior to recording of the plan, all conditions from the Planning Board approval letter will be added to the cover page of the final mylar and paper copies submitted to the City.

Stormwater documents and easements will be submitted to Planning staff for review and recorded with the plan at the applicant's expense.

Prior to any work and a pre-construction meeting, a financial guarantee shall be approved.

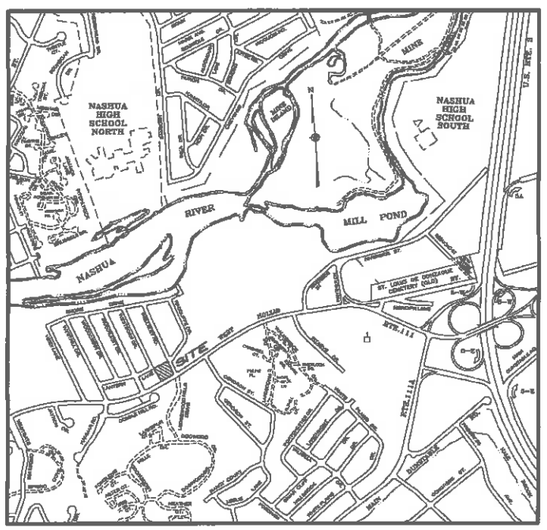
MAP E, LOT 66
SUBDIVISION PLAN

599 WEST HOLLIS STREET

NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

CRIMSON PROPERTIES, LLC
20 TRAFALGAR SQUARE, SUITE 101
NASHUA, NEW HAMPSHIRE 03063
(603) 234-4192



VICINITY PLAN

26 AUGUST 2020

No.	DATE	REVISION	BY
1	09/23/20	ADDRESS CITY STAFF COMMENTS	TEZ

INDEX OF PLANS

SHEET No.	TITLE	
1 OF 5	SUBDIVISION PLAN	1" = 30'
2 OF 5	TOPOGRAPHIC SUBDIVISION PLAN	1" = 30'
3 OF 5	LOT GRADING AND UTILITY PLAN	1" = 30'
4 OF 5	DETAIL SHEET - GENERAL SITE	
5 OF 5	DETAIL SHEET - SEWER	

STATE OF NEW HAMPSHIRE JAMES N. PETROPULOS No. 10274 LICENSED PROFESSIONAL ENGINEER

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street
Nashua, NH 03062
(603) 883-2057
131 Middlesex Turnpike
Burlington, MA 01803
(781) 203-1501
www.hayner-swanson.com

STATE OF NEW HAMPSHIRE No. 865 DENNIS J. POLLACK LICENSED LAND SURVEYOR

Hayner/Swanson, Inc.
3 Congress Street Nashua, NH 03062 (603) 883-2057
131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
www.hayner-swanson.com
HSI

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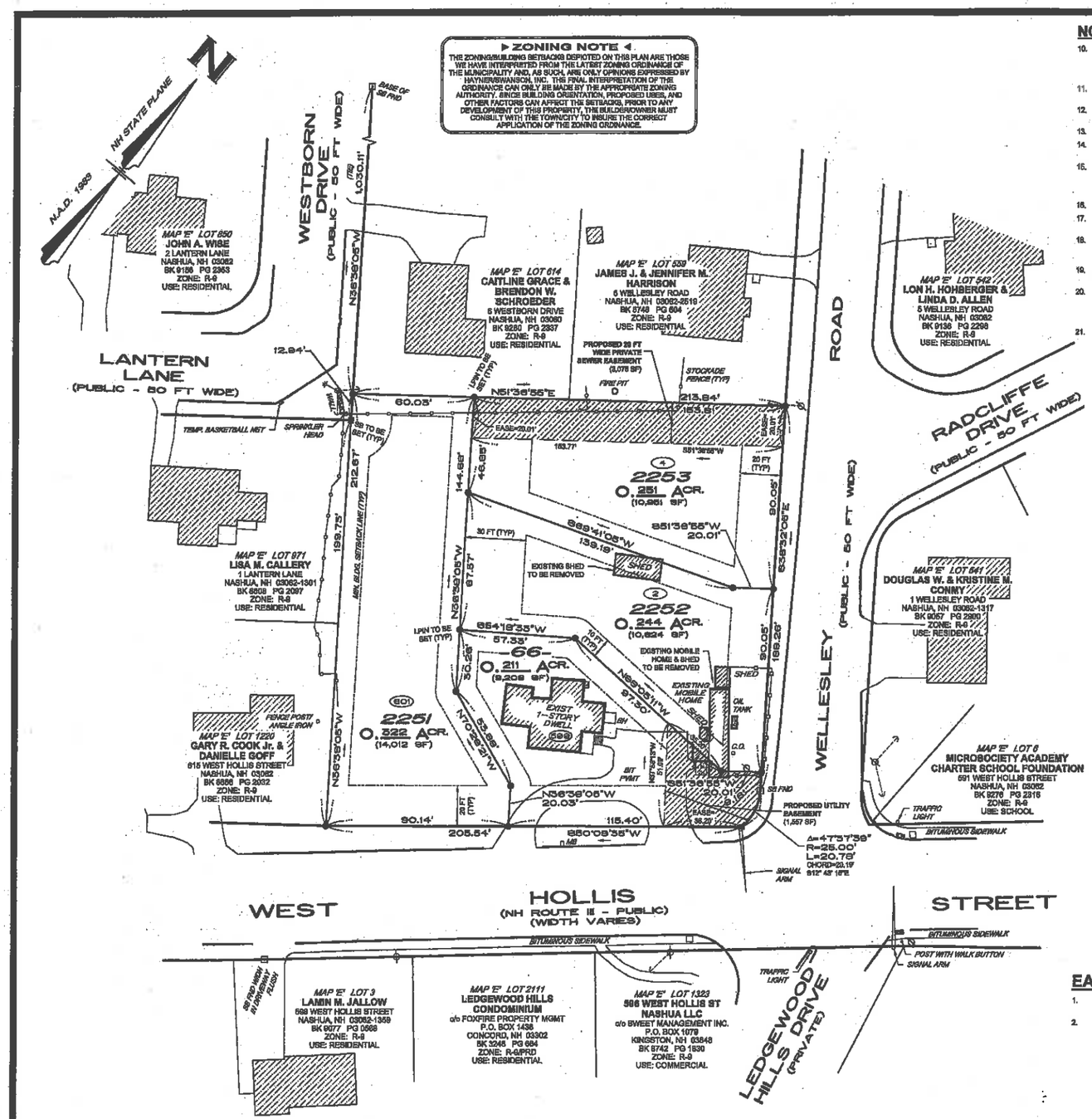
FILE No. J:\5000\5705\DWG\5705SUB\5705CV00



NOTES – CONT'D:

10. IT SHALL BE UNLAWFUL TO MODIFY, CHANGE, OR ALTER ANY STRUCTURE SHOWN ON THIS SITE PLAN IN ANYWAY WHATSOEVER, OR CONVERT OR ALTER ANY STRUCTURE SHOWN ON THIS SITE PLAN, OR CHANGE THE ABOVE USE INDICATED ON THE PLAN WITHOUT RECEIVING APPROVAL FROM THE CITY OF NASHUA PLANNING BOARD.
11. STREET TREES SHALL BE PLANTED AND/OR MAINTAINED ON INDIVIDUAL LOTS ALONG THE STREET FRONTAGE AS SHOWN ON SHEET 4 OF 5.
12. ALL SIGNAGE, INCLUDING STREET NAME SIGNS, SHALL CONFORM TO THE APPLICABLE CITY OF NASHUA REGULATIONS WITH ALL PERMITS SECURED PRIOR TO INSTALLATION.
13. STREET RESTORATION WORK SHALL BE IN ACCORDANCE WITH N.R.O. SECTION 286-13.
14. THE APPLICANT SHALL SUBMIT AN ELECTRONIC FILE OF THE SUBDIVISION PLAN (PLOT) PRIOR TO RECORDING OF THE PLAN.
15. FUTURE BUILDING CONSTRUCTION SHALL INCORPORATE FOUNDATION DRAINAGE SYSTEMS, EXCEPT WHERE AN INVESTIGATION ESTABLISHES THAT SPECIFIC BUILDING SITES ARE LOCATED IN WELL-DRAINED SOILS AND THAT SUCH SYSTEMS ARE NOT REQUIRED. DRAINS SHALL NOT OUTLET OR FLOW OVERLAND ONTO A CITY STREET.
16. THERE ARE NO NEW STREET LIGHTS PROPOSED WITH THIS PLAN.
17. PROPOSED DRIVEWAY WIDTHS SHALL NOT EXCEED 24 FEET AS MEASURED AT THE PROPERTY LINE.
18. PRIOR TO THE ISSUANCE OF A BUILDING PERMIT, BONDING FOR ALL PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEERING DEPARTMENT AND CORPORATION COUNSEL.
19. PRIOR TO THE RECORDING OF THE PLAN, DOCUMENTS PERTAINING TO THE STORMWATER OPERATION AND MAINTENANCE PLAN SHALL BE RECORDED.
20. SUBDIVISION PLAN WAIVERS REQUESTED:
    - SECTION 190-212 – SIDEWALKS ALONG WELLESLEY ROAD
    - SECTION 190-221(C) – OVERHEAD ELECTRIC AND TELECOMMUNICATIONS UTILITIES
21. PRESENT OWNER:
    MAP E LOT 66
    CRIMSON PROPERTIES, LLC
    20 TRAFALGAR SQUARE, SUITE 101
    NASHUA, NH 03063
    BK 9291, PG 1122 (LAND)
    BK 9291, PG 1124 (MOBILE HOME)

LEGEND

- UTILITY POLE WITH GUY SUPPORT
- SB STONE BOUND
- DH DRILL HOLE & STONE WALL
- STONE BOUND TO BE SET
- IRON PIN TO BE SET
- BUILDING SETBACK LINE
- WOOD FENCE
- STOCKADE FENCE
- CURBING
- 599 STREET ADDRESS

EASEMENTS, RIGHTS & RESTRICTIONS:

1. THE PROPERTY IS SUBJECT TO THE FLOWAGE RIGHTS IN RESERVED TO THE NASHUA MANUFACTURING COMPANY AS DESCRIBED IN BK 917, PG 331.
2. THE PROPERTY IS SUBJECT TO THE RIGHTS FOR SLOPES, EMBANKMENTS AND TO MAINTAIN DRAINAGE BEYOND THE TAKING AS DESCRIBED IN BK 2691, PG194.

CERTIFICATION

I HEREBY CERTIFY, TO MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN SHOWS THE RESULTS OF AN ON THE GROUND "STANDARD PROPERTY SURVEY" AND THAT SAID SURVEY MEETS THE MINIMUM PRECISION AND/OR ACCURACY MEASUREMENTS FOR SURVEY CLASSIFICATION "U" (URBAN) AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS ADOPTED 06/23/01, EFFECTIVE 01/01/03.

I FURTHER CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS A MAXIMUM ERROR OF CLOSURE OF ONE PART IN FIFTEEN THOUSAND ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

9/23/20
DATE

DENNIS C. POLLOCK, LLS

THE UNDERSIGNED DOES HEREBY AGREE TO PERFORM ALL OF THE SITE IMPROVEMENTS AS SHOWN ON THIS PLAN AND AS CONDITIONED OR STIPULATED BY THE NASHUA CITY PLANNING BOARD. ALL REQUIRED SITE IMPROVEMENTS MUST BE COMPLETED OR GUARANTEED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

FOR CRIMSON PROPERTIES, LLC — DATE 8/24/20

APPROVED
NASHUA CITY PLANNING BOARD

CHAIRMAN — DATE

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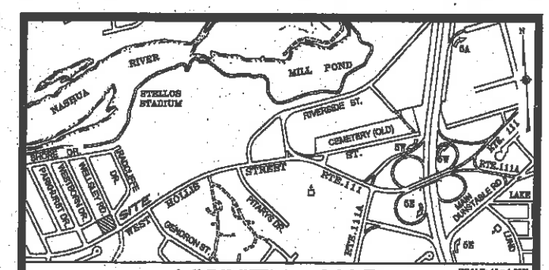

VICINITY MAP — SCALE: 1" = 1,000'

PLAN REFERENCES:

1. SECTION 1, SUBDIVISION PLAN, LONGWOOD ESTATES, NASHUA, N.H., SURVEYED FOR NULAND CORPORATION, SCALE: 1" = 80', DATED: MAY 1955 AND PREPARED BY W. ROBERT NOLTE & ASSOCIATES.
   H.C.R.D. PLAN No. 3119.
2. SUBDIVISION PLAN, LONGWOOD ESTATES, SECTION 1, NASHUA, N.H., SURVEYED FOR NULAND CORPORATION, SCALE: 1" = 50', DATED: AUGUST 1955, REVISED JULY 1963 AND PREPARED BY W. ROBERT NOLTE & ASSOCIATES.
   H.C.R.D. PLAN No. 4783.
3. STATE OF NEW HAMPSHIRE, DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS, RIGHT OF WAY, PLANS OF PROPOSED FEDERAL AID PROJECT 9-28(16), N.H. PROJECT No. 5-7699, HOLLIS ROAD, CITY OF NASHUA, COUNTY OF HILLSBORO.
   H.C.R.D. PLAN No. 8020.

NOTES:

1. EXISTING LOT AREA: 1.028 AC (44,782 SF)
2. PRESENT ZONING: R-9; A-URBAN RESIDENCE

MINIMUM LOT REQUIREMENTS:	REQUIRED	LOT 66	LOT 2251	LOT 2252	LOT 2253
LOT SIZE	9,000 SF	9,206 SF	14,012 SF	10,624 SF	10,951 SF
FRONTAGE	75 FT	145.34 FT	103.06 FT	90.05 FT	90.05 FT
WIDTH	90 FT	145.34 FT	103.084 FT	90.05 FT	90.05 FT
DEPTH	90 FT	92.4 FT	211.5 FT	153.6 FT	153.6 FT
MINIMUM SETBACK REQUIREMENTS:					
FRONT YARD	20 FT				
SIDE YARD	10 FT				
REAR YARD	30 FT				
MAX. BUILDING HEIGHT	35 FT				
MAX STORIES	2.5				
OPEN SPACE (%)	50				
MAX. FLOOR RATIO	-				

3. LOT NUMBERS REFER TO THE CITY OF NASHUA ASSESSORS MAP 'E'.
4. PURPOSE OF PLAN:
   TO SUBDIVIDE LOT 66 INTO 4 NEW LOTS (NEW LOTS 66, 2251, 2252 & 2253)
5. SITE IS SERVICED BY MUNICIPAL SEWER, WATER BY PENNICHUCK WATER WORKS, GAS, AND OVERHEAD ELECTRIC AND TELECOMMUNICATION UTILITIES.
6. MONUMENTS, WHERE REQUIRED, TO BE SET BY A LICENSED LAND SURVEYOR AS FOLLOWS:
   [A] STONE BOUNDS: AT STREET INTERSECTIONS, POINTS OF CURVATURE AND TANGENCY OF PUBLIC STREET
   [B] IRON PINS: AT LOT CORNERS
7. NO WETLANDS WERE OBSERVED ON THIS SITE.
8. THE PARCEL IS LOCATED IN AN AREA DESIGNATED AS 'ZONE X' AS DETERMINED FROM THE FLOOD INSURANCE RATE MAP (FIRM), HILLSBOROUGH COUNTY, CITY OF NASHUA, NEW HAMPSHIRE, COMMUNITY No. 330067, PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBER: 33011C0632D, DATED: SEPTEMBER 25, 2009.
9. THIS SUBDIVISION PACKAGE CONTAINS 5 SHEETS OF WHICH SHEET 1 SHALL BE RECORDED AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. THE REMAINING SHEETS WILL BE ON FILE AT THE CITY OF NASHUA PLANNING DEPARTMENT.

No.	DATE	REVISION	BY
1	09/23/20	ADDRESS CITY STAFF COMMENTS	TEZ

SUBDIVISION PLAN
(MAP E, LOT 66)

599 WEST HOLLIS STREET

NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER:

CRIMSON PROPERTIES, LLC

20 TRAFALGAR SQ., SUITE 101 NASHUA, NEW HAMPSHIRE 03063 (603) 234-4192

30 0 30 60 90 120 FEET
15 0 15 30 METERS
SCALE: 1"=30 Feet
1"=9.144 Meters

26 AUGUST 2020

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.haynerswanson.com

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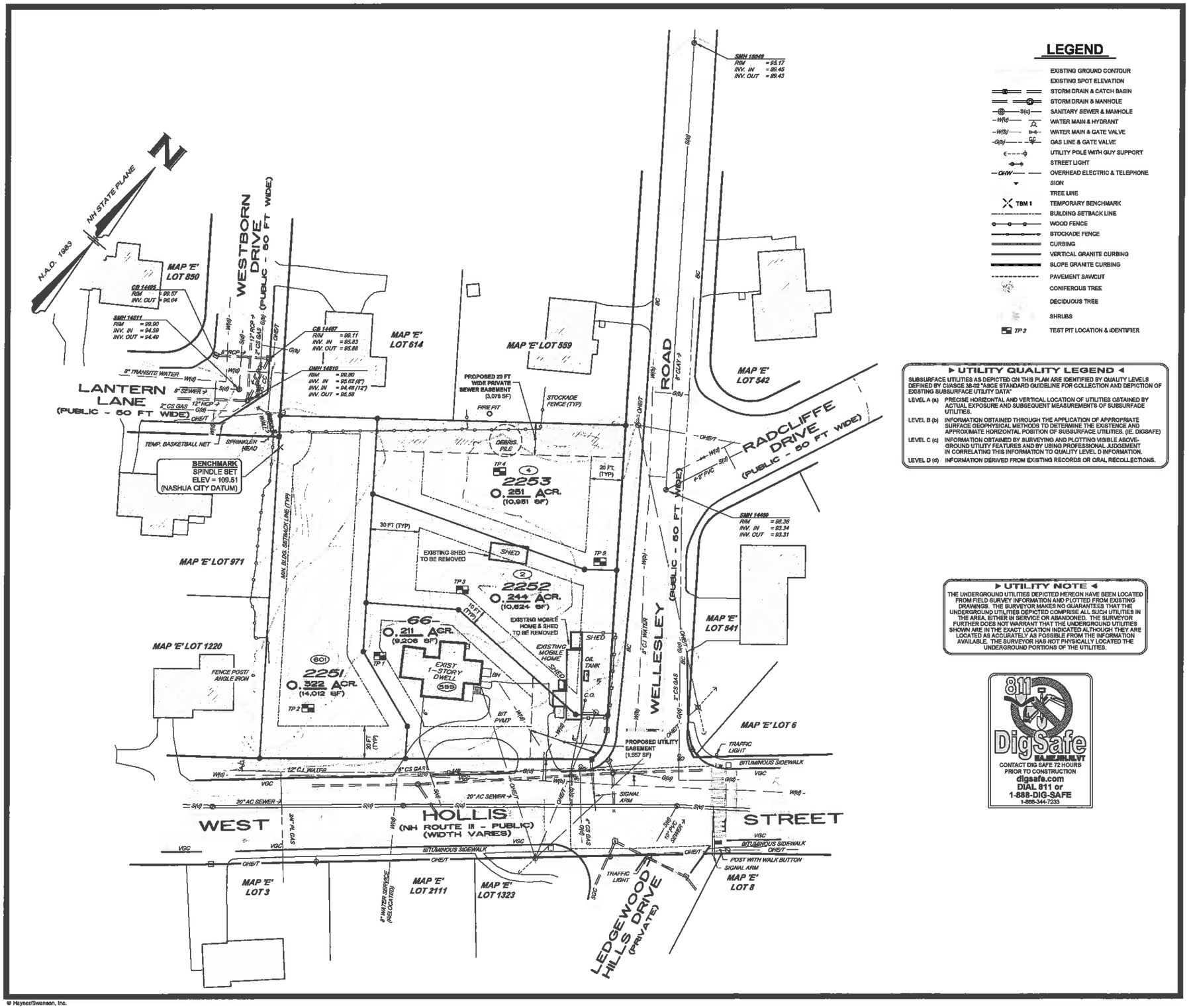

LEGEND

- EXISTING GROUND CONTOUR
- EXISTING SPOT ELEVATION
- STORM DRAIN & CATCH BASIN
- STORM DRAIN & MANHOLE
- SANITARY SEWER & MANHOLE
- WATER MAIN & HYDRANT
- WATER MAIN & GATE VALVE
- GAS LINE & GATE VALVE
- UTILITY POLE WITH GUY SUPPORT
- STREET LIGHT
- OVERHEAD ELECTRIC & TELEPHONE
- SIGN
- TREE LINE
- TBM 1 — TEMPORARY BENCHMARK
- BUILDING SETBACK LINE
- WOOD FENCE
- STOCKADE FENCE
- CURBING
- VERTICAL GRANITE CURBING
- SLOPE GRANITE CURBING
- PAVEMENT SAWCUT
- CONIFEROUS TREE
- DECIDUOUS TREE
- SHRUBS
- TP 3 — TEST PIT LOCATION & IDENTIFIER

▶ UTILITY QUALITY LEGEND ◀

SUBSURFACE UTILITIES AS DEPICTED ON THIS PLAN ARE IDENTIFIED BY QUALITY LEVELS DEFINED BY CI/ASCE 38-02 "ASCE STANDARD GUIDELINE FOR COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"

LEVEL A (a)	PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY ACTUAL EXPOSURE AND SUBSEQUENT MEASUREMENTS OF SUBSURFACE UTILITIES.
LEVEL B (b)	INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES. (IE. DIGSAFE)
LEVEL C (c)	INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.
LEVEL D (d)	INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

▶ UTILITY NOTE ◀

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND PLOTTED FROM EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED 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 ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

811 DigSafe
CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION
digsafe.com
DIAL 811 or
1-888-DIG-SAFE
1-888-344-7233

SURVEY NOTES:

1. THE EXISTING PLANIMETRICS AND TOPOGRAPHY, AS SHOWN ON THESE PLANS, IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND IN MARCH AND AUGUST 2020.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACCURACY OF THE EXISTING TOPOGRAPHY PRIOR TO EARTHWORK OPERATIONS. NO CLAIM FOR EXTRA WORK DUE TO TOPOGRAPHIC INACCURACY SHALL BE CONSIDERED AFTER EARTHWORK HAS COMMENCED.
3. THE CONTRACTOR SHALL ONLY USE BENCHMARKS AS PROVIDED BY THE ENGINEER.
4. SURVEY CONTROL INFORMATION:
   HORIZONTAL DATUM: NAD83
   HORIZONTAL PROJECTION: NH STATE PLANE
   VERTICAL DATUM: NASHUA CITY DATUM
   UNITS: US SURVEY FEET

CITY OF NASHUA

PLANNING DEPARTMENT
COMMUNITY DEVELOPMENT DIVISION
229 MAIN STREET
NASHUA, NH 03060

ATT: LINDA McGHEE
(603) 589-3110

ENGINEERING DEPARTMENT
NASHUA DEPT. OF
PUBLIC WORKS / ENGINEERING
9 RIVERSIDE STREET
NASHUA, NH 03062

ATT: JOE MENDOLA
(603) 589-3124

FIRE DEPARTMENT
NASHUA FIRE DEPARTMENT
177 LAKE STREET
NASHUA, NH 03062

ATT: ADAM POULIOT
(603) 589-3460

UTILITY CONTACTS

WATER:
PENNICHUCK WATER WORKS
25 MANCHESTER STREET
MERRIMACK, NH 03054

ATT: JOHN BOISVERT, PE
(603) 913-2300

GAS:
LIBERTY UTILITIES
130 ELM STREET
MANCHESTER, NH 03103

ATT: ANDREW MORGAN
(603) 327-5357

TELEPHONE:
CONSOLIDATED COMMUNICATIONS
100 GAY STREET
MANCHESTER, NH 03103

ATT: JOY MENDONCA
(603) 645-2713

POWER:
EVERSOURCE
370 AMHERST STREET
NASHUA, NH 03060

ATT: MARC GAGNON
(603) 882-5594

No.	DATE	REVISION	BY
1	09/23/20	ADDRESS CITY STAFF COMMENTS	TEZ

TOPOGRAPHIC SUBDIVISION PLAN
(MAP E, LOT 66)

599 WEST HOLLIS STREET

NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER:

CRIMSON PROPERTIES, LLC

20 TRAFALGAR SQ., SUITE 101 NASHUA, NEW HAMPSHIRE 03063 (603) 234-4192

30 0 30 60 90 120 FEET
15 0 15 30 METERS
SCALE: 1"=30 Feet
1"=9.144 Meters

26 AUGUST 2020

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.hayner-swanson.com

FIELD BOOK: 1242	DRAWING NAME: 5705FS31	5705	2 OF 5
DRAWING LOC: J:\50000\5705\DWG\5705SUB		File Number	Sheet

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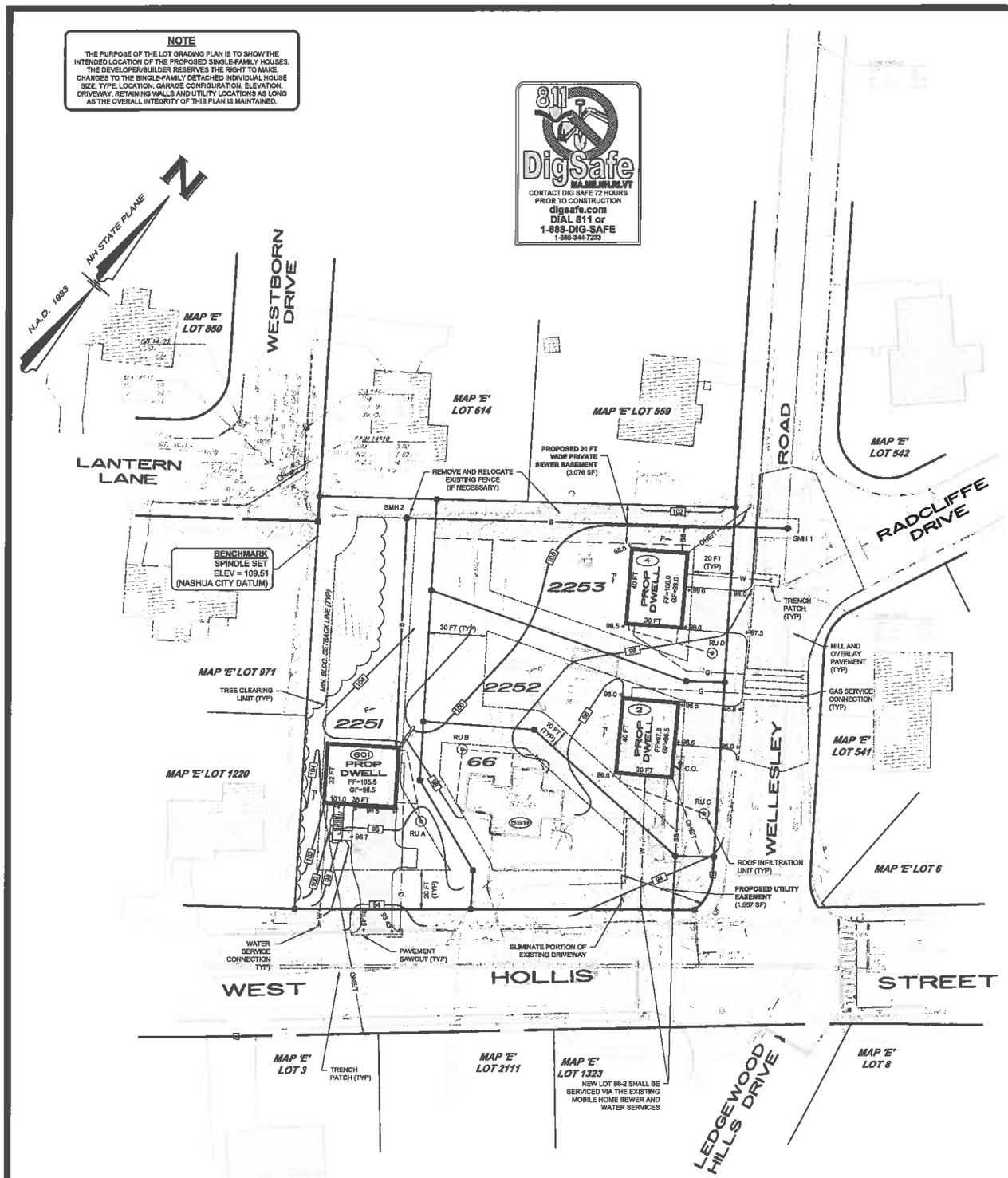
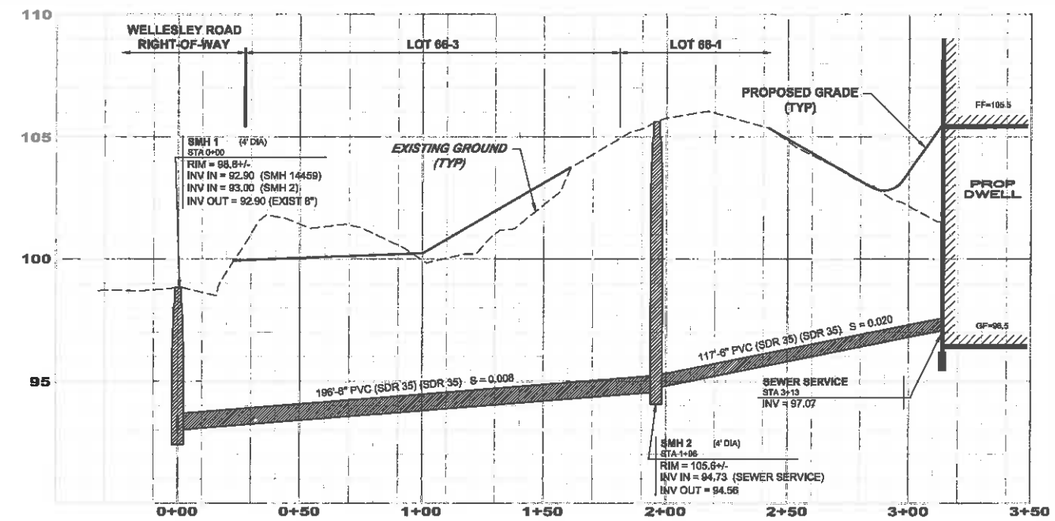
NOTE

THE PURPOSE OF THE LOT GRADING PLAN IS TO SHOW THE INTENDED LOCATION OF THE PROPOSED SINGLE-FAMILY HOUSES. THE DEVELOPER/BUILDER RESERVES THE RIGHT TO MAKE CHANGES TO THE SINGLE-FAMILY DETACHED INDIVIDUAL HOUSE SIZE, TYPE, LOCATION, GARAGE CONFIGURATION, ELEVATION, DRIVEWAY, RETAINING WALLS AND UTILITY LOCATIONS AS LONG AS THE OVERALL INTEGRITY OF THIS PLAN IS MAINTAINED.





SANITARY SEWER PROFILE

Horizontal Scale: 1" = 30'
Vertical Scale: 1" = 3'

CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF NASHUA, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD CONSTRUCTION, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE, AND THE STANDARD SPECIFICATIONS FOR SEWERS AND DRAINS, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, LATEST EDITION ARE HEREBY INCORPORATED BY REFERENCE.
2. ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS FOR ROAD CONSTRUCTION, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE, AND THE STANDARD SPECIFICATIONS FOR SEWERS AND DRAINS, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS BEFORE DIGGING.
4. BLASTING, IF NEEDED, SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF NASHUA FIRE DEPARTMENT REGULATIONS.
5. ALL STUMPS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.
6. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED IMMEDIATELY UPON BEING CONSTRUCTED.
7. PRIOR TO COMMENCEMENT OF MAJOR CONSTRUCTION ACTIVITIES, THE ENGINEER SHALL PROVIDE THE CONTRACTOR WITH LAYOUT PLANS AND COORDINATE VALUES FOR STRATEGIC ELEMENTS OF THE SITE.
8. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT BUILDING DIMENSIONS AND DETAILS.

UTILITY NOTES:

1. ALL DRAINAGE PIPE SHALL BE ADS N-12 OR APPROVED EQUAL. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE FOLLOWED.
2. SANITARY SEWER AND STORM DRAIN SYSTEMS SHALL BE INSTALLED BY A NASHUA LICENSED DRAIN LAYER, PER NRO SECTION 18-62 THROUGH SECTION 18-80. ROOF DRAIN TIE-INS AND DRAIN LINES (IF ANY) SHALL BE INSPECTED PRIOR TO BACKFILLING AND PAVING.
3. FOUNDATION DRAINS ARE NOT ALLOWED TO OUTLET OVERLAND ONTO ANY STREET.
4. ALL WATER LINE, HYDRANT VALVES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS FOR THE INSTALLATION OF MATERIALS, MAIN PIPING, SERVICE CONNECTIONS IN THE PENNICHUCK WATER WORKS FRANCHISED AREAS OF NASHUA AND MERRIMACK, NEW HAMPSHIRE, LATEST EDITION.
5. ALL ELECTRIC RELATED WORK SHALL CONFORM TO EVERSOURCE STANDARDS.
6. ALL TELECOMMUNICATIONS WORK SHALL CONFORM TO CONSOLIDATED COMMUNICATIONS STANDARDS.
7. ALL NATURAL GAS RELATED WORK SHALL COMPLY WITH LIBERTY UTILITIES STANDARDS.
8. PRIOR TO CONSTRUCTION THE EXISTING HOUSE AND MOBILE HOME SEWER SERVICES SHALL BE INSPECTED BY VIDEO. THE RESULTS SHALL BE PROVIDED TO THE ENGINEER AND CITY OF NASHUA ENGINEERING DEPARTMENT.

STATE OF NEW HAMPSHIRE
JAMES N. PETROPULOS
No. 10274
LICENSED
PROFESSIONAL ENGINEER

No.	DATE	REVISION	BY
1	09/23/20	ADDRESS CITY STAFF COMMENTS	TEZ

LOT GRADING & UTILITY PLAN
(MAP E, LOT 66)

599 WEST HOLLIS STREET

NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER:

CRIMSON PROPERTIES, LLC

20 TRAFALGAR SQ., SUITE 101 NASHUA, NEW HAMPSHIRE 03063 (603) 234-4192

30 0 30 60 90 120 FEET
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26 AUGUST 2020

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3 Congress Street
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FIELD BOOK: 1242	DRAWING NAME: 5705FG31	5705	3 OF 5
DRAWING LOC: J:\5000\5705\DWG\5705SUB		File Number	Sheet

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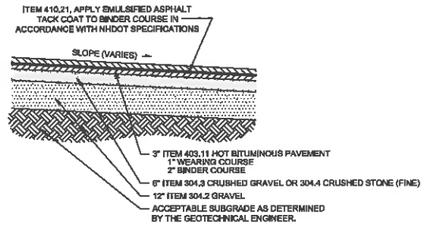
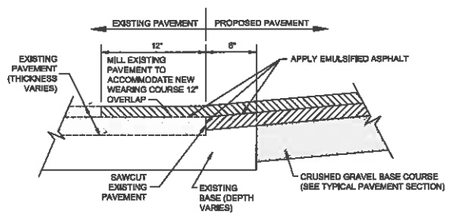


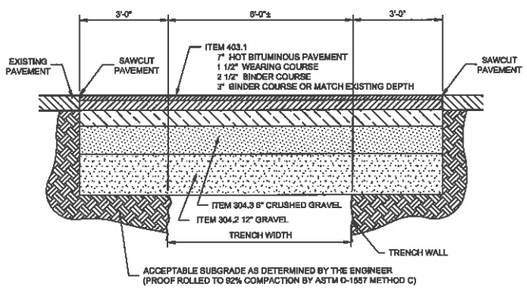
TYPICAL PAVEMENT SECTION (DRIVEWAYS)

NOT TO SCALE



SAWCUT PAVEMENT DETAIL

NOT TO SCALE



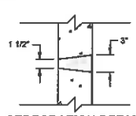
NOTE:

THE BINDER COURSE SHALL BE PLACED IMMEDIATELY AFTER THE TRENCH CONSTRUCTION, AND ALLOWED TO STAND FOR A MINIMUM OF 90 DAYS. A LEVELING COURSE SHALL BE APPLIED OVER THE TRENCH AFTER 90 DAYS AND THE ENTIRE ROAD OVERLAYED TO THE LIMITS SHOWN ON THE PLANS.

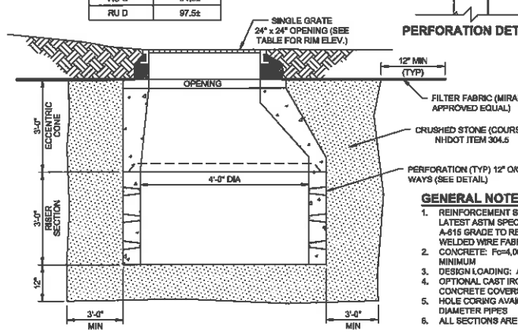
TRENCH PATCH DETAIL

NOT TO SCALE

LOCATION	RIM ELEV
RU A	96.5±
RU B	96.0±
RU C	94.5±
RU D	97.5±



PERFORATION DETAIL

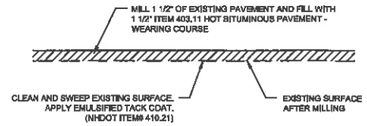


GENERAL NOTES:

1. REINFORCEMENT STEEL TO CONFORM TO: LATEST ASTM SPECIFICATIONS: ASTM A-615 GRADE 70 REBAR ASTM A-185 WELDED WIRE FABRIC
2. CONCRETE: Fc=4,000 PSI @ 28 DAYS MINIMUM
3. DESIGN LOADING: AASHTO-HS20-44
4. OPTIONAL CAST IRON COVERS OR CONCRETE COVERS AVAILABLE
5. HOLE CORING AVAILABLE FOR LARGER DIAMETER PIPES
6. ALL SECTIONS ARE BUTT JOINT

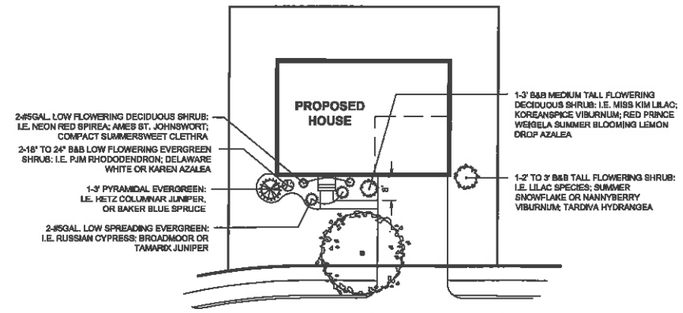
ROOF INFILTRATION UNIT DETAIL

NOT TO SCALE



PAVEMENT MILL/OVERLAY DETAIL

NOT TO SCALE

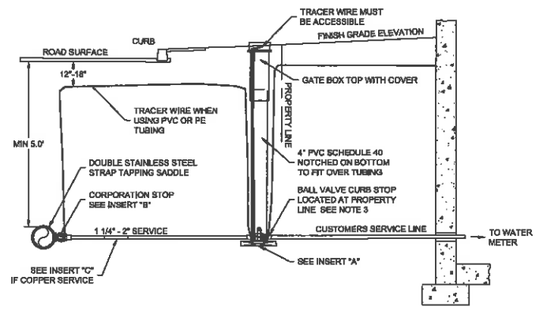


NOTES:

1. THE HOME BUILDER RESERVES THE RIGHT TO MODIFY THE TYPE, SIZE AND LOCATION OF THE FOUNDATION PLANT MATERIALS.
2. STREET TREE LOCATIONS AS SHOWN ARE APPROXIMATE.
3. STREET TREES ARE INTENDED TO MEET THE REQUIREMENTS OF THE NASHUA LAND USE CODE SECTION 190-165.

TYPICAL LOT LANDSCAPE DETAIL

NOT TO SCALE



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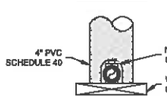

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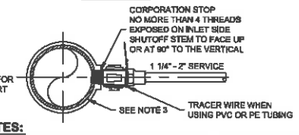
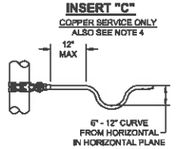


INSERT "C"

COPPER SERVICE ONLY
ALSO SEE NOTE 4

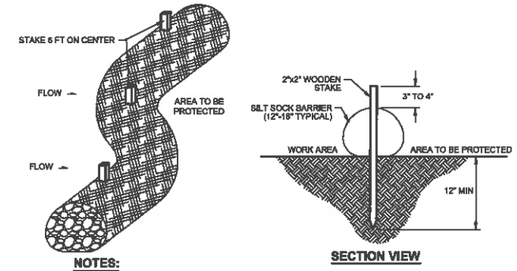


NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO P.W.W. TECHNICAL SPECIFICATIONS
2. ALL PIPES SHOULD HAVE A MINIUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. IF WATER MAIN IS PVC OR TRANSITE, A DOUBLE STAINLESS STEEL STRAP TAPPING SADDLE MUST BE USED TO CONNECT THE CORPORATION TO THE WATER MAIN.
4. IF WATER MAIN IS PVC OR TRANSITE, AND THE NEW WATER SERVICE IS COPPER THEN SEE P.W.W. TECHNICAL SPECIFICATIONS.

TYPICAL 1 1/4" - 2" SERVICE & VALVE BOX INSTALLATION DETAIL

NOT TO SCALE



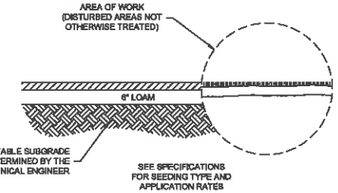
SECTION VIEW

NOTES:

1. SILT SOCK BARRIER SHALL BE FILTEREXX SILTSOXX (OR APPROVED EQUAL) AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. SILT SOCK BARRIER SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
3. IF THE SILT SOCK SHOULD DECOMPOSE OR BECOME INEFFECTIVE, THE BARRIER SHALL BE REPLACED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.
5. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE BARRIER HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.
6. COMPOST TO BE REMOVED OR DISPOSED ON-SITE AS DETERMINED BY THE ENGINEER.

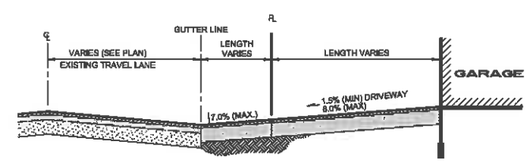
SILT SOCK DETAIL

NOT TO SCALE



LOAM AND SEED DETAIL

NOT TO SCALE



TYPICAL DRIVEWAY SECTION

NOT TO SCALE

EROSION CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS THEREOF IN NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES STORMWATER MANUALS, VOLUME 1-3, LATEST EDITION.
2. 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, STRAW BALES AND/OR DETENTION BASINS WILL BE NECESSARY TO ACCOMPLISH THIS END.
3. STRIPPED TOPSOIL SHALL BE STOCKPILED, WITHOUT COMPACTION, AND STABILIZED AGAINST EROSION IN ACCORDANCE WITH "TEMPORARY STABILIZATION OF DISTURBED AREAS", AS OUTLINED IN NOTE No. 4.
4. TEMPORARY STABILIZATION OF DISTURBED AREAS:
   SEED BED PREPARATION: 10-10-10 FERTILIZATION TO BE SPREAD AT THE RATE OF 7 LBS PER 1,000 SF AND AGRICULTURAL LIMESTONE AT A RATE OF 90 LBS PER 1,000 SF AND INCORPORATED INTO THE SOIL. THE SOIL, FERTILIZER AND LIMESTONE SHALL BE TILLED TO PREPARE FOR SEEDING.
   A. SEED MIXTURE: USE ANY OF THE FOLLOWING:

SPECIES	RATE PER 1,000 SF	DEPTH	SEEDING DATES
WINTER RYE	2.5 LBS	1"	08/15 TO 09/15
OATS	2.5 LBS	1"	04/15 TO 10/15
ANNUAL RYE GRASS	1.0 LBS	0.25"	08/15 TO 09/15

   B. MULCHING: MULCH SHOULD BE USED ON HIGHLY ERODABLE AREAS, AND WHERE CONSERVATION OF MOISTURE WILL FACILITATE PLANT ESTABLISHMENT AS FOLLOWS:

TYPE	RATE PER 1,000 SF	USE & COMMENTS
STRAW	70 TO 90 LBS	MAY BE USED WITH PLANTINGS, MUST BE ANCHORED TO BE USED ALONE
WOOD CHIPS OR BARK MULCH	460 TO 920 LBS	USED WITH TREE AND SHRUB PLANTINGS
FIBROUS MATTING	AS RECOMMENDED BY MANUFACTURER	MUST BE BIODEGRADABLE. USE IN SLOPE AREAS AND AREAS DIFFICULT TO VEGETATE.
CRUSHED STONE	SPREAD TO GREATER THAN 90 %	USE IN SPECIFIC AREAS AS SHOWN ON PLAN OR AS NEEDED.

5. PERMANENT STABILIZATION OF DISTURBED AREAS:
   A. ALL ROADWAYS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
   B. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
6. AN AREA SHALL BE CONSIDERED STABILIZED IF ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
   C. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.
   D. OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED
7. TOTAL AREA OF DISTURBED SOILS: 186,500 SF±.
8. PERIMETER EROSION AND SEDIMENT CONTROLS (SILT SOCK OR APPROVED EQUAL) SHALL BE INSTALLED ALONG ALL LIMITS OF SITE DISTURBANCE, INCLUDING ALONG THE SITE'S FRONTAGE ON WEST HOLLIS STREET AND WELLESLEY ROAD.

SITE MAINTENANCE PLAN

THE FOLLOWING PROVIDES AN ITEMIZATION OF SPECIFIC SITE MAINTENANCE PRACTICES THAT WILL BE EMPLOYED ON THE SITE TO MINIMIZE POLLUTANT GENERATION AND TRANSPORT FROM THE SITE. THE SITE MAINTENANCE PROGRAM INCLUDES ROUTINE INSPECTIONS, PREVENTATIVE MAINTENANCE AND "GOOD HOUSEKEEPING" PRACTICES.

ROUTINE INSPECTIONS

1. INSPECT SITE ON A QUARTERLY BASIS OR AFTER A SIGNIFICANT RAIN EVENT.

PREVENTATIVE MAINTENANCE

1. CLEAN ROOF INFILTRATION UNITS TWICE PER YEAR IF NEEDED OR MORE FREQUENTLY AS DICTATED BY QUARTERLY INSPECTIONS.
2. IMPLEMENT OTHER MAINTENANCE OR REPAIR ACTIVITIES AS DEEMED NECESSARY BASED UPON INSPECTIONS.

GOOD HOUSEKEEPING PRACTICES

1. SWEEP DRIVEWAYS REGULARLY TO MINIMIZE SEDIMENT ACCUMULATION FREQUENCY WILL VARY SEASONALLY ACCORDING TO SEDIMENT ACCUMULATION ON PAVED SURFACES (E.G., MORE FREQUENT SWEEPING DURING THE WINTER AND SPRING).
2. USE NO-SALT (NACL) ALTERNATIVES SUCH AS CLOSE PLOWING AND SANDING FOR DE-ICING ON THE DRIVEWAY.

No.	DATE	REVISION	BY
1	09/23/20	ADDRESS CITY STAFF COMMENTS	TEZ

DETAIL SHEET - GENERAL SITE
(MAP E, LOT 66)

599 WEST HOLLIS STREET

NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER:

CRIMSON PROPERTIES, LLC

20 TRAFALGAR SQ., SUITE 101 NASHUA, NEW HAMPSHIRE 03063 (603) 234-4192

SCALE AS SHOWN

26 AUGUST 2020

STATE OF NEW HAMPSHIRE — JAMES N. PETROPULOS No. 10274 — LICENSED PROFESSIONAL ENGINEER

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
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FIELD BOOK: 1242	DRAWING NAME: 5705DET1	5705	4 OF 5
DRAWING LOC: J:\5000\5705\DWG\5705SUB		File Number	Sheet

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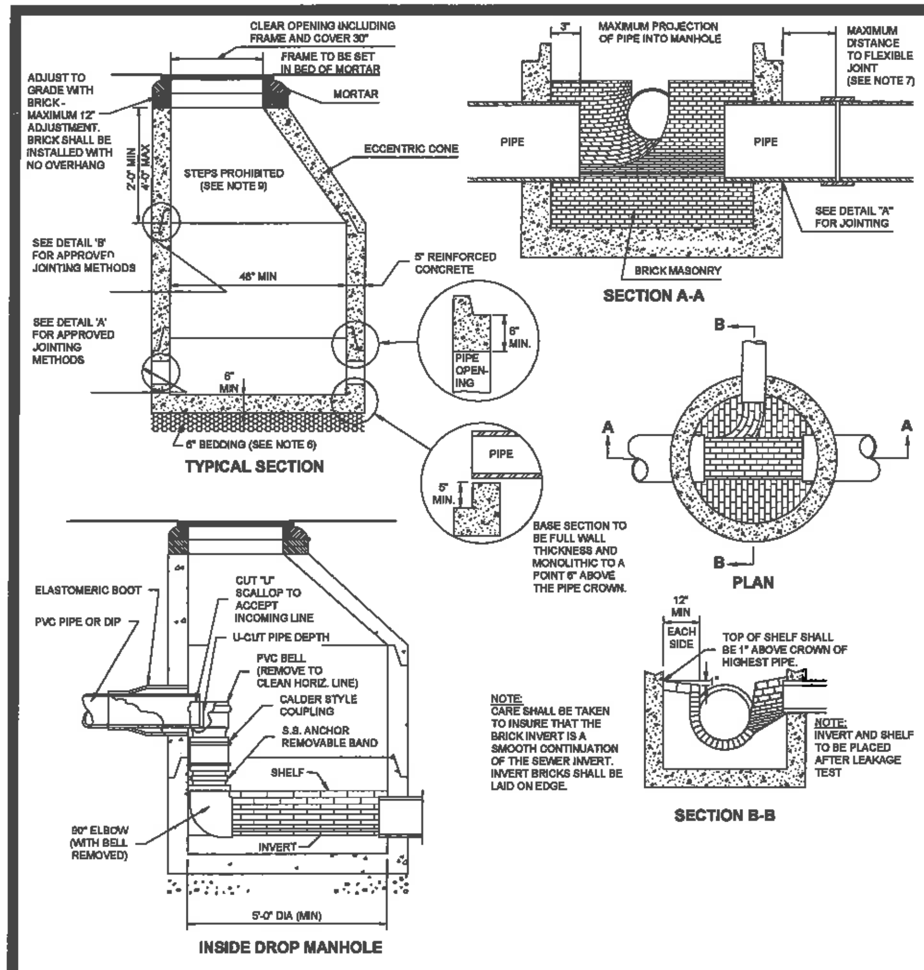


NOTES:

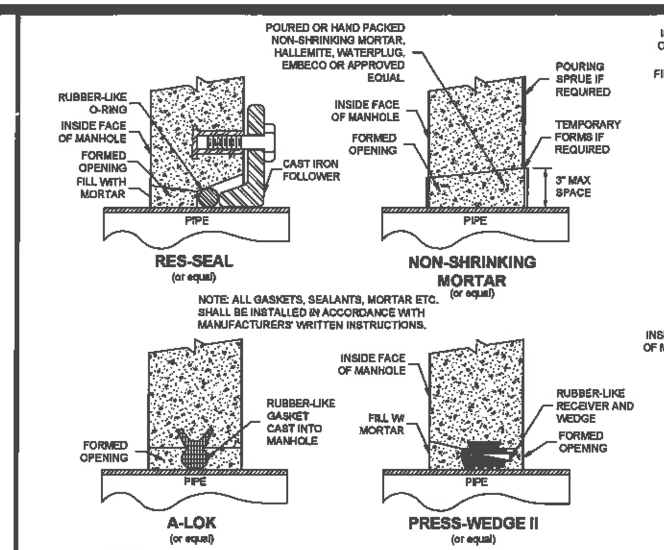
1. IT IS INTENDED THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
2. BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED CONCRETE.
3. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C 478.
4. INVERTS AND SHELVES MANHOLES SHALL HAVE A BRICK PAVED OR PRECAST CONCRETE SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE. CROWN AND SLOPE TO DRAIN TOWARD THE FLOW THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY OR PRECAST CONCRETE.
5. FRAMES AND COVERS MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH CLEAR OPENING. A 3 INCH (MINIMUM HEIGHT) LETTER "S" FOR SEWER OR "D" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
6. BEDDING SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 SIZE # 67

100%	PASSING 1 INCH SCREEN
90-100%	PASSING 3/4 INCH SCREEN
20-55%	PASSING 3/8 INCH SCREEN
0-10%	PASSING #4 SIEVE
0-5%	PASSING #8 SIEVE

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE. SCREENED GRAVEL OR CRUSHED STONE 1-1/2 TO 1/2 INCH SHALL BE USED.

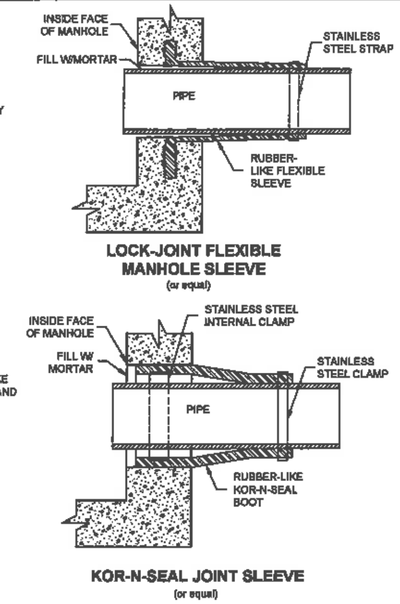
7. FLEXIBLE JOINT A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES: RCP & CI PIPE (ALL SIZES): 48"
8. SHALLOW MANHOLE IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED. IT MUST HAVE AN ECCENTRIC ENTRANCE OPENING AND BE CAPABLE OF SUPPORTING H-20 LOADING.
9. MANHOLE STEPS ARE PROHIBITED.
10. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATER-TIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANTS.
11. PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.
12. SEPARATE CONSTRUCTION SPECIFICATIONS ARE ATTACHED OR INCLUDED IN THE CONTRACT DOCUMENTS. THESE STANDARD MANHOLE DRAWINGS ARE NOT COMPLETE WITHOUT THESE SPECIFICATIONS.

STANDARD MANHOLE - PART A



NOTE:
HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ENGINEER. WHICH TYPE SHALL BE, IN GENERAL, DEPEND FOR WATERTIGHTNESS UPON AN ELASTOMERIC GASKET.

DETAIL A

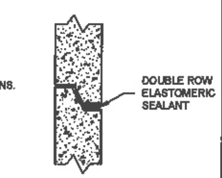


STANDARD MANHOLE - PART B

NOTE:
PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND, IN GENERAL, WILL DEPEND FOR ATERTIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.

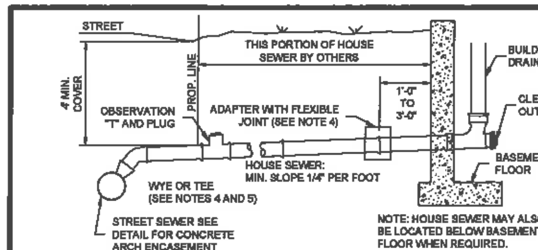
NOTE:
ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

STATE OF NEW HAMPSHIRE APPROVED PRODUCTS:
[A] SIKAFLEX-12-SL
[B] SONNEBORN BUILDING PRODUCTS SONOLASTIC SL-1



ELASTOMERIC SEALANT

DETAIL B



SEWER AND HOUSE SEWER

NOTES:

1. MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE 6 INCHES.
2. PIPE AND JOINT MATERIALS
   A. PLASTIC SEWER PIPE
      1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	PVC (SOLID WALL)*	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F789	PVC (SOLID WALL)	4" THROUGH 18" (T-1 TO T-3)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
D2680	ABS (COMPOSITES WALL)*	8" THROUGH 15"

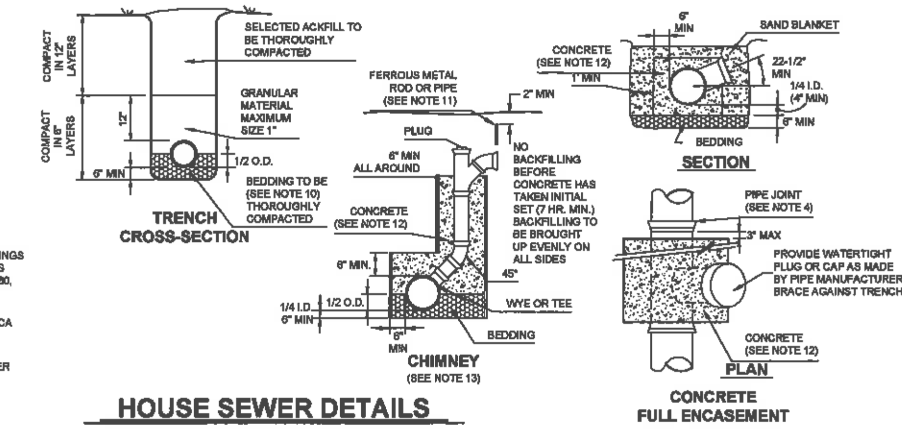
*PVC: POLY VINYL CHLORIDE
*ABS: ACRYLONITRILE-BUTADIENE-STYRENE

      2. JOINTS SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON, BELL AND SPIGOT TYPE. ABS TRUSS PIPE AND FITTINGS SHALL CONFORM TO ASTM D-2680, POLYMER COMPOUNDING SHALL BE TO ASTM D-1788 (CLASS 322). JOINTS FOR ABS TRUSS PIPE SHALL BE CHEMICAL WELDED COUPLINGS TYPE SC IN ACCORDANCE WITH ASTM D-2680, FORMING A CHEMICAL WELDED JOINT.
   B. DUCTILE-IRON PIPE, FITTINGS AND JOINTS.
3. DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITUTE:
   A21.50 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A-536 DUCTILE IRON CASTINGS.
   A21.51 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS.
4. JOINTS SHALL BE OF THE MECHANICAL OR PUSH-ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO:
   A21.11 RUBBER GASKETS JOINTS FOR CAST IRON PRESSURE PIPE AND FITTINGS.
5. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
6. JOINTS SHALL BE BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATERTIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER "Y" OR AT THE FOUNDATION WALL, APPROPRIATE ADAPTERS SHALL BE USED.
7. "T" AND "Y" WHERE A "T" OR "Y" IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE IN THE SEWER, FOLLOWING MANUFACTURERS INSTRUCTIONS (USING A BOLTED, CLAMPED OR EPOXY CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING. THE PRACTICE OF BREAKING AN OPENING WITH A SLEDGE HAMMER, STUFFING CLOTH (OR OTHER SUCH MATERIAL) AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION AND ANY OTHER SIMILAR CRUDE PRACTICES OR INEPT OR HASTY IMPROVISATIONS WILL NOT BE PERMITTED. THE CONNECTION SHALL BE CONCRETE ENCASED, AS SHOWN IN THE DETAIL, UP TO AND INCLUDING 15" DIAMETER.
8. HOUSE SEWER INSTALLATION THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL, AS SPECIFIED IN NOTE 10, BEDDING AND RE-FILL FOR A DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES. THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE HOUSE FOUNDATION AT A GRADE OF NOT LESS THAN 1/4 INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.
9. TESTING THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS (PRIOR TO BACKFILLING):
   A. AN OBSERVATION "T" SHALL BE INSTALLED AS SHOWN. WHEN READY TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE "T". AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.
   B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS. IF THE TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEANOUT WITH A FLASHLIGHT.
   C. DRY FLUORESCENT DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER. IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST MANHOLE DOWNSTREAM. LEAKAGE OBSERVED IN ANY OF THE ABOVE, ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG UP, IF NECESSARY, AND RELAID SO AS TO ASSURE WATERTIGHTNESS.
8. ILLEGAL CONNECTION%%U NOTHING BUT SANITARY WASTE FLOW FROM THE HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.
9. HOUSE WATER SERVICE SHALL NOT BE LAID IN THE SAME TRENCH AS THE SEWER SERVICE.
10. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33-67.

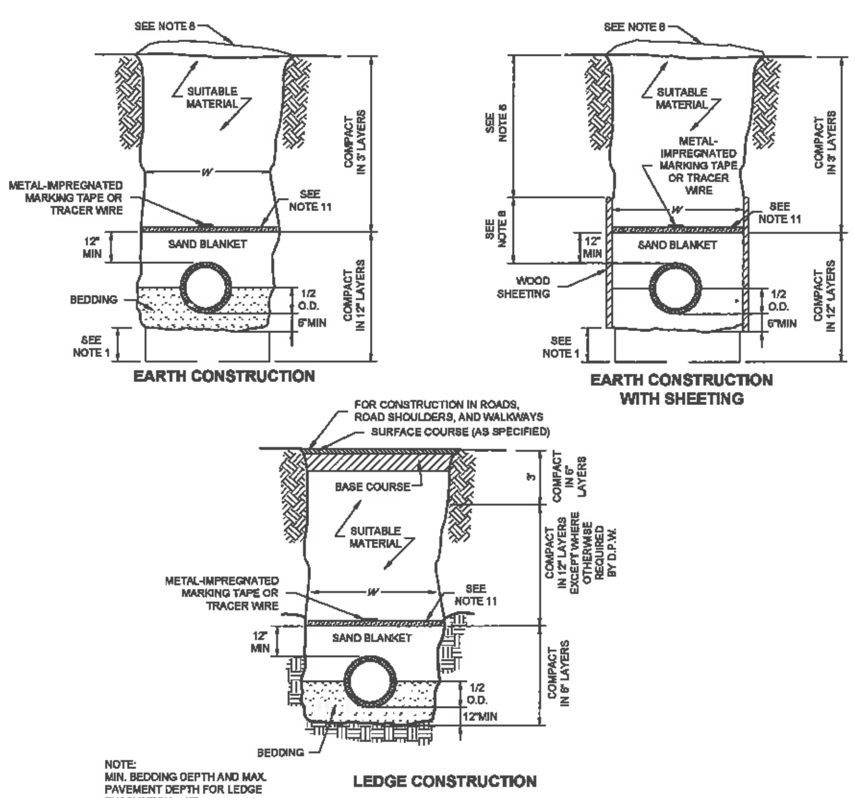
100%	PASSING 1 INCH SCREEN
90-100%	PASSING 3/4 INCH SCREEN
20-55%	PASSING 3/8 INCH SCREEN
0-10%	PASSING #4 SIEVE
0-5%	PASSING #8 SIEVE

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE (1-1/2 TO 1/2 INCH) SHALL BE USED.

11. LOCATION: THE LOCATION OF THE "T" OR "Y" SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE "T" OR "Y", AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPEFINDER.
12. CONCRETE: CONCRETE SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE N.H. DEPT. OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:
    CEMENT: 6.0 BAGS/C.Y.
    WATER: 5.75 GALS./BAG CEMENT
    AGGREGATE: 1 INCH MAX.
13. CHIMNEYS IF VERTICAL DROP INTO THE SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION. CHIMNEY INSTALLATION AS RECOMMENDED BY THE PIPE MANUFACTURER MAY BE USED IF APPROVED BY THE ENGINEER.



HOUSE SEWER DETAILS



STANDARD TRENCH SECTION

NOTES

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE, REFILL WITH BEDDING MATERIAL. (SEE ALSO NOTE 7)
2. BEDDING SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33. STONE SIZE #67

100%	PASSING 1 INCH SCREEN
90-100%	PASSING 3/4 INCH SCREEN
20-50	PASSING 3/8 INCH SCREEN
0-10%	PASSING #4 SIEVE
0-5%	PASSING #8 SIEVE

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE. GRADED SCREENED GRAVEL OR CRUSHED STONE 1/2 TO 1-1/2 INCH SHALL BE USED.

3. SAND BLANKET CLEAN SAND, FREE FROM ORGANIC MATTER, SO GRADED THAT 100%%% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE.
4. SUITABLE MATERIAL IN ROADS, ROAD SHOULDERS, WALK WAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOPSOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES, IN LARGEST DIMENSION OR ANY MATERIAL WHICH AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP-SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE (AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY) WILL BE PRESERVED.
5. BASE COURSE IF ORDERED BY THE ENGINEER SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF N.H. DEPT. OF TRANSPORTATION.
6. WOOD SHEETING, IF REQUIRED, IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER. IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE THE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISH GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
7. W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES, FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D.. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
9. CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000#) CONCRETE OF THE N.H. DEPT. OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:
   CEMENT: 6.0 BAGS PER CUBIC YARD
   WATER: 5.75 GALLONS PER BAG OF CEMENT
   MAXIMUM AGGREGATE SIZE: 1 INCH
10. ALL SEWERS SHALL BE MARKED USING METAL-IMPREGNATED MARKING TAPE OR TRACER WIRE THAT CAN BE LOCATED USING METAL DETECTION EQUIPMENT.
11. INSTALL 2" RIGID INSULATION IF LESS THAN 6 FEET OF COVER OR WHERE SHOWN ON THE INSULATION SHALL BE INSTALLED ABOVE THE SAND BLANKET AND EXTEND THE WIDTH OF THE TRENCH.

No.	DATE	REVISION	BY
1	09/23/20	ADDRESS CITY STAFF COMMENTS	TEZ

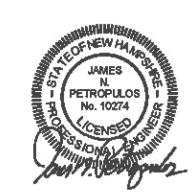
DETAIL SHEET - SEWER
(MAP E, LOT 66)

599 WEST HOLLIS STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER:
CRIMSON PROPERTIES, LLC
20 TRAFALGAR SQ., SUITE 101 NASHUA, NEW HAMPSHIRE 03063 (603) 234-4192

NO SCALE

26 AUGUST 2020



HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
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FIELD BOOK: 1242 | DRAWING NAME: 5705DET1 | 5705 (File Number) | 5 OF 5 (Sheet)
DRAWING LOC: J:\5000\5705\DWG\5705SUB

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599 West Hollis Street - 1,000 FT Vicinity Map

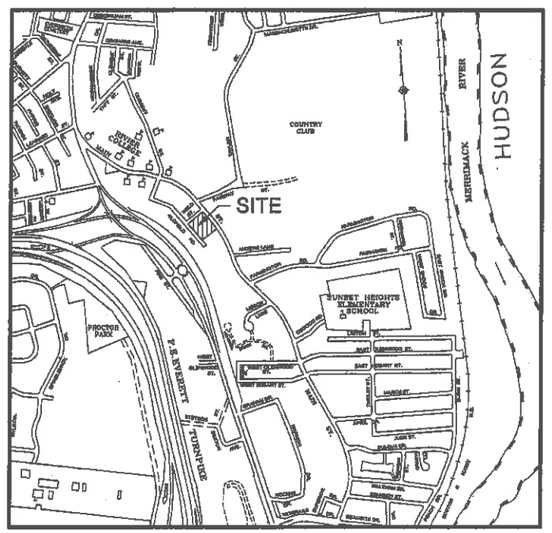
0 240 480 960 Feet

MAP 112, LOT 11

SUBDIVISION / STREET DEDICATION PLAN

453 SOUTH MAIN STREET

NASHUA, NEW HAMPSHIRE



VICINITY PLAN
SCALE: 1" = 1,000'

PREPARED FOR/RECORD OWNER

STELLOS FAMILY INVESTMENT PROPERTIES, L.L.C.
125 NORTHEASTERN BOULEVARD
NASHUA, NEW HAMPSHIRE 03062
(603) 882-3126

27 AUGUST 2020

INDEX OF PLANS

SHEET No.	TITLE	
1 OF 5	SUBDIVISION / STREET DEDICATION PLAN	1" = 30'
2 OF 5	TOPOGRAPHIC SUBDIVISION PLAN	1" = 30'
3 OF 5	LOT GRADING PLAN	1" = 30'
4-5 OF 5	DETAIL SHEET - GENERAL SITE	

STATE OF NEW HAMPSHIRE JAMES N. PETROPULOS No. 10274 LICENSED PROFESSIONAL ENGINEER

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street
Nashua, NH 03062
(603) 883-2057
131 Middlesex Turnpike
Burlington, MA 01803
(781) 203-1501
www.hayner-swanson.com

STATE OF NEW HAMPSHIRE No. 880 LEE B. SAGOON LICENSED LAND SURVEYOR

9/23/20

HSI Hayner/Swanson, Inc.
3 Congress Street Nashua, NH 03062 (603) 883-2057
131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
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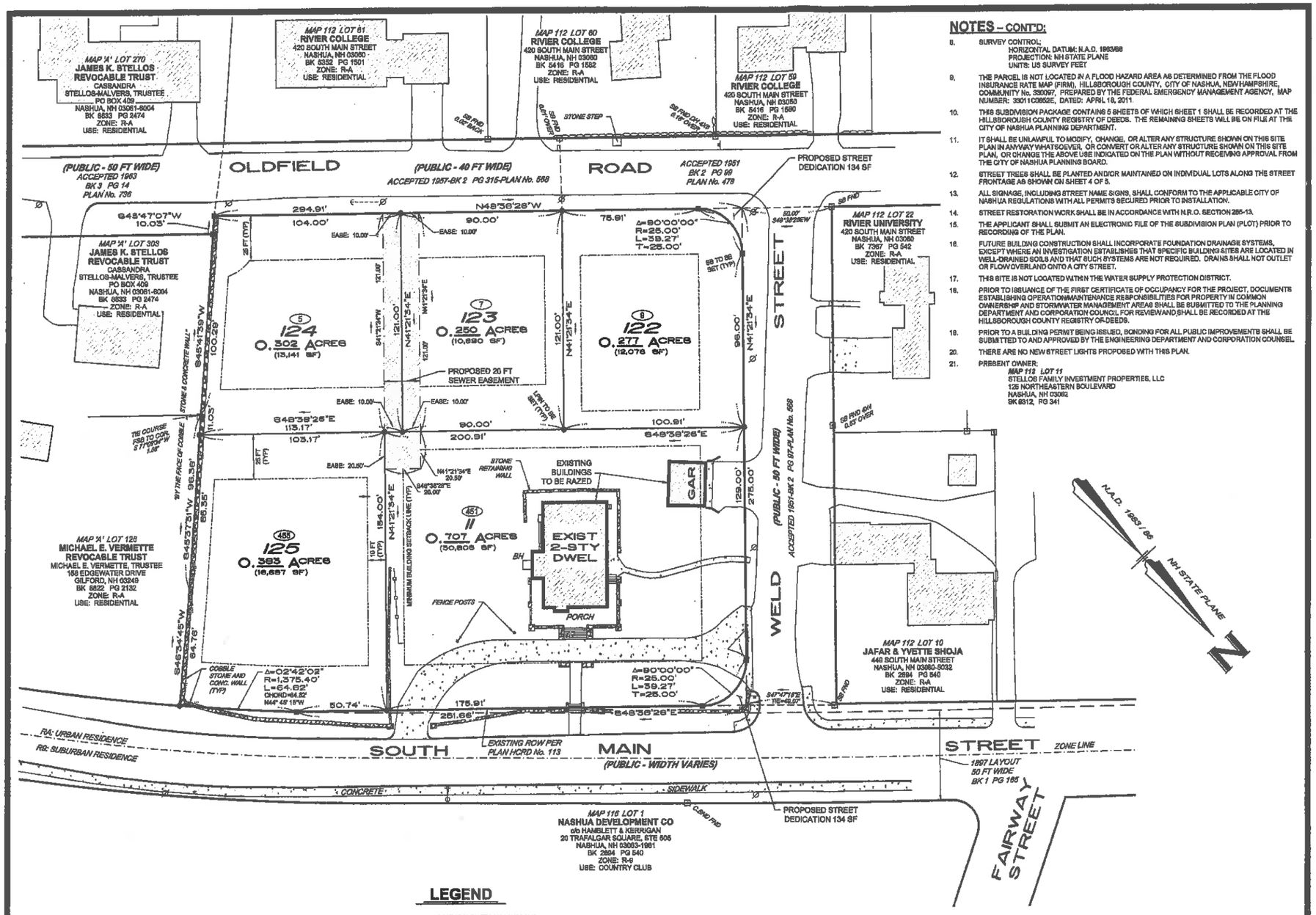
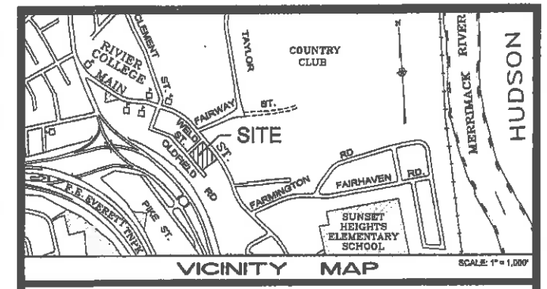
FILE No. J:\5000\5718 STELLOS\DWG\5718SUB\5718SUB-CS00



NOTES – CONT'D:

8. SURVEY CONTROL:
   HORIZONTAL DATUM: N.A.D. 1983/86
   PROJECTION: NH STATE PLANE
   UNITS: US SURVEY FEET
9. THE PARCEL IS NOT LOCATED IN A FLOOD HAZARD AREA AS DETERMINED FROM THE FLOOD INSURANCE RATE MAP (FIRM), HILLSBOROUGH COUNTY, CITY OF NASHUA, NEW HAMPSHIRE, COMMUNITY No. 330097, PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBER: 33011C0652E, DATED: APRIL 16, 2011.
10. THIS SUBDIVISION PACKAGE CONTAINS 5 SHEETS OF WHICH SHEET 1 SHALL BE RECORDED AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. THE REMAINING SHEETS WILL BE ON FILE AT THE CITY OF NASHUA PLANNING DEPARTMENT.
11. IT SHALL BE UNLAWFUL TO MODIFY, CHANGE, OR ALTER ANY STRUCTURE SHOWN ON THIS SITE PLAN IN ANYWAY WHATSOEVER, OR CONVERT OR ALTER ANY STRUCTURE SHOWN ON THIS SITE PLAN, OR CHANGE THE ABOVE USE INDICATED ON THE PLAN WITHOUT RECEIVING APPROVAL FROM THE CITY OF NASHUA PLANNING BOARD.
12. STREET TREES SHALL BE PLANTED AND/OR MAINTAINED ON INDIVIDUAL LOTS ALONG THE STREET FRONTAGE AS SHOWN ON SHEET 4 OF 5.
13. ALL SIGNAGE, INCLUDING STREET NAME SIGNS, SHALL CONFORM TO THE APPLICABLE CITY OF NASHUA REGULATIONS WITH ALL PERMITS SECURED PRIOR TO INSTALLATION.
14. STREET RESTORATION WORK SHALL BE IN ACCORDANCE WITH N.R.O. SECTION 285-13.
15. THE APPLICANT SHALL SUBMIT AN ELECTRONIC FILE OF THE SUBDIVISION PLAN (PLOT) PRIOR TO RECORDING OF THE PLAN.
16. FUTURE BUILDING CONSTRUCTION SHALL INCORPORATE FOUNDATION DRAINAGE SYSTEMS, EXCEPT WHERE AN INVESTIGATION ESTABLISHES THAT SPECIFIC BUILDING SITES ARE LOCATED IN WELL-DRAINED SOILS AND THAT SUCH SYSTEMS ARE NOT REQUIRED. DRAINS SHALL NOT OUTLET OR FLOW OVERLAND ONTO A CITY STREET.
17. THIS SITE IS NOT LOCATED WITHIN THE WATER SUPPLY PROTECTION DISTRICT.
18. PRIOR TO ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY FOR THE PROJECT, DOCUMENTS ESTABLISHING OPERATIONS/MAINTENANCE RESPONSIBILITIES FOR PROPERTY IN COMMON OWNERSHIP AND STORMWATER MANAGEMENT AREAS SHALL BE SUBMITTED TO THE PLANNING DEPARTMENT AND CORPORATION COUNCIL FOR REVIEW AND SHALL BE RECORDED AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS.
19. PRIOR TO A BUILDING PERMIT BEING ISSUED, BONDING FOR ALL PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEERING DEPARTMENT AND CORPORATION COUNSEL.
20. THERE ARE NO NEW STREET LIGHTS PROPOSED WITH THIS PLAN.
21. PRESENT OWNER:
    MAP 112 LOT 11
    STELLOS FAMILY INVESTMENT PROPERTIES, LLC
    125 NORTHEASTERN BOULEVARD
    NASHUA, NH 03062
    BK 6312, PG 341



PLAN REFERENCES:

1. PLAN OF ADDITION TO NASHUA TERRACES, SCALE: 1" = 80'. H.C.R.D. PLAN No. 113.
2. NASHUA, NH, SCALE: 1"=50', DATED: FEBRUARY 1960, PREPARED BY: NED SPAULDING H.C.R.D. PLAN NO. NOT RECORDED.
3. BOUNDARY PLAN, RIVIER COLLEGE, SOUTH MAIN STREET, NASHUA, NEW HAMPSHIRE, PREPARED FOR/RECORD OWNER: RIVIER COLLEGE, DATED: 17 APRIL 1992, SCALE: 1" = 100' AND PREPARED BY: ALLAN H. SWANSON H.C.R.D. PLAN No. 26129.
4. FINAL SUBDIVISION PLAN, MAP A, LOTS 760 & 323, SOUTH MAIN STREET, NASHUA, NEW HAMPSHIRE, PREPARED FOR DONALD REID, DATED: MAY 21, 1997, SCALE: 1" = 60' AND PREPARED BY CUOCO & CORMIER H.C.R.D. PLAN No. 20918.
5. LOT LINE RELOCATION PLAN, SHEET A, LOTS 786 & 126, SOUTH MAIN STREET, NASHUA, NEW HAMPSHIRE, PREPARED FOR: DONALD REID, DATED: OCTOBER 13, 1987, SCALE: 1" = 20' AND PREPARED BY CUOCO & CORMIER, INC. H.C.R.D. PLAN No. 21356.

NOTES:

1. EXISTING SITE AREA 1.925 AC (83,866 SF)
2. PRESENT ZONING: *R-A; A-URBAN RESIDENCE*

MINIMUM LOT REQUIREMENTS:	REQUIRED	LOT 11	LOT 122	LOT 123	LOT 124	LOT 125
-LOT SIZE	7,500 SF	30,806 SF	12,076 SF	10,890 SF	13,141 SF	16,687 SF
-FRONTAGE	50 FT	344.18 FT	211.18 FT	90.00 FT	104.0 FT	115.56 FT
-WIDTH	75 FT	200 FT	100 FT	90 FT	106 FT	108 FT
-DEPTH	80 FT	154 FT	121 FT	121 FT	121 FT	153 FT
MINIMUM SETBACK REQUIREMENTS:						
-FRONT YARD	25 FT					
-SIDE YARD	10 FT					
- REAR YARD	25 FT					
- MAX. BUILDING HEIGHT	35 FT					
- MAX STORIES	2.5					
- OPEN SPACE (%)	50					
- MAX. FLOOR RATIO	0.5					

3. LOT NUMBERS REFER TO THE CITY OF NASHUA ASSESSORS MAPS 'A', 112 AND 116.
4. PURPOSE OF PLAN:
   [A] TO SUBDIVIDE OLD LOT 11 INTO FIVE (5) NEW RESIDENTIAL LOTS
   [B] TO DEDICATE 134 SF OF LOT 11 FOR WELD STREET RIGHT OF WAY
   [C] TO DEDICATE 134 SF OF LOT 122 FOR WELD STREET RIGHT OF WAY
5. SITE IS SERVICED BY MUNICIPAL SEWER, WATER BY PENNICHUCK WATER WORKS, UNDERGROUND GAS AND A COMBINATION OF UNDERGROUND AND OVERHEAD ELECTRIC AND TELECOMMUNICATION UTILITIES.
6. MONUMENTS, WHERE REQUIRED, TO BE SET BY A LICENSED LAND SURVEYOR AS FOLLOWS:
   [A] STONE BOUNDS: AT STREET INTERSECTIONS, POINTS OF CURVATURE AND TANGENCY OF PUBLIC STREET
   [B] IRON PINS: AT LOT CORNERS
7. THERE ARE NO WETLANDS ON THIS SITE.

No.	DATE	REVISION	BY

SUBDIVISION / STREET DEDICATION PLAN
(MAP 112, LOT 11)

453 SOUTH MAIN STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER:
STELLOS FAMILY INVESTMENT PROPERTIES, L.L.C
125 NORTHEASTERN BOULEVARD NASHUA, NEW HAMPSHIRE 03062 (603) 882-3126

30 0 30 60 90 120 FEET
15 0 15 30 METERS
SCALE: 1"=30 Feet
1"=9.144 Meters

27 AUGUST 2020

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03063, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.haynerswanson.com

FIELD BOOK: 1247	DRAWING NAME: 5718SUB-FS31	5718 SUB	1 OF 5
DRAWING LOC: J:\5000\5718 STELLOS\DWG\5718SUB		File Number	Sheet

▶ ZONING NOTE ◀

THE ZONING/BUILDING SETBACKS DEPICTED ON THIS PLAN ARE THOSE WE HAVE INTERPRETED FROM THE LATEST ZONING ORDINANCE OF THE MUNICIPALITY AND, AS SUCH, ARE ONLY OPINIONS EXPRESSED BY HAYNER/SWANSON, INC. THE FINAL INTERPRETATION OF THE ORDINANCE CAN ONLY BE MADE BY THE APPROPRIATE ZONING AUTHORITY. SINCE BUILDING ORIENTATION, PROPOSED USES, AND OTHER FACTORS CAN AFFECT THE SETBACKS, PRIOR TO ANY DEVELOPMENT OF THIS PROPERTY, THE BUILDER/OWNER MUST CONSULT WITH THE TOWN/CITY TO INSURE THE CORRECT APPLICATION OF THE ZONING ORDINANCE.

APPROVED
NASHUA CITY PLANNING BOARD

CHAIRMAN DATE

LEGEND

- UTILITY POLE WITH GUY SUPPORT
- STREET LIGHT
- SIGN
- C. BND — CONCRETE BOUND
- SB — STONE BOUND
- I.PIPE — IRON PIPE
- DH — DRILL HOLE & STONE WALL
- STONE BOUND TO BE SET
- IRON PIN TO BE SET
- BUILDING SETBACK LINE
- STOCKADE FENCE
- CURBING
- 10 — STREET ADDRESS
- CONCRETE
- COBBLE STONE/CONCRETE WALL
- EXISTING BUILDING (PER NASHUA GIS)

THE UNDERSIGNED DOES HEREBY AGREE TO PERFORM ALL OF THE SITE IMPROVEMENTS AS SHOWN ON THIS PLAN AND AS CONDITIONED OR STIPULATED BY THE NASHUA CITY PLANNING BOARD. ALL REQUIRED SITE IMPROVEMENTS MUST BE COMPLETED OR GUARANTEED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

Cassandra Stellos-Malvers 09/21/2020
FOR STELLOS FAMILY INVESTMENT PROPERTIES, L.L.C. DATE

CERTIFICATION

I HEREBY CERTIFY, TO MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN SHOWS THE RESULTS OF AN ON THE GROUND "STANDARD PROPERTY SURVEY" AND THAT SAID SURVEY MEETS THE MINIMUM PRECISION AND/OR ACCURACY MEASUREMENTS FOR SURVEY CLASSIFICATION "U" (URBAN) AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS ADOPTED 09/23/01, EFFECTIVE 01/01/06.

I FURTHER CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS A MAXIMUM ERROR OF CLOSURE OF ONE PART IN FIFTEEN THOUSAND ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

9/25/20
DATE

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — No. 680 — LEE S. GAGNON

LEE S. GAGNON, LLS

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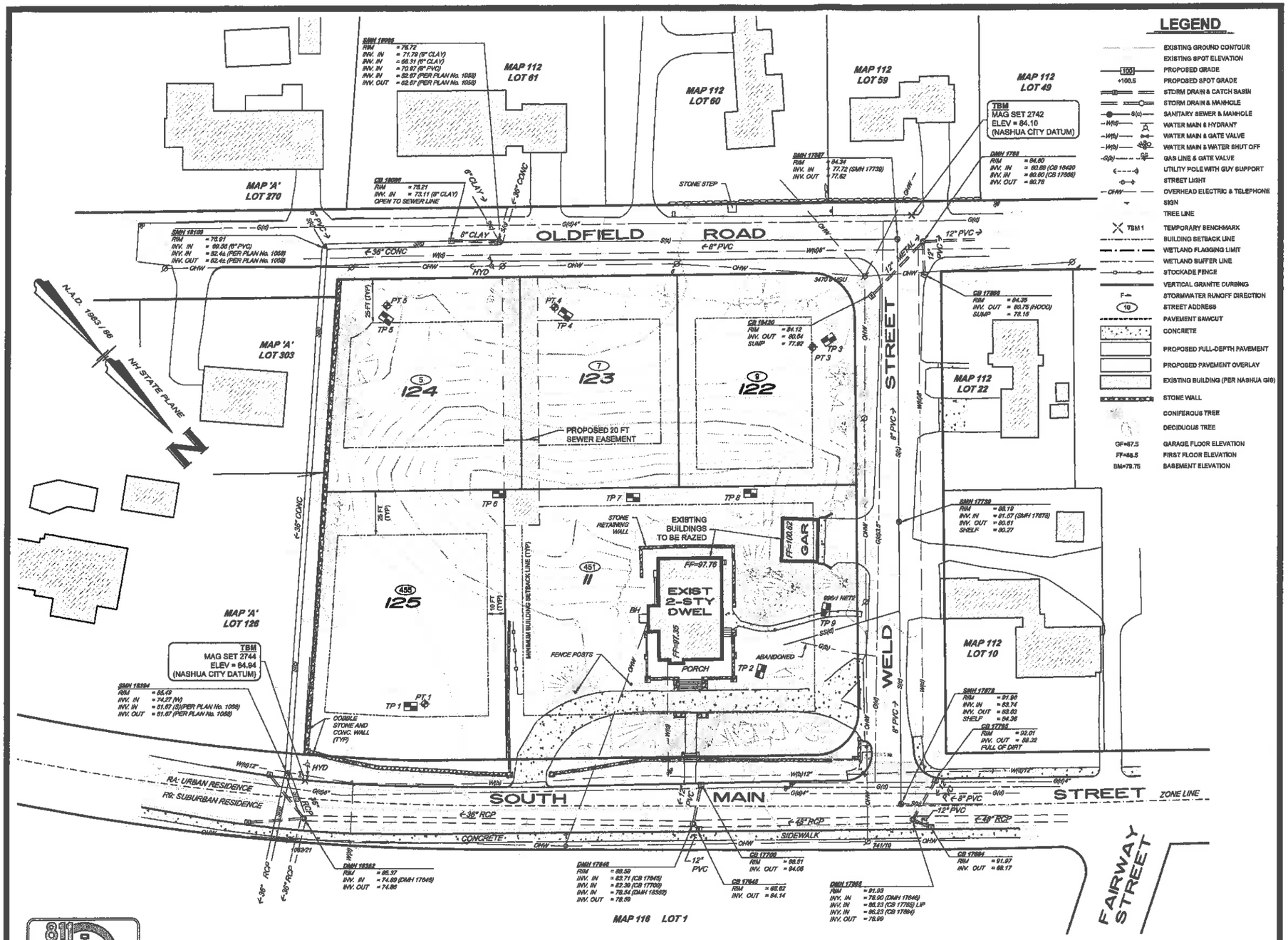

LEGEND

- EXISTING GROUND CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED GRADE
- PROPOSED SPOT GRADE
- STORM DRAIN & CATCH BASIN
- STORM DRAIN & MANHOLE
- SANITARY SEWER & MANHOLE
- WATER MAIN & HYDRANT
- WATER MAIN & GATE VALVE
- WATER MAIN & WATER SHUT OFF
- GAS LINE & GATE VALVE
- UTILITY POLE WITH GUY SUPPORT
- STREET LIGHT
- OVERHEAD ELECTRIC & TELEPHONE
- SIGN
- TREE LINE
- TEMPORARY BENCHMARK
- BUILDING SETBACK LINE
- WETLAND FLAGGING LIMIT
- WETLAND BUFFER LINE
- STOCKADE FENCE
- VERTICAL GRANITE CURBING
- STORMWATER RUNOFF DIRECTION
- STREET ADDRESS
- PAVEMENT SAWCUT
- CONCRETE
- PROPOSED FULL-DEPTH PAVEMENT
- PROPOSED PAVEMENT OVERLAY
- EXISTING BUILDING (PER NASHUA GIS)
- STONE WALL
- CONIFEROUS TREE
- DECIDUOUS TREE
- GF=87.5 GARAGE FLOOR ELEVATION
- FF=88.5 FIRST FLOOR ELEVATION
- BM=79.75 BASEMENT ELEVATION

SURVEY NOTES:

1. THE TOPOGRAPHY SHOWN IS BASED ON A FIELD SURVEY BY THIS OFFICE IN JULY AND AUGUST 2020.
2. SURVEY CONTROL:
   HORIZONTAL DATUM: N.A.D. 1983/86
   PROJECTION: NH STATE PLANE
   VERTICAL DATUM: NASHUA CITY DATUM
   UNITS: US SURVEY FEET
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACCURACY OF THE EXISTING TOPOGRAPHY PRIOR TO EARTHWORK OPERATIONS. NO CLAIM FOR THE EXTRA WORK DUE TO TOPOGRAPHIC INACCURACY SHALL BE CONSIDERED AFTER EARTHWORK HAS COMMENCED.
4. THE CONTRACTOR SHALL ONLY USE BENCHMARKS AS PROVIDED BY THE ENGINEER.
5. TEST PIT LOCATIONS AS SHOWN ARE APPROXIMATE. TEST PITS WERE PERFORMED ON AUGUST 14, 2020 UNDER THE SUPERVISION OF HAYNER/SWANSON, INC.

UTILITY CONTACTS

WATER:
PENNICHUCK WATER WORKS
25 MANCHESTER STREET
MERRIMACK, NH 03054

ATT: JOHN BOISVERT, PE
(603) 913-2300

GAS:
LIBERTY UTILITIES
11 NORTHEASTERN BLVD.
SALEM, NH 03079

ATT: ANDREW MORGAN
(603) 327-5357

TELEPHONE:
CONSOLIDATED COMMUNICATIONS
100 DAY STREET
MANCHESTER, NH 03103

ATT: ROBERTO DIAZ
(603) 296-5998

POWER:
EVERSOURCE
370 AMHERST STREET
NASHUA, NH 03060

ATT: MARC GAGNON
(603) 882-5694

CITY OF NASHUA

PLANNING DEPARTMENT
COMMUNITY DEVELOPMENT DIVISION
229 MAIN STREET
NASHUA, NH 03060

ATT: LINDA McGHEE
(603) 589-3110

ENGINEERING DEPARTMENT
NASHUA DEPT. OF
PUBLIC WORKS / ENGINEERING
9 RIVERSIDE STREET
NASHUA, NH 03062

ATT: JOE MENDOLA
(603) 589-3147

FIRE DEPARTMENT
NASHUA FIRE RESCUE
177 LAKE STREET
NASHUA, NH 03062

ATT: ADAM POULIOT, FIRE MARSHALL
(603) 589-3460

STATE OF NEW HAMPSHIRE
JAMES N. PETROPULOS
No. 10274
LICENSED
PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY

TOPOGRAPHIC SUBDIVISION PLAN
(MAP 112, LOT 11)

453 SOUTH MAIN STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER:
STELLOS FAMILY INVESTMENT PROPERTIES, L.L.C.
125 NORTHEASTERN BOULEVARD NASHUA, NEW HAMPSHIRE 03062 (603) 882-3126

30 0 30 60 90 120 FEET
15 0 15 30 METERS
SCALE: 1"=30 Feet
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27 AUGUST 2020

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811 DigSafe
CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION
digsafe.com
DIAL 811 or
1-888-DIG-SAFE
1-888-344-7233

▶ UTILITY QUALITY LEGEND ◀

SUBSURFACE UTILITIES AS DEPICTED ON THIS PLAN ARE IDENTIFIED BY QUALITY LEVELS DEFINED BY CI/ASCE 38-02 "ASCE STANDARD GUIDELINE FOR COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"

- LEVEL A (a) PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY ACTUAL EXPOSURE AND SUBSEQUENT MEASUREMENTS OF SUBSURFACE UTILITIES.
- LEVEL B (b) INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES. (IE. DIGSAFE)
- LEVEL C (c) INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.
- LEVEL D (d) INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

▶ UTILITY NOTE ◀

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND PLOTTED FROM EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED 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 ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

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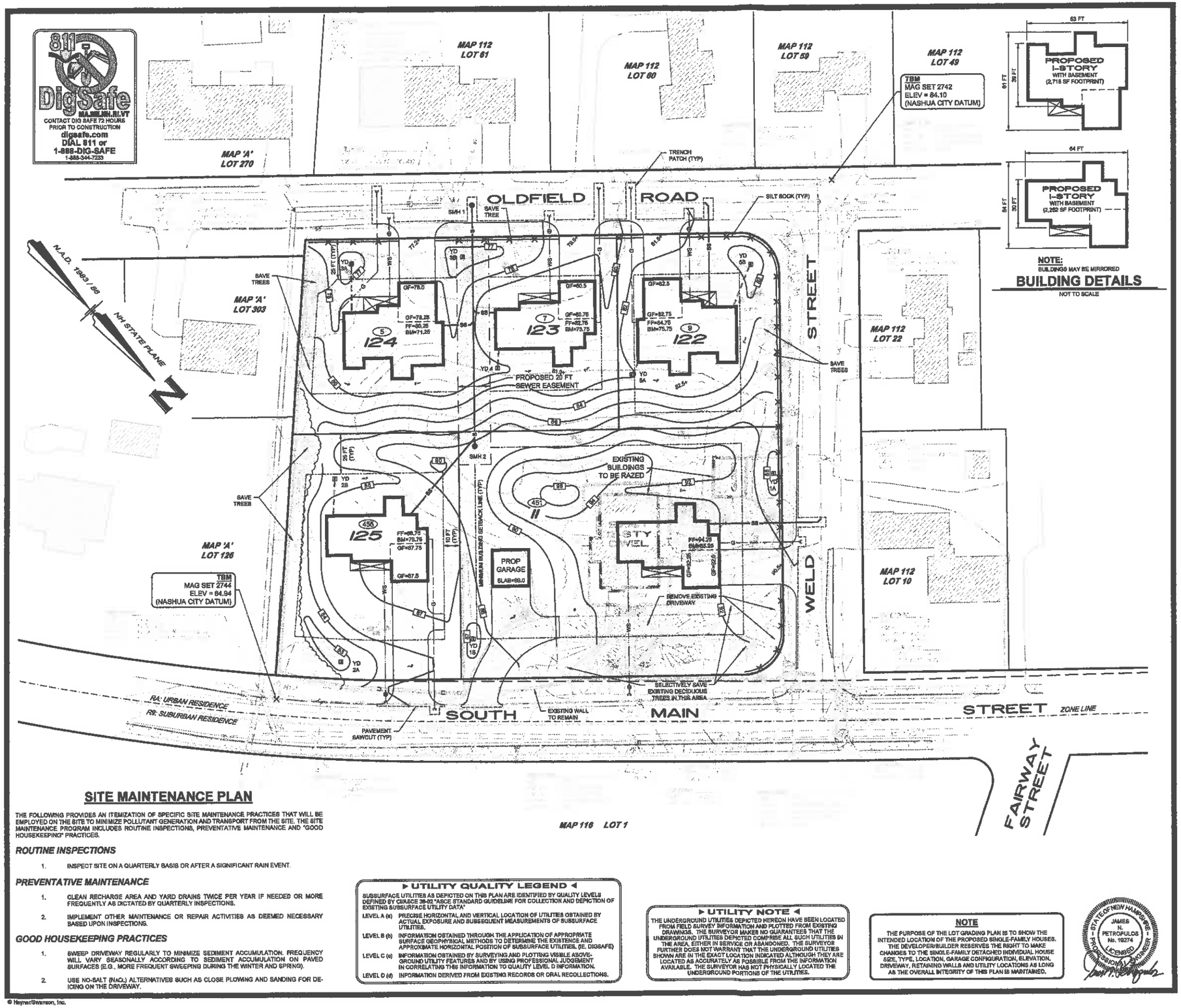

NOTE:
BUILDINGS MAY BE MIRRORED

BUILDING DETAILS

NOT TO SCALE

CONSTRUCTION NOTES

1. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF NASHUA, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD CONSTRUCTION, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE, AND THE STANDARD SPECIFICATIONS FOR SEWERS AND DRAINS, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, LATEST EDITION ARE HEREBY INCORPORATED BY REFERENCE.
2. ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS FOR ROAD CONSTRUCTION, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE, AND THE STANDARD SPECIFICATIONS FOR SEWERS AND DRAINS, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS BEFORE DIGGING.
4. PRIOR TO ANY WORK BEING STARTED, THE APPLICANT AND THEIR CONTRACTORS SHALL HOLD A PRE-CONSTRUCTION CONFERENCE WITH PLANNING STAFF TO REVIEW SCHEDULING, EROSION AND TRAFFIC CONTROL, AND TREE PROTECTION.
5. BLASTING, IF NEEDED, SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF NASHUA FIRE DEPARTMENT REGULATIONS.
6. ALL STUMPS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.
7. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED IMMEDIATELY UPON BEING CONSTRUCTED.
8. BASEMENTS MAY ENCOUNTER GROUNDWATER CONDITIONS THAT REQUIRE SUBSURFACE GROUNDWATER MITIGATION MEASURES. IT IS RECOMMENDED THAT SUBSURFACE CONDITIONS BE EVALUATED BY A GEOTECHNICAL ENGINEER, AND MITIGATION MEASURES BE IMPLEMENTED BY THE BUILDER ON A HOUSE BY HOUSE BASIS.
9. A DRIVEWAY PLAN SHALL BE APPROVED BY THE ENGINEERING DEPARTMENT PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
10. LOTS WILL BE SERVICED BY UNDERGROUND ELECTRIC AND COMMUNICATION UTILITIES. SERVICE CONNECTION LOCATIONS TO BE COORDINATED WITH UTILITY COMPANIES PRIOR TO CONSTRUCTION.

EROSION CONTROL NOTES:

1. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORMWATER POLLUTION CONTROL SHALL OBTAIN A COPY OF THE STORMWATER POLLUTION CONTROL PLAN (SPCP) AND NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION GENERAL PERMIT (CGP) AND BECOME FAMILIAR WITH THEIR CONTENTS.
2. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SPCP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY SITE CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
3. BEST MANAGEMENT PRACTICES (BMPS) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
4. EARTH MATERIAL STOCKPILE AREAS AS SHOWN ARE APPROXIMATE AND SUBJECT TO CHANGE. STOCKPILE AREAS SHALL BE SURROUNDED BY SILT FENCE AND RE-SEEDED IF THEY ARE LEFT UNTOUCHED FOR MORE THAN TEN (10) DAYS.
5. ALL MEASURES STATED ON THIS EROSION CONTROL PLAN, AND IN THE STORMWATER POLLUTION CONTROL PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETE PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT.
6. SILT SOCKS SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED.

NO.	DATE	REVISION	BY

LOT GRADING PLAN
(MAP 112, LOT 11)

453 SOUTH MAIN STREET

NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER:

STELLOS FAMILY INVESTMENT PROPERTIES, L.L.C.

125 NORTHEASTERN BOULEVARD NASHUA, NEW HAMPSHIRE 03062 (603) 882-3126

30 0 30 60 90 120 FEET
15 0 15 30 METERS
SCALE: 1"=30 Feet
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SITE MAINTENANCE PLAN

THE FOLLOWING PROVIDES AN ITEMIZATION OF SPECIFIC SITE MAINTENANCE PRACTICES THAT WILL BE EMPLOYED ON THE SITE TO MINIMIZE POLLUTANT GENERATION AND TRANSPORT FROM THE SITE. THE SITE MAINTENANCE PROGRAM INCLUDES ROUTINE INSPECTIONS, PREVENTATIVE MAINTENANCE AND "GOOD HOUSEKEEPING" PRACTICES.

ROUTINE INSPECTIONS

1. INSPECT SITE ON A QUARTERLY BASIS OR AFTER A SIGNIFICANT RAIN EVENT.

PREVENTATIVE MAINTENANCE

1. CLEAN RECHARGE AREA AND YARD DRAINS TWICE PER YEAR IF NEEDED OR MORE FREQUENTLY AS DICTATED BY QUARTERLY INSPECTIONS.
2. IMPLEMENT OTHER MAINTENANCE OR REPAIR ACTIVITIES AS DEEMED NECESSARY BASED UPON INSPECTIONS.

GOOD HOUSEKEEPING PRACTICES

1. SWEEP DRIVEWAY REGULARLY TO MINIMIZE SEDIMENT ACCUMULATION. FREQUENCY WILL VARY SEASONALLY ACCORDING TO SEDIMENT ACCUMULATION ON PAVED SURFACES (E.G., MORE FREQUENT SWEEPING DURING THE WINTER AND SPRING).
2. USE NO-SALT (NaCL) ALTERNATIVES SUCH AS CLOSE PLOWING AND SANDING FOR DE-ICING ON THE DRIVEWAY.

▶ UTILITY QUALITY LEGEND ◀

SUBSURFACE UTILITIES AS DEPICTED ON THIS PLAN ARE IDENTIFIED BY QUALITY LEVELS DEFINED BY CI/ASCE 38-02 "ASCE STANDARD GUIDELINE FOR COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"

LEVEL A (a)	PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY ACTUAL EXPOSURE AND SUBSEQUENT MEASUREMENTS OF SUBSURFACE UTILITIES.
LEVEL B (b)	INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES, (IE. DIGSAFE)
LEVEL C (c)	INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL. D INFORMATION.
LEVEL D (d)	INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

▶ UTILITY NOTE ◀

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NOTE

THE PURPOSE OF THE LOT GRADING PLAN IS TO SHOW THE INTENDED LOCATION OF THE PROPOSED SINGLE-FAMILY HOUSES. THE DEVELOPER/BUILDER RESERVES THE RIGHT TO MAKE CHANGES TO THE SINGLE-FAMILY DETACHED INDIVIDUAL HOUSE SIZE, TYPE, LOCATION, GARAGE CONFIGURATION, ELEVATION, DRIVEWAY, RETAINING WALLS AND UTILITY LOCATIONS AS LONG AS THE OVERALL INTEGRITY OF THIS PLAN IS MAINTAINED.

STATE OF NEW HAMPSHIRE — JAMES N. PETROPULOS No. 19274 — LICENSED PROFESSIONAL ENGINEER

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TEST PIT INFORMATION

TEST PIT # 1 DATE: 8/14/20

0-10" 10YR 3/3, DARK BROWN, FINE SANDY LOAM, WEAK FINE GRANULAR, VERY FRIABLE WITH MANY ROOTS
10-18" 10YR 5/6, YELLOWISH BROWN, SANDY LOAM, 2% ROUNDED COBBLES, FINE GRANULAR, FRIABLE WITH COMMON ROOTS
18-28" 10YR 6/4, YELLOWISH BROWN, GRAVELLY SANDY LOAM, 15% ROUNDED COBBLES, 5% GRAVEL, FINE GRANULAR, FRIABLE WITH FEW ROOTS
28-86" 10YR 6/4, YELLOWISH BROWN, GRAVELLY SAND, 15% ROUNDED COBBLES, 5% GRAVEL, SINGLE GRAIN, LOOSE WITH FEW ROOTS
86-90" 10YR 6/4, YELLOWISH BROWN, LOAMY SAND, FINE GRANULAR, FRIABLE WITH FEW ROOTS
90-96" 2.5Y 6/4, LIGHT YELLOWISH BROWN, FINE SAND, FINE GRANULAR FRIABLE WITH FEW ROOTS TO 90"

ESHWT: NONE OBSERVED OWT: NONE OBSERVED ROOTS: 90" LEDGE: NONE OBSERVED

PERC TEST#1 DATE: 8/14/20

PERCOLATION RATE: 1 MINUTE/ INCH AT 80" DEEP

TEST PIT # 2 DATE: 8/14/20

0-10" 10YR 3/3, DARK BROWN, FINE SANDY LOAM, WEAK FINE GRANULAR, VERY FRIABLE WITH MANY ROOTS
10-27" 10YR 6/4, YELLOWISH BROWN, GRAVELLY LOAMY SAND, 10% ROUNDED COBBLES, 10% GRAVEL, FINE GRANULAR, FRIABLE WITH COMMON ROOTS
28-48" 10YR 7/4, VERY PALE BROWN, GRAVELLY SANDY LOAM, 10% ROUNDED COBBLES, 10% GRAVEL, SINGLE GRAIN, LOOSE WITH FEW ROOTS TO 48"

ESHWT: NONE OBSERVED OWT: NONE OBSERVED ROOTS: 48" LEDGE: 48"

TEST PIT # 3 DATE: 8/14/20

0-14" 10YR 3/3, DARK BROWN, FINE SANDY LOAM, WEAK FINE GRANULAR, VERY FRIABLE WITH MANY ROOTS
14-24" 10YR 5/6, YELLOWISH BROWN, GRAVELLY LOAMY SAND, 10% ROUNDED COBBLES, 10% GRAVEL, 10% 12-18" ROCKS, GRANULAR, LOOSE WITH COMMON ROOTS
24-68" 10YR 6/4, YELLOWISH BROWN, GRAVELLY LOAMY SAND, 20% ROUNDED COBBLES, 20% GRAVEL, 10% 12-18" ROCKS, SINGLE GRAIN, LOOSE WITH FEW ROOTS TO 48"
68-84" 2.5Y 7/3, VERY PALE BROWN, GRAVELLY LOAMY SAND, 10% ROUNDED COBBLES, 10% GRAVEL, GRANULAR, FRIABLE WITH 7.5YR 5/6, STRONG BROWN COMMON, DISTINCT REDOXIMORPHICH FEATURES AT 75"

ESHWT: 75" OWT: NONE OBSERVED ROOTS: 48" LEDGE: 84"

PERC TEST#3 DATE: 8/14/20

PERCOLATION RATE: <1 MINUTE/ INCH AT 54" DEEP

TEST PIT # 4 DATE: 8/14/20

0-4" 10YR 3/3, DARK BROWN, FINE SANDY LOAM, WEAK FINE GRANULAR, VERY FRIABLE WITH MANY ROOTS
4-18" 10YR 5/6, YELLOWISH BROWN, SANDY LOAM, 2% ROUNDED COBBLES, FINE GRANULAR, FRIABLE WITH COMMON ROOTS
18-42" 10YR 6/6, BROWNISH YELLOW, LOAMY SAND, SINGLE GRAIN, LOOSE WITH FEW ROOTS
42-60" 2.5Y 7/4, VERY PALE BROWN, FINE SAND, SINGLE GRAIN, LOOSE WITH FEW ROOTS
60-78" 2.5Y 7/3, VERY PALE BROWN, LOAMY SAND, GRANULAR, FRIABLE WITH FEW ROOTS TO 75" AND 7.5YR 5/8, STRONG BROWN, COMMON, DISTINCT REDOXIMORPHICH FEATURES AT 78"
78-82" 2.5Y 7/3, VERY PALE BROWN, LOAMY SAND, GRANULAR, CEMENTED, FIRM WITH 7.5YR 5/8, STRONG BROWN, COMMON, DISTINCT REDOXIMORPHICH FEATURES THROUGHTHOUT
82-96" 2.5Y 7/3, VERY PALE BROWN, LOAMY SAND, GRANULAR, FRIABLE WITH NO REDOXIMORPHIC FEATURES OBSERVED

ESHWT: NONE OBSERVED OWT: NONE OBSERVED ROOTS: 78" LEDGE: NONE OBSERVED

RESTRICTIVE CEMENTED LAYER 78-82"

PERC TEST#4 DATE: 8/14/20

PERCOLATION RATE: <1 MINUTE/ INCH AT 68" DEEP

TEST PIT # 5 DATE: 8/14/20

0-6" 10YR 3/3, DARK BROWN, FINE SANDY LOAM, WEAK FINE GRANULAR, VERY FRIABLE WITH MANY ROOTS
6-18" 10YR 5/6, YELLOWISH BROWN, SANDY LOAM, FINE GRANULAR, FRIABLE WITH COMMON ROOTS
18-44" 10YR 6/6, BROWNISH YELLOW, LOAMY SAND, SINGLE GRAIN, LOOSE WITH FEW ROOTS
44-80" 2.5Y 7/4, VERY PALE BROWN, FINE SAND, 2% ROUNDED COBBLES, SINGLE GRAIN, LOOSE WITH FEW ROOTS TO 72"
80-96" 2.5Y 7/3, VERY PALE BROWN, LOAMY SAND, GRANULAR, FRIABLE

ESHWT: NONE OBSERVED OWT: NONE OBSERVED ROOTS: 72" LEDGE: NONE OBSERVED

PERC TEST#5 DATE: 8/14/20

PERCOLATION RATE: 1 MINUTE/ INCH AT 60" DEEP

TEST PIT # 6 DATE: 8/14/20

0-6" 10YR 3/3, DARK BROWN, FINE SANDY LOAM, WEAK FINE GRANULAR, VERY FRIABLE WITH MANY ROOTS
6-18" 10YR 5/6, YELLOWISH BROWN, SANDY LOAM, 5% ROUNDED COBBLES, FINE GRANULAR, FRIABLE WITH COMMON ROOTS
18-30" 10YR 5/4, YELLOWISH BROWN, GRAVELLY SANDY LOAM, 15% ROUNDED COBBLES, 5% GRAVEL, 10% 12-18" ROCKS, FINE GRANULAR, FRIABLE WITH COMMON ROOTS
30-42" 10YR 5/4, YELLOWISH BROWN, GRAVELLY SAND, 15% ROUNDED COBBLES, 10% GRAVEL, 10% 12-18" ROCKS SINGLE GRAIN, LOOSE WITH MANY ROOTS
42-58" 2.5Y 7/3, VERY PALE BROWN, COARSE SAND, SINGLE GRAIN, LOOSE WITH FEW ROOTS
58-98" 10YR 5/4, YELLOWISH BROWN, GRAVELLY COARSE SAND, 20% ROUNDED COBBLES, 20% GRAVEL, SINGLE GRAIN, 10% 12-18" ROCKS, LOOSE FRIABLE WITH FEW ROOTS TO 90"
98-198" 2.5Y 7/3, VERY PALE BROWN, COARSE SAND, SINGLE GRAIN AND LOOSE

LAYERS BETWEEN 30" TO 138" APPEAR TO BE THICK STRATIFIED LAYERS

ESHWT: NONE OBSERVED OWT: NONE OBSERVED ROOTS: 90" LEDGE: NONE OBSERVED

TEST PIT # 7 DATE: 8/14/20

0-6" 10YR 3/3, DARK BROWN, FINE SANDY LOAM, WEAK FINE GRANULAR, VERY FRIABLE WITH MANY ROOTS
6-18" 10YR 5/6, YELLOWISH BROWN, SANDY LOAM, 5% ROUNDED COBBLES, FINE GRANULAR, FRIABLE WITH COMMON ROOTS
18-96" 10YR 5/4, YELLOWISH BROWN, GRAVELLY SAND, 15% ROUNDED COBBLES, 10% GRAVEL, 10% 12-18" ROCKS SINGLE GRAIN, LOOSE WITH 2.5Y 7/3, VERY PALE BROWN, COARSE SAND, SINGLE GRAIN, LOOSE STRATIFIED LAYERS WITH FEW ROOTS TO 96"

ESHWT: NONE OBSERVED OWT: NONE OBSERVED ROOTS: 96" LEDGE: NONE OBSERVED

TEST PIT # 8 DATE: 8/14/20

0-6" 10YR 3/3, DARK BROWN, FINE SANDY LOAM, WEAK FINE GRANULAR, VERY FRIABLE WITH MANY ROOTS
6-18" 10YR 5/6, YELLOWISH BROWN, SANDY LOAM, 5% ROUNDED COBBLES, FINE GRANULAR, FRIABLE WITH COMMON ROOTS
18-96" 10YR 5/4, YELLOWISH BROWN, GRAVELLY COARSE SAND, 25% ROUNDED COBBLES, 20% GRAVEL, 15% 12-18" ROCKS SINGLE GRAIN, LOOSE WITH FEW ROOTS TO 96"

ESHWT: NONE OBSERVED OWT: NONE OBSERVED ROOTS: 96" LEDGE: NONE OBSERVED

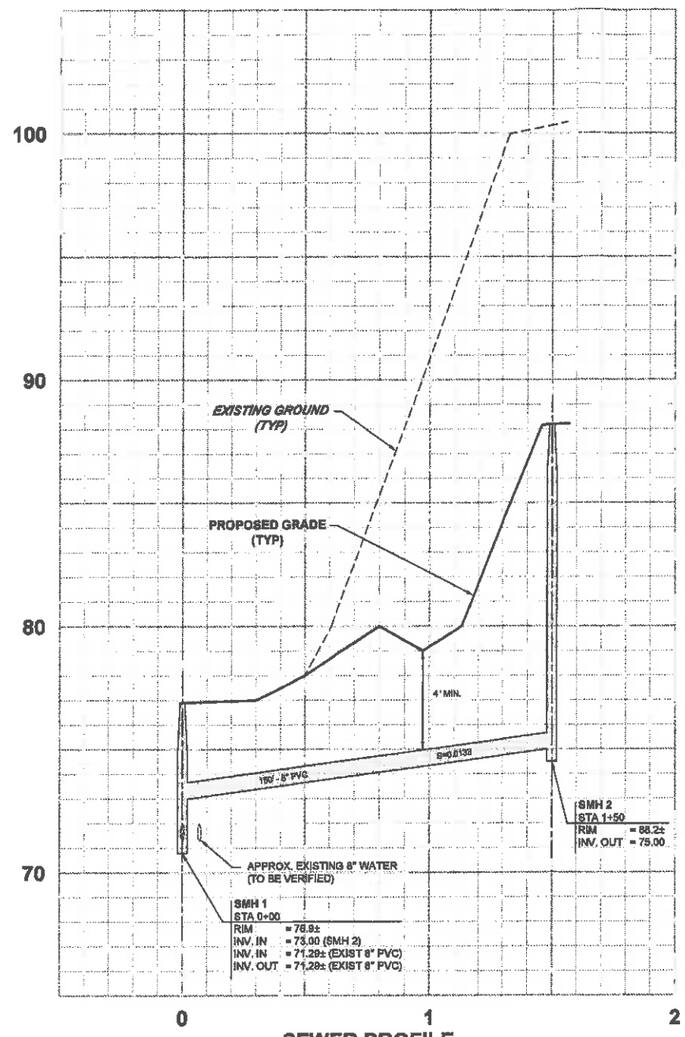
TEST PIT # 9 DATE: 8/14/20

0-6" 10YR 3/3, DARK BROWN, FINE SANDY LOAM, WEAK FINE GRANULAR, VERY FRIABLE WITH MANY ROOTS
6-84" 10YR 5/4, YELLOWISH BROWN, GRAVELLY COARSE SAND, 25% ROUNDED COBBLES, 20% GRAVEL, 5% 12-18" ROCKS SINGLE GRAIN, LOOSE WITH FEW ROOTS TO 78"

ESHWT: NONE OBSERVED OWT: NONE OBSERVED ROOTS: 78" LEDGE: NONE OBSERVED

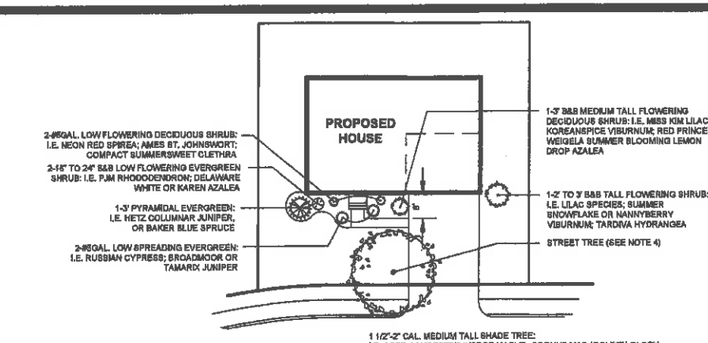
PERC TEST#9 DATE: 8/14/20

PERCOLATION RATE: <1 MINUTE/ INCH AT 60" DEEP



SEWER PROFILE

SCALE: 1" = 30' (HORIZ.)
1" = 3' (VERT.)

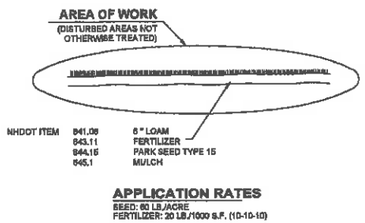


NOTES:

1. THE HOME BUILDER RESERVES THE RIGHT TO MODIFY THE TYPE, SIZE AND LOCATION OF THE FOUNDATION PLANT MATERIALS.
2. STREET TREE LOCATIONS AS SHOWN ARE APPROXIMATE.
3. STREET TREES ARE INTENDED TO MEET THE REQUIREMENTS OF THE NASHUA LAND USE CODE SECTION 190-155.
4. EXISTING TREES TO REMAIN IN FRONT OF THE LOT SHALL COUNT AS A STREET TREE.

TYPICAL LOT LANDSCAPE DETAIL

NOT TO SCALE

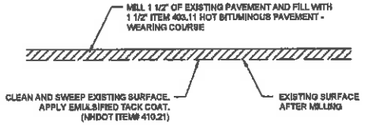


APPLICATION RATES

SEED: 60 LB./ACRE
FERTILIZER: 20 LB./1000 S.F. (10-10-10)

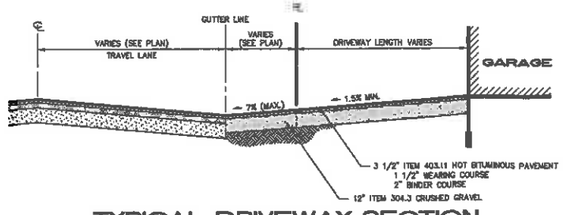
LOAM AND SEED DETAIL

NOT TO SCALE



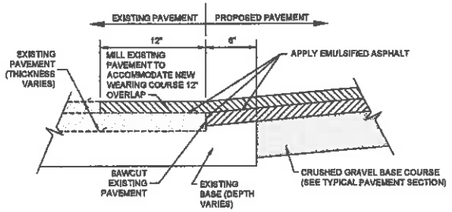
PAVEMENT MILL/OVERLAY DETAIL

NOT TO SCALE



TYPICAL DRIVEWAY SECTION

NOT TO SCALE



SAWCUT PAVEMENT DETAIL

NOT TO SCALE

STATE OF NEW HAMPSHIRE
JAMES N. PETROPULOS
No. 10274
LICENSED
PROFESSIONAL ENGINEER

No.	DATE	REVISION	BY

DETAIL SHEET - GENERAL SITE
(MAP 112, LOT 11)

453 SOUTH MAIN STREET

NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER:

STELLOS FAMILY INVESTMENT PROPERTIES, L.L.C.

125 NORTHEASTERN BOULEVARD NASHUA, NEW HAMPSHIRE 03062 (603) 882-3128

SCALE AS SHOWN

27 AUGUST 2020

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.hayner-swanson.com

FIELD BOOK: 1247	DRAWING NAME: 5718SUB-DET1	5718 SUB	4 OF 5
DRAWING LOC: J:\3000\5718 STELLOS\DWG\5718SUB		File Number	Sheet

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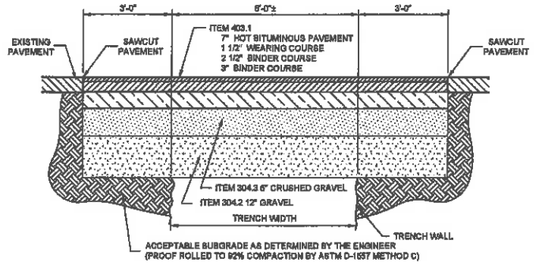
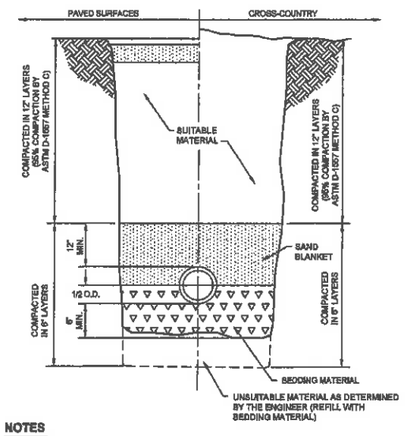


NOTE:
THE BINDER COURSE SHALL BE PLACED IMMEDIATELY AFTER THE TRENCH CONSTRUCTION, AND ALLOWED TO STAND FOR A MINIMUM OF 90 DAYS. A LEVELING COURSE SHALL BE APPLIED OVER THE TRENCH AFTER 90 DAYS AND THE ENTIRE ROAD OVERLAYED TO THE LIMITS SHOWN ON THE PLANS.

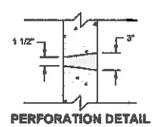
TRENCH PATCH DETAIL
NOT TO SCALE



NOTES
1. THE SEWER TRENCH SECTION SHALL CONFORM TO THE NHDES STANDARD TRENCH SECTION, AND TO THE ADDITIONAL REQUIREMENTS OF THIS TYPICAL SECTION.
2. IN GENERAL, DISTURBED CROSS-COUNTRY AREAS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER AND SHALL BE LOAMED AND SEEDED IN ACCORDANCE WITH THE DETAIL AND SHALL BE MAINTAINED UNTIL A VIABLE STAND OF GRASS HAS BEEN ESTABLISHED.
3. ROADWAYS, DRIVEWAYS, AND OTHER PAVED AREAS SHALL BE RECONSTRUCTED IN ACCORDANCE WITH THE PLANS.

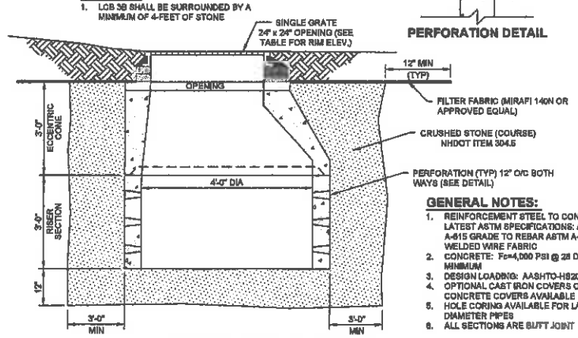
TYPICAL SEWER TRENCH SECTION
NOT TO SCALE

LOCATION	RIM ELEV	LOCATION	RIM ELEV
YD 1A	87.5 ±	YD 3B	76.7 ±
YD 1B	86.7 ±	YD 4	76.5 ±
YD 2A	83.7 ±	YD 5A	82.0 ±
YD 2B	85.5 ±	YD 5B	81.5 ±
YD 3A	78.5 ±		



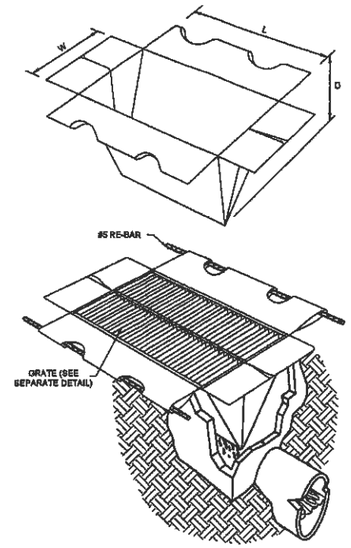
PERFORATION DETAIL

NOTE:
1. LOB 3B SHALL BE SURROUNDED BY A MINIMUM OF 4-FEET OF STONE



GENERAL NOTES:
1. REINFORCEMENT STEEL TO CONFORM TO: LATEST ASTM SPECIFICATIONS: ASTM A-615 GRADE 70 REBAR ASTM A-185 WELDED WIRE FABRIC
2. CONCRETE: Fc=4,000 PSI @ 28 DAYS MINIMUM
3. DESIGN LOADING: AASHTO-HS20-44
4. OPTIONAL CAST IRON COVERS OR CONCRETE COVERS AVAILABLE
5. HOLE CORING AVAILABLE FOR LARGER DIAMETER PIPES
6. ALL SECTIONS ARE BUTT JOINT

YARD DRAIN DETAIL
NOT TO SCALE



SILTSAK® NOTES:
1.0 THE SILTSAK® SHALL BE MANUFACTURED FROM WOVEN POLYPROPYLENE AND SEWN BY A DOUBLE NEEDLE MACHINE, USING A HIGH STRENGTH NYLON THREAD.
2.0 THE SILTSAK® SEAMS SHALL HAVE A CERTIFIED AVERAGE WIDE WIDTH STRENGTH PER ASTM D-4884 STANDARDS AS FOLLOWS:

SILTSAK® STYLE	TEST METHOD	TEST METHOD
REGULAR FLOW	ASTM D-4884	165.0 LBS/IN
HI-FLOW	ASTM D-4884	114.0 LBS/IN

3.0 THE SILTSAK® WILL BE MANUFACTURED TO FIT THE OPENING OF THE CATCH BASIN OR DROP INLET. THE SILTSAK® WILL HAVE THE FOLLOWING FEATURES: TWO DUMP STRAPS ATTACHED AT THE BOTTOM TO FACILITATE THE EMPTYING OF THE SILTSAK®; THE SILTSAK® SHALL HAVE LIFTING LOOPS AS AN INTEGRAL PART OF THE SYSTEM TO BE USED TO LIFT THE SILTSAK® FROM THE BASIN; THE SILTSAK® SHALL HAVE A RESTRAINT CORD APPROXIMATELY HALFWAY UP THE SACK TO KEEP THE SIDES AWAY FROM THE CATCH BASIN WALLS. THIS YELLOW CORD IS ALSO A VISIBLE MEANS OF INDICATING WHEN THE SACK SHOULD BE EMPTIED, CLEANED, AND PLACED BACK INTO THE BASIN.
4.0 THE GEOTEXTILE FABRIC SHALL BE WOVEN POLYPROPYLENE FABRIC WITH THE FOLLOWING PROPERTIES:

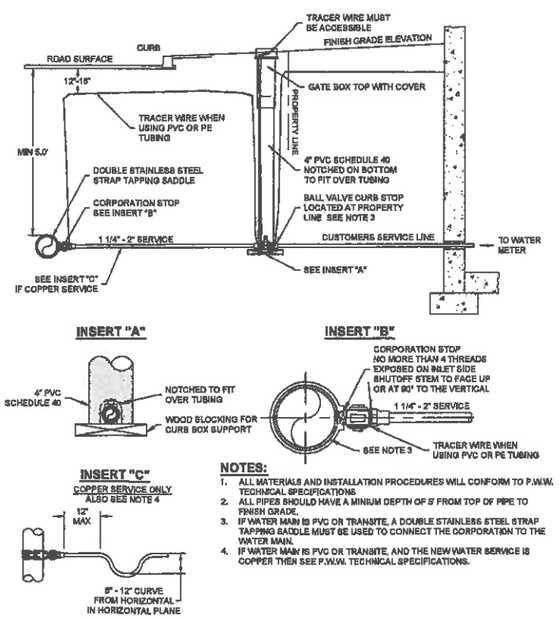
SILTSAK® REGULAR FLOW

PROPERTY	TEST METHOD	TEST RESULT
GRAB TENSILE	ASTM D-4632	300 LBS
GRAB ELONGATION	ASTM D-4631	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	600 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/FT2
PERMITTIVITY	ASTM D-4491	0.55 SEC

OR SILTSAK® HI-FLOW

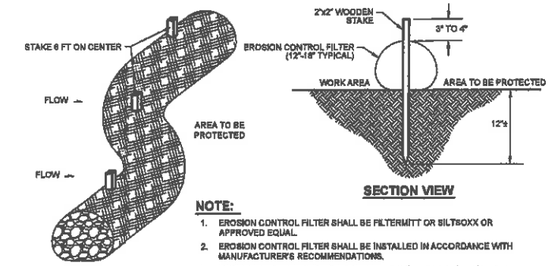
PROPERTY	TEST METHOD	TEST RESULT
GRAB TENSILE	ASTM D-4632	225 LBS
GRAB ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/FT2
PERMITTIVITY	ASTM D-4491	1.5 SEC

SILTSAK® DETAIL
NOT TO SCALE



NOTES:
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO P.W.W. TECHNICAL SPECIFICATIONS
2. ALL PIPES SHOULD HAVE A MINIUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. IF WATER MAIN IS PVC OR TRANSITE, A DOUBLE STAINLESS STEEL STRAP TAPPING SADDLE MUST BE USED TO CONNECT THE CORPORATION TO THE WATER MAIN.
4. IF WATER MAIN IS PVC OR TRANSITE, AND THE NEW WATER SERVICE IS COPPER THEN SEE P.W.W. TECHNICAL SPECIFICATIONS.

TYPICAL 1 1/4" - 2" SERVICE & VALVE BOX INSTALLATION DETAIL
NOT TO SCALE



SECTION VIEW

NOTE:
1. EROSION CONTROL FILTER SHALL BE FILTERMITT OR SILTSOXX OR APPROVED EQUAL.
2. EROSION CONTROL FILTER SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. COMPOST TO BE REMOVED OR DISPOSED ON-SITE AS DETERMINED BY THE ENGINEER.

MAINTENENCE
1. SILT SOCK BARRIER SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE SILT SOCK SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE BARRIER SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE BARRIER HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SILT SOCK DETAIL
NOT TO SCALE

STATE OF NEW HAMPSHIRE
JAMES N. PETROPULOS
No. 10274
LICENSED
PROFESSIONAL ENGINEER

No.	DATE	REVISION	BY

DETAIL SHEET - GENERAL SITE
(MAP 112, LOT 11)

453 SOUTH MAIN STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER:
STELLOS FAMILY INVESTMENT PROPERTIES, L.L.C.
125 NORTHEASTERN BOULEVARD NASHUA, NEW HAMPSHIRE 03062 (603) 882-3128

SCALE AS SHOWN

27 AUGUST 2020

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.hayner-swanson.com

FIELD BOOK: 1247	DRAWING NAME: 5718SUB-DET1	5718 SUB	5 OF 5
DRAWING LOC: J:\5000\5718 STELLOS\DWG\5718SUB		Job Number	Sheet

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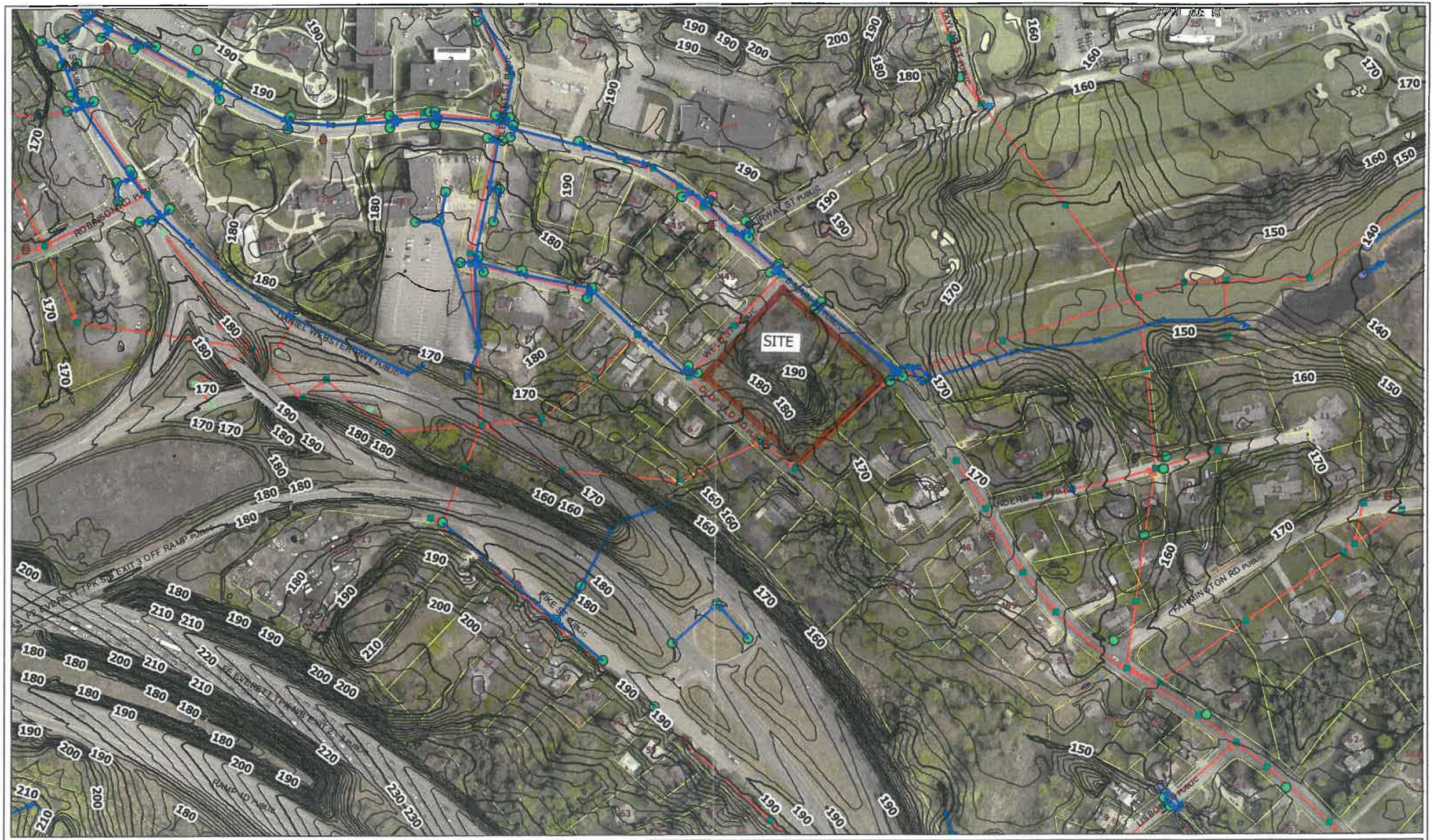


453 South Main Street - 1,000 FT Vicinity Map

NASHUA CITY PLANNING BOARD
STAFF REPORT

TO: Nashua City Planning Board
FROM: Linda McGhee, Deputy Planning Manager
FOR: October 8, 2020
RE: **New Business #5 - Subdivision Plan**

I. Project Statistics:

Owner: Stellos Family Investment Properties, LLC
Proposal: Five lot subdivision
Location: 453 South Main Street
Total Site Area: 1.925 acres (83,868 sf)
Existing Zoning: RA-Urban Residence
Surrounding Uses: Residential and Rivier University

II. Background Information:

The existing parcel is located in the RA-Urban Residence Zone. Abutting the site is Oldfield Road to the west, Weld Street to the north, South Min Street to the west and existing single-family homes on the south. Surrounding properties include the Nashua Country Club and a number of the homes on Oldfield Road are owned by Rivier University.

III. Project Description:

The purpose of this plan is to subdivide the parcel into five residential lots as follows;

Lot #	Address	Lot Size
Lot 11	451 South Main Street	30,806 sf
Lot 125	455 South Main Street	16,687 sf
Lot 124	5 Oldfield Road	13,141 sf
Lot 123	7 Oldfield Road	10,089 sf
Lot 122	9 Oldfield Road	12,076 sf

The minimum lot size in the RA zone is 7,500 sf and all lots exceed the minimum zoning requirements. The existing house and garage will be razed as part of this project. In addition, two areas located at the intersection of the public roads will be dedicated for added right-of-way. The lots will be serviced by municipal sewer, Pennichuck Water, underground gas and utilities. Presently Lot 11 is showing more than one driveway. Driveway width at the front yard setback cannot exceed 24'. The applicant would need to seek relief from the Zoning Board of Adjustment is they plan to keep the driveways as shown.

The applicant's engineer has provided a stormwater report (see attached). Approximately 7,930 sf of new impervious area will be added as part of the proposed subdivision.

One waiver is being requested for sidewalks. This lot is surrounded by South Main Street, Weld Street and Oldfield Road. There is an existing sidewalk along South Main Street. While there is

a significant need for sidewalks and pedestrian facilities throughout the City of Nashua, Weld Street and Oldfield Road are not on the sidewalk priority list. The site meets the criteria in § 190-212(D) and the owner would be eligible to make a contribution in lieu of sidewalk construction; the applicant's engineer is offering to make a contribution of $10,795.50, based on $50 per linear foot along the entire frontage of Oldfield Road (215.91 linear feet) and subtracting a driveway width of 54 feet (18 feet per lot on Oldfield Road). No contribution is being offered for the frontage on Weld Street.

City Staff reviewed the plans; comments are attached.

Staff Recommendations and Findings:

The Planning Board should make a determination that the plan meets, or does not meet the requirements outlined in the Subdivision NRO § 190-138(G). The Board should review these prior to making a motion. If the Planning Board chooses to disapprove the plan, specific reasons should be given. If the Planning Board chooses to approve this plan, staff recommends the following stipulation be made part of that approval:

1. The request for a waiver § 190-212(A)(1), which requires that a sidewalk be located on at least one side of the street, is/is not granted, finding that the waiver will/will not be contrary to the spirit and intent of the regulation. The applicant has agreed to make a contribution in the amount of $_____ in lieu of sidewalk construction pursuant to §190-212(D)(2), payment to be made prior to recording the plan.

2. Prior to the chair signing the plan, all minor drafting corrections will be made.

3. Prior to recording of the plan, all conditions from the Planning Board approval letter will be added to the cover page of the final mylar and paper copies submitted to the City.

4. Prior to recording the plan, all comments in an e-mail from Joe Mendola, Street Construction Engineer dated October 2, 2020 shall be addressed to the satisfaction of the Engineering Department.

5. Stormwater documents and easements will be submitted to Planning staff for review and recorded with the plan at the applicant's expense.

6. Prior to any work and a pre-construction meeting, a financial guarantee shall be approved.

NASHUA CITY PLANNING BOARD
STAFF REPORT

TO Nashua City Planning Board
FROM: Linda McGhee, Deputy Planning Manager
FOR: October 8, 2020
RE: **New Business #6 - Site Plan**

I. Project Statistics:

Owner:	City of Nashua
Proposal:	Amendment to NR1405 to show modifications to the school including building additions and upgrade the existing school layout
Location:	207 Manchester Street
Total Site Area:	21.33 acres
Existing Zoning:	R18-Suburban Residence
Surrounding Uses:	Residential

II. Background Information:

Pennichuck Middle School was constructed in the 1980s. To the north and east are wooded areas, Manchester Street to the west and the Henry Burque Highway to the south. Most of the existing site is currently developed with the school facility, associated infrastructure and existing sports fields. The school has approximately 112 staff members and 639 students enrolled. The school uses 11 buses to transport approximately 435 students and another 228 students walk to and from school. This work is similar to improvements made to Sunset Heights Elementary School in 2003, Charlotte Avenue School in 2006, Birch Hill School in 2007, and Broad Street School in 2014. In May of this year the planning board approved similar changes to Fairgrounds Middle School

III. Project Description:

Proposed modifications to Pennichuck Middle School include a number of building additions, various interior renovations and upgrades to the existing site layout. Site layout changes include a realigned perimeter access road, a new curb cut from Manchester Street for a one-way drive for bus/emergency traffic, a new bus loop along the south side of the building, and additional parking provided to the north and east of the school. The total disturbance for this project will require an Alteration of Terrain permit.

Additional landscaped improvements are proposed around the perimeter of the school and within the reconfigured parking at the parent pick-up/drop off areas.

New storm sewer infrastructure will be installed throughout the site to direct and capture stormwater via pre-cast catch basins with grate inlets, high-density polyethylene (HDPE) storm drain pipes, subsurface infiltration systems and bio retention area. Total impervious cover of

the new developed site after the project is complete will be approximately 6.05 acres and includes an increase of approximately 0.78 acres of impervious area to the existing site.

Traffic Memorandum has been submitted as part of this application

Existing parking on site is 117 spaces with 4 ADA parking spaces; proposed will be 112 spaces with 12 ADA

The following waivers are being requested for this project:

- *Site plans are required to be reproduced on 22" x 34" format; the applicant is proposing 36" x 48"*
- *The maximum curb cut for one-way travel is 15'; the applicant is proposing 20'*
- *Parking aisles shall not contain more then 10 spaces in a row without a planted median and/or island*
- *Existing conditions on site and on abutting properties*
- *Parking spaces are required to be 9' x 20'; the applicant is proposing 9' x 18'*

City staff reviewed the plans; Engineering comments are pending.

Staff Recommendations and Findings:

1. The Planning Board should make a determination that the plan meets, or does not meet, the requirements outlined in the Site Plan NRO § 190-146(D). The Board should review these prior to making a motion. If the Planning Board chooses to disapprove the plan, specific reasons should be given. If the Planning Board chooses to approve this plan, staff recommends the following stipulations be made part of that approval:

2. The request for a waiver of § 190-279, which requires site plans to be reproduced on 22" x 34" format, **is/is not** granted, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation.

3. The request for a waiver of § 190-209 A(1), which requires curb cuts for one way traffic to be a maximum width of 15 feet **is/is not** granted, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation.

4. The request for a waiver of § 190-184 D (1) which requires parking aisles not contain more than 10 spaces in a row without a planted median and/or island, **is/is not** granted, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation.

5. The request for a waiver of § 190-279 EE, which requires showing existing conditions on and off site**, is/is not** granted, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation.

6. The request for a waiver of § 190-193(A), which requires parking spaces be at least 9' x 20', **is/is not granted**, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation.

7. Prior to the Chair signing the plan, minor drafting corrections and standard notes will be added to the plan.

8. Prior to the Chair signing the plan, all conditions from the Planning Board approval letter will be added to the cover page of the final mylar and paper copies submitted to the City.

9. Prior to the issuance of a building permit, the electronic copy of the plan will be submitted to the City of Nashua.

10. Prior to the issuance of a building permit, stormwater documents will be submitted to City staff for review and recorded.

11. Prior to the issuance of a building permit, all outstanding engineering comments shall be addressed to the satisfaction of the Engineering Department.

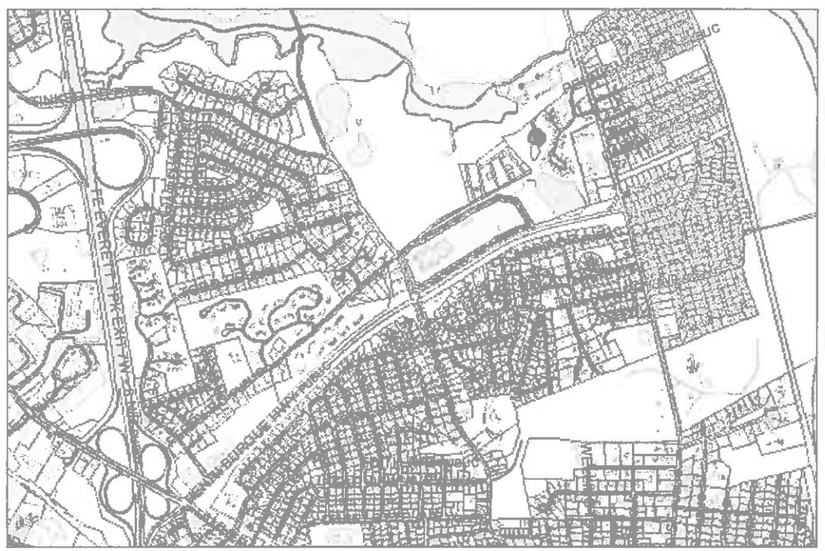
12. Prior to any site disturbance, the Alteration of Terrain Permit for the project shall be approved by NHDES.

13. Prior to any work and a pre-construction meeting, a financial guarantee shall be approved.

14. Prior to the issuance of a certificate of occupancy, all off-site and on-site improvements will be completed.

NASHUA SCHOOL DISTRICT PENNICHUCK MIDDLE SCHOOL ADDITIONS AND RENOVATIONS

NASHUA, NEW HAMPSHIRE



ALTERATION OF TERRAIN PERMIT REVIEW SEPTEMBER 16, 2020

PROJECT INFORMATION:

NAME:	PENNICHUCK MIDDLE SCHOOL
ADDRESS:	207 MANCHESTER STREET NASHUA, NEW HAMPSHIRE 03064
PARCEL ID:	54-52
CONTACT:	MR. SHAWN SMITH; DIRECTOR OF PLANT OPERATIONS 38 RIVERSIDE STREET NASHUA, NEW HAMPSHIRE 03062 (603) 966-1500 SMITHSHA@NASHUA.EDU
OWNER:	CITY OF NASHUA; P.O. BOX 2019 229 MAIN STREET NASHUA, NEW HAMPSHIRE 03061 (603) 589-2780 NASHUAMAYOR@NASHUANH.GOV

LIST OF DRAWINGS

G00-1 COVER SHEET

CIVIL DRAWINGS
C00-1 SITE OVERVIEW PLAN
C00-2 SITE NOTES
C00-3 SITE EROSION CONTROL NOTES
C10-1 EXISTING SITE CONDITIONS AND DEMOLITION PLAN
C11-1 PRE-DEVELOPMENT DRAINAGE PLAN
C12-1 POST-DEVELOPMENT DRAINAGE PLAN
C30-1 SITE GRADING AND EROSION CONTROL PLAN
C40-1 SITE UTILITY PLAN
C50-1 SITE DETAILS
C50-2 SITE DETAILS
C60-1 STORMWATER DETAILS
C60-2 STORMWATER DETAILS

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NASHUA SCHOOL DISTRICT
PENNICHUCK MIDDLE SCHOOL
ADDITIONS AND RENOVATIONS

NASHUA, NEW HAMPSHIRE

Harriman Project No.	20322

Key Plan

ALTERATION OF TERRAIN PERMIT REVIEW
SEPTEMBER 16, 2020

Rev Date	Revision Description

Drawing Scales

PA / PE: SKF

Drawn By: HAS/BAW

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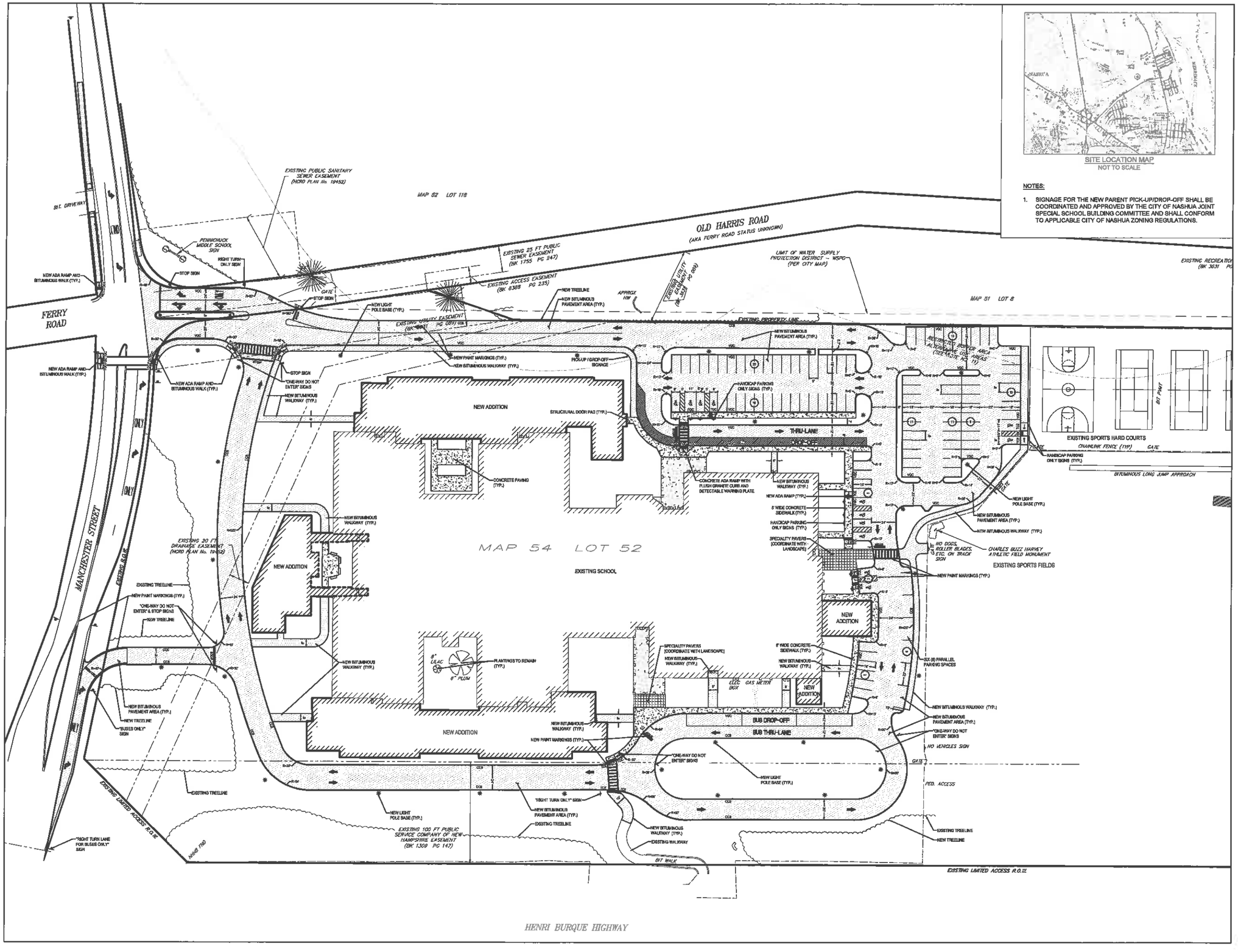
COVER SHEET

G00-1



SITE LOCATION MAP
NOT TO SCALE

NOTES:

1. SIGNAGE FOR THE NEW PARENT PICK-UP/DROP-OFF SHALL BE COORDINATED AND APPROVED BY THE CITY OF NASHUA JOINT SPECIAL SCHOOL BUILDING COMMITTEE AND SHALL CONFORM TO APPLICABLE CITY OF NASHUA ZONING REGULATIONS.

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NASHUA SCHOOL DISTRICT
PENNICHUCK MIDDLE SCHOOL
ADDITIONS AND RENOVATIONS

NASHUA, NEW HAMPSHIRE

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GRAPHIC SCALE

0 20 40 80

(1 inch = 40 feet)

ALTERATION OF TERRAIN PERMIT REVIEW

SEPTEMBER 16, 2020

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STATE OF NEW HAMPSHIRE
SARAH K. FRENCH
NO. 13234
LICENSED
PROFESSIONAL ENGINEER

Drawing Scales	
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SITE OVERVIEW PLAN

C00-1

1. THE LANDSCAPE CONTRACTOR SHALL SUPPLY AND INSTALL ALL PLANTS IN SUFFICIENT QUANTITIES TO COMPLETE WORK AS SHOWN ON THE DRAWINGS. DISCREPANCIES BETWEEN QUANTITIES SHOWN ON THE DRAWING AND THE PLANT LIST SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT AND SHALL NOT ENTITLE THE CONTRACTOR TO ADDITIONAL COMPENSATION.
2. THE LANDSCAPE CONTRACTOR IS ADVISED THAT BOTH ABOVE AND BELOW GROUND UTILITIES EXIST ON THE SITE, THE LOCATIONS OF WHICH SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF HIS OPERATIONS. SHOULD THE LOCATION OF ANY PROPOSED PLANTING CONFLICT WITH ANY UTILITY, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY FOR DECISION.
3. PAVING, CURBING, UTILITIES, GRASS, ETC., DAMAGED AS A RESULT OF THE LANDSCAPE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
4. AREAS RECEIVING PLANTINGS INCLUDING TREE PITS, AND SHRUB AND GROUND COVER BEDS, SHALL BE MULCHED TO A DEPTH OF 4" MINIMUM WITH AN APPROVED CLEAN, UNIFORMLY GROUND OR SHREDDED PINE OR HEMLOCK BARK MULCH. SAMPLE OF BARK MULCH TO BE USED SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO SITE DELIVERY.
5. FLOWER BEDS SHALL RECEIVE NO LESS THAN 12" OF TOPSOIL.
6. THE LANDSCAPE CONTRACTOR SHALL RELOCATE PLANTS ACCORDING TO THE DIRECTION OF THE ARCHITECT.
7. PLANT MATERIALS CALLED FOR AND INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE AMERICAN STANDARDS FOR NURSERY STOCK (LATEST EDITION) AS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
8. BEDS SHALL BE NEATLY EDGED AND DEFINED. FINAL PLANTING BED LAYOUT AND LOCATIONS SHALL BE FIELD COORDINATED AND APPROVED BY ARCHITECT PRIOR TO INSTALLATION.
9. IF SUBSTITUTIONS ARE NECESSARY, CONTRACTOR SHALL NOTIFY ARCHITECT OF PROPOSED REPLACEMENT PLANT(S). SUBSTITUTIONS SHALL BE OF SIMILAR BOTANICAL CHARACTERISTICS.
10. TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT:
    - TREES WITH POOR - QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED, REJECT RATHER THAN STAKE.
    - TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS. REJECT RATHER THAN STAKE.
    - PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL. CORRECT THE PLANTING PROCEDURE.
    - ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING.
    - ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE.
    - TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS, STAKING ADVISABLE.
    - TREES LOCATED IN PARKING LOT ISLANDS. STAKING ADVISABLE.

C2 LANDSCAPING NOTES
SCALE: N.T.S

1. CATCH BASIN GRATES SHALL BE SET SQUARE TO PAVEMENT EDGES.
2. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION IS NOT GUARANTEED. VERIFY SITE CONDITIONS INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES AND REPORT ANY DISCREPANCIES TO ARCHITECT PRIOR TO PROCEEDING WITH THAT PORTION OF THE WORK.
3. PLACE 4' WIDE BY 2" THICK TRENCH POLYSTYRENE INSULATION OVER SEWER LINES WHERE DEPTH OF COVER OVER TOP OF PIPE IS LESS THAN 4'. PLACE INSULATION ALSO BETWEEN SEWER LINE AND STORM DRAIN OR BETWEEN WATER LINE AND STORM DRAIN WHERE SEPARATION IS LESS THAN 4'.
4. PROVIDE AT LEAST 5' OF SOIL COVER OVER WATER LINES. SURROUND WATER PIPE WITH 6 INCHES OF CONCRETE ENCASEMENT, REINFORCED WITH WWF, AT CROSSINGS OF SEWER LINES UNLESS WATER IS ABOVE BY 18" CLEARANCE. ENCASEMENT TO EXTEND 10 FT. BEYOND SEWER LINE IN BOTH DIRECTIONS.
5. UNDERDRAINS (INCLUDING FOUNDATION DRAINS AND UNDERDRAINS SHOWN ON THE FOUNDATION DRAWINGS), AND SOIL GAS VENTS UNDER THE BUILDING FLOOR SLAB ARE PART OF DIVISION 33 WORK. PLACE TOP OF EXTERIOR UNDERDRAIN CLEANOUTS IN LAWN OR PLANT BEDS 2 INCHES BELOW GRADE. SOIL GAS VENTS ARE SHOWN ON THE PLUMBING DRAWINGS. STUB VENT PIPE, ENDING WITH A BELL END UP, 12 INCHES ABOVE FLOOR ELEVATION.
6. PROVIDE CONCRETE THRUST BLOCKING FOR WATER LINES ACCORDING TO THE TABLE ON THE DETAIL SHEET.
7. CLEAN SEDIMENT FROM NEW STORM DRAINS AND CATCH BASINS, AND ALSO FROM EXISTING STORM DRAINS AND CATCH BASINS THAT DIRECTLY RECEIVE RUNOFF FROM THE WORK AREA.
8. COORDINATE WORK ON UTILITY LINES OR WITHIN ROAD RIGHT-OF-WAY WITH THE UTILITY COMPANIES AND CITY/TOWN ROAD DEPARTMENT AND STATE DOT.
9. SLOPE CONDUITS AWAY FROM BUILDING TO HANDHOLE OR UTILITY POLE TO AVOID GROUND WATER SEEPAGE INTO BUILDING.
10. RESET RIMS OF EXISTING UTILITY STRUCTURES, MANHOLES & CATCH BASINS TO NEW GRADE.
11. PRIOR TO REMOVAL OF UTILITIES, VERIFY UTILITY FUNCTION, MATERIAL, USE, AND CURRENT ACTIVITY. REPORT DISCREPANCIES TO THE ARCHITECT FOR DIRECTION PRIOR TO COMMENCING THE WORK ON THAT UTILITY.

C1 UTILITY NOTES
SCALE: N.T.S

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NASHUA SCHOOL DISTRICT
PENNICHUCK MIDDLE SCHOOL
ADDITIONS AND RENOVATIONS

NASHUA, NEW HAMPSHIRE

Harriman Project No.	20322

Key Plan

PRIOR TO EXCAVATION, VERIFY THE UNDERGROUND UTILITIES, PIPES, STRUCTURES, AND FACILITIES. PROVIDE THE FOLLOWING MINIMUM MEASURES:

A. PRE-MARK THE BOUNDARIES OF YOUR PLANNED EXCAVATION WITH WHITE PAINT, FLAGS OR STAKES, SO UTILITY CREWS KNOW WHERE TO MARK THEIR LINES.
B. CALL DIG SAFE. AT EITHER 811 OR 1-888-DIGSAFE, AT LEAST 72 BUSINESS HOURS - BUT NO MORE THAN 30 CALENDAR DAYS - BEFORE STARTING WORK. DON'T ASSUME SOMEONE ELSE WILL MAKE THE CALL.
C. IF BLASTING, NOTIFY DIG SAFE AT LEAST 24 BUSINESS HOURS IN ADVANCE.
D. WAIT 72 HOURS FOR LINES TO BE LOCATED AND MARKED WITH COLOR-CODED PAINT, FLAGS OR STAKES. NOTE THE COLOR OF THE MARKS AND THE TYPE OF UTILITIES THEY INDICATE. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
E. CONTACT THE LANDOWNER AND OTHER "NON-MEMBER" UTILITIES (WATER, SEWER, GAS, ETC.), FOR THEM TO MARK THE LOCATIONS OF THEIR UNDERGROUND FACILITIES. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
F. RE-NOTIFY DIG SAFE AND THE NON-MEMBER UTILITIES IF THE DIGGING, DRILLING OR BLASTING DOES NOT OCCUR WITHIN 30 CALENDAR DAYS, OR IF THE MARKS ARE LOST DUE TO WEATHER CONDITIONS, SITE WORK ACTIVITY OR ANY OTHER REASON.
G. HAND DIG WITHIN 18 INCHES IN ANY DIRECTION OF ANY UNDERGROUND LINE UNTIL THE LINE IS EXPOSED. MECHANICAL METHODS MAY BE USED FOR INITIAL SITE PENETRATION, SUCH AS REMOVAL OF PAVEMENT OR ROCK.
H. DIG SAFE REQUIREMENTS ARE IN ADDITION TO TOWN, CITY AND/OR STATE DOT STREET OPENING PERMIT REQUIREMENTS.
I. FOR COMPLETE DIG SAFE REQUIREMENTS, VISIT THEIR WEBSITE.
J. IF YOU DAMAGE, DISLOCATE OR DISTURB ANY UNDERGROUND UTILITY LINE, IMMEDIATELY NOTIFY THE AFFECTED UTILITY. IF DAMAGE CREATES SAFETY CONCERNS, CALL THE FIRE DEPARTMENT AND TAKE IMMEDIATE STEPS TO SAFEGUARD HEALTH AND PROPERTY.
K. ANY TIME AN UNDERGROUND LINE IS DAMAGED OR DISTURBED, OR IF LINES ARE IMPROPERLY MARKED, YOU MUST CALL DIGSAFE.

B4 DIG SAFE NOTES
SCALE: N.T.S

1. PROVIDE 4" LOAM, SEED AND MULCH TO DISTURBED AREAS UNLESS OTHERWISE NOTED. PROVIDE EROSION CONTROL MESH ON ALL SLOPES 6:1 OR STEEPER, AND ALONG DITCH CHANNELS.
2. GRADE SURFACES TO DRAIN AWAY FROM BUILDING. PUDDLING OF WATER IN PAVED OR UNPAVED AREAS WILL NOT BE ACCEPTABLE EXCEPT FOR AREAS DESIGNATED AS PONDS.
3. MAINTAIN TEMPORARY EROSION CONTROL MEASURES FOR THE FULL DURATION OF CONSTRUCTION. INSPECT WEEKLY AND AFTER EACH STORM AND REPAIR AS NEEDED. REMOVE SEDIMENTS FROM THE SITE. PLACE IN AREA OF LOW EROSION POTENTIAL, AND STABILIZE WITH SEED AND MULCH.
4. PLACE TEMPORARY SOIL STABILIZATION WITHIN 30 DAYS OF INITIAL DISTURBANCE. PLACE PERMANENT SOIL STABILIZATION WITHIN 7 DAYS OF FINAL GRADING.

B3 GRADING NOTES
SCALE: N.T.S

1. RELOCATE EXISTING TBM INFORMATION ONTO NEW TBM OF CONTRACTORS CHOICE FOR CONSTRUCTION USE PRIOR TO REMOVAL OF EXISTING TBM.
2. IF EXISTING ASBESTOS CEMENT PIPE IS ENCOUNTERED, HANDLE AND DISPOSE OF ASBESTOS MATERIALS WITH CARE AND IN ACCORDANCE WITH APPLICABLE CODES AND SAFETY STANDARDS.
3. EXCAVATE AND STOCKPILE ON-SITE TOPSOIL. TOPSOIL IS TO REMAIN THE PROPERTY OF THE OWNER DURING CONSTRUCTION. AFTER FINAL LOAM AND SEED EXCESS TOPSOIL SHALL BE REMOVED FROM SITE BY CONTRACTOR
4. DIMENSIONS ARE TO FACE OF CURB AND TO FACE OF FOUNDATION UNLESS OTHERWISE INDICATED.
5. PAVEMENT EDGES SHALL BE TRUE TO LINE. SAWCUT EXISTING PAVEMENT IN SMOOTH STRAIGHT LINE WHERE NEW PAVEMENT JOINS. PROVIDE TACK COAT LAYER AS SPECIFIED.
6. CONTRACTOR SHALL VERIFY SITE CONDITIONS, INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES, AND REPORT ANY DISCREPANCIES TO ARCHITECT PRIOR TO PROCEEDING WITH THAT PORTION OF THE WORK.
7. PROVIDE TRAFFIC CONTROL SIGNAGE AND STRIPING AS SHOWN AND IN ACCORDANCE WITH U.S.D.O.T. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
8. SUBSURFACE INFORMATION PROVIDED IN REPORT ENTITLED "GEOTECHNICAL REPORT, PROPOSED MIDDLE SCHOOL ADDITION, PENNICHUCK MIDDLE SCHOOL" PROVIDED BY MILONE & MACBROOM, INC. DATED MAY 22, 2019.
9. REFER TO LANDSCAPE PLANS FOR SNOW REMOVAL AND STOCKPILING LOCATIONS.

B2 GENERAL SITE NOTES
SCALE: N.T.S

EXISTING		PROPOSED
	BUILDING	
	BIT. CONC. PAVEMENT	
	CURB	
	CHAIN-LINK FENCE	
	GUARDRAIL	
	SIGN	WITH LABEL
	BOLLARDS	
	WETLAND LIMIT	
	STREAM	
	TREES	
	TREE LINE	
	CONTOUR	98
	SPOT ELEVATION	x 98.6
	GRADE TO DRAIN	
	SOIL BORING, TEST PIT	
	SILT FENCE	
	BARK/STONE CHECK DAM	
	RIP-RAP (SIZE NOTED)	
	CATCH BASIN/DRAIN INLET	NOTED (CB)(CI)
	STEAM MANHOLE	NOTED (STMH)
	STORM DRAIN MANHOLE	NOTED (DMH)
	SEWER MANHOLE	NOTED (SMH)
	TELEPHONE MANHOLE	NOTED (SMH)
	ELECTRIC MANHOLE/PULLBOX	
	WATER VALVE	
	HYDRANT	
	UTILITY POLE	
	GUY	
	LIGHT POLE	
	LIGHT BOLLARD	
	SPOT LIGHT	
	FLAG POLE	
	TRANSFORMER PAD	
	POLE TRANSFORMER	
	GEOTHERMAL WELL	
	STORM DRAIN	NSD
	UNDERDRAIN	NUD
	SANITARY SEWER	NS
	WATER LINE	NW
	IRRIGATION LINE	NUI
	GAS, PROPANE	NUG/P
	STEAM LINE	NST
	GEOTHERMAL WATER	NGW
	UNDERGROUND COMMUNICATION LINE	NUC
	UNDERGROUND ELECTRICAL	NUE
	UNDERGROUND LIGHTING	NUL
	AERIAL ELECTRICAL, TELEPHONE, AND CABLE	NAE/T/C
	PROPERTY LINE	
	NOT IN CONTRACT	N.I.C.

A1 STANDARD SITE LEGEND
SCALE: N.T.S

ALTERATION OF TERRAIN PERMIT REVIEW
SEPTEMBER 16, 2020

Rev Date	Revision Description

PLAN REFERENCES:

1. CONSOLIDATION & SUBDIVISION PLAN, HENRI BURQUE HWY., NASHUA, NEW HAMPSHIRE, PREPARED FOR PENNICHUCK WATER CO. BY ALLAN H. SWANSON, INC. AND DATED 23 JUNE 1986. RECORDED AS H.C.R.D. PLAN 19452
2. EASEMENT PLAN (LOT 8, MAP 51) OLD HARRIS ROAD AND CONCORD STREET, NASHUA, NEW HAMPSHIRE, PREPARED FOR THE CITY OF NASHUA BY THIS OFFICE AND DATED 7 OCTOBER 2011. RECORDED AS H.C.R.D. PLAN 37322
3. STATE OF NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS, PROPOSED FED. AID URBAN PROJECT No. U 02-1(1) CONTRACT No. 1 LS 1857 (3) -- NH PROJECT No. P-2650-L, DATED 11/3/54. RECORDED AS H.C.R.D. PLAN 1451
4. EXISTING SANITARY SEWER INFORMATION TAKEN FROM PLANS ENTITLED "PLAN & PROFILE - AS BUILT SEWER, SHEET 4 OF 4, MANCHESTER STREET TO CONCORD STREET, NASHUA, NEW HAMPSHIRE" BY ALLAN H. SWANSON INC. DATED 9/14/1987

A5 PLAN REFERENCES
SCALE: N.T.S

1. ZONE: SUBURBAN RESIDENCE (R18)
   MIN. LOT SIZE: 18,000 SQ. FT.
   MIN. LOT FRONTAGE: 100 FEET
   SETBACKS: FRONT, 20 FEET; SIDE, 20 FEET; REAR, 40 FEET

   REFER TO THE CITY OF NASHUA ZONING ORDINANCE FOR VERIFICATION. ADDITIONAL RESTRICTIONS AND PERMITTED USES. THE ZONING INFORMATION SHOWN HEREON IS BASED ON A REVIEW OF NASHUA'S ZONING DISTRICTS AND SUPPLEMENTAL USE REGULATIONS. .
2. THIS PLAN IS THE RESULT OF AN ON-THE-GROUND TOPOGRAPHICAL SURVEY PERFORMED BY HAYNER AND SWANSON, INC., APRIL THRU JUNE, 2019.
3. HORIZONTAL DATUM INFORMATION SHOWN HEREON ARE BASED ON NAVD83(2011) PER GPS OBSERVATIONS PERFORMED BY HAYNER AND SWANSON, INC., APRIL THRU JUNE, 2019.
4. VERTICAL DATUM SHOWN HEREON ARE BASED ON NAVD88 PER GPS OBSERVATIONS PERFORMED BY HAYNER AND SWANSON, INC., APRIL THRU JUNE, 2019..
5. LOCATION OF UNDERGROUND UTILITIES IS APPROXIMATE ONLY. ADDITIONAL UNDERGROUND UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED. INVERTS ARE LISTED IN CLOCKWISE DIRECTION ENDING WITH THE INVERT OUT (UNLESS OTHERWISE NOTED).
6. THE PROJECT PARCEL IS SUBJECT TO NUMEROUS RIGHTS, EASEMENTS, AND RESTRICTIONS. GENERAL CONTRACTOR SHALL REFER TO THE LIMITED TOPOGRAPHICAL SURVEY ISSUED BY HAYNER AND SWANSON, INC ON JUNE 11, 2019 FOR SURVEY FOR ADDITIONAL INFORMATION.
7. SURVEY TRACT IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS DETERMINED FROM THE FLOOD INSURANCE RATE MAP (FIRM) NUMBER 33011C0511D, WITH AN EFFECTIVE DATE OF SEPTEMBER 25, 2009.

A4 SURVEYOR NOTES
SCALE: N.T.S

1. "STOP" (R1-1)
2. "YIELD TO PEDESTRIANS WITHIN CROSSWALK" (R1-6)
3. "VISITOR PARKING" (PD-140)
4. PEDESTRIAN SYMBOL (W11-2)
5. "KEEP RIGHT" SYMBOL (R4-7)
6. "DO NOT ENTER" (R5-1)
7. "DEAD END" (W14-1)
8. "RESERVED PARKING" (R7-8)
9. R7-8V WITH "VAN ACCESSIBLE" OR R7-8 WITH R7-8A MOUNTED BELOW.
10. "ONE WAY" (R6-1)
11. "NO PARKING TOW-AWAY ZONE" (R8-3 WITH R7-201)
12. "AUTHORIZED VEHICLES ONLY" (PD-190)
13. "DELIVERY"
14. "FIRE LANE/NO PARKING" (PD-370)
15. "RIGHT TURN ONLY" (R3-5R)
16. "LEFT TURN ONLY" (R3-5L)

A3 SIGN LEGEND
SCALE: N.T.S

GENERAL ABBREVIATIONS

BIT.	BITUMINOUS	NS	NEW SEWER
C.O.	CLEAN-OUT	NSD	NEW STORM DRAIN
CONC.	CONCRETE	NSFM	NEW SEWER FORCE MAIN
DI.	DRAIN INLET	NSL	NEW SPOT LIGHT
ELEV.	ELEVATION	NUD	NEW UNDERDRAIN
EXG.	EXISTING	NUE	NEW UNDERGROUND ELECTRICAL
F.F.E.	FINISHED FLOOR ELEVATION	NUG	NEW UNDERGROUND GAS
FT	FEET	NUF	NEW UNDERGROUND FUEL
GW	GEOTHERMAL WELL	NUSC	NEW UNDERGROUND SPARE CONDUIT
IN.	INCHES	NW	NEW WATER
INV.	INVERT	NWF	NEW WALL FIXTURE
MAX.	MAXIMUM	P.C.	PRECAST
MIN.	MINIMUM	R	RAMP
N.I.C.	NOT IN CONTRACT	S	STRUCTURAL PAD
NCB	NEW CATCH BASIN	SQ	SQUARE
NFO	NEW FIBER OPTIC	T	TRANSITIONAL PAD
NGW	NEW GEOTHERMAL WATER	TBM	TEMPORARY BENCH MARK
NLP	NEW LIGHT POLE	TYP	TYPICAL
		W/	WITH
		UNO	UNLESS NOTED OTHERWISE

PAINT STRIPING ABBREVIATIONS

SWSL	SINGLE WHITE SOLID LINE
SWDL	SINGLE WHITE DASHED LINE
SYSL	SINGLE YELLOW SOLID LINE
SYDL	SINGLE YELLOW DASHED LINE
DYSL	DOUBLED YELLOW SOLID LINE

CURB ABBREVIATIONS

RVSC	RE-SET VERTICAL GRANITE CURB
VGC	NEW VERTICAL GRANITE CURB
SGC	NEW SLOPED GRANITE CURB
FGC	NEW GRANITE CURB FLUSH WITH PAVEMENT
TCE	NEW TAPERED GRANITE CURB ENDS (TIP DOWNS)
TRC	NEW TRANSITIONAL CURB
BC	NEW BITUMINOUS CURB
CCBC	NEW CAPE COD BITUMINOUS CURB
PCC	NEW PRE-CAST CONCRETE CURB
CCC	NEW CAST-IN-PLACE CONCRETE CURB

A2 STANDARD SITE ABBREVIATIONS
SCALE: N.T.S

Drawing Scales

PA / PE: SKF
Drawn By: HAS/BAW

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SITE NOTES

C00-2

EROSION AND SEDIMENTATION CONTROL NOTES

1. GENERAL

A. PLAN THE SEQUENCE OF CONSTRUCTION SO THAT THE SMALLEST PRACTICAL AREA OF LAND IS EXPOSED AT ANY ONE TIME DURING CONSTRUCTION. SCHEDULE THE WORK SUCH THAT SEDIMENTATION BARRIERS AND DETENTION PONDS ARE INSTALLED EARLY IN THE CONSTRUCTION SEQUENCE. TO PREVENT SEDIMENTS FROM UPHILL AREAS REACHING STREAMS, WETLANDS, OR PROPERTY LINES.

B. IF UNDERDRAIN FILTER BASINS, BIO-RETENTION CELLS, OR WETPONDS ARE USED AS TEMPORARY SEDIMENT PONDS, DO NOT INSTALL UNDERDRAIN, GRAVEL FILTER, SOIL FILTER, OR GEOTEXTILE FABRIC UNTIL AFTER THE SURROUNDING AREAS ARE STABILIZED AND/OR THE AREAS ARE NO LONGER RECEIVING SEDIMENT LOADING. SCHEDULE BASIN/POND CONSTRUCTION DURING THE MONTHS OF JUNE THROUGH SEPTEMBER; WITH PONDS STABILIZED BY OCTOBER 1ST. CLEAN ALL STORM WATER BASINS, PIPES, AND TREATMENT TANKS PRIOR TO SUBSTANTIAL COMPLETION.

C. TAKE NECESSARY STEPS TO PREVENT SOIL EROSION. REFER TO PUBLICATIONS OF THE NEW HAMPSHIRE DES AND THE NEW HAMPSHIRE SOIL AND WATER CONSERVATION COMMISSION FOR ADDITIONAL PREVENTION MEASURES TO STOP SOIL EROSION AND FOLLOW NEW HAMPSHIRE DES EROSION AND SEDIMENT CONTROL BMPS (DES.NH.GOV/ORGANIZATION/DIVISION/WATER/STORMWATER/DOCUMENT/SWD-08-20CCOVR.PDF). THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN CONFORMITY WITH ALL FEDERAL AND STATE PERMIT REQUIREMENTS CONCERNING WATER, AIR, OR NOISE POLLUTION, OR THE DISPOSAL OF CONTAMINATED OR HAZARDOUS MATERIALS. EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE MINIMUM ONLY. SATISFY THE CURRENT REQUIREMENTS OF THE REGULATORY AGENCIES. REPAIR ALL AREAS OF INSTABILITY AND EROSION IMMEDIATELY AND MAINTAIN UNTIL THE SITE IS FULLY STABILIZED.

D. EROSION CONTROL MESH: INTENDED AS A TEMPORARY EROSION CONTROL MEASURE THAT WILL DECOMPOSE AFTER STABILIZATION. OPEN WEAVE, SINGLE JUTE YARN OF LOOSELY TWISTED CONSTRUCTION. NOT VARYING IN THICKNESS BY MORE THAN 1/2 ITS NORMAL DIAMETER. THE WOVEN MATERIAL SHALL WEIGH 0.9 POUNDS PER SQUARE YARD. SYNTHETIC MESH MATERIAL MAY BE USED AS APPROVED. STAPLES: NO. 11 (OR HEAVIER) PLAIN IRON WIRE, MADE 6 INCHES IN LENGTH.

E. EROSION CONTROL BLANKET: INTENDED AS A PERMANENT EROSION CONTROL MEASURE THAT WILL REINFORCE THE TOPSOIL AND VEGETATION AGAINST EROSION AFTER CONSTRUCTION. SYNTHETIC FIBER MATRIX SANDWICHED BETWEEN HEAVY DUTY UV STABILIZED NETTING. BLANKET SHALL WEIGH NOT LESS THAN 0.9 POUNDS PER SQUARE YARD. NORTH AMERICAN GREEN P300 OR APPROVED EQUAL. STAPLES: NO. 11 (OR HEAVIER) PLAIN IRON WIRE, MADE 6 INCHES IN LENGTH.

F. SILT FENCE:
POST: 1"X1" HARDWOOD POST, 4.5 FEET IN LENGTH.
FABRIC: PERVIOUS 36" WIDE SHEET OF SYNTHETIC POLYMER OF 12-MIL THICKNESS, SUCH AS MIRAFI 100X; TERRA TEX-SC, OR APPROVED EQUAL.
THE BOTTOM OF THE FABRIC SHALL BE TRENCHED INTO THE EXISTING GROUND A MINIMUM OF 6 INCHES. IN ADDITION, HAY BALES OR DITCH CHECKS SHALL BE INSTALLED ALONG THE SILT FENCE TO CREATE SEDIMENTATION POOLS IN LOW AREAS WHERE RUN-OFF CONCENTRATES.

G. EROSION CONTROL SOIL/BARK MIX: SHALL CONSIST OF A MIX OF RECYCLED COMPOSTED BARK, FLUME GRIT, AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS. CONFORMING TO THE FOLLOWING:
G.1. PH - 5.0 TO 8.0.
G.2. SCREEN SIZE - 6 INCH MINUS.
G.3. NO LESS THAN 25 PERCENT ORGANIC MATERIAL.
G.4. NO STONES LARGER THAN 2 INCHES IN DIAMETER.
G.5. APPROVED BY NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES FOR USE IN WETLANDS AND NEAR WATERWAYS.

H. HAY BALES: BALES SHALL BE AT LEAST 14" X 18" X 30" IN SIZE. STAKED TWICE PER BALE. STAKES SHALL BE 1" X 1" X 36" WOODEN. PLACE BALES WITH TWINE ON SIDES OF BALE, NOT TOP AND BOTTOM.

I. WATER, CALCIUM CHLORIDE, OR CRUSHED STONE FOR PREVENTION OF AIRBORNE DUST.

J. CATCH BASIN SEDIMENT FILTER SACK: A FILTER FABRIC BAG WHICH HANGS UNDER THE GRATE TO CATCH SEDIMENTS. PROVIDE "STREAMGUARD MODEL 3003", "BASIN BAG" BY EMCO DISTRIBUTION, "SILTSACK HIGH FLOW" BY ACF ENVIRONMENTAL, OR APPROVED EQUAL. INSTALL THE BAG DEVICE PER MANUFACTURER'S RECOMMENDATION.

K. BEFORE EARTHWORK IS STARTED, A SILT FENCE, FILTER BERM, OR STONE SEDIMENT DAM SHALL BE INSTALLED ALONG THE DOWN-SLOPE SIDE OF THE CONSTRUCTION SITE, AS NECESSARY, TO PREVENT SOIL SEDIMENT MIGRATION AWAY FROM THE SITE. INSTALL SILT FENCE OR FILTER BERM ALONG THE DOWN-SLOPE SIDE OF ALL TOP-SOIL AND SUBSOIL STOCKPILES.

L. EROSION CONTROL BARRIERS SHALL BE REMOVED AFTER CONSTRUCTION IS COMPLETE, BUT NOT UNTIL FINISH GRADING, FINAL SEEDING, AND MULCHING HAS BEEN COMPLETED AND THE ESTABLISHED GRASS HAS STABILIZED THE SOIL. MAINTAIN BARRIERS IN GOOD CONDITION UNTIL REMOVED.

M. INSPECT EROSION AND SEDIMENTATION CONTROL WEEKLY AND AFTER EVERY STORM WITH 1/2-INCH OR GREATER RAINFALL WITHIN 24 HOURS AND MAINTAIN IN GOOD WORKING CONDITION FOR PROJECT DURATION. REMOVE SILT DEPOSITS FROM THE SITE. PLACE IN AN AREA OF LOW EROSION POTENTIAL SO IT WILL NOT WASH INTO A WETLAND OR WATER BODY, SEED WITH EROSION CONTROL MIX, AND MULCH.

N. FILTER BERM: PLACE UNCOMPACTED EROSION CONTROL MIX IN A WINDROW AT LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE ARCHITECT. AT A MINIMUM THE BERM SHALL BE 3 FEET WIDE AT THE BASE AND 2 FEET HIGH AT THE CENTER OF ALL POINTS ALONG ITS LENGTH. BERM MATERIAL, WHERE THE BERM IS STILL REQUIRED, WHICH HAS DECOMPOSED, CLOGGED WITH SEDIMENT, ERODED, OR BECOMES INEFFECTIVE, SHALL BE REPLACED. THE BERM SHALL BE REMOVED FROM THE SITE OR RAKED INTO NEARBY WOODS TO A DEPTH NO GREATER THAN 1". WHEN NO LONGER REQUIRED, AS APPROVED BY THE ARCHITECT.

O. MAINTAIN TEMPORARY EROSION CONTROL MEASURES FOR THE FULL DURATION OF CONSTRUCTION. INSPECT WEEKLY AND AFTER EACH STORM AND REPAIR AS NEEDED. REMOVE SEDIMENTS FROM THE SITE. PLACE IN AREA OF LOW EROSION POTENTIAL, AND STABILIZE WITH SEED AND MULCH.

P. PLACE TEMPORARY SOIL STABILIZATION WITHIN 30 DAYS OF INITIAL DISTURBANCE. PLACE PERMANENT SOIL STABILIZATION WITHIN 7 DAYS OF FINAL GRADING.

2. TEMPORARY SEEDING AND MULCHING

A. TOPSOIL STRIPPED AND STOCKPILED ON SITE SHALL BE IMMEDIATELY SEEDED WITH EROSION CONTROL SEED MIX AND MULCHED WITH HAY. MULCH SHALL BE CURED STRAW FREE FROM NOXIOUS WEED SEEDS AND ROUGH OR WOODY MATERIALS.

B. EROSION CONTROL SEED:

Seed Type	% Weight	% Purity	% Germination
Domestic Rye	70	85	80
Perennial Rye	30	85	80

C. EXPOSED EARTHWORK AREAS, WHICH WILL NOT BE WORKED ON FOR ONE WEEK, SHALL BE MULCHED WITH STRAW.

D. UNFINISHED AREAS WHICH ARE NOT TO BE WORKED ON FOR ONE MONTH, OR WILL BE WINTERED, SHALL BE SEEDED WITH EROSION CONTROL MIX AT A RATE OF 3 POUNDS OF SEED PER 1000 SQ. FT. AND MULCHED WITH STRAW. APPLY STRAW MULCH AT THE RATE OF 75 POUNDS PER 1000 SQ.FT. ANCHOR MULCH TO PREVENT WIND BLOWN MOVEMENT.

E. IN SENSITIVE AREAS (WITHIN 25 FT. OF STREAM OR WETLAND EDGE) TEMPORARY MULCH MUST BE APPLIED AT THE END OF EACH WORK DAY AND PRIOR TO ANY STORM EVENT. NO FILL SHALL BE PLACED ON HAY MULCH.

3. PERMANENT SEEDING AND MULCHING

A. GRASS SEED SHALL BE FREE FROM NOXIOUS WEED SEEDS AND RECLEANED, GRADE A RECENT CROP SEED, TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING, DELIVERED TO THE SITE IN SEALED CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS, AND EACH VARIETY OF SEED SHALL HAVE PERCENTAGES OF GERMINATION OF NOT LESS THAN 85%, AND A PERCENTAGE OF PURITY OF NOT LESS THAN 85%.

B. WEED SEED CONTENT SHALL NOT EXCEED 0.25%. WET, MOLDY, OR OTHERWISE DAMAGED SEED WILL BE REJECTED.

C. SEED MIX PROPORTIONS BY WEIGHT:

Seed Type	% Weight	% Purity	% Germination
Chewing Fesue	35	85	80
Creeping Red Fescue	35	85	80
Perennial Rye	30	85	80

4. FALL AND WINTER STABILIZATION (OCTOBER 15 OR LATER)

A. STABILIZE EXPOSED SOILS THROUGHOUT THE PROJECT SITE WITH PERMANENT SEED AND MULCH BY SEPTEMBER 15, WITH THE EXCEPTION OF AREAS UNDERGOING ACTIVE EARTHMOVING OPERATIONS. THESE CONSTRUCTION AREAS ARE PRIMARILY IN THE IMMEDIATE VICINITY OF THE BUILDING. FOR PROPOSED GRASS AREAS NOT STABILIZED BY PERMANENT SEED AND MULCH BY THIS DATE, PROVIDE THE FOLLOWING STABILIZATION MEASURES AT NO ADDITIONAL COST TO THE OWNER. SELECT THE APPROPRIATE METHODS FROM THE OPTIONS LISTED AND OBTAIN APPROVAL FROM THE ARCHITECT PRIOR TO INSTALLATION.
A.1. STABILIZE THE SOIL WITH TEMPORARY VEGETATION, EXCEPT FOR DITCHES, BY OCTOBER 15. PLACE WINTER RYE SEED AT THE RATE OF 3 POUNDS PER 1000 SQ.FT. AND LIGHTLY MULCH WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQ.FT. PLACE EROSION CONTROL MESH OVER MULCH AND ANCHOR.
A.2. FOR SLOPES FLATTER THAN 3H:1V, PLACE SOD OVER THE EXPOSED SOIL BY OCTOBER 15. ROLL THE SOD, ANCHOR IT WITH WIRE PINS, AND WATER IT TO PROMOTE GROWTH.
A.3. FOR GRASSED AREAS FLATTER THAN 10H:1V, STABILIZE THE DISTURBED SOIL BY NOVEMBER 1WITH TEMPORARY WINTER MULCHING BY APPLYING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQ.FT., SUCH THAT NO SOIL IS VISIBLE THROUGH THE MULCH. ANCHOR MULCH WITH EROSION CONTROL MESH.
A.4. FOR SLOPES STEEPER THAN 10H:1V AND FLATTER THAN 2H:1V, PLACE A 6" LAYER OF EROSION CONTROL SOIL/BARK MIX ON THE DISTURBED SOIL BY NOVEMBER 1. REMOVE SNOW ACCUMULATED ON THE SLOPE PRIOR TO INSTALLATION. IF GROUNDWATER SEEPS ARE PRESENT, PLACE STONE RIP RAP TO THICKNESS SHOWN ON DRAWING DETAILS OVER NON-WOVEN GEOTEXTILE.
A.5. FOR DRAINAGE DITCHES OR CHANNELS, PLACE A SOD LINING BY OCTOBER 1 OR PLACE A RIP RAP LINING BY NOVEMBER 1. SOD SHALL BE ROLLED, FASTENED WITH WIRE PINS, ANCHORED WITH EROSION CONTROL MESH, AND WATERED. RIP RAP SHALL BE PLACED AT THE THICKNESS SHOWN ON THE DRAWING DETAILS OVER A LAYER OF NON-WOVEN GEOTEXTILE.

B. IF THE CATCH OF PERMANENT OR TEMPORARY GRASS IS LESS THAN 3" TALL OR COVERS LESS THAN 85% OF THE DISTURBED SOIL BY NOVEMBER 1, APPLY ADDITIONAL HAY MULCH AT A RATE OF 150 POUNDS PER 1000 SQ.FT.. ANCHOR MULCH WITH EROSION CONTROL MESH.

C. IF THE CATCH OF PERMANENT OR TEMPORARY GRASS IS LESS THAN 3" TALL OR COVERS LESS THAN 85% OF THE DISTURBED SOIL ON SLOPES STEEPER THAN 10H:1V AND FLATTER THAN 2H:1V BY NOVEMBER 1, PLACE A 6" LAYER OF EROSION CONTROL SOIL/BARK MIX OR A RIP RAP LAYER, AS DESCRIBED ABOVE.

D. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 6:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORING NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

5. DRAINAGE DITCHES AND EMBANKMENTS

A. DRAINAGE DITCHES SHALL BE PROVIDED WITH A TEMPORARY STONE CHECK DAMS SPACED NO GREATER THAN 100 FEET APART. TEMPORARY DITCH CHECK DAMS SHALL BE CONSTRUCTED WHERE INDICATED. ADDITIONAL TEMPORARY DITCH DAMS SHALL BE INSTALLED DURING THE CONSTRUCTION, WHERE NECESSARY TO PREVENT SOIL FROM LEAVING THE WORK AREA.

B. GRASSED DRAINAGE DITCHES AND SWALES SHALL BE LINED WITH A CONTINUOUS MATT OF EROSION CONTROL MESH FOR FULL BOTTOM WIDTH AND SIDE SLOPES TO 12" ABOVE BOTTOM, WITHIN 48 HOURS OF FINAL GRADING AND PRIOR TO A STORM EVENT, IN ORDER TO STABILIZE THE LOAM, SEED, AND MULCH.

C. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

D. WHERE EROSIVE VELOCITIES IN DITCHES OR EMBANKMENTS ARE ANTICIPATED OR EXPERIENCED, AND SOIL CANNOT BE STABILIZED WITH MULCH AND MESH, SUBSTITUTE EROSION CONTROL SOIL/BARK MIX IN PLACE OF LOAM. SCREEN THE EROSION CONTROL SOIL/BARK MIX TO REMOVE WOOD, BARK, AND STONES ONE-INCH IN SIZE AND GREATER. IF EROSIVE VELOCITIES ARE EXCESSIVE, PROVIDE A 12" THICK STONE RIP RAP LINING ALONG DITCH BOTTOM AND UP SIDE SLOPES TO ONE FOOT ABOVE THE BOTTOM ELEVATION. PLACE NON-WOVEN GEOTEXTILE BENEATH RIP RAP.

E. STABILIZE POND EMBANKMENTS(INTERIOR AND EXTERIOR), SLOPES STEEPER THAN 3 HORIZONTAL TO ONE VERTICAL, AND DRAINAGE DITCHES BY SEPTEMBER 15, CONSISTING OF PERMANENT SEEDING AND MULCH. IF THIS DATE CANNOT BE MET, PROVIDE ALTERNATIVE PERMANENT OR TEMPORARY STABILIZATION DESCRIBED AS FALL AND WINTER STABILIZATION.

F. INSTALL EROSION CONTROL MESH OVER MULCH ON SLOPES STEEPER THAN 6 HORIZONTAL TO ONE VERTICAL (16%) AND IN CONFORMANCE TO DOT STANDARD SPECIFICATIONS, LATEST EDITION, SECTION 9.48, PARAGRAPHS 613.03 THROUGH 613.06. ANCHOR MESH AS RECOMMENDED BY MANUFACTURER.

G. PERMANENTLY RIP-RAP INLETS AND OUTLETS OF CULVERTS AND PIPE OUTFALLS WITHIN 48 HOURS OF INSTALLATION, AS SPECIFIED IN SECTION 312000- EARTHWORK, AND AS SHOWN ON THE DRAWINGS.

H. INSTALL PERMANENT EROSION CONTROL BLANKET AROUND CULVERT INLETS AND OUTLETS AS SHOWN ON THE DRAWINGS, AND ACCORDING TO MANUFACTURERS RECOMMENDATIONS.
H.1. PREPARE SOIL WITH LOAM, FERTILIZER, AND SEED AS SPECIFIED IN SECTION 02930 PRIOR TO INSTALLING EROSION CONTROL BLANKET.
H.2. INSTALL PERMANENT EROSION CONTROL BLANKET 5 FEET MINIMUM IN ALL DIRECTIONS AROUND CULVERT INLETS.
H.3. INSTALL PERMANENT EROSION CONTROL BLANKET 5 FEET MINIMUM IN ALL DIRECTIONS AROUND CULVERT OUTLETS, AND A 8 FEET WIDTH CENTERED ALONG THE OUTLET CHANNEL FOR 10 FEET.
H.4. INSTALL STAPLES AS SHOWN ON THE EROSION CONTROL BLANKET DETAIL ON THE DRAWINGS, AND THROUGHOUT THE BLANKET IN AN 18 BY 18 INCH GRID.

6. PARKING AND DRIVES

A. PLACE TEMPORARY STABILIZED CONSTRUCTION EXITS WHERE VEHICLES LEAVE THE SITE AND ENTER EXISTING PAVED ROADS; CONSISTING OF A 6" LAYER OF 1-1/2" TO 3" CRUSHED STONE. TRACKING AND SPILLING OF EARTH AND/OR DEBRIS ON PUBLIC STREETS SHALL BE AVOIDED TO THE MAXIMUM EXTENT POSSIBLE. CLEAN UP AND REMOVE SUCH SPILLAGE.

B. AS THE CRUSHED STONE STABILIZED CONSTRUCTION EXITS CONTINUE TO SCRUB THE SOIL FROM THE TRUCKS, THE STONE LAYER WILL TEND TO FILL WITH SEDIMENTS. WHEN THIS OCCURS REMOVE THE STONE AND SEDIMENT AND REPLACED IT WITH A CLEAN LAYER OF STONE.

C. AS SOON AS POSSIBLE AFTER ROADS AND PARKING AREAS ARE CLEARED, GRUBBED AND GRADED TO THE REQUIRED SUBGRADE, THE GRAVEL BASE SHALL BE PLACED.
D. AFTER NOVEMBER 15, INCOMPLETE ROAD OR PARING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

7. DUST CONTROL

A. USE TRAFFIC CONTROL TO RESTRICT TRAFFIC TO PREDETERMINED ROUTES. MAINTAIN AS MUCH NATURAL VEGETATION AS IS PRACTICABLE. USE PHASING OF CONSTRUCTION TO REDUCE THE AREA OF LAND DISTURBED AT ANY ONE TIME. THE USE OF TEMPORARY MULCHING, PERMANENT MULCHING, TEMPORARY VEGETATIVE COVER, PERMANENT VEGETATIVE COVER, OR SODDING WILL REDUCE THE NEED FOR DUST CONTROL. USE MECHANICAL SWEEPERS ON PAVED SURFACES WHERE NECESSARY TO PREVENT DUST BUILDUP. STATIONARY SOURCES OF DUST, I.E., ROCK CRUSHERS, SHOULD UTILIZE FINE WATER SPRAYS TO CONTROL DUST.

B. THE EXPOSED SOIL SURFACE SHOULD BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.

C. CALCIUM CHLORIDE SHALL BE EITHER LOOSE DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH A SPREADER AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. LIQUID CALCIUM CHLORIDE CAN ALSO BE USED. TO REDUCE POTENTIAL FOR ENVIRONMENTAL DEGRADATION, USE ONLY WHEN OTHER METHODS ARE NOT PRACTICAL.

D. COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. IN AREAS ADJACENT TO WATERWAYS, USE CHEMICALLY STABLE AGGREGATE.

E. WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

8. CONSTRUCTION DE-WATERING

A. WATER FROM CONSTRUCTION DEWATERING OPERATIONS SHALL BE CLEANED OF SEDIMENT BEFORE REACHING WETLANDS, WATER BODIES, STREAMS, OR SITE BOUNDARIES. UTILIZE TEMPORARY SEDIMENT BASINS, EROSION CONTROL SOIL FILTER BERMS BACKED BY STAKED HAY BALES, DIRT BAG 55" SEDIMENT FILTER BAG BY ACF ENVIRONMENTAL INC, OR OTHER APPROVED BEST MANAGEMENT PRACTICES (BMP'S).

B. IN SENSITIVE AREAS, NEAR STREAMS OR PONDS, DISCHARGE THE WATER FROM THE DE-WATERING OPERATION INTO A TEMPORARY SEDIMENT BASIN CREATED BY A SURROUNDING FILTER BERM OF UNCOMPACTED EROSION CONTROL MIX IMMEDIATELY BACKED BY STAKED HAY BALES (SEE THE SITE DETAILS). LOCATE THE TEMPORARY SEDIMENT BASIN AT LEAST 100 FEET FROM THE NEAREST WATER BODY, SUCH THAT THE FILTERED WATER WILL FLOW THROUGH UNDISTURBED VEGETATED SOIL AREAS PRIOR TO REACHING THE WATER BODY OR PROPERTY LINE.

C. PREPARE A DE-WATERING PLAN TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRADIENT EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE. FOLLOW THE DETAIL OF THE PLAN THROUGHOUT CONSTRUCTION DURATION.

9. ADDITIONAL MEASURES

A. AREAS INSIDE AND OUTSIDE THE CONTRACT WORK LIMITS SHALL BE PROTECTED FROM LUBRICANTS, FUEL, SEDIMENT, LITTER, CONSTRUCTION DEBRIS, CHEMICALS, AND OTHER POLLUTANTS.

B. TAKE PRECAUTIONS, AND CONFORM TO ALL FEDERAL, STATE AND LOCAL REGULATIONS TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. IMPLEMENT SPILL PREVENTION, CONTAINMENT, AND RESPONSE.

C. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DUE TO THE SANDY NATIVE SOILS, IMPERVIOUS LINERS OR MATERIALS MUST BE USED TO STORE OR CONTAIN THE HAZARDOUS MATERIALS, AND PREVENT THEM FROM ENTERING THE GROUNDWATER.

10. REMOVAL AND DISPOSAL

A. WHEN PERMANENT SOIL STABILIZATION HAS BEEN ACHIEVED, TEMPORARY MATERIALS AND DEVICES THAT ARE NOT READILY DEGRADABLE SHALL BE REMOVED AND DISPOSED OF OFF SITE. SILT FENCES, FILTER BERMS, AND CATCH BASIN SEDIMENT FILTERS MUST BE FULLY REMOVED. RE-USABLE MATERIALS ARE AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

11. STONES FOR RIP-RAP

A. SIZE THE STONE MIXTURE SUCH THAT 50% OF THE STONES, BY WEIGHT, ARE LARGER THAN THE SPECIFIED D50 SIZE. STONES SHALL NOT BE SCHISTOSIC.

B. PLAIN RIP-RAP: 4" TO 12" DIAMETER, HARD, SOUND ANGULAR STONES, D50 = 6".

C. SPECIAL RIP-RAP: 10" TO 18" WIDE SOUND STONES WITH FLAT TOP SURFACE, D50 = 11".

D. THE STONES SHALL BE PLACED WITH THEIR BEDS AT RIGHT ANGLES TO THE SLOPE, THE LARGER STONES BEING USED IN BOTTOM COURSES.

E. THE FINISHED WORK SHALL PRESENT AN EVEN, TIGHT AND REASONABLY SMOOTH SURFACE CONFORMING TO THE REQUIRED CONTOUR, AND HAVE A NEAT ORDERLY APPEARANCE WITHOUT SCATTERED STONES.

F. "SPECIAL" RIP-RAP SHALL BE HAND-PLACED IN CLOSE CONTACT TO FORM AN EVEN, TIGHT AND REASONABLY SMOOTH SURFACE WITH RELATIVELY FLAT TOP SURFACES. USE NO SMALL STONES OR SPALL.

12. PLANTING TIME

A. SEEDING: SEEDING SHALL BE DONE BETWEEN AUGUST 15TH TO SEPTEMBER 15TH AND/OR APRIL 15TH TO JUNE 15TH.

B. SODDING: SODDING MAY BE DONE BETWEEN APRIL 15TH AND NOVEMBER 15TH.

C. VARIANCE: IF SPECIAL CONDITIONS EXIST WHICH MAY WARRANT A VARIANCE IN THE ABOVE PLANTING DATES, A WRITTEN REQUEST SHALL BE SUBMITTED TO THE ARCHITECT STATING THE SPECIAL CONDITIONS FOR THE PROPOSED VARIANCE. PERMISSION FOR THE VARIANCE WILL BE GIVEN IF WARRANTED IN THE OPINION OF THE ARCHITECT. REGARDLESS OF THE TIME OF SEEDING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR A FULL GROWTH OF GRASS.

D. PLACE PERMANENT SOIL STABILIZATION WITHIN 15 DAYS OF FINAL GRADING.

13. CONSTRUCTION OBSERVATIONS NOTES

A. CONSTRUCTION OBSERVATIONS: THE CONTRACTOR SHALL ASSIGN A QUALIFIED PERSON OR PERSONS WHO HAVE THE RESPONSIBILITY AND AUTHORITY FOR THE IMPLEMENTATION, OPERATION, MONITORING AND MAINTENANCE OF EROSION CONTROL MEASURES TO CONDUCT INSPECTIONS OF EROSION AND SEDIMENT CONTROLS.

14. CONSTRUCTION SEQUENCE

- CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND SUBMISSION FOR NOTICE OF INTENT THROUGH THE U.S. ENVIRONMENTAL PROTECTION AGENCY. CONTRACTOR SHALL BE RESPONSIBLE FOR ASSOCIATED INSPECTIONS AND ADDITIONAL REQUIREMENTS AS NECESSARY BASED UPON LOCAL, STATE, AND FEDERAL REGULATIONS.
- INSTALL PERIMETER EROSION CONTROL BARRIERS/SILT FENCE
- INSTALL TEMPORARY CATCH BASIN AND DRAINAGE INLET PROTECTION
- INSTALL TEMPORARY ROCK CONSTRUCTION ENTRANCE AND MAINTAIN DURING CONSTRUCTION
- INSTALL DITCHES AND CHANNELS AND STABILIZE
- BEGIN SELECTED DEMOLITION AND SITE CLEARING. PHASE WORK TO MINIMIZE THE AREA OF DISTURBANCE EXPOSED AT ANY ONE TIME
- ROUGH GRADE PARKING LOT AND PARENT DROP-OFF.
- INSTALL DRAINAGE STRUCTURES. PROTECT FROM RECEIVING SEDIMENT LADEN RUNOFF DURING CONSTRUCTION.
- INSTALL BASE AND SUBBASE GRAVELS
- BASES OF INFILTRATION BASINS SHALL BE DEEPLY TILLED TO RESTORE INFILTRATION RATES FOLLOWED BY A LEVELING DRAG. STORMWATER FLOWS ARE NOT TO BE DIRECTED TO THE INFILTRATION AREA UNTIL CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
- INSTALL TOPSOIL (LOAM) AND SEED OR MULCH TO LANDSCAPE AREAS
- MAINTAIN ALL EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES DURING EARTH MOVING AND CONSTRUCTION
- WHEN ALL DISTURBED AREAS ARE STABILIZED THEN REMOVE SILT FENCE AND EROSION CONTROL BARRIERS

HARRIMAN

AUBURN BOSTON PORTLAND PORTSMOUTH

NASHUA SCHOOL DISTRICT
PENNICHUCK MIDDLE SCHOOL
ADDITIONS AND RENOVATIONS

NASHUA, NEW HAMPSHIRE

Harriman Project No.	20322

Key Plan

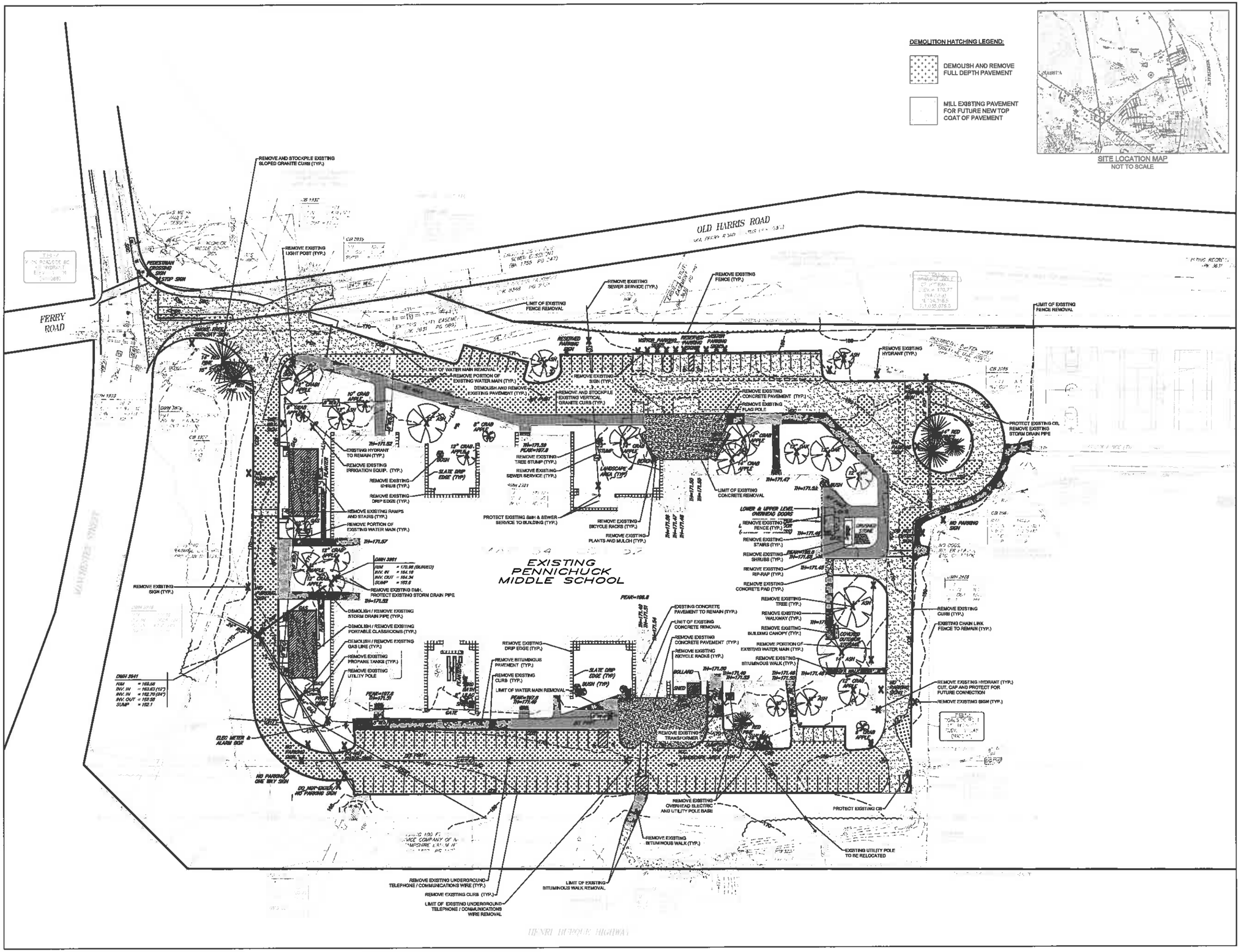
ALTERATION OF TERRAIN PERMIT REVIEW
SEPTEMBER 16, 2020

Rev Date	Revision Description

Drawing Scales	
PA / PE: SKF	© 2020 Harriman Associates
Drawn By: HAS/BAW	

SITE EROSION CONTROL NOTES

C00-3



HARRIMAN

AUBURN BOSTON PORTLAND PORTSMOUTH

NASHUA SCHOOL DISTRICT
PENNICHUCK MIDDLE SCHOOL
ADDITIONS AND RENOVATIONS

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Key Plan

GRAPHIC SCALE

0 20 40 80

(1 inch = 40 feet)

ALTERATION OF TERRAIN PERMIT REVIEW

SEPTEMBER 16, 2020

Rev Date	Revision Description

STATE OF NEW HAMPSHIRE SUSAN K. FOSTER NO. 13524 LICENSED PROFESSIONAL ENGINEER

Drawing Scales

PA / PE: SKF

Drawn By: HAS/BAW

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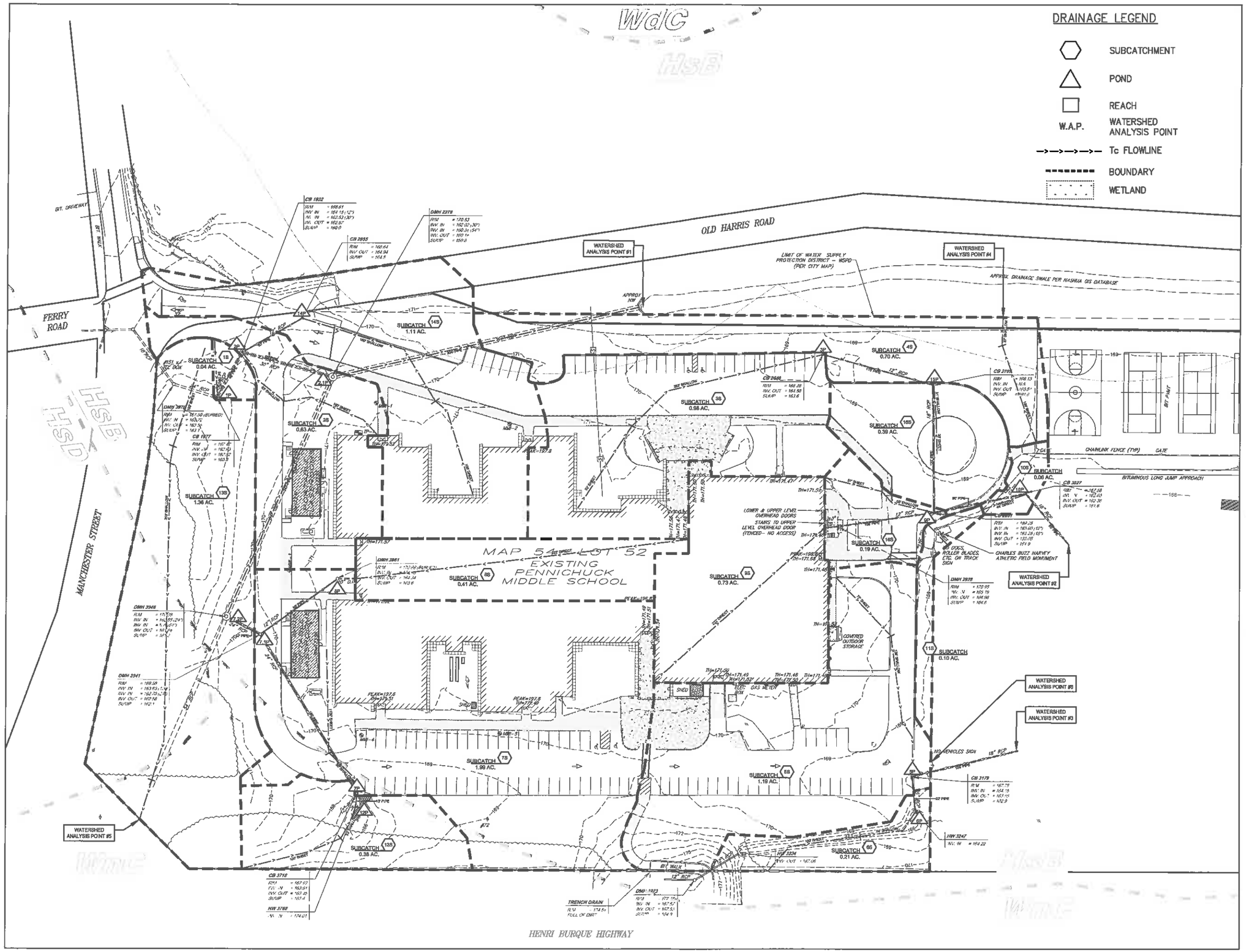
EXISTING SITE CONDITIONS AND DEMOLITION PLAN

C10-1



HARRIMAN

AUBURN BOSTON PORTLAND PORTSMOUTH

NASHUA SCHOOL DISTRICT
PENNICHUCK MIDDLE SCHOOL
ADDITIONS AND RENOVATIONS

NASHUA, NEW HAMPSHIRE

Harriman Project No.	20322

Key Plan

GRAPHIC SCALE

0 20 40 80

(1 inch = 40 feet)

ALTERATION OF TERRAIN PERMIT REVIEW

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Drawing Scales

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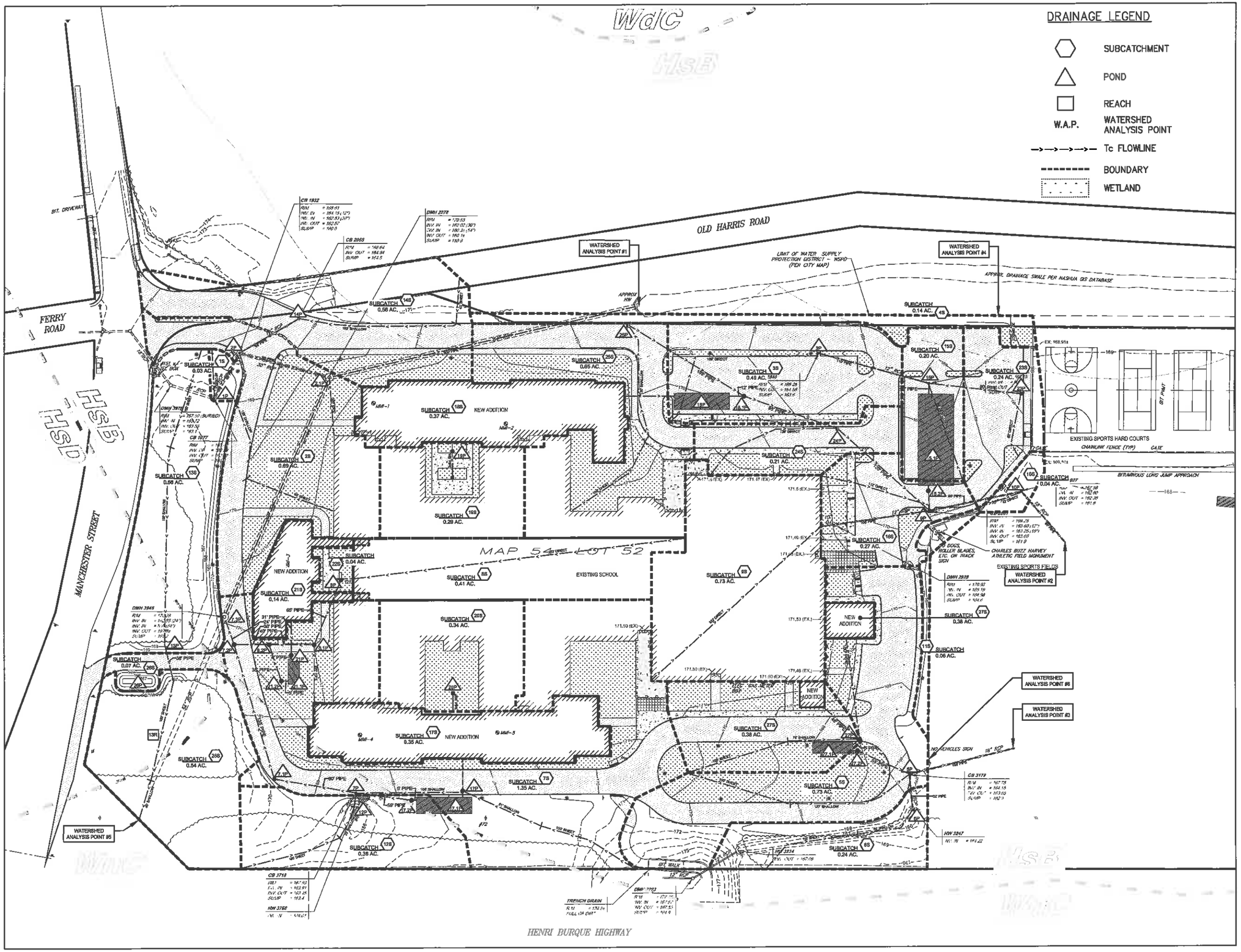
PRE-DEVELOPMENT DRAINAGE PLAN

C11-1



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AUBURN BOSTON PORTLAND PORTSMOUTH

NASHUA SCHOOL DISTRICT
PENNICHUCK MIDDLE SCHOOL
ADDITIONS AND RENOVATIONS

NASHUA, NEW HAMPSHIRE

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Key Plan

GRAPHIC SCALE

0 20 40 80

(1 inch = 40 feet)

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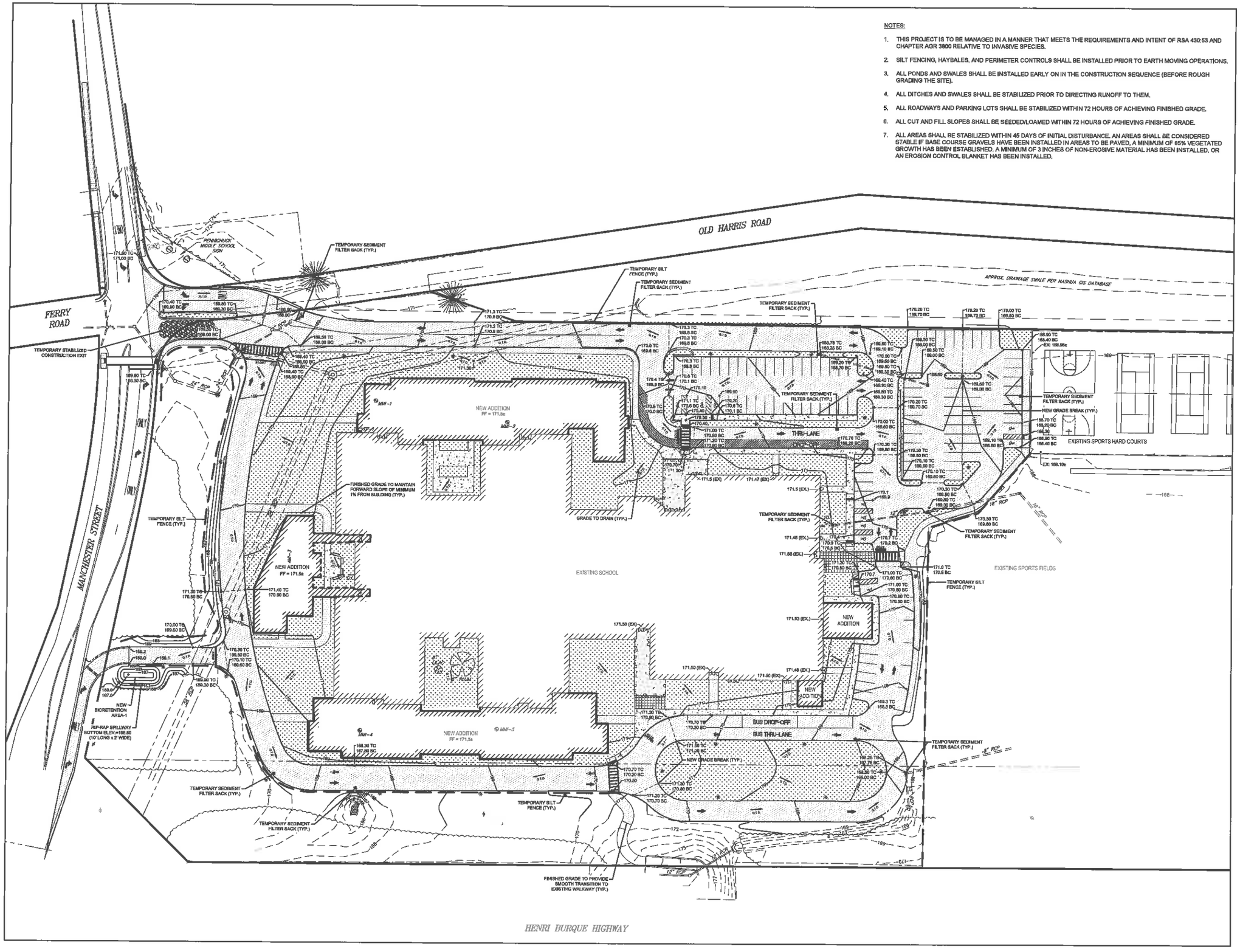
POST-DEVELOPMENT DRAINAGE PLAN

C12-1

NOTES:

1. THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
2. SILT FENCING, HAYBALES, AND PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
3. ALL PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE (BEFORE ROUGH GRADING THE SITE).
4. ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
5. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
6. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE. AN AREAS SHALL BE CONSIDERED STABLE IF BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED, A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL HAS BEEN INSTALLED, OR AN EROSION CONTROL BLANKET HAS BEEN INSTALLED.



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AUBURN BOSTON PORTLAND PORTSMOUTH

NASHUA SCHOOL DISTRICT
PENNICHUCK MIDDLE SCHOOL
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NASHUA, NEW HAMPSHIRE

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GRAPHIC SCALE

0 20 40 80

(1 inch = 80 feet)

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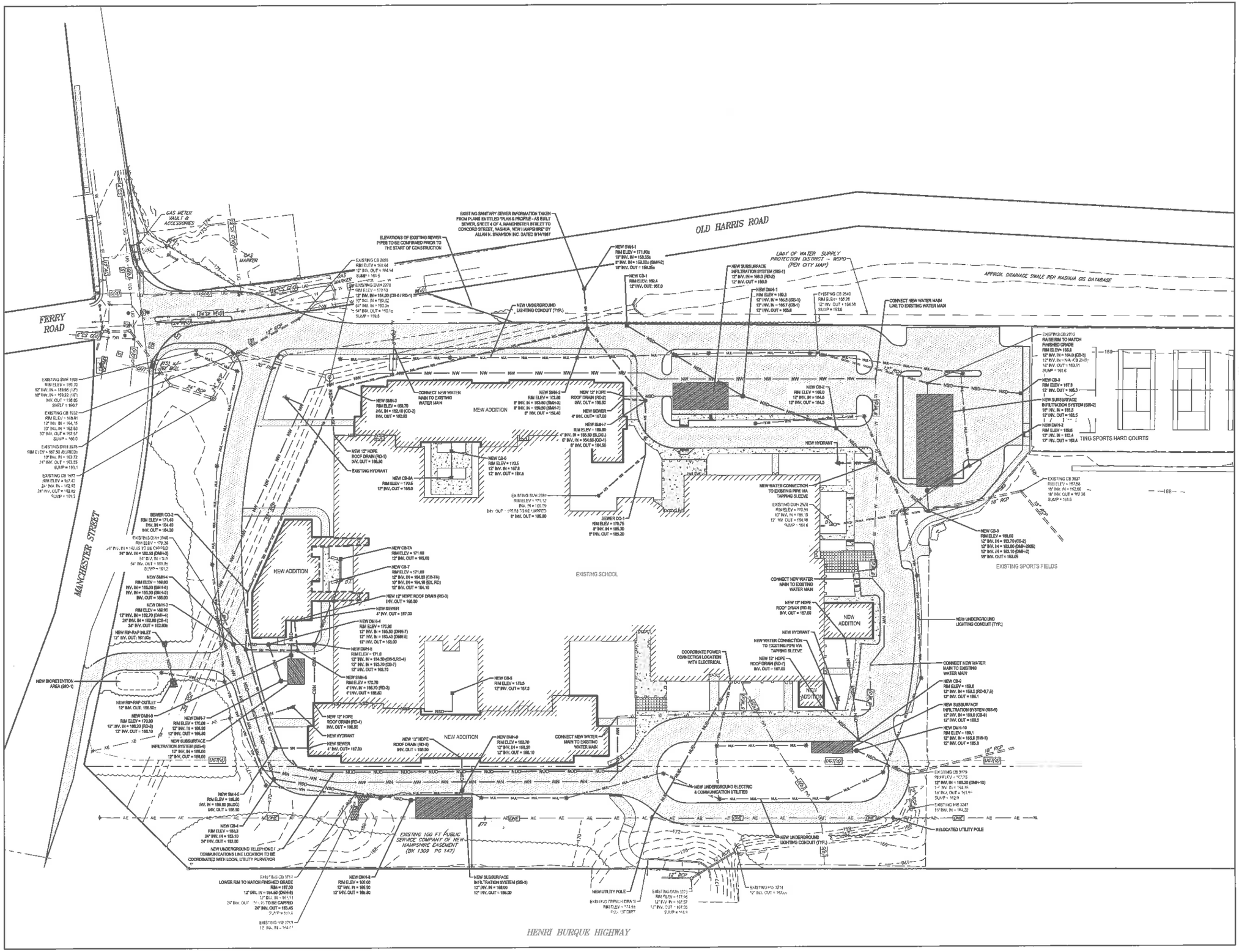
SITE GRADING AND EROSION CONTROL PLAN

C30-1



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AUBURN BOSTON PORTLAND PORTSMOUTH

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PENNICHUCK MIDDLE SCHOOL
ADDITIONS AND RENOVATIONS

NASHUA, NEW HAMPSHIRE

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GRAPHIC SCALE

0 20 40 80

(1 inch = 40 feet)

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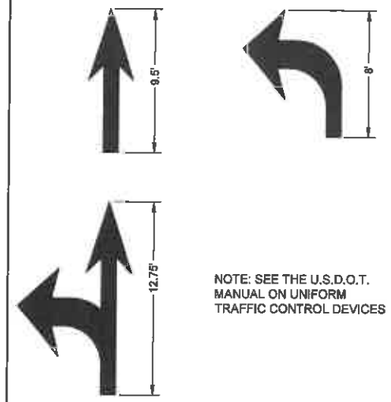
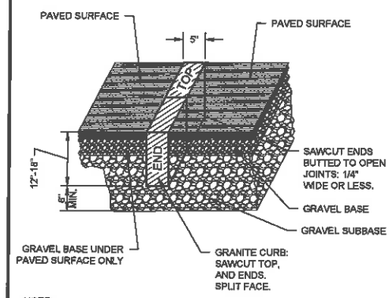
SITE UTILITY PLAN

C40-1



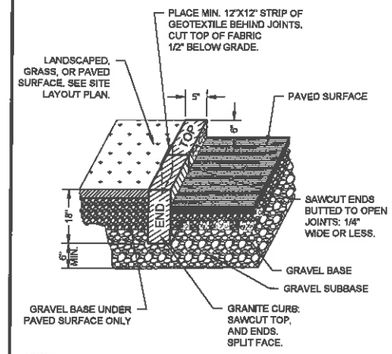
NOTE: SEE THE U.S.D.O.T. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

C5 ROADWAY DIRECTIONAL ARROWS
SCALE: N.T.S



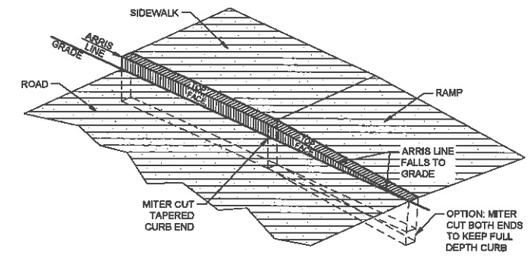
NOTE:
1. USE CURVED SECTIONS FOR CURB RADIUS OF 40' OR LESS.

C4 FLUSH GRANITE CURBING (FGC)
SCALE: N.T.S



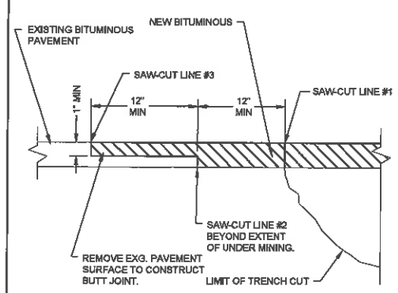
NOTE:
1. USE CURVED SECTIONS FOR CURB RADIUS OF 40' OR LESS.

C3 VERTICAL GRANITE CURBING (VGC)
SCALE: N.T.S



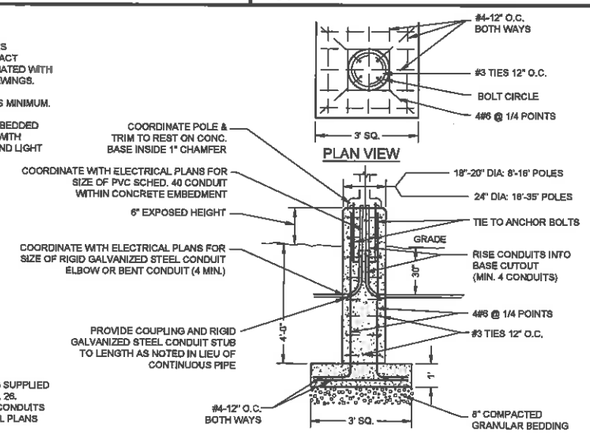
VERTICAL TAPERED CURB END

C1 TAPERED CURB END DETAIL (TCE)
SCALE: N.T.S



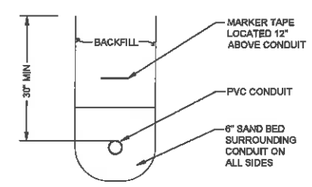
B5 PAVEMENT SAW-CUT JOINT
SCALE: N.T.S

NOTES
1. NUMBER AND SIZE OF REBARS INDICATED ARE MINIMUM. EXACT SPACING SHALL BE COORDINATED WITH MANUFACTURERS SHOP DRAWINGS.
2. DEPTH OF BASE INDICATED IS MINIMUM.
3. BOLT CIRCLE AND OTHER EMBEDDED ITEMS TO BE COORDINATED WITH ELECTRICAL CONTRACTOR AND LIGHT POLE MANUFACTURER.

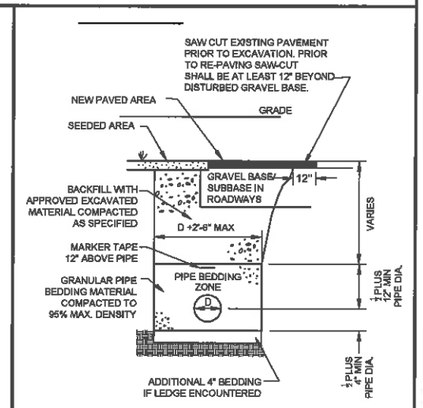


NOTES:
1. CONDUITS AND WIRING SUPPLIED AND INSTALLED BY DIV. 26.
2. NUMBER AND SIZE OF CONDUITS SHOWN ON ELECTRICAL PLANS

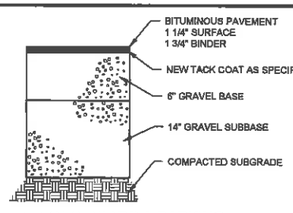
B3 PRECAST CONCRETE LIGHT POLE BASE
SCALE: N.T.S



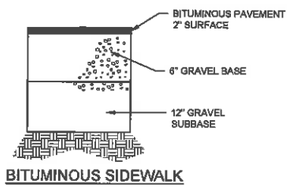
B2 UNDERGROUND LIGHTING CONDUIT
SCALE: N.T.S



B1 PIPE TRENCH DETAIL
SCALE: N.T.S



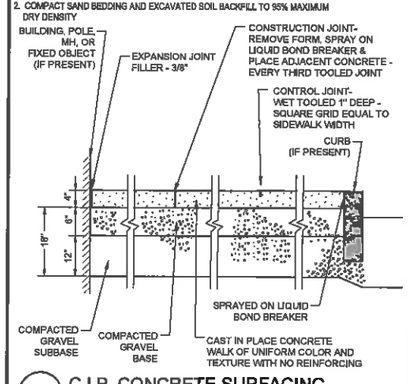
BITUMINOUS ROADS & PARKING



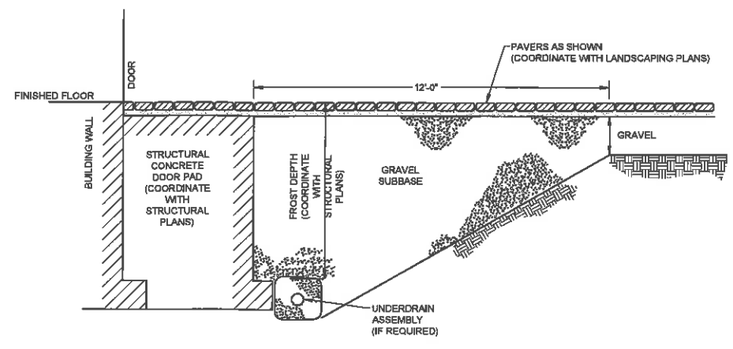
BITUMINOUS SIDEWALK

A5 BITUMINOUS PAVEMENT DETAIL
SCALE: N.T.S

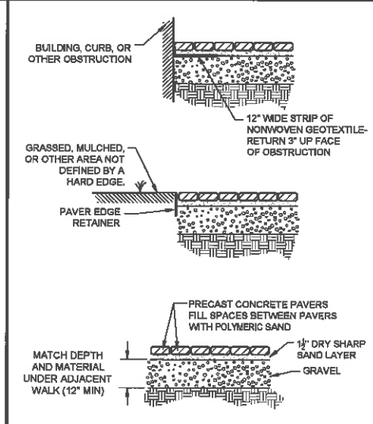
NOTE:
1. CAST-IN-PLACE CONCRETE WALK MATERIAL, FORMING, AND PLACEMENT IS COVERED UNDER DIVISION 03, AND IS NOT INCLUDED IN DIVISION 32 WORK. SITE GRADING, SOIL FILL MATERIALS, AND COMPACTION IS INCLUDED IN DIVISIONS 31 & 32.
2. COMPACT SAND BEDDING AND EXCAVATED SOIL BACKFILL TO 95% MAXIMUM DRY DENSITY



A4 C.I.P. CONCRETE SURFACING
SCALE: N.T.S



A2 TYPICAL DOORWAY PAVER WALK SECTION
SCALE: N.T.S



A1 P.C. CONCRETE PAVER WALKWAYS
SCALE: N.T.S

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AUBURN BOSTON PORTLAND PORTSMOUTH

NASHUA SCHOOL DISTRICT
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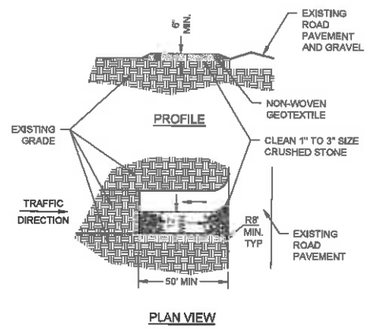
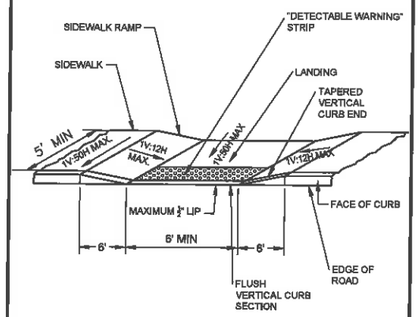
SITE DETAILS

C50-1



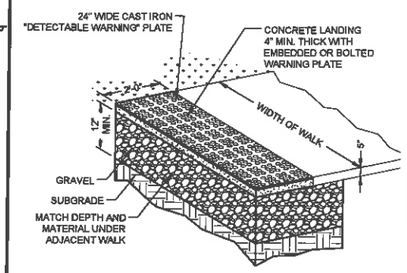
NOTE:
1. REMOVE TRACKED SEDIMENT FROM OFF-SITE ROADWAY WITH A VACUUM SWEEPER PRIOR TO A STORM EVENT.

C5 TEMP. STABILIZED CONSTRUCTION EXIT
SCALE: N.T.S

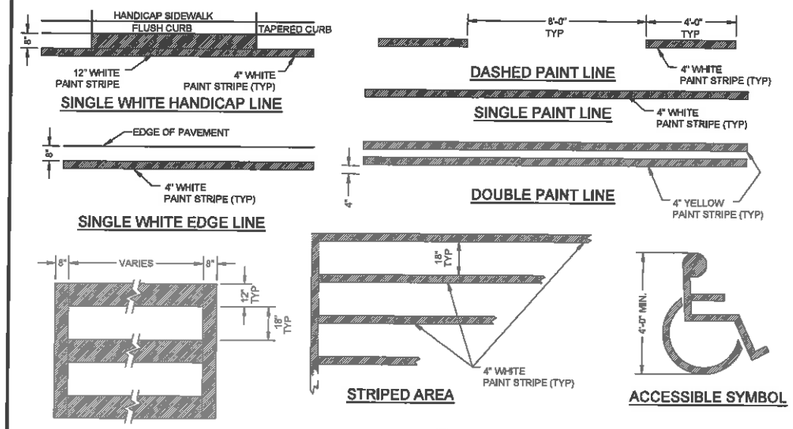


C4 A.D.A SIDEWALK LANDING DETAIL
SCALE: N.T.S

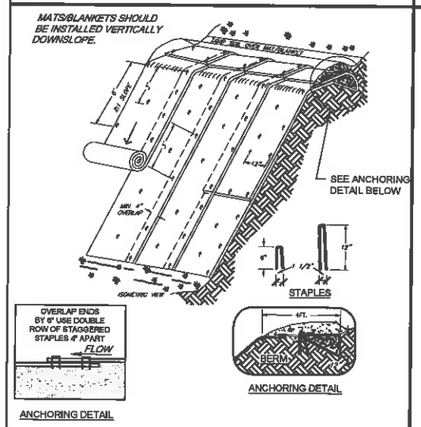
NOTES:
1. WARNING PLATE TO BE FULL WIDTH OF WALK.
2. LOCATION AND ORIENTATION OF WARNING PLATE SHOWN ON PLAN.



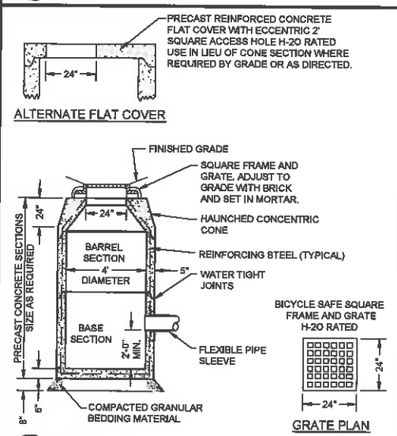
C3 DETECTABLE WARNING PLATE
SCALE: N.T.S



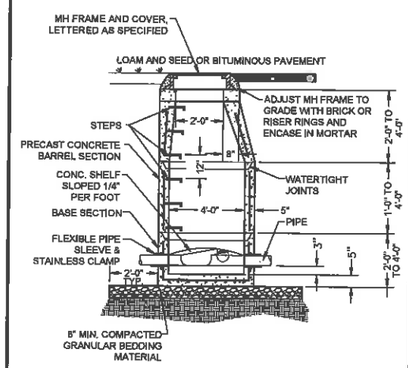
C1 STANDARD PAINT STRIPING
SCALE: N.T.S



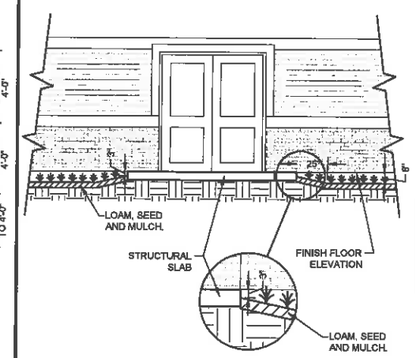
B5 SLOPE EROSION CONTROL BLANKET
SCALE: N.T.S



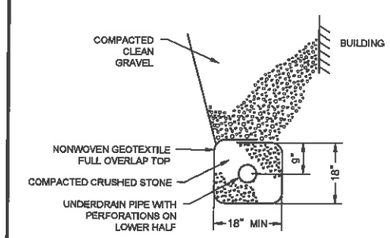
B4 PRECAST CONCRETE CATCH BASIN
SCALE: N.T.S



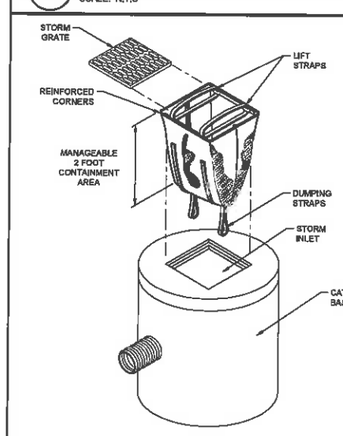
B3 PRECAST CONCRETE MANHOLE
SCALE: N.T.S



B2 TYPICAL GRADE AT DOOR SLABS
SCALE: N.T.S

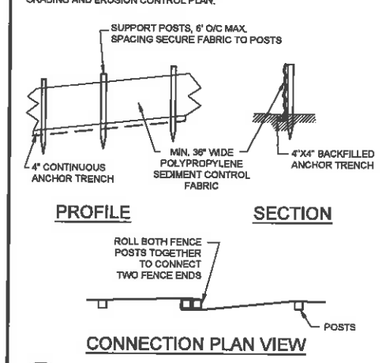


B1 UNDERDRAIN OR FOUNDATION DRAIN
SCALE: N.T.S

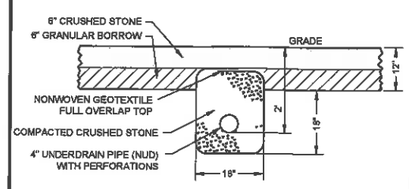


A5 SEDIMENT FILTER SACK
SCALE: N.T.S

NOTE:
1.) PLACE SILT FENCE OR FILTER BERMS ALONG UNIFORMLY SLOPED SURFACE.
2.) EROSION CONTROL MIX FILTER BERM MAY BE SUBSTITUTED FOR A SILTFENCE. SEE THE SITE GRADING AND EROSION CONTROL PLAN.

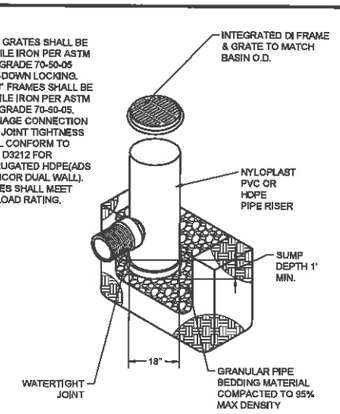


A4 SILT FENCE
SCALE: N.T.S



A3 CRUSHED STONE DRIP STRIP
SCALE: N.T.S

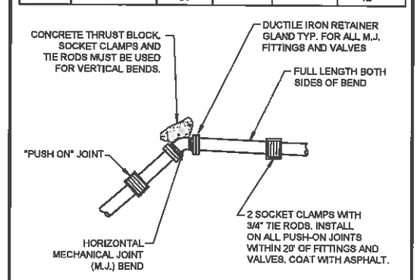
NOTES:
1. 8"-30" GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05 BOLT-DOWN LOCKING.
2. 12"-30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE(ADS & HANCOR DUAL WALL).
4. GRATES SHALL MEET H-10 LOAD RATING.



A2 PLASTIC DRAIN INLET
SCALE: N.T.S

GENERAL DATA FOR BLOCKING STANDARD FITTINGS
MINIMUM SURFACE AREA OF CONCRETE BLOCK AGAINST UNDISTURBED EARTH - SQ.FT.

PIPE SIZE	HYDRANT, PLUG, CAP, TEE	90° BEND	45° BEND	22.5° BEND	11.25° BEND
4"	4	4	4	3 6	2
6"	8	10	10	12	3
8"	12	16	14	16	4
10"	18	26	20	20	5
12"	26	36	28		7
14"	36	50	36		9
16"	46	64			12



A1 RESTRAINT AT WATER LINE FITTINGS
SCALE: N.T.S

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NASHUA SCHOOL DISTRICT
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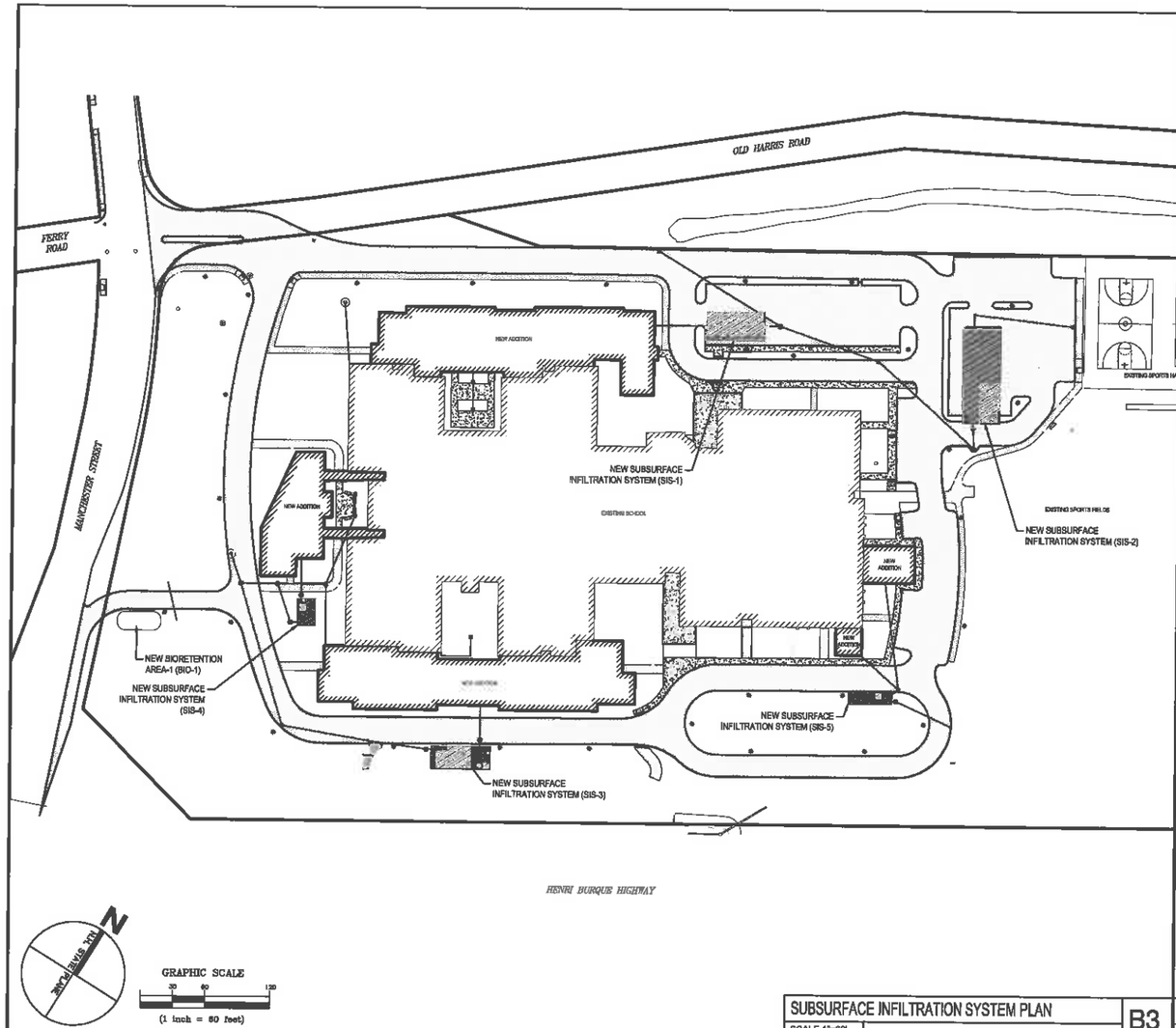
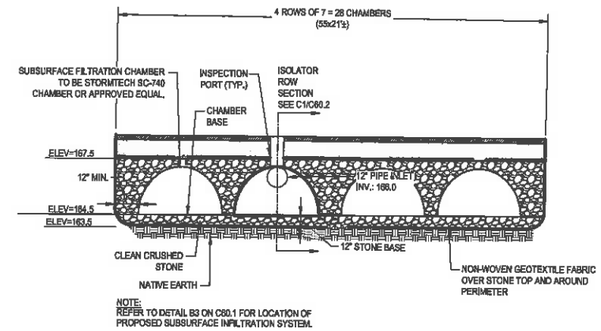
SITE DETAILS

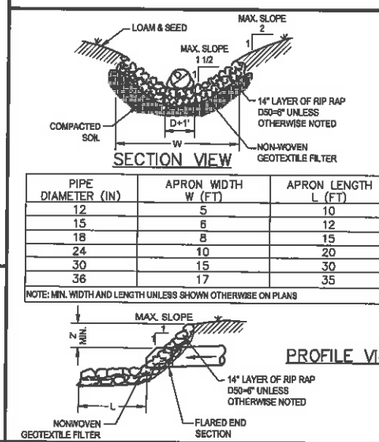
C50-2



SUBSURFACE INFILTRATION SYSTEM PLAN — SCALE 1"=60' — B3



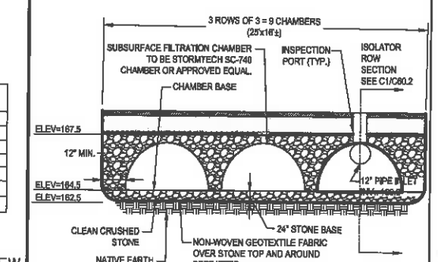
SUBSURFACE INFILTRATION SYSTEM (SIS-3) SECTION — NOT TO SCALE — C1



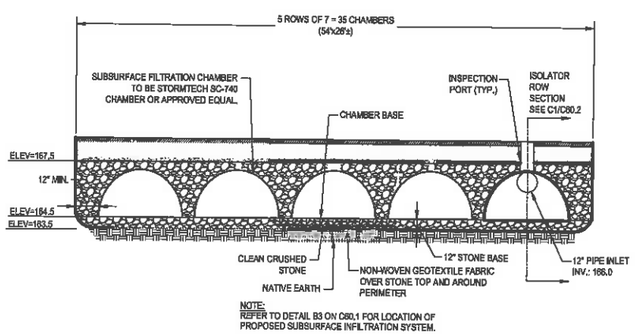
PIPE DIAMETER (IN)	APRON WIDTH W (FT)	APRON LENGTH L (FT)
12	5	10
15	6	12
18	8	15
24	10	20
30	15	30
36	17	35

NOTE: MIN. WIDTH AND LENGTH UNLESS SHOWN OTHERWISE ON PLANS

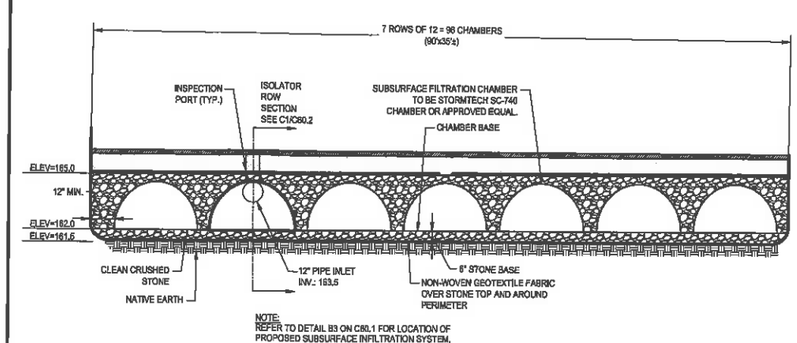
STORM DRAIN INLET/OUTLET RIP-RAP — NOT TO SCALE — B2



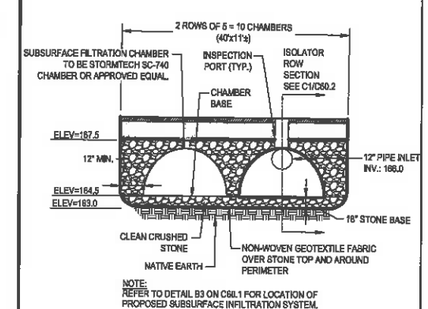
SUBSURFACE INFILTRATION SYSTEM (SIS-4) SECTION — NOT TO SCALE — B1



SUBSURFACE INFILTRATION SYSTEM (SIS-1) SECTION — NOT TO SCALE — A4



SUBSURFACE INFILTRATION SYSTEM (SIS-2) SECTION — NOT TO SCALE — A2



SUBSURFACE INFILTRATION SYSTEM (SIS-5) SECTION — NOT TO SCALE — A1

HARRIMAN

AUBURN BOSTON PORTLAND PORTSMOUTH

NASHUA SCHOOL DISTRICT
PENNICHUCK MIDDLE SCHOOL
ADDITIONS AND RENOVATIONS

NASHUA, NEW HAMPSHIRE

Harriman Project No.	20322

Key Plan

ALTERATION OF TERRAIN PERMIT REVIEW
SEPTEMBER 16, 2020

Rev Date	Revision Description

Drawing Scales

PA / PE: SKF

Drawn By: HAS/BAW

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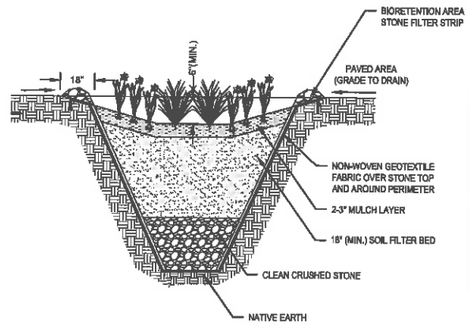
STORMWATER DETAILS

C60-1



NOTES:

1. CONTRACTOR SHALL FURNISH MATERIALS THAT CONFORM TO ALL NHDES STANDARDS FOR BIORETENTION FILTERS.
2. CONTRACTOR SHALL INSTALL NATIVE SHRUB AND PERENNIAL PLANTINGS WITHIN THE BIORETENTION AREA. COORDINATE WITH LANDSCAPE DESIGN DRAWINGS.

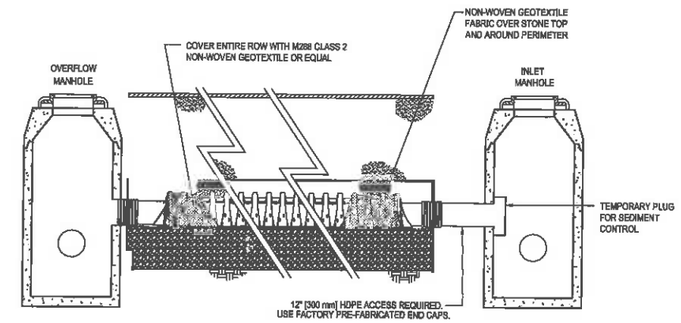
BIORETENTION FILTER MEDIA

COMPONENT MATERIAL	% MIXTURE	SIEVE NO.	% PASSING
FILTER MEDIA OPTION A			
ASTM C-33 CONCRETE SAND	50-55		
LOAMY SAND TOPSOIL, WITH FINES	20-30	#200	15-25
WOOD FIBER MULCH	20-30	#200	< 5
FILTER MEDIA OPTION B			
WOOD FIBER MULCH	20-30	#200	< 5
LOAMY COURSE SAND	70-80	#10	85-100
		#20	70-100
		#60	15-40
		#200	8-15

TYPICAL BIORETENTION FILTER

NOT TO SCALE

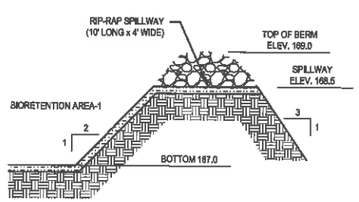
C3



ISOLATOR ROWS DETAIL

NOT TO SCALE

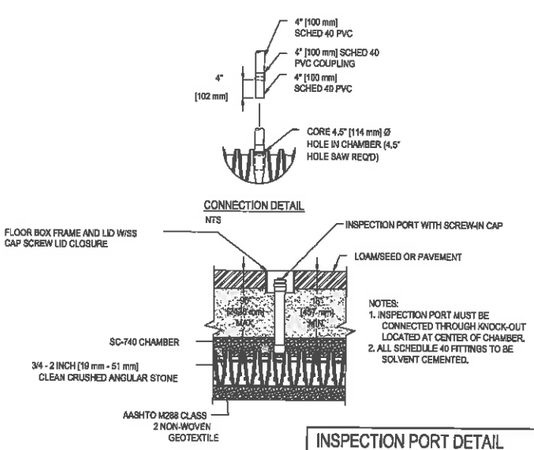
C1



EMERGENCY SPILLWAY

NOT TO SCALE

B4



NOTES:
1. INSPECTION PORT MUST BE CONNECTED THROUGH KNOCK-OUT LOCATED AT CENTER OF CHAMBER.
2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED.

INSPECTION PORT DETAIL

NOT TO SCALE

A4

SUBSURFACE INFILTRATION BASIN NOTES:

1. BASIN EXCAVATION: THE AREA OF THE BASIN MAY BE EXCAVATED IN PREPARATION OF THE INSTALLATION OF THE UNDERDRAIN AND CAN BE USED FOR A SEDIMENT TRAP FROM THE SITE DURING CONSTRUCTION. AFTER EXCAVATION OF THE BASIN, THE OUTLET STRUCTURE AND PIPING SYSTEM MUST BE INSTALLED AT THE APPROPRIATE ELEVATION AND PROTECTED WITH A SEDIMENT BARRIER. IF THE BASIN IS TO BE USED AS A SEDIMENT TRAP, THE SIDES OF THE EMBANKMENTS MUST BE MULCHED AND MAINTAINED TO PREVENT EROSION.
2. COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90 AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST 2 LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.
3. CONSTRUCTION SEQUENCE: EROSION AND SEDIMENTATION FROM UNSTABLE SUBCATCHMENTS IS THE MOST COMMON REASON FOR INFILTRATION FAILURE. NOT HEEDING THE CONSTRUCTION SEQUENCING CRITERIA IS LIKELY TO RESULT IN THE NEED TO REPLACE THE SYSTEM. THE STONES/FILTER MEDIA MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION. OTHERWISE, THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA MUST BE DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED UNLESS THE DEPARTMENT HAS DETERMINED THAT SUFFICIENT MEASURES ARE BEING TAKEN TO PREVENT EROSION OF MATERIAL FROM THE UNSTABLE CATCHMENT AREA AND DEPOSITION ON THE FILTER.
4. TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:

A. SUBMIT SAMPLES OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.

B. PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES; 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL.

C. PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.

UNDERDRAINED FILTER BASINS/BIORETENTION AREAS
CONSTRUCTION SEQUENCE: THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL SHALL BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IA AT LEAST 2 LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.
CONSTRUCTION OVERSIGHT: OBSERVATION BY A PROFESSIONAL ENGINEER SHALL OCCUR AT A MINIMUM:

- AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED;
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA;
- AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED;
- AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS; AND ALL MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN WILL BE APPROVED BY THE DESIGN ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS SHOWN ON THIS SHEET.

TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:

- SELECT SAMPLE FOR SAMPLING FOR EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES SHALL BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY
- PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES 1996) ON EACH TYPE OF SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIAL MIXTURE SHALL HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED BY HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT ORGANIC MATTER.
- PERFORM A PERMEABILITY TEST ON TECH SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% ON MAXIMUM DRY DENSITY BASED ON ASTM D698.

CONSTRUCTION OVERSIGHT:

1. FIELD OBSERVATION OF THE INFILTRATION SYSTEMS SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER . AT A MINIMUM, CONTRACTOR SHALL NOTIFY ARCHITECT ONE WEEK PRIOR TO THE FOLLOWING:
   - AFTER PRELIMINARY CONSTRUCTION OF THE STONES/FILTER GRADES AND ONCE THE PIPES ARE INSTALLED BUT NOT BACKFILLED;
   - AFTER THE STONES/FILTER MEDIA HAS BEEN PLACED AND CHAMBERS ARE BEING INSTALLED;
   - ALL MATERIAL USED FOR THE CONSTRUCTION OF THE INFILTRATION BASIN WILL BE APPROVED BY THE DESIGN ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING SPECIFICATIONS SHOWN ON THIS SHEET.
2. CHAMBER MANUFACTURER'S REPRESENTATIVE SHALL INSPECT THE CHAMBER INSTALLATION AT THE FOLLOWING TIMES:
   A. DURING INSTALLATION OF CHAMBERS. PARTICULARLY OBSERVING THE ISOLATOR ROW.
   B. FOLLOWING COMPLETION OF SYSTEM INSTALLATION AND BACK FILL.
   C. FOLLOWING STABILIZATION OF GROUND SURFACE AREAS DRAINING INTO THE CHAMBERS.
3. MAINTENANCE: PROVIDE THE MANUFACTURER'S REPRESENTATIVE FOR ONE YEAR OF MAINTENANCE FROM THE DATE OF SUBSTANTIAL COMPLETION.

THE FILTER SAND SHALL BE TESTED AT A SOIL TESTING LAB AND:

- MEET ALL OF THE BELOW GRADATION EXCEPT THAT IT SHALL HAVE BETWEEN 8% AND 10% PASSING THE #200 SIEVE;
- HAVE MINIMAL CLAY CONTENT OF LESS THAN 2%.
- BE FREE OF STONES, STUMPS, ROOTS OR OTHER OBJECTS GREATER THAN 2".

SOIL FILTER MEDIA

COMPONENT MATERIAL	% MIXTURE	SIEVE NO.	% PASSING
FILTER MEDIA OPTION A			
ASTM C-33 CONCRETE SAND	50-55		
LOAMY SAND TOPSOIL, WITH FINES	20-30	#200	15-25
WOOD FIBER MULCH	20-30	#200	< 5
FILTER MEDIA OPTION B			
WOOD FIBER MULCH	20-30	#200	< 5
LOAMY COURSE SAND	70-80	#10	85-100
		#20	70-100
		#60	15-40
		#200	8-15

COARSE GRAVEL SPECIFICATIONS FOR UNDERDRAINS (NHDOT 304.5)

SIEVE SIZE	% PASSING BY WEIGHT
3-½"	100
3"	85-100
1-½"	60-90
¾"	40-70
#4	15-40
#200	0-5

TYPICAL SOIL FILTER NOTES

NOT TO SCALE

A1

HARRIMAN

AUBURN BOSTON PORTLAND PORTSMOUTH

NASHUA SCHOOL DISTRICT
PENNICHUCK MIDDLE SCHOOL
ADDITIONS AND RENOVATIONS

NASHUA, NEW HAMPSHIRE

Harriman Project No.	20322

Key Plan

ALTERATION OF TERRAIN PERMIT REVIEW
SEPTEMBER 16, 2020

Rev Date	Revision Description

Drawing Scales

PA / PE: SKF

Drawn By: HAS/SAW

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STORMWATER DETAILS

C60-2

NASHUA CITY PLANNING BOARD
STAFF REPORT

TO: Nashua City Planning Board
FROM: Linda McGhee, Deputy Planning Manager
FOR: September 10, 2020
RE: **New Business #7 - Site Plan**

I. Project Statistics:

Owner:	Roscommon Investments, LLC
Proposal:	Site plan to show a new 24,020 sf auto body shop with associated site improvements
Location:	117 West Hobart St, "L" West Glenwood St, & "L" West Hobart St
Total Site Area:	220,696 sf
Existing Zoning:	RA-Urban Residence & HB-Highway Business
Surrounding Uses:	Commercial and residential

II. Background Information:

The property consists of five lots, approximately 5.01 acres. Currently the project area is cleared; however the site was historically comprised of woods and an existing house. The lots are bordered by the Everett Turnpike to the west, BJ's Wholesale to the south, Nashua Foreign Auto and two residential homes to the east and a car lot and more residential homes to the north.

III. Project Description:

The proposal is to construct a 22,560 sf (22,560 sf footprint and a 1,460 sf mezzanine) auto body shop with overflow auto storage from the Tulley dealership located further south on the Daniel Webster Highway. The project also proposes the reconstruction of a section of Sexton Road to provide adequate access to the site. Site work includes construction of a new building, parking lot and auto storage area, reconstruction of Sexton Road and stormwater management provisions. The proposed stormwater management system will include two proposed detention ponds, a proposed subsurface infiltration system, a treatment swale, and a series of catch basins and drainage pipes which will direct runoff into said pond.

A Traffic Impact Report (TIR) Threshold Worksheet was submitted for this project and indicates that a formal TIR Report is not required as the daily and peak hour trip estimates are below the TIR threshold values.

The site will be serviced by underground utilities, Pennichuck water, and city sewer. Hours of operation will be seven days a week, from 6 am to 8 pm. A landscape plan, lighting plan, and building elevations have been submitted as part of this application. One waiver is being requested from the requirement for landscaped islands for every 10 parking spaces in a row.

City Staff reviewed the plans; comments are attached.

Staff Recommendations and Findings:

The Planning Board should make a determination that the plan meets, or does not meet, the requirements outlined in the Site Plan NRO § 190-146(D). The Board should review these prior to making a motion. If the Planning Board chooses to disapprove the plan, specific reasons should be given. If the Planning Board chooses to approve this plan, staff recommends the following stipulations be made part of that approval:

1. The request for a waiver of § 190-184 D (1) which requires parking aisles not contain more than 10 spaces in a row without a planted median and/or island, **is/is not** granted, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation.

2. Prior to the Chair signing the plan, minor drafting corrections will be made.

3. Prior to the Chair signing the plan, all conditions from the Planning Board approval letter will be added to the cover page of the final mylar and paper copies submitted to the City.

4. Prior to the Chair signing the plan, all comments in an e-mail from Joe Mendola, Street Construction Engineer, dated _____ shall be addressed to the satisfaction of the Engineering Department.

5. Prior to the issuance of a building permit, the lots will be merged.

6. Prior to the issuance of a building permit, all comments in an e-mail from Mark Rapaglia, Inspector/Investigator, dated July 7, 2020 shall be addressed to the satisfaction of the Fire Marshal's Office.

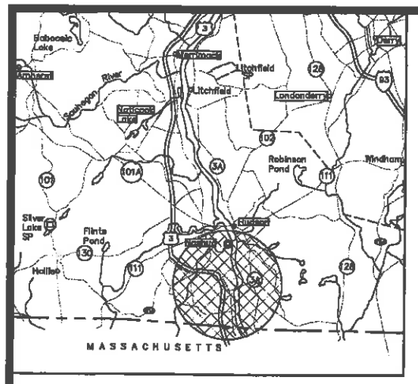
7. Prior to the issuance of a building permit, stormwater documents will be submitted to City staff for review and recorded at the applicant's expense.

8. Prior to the issuance of a building permit, the electronic file of the plan will be submitted to the City of Nashua.

9. Prior to any work on site, a pre-construction meeting shall be held and a financial guarantee shall be approved.

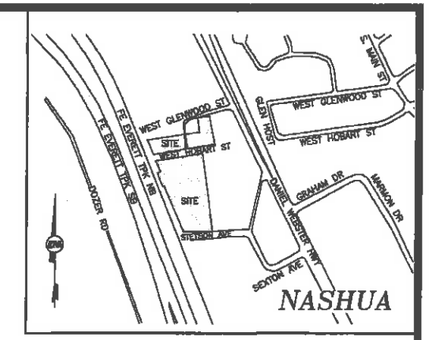
10. Prior to any site disturbance, the Alteration of Terrain Permit for the project shall be approved by NHDES.

11. Prior to the issuance of the Certificate of Occupancy, all off-site and on-site improvements will be completed.

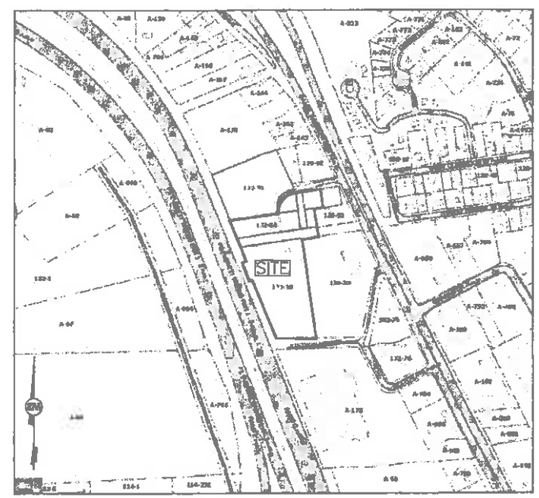


VICINITY PLAN
NOT TO SCALE

NON–RESIDENTIAL SITE PLAN
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE



LOCATION PLAN
SCALE: 1" = 500' +/–



EXISTING FEATURES WITHIN 1,000–FT
NOT TO SCALE

OWNER/APPLICANT:
ROSCOMMON INVESTMENTS, LLC
147 DANIEL WEBSTER HIGHWAY
NASHUA, NH 03060
(603) 888–5050

PREPARED BY:
KEACH–NORDSTROM ASSOCIATES, INC.
10 COMMERCE PARK NORTH, SUITE 3B
BEDFORD, NEW HAMPSHIRE 03110
(603) 627–2881

SHEET TITLE	SHEET No.
EXISTING CONDITIONS PLAN	1
REMOVALS PLAN	2
NON–RESIDENTIAL SITE PLAN	3
GRADING & DRAINAGE PLAN	4
UTILITY PLAN	5
EROSION CONTROL PLAN	6
LANDSCAPE PLAN	7
LIGHTING PLAN	8
ROADWAY PLAN & PROFILE	9
DRIVEWAY DRAINAGE PLAN & PROFILE	10
SIGHT DISTANCE PLAN & PROFILES	11 – 12
DRAINAGE PROFILES	13
SEWER PROFILE	14
CONSTRUCTION DETAILS	15 – 21
TEST PITS	22

ARCHITECTURAL PLANS
(BY BRUCE RONAYNE HAMILTON ARCHITECTS)

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 714 MICHAEL R. DAHLBERG 10-1-2020

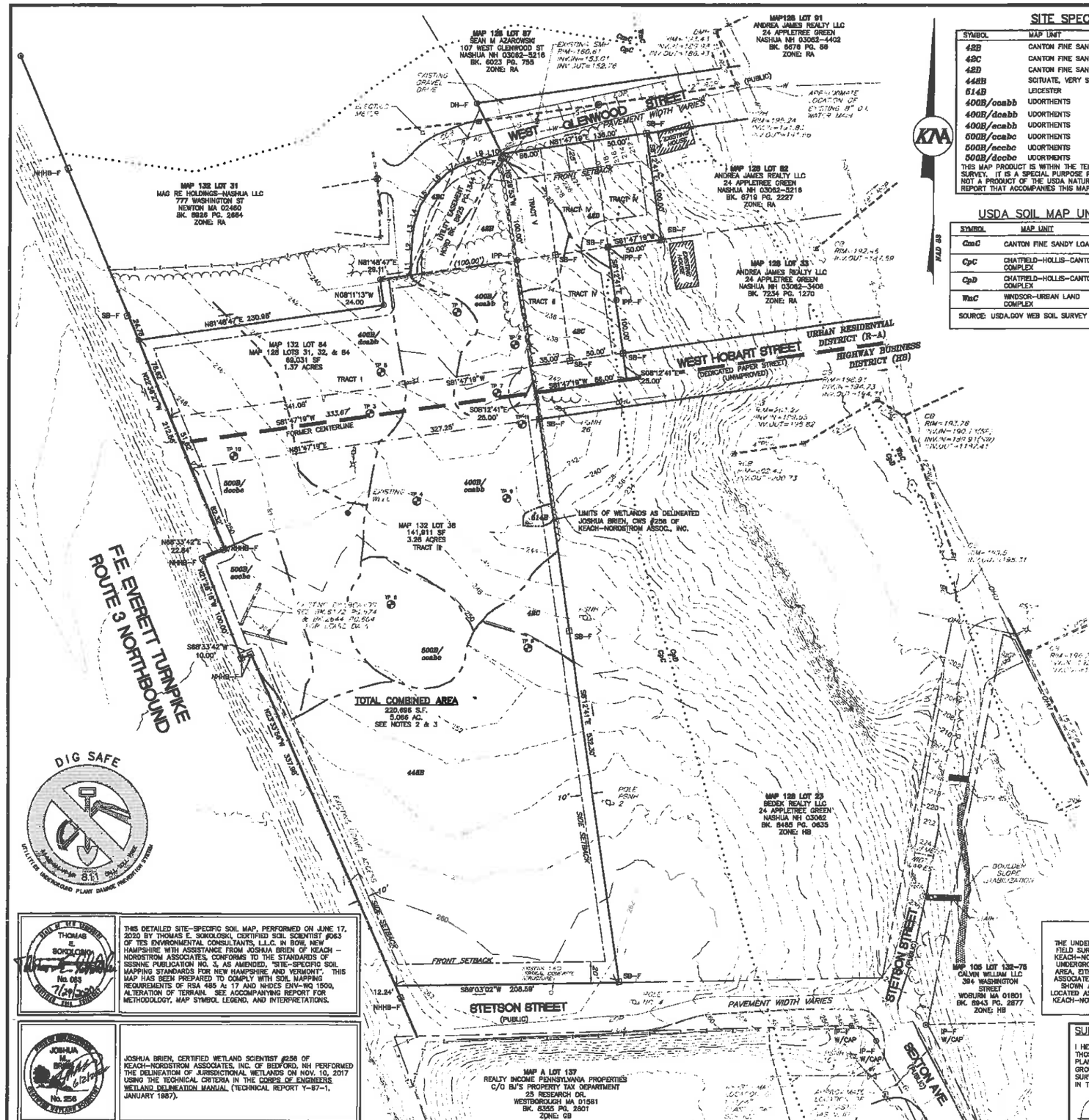
DIG SAFE 1-888-344-7233 UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

10/1/20

KNA KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

JUNE 22, 2020

PROJECT NO. 17–1011–1



SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
42B	CANTON FINE SANDY LOAM	0–8%	WELL	B
42C	CANTON FINE SANDY LOAM	8–15%	WELL	B
42D	CANTON FINE SANDY LOAM	15–25%	WELL	B
446B	SCITUATE, VERY STONY	0–8%	MODERATELY WELL	C
614B	LEICESTER	0–8%	POORLY DRAINED	C
400B/ccabb	UDORTHENTS	0–8%	MODERATELY WELL	B
400B/dcabb	UDORTHENTS	0–8%+	MODERATELY WELL	B
400B/ecabb	UDORTHENTS	0–8%	MODERATELY WELL	B
500B/ccabc	UDORTHENTS	0–8%+	MODERATELY WELL	C
500B/ccebc	UDORTHENTS	0–8%	MODERATELY WELL	C
500B/dccbc	UDORTHENTS	0–8%+	MODERATELY WELL	C

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOILS SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP AND MAP KEY.

USDA SOIL MAP UNIT KEY

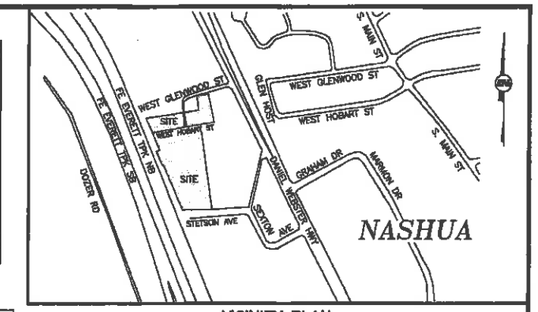
SYMBOL	MAP UNIT	SLOPE
CmC	CANTON FINE SANDY LOAM	8–15%
CpC	CHATFIELD–HOLLIS–CANTON COMPLEX	8–15%
CpD	CHATFIELD–HOLLIS–CANTON COMPLEX	15–25%
WnC	WINDSOR–URBAN LAND COMPLEX	3–15%
SOURCE: USDA.GOV WEB SOIL SURVEY		

LINE TABLE

LINE	LENGTH	BEARING
L1	16.19	N00°28'13"E
L2	20.41	N03°04'07"E
L3	12.79	N08°37'05"E
L4	17.21	N18°43'40"E
L5	18.81	N33°35'37"E
L6	18.42	N45°10'07"E
L7	12.70	N59°32'30"E
L8	19.81	N70°27'56"E
L9	20.94	N78°12'28"E
L10	1.43	N81°38'00"E

LEGEND

- SB-F — STONE BOUND FOUND
- IPIN-F — IRON PIN FOUND
- IPP-F — IRON PIPE FOUND
- UTILITY POLE
- SIGN
- LIGHT
- GAS VALVE
- WATER VALVE
- HYDRANT
- WATER SHUT OFF
- SEWER MANHOLE
- DRAINAGE MANHOLE
- CATCH BASIN
- FLARED END SECTION
- WELL
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- CHAIN LINK FENCE
- OHU — OVERHEAD UTILITIES
- G — GAS LINE
- W — WATER LINE
- S — SEWER LINE
- DRAINAGE LINE
- TREELINE
- STONE WALL
- EOP — EDGE OF PAVEMENT
- BCC — BITUMINOUS CONCRETE CURB
- VGC — VERTICAL GRANITE CURB
- 10' CONTOUR
- 2' CONTOUR
- STONE WALL
- BUILDING SETBACK
- EASEMENT
- ZONE LINE
- USDA SOILS LINE
- TP — TEST PIT LOCATION



VICINITY PLAN

SCALE: 1" = 500' +/-

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS FOR HCRD BOOK 9045 PAGE 874, ASSESSOR'S MAP 128 LOTS 31, 32 & 84 AND MAP 132 LOTS 38 & 84 IN NASHUA, NEW HAMPSHIRE AND NO OTHER PURPOSE.
2. THIS PLAN PRESUMES THE APPROVAL OF THE LOT LINE ADJUSTMENT WITH MAG-RE HOLDINGS -NASHUA, LLC AND THE REVERSION OF THOSE PORTIONS OF WEST HOBART STREET THAT ABUT THE ROSSCOMMON INVESTMENTS, LLC PROPERTIES.
3. TOTAL SITE AREA = 220,695 SF, OR 5.066 ACRES (SEE NOTE 2).
4. TAX MAP 128 LOTS 31, 32 & 84 AND MAP 132 LOTS 38 & 84 INDICATE CITY OF NASHUA TAX ASSESSORS MAP AND LOT NUMBER.
5. OWNER OF RECORD
   ROSCOMMON INVESTMENTS, LLC
   147 DANIEL WEBSTER HIGHWAY
   NASHUA, NEW HAMPSHIRE 03060
   BK. 9045 PG. 874

   PRESENT ZONING: URBAN RESIDENCE DISTRICT (R-A)
   MINIMUM BUILDING SETBACKS:
   - FRONT 25 FT
   - SIDE 10 FT
   - REAR 25 FT
   HIGHWAY BUSINESS DISTRICT (HB)
   - FRONT 20 FT
   - SIDE 10 FT
   - REAR 20 FT
6. BOUNDARY AND TOPOGRAPHIC INFORMATION IS BASED ON A FIELD SURVEY PERFORMED BY THIS OFFICE IN OCTOBER OF 2017.
7. HORIZONTAL DATUM IS NAD 83, NORTH ORIENTATION IS NAD 83, VERTICAL DATUM IS NGVD29.
8. EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE CITY OF NASHUA NEW HAMPSHIRE, HILLSBOROUGH COUNTY, COMMUNITY PANEL NUMBER 330097 0652E PANEL NUMBER 652 OF 701, EFFECTIVE DATE: APRIL 15, 2011 INDICATES THAT NO PORTION OF THE SUBJECT PREMISES IS LOCATED WITHIN A DESIGNATED FLOOD HAZARD AREA.
9. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
10. EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.

REFERENCE PLANS:

1. COUNTRY CLUB HEIGHTS ANNEX. NASHUA, N.H. OWNED BY A.H. CHAPMAN LAND COMPANY. BY: EN SHEFFIELD. SCALE 1"=100'. HCRD PLAN #536.
2. FINAL BOUNDARY PLAN-LAND OF SIENKIEWICZ, WEST GLENWOOD STREET, NASHUA, N.H. PREPARED FOR: JOHN & MARILYN SIENKIEWICZ. BY: GUICO & CORMIER, INC. HCRD PLANS #28735 & 28813.
3. NHDOT PROJECT PLANS OF CENTRAL NEW HAMPSHIRE TURNPIKE PROJECT(S), 10009, 10624-F & 10624-J ON FILE WITH THE NHDOT, CONCORD, NEW HAMPSHIRE.
4. EASEMENT PLAN, MAP 132 LOT 31, 117 WEST GLENWOOD STREET, NASHUA, NEW HAMPSHIRE. DATED: 30 SEPTEMBER 2016. SCALE: 1"=30'. PREPARED BY HAYNER/SWANSON INC. HCRD PLAN #39110.
5. PROPOSED VEHICLE STORAGE LOT, 117 WEST GLENWOOD STREET, NASHUA, NEW HAMPSHIRE. DATED 23 JUNE 2016. SCALE: 1"=30'. PREPARED BY HAYNER/SWANSON INC. ON FILE WITH THE CITY OF NASHUA PLAN #NR2200.

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

EXISTING CONDITIONS PLAN
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
ROSCOMMON INVESTMENTS, LLC
147 DANIEL WEBSTER HIGHWAY
NASHUA, NH 03060
(603) 888-5050

THIS DETAILED SITE-SPECIFIC SOIL MAP, PERFORMED ON JUNE 17, 2020 BY THOMAS E. SOKOLOSKI, CERTIFIED SOIL SCIENTIST #063 OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. IN BOW, NEW HAMPSHIRE WITH ASSISTANCE FROM JOSHUA BRIEN OF KEACH – NORDSTROM ASSOCIATES, CONFORMS TO THE STANDARDS OF SSSNNE PUBLICATION NO. 3, AS AMENDED, "SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT". THIS MAP HAS BEEN PREPARED TO COMPLY WITH SOIL MAPPING REQUIREMENTS OF RSA 485 A: 17 AND NHDES ENV-WQ 1500, ALTERATION OF TERRAIN. SEE ACCOMPANYING REPORT FOR METHODOLOGY, MAP SYMBOL LEGEND, AND INTERPRETATIONS.

STATE OF NEW HAMPSHIRE THOMAS E. SOKOLOSKI No. 063 CERTIFIED SOIL SCIENTIST 7/29/2020

JOSHUA BRIEN, CERTIFIED WETLAND SCIENTIST #256 OF KEACH-NORDSTROM ASSOCIATES, INC. OF BEDFORD, NH PERFORMED THE DELINEATION OF JURISDICTIONAL WETLANDS ON NOV. 10, 2017 USING THE TECHNICAL CRITERIA IN THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (TECHNICAL REPORT Y-87-1, JANUARY 1987).

STATE OF NEW HAMPSHIRE JOSHUA M. BRIEN No. 256 CERTIFIED WETLAND SCIENTIST 6/26/2018

UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN DRAWN FROM FIELD SURVEY INFORMATION AND OR PLOTTED FROM EXISTING DRAWINGS. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, KEACH-NORDSTROM ASSOCIATES, INC. DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. KEACH-NORDSTROM ASSOCIATES, INC. HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND BY THIS OFFICE DURING OCTOBER OF 2017. SAID SURVEY HAS AN ERROR OF CLOSURE BETTER THAN ONE PART IN TEN THOUSAND (1:10,000).

LICENSED LAND SURVEYOR — DATE 10-1-2020

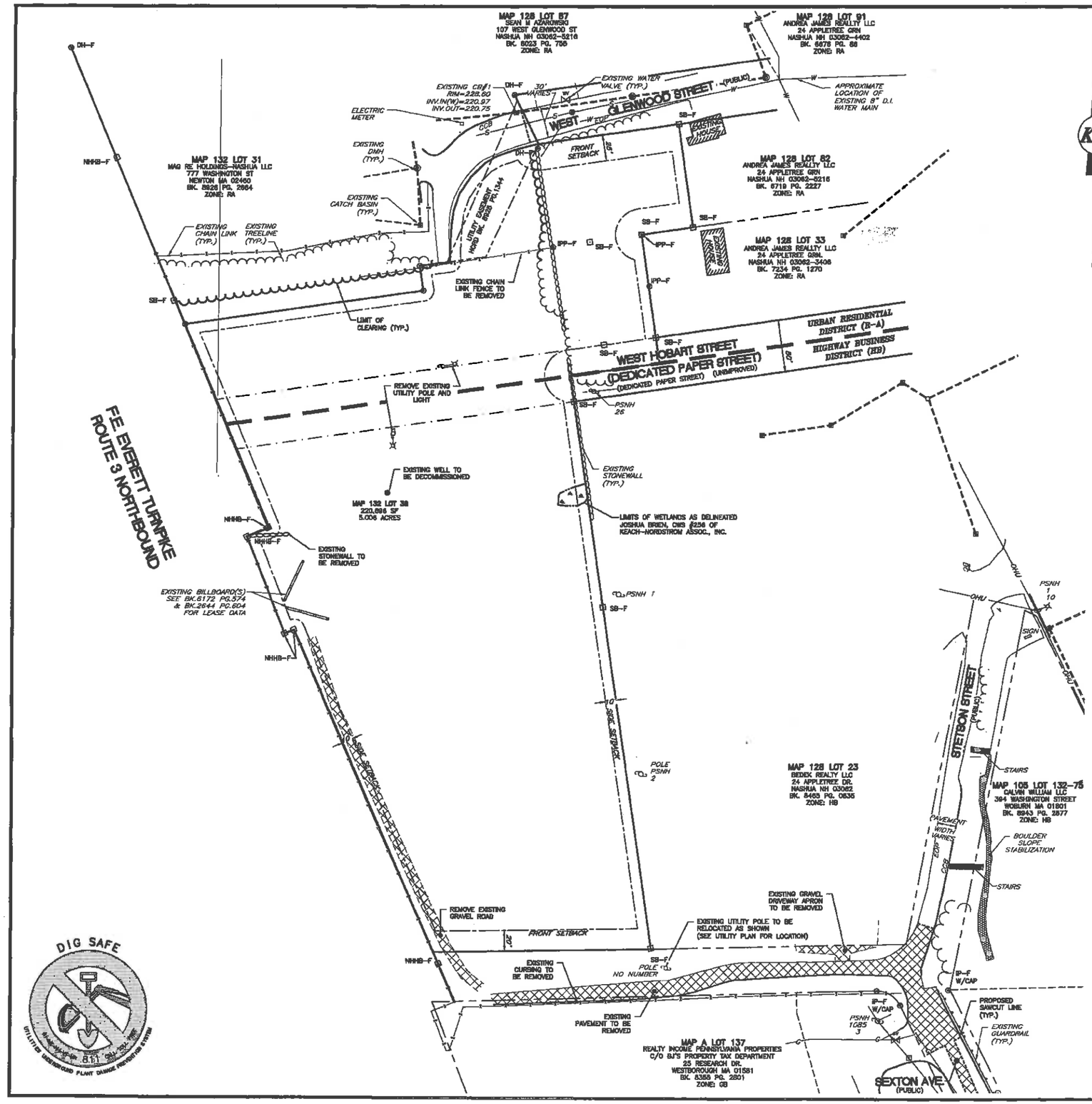
KNA KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE No. 714 MICHAEL R. DAHLBERG LICENSED LAND SURVEYOR

REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020	SCALE: 1"=50'
PROJECT NO: 17-1011-1	SHEET 1 OF 22



NOTES:

1. ALL STUMPS, ROOTS, BRANCHES, BRUSH, WOODS, AND OTHER PERISHABLE MATERIAL RESULTING FROM THE CLEARING AND GRUBBING OPERATIONS SHALL BE DISPOSED OF BY AN APPROVED METHOD.
2. STRIP, STOCKPILE, AND REUSE ONSITE GRAVEL AND FILL AREAS WHERE APPROPRIATE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE DESIGN ENGINEER.
3. REMOVE ALL ASPHALT, CURBING, CONCRETE, VEGETATION, TREES, SHRUBS, LIGHT POLES, SIGNAGE, AND STRUCTURES WITHIN THE HATCHED AREA, UNLESS OTHERWISE NOTED.
4. DEBRIS REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
5. ALL WORK PERFORMED ON BEHALF OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF NASHUA'S CONSTRUCTION STANDARDS AND DETAILS, LATEST EDITION.
6. THE CONTRACTOR SHALL APPLY FOR AN EXCAVATION PERMIT FOR WORK WITHIN THE CITY RIGHT-OF-WAY OR ON CITY OWNED PROPERTY. CONTACT THE CITY OF NASHUA'S ENGINEERING SERVICES DIVISION PRIOR TO CONSTRUCTION TO APPLY FOR THE PERMIT.
7. THE CONTRACTOR SHALL APPLY FOR A DRIVEWAY PERMIT TO REPAIR, WIDEN, RECONSTRUCT, OR CONSTRUCT A DRIVEWAY.
8. THE CONTRACTOR SHALL REQUEST A PRECONSTRUCTION MEETING WITH ENGINEERING SERVICES TO DISCUSS SITE INSPECTIONS, SCHEDULES, SPECIAL CONDITIONS, ETC.
9. SITE CONTRACTOR SHALL ESTABLISH TEMPORARY PERIMETER CONTROLS PRIOR TO THE START OF SITE EXCAVATION.
10. CONTRACTOR SHALL WORK WITH LOCAL UTILITY PROVIDERS DURING SHUT DOWN AND REMOVAL EFFORTS.
11. ALL ITEMS TO REMAIN SHALL BE PROTECTED BY THE CONTRACTOR.

LEGEND

SB-F	STONE BOUND FOUND
IPIN-F	IRON PIN FOUND
IPP-F	IRON PIPE FOUND
	UTILITY POLE
	SIGN
	LIGHT
GV	GAS VALVE
WV	WATER VALVE
	HYDRANT
	WATER SHUT OFF
S	SEWER MANHOLE
D	DRAINAGE MANHOLE
	CATCH BASIN
	FLARED END SECTION
W	WELL
	ABUTTER LINE
	PROPERTY LINE
	WETLAND
	CHAIN LINK FENCE
OHU	OVERHEAD UTILITIES
G	GAS LINE
W	WATER LINE
S	SEWER LINE
	DRAINAGE LINE
	TREELINE
	STONE WALL
EOP	EDGE OF PAVEMENT
BCC	BITUMINOUS CONCRETE CURB
VGC	VERTICAL GRANITE CURB
	STONE WALL
	BUILDING SETBACK
	EASEMENT
	ZONE LINE
	SAWCUT LINE
	REMOVALS

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

REMOVALS PLAN
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
ROSCOMMON INVESTMENTS, LLC
147 DANIEL WEBSTER HIGHWAY
NASHUA, NH 03060
(603) 888-5050

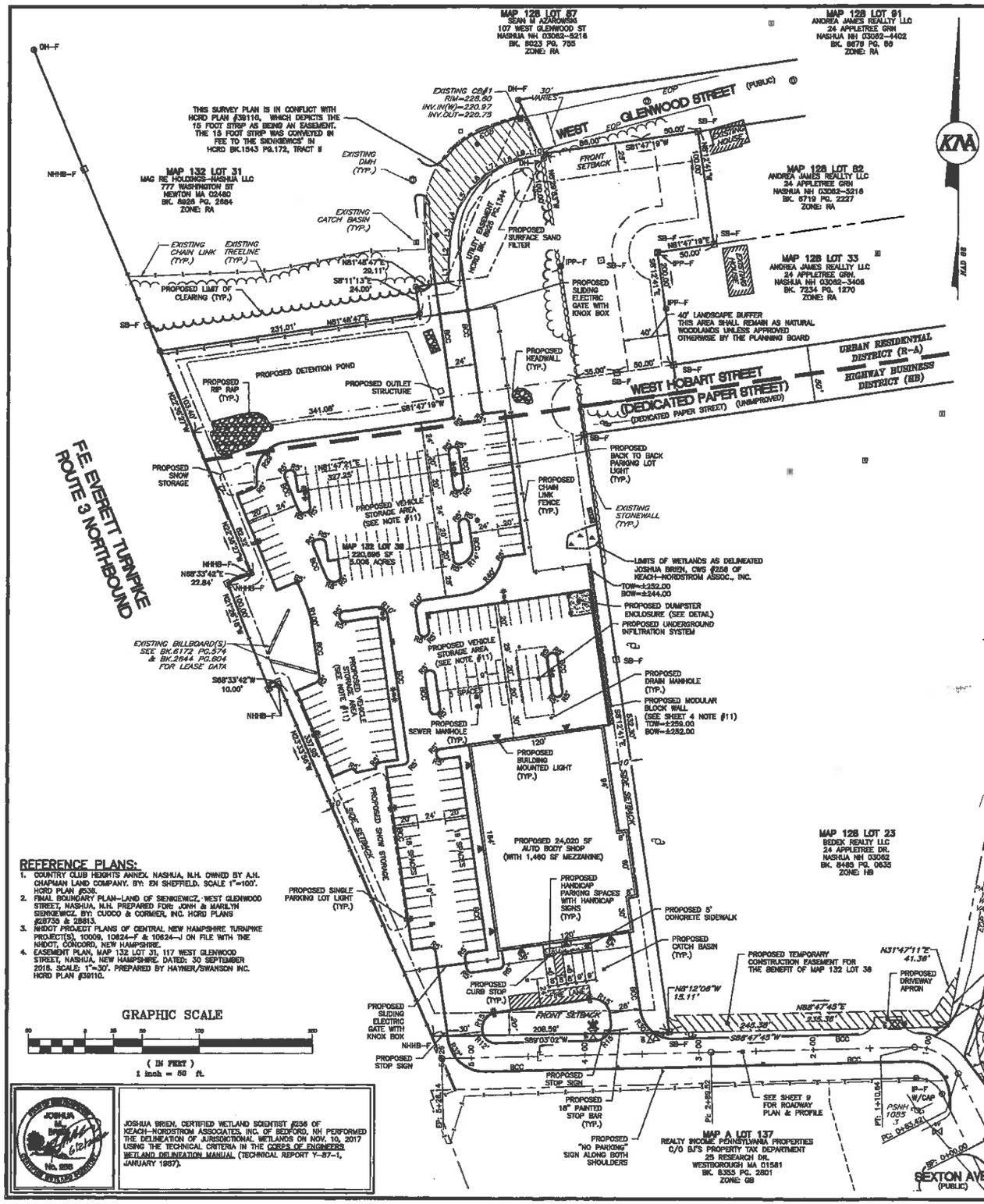
KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020 | SCALE: 1"=50'
PROJECT NO: 17-1011-1 | SHEET 2 OF 22

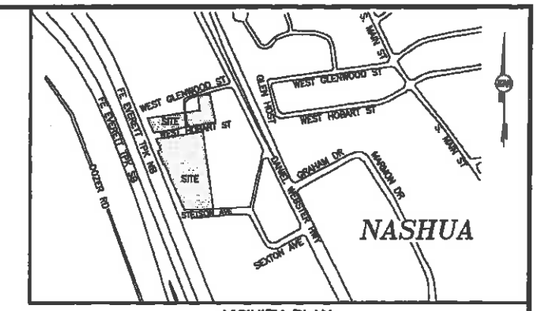


LEGEND

SB-F	STONE BOUND FOUND
IPIN-F	IRON PIN FOUND
IPP-F	IRON PIPE FOUND
	UTILITY POLE
	SIGN
	LIGHT
	GAS VALVE
	WATER VALVE
	HYDRANT
	WATER SHUT OFF
	SEWER MANHOLE
	DRAINAGE MANHOLE
	CATCH BASIN
	FLARED END SECTION
	WELL
	ABUTTER LINE
	PROPERTY LINE
	WETLAND
	CHAIN LINK FENCE
OHU	OVERHEAD UTILITIES
G	GAS LINE
W	WATER LINE
S	SEWER LINE
	DRAINAGE LINE
	TREELINE
	STONE WALL
EOP	EDGE OF PAVEMENT
VCC	VERTICAL GRANITE CURB
	STONE WALL
	BUILDING SETBACK
	EASEMENT
	ZONE LINE
	PROPOSED UTILITY POLE
	PROPOSED SIGN
	PROPOSED BUILDING MOUNTED LIGHT
	PROPOSED PARKING LOT LIGHT
	PROPOSED BACK TO BACK PARKING LOT LIGHT
	PROPOSED GAS VALVE
	PROPOSED WATER VALVE
	PROPOSED SEWER MANHOLE
	PAROING DRAINAGE MANHOLE
	PROPOSED CATCH BASIN
	PROPOSED OUTLET STRUCTURE
	PROPOSED BITUMINOUS CURB
	PROPOSED EDGE OF PAVEMENT
	SNOW STORAGE
	PROPOSED TREELINE
	PROPOSED STORMWATER SYSTEM
	PROPOSED MODULAR BLOCK WALL
	PROPOSED STOCKADE FENCE

LINE TABLE

LINE	LENGTH	BEARING
L1	16.19	N00°28'13"E
L2	20.41	N03°04'07"E
L3	12.79	N08°37'05"E
L4	17.21	N18°43'40"E
L5	18.61	N33°35'37"E
L6	19.42	N46°10'07"E
L7	12.70	N59°22'30"E
L8	19.81	N70°27'39"E
L9	20.94	N78°12'28"E
L10	1.43	N81°36'00"E



VICINITY PLAN

SCALE: 1" = 500' +/-

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW INFORMATION REGARDING A PROPOSED 24,020 SQUARE FOOT (22,560 FOOTPRINT + 1,460 MEZZANINE) AUTO BODY SHOP AND ACCOMPANYING PARKING LOT FOR AUTO STORAGE AND NO OTHER PURPOSE.
2. TOTAL SITE AREA = 210,942 SF, OR 4.84 ACRES.
3. TAX MAP 128 LOTS 31, 32 & 84 AND MAP 132 LOTS 38 & 84 INDICATE CITY OF NASHUA TAX ASSESSORS MAP AND LOT NUMBER.
4. PRESENT OWNER OF RECORD
   ROSCOMMON INVESTMENTS, LLC
   147 DANIEL WEBSTER HIGHWAY
   NASHUA, NH 03060

PRESENT ZONING:	URBAN RESIDENCE DISTRICT (R-A)	HIGHWAY BUSINESS DISTRICT (HB)
MINIMUM BUILDING SETBACKS:		
– FRONT	25 FT	20 FT
– SIDE	10 FT	10 FT
– REAR	25 FT	20 FT
LOT DIMENSIONS:	REQUIRED	PROPOSED LOT 38
– AREA	20,000 SF	220,896 SF
– FRONTAGE	80 FT	208.59 FT
– WIDTH	100 FT	208.59 FT
– DEPTH	80 FT	107.13 FT
– OPEN SPACE	20%	81.36%
– BUILDING HEIGHT	60 FT	21 FT
– MAXIMUM FLOOR AREA RATIO	0.75	0.11
– MAXIMUM NUMBER OF STORIES	5 STORIES	2 STORIES

5. BOUNDARY AND TOPOGRAPHIC INFORMATION IS BASED ON A FIELD SURVEY PERFORMED BY THIS OFFICE IN OCTOBER OF 2017.
6. HORIZONTAL DATUM IS NAD 83, NORTH ORIENTATION IS NAD 83, VERTICAL DATUM IS NGVD29.
7. EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE CITY OF NASHUA NEW HAMPSHIRE, HILLSBOROUGH COUNTY, COMMUNITY PANEL NUMBER 330097 0552E PANEL NUMBER 552 OF 701, EFFECTIVE DATE: APRIL 15, 2011 INDICATES THAT NO PORTION OF THE SUBJECT PREMISES IS LOCATED WITHIN A DESIGNATED FLOOD HAZARD AREA.
8. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
9. EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
10. PARKING CALCULATIONS FOR VEHICLE REPAIR AND STORAGE
    REQUIRED: 1 SPACE PER 500 SF
    24,020 SF/500 SF = 48.04 = 48 SPACES
    PROPOSED: 48 SPACES PROPOSED INCLUDING TWO HANDICAP SPACES
11. VEHICLE STORAGE SPACES ARE SHOWN FOR REPRESENTATION PURPOSES ONLY AND DO NOT NEED TO BE STRIPED.
12. PROPOSED SNOW STORAGE AREAS ARE SHOWN AS APPROXIMATE. PLOWING SHALL BE DONE IN SUCH A FASHION AS TO NOT DAMAGE OR ADVERSELY IMPACT ANY LANDSCAPED FEATURES. SHOULD THE VOLUME OF ACCUMULATED SNOW EXCEED THE CAPACITY OF THE ONSITE STORAGE AS SHOWN ON THIS PLAN, THE EXCESS SNOW SHALL BE DISPOSED OF OFF SITE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.
13. THE APPLICANT'S ENGINEER AND/OR CONTRACTOR SHALL CONTACT THE CITY OF NASHUA TO SCHEDULE A PRECONSTRUCTION MEETING, WHICH WILL BE HELD WITH STAFF PRIOR TO STARTING CONSTRUCTION.
14. ALL IMPROVEMENTS SHOWN ON THE SITE PLAN-OF-RECORD, INCLUDING NOTES 1-31, SHALL BE COMPLETED IN THEIR ENTIRETY AND AT THE EXPENSE OF THE APPLICANT OR HIS ASSIGNS.
15. THE CITY SHALL RESERVE THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION.
16. THIS SITE IS SERVICED BY PENNICHUCK WATER AND SEWER.
17. ALL LANDSCAPING SHALL BE AS SHOWN ON THE PLAN AND CONFORM TO THE APPLICABLE CITY OF NASHUA ZONING REGULATIONS.
18. IT SHALL BE UNLAWFUL TO MODIFY, CHANGE, OR ALTER ANY STRUCTURES SHOWN ON THIS PLAN IN ANY WAY WHATSOEVER, OR CONVERT OR ALTER ANY STRUCTURE SHOWN ON THIS SITE PLAN, OR CHANGE THE ABOVE USE INDICATED ON THE PLAN WITHOUT RECEIVING APPROVAL FROM THE CITY.
19. STREET RESTORATION TO BE IN ACCORDANCE WITH NRO 285-13.
20. THIS PLAN COMPLIES WITH THE MINIMUM REQUIREMENTS SET FORTH IN THE NASHUA LAND USE CODE.
21. DRAIN LINES WILL BE INSPECTED PRIOR TO BACKFILLING AND PAVING.
22. ALL LIGHTING SHALL CONFORM TO THE NASHUA LAND USE CODE.
23. A DRIVEWAY PLAN SHALL BE APPROVED BY THE ENGINEERING DEPARTMENT PRIOR TO ISSUANCE OF A BUILDING PERMIT.
24. A BOND WILL BE REQUIRED FOR ALL WORK WITHIN THE CITY'S RIGHT OF WAY.
25. HOURS OF OPERATION FOR THE PROPOSED AUTO BODY SHOP WILL BE SEVEN DAYS A WEEK FROM 8 AM TO 5 PM.
26. ALL SIGNAGE SHALL CONFORM TO THE APPLICABLE CITY OF NASHUA ZONING REGULATIONS WITH ALL PERMITS SECURED PRIOR TO INSTALLATION.
27. SITE IMPROVEMENTS DEPICTED ON THE PLAN SHALL CONFORM TO TITLE III OF THE AMERICANS WITH DISABILITIES ACT WITH REGARD TO DIMENSIONS, GRADE, AND NUMBER OF SPACES.
28. FUTURE BUILDING CONSTRUCTION SHALL INCORPORATE FOUNDATION DRAINS.
29. NEW UTILITIES, BOTH MAIN AND SERVICE CONNECTIONS, SHALL BE PROVIDED UNDERGROUND AND INSTALLED IN ACCORDANCE WITH THE BOARD OF PUBLIC WORKS SPECIFICATIONS.
30. A WAIVER IS REQUIRED FROM SECTION 190-84(D)(1) TO ALLOW AN ALTERNATIVE LANDSCAPE PLAN IN LIEU OF PROVIDING A LANDSCAPED ISLAND EVERY TEN PARKING SPACES.
31. THE TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 219,351 SQUARE FEET.

REFERENCE PLANS:

1. COUNTRY CLUB HEIGHTS ANNEX. NASHUA, N.H. OWNED BY A.H. CHAPMAN LAND COMPANY. BY: EN SHEFFIELD. SCALE 1"=100'. HCRD PLAN #536.
2. FINAL BOUNDARY PLAN-LAND OF SIENKIEWICZ, 'WEST GLENWOOD STREET, NASHUA, N.H. PREPARED FOR: JOHN & MARILYN SIENKIEWICZ. BY: CUOCO & CORMIER, INC. HCRD PLANS #25735 & 28813.
3. NHDOT PROJECT PLANS OF CENTRAL NEW HAMPSHIRE TURNPIKE PROJECT(S), 10009, 10824-F & 10824-J ON FILE WITH THE NHDOT, CONCORD, NEW HAMPSHIRE.
4. EASEMENT PLAN. MAP 132 LOT 31, 117 WEST GLENWOOD STREET, NASHUA, NEW HAMPSHIRE. DATED: 30 SEPTEMBER 2018. SCALE: 1"=30'. PREPARED BY HAYNER/SWANSON INC. HCRD PLAN #39110.

JOSHUA M. BRIEN No. 256

JOSHUA BRIEN, CERTIFIED WETLAND SCIENTIST #256 OF KEACH-NORDSTROM ASSOCIATES, INC. OF BEDFORD, NH PERFORMED THE DELINEATION OF JURISDICTIONAL WETLANDS ON NOV. 10, 2017 USING THE TECHNICAL CRITERIA IN THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (TECHNICAL REPORT Y-87-1, JANUARY 1987).

OWNER OF RECORD

SIGNATURE: _____

DATE: _____

THE UNDERSIGNED DOES HEREBY AGREE TO PERFORM ALL OF THE IMPROVEMENTS AS SHOWN ON THIS PLAN AND AS CONDITIONED OR STIPULATED BY THE NASHUA CITY PLANNING BOARD. ALL REQUIRED SITE IMPROVEMENTS MUST BE COMPLETED OR GUARANTEED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

_____
OWNER/APPLICANT

APPROVED – NASHUA CITY PLANNING BOARD

SECRETARY	DATE
CHAIRMAN	DATE

NON-RESIDENTIAL SITE PLAN

AUTO BODY SHOP

MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
ROSCOMMON INVESTMENTS, LLC
147 DANIEL WEBSTER HIGHWAY
NASHUA, NH 03060
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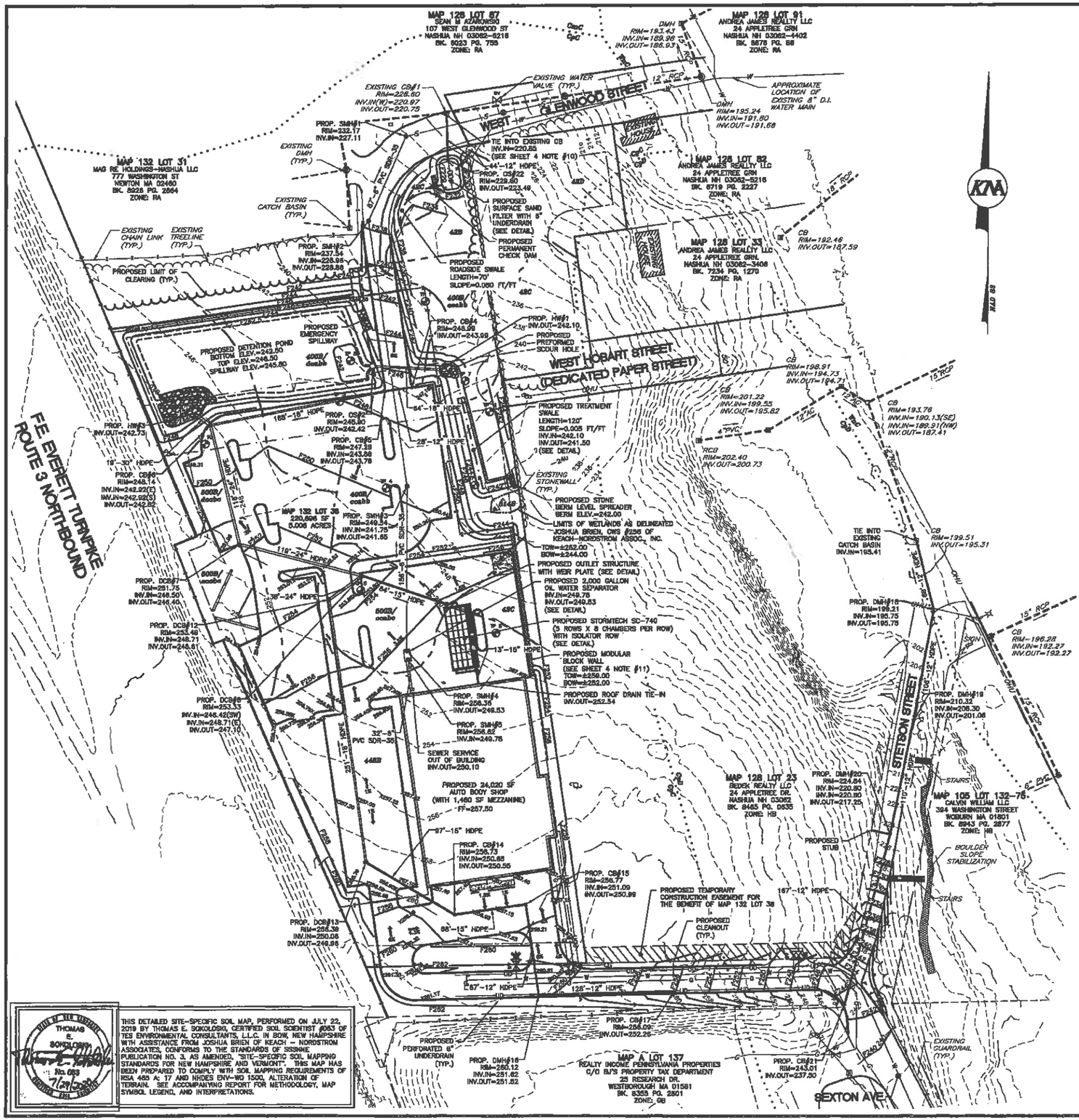
KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
16 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020	SCALE: 1"=50'
PROJECT NO: 17-1011-1	SHEET 3 OF 22



LEGEND

- SB-F — STONE BOUND FOUND
- IPIN-F — IRON PIN FOUND
- IPP-F — IRON PIPE FOUND
- UTILITY POLE
- SIGN
- LIGHT
- GAS VALVE
- WATER VALVE
- HYDRANT
- WATER SHUT OFF
- SEWER MANHOLE
- DRAINAGE MANHOLE
- CATCH BASIN
- FLARED END SECTION
- WELL
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- CHAIN LINK FENCE
- OHU — OVERHEAD UTILITIES
- G — GAS LINE
- W — WATER LINE
- S — SEWER LINE
- DRAINAGE LINE
- TREELINE
- STONE WALL
- EOP — EDGE OF PAVEMENT
- VGC — VERTICAL GRANITE CURB
- 10' CONTOUR
- 2' CONTOUR
- STONE WALL
- BUILDING SETBACK
- EASEMENT
- ZONE LINE
- USDA SOILS LINE
- TEST PIT LOCATION
- PROPOSED UTILITY POLE
- PROPOSED SIGN
- PROPOSED BUILDING MOUNTED LIGHT
- PROPOSED PARKING LOT LIGHT
- PROPOSED BACK TO BACK PARKING LOT LIGHT
- PROPOSED GAS VALVE
- PROPOSED WATER VALVE
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED BITUMINOUS CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED TREELINE
- PROPOSED MODULAR BLOCK WALL
- PROPOSED STOCKADE FENCE
- UGU — PROPOSED UNDERGROUND UTILITIES
- G — PROPOSED GAS LINE
- W — PROPOSED WATER LINE
- S — PROPOSED SEWER LINE
- PROPOSED DRAINAGE LINE
- PROPOSED 2' CONTOUR
- PROPOSED SWALE

CONSTRUCTION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED GRADING AND DRAINAGE SYSTEMS FOR THIS SITE.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF NASHUA, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK PERFORMED IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2018 ARE HEREBY INCORPORATED BY REFERENCE.
3. CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS FOR ROAD CONSTRUCTION, PUBLIC WORKS DEPARTMENT, NASHUA, NEW HAMPSHIRE. ALL DRAINAGE PIPES SHOWN SHALL BE HDPE. CATCH BASINS SHALL BE TYPE B, AND HAVE 3' SUMPS UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 911 AT LEAST 72 HOURS BEFORE DIGGING.
5. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. ALL WATER UTILITIES SHALL CONFORM TO PENNICHUCK WATER WORKS REGULATIONS.
7. THE WATER, SANITARY SEWER, AND ELECTRICAL UTILITIES SHOWN HERE SHALL BE COORDINATED WITH THE FINAL BUILDING PLANS PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.
8. ROOF DRAIN TIE-INS ARE SHOWN AS APPROXIMATE. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER DURING CONSTRUCTION IF ROOF DRAIN LOCATIONS NEED TO BE MOVED.
9. CATCH BASINS WITH A DOUBLE GRATE SHOULD HAVE A 5 FOOT INNER DIAMETER.
10. EXISTING CATCH BASINS THAT ARE BEING TIED INTO SHALL BE INSPECTED BY THE CONTRACTOR DURING CONSTRUCTION. IF THE STRUCTURES ARE DAMAGED PRIOR TO OR DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING THEM.
11. DESIGN OF THE PROPOSED MODULAR BLOCK WALL SHALL BE APPROVED BY THE NASHUA DEPARTMENT OF PUBLIC WORKS PRIOR TO CONSTRUCTION.

USDA SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS
CanC	CANTON FINE SANDY LOAM	8-15%
CpC	CHATFIELD-HOLLIS-CANTON	8-15%
CpD	CHATFIELD-HOLLIS-CANTON	15-25%
WnC	WINDSOR-URBAN LAND COMPLEX	3-15%

SOURCE: WEB SOIL SURVEY, WWW.WEBSOILSURVEY.SC.EGOV.USDA.GOV

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
42B	CANTON FINE SANDY LOAM	0-8%	WELL	B
42C	CANTON FINE SANDY LOAM	8-15%	WELL	B
42D	CANTON FINE SANDY LOAM	15-25%	WELL	B
448B	SCITUATE, VERY STONY	0-8%	MODERATELY WELL	C
514B	LEICESTER	0-8%	POORLY DRAINED	C
400B/ccabb	UDORTHENTS	0-8%	MODERATELY WELL	B
400B/dcabb	UDORTHENTS	0-8%+	MODERATELY WELL	B
400B/ecabb	UDORTHENTS	0-8%	MODERATELY WELL	B
500B/ccabc	UDORTHENTS	0-8%+	MODERATELY WELL	C
500B/eccbc	UDORTHENTS	0-8%	MODERATELY WELL	C
500B/dcebc	UDORTHENTS	0-8%+	MODERATELY WELL	C

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOILS SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP AND MAP KEY.

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

THIS DETAILED SITE-SPECIFIC SOIL MAP, PERFORMED ON JULY 22, 2019 BY THOMAS E. SOKOLOSKI, CERTIFIED SOIL SCIENTIST #063 OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. IN BOW, NEW HAMPSHIRE WITH ASSISTANCE FROM JOSHUA BRIEN OF KEACH - NORDSTROM ASSOCIATES, CONFORMS TO THE STANDARDS OF SSSNNE PUBLICATION NO. 3, AS AMENDED, "SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT". THIS MAP HAS BEEN PREPARED TO COMPLY WITH SOIL MAPPING REQUIREMENTS OF RSA 485 A: 17 AND NHDES ENV-WQ 1500, ALTERATION OF TERRAIN. SEE ACCOMPANYING REPORT FOR METHODOLOGY, MAP SYMBOL LEGEND, AND INTERPRETATIONS.

STATE OF NEW HAMPSHIRE
THOMAS E. SOKOLOSKI
No. 063
7/29/20
CERTIFIED SOIL SCIENTIST

DIG SAFE
811
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GRADING & DRAINAGE PLAN

AUTO BODY SHOP

MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
ROSCOMMON INVESTMENTS, LLC
147 DANIEL WEBSTER HIGHWAY
NASHUA, NH 03060
(603) 888-5050

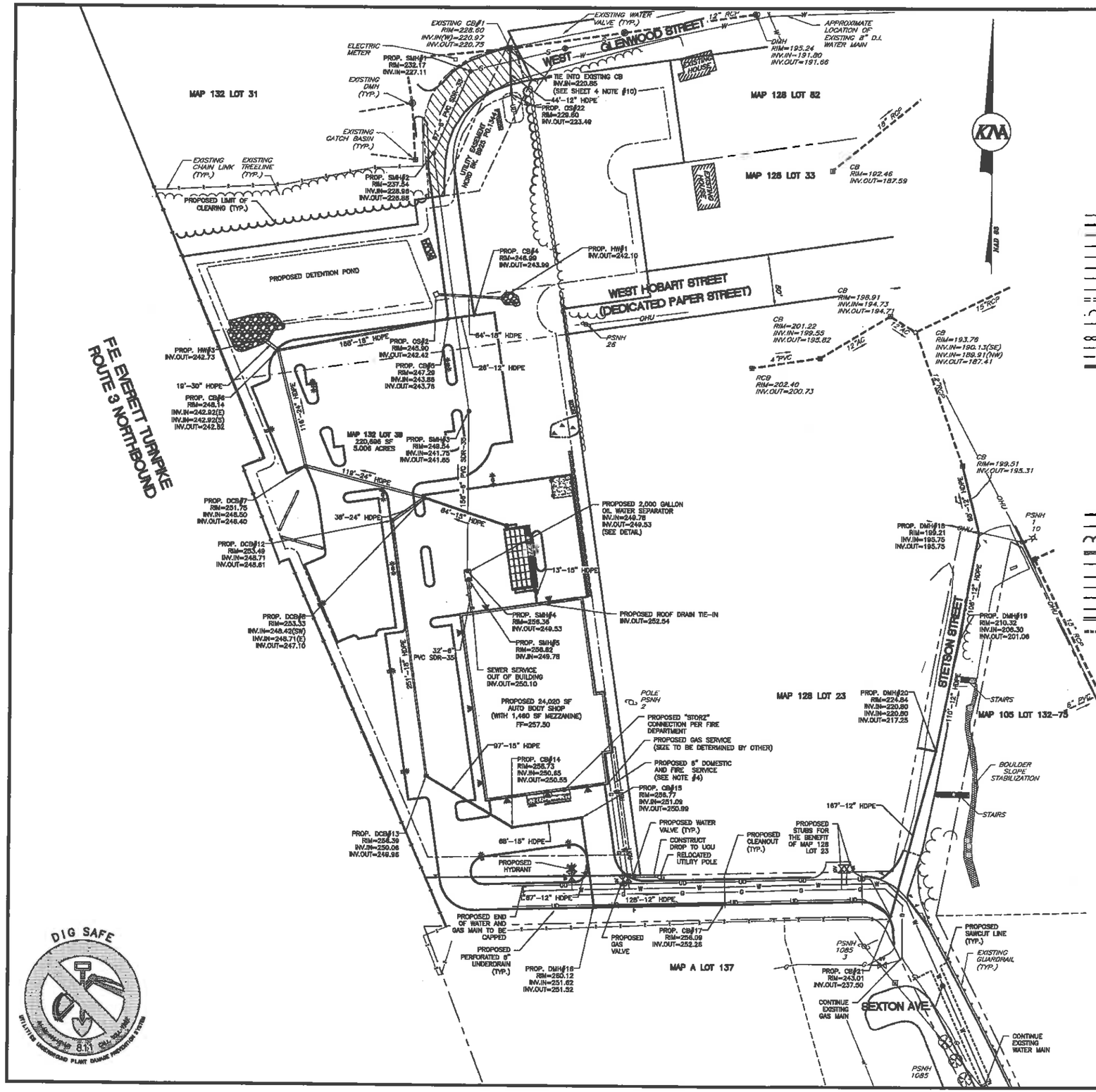
KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE
PAUL CHISHOLM
No. 15078
LICENSED
PROFESSIONAL ENGINEER
10/1/20

REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020	SCALE: 1"=50'
PROJECT NO: 17-1011-1	SHEET 4 OF 22



LEGEND

SB-F	STONE BOUND FOUND
IPIN-F	IRON PIN FOUND
IPP-F	IRON PIPE FOUND
	UTILITY POLE
	SIGN
	LIGHT
	GAS VALVE
	WATER VALVE
	HYDRANT
	WATER SHUT OFF
	SEWER MANHOLE
	DRAINAGE MANHOLE
	CATCH BASIN
	FLARED END SECTION
	WELL
	ABUTTER LINE
	PROPERTY LINE
	WETLAND
	CHAIN LINK FENCE
OHU	OVERHEAD UTILITIES
G	GAS LINE
W	WATER LINE
S	SEWER LINE
	DRAINAGE LINE
	TREELINE
EOP	EDGE OF PAVEMENT
	STONE WALL
	BUILDING SETBACK
	EASEMENT
	ZONE LINE
	PROPOSED UTILITY POLE
	PROPOSED SIGN
	PROPOSED BUILDING MOUNTED LIGHT
	PROPOSED PARKING LOT LIGHT
	PROPOSED BACK TO BACK PARKING LOT LIGHT
	PROPOSED GAS VALVE
	PROPOSED WATER VALVE
	PROPOSED SEWER MANHOLE
	PROPOSED DRAINAGE MANHOLE
	PROPOSED CATCH BASIN
	PROPOSED OUTLET STRUCTURE
	PROPOSED BITUMINOUS CURB
	PROPOSED EDGE OF PAVEMENT
	PROPOSED TREELINE
	PROPOSED MODULAR BLOCK WALL
	PROPOSED STOCKADE FENCE
UGI	PROPOSED UNDERGROUND UTILITIES
G	PROPOSED GAS LINE
W	PROPOSED WATER LINE
S	PROPOSED SEWER LINE
	PROPOSED DRAINAGE LINE
	SAWCUT LINE

CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO THE CITY OF NASHUA, LATEST EDITION, CONSTRUCTION STANDARDS AND DETAILS. IN THE ABSENCE OF A CITY STANDARD/SPECIFICATION, WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS PUBLISHED BY THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, ARE HEREBY INCORPORATED BY REFERENCE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
3. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. CONTRACTOR TO VERIFY SIZE OF WATER AND GAS SERVICE LINES WITH MECHANICAL CONTRACTOR/FIRE SUPPRESSION ENGINEER PRIOR TO THE START OF CONSTRUCTION.
5. THE PROPOSED BUILDING SHALL BE FULLY SPRINKLER PROTECTED AND CONTAIN AN INTERNAL FIRE PUMP.
6. PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO ORDERING ANY WATER SYSTEM/SERVICE PARTS, THE PROPOSED SIZE OF THE VARIOUS WATER SERVICES SHALL BE CONFIRMED BY THE PROJECT FIRE SUPPRESSION ENGINEER. ANY ADJUSTMENTS TO THE DESIGN MUST BE APPROVED BY THE CITY OF NASHUA.
7. FINAL LAYOUT OF UNDERGROUND UTILITIES TO BE APPROVED BY LOCAL PROVIDER PRIOR TO CONSTRUCTION.
8. FINAL OIL/WATER SEPARATOR SIZE SHALL BE DETERMINED BY PLUMBING ENGINEER PRIOR TO CONSTRUCTION.

FIRE DEPARTMENT NOTES

1. THE MASTER FIRE ALARM BOX LOCATION SHALL BE DETERMINED AT TIME OF BUILDING DESIGN BY THE FIRE DEPARTMENT.
2. FINAL KNOX BOX LOCATIONS FOR THE PROPOSED BUILDING SHALL BE DETERMINED BY THE FIRE DEPARTMENT OR FIRE PROTECTION ENGINEER.
3. THERE WILL BE NO FLAMMABLE LIQUID STORAGE ROOM OR SHED LOCATED ON SITE.
4. THE PAINT MIXING ROOM WILL BE MADE EXPLOSION PROOF TO COMPLY WITH NH FIRE CODE.

UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND PLOTTED FROM EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED 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 ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

UTILITY PLAN
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
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STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

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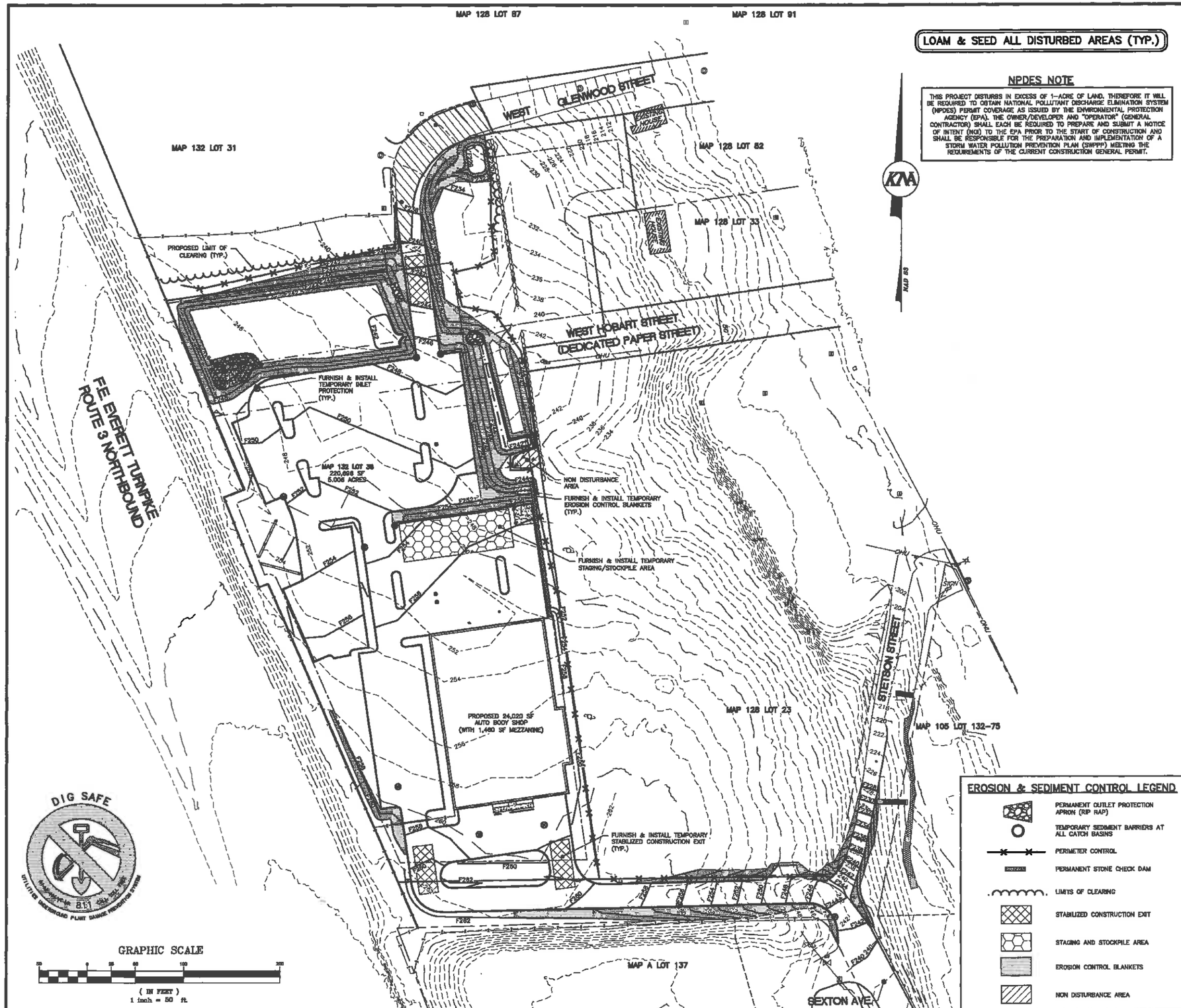

LOAM & SEED ALL DISTURBED AREAS (TYP.)

NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

EROSION CONTROL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE REQUIRED ONSITE TEMPORARY CONSTRUCTION EROSION CONTROL MEASURES AS WELL AS THE PERMANENT EROSION CONTROL MEASURES.
2. ALL MEASURES IN THE PLAN SHALL MEET AS A MINIMUM THE BEST MANAGEMENT PRACTICES SET FORTH IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUEL TITLED "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION," DATED DECEMBER 2010, AS AMENDED FROM TIME TO TIME.
3. WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED OR SUPPLEMENTED. THE STRIPPING OF VEGETATION SHALL BE DONE IN A MANNER THAT MINIMIZES SOIL EROSION.
4. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE.
5. THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
6. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA USING APPROVED MEASURES. WETLAND AREAS AND SURFACE WATERS SHALL BE PROTECTED FROM SEDIMENT.
7. OFFSITE SURFACE WATER AND RUNOFF FROM UNDISTURBED AREAS SHALL BE DIVERTED AWAY FROM DISTURBED AREAS WHERE FEASIBLE OR CARRIED NON-EROSIVELY THROUGH THE PROJECT AREA. INTEGRITY OF DOWNSTREAM DRAINAGE SYSTEMS SHALL BE MAINTAINED.
8. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED.
9. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS UNLESS CONDITIONS DICTATE OTHERWISE.
10. THE CITY OF NASHUA SHALL RESERVE THE RIGHT TO REQUIRE FURTHER EROSION CONTROL PRACTICES DURING CONSTRUCTION SHOULD THEY FIND IT NECESSARY.

LEGEND

- SB-F — STONE BOUND FOUND
- IPIN-F — IRON PIN FOUND
- IPP-F — IRON PIPE FOUND
- UTILITY POLE
- SIGN
- LIGHT
- GAS VALVE
- WATER VALVE
- HYDRANT
- WATER SHUT OFF
- SEWER MANHOLE
- DRAINAGE MANHOLE
- CATCH BASIN
- FLARED END SECTION
- WELL
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- CHAIN LINK FENCE
- OHU — OVERHEAD UTILITIES
- TREELINE
- EDP — EDGE OF PAVEMENT
- STONE WALL
- BUILDING SETBACK
- EASEMENT
- ZONE LINE
- PROPOSED UTILITY POLE
- PROPOSED SIGN
- PROPOSED BUILDING MOUNTED LIGHT
- PROPOSED PARKING LOT LIGHT
- PROPOSED BACK TO BACK PARKING LOT LIGHT
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- PROPOSED WATER VALVE
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED BITUMINOUS CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED TREELINE
- PROPOSED MODULAR BLOCK WALL
- PROPOSED STOCKADE FENCE

EROSION & SEDIMENT CONTROL LEGEND

- PERMANENT OUTLET PROTECTION APRON (RIP RAP)
- TEMPORARY SEDIMENT BARRIERS AT ALL CATCH BASINS
- PERIMETER CONTROL
- PERMANENT STONE CHECK DAM
- LIMITS OF CLEARING
- STABILIZED CONSTRUCTION EXIT
- STAGING AND STOCKPILE AREA
- EROSION CONTROL BLANKETS
- NON DISTURBANCE AREA

EROSION CONTROL PLAN

AUTO BODY SHOP

MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
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STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER 07/17/20

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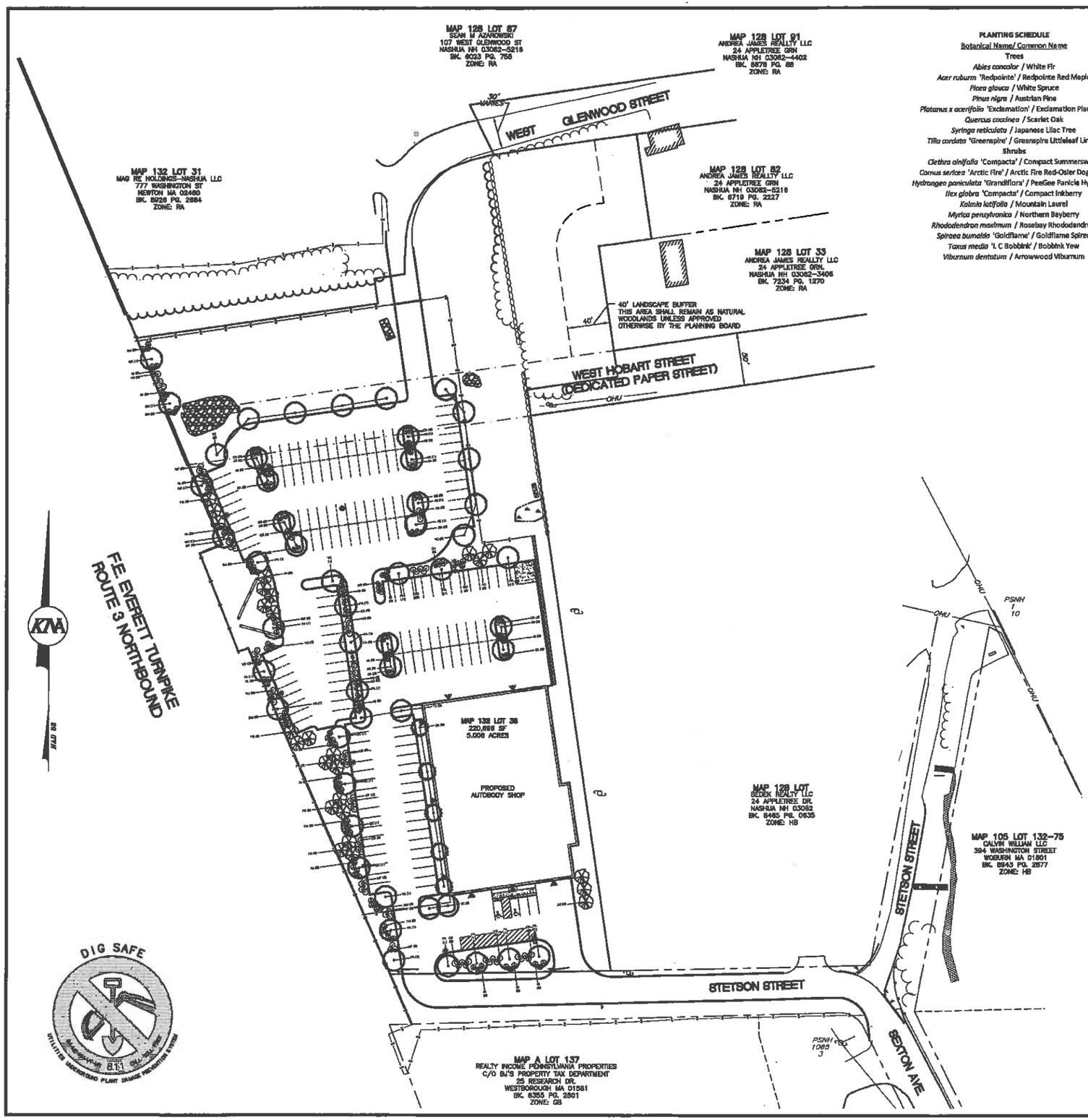

PLANTING SCHEDULE

Botanical Name/ Common Name	Size	Label	Quantity	Mature Height
Trees				
Abies concolor / White Fir	6-7' B&B	AC	6	30-40'
Acer rubum 'Redpointe' / Redpointe Red Maple	2.5-3" CAL.	AR	12	40-60'
Picea glauca / White Spruce	6-7' B&B	PG	9	40-60
Pinus nigra / Austrian Pine	6-7' B&B	PN	11	40-60'
Platanus x acerifolia 'Exclamation' / Exclamation Planetree	2.5-3" CAL.	PA	16	40-60'
Quercus coccinea / Scarlet Oak	2.5-3" CAL.	QC	8	60'+
Syringa reticulata / Japanese Lilac Tree	2.5-3" CAL.	SR	5	20-30'
Tilia cordata 'Greenspire' / Greenspire Littleleaf Linden	2.5-3" CAL.	TC	16	40-60'
Shrubs				
Clethra alnifolia 'Compacta' / Compact Summersweet	2-2.5'	CA	42	3-4'
Cornus sericea 'Arctic Fire' / Arctic Fire Red-Osier Dogwood	2-2.5'	CS	26	5-6'
Hydrangea paniculata 'Grandiflora' / PeeGee Panicle Hydrangea	2-2.5'	HP	6	10-15'
Ilex glabra 'Compacta' / Compact Inkberry	2.5-3' B&B	IG	33	5-6'
Kalmia latifolia / Mountain Laurel	2-3' B&B	KL	19	6-8'
Myrica pensylvanica / Northern Bayberry	2-3' B&B	MP	20	6-8'
Rhododendron maximum / Rosebay Rhododendron	2-3' B&B	RM	22	10-15'
Spiraea bumalda 'Goldflame' / Goldflame Spirea	2-2.5'	SB	18	2-3'
Taxus media 'L C Bobbink' / Bobbink Yew	2-3' B&B	TM	23	6-8'
Viburnum dentatum / Arrowwood Viburnum	2-3' B&B	VD	15	8-10'

LANDSCAPE CALCULATIONS

INTERIOR LANDSCAPE AREA:

MEDIAN:

LENGTH = 135'

TREES REQUIRED: 1 TREE + 1 TREE / 40' OF MEDIAN LENGTH
= 135 / 40 = 3.4 + 1 = 5 TREES REQUIRED

TREES PROPOSED: 5 TREES PROVIDED

SHRUBS REQUIRED: 1 SHRUB + 1 SHRUB / 5' OF MEDIAN LENGTH
= 135 / 5 = 27 + 1 = 28 SHRUBS REQUIRED

SHRUBS PROPOSED: 28 SHRUBS PROVIDED

ISLANDS:

6 ISLANDS (40' LENGTH EACH)

SHADE TREES REQUIRED = 2 SHADE TREES / ISLAND
= 2 x 6 = 12 SHADE TREES REQUIRED

SHADE TREES PROPOSED: 12 SHADE TREES PROVIDED

SHRUBS REQUIRED: 1 SHRUB + 1 SHRUB / 5' OF ISLAND LENGTH
= 40 / 5 = 8 + 1 = 9 SHRUBS REQUIRED PER ISLAND

SHRUBS PROPOSED: 9 SHRUBS PROVIDED PER ISLAND

LANDSCAPE YARD REQUIREMENTS:

SHADE TREES REQUIRED: 1 SHADE TREE / 40 LF OF FRONTAGE

SHRUBS REQUIRED: 1 SHRUB + 1 SHRUB / 5' OF FRONTAGE

MAP 132 LOT 84

79 LINEAR FEET OF FRONTAGE ON EVERETT TURNPIKE

SHADE TREES REQUIRED = 79 / 40 = 2 SHADE TREES REQUIRED

SHADE TREES PROPOSED: 2 SHADE TREES PROVIDED

SHRUBS = 79 / 5 = 15.8 + 1 = 17 SHRUBS REQUIRED

SHRUBS PROPOSED: 17 SHRUBS PROVIDED

MAP 132 LOT 38

175 LINEAR FEET OF FRONTAGE ON STETSON STREET (MINUS DRIVEWAY)

SHADE TREES REQUIRED = 175 / 40 = 4 SHADE TREES REQUIRED

SHADE TREES PROPOSED: 4 SHADE TREES PROVIDED

SHRUBS = 175 / 5 = 35 + 1 = 36 SHRUBS REQUIRED

SHRUBS PROPOSED: 40 SHRUBS PROVIDED

520 LINEAR FEET OF FRONTAGE ON EVERETT TURNPIKE

SHADE TREES REQUIRED = 520 / 40 = 13 SHADE TREES REQUIRED

SHADE TREES PROPOSED: 13 SHADE TREES PROVIDED

SHRUBS = 520 / 5 = 104 + 1 = 105 SHRUBS REQUIRED

SHRUBS PROPOSED: 108 SHRUBS PROVIDED

LANDSCAPE CALCULATIONS

REQUIRED BUFFER YARDS:

BUFFER TYPE E:

REQUIREMENTS: 40' WIDE

2 LARGE TREES + 4 MEDIUM/SMALL TREES + 20 SHRUBS / 100 LF

MAP 132 LOT 38 (HB) BUFFER FOR MAP A LOT 994 (R-18):

20 LINEAR FEET / 100 = .5

LARGE TREES REQUIRED = .5 x 2 = 10 LARGE TREES REQUIRED

LARGE TREES PROPOSED: 13 LARGE TREES PROVIDED

MEDIUM/SMALL TREES REQUIRED = .5 x 4 = 20 MEDIUM/LARGE TREES REQUIRED

MEDIUM/LARGE TREES PROPOSED = 20 MEDIUM/LARGE TREES PROVIDED

SHRUBS = .5 x 20 = 100 SHRUBS REQUIRED

SHRUBS PROPOSED: 108 SHRUBS PROVIDED

MAP 132 LOT 38 (HB) BUFFER FOR MAP 128 LOTS 82 & 33 (R-18):

BUFFER TYPE E:	REQUIRED:	PROPOSED:
	40' BUFFER	NATURAL BUFFER TO REMAIN INTACT

GRAPHIC SCALE

(IN FEET)
1 inch = 60 ft.

LANDSCAPE PLAN
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
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STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 19076 LICENSED PROFESSIONAL ENGINEER 07/01/20

REVISIONS

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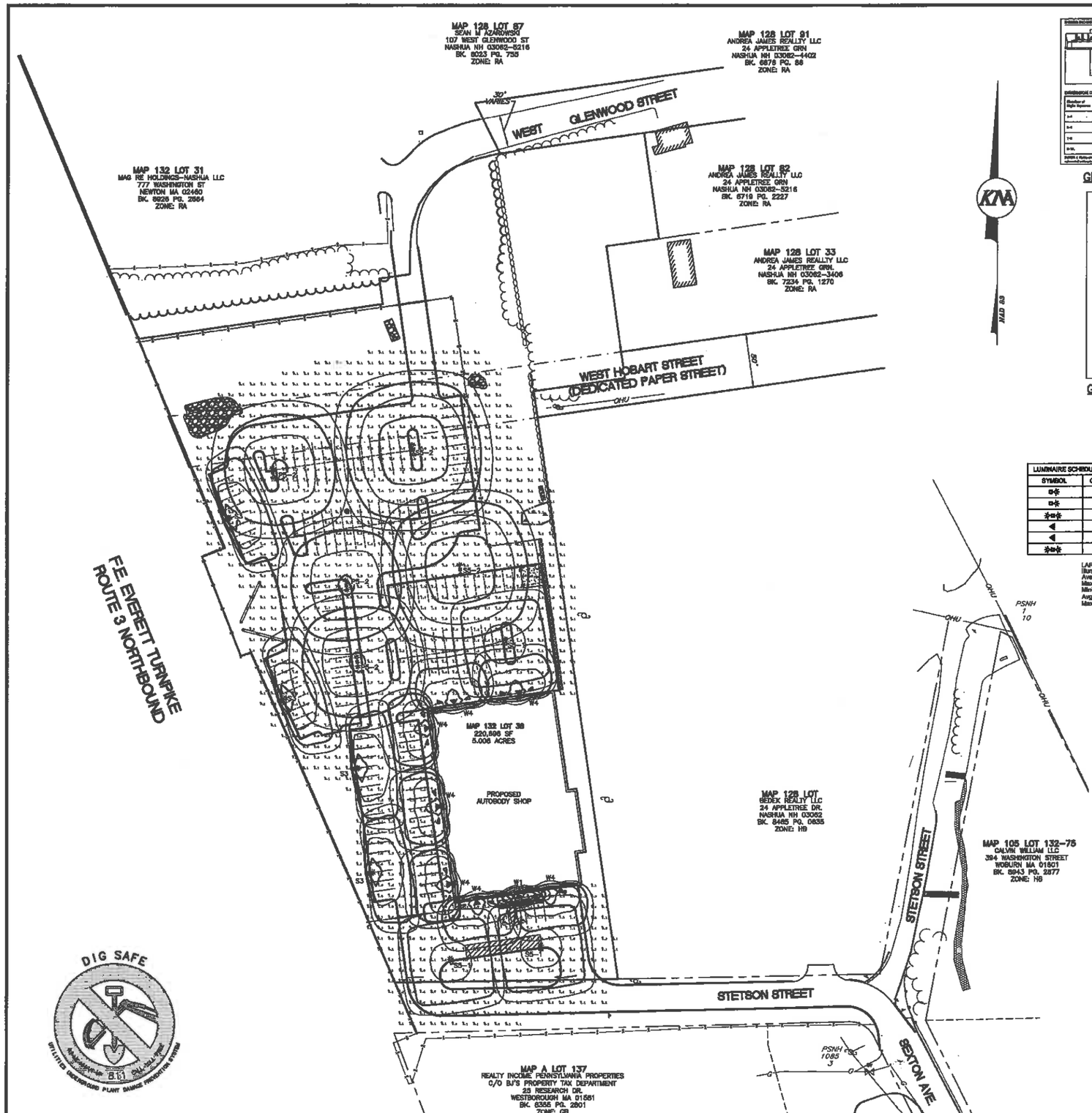
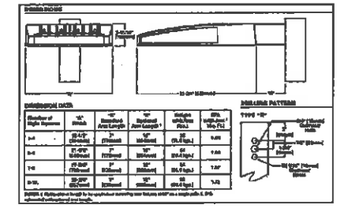
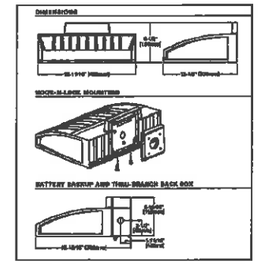




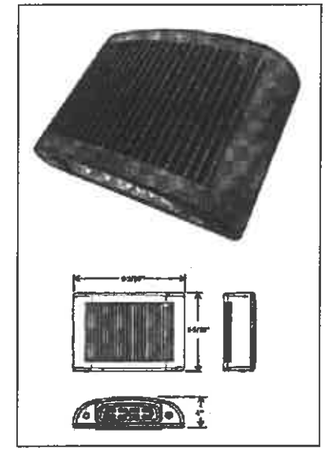
GLEON AERIAL/SITE LUMINAIRE



GWC WALL MOUNT LUMINAIRE

LIGHTING NOTES:

1. ALL LIGHTS/FIXTURES SHALL BE AS SPECIFIED BY CHARRON LIGHTING.
2. ALL PROPOSED LIGHTS/FIXTURES ARE TO BE FULL CUTOFF.
3. FIXTURES SHALL BE MOUNTED AT HEIGHTS AS SPECIFIED IN TABLE.
4. PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ELECTRICIAN FOR THE EXACT LOCATION, LAYOUT, CONDUIT SIZE AND CIRCUITS ASSOCIATED WITH THE SITE LIGHTING.



MERU LED

LUMINAIRE SCHEDULE

SYMBOL	QTY	LABEL	ARRANGEMENT	DESCRIPTION
	4	S3	SINGLE	GLEON-AF-01-LED-E1-SL3-HSS/ SSS4A208PN1 (20' AFG)
	3	S5-1	SINGLE	GLEON-AF-01-LED-E1-5WQ/ SSS4A208PN1 (20' AFG)
	2	S5-2	BACK-BACK	GLEON-AF-02-LED-E1-5WQ/ SSS4A208PN2 (20' AFG)
	1	W1	SINGLE	MERU-LEDLACEM-DB-H / WALL MTD (10' AFG)
	7	W4	SINGLE	GWC-AF-01-LED-E1-SL4-600/ WALL MTD (10' AFG)
	3	P5-2	BACK-BACK	GLEON-AF-01-LED-E1-5WQ/ SSS4A208PN2 (20' AFG)

LARGE PARKING AREAS
Illuminance (Fc)
Average = 1.46
Maximum = 4.3
Minimum = 0.4
Avg/Min Ratio = 3.79
Max/Min Ratio = 10.76

PARKING AREAS ADJACENT BUILDING
Illuminance (Fc)
Average = 1.46
Maximum = 7.7
Minimum = 0.4
Avg/Min Ratio = 3.83
Max/Min Ratio = 19.25

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

IN ASSOCIATION WITH:

CHARRON
BRIGHTER.

P.O. BOX 4550
MANCHESTER, NH 03108
(603) 624-4827
FAX (603) 624-8764
SALES@CHARRONINC.COM

LIGHTING PLAN
AUTO BODY SHOP

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STATE OF NEW HAMPSHIRE
PAUL CHESNAM
No. 15038
LICENSED
PROFESSIONAL ENGINEER
10/1/20

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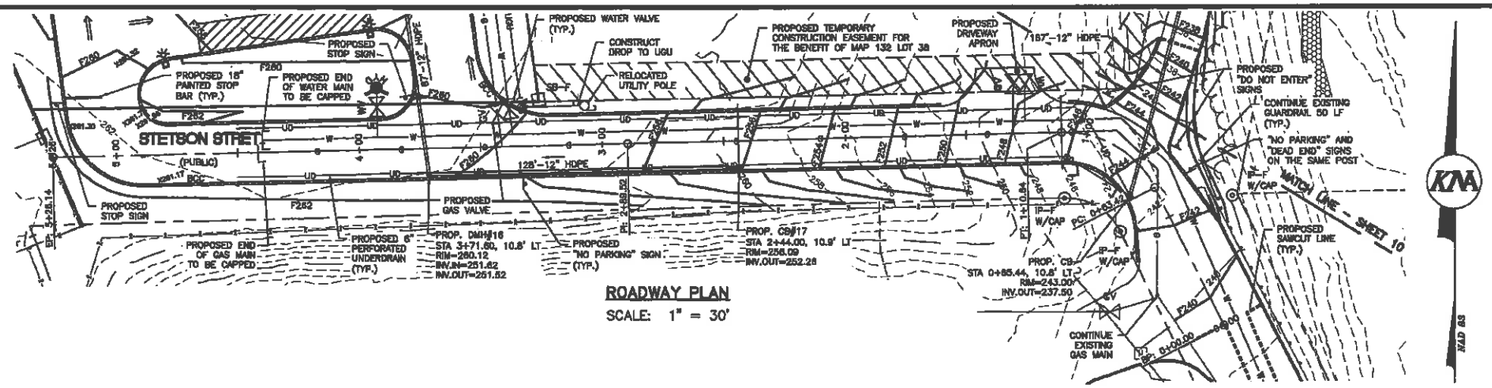


ROADWAY PLAN

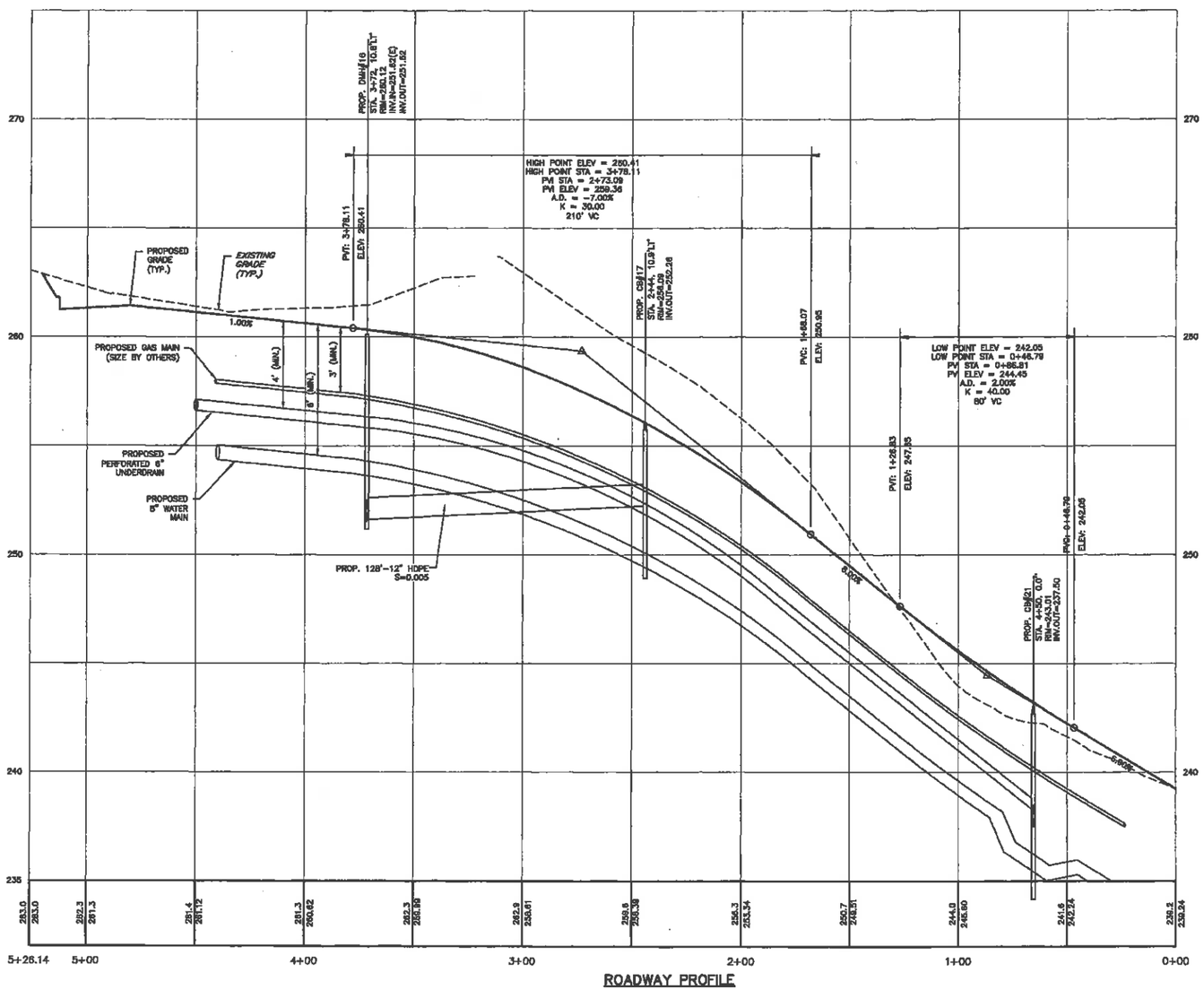
SCALE: 1" = 30'

CONSTRUCTION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED RECONSTRUCTION OF STETSON STREET.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF NASHUA, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK PERFORMED IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2016 ARE HEREBY INCORPORATED BY REFERENCE.
3. CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS FOR ROAD CONSTRUCTION, PUBLIC WORKS DEPARTMENT, NASHUA, NEW HAMPSHIRE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
5. THE GAS AND ELECTRICAL UTILITIES SHOWN HERE SHALL BE COORDINATED WITH THE FINAL BUILDING PLANS PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.

LEGEND

- ABUTTER LINE
- PROPERTY LINE
- EDGE OF PAVEMENT
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED UTILITY POLE
- PROPOSED SIGN
- PROPOSED BITUMINOUS CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED UNDERGROUND UTILITIES
- PROPOSED GAS LINE
- PROPOSED 2' CONTOUR



ROADWAY PROFILE

SCALE: 1" = 30' (HORIZ.)
1" = 3' (VERT.)

GRAPHIC SCALE

30 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

ROADWAY PLAN & PROFILE

AUTO BODY SHOP

MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
ROSCOMMON INVESTMENTS, LLC
147 DANIEL WEBSTER HIGHWAY
NASHUA, NH 03060
(603) 888-5050

KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
16 Commerce Park North, Suite 32, Bedford, NH 03110 Phone (603) 627-2881

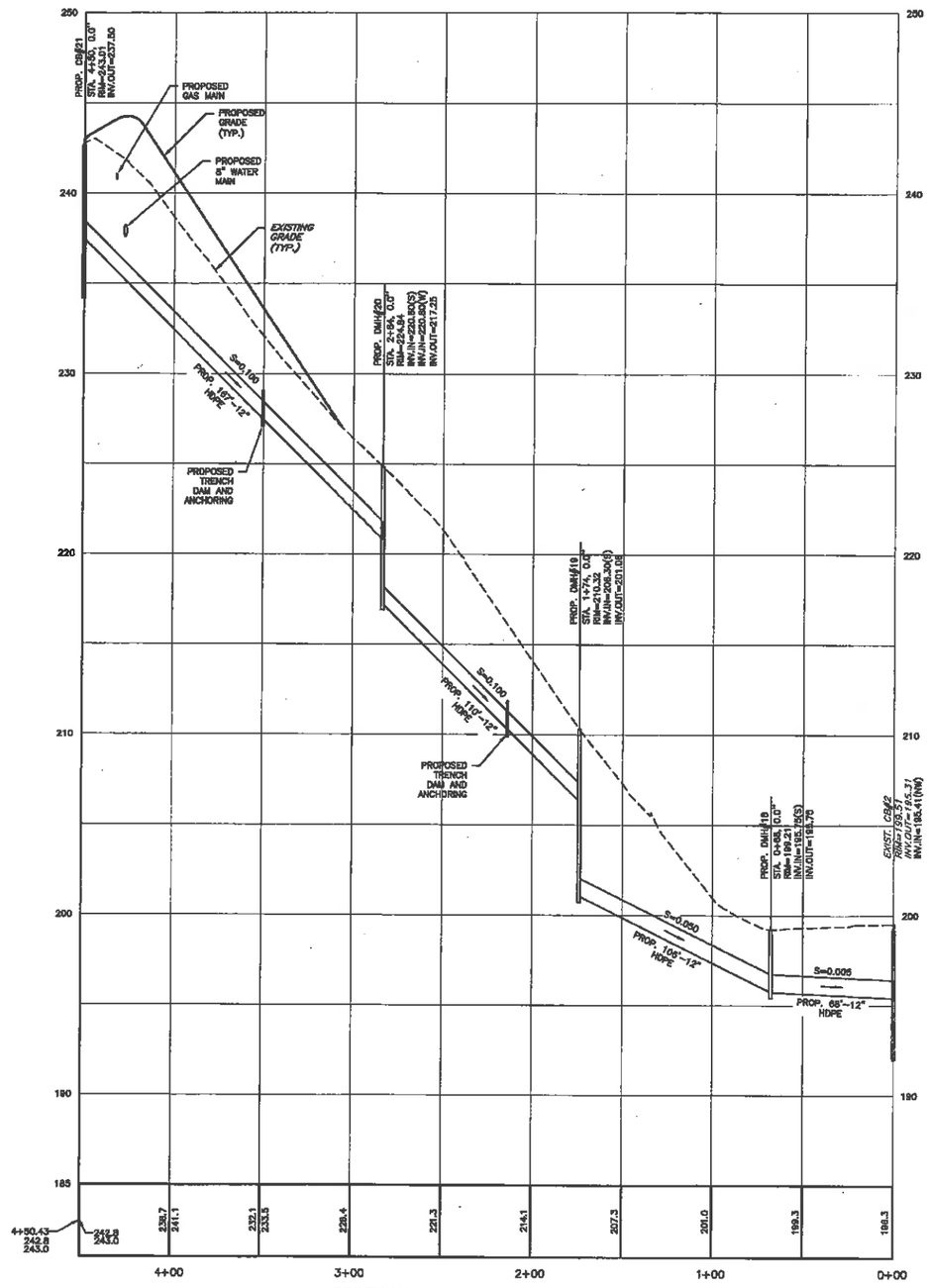
STATE OF NEW HAMPSHIRE PAUL OHSHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER 10/1/20

REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020 | SCALE: 1"=20'
PROJECT NO: 17-1011-1 | SHEET 9 OF 22

DIG SAFE
811 CALL BEFORE YOU DIG
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

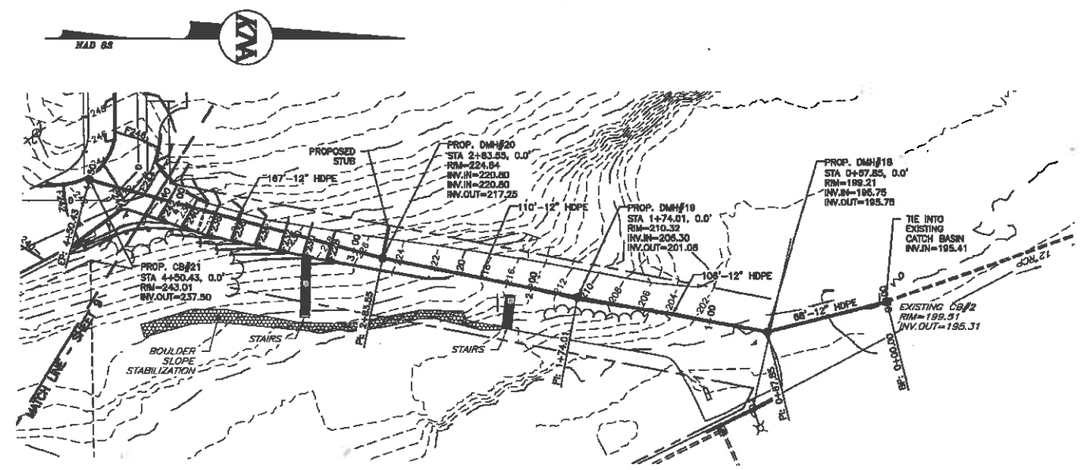


DRIVEWAY DRAINAGE PROFILE

SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)

LEGEND

- ABUTTER LINE
- PROPERTY LINE
- EDGE OF PAVEMENT
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED UTILITY POLE
- PROPOSED SIGN
- PROPOSED BITUMINOUS CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED MODULAR BLOCK WALL
- PROPOSED UNDERGROUND UTILITIES
- PROPOSED GAS LINE
- PROPOSED 2' CONTOUR



DRIVEWAY PLAN

SCALE: 1" = 40'

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

DRIVEWAY DRAINAGE PLAN & PROFILE

AUTO BODY SHOP

MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
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STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15078 LICENSED PROFESSIONAL ENGINEER

REVISIONS

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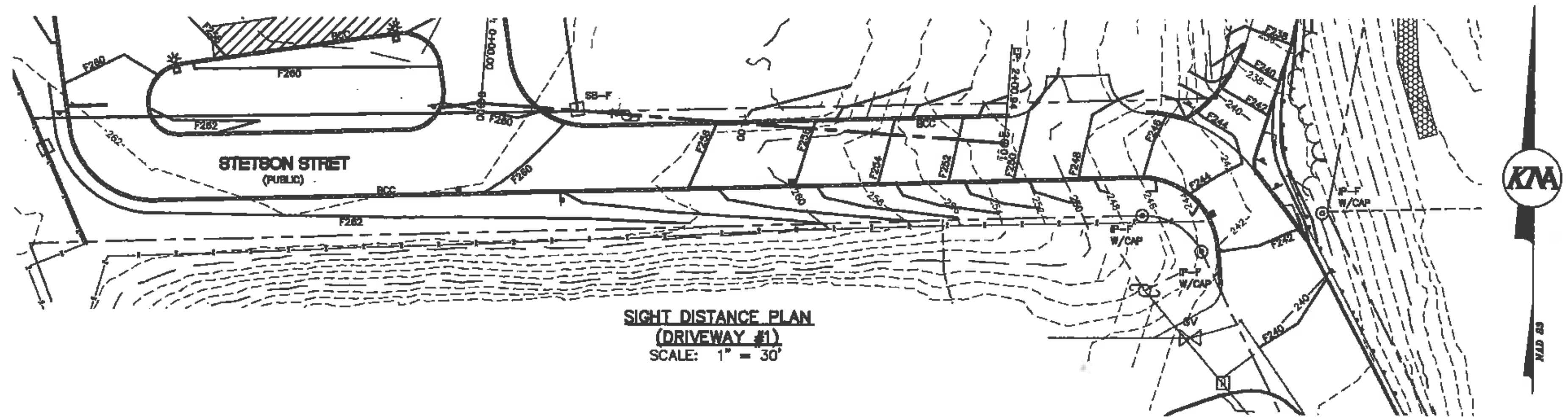
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

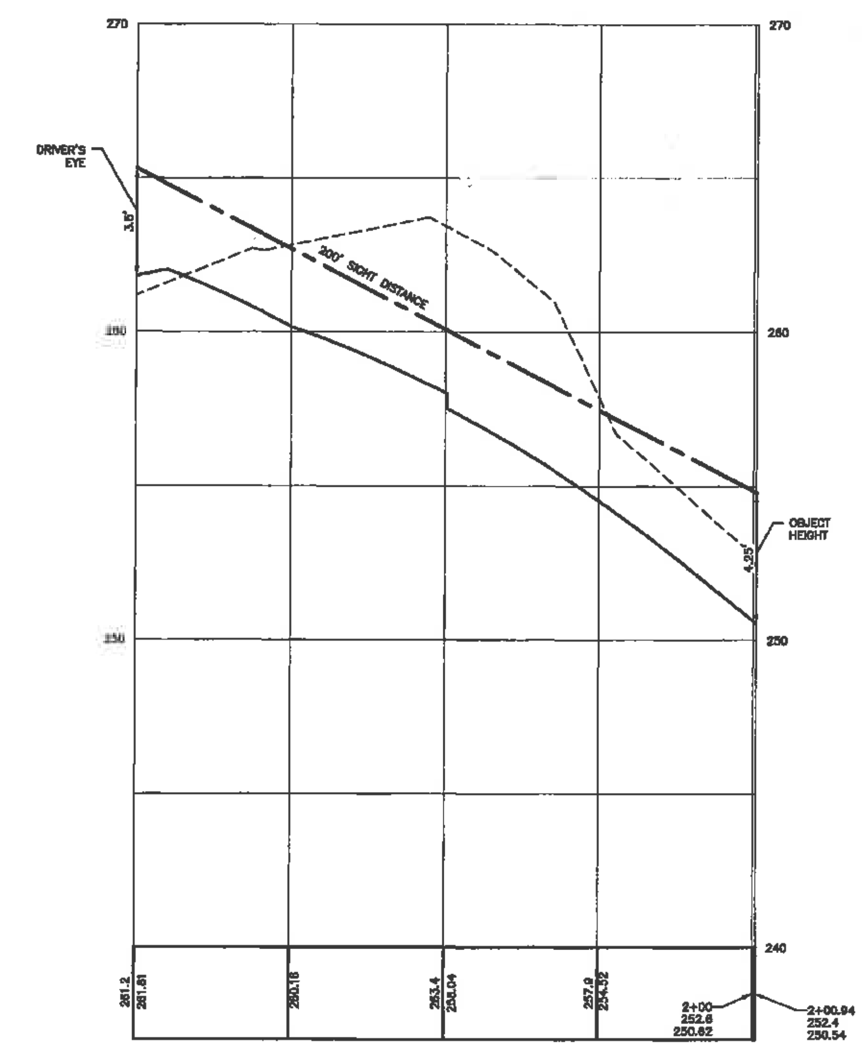
DATE: JUNE 22, 2020	SCALE: 1"=40'
PROJECT NO: 17-1011-1	SHEET 10 OF 22



SIGHT DISTANCE PLAN
(DRIVEWAY #1)
SCALE: 1" = 30'

LEGEND

- ABUTTER LINE
- PROPERTY LINE
- EDGE OF PAVEMENT (EOP)
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED UTILITY POLE
- PROPOSED SIGN
- PROPOSED BITUMINOUS CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED 2' CONTOUR



SIGHT DISTANCE PROFILE
SCALE: 1" = 30' (HORIZ.)
1" = 3' (VERT.)

GRAPHIC SCALE
(IN FEET)
1 inch = 60 ft.

DIG SAFE

SIGHT DISTANCE PLAN & PROFILE

AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

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STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

REVISIONS

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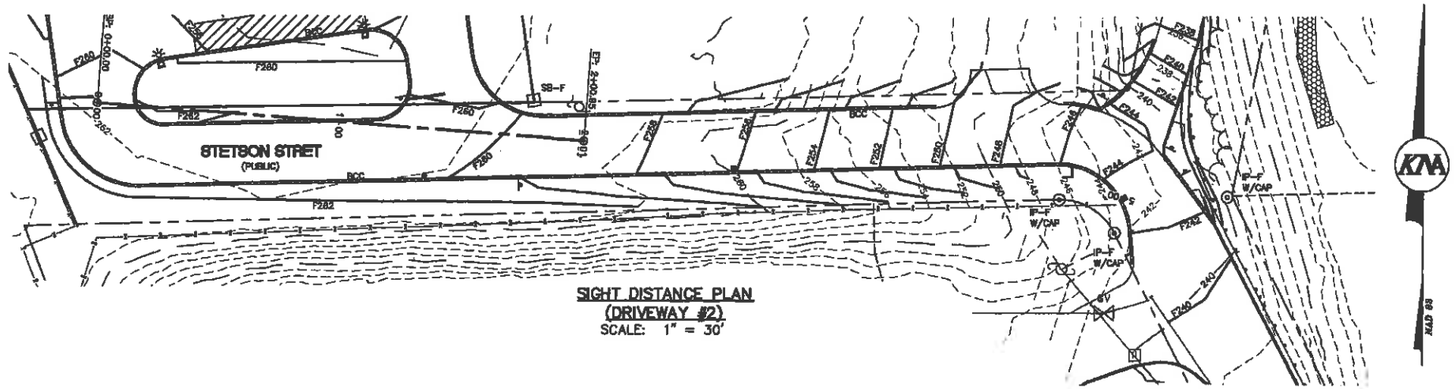
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

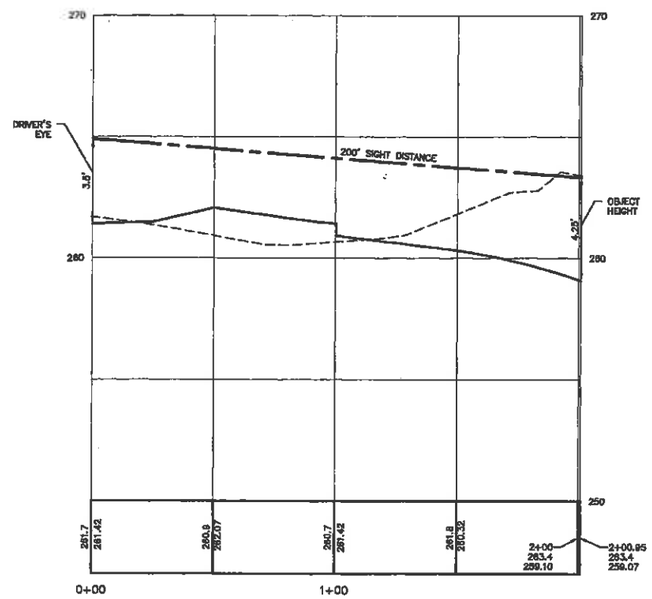
DATE: JUNE 22, 2020	SCALE: 1"=30'
PROJECT NO: 17-1011-1	SHEET 11 OF 22



SIGHT DISTANCE PLAN
(DRIVEWAY #2)
SCALE: 1" = 30'

LEGEND

- ABUTTER LINE
- PROPERTY LINE
- EOP — EDGE OF PAVEMENT
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED UTILITY POLE
- PROPOSED SIGN
- PROPOSED BITUMINOUS CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED 2' CONTOUR



SIGHT DISTANCE PROFILE
SCALE: 1" = 30' (HORIZ.)
1" = 3' (VERT.)

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

SIGHT DISTANCE PLAN & PROFILE

AUTO BODY SHOP

MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

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STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER 10/1/20

REVISIONS

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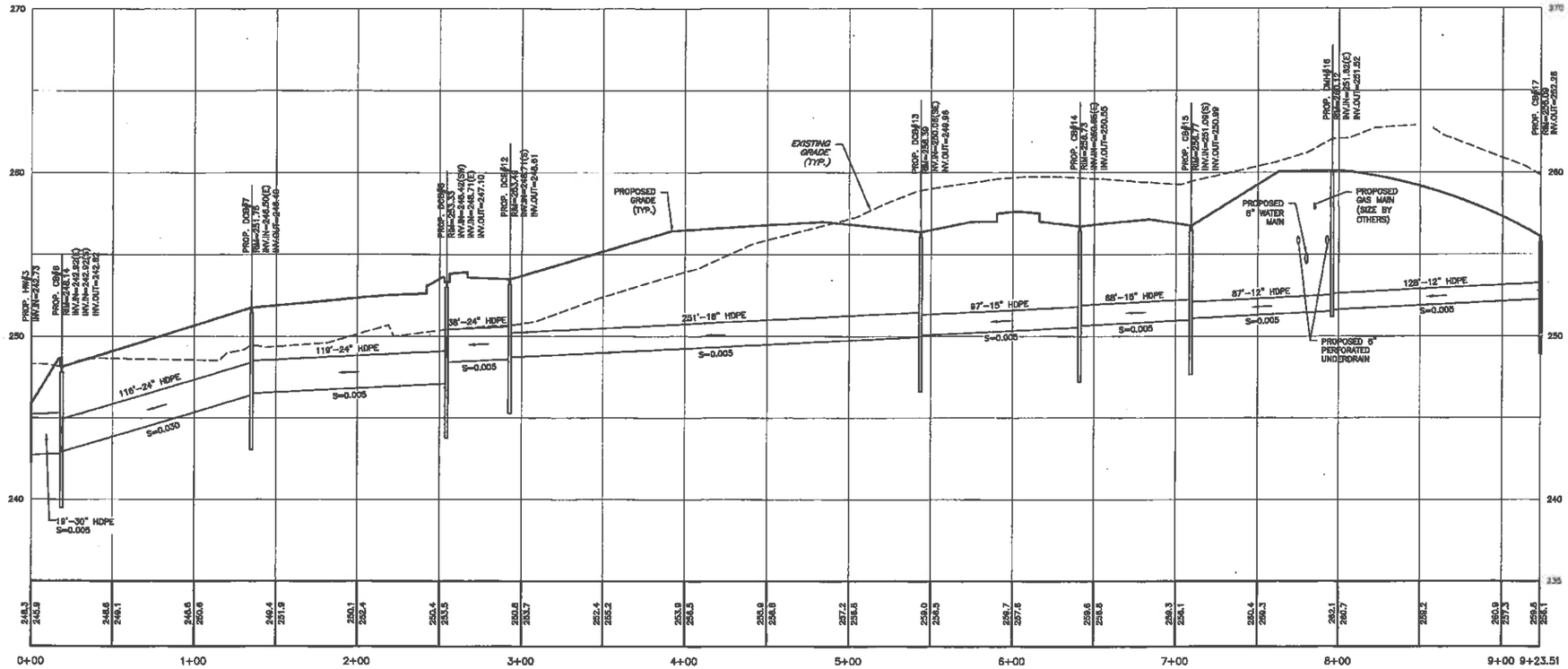
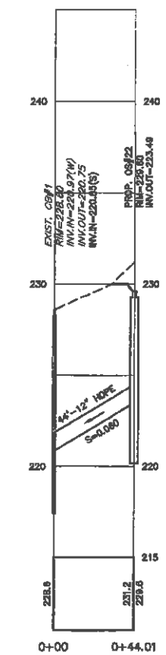
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020 | SCALE: 1"=30'
PROJECT NO: 17-1011-1 | SHEET 12 OF 22

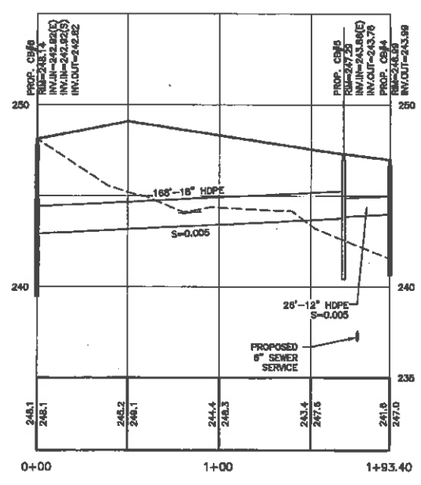
DIG SAFE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
811



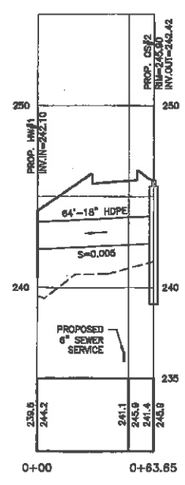
HW#3 TO CB#17
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



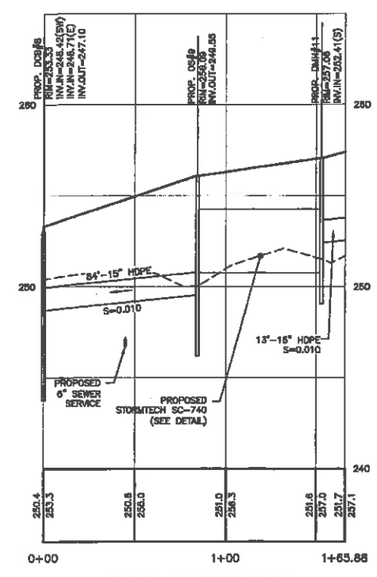
EXISTING CB TO OS#22
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



CB#6 TO CB#4
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



HW#1 TO OS#2
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



DCB#8 TO ROOF DRAIN
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)

GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.

DIG SAFE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

DRAINAGE PROFILES
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
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KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
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STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER 10/1/20

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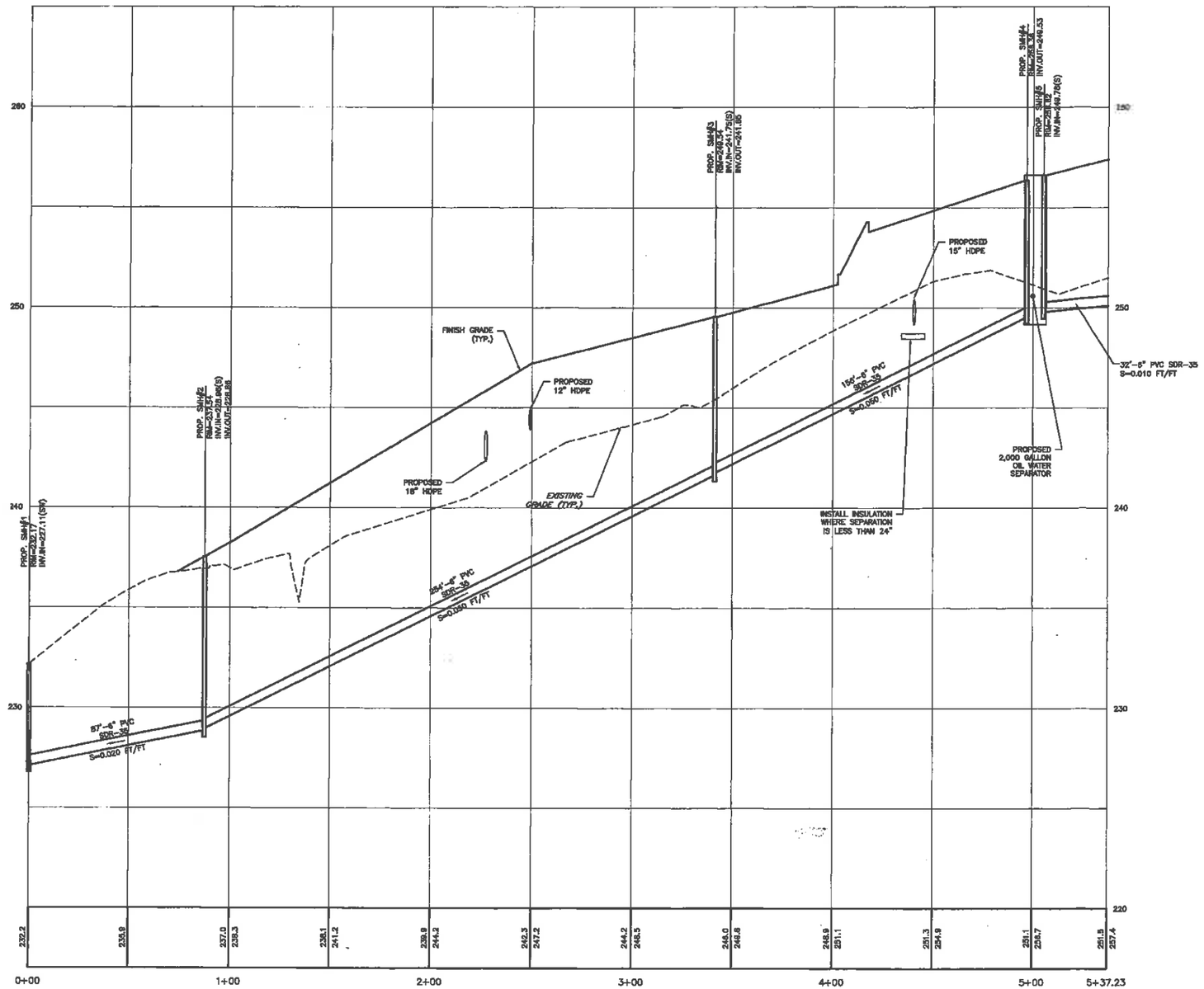
DATE: JUNE 22, 2020 | SCALE: 1"=40'
PROJECT NO: 17-1011-1 | SHEET 13 OF 22



SEWER PROFILE

SCALE: 1" = 30' (HORIZ.)
1" = 3' (VERT.)

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

SEWER PROFILE
AUTO BODY SHOP

MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
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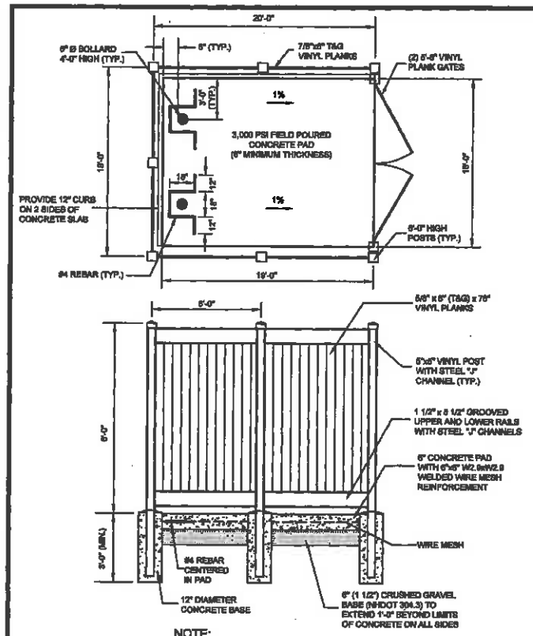
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

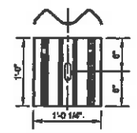
DATE: JUNE 22, 2020 | SCALE: 1"=30'
PROJECT NO: 17-1011-1 | SHEET 14 OF 22

DIG SAFE
811 CALL BEFORE YOU DIG
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

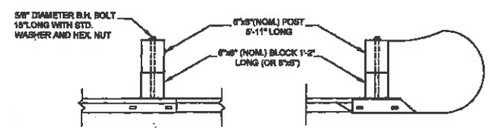


NOTE:
THIS DUMPSTER ENCLOSURE WILL ACCOMMODATE MOST 2, 4, 6 AND 8 CY DUMPSTERS.

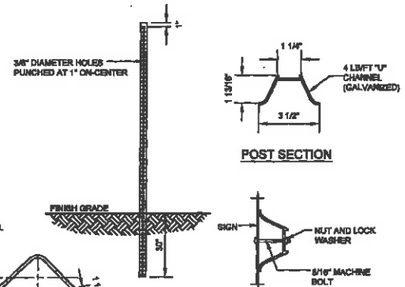
VINYL STOCKADE TRASH ENCLOSURE DETAIL
NOT TO SCALE



W-BEAM BACK-UP PLATE (STEEL POST ONLY)



PLAN FOR WOOD POST AND OFFSET BLOCK



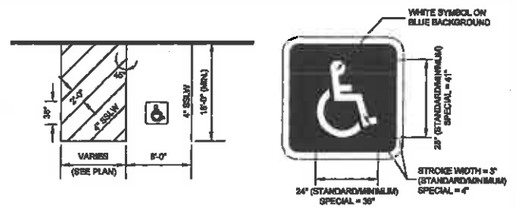
POST SECTION

POST

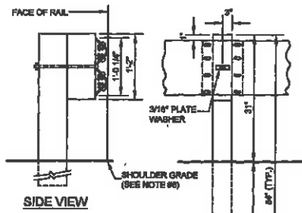
MOUNTING

NOTE:
POST SHALL CONFORM TO NHDOT 616.2.5.3

STEEL SIGN POST DETAIL
NOT TO SCALE
(MARCH 2008)

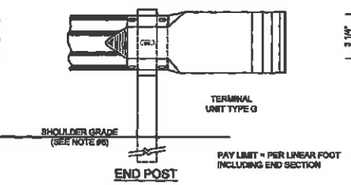


HANDICAP STRIPING DETAIL
NOT TO SCALE
(MARCH 2012)



SIDE VIEW

LINE POST

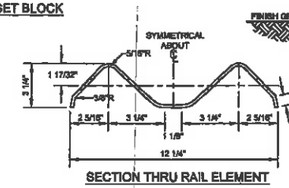


END POST

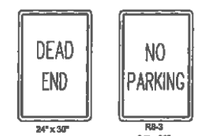
PAY LIMIT = PER LINEAR FOOT INCLUDING END SECTION

NOTES:
1. STEEL POSTS, OFFSET BLOCKS, ANCHORS, PLATES AND ALL FITTINGS TO BE GALVANIZED.
2. ALL DIMENSIONS SUBJECT TO MANUFACTURERS TOLERANCES.
3. RAIL PANELS AND END SECTIONS TO BE 12 GAUGE STEEL.
4. BACK-UP PLATE TO BE PLACED BEHIND RAIL ELEMENTS AT INTERMEDIATE STEEL POSTS.
5. ALL PARTS SHALL CONFORM TO CURRENT STANDARD SPECIFICATIONS.
6. WHEN GUARDRAIL IS CONSTRUCTED AT UP TO FOUR FEET FROM THE EDGE OF PAVEMENT, THE GUARDRAIL HEIGHT WILL BE SET FROM THE GRADE AT THE EDGE OF PAVEMENT. WHEN GUARDRAIL IS CONSTRUCTED MORE THAN FOUR FEET FROM THE EDGE OF PAVEMENT, THE GUARDRAIL WILL BE SET FROM THE GRADE AT FACE OF RAIL.

BEAM GUARDRAIL DETAIL
NOT TO SCALE
(MARCH 2008)



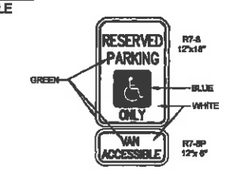
SECTION THRU RAIL ELEMENT



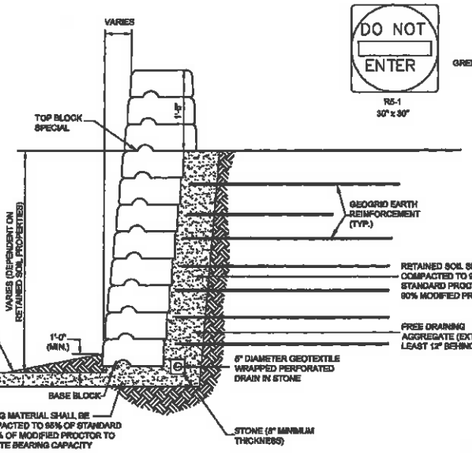
STOP SIGN DETAIL
NOT TO SCALE
(MARCH 2008)

STOP BAR

HANDICAP PARKING SIGN DETAIL
NOT TO SCALE
(MARCH 2008)



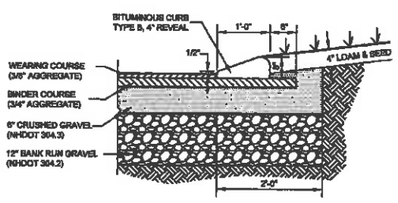
VAN ACCESSIBLE HANDICAP PARKING SIGN DETAIL
NOT TO SCALE
(NOVEMBER 2016)



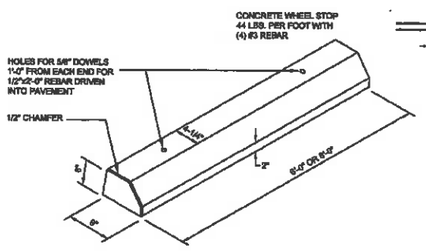
NOTES:
1. AS PERMISSIBLE, THE STRUCTURAL ENGINEER CHARGED WITH RETAINING WALL DESIGN SHALL SPECIFY SALT RESISTANT BLOCK CONSTRUCTION WHERE WALLS ARE TO BE CONSTRUCTED NEAR ROADWAYS OR PARKING AREAS.
2. RETAINING WALL DRAIN TO "DAYLIGHT" AT LOW POINT OR TIE TO DRAIN STRUCTURE AS SHOWN IN PLAN VIEW.
3. FINAL WALL DESIGN IS TO BE BY OTHERS. KEACH-NORDSTROM ASSOCIATES INC. ASSUMES NO RESPONSIBILITY OF THE WALL DESIGN.

MODULAR BLOCK RETAINING WALL
(TO BE DESIGNED BY OTHERS)
NOT TO SCALE

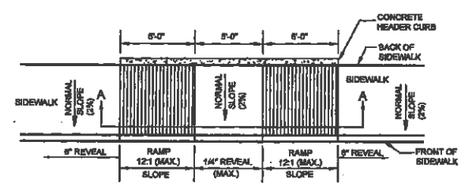
CURB TIP DOWN
NOT TO SCALE



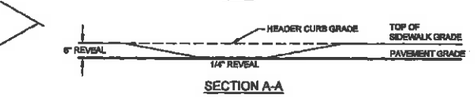
BITUMINOUS CURB TYPE B DETAIL
NOT TO SCALE
(MARCH 2008)



PRECAST CONCRETE WHEEL STOP
NOT TO SCALE
(MARCH 2008)



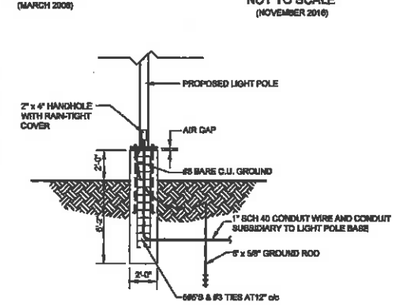
PLAN



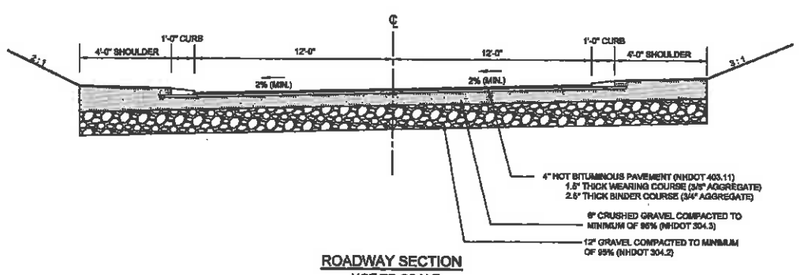
SECTION A-A

NOTES:
1. A BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP SHALL BE USED ON PORTLAND CEMENT CONCRETE RAMPS.
2. MAINTAIN THE NORMAL PAVEMENT PROFILE THROUGHOUT THE RAMP AREA.
3. MAINTAIN A MAXIMUM 1/4" OF CURB REVEAL AT THE RAMP, SEE SECTION A-A

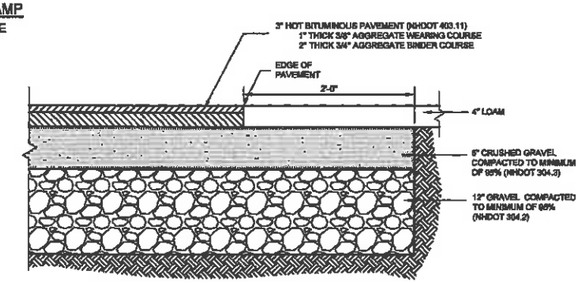
SIDEWALK RAMP
NOT TO SCALE
(JUNE 2012)



CONCRETE LIGHT POLE BASE DETAIL
NOT TO SCALE
(MARCH 2008)



ROADWAY SECTION
NOT TO SCALE
(MARCH 2008)



DRIVEWAY AND PARKING LOT SECTION
NOT TO SCALE
(MARCH 2008)

CONSTRUCTION DETAILS
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
ROSCOMMON INVESTMENTS, LLC
147 DANIEL WEBSTER HIGHWAY
NASHUA, NH 03060
(603) 888-5050

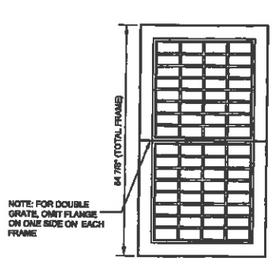
KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER
10/1/20

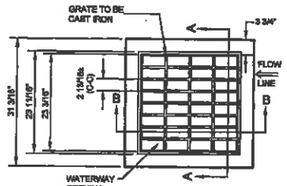
REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

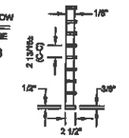
DATE: JUNE 22, 2020	SCALE: AS NOTED
PROJECT NO: 17-1011-1	SHEET 15 OF 22



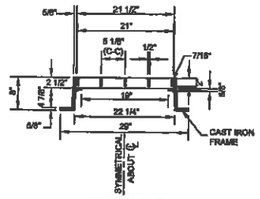
PLAN VIEW
(DOUBLE GRATE)



PLAN VIEW
(SINGLE GRATE)

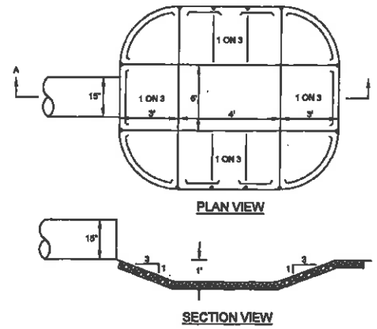


SECTION A - A



SECTION B - B

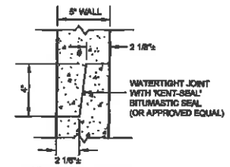
TYPE B FRAME & GRATE DETAIL
NOT TO SCALE
(MARCH 2008)



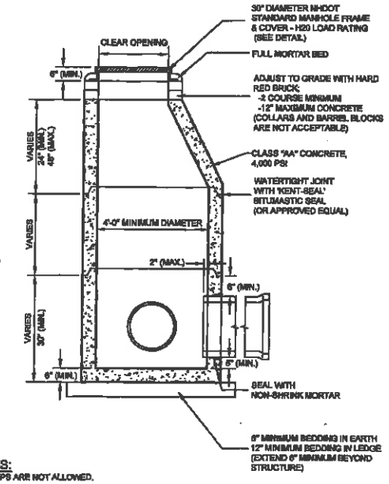
PLAN VIEW

SECTION VIEW

PREFORMED SCOUR HOLE DETAIL
NOT TO SCALE
(MARCH 2008)

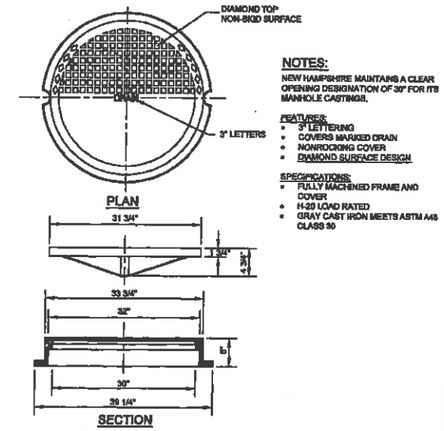


DETAIL OF TONGUE AND GROOVE JOINT



NOTES:
1. STEPS ARE NOT ALLOWED.
2. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4,000 PSI). CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.
4. MATERIALS AND CONSTRUCTION TO NHDOT STANDARDS.

PRECAST REINFORCED DRAIN MANHOLE DETAIL
NOT TO SCALE
(MARCH 2008)

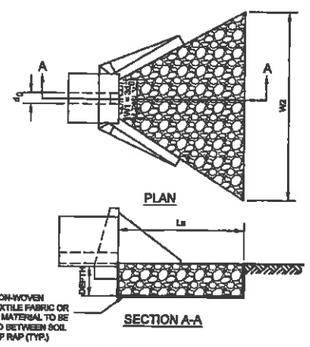


NOTES:
NEW HAMPSHIRE MAINTAINS A CLEAR OPENING DESIGNATION OF 30" FOR ITS MANHOLE CASTINGS.

FEATURES:
- 3" LETTERING
- COVERS MARKED DRAIN
- NONROCKING COVER
- DIAMOND SURFACE DESIGN

SPECIFICATIONS:
- FULLY MACHINED FRAME AND COVER
- H-20 LOAD RATED
- GRAY CAST IRON MEETS ASTM A48 CLASS 30

DRAIN MANHOLE FRAME AND COVER DETAIL
NOT TO SCALE



PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL
NOT TO SCALE
(MARCH 2008)

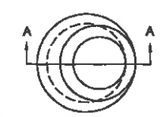
LOCATION	La	W1	W2	d50	DEPTH
PROP. HW#3	23'	6'	30'	4"	10"

TABLE 7-34 – RECOMMENDED RIP RAP GRADATION RANGES	
PERCENT OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100%	1.5 TO 2.0 d50
85%	1.3 TO 1.8 d50
50%	1.0 TO 1.5 d50
15%	0.3 TO 0.5 d50

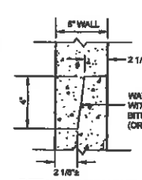
CONSTRUCTION SPECIFICATIONS:
1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. FRACTURED ROCK USED FOR FILTER OR RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

MAINTENANCE:
THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR RAIN EVENT. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED, OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

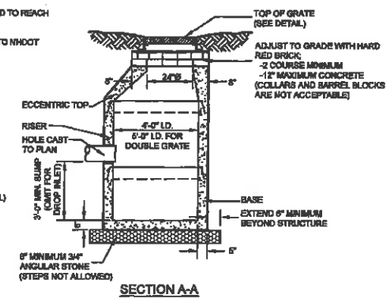
NOTES:
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 PSI). CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCH PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
2. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCH PER LINEAR FOOT.
3. RISER OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
4. MATERIALS AND CONSTRUCTION TO NHDOT STANDARDS.



PLAN

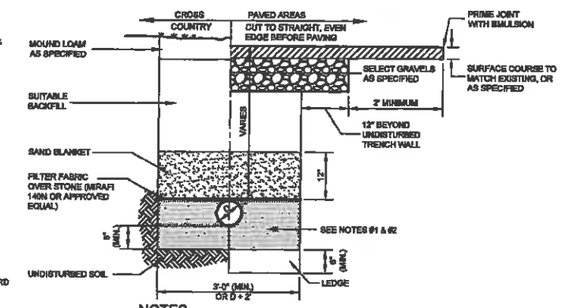


DETAIL OF TONGUE AND GROOVE JOINT



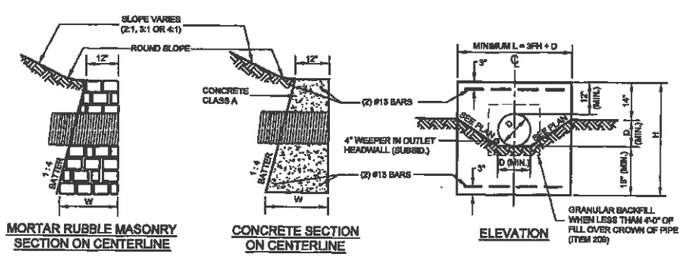
SECTION A-A

PRECAST REINFORCED CATCH BASIN
NOT TO SCALE
(MAY 2012)



NOTES
1. THOROUGHLY COMPACTED SCREENED GRAVEL FOR RCP PIPE. SCREENED GRAVEL TO EXTEND TO SELECT FILL LINE.
2. FOR HDPE OR PVC PIPE, BEDDING SHALL BE 3/4" STONE TO THE TOP OF THE PIPE.

STORM DRAINAGE TRENCH DETAIL
NOT TO SCALE
(MARCH 2008)



MORTAR RUBBLE MASONRY SECTION ON CENTERLINE

CONCRETE SECTION ON CENTERLINE

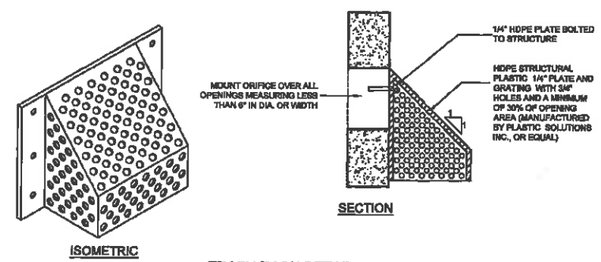
ELEVATION

NOTE:
DIMENSIONS SHOWN ARE TO PAYMENT LINES. MORTAR RUBBLE MASONRY TO BE STEPPED OUTSIDE PAYMENT LINES ON SLOPING FACES.

DIAMETER D (INCH)	AREA OF PIPE (SF)	MASONRY PER FOOT OF WALL (CU. YD.)	MASONRY PER HOLE (CU. FT.)	MASONRY PER STANDARD HEADER (CU. YD.)	STEEL PER STANDARD HEADER (LB)	LENGTH OF BARS	PIPE EXC. 1' DEPTH 1' LENGTH (CU. YD.)	HEADER EXC. PER HEADER 1' DEPTH (CU. YD.)	ITEM 209 PER LINEAR FOOT	HEADER LENGTH L	HEADER HEIGHT H	FILL HEIGHT FH	WIDTH AT BOTTOM OF HEADER W	"L" HEADWALL MASONRY IN CORNER FRUSTRUM (CU. YD)	"L" HEADWALL HEADER EXC. PER HEADER 1' DEPTH (CU. YD.)
12"	0.79	0.196	1.06	0.81	8	3'-2"	0.111	0.769	0.30	3'-6"	3'-6"	10"	1'-10 1/2"	0.28	1.657
15"	1.23	0.202	1.75	0.85	11	3'-10"	0.120	0.947	0.35	4'-6"	3'-6"	1'-1"	1'-11 1/4"	0.31	1.232
18"	1.77	0.222	2.52	1.13	14	5'-2"	0.136	1.111	0.39	5'-6"	4'-0"	1'-4"	2'-0"	0.38	1.466
24"	3.14	0.260	4.71	1.76	20	7'-2"	0.148	1.451	0.48	7'-6"	4'-6"	1'-10"	2'-1 1/2"	0.43	1.776
30"	4.91	0.301	7.07	2.56	25	9'-2"	0.158	1.810	0.55	9'-6"	5'-0"	2'-4"	2'-3"	0.51	2.154

NOTE: STEEL QUANTITIES ARE FOR CONCRETE HEADWALLS ONLY.

MORTAR RUBBLE MASONRY AND CONCRETE HEADWALLS
NOT TO SCALE
(MARCH 2008)



ISOMETRIC

SECTION

TRASH RACK DETAIL
NOT TO SCALE

CONSTRUCTION DETAILS
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
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OWNER/APPLICANT:
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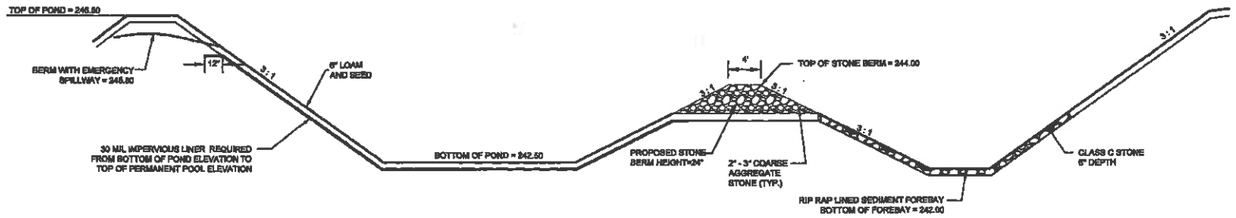
STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER 10/9/20

REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020 | SCALE: AS NOTED
PROJECT NO: 17-1011-1 | SHEET 16 OF 22



TYPICAL DETENTION POND SECTION

NOT TO SCALE

MAINTENANCE REQUIREMENTS:

SEDIMENT FOREBAYS:

- INSPECT AT LEAST ANNUALLY;
- CONDUCT PERIODIC MOWING OF EMBANKMENTS (GENERALLY TWO TIMES PER YEAR) TO CONTROL GROWTH OF WOODY VEGETATION ON EMBANKMENTS;
- REMOVE DEBRIS FROM OUTLET STRUCTURES AT LEAST ONCE ANNUALLY;
- REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION;
- INSTALL AND MAINTAIN A STAFF GAGE OR OTHER MEASURING DEVICE, TO INDICATE DEPTH OF SEDIMENT ACCUMULATION AND LEVEL AT WHICH CLEAN-OUT IS REQUIRED.

DETENTION POND:

- THE BOTTOMS, INTERIOR AND EXTERIOR SIDE SLOPES AND CREST OF EARTHEN DETENTION BASINS SHOULD BE MOWED, AND THE VEGETATION MAINTAINED IN HEALTHY CONDITION, AS APPROPRIATE TO THE FUNCTION OF THE FACILITY AND TYPE OF VEGETATION.
- VEGETATED EMBANKMENTS THAT SERVE AS "BERMS" OR "DAMS" THAT IMPOUND WATER SHOULD BE MOWED AT LEAST ONCE ANNUALLY TO PREVENT THE ESTABLISHMENT OF WOODY VEGETATION;
- INLET AND OUTLET PIPES, INLET AND OUTLET STRUCTURES, ENERGY DISSIPATION STRUCTURES OR PRACTICES AND OTHER STRUCTURAL APPURTENANCES SHOULD BE INSPECTED AT LEAST ANNUALLY BY A QUALIFIED PROFESSIONAL AND CORRECTIVE ACTION IMPLEMENTED (EG. MAINTENANCE, REPAIRS OR REPLACEMENT) AS INDICATED BY SUCH INSPECTION;
- TRASH AND DEBRIS SHOULD BE REMOVED FROM THE BASIN AND ANY INLET OR OUTLET STRUCTURES WHENEVER OBSERVED BY INSPECTION;
- ACCUMULATED SEDIMENT SHOULD BE REMOVED WHEN IT SIGNIFICANTLY AFFECTS BASIN CAPACITY.

SUBSURFACE:

- INSPECT SUB-SURFACE CHAMBER OR PIPE SYSTEM TWO (2) TIMES PER YEAR (PREFERABLY IN SPRING AND FALL) VIA THE INSPECTION PORTS, CLEANOUTS OR OTHER ACCESS STRUCTURE. CLEAN SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. INSPECT OUTLET CONTROL STRUCTURES TO ENSURE THEY ARE IN GOOD WORKING ORDER AND ARE UNOBSTRUCTED FROM TRASH AND DEBRIS. REMOVE AND DISPOSE OF ANY SEDIMENTS OR DEBRIS.

ISOLATOR ROW:

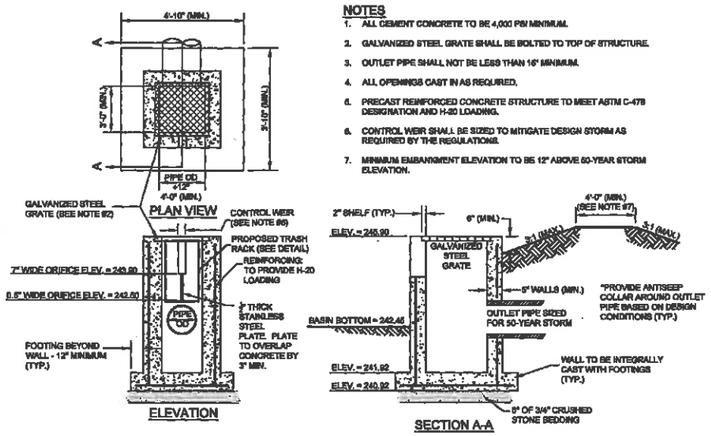
- INSPECT ALL UPSTREAM PRE-TREATMENT MEASURES FOR SEDIMENT AND FLOATABLE ACCUMULATION. REMOVE AND DISPOSE OF SEDIMENTS OR DEBRIS AS NEEDED. INSPECT ISOLATOR ROW ON A SEMI-ANNUAL BASIS BY USING INSPECTION PORT AND/OR ACCESS STRUCTURE. REMOVE SEDIMENT AS NEEDED WHEN AVERAGE DEPTHS REACH 1" PER THE MANUFACTURE'S RECOMMENDATION.

SWALE:

- INSPECT AT LEAST TWICE ANNUALLY
- CONDUCT PERIODIC MOWING OF EMBANKMENTS (GENERALLY TWO TIMES PER YEAR) TO CONTROL GROWTH OF WOODY VEGETATION ON EMBANKMENTS;
- REMOVE TRASH AND DEBRIS AT LEAST EACH INSPECTION;
- REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION;

CONSTRUCTION PRACTICE REQUIREMENTS:

1. STORMWATER PONDS, INFILTRATION BASINS, AND SWALES MUST BE INSTALLED BEFORE ROUGH GRADING TO SITE.
2. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMPs ARE STABILIZED.
3. STORMWATER PONDS, INFILTRATION BASINS, AND SWALES MUST BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
4. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATION WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION SYSTEM.



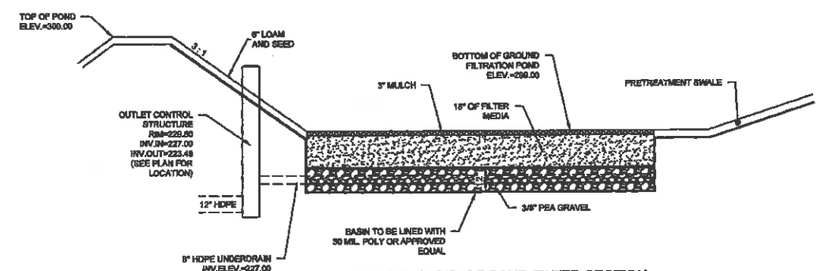
OUTLET STRUCTURE #2 AT DETENTION POND

NOT TO SCALE

(AUGUST 2011)

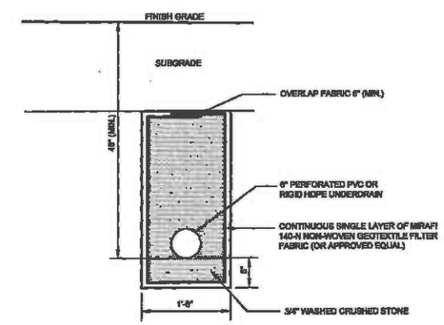
NOTES

1. ALL CEMENT CONCRETE TO BE 4,000 PSI MINIMUM.
2. GALVANIZED STEEL GRATE SHALL BE BOLTED TO TOP OF STRUCTURE.
3. OUTLET PIPE SHALL NOT BE LESS THAN 16" MINIMUM.
4. ALL OPENINGS CAST IN AS REQUIRED.
5. PRECAST REINFORCED CONCRETE STRUCTURE TO MEET ASTM C-478 DESIGNATION AND H-20 LOADING.
6. CONTROL WEIR SHALL BE SIZED TO MITIGATE DESIGN STORM AS REQUIRED BY THE REGULATIONS.
7. MINIMUM EMBANKMENT ELEVATION TO BE 12" ABOVE 50-YEAR STORM ELEVATION.



TYPICAL SURFACE SAND FILTER SECTION

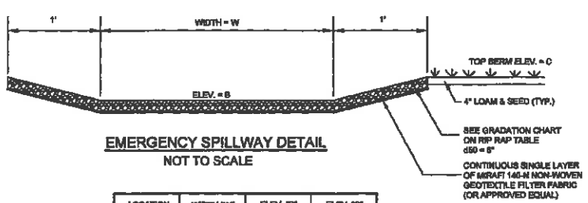
NOT TO SCALE



PIPE UNDERDRAIN

NOT TO SCALE

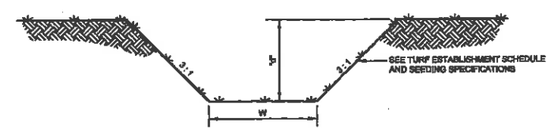
(MARCH 2008)



EMERGENCY SPILLWAY DETAIL

NOT TO SCALE

LOCATION	WIDTH "W"	ELEV. "B"	ELEV. "C"
DETENTION POND	20'	245.50	246.50
INFILTRATION POND	8'	238.50	237.00



LOCATION	SWALE WIDTH "W"	SWALE LENGTH	SWALE SLOPE	DEPTH "D"
SWALE #1	6'	120'	0.005 FT/FT	2'

MAINTENANCE

1. TIMELY MAINTENANCE IS IMPORTANT TO KEEP THE VEGETATION IN THE SWALE IN GOOD CONDITION. MOWING SHOULD BE DONE FREQUENTLY ENOUGH TO KEEP THE VEGETATION IN VIGOROUS CONDITION AND TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION, HOWEVER IT SHOULD NOT BE MOWED TOO CLOSELY SO AS TO REDUCE THE FILTERING EFFECT. FERTILIZE ON AN "AS NEEDED" BASIS TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION CAN RESULT IN THE SWALE BECOMING A SOURCE OF POLLUTION.
2. THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE SWALE. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND RE-VEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

TREATMENT SWALE DETAIL

NOT TO SCALE

(MARCH 2008)

CONSTRUCTION DETAILS
AUTO BODY SHOP

MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
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STATE OF NEW HAMPSHIRE · PAUL CHISHOLM No. 15076 · LICENSED PROFESSIONAL ENGINEER · 07/17/20

REVISIONS

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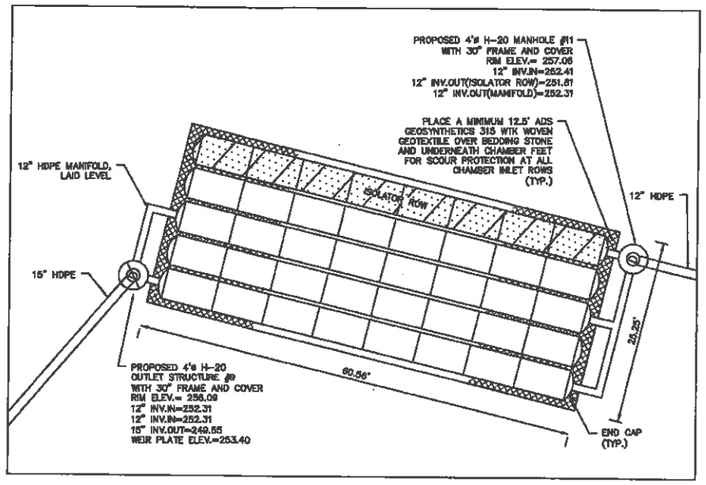
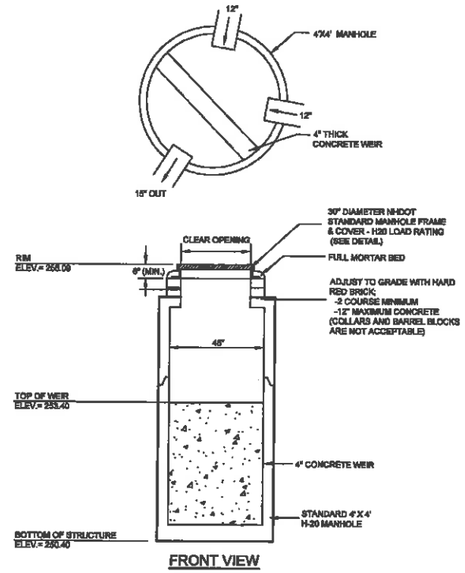
DATE: JUNE 22, 2020 | SCALE: AS NOTED
PROJECT NO: 17-1011-1 | SHEET 17 OF 22



STORMTECH SC-740 CHAMBER SYSTEM

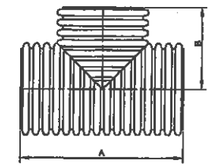
SCALE 1" = 10'



FRONT VIEW

OUTLET STRUCTURE #9

NOT TO SCALE



SC-740 SINGLE MANIFOLD

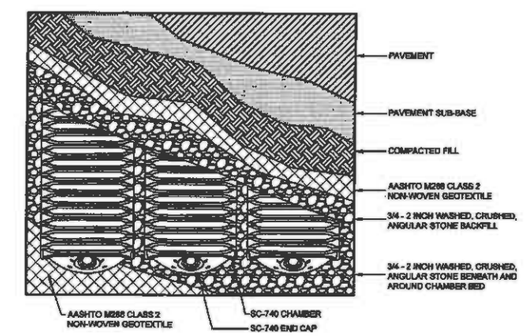
NOT TO SCALE

(OCTOBER 2012)

PIPE SIZE	A	B
6" (150 mm)	56.98" (1447 mm)	28.49" (724 mm)
8" (200 mm)	56.64" (1439 mm)	28.32" (719 mm)
10" (250 mm)	56.70" (1440 mm)	28.35" (720 mm)
12" (300 mm)	57.60" (1463 mm)	28.80" (732 mm)
15" (375 mm)	56.98" (1447 mm)	28.49" (724 mm)
18" (450 mm)	56.28" (1430 mm)	28.14" (715 mm)
24" (600 mm)	56.70" (1440 mm)	28.35" (720 mm)

STORMTECH GENERAL NOTES:

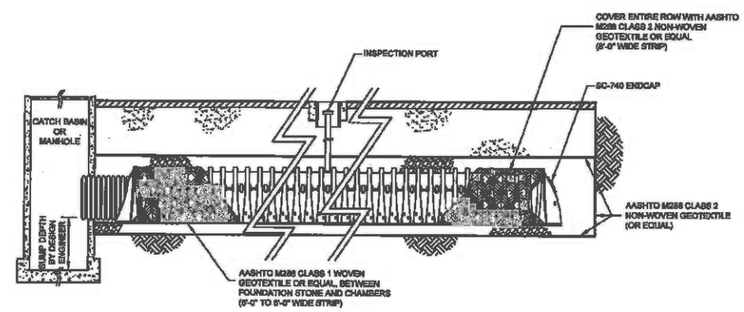
1. INSTALLING CONTRACTORS ARE REQUIRED TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
2. OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVE(S) CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL 1-888-892-2694 TO SPEAK TO A TECHNICAL SERVICE REPRESENTATIVE OR VISIT WWW.ADS-PIPE.COM TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
3. STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM COVER IS 18 INCHES NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES, MAXIMUM COVER IS 96 INCHES.
4. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
5. AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
6. STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
7. BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
8. THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: WWW.ADS-PIPE.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE, AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
9. THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
10. STORMTECH PRODUCT WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL STORMTECH AT 1-888-892-2694 OR VISIT WWW.ADS-PIPT.COM.



SC-740 CHAMBER SYSTEM PLAN VIEW DETAIL

NOT TO SCALE

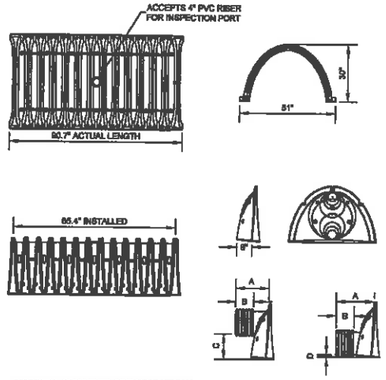
(OCTOBER 2012)



SC-740 ISOLATOR ROW PROFILE

NOT TO SCALE

(OCTOBER 2012)



NOMINAL CHAMBER SPECIFICATIONS

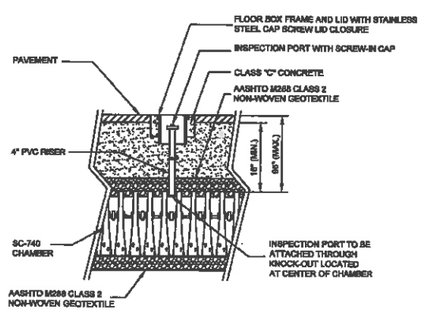
SIZE (W x H x INSTALLED LENGTH) 51.0" x 30.0" x 85.4"
CHAMBER STORAGE 45.9 CUBIC FEET
MINIMUM INSTALLED STORAGE 74.9 CUBIC FEET
WEIGHT 75 LBS.

PIPE SIZE	A	B	C	D
6 in (150 mm)	10.90 in (277 mm)	3.85 in (98 mm)	18.50 in (470 mm)	N/A
6 in (150 mm)	10.90 in (277 mm)	3.85 in (98 mm)	N/A	0.50 in (13 mm)
12 in (300 mm)	14.70 in (373 mm)	7.70 in (196 mm)	12.50 in (318 mm)	N/A
12 in (300 mm)	14.70 in (373 mm)	7.70 in (196 mm)	N/A	1.20 in (30 mm)
15 in (375 mm)	18.40 in (467 mm)	10.38 in (263 mm)	9.00 in (229 mm)	N/A
15 in (375 mm)	18.40 in (467 mm)	10.38 in (263 mm)	N/A	1.30 in (33 mm)
18 in (450 mm)	19.70 in (500 mm)	10.72 in (272 mm)	5.00 in (127 mm)	N/A
18 in (450 mm)	19.70 in (500 mm)	10.72 in (272 mm)	N/A	1.60 in (41 mm)
24 in (600 mm)	18.50 in (470 mm)	9.46 in (240 mm)	N/A	0.10 in (3 mm)

SC-740 TECHNICAL SPECIFICATIONS

NOT TO SCALE

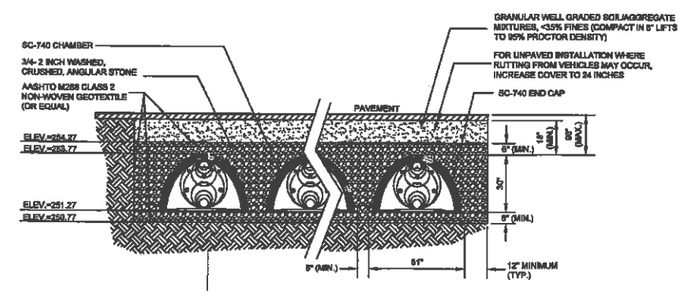
(OCTOBER 2012)



SC-740 INSPECTION PORT DETAIL

NOT TO SCALE

(OCTOBER 2012)



SC-740 CROSS SECTION

NOT TO SCALE

(OCTOBER 2012)

CONSTRUCTION DETAILS
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
ROSCOMMON INVESTMENTS, LLC
147 DANIEL WEBSTER HIGHWAY
NASHUA, NH 03060
(603) 888-5050

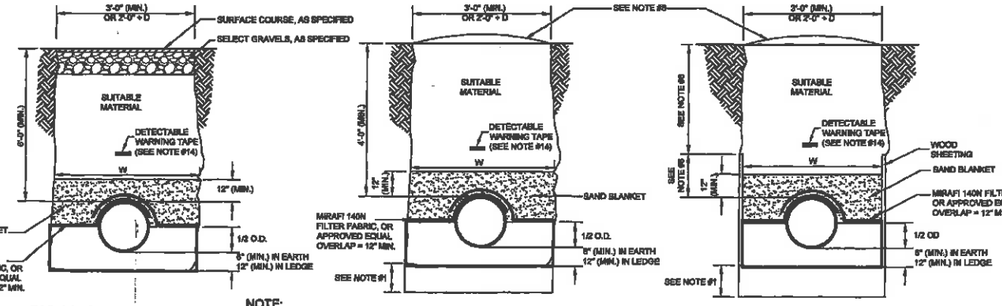
KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER 10/1/20

REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020	SCALE: AS NOTED
PROJECT NO: 17-1011-1	SHEET 18 OF 22



FOR CONSTRUCTION IN ROADS, ROAD SHOULDER AND WALKWAYS

NOTE:
MINIMUM BEDDING DEPTH AND MAXIMUM PAYMENT DEPTH FOR LEDGE EXCAVATION: 1/4 O.D. (6" MIN.)

CROSS COUNTRY EARTH CONSTRUCTION

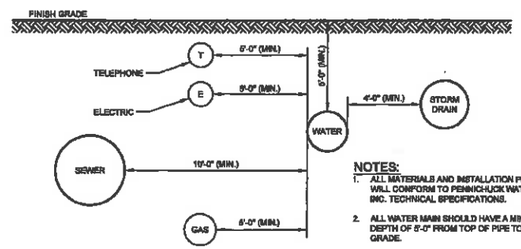
CROSS COUNTRY EARTH CONSTRUCTION WITH SHEETING

SANITARY SEWER TRENCH DETAIL

NOT TO SCALE
(NOVEMBER 2016)

NOTES:

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL, ALSO SEE NOTE #7.
   BEDDING: CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33/C33M STONE SIZE NO. 67.
   100% PASSING 1 INCH SCREEN
   90 - 100% PASSING 3/4 INCH SCREEN
   20 - 55% PASSING 3/8 INCH SCREEN
   0 - 10% PASSING # 4 SIEVE
   0 - 5% PASSING # 8 SIEVE
   WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, GRADED CRUSHED STONE 1/2 INCH TO 1-1/2 INCHES SHALL BE USED.
2. SAND BLANKET: GRADED CLEAN SAND FREE FROM ORGANIC MATTER, SO THAT 100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 12% WILL PASS A # 200 SIEVE. BLANKET MAY BE OMITTED FOR CAST IRON, DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED, HOWEVER, THAT NO STONE LARGER THAN 2 INCHES IS IN CONTACT WITH THE PIPE.
3. MIRAFI 140 N FILTER FABRIC, OR APPROVED EQUAL, SHALL BE INSTALLED ABOVE PIPE.
4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL AND ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
   IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT IF HE/SHE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER WILL BE PRESERVED FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY. .
5. BASE COURSE, IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS."
6. WOOD SHEETING, IF REQUIRED, WHERE PLACED ALONGSIDE THE PIPE AND EXTENDING BELOW MID-DIAMETER, SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
7. W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
9. NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE 10 FEET OF SEPARATION BETWEEN WATER AND SEWER. HOWEVER, SHOULD CONSTRUCTION REVEAL OR EXPOSE A WATERLINE (MAIN OR SERVICE) RUNNING APPROXIMATELY PARALLEL AND LESS THAN 10 FEET HORIZONTALLY FROM THE PROPOSED SEWER INSTALLATION AND WHERE IT IS NOT PRACTICAL TO RELOCATE THE SEWER, A DEVIATION MAY BE GRANTED PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENT SPECIFIED BELOW:
   A. FORCE MAINS SHALL BE CONSTRUCTED FROM DUCTILE IRON, HIGH DENSITY POLYETHYLENE, OR PVC PER ENV-WQ 704.06(a).
      PVC SHALL CONFORM TO ASTM D2241-05 OR ASTM D1785-06
      HDPE SHALL CONFORM TO ASTM D3035-03a
   B.I. SHALL BE CORROSION PROTECTED IN CORROSIVE ENVIRONMENTS
10. WHERE WATER LINES AND SEWER LINES CROSS, THEY SHOULD CROSS AS PERPENDICULAR AS POSSIBLE AND THE WATER MAIN SHALL CROSS AT LEAST 18" INCHES ABOVE THE SEWER. FURTHER, THE SEWER JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATER MAIN.
11. ALL SEWERS AT 8 PERCENT SLOPE, OR GREATER, SHALL HAVE IMPERVIOUS TRENCH DAMS CONSTRUCTED EVERY 300 FEET.
12. UNLESS OTHERWISE NOTED, ALL GRANULAR MATERIAL SHALL BE PLACED IN 12" LIFTS AND COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST.
13. WHERE WATER MAINS CROSS UNDER SEWER MAINS, BOTH THE SEWER AND WATER MAINS SHALL BE PRESSURE RATED PIPE PER ENV-WQ 704.09 AND TESTED PER AWWA C600-05 AT 1.5 TIMES DESIGN PRESSURE OR 100 PSI, WHICHEVER IS GREATER, WITH NO JOINTS WITHIN 9 FEET OF THE CROSSING POINT AND 18" MINIMUM VERTICAL SEPARATION.
14. ALL SEWERS SHALL BE MARKED USING METAL IMPREGNATED MARKING TAPE OR TRACER WIRE THAT CAN BE LOCATED USING METAL DETECTION EQUIPMENT.
15. GRAVITY PIPE SEWER TESTING:
   A. ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.
   B. LOW-PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH:
16. ASTM F1417-92(2005) "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR," OR
17. UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE" (1998).
   C. ALL NEW GRAVITY SEWERS SHALL BE CLEANED AND VISUALLY INSPECTED USING A LAMP TEST AND BY INTRODUCING WATER TO DETERMINE THAT THERE IS NO STANDING WATER IN THE SEWER AND SHALL BE TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE.
   D. ALL PLASTIC SEWER PIPE SHALL BE DEFLECTION TESTED NOT LESS THAN 30 DAYS NOR MORE THAN 90 DAYS FOLLOWING INSTALLATION.
   E. THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5 PERCENT OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR MANDREL WITH A DIAMETER OF AT LEAST 95 PERCENT OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES.

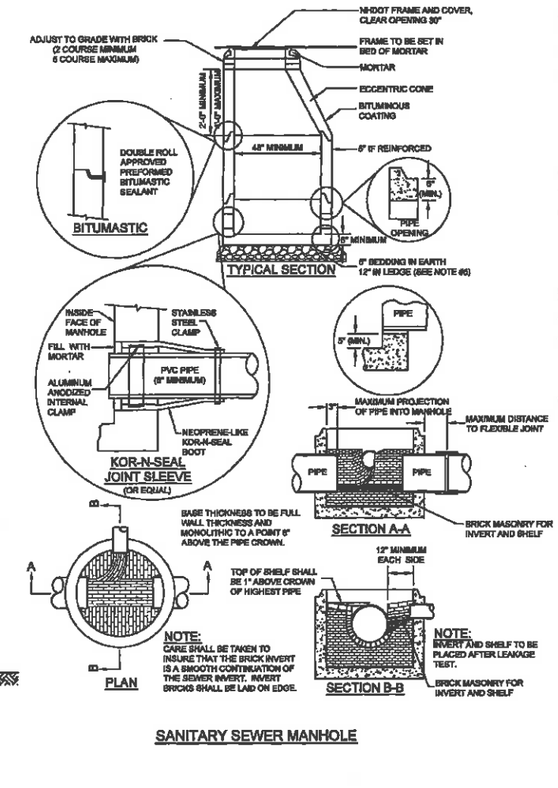


NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO PENNICHUCK WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5'-0" FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL FOR TRENCH SPECIFICATIONS.
4. SEE DETAIL FOR OUTSIDE SERVICE ENTRANCE SPECIFICATIONS.

UTILITY SEPARATION (MAIN) DETAIL

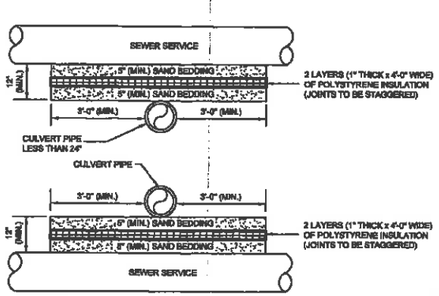
(A-01)
NOT TO SCALE
(MARCH 2005)



SANITARY SEWER MANHOLE

NOTES: (NHDES ENV WQ700 - 2015)

1. ALL COMPONENT PARTS OF MANHOLE STRUCTURES SHALL HAVE THE STRENGTH, LEAK RESISTANCE AND SPACE NECESSARY FOR THE INTENDED SERVICE.
2. MANHOLE STRUCTURES SHALL HAVE A LIFE EXPECTANCY IN EXCESS OF 25 YEARS.
3. MANHOLE STRUCTURES SHALL BE DESIGNED TO WITHSTAND H-20 LOADING AND SHALL NOT LEAK IN EXCESS OF ONE GPD PER VERTICAL FOOT OF MANHOLE FOR THE LIFE OF THE STRUCTURE.
4. BARRELS, CONCRETE GRADE RINGS AND CONE SECTIONS SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE AND SHALL CONFORM TO ASTM C478.
5. BEDDING: CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33
   100% PASSING 1 INCH SCREEN
   90% PASSING 3/4 INCH SCREEN
   20-55% PASSING 3/8 INCH SCREEN
   0-10% PASSING #4 SIEVE
   0-5% PASSING #8 SIEVE
   WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE 1/2 INCH TO 1-1/2 INCH SHALL BE USED.
6. BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE INCOMING PIPE.
7. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATER-TIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT.
8. PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
   A. ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
   B. CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;
   C. ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
   D. NON-SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
9. MANHOLE CONE SECTIONS SHALL BE ECCENTRIC IN SHAPE.
10. ALL PRECAST SECTIONS AND BASES SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER IMPRESSED OR INDELIBLY MARKED ON THE INSIDE WALL.
11. ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.
12. MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.
13. MATERIALS OF CONSTRUCTION FOR MANHOLES SHALL BE AS FOLLOWS:
   A. CONCRETE FOR PRECAST BASES OR GRADE RINGS SHALL CONFORM TO THE REQUIREMENTS FOR CLASS AA CONCRETE IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
   B. REINFORCING FOR PRECAST CONCRETE SHALL BE STEEL OR STRUCTURAL FIBERS THAT CONFORM TO THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
   C. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM C478;
   D. THE MANHOLE FRAME AND COVER SHALL PROVIDE A 30-INCH DIAMETER CLEAR OPENING;
   E. THE MANHOLE COVER SHALL HAVE THE WORD "SEWER" IN 3-INCH LETTERS CAST INTO THE TOP SURFACE;
   F. THE CASTINGS SHALL BE OF EVEN-GRAINED CAST IRON, SMOOTH AND FREE FROM SCALE, LUMPS, BLISTERS, SAND HOLES AND DEFECTS;
   G. CONTACT SURFACES OF COVERS AND FRAMES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION;
   H. CASTINGS SHALL BE EQUAL TO CLASS 30, BE CERTIFIED BY THEIR MANUFACTURE(S) AS CONFORMING TO ASTM A48/A48;
   I. BRICK MASONRY FOR SHELF, INVERT AND GRADE ADJUSTMENT SHALL BE CERTIFIED BY THEIR MANUFACTURE(S) AS CONFORMING TO ASTM C32, CLAY OR SHALE, FOR GRADE SS HARD BRICK;
   J. MORTAR SHALL BE COMPOSED OF TYPE II PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITIONS;
   K. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
      1. 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
      2. 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PARTS HYDRATED LIME;
   L. CEMENT SHALL BE TYPE I PORTLAND CEMENT CONFORMING TO ASTM C150/C150M;
   M. HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207 "STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES";
   M. SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33 "STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES";
   O. CONCRETE FOR DROP SUPPORTS SHALL CONFORM TO THE REQUIREMENT FOR CLASS AAA CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
   P. SUBJECT TO (Q) BELOW, A FLEXIBLE PIPE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES FROM ANY MANHOLE CONNECTION:
      1. WITHIN 48-INCHES FOR REINFORCED CONCRETE (RC) PIPE; AND
      2. WITHIN 60-INCHES FOR PVC PIPE LARGER THAN 15-INCH DIAMETER;
   Q. NO FLEXIBLE JOINT SHALL BE REQUIRED FOR D.I. PIPE OR FOR PVC PIPE UP THROUGH 15-INCH DIAMETER; AND
   R. WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED IN LIEU OF A CONE SECTION, PROVIDED THE SLAB HAS AN ECCENTRIC ENTRANCE OPENING AND IS CAPABLE OF SUPPORTING H-20 LOADS.
14. MANHOLE TESTING:
   15. MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST.
   16. THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:
   17. 1. THE INITIAL VACUUM GAUGE TEST PRESSURE SHALL BE 10 INCHES Hg; AND
   18. 2. THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR A 1-INCH Hg PRESSURE DROP TO 9 INCH Hg SHALL BE:
   19. a. NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP IN DEPTH;
   20. b. NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP; AND
   21. c. NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP.
   22. THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIMES FAIL TO ACHIEVE THE ACCEPTANCE LIMITS SPECIFIED IN (20) ABOVE.
   23. FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON THE TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN OR ANIMALS UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENTS TO GRADE.

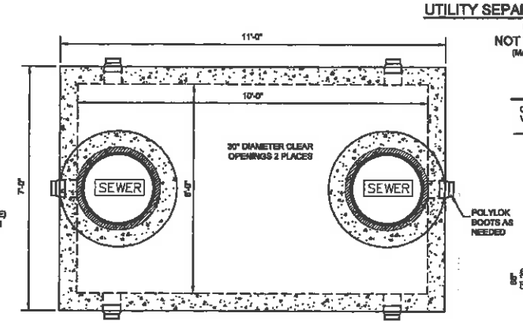


NOTES:

1. INSULATION TO BE USED WHERE PIPE SEPARATION IS 24" OR LESS.

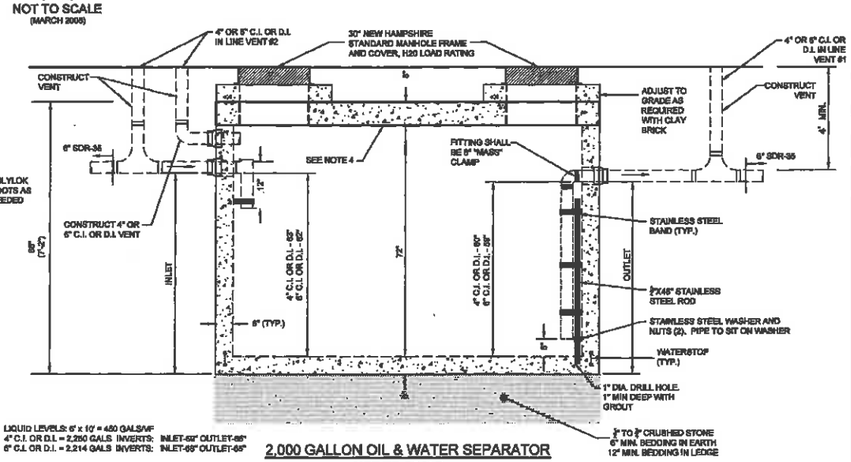
SEWER PIPE CROSSING INSULATION DETAIL

NOT TO SCALE
(JUNE 2012)



OIL & WATER SEPARATOR NOTES:

1. STEEL REINFORCEMENT CONFORMS TO LATEST ASTM. SPECIFICATIONS: ASTM-A615 GRADE 60 REBAR.
2. CONCRETE: FC = 5,000 PSI @ 28 DAYS MINIMUM.
3. FLEXIBLE SLEEVES PROVIDED ON ALL PIPE CONNECTIONS.
4. BUTYL RUBBER JOINT SEALANT PROVIDED.
5. INTERNAL PVC BAFFLES AVAILABLE UPON REQUEST.
   INLET: SHALL PENETRATE AT LEAST 6" BELOW THE LIQUID LEVEL, BUT NOT DEEPER THAN THE OUTLET BAFFLE.
   OUTLET: SHALL EXTEND BELOW THE SURFACE OF THE LIQUID TO 6" FROM THE FLOOR. (ENV. WQ 1012.02)
6. DESIGN LOADING: AASHTO-HS20-44, ASTM C-890-05.
7. DESIGN SPECIFIED AS: ASTM C-1227-08, ASTM C-913-08.
8. STEPS ARE NOT ALLOWED.
9. TWO INLINE VENTS MAY BE MERGED INTO SINGLE RISER



LIQUID LEVELS: 6' x 10' = 450 GALS/VF
4" C.I. OR D.I. = 2,250 GALS INVERTS: INLET-59" OUTLET-60"
6" C.I. OR D.I. = 2,214 GALS INVERTS: INLET-65" OUTLET-65"

2,000 GALLON OIL & WATER SEPARATOR

NOT TO SCALE

CONSTRUCTION DETAILS
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
ROSCOMMON INVESTMENTS, LLC
147 DANIEL WEBSTER HIGHWAY
NASHUA, NH 03060
(603) 888-5050

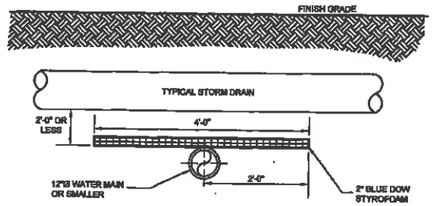
KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER
8/19/20

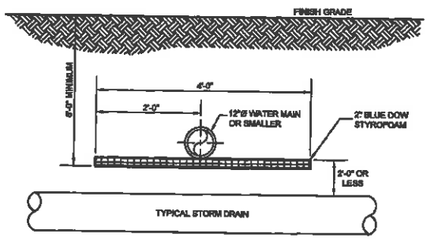
REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020	SCALE: AS NOTED
PROJECT NO: 17-1011-1	SHEET 19 OF 22



CONDITION I

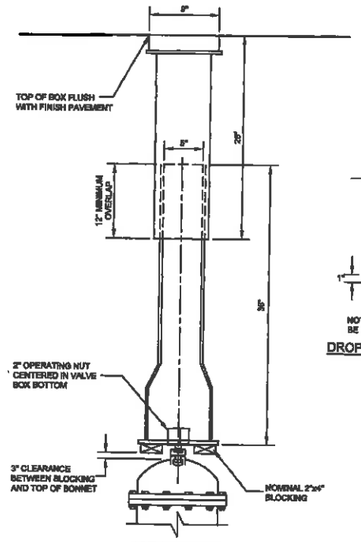


CONDITION II

NOTES:

1. PENNICHUCK WATER WORKS, INC. RESERVES THE RIGHT TO MODIFY INSULATION REQUIREMENTS AS NECESSARY BASED ON FIELD CONDITIONS, ETC.
2. THE LENGTH OR WIDTH OF INSULATION SHALL EXTEND 1 STORM DRAIN PIPE DIAMETER BEYOND THE EDGE OF STORM DRAIN PIPE IN EACH DIRECTION OR A MINIMUM OF 2' BEYOND THE CENTERLINE OF THE STORM DRAIN PIPE, WHICHEVER IS GREATER.
3. ALL BUTT JOINT SEAMS TO BE OVERLAPPED WITH A 1' PIECE OF INSULATION CENTERED OVER SEAM.

STORM DRAIN/WATER MAIN INTERSECTION RUNS - ELEVATION VIEW
(A-18)
NOT TO SCALE

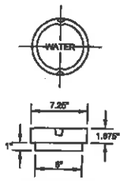


BOTTOM DETAIL

NOTES:

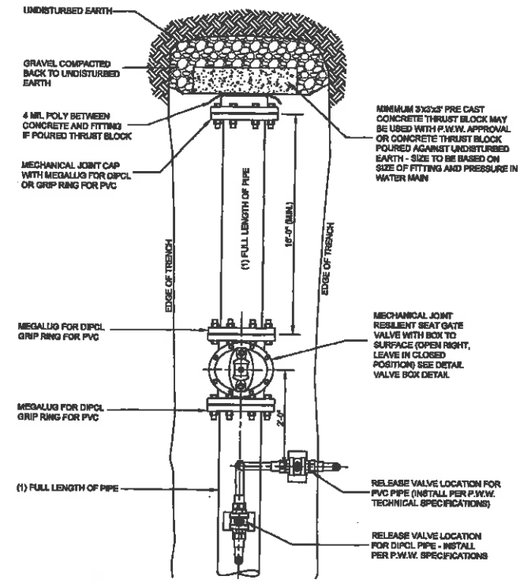
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO PENNICHUCK WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5'-0" FROM TOP OF PIPE TO FINISH GRADE.

VALVE BOX DETAIL
(A-09)
NOT TO SCALE
(MARCH 2008)



NOTE: COVER MUST BE MARKED "WATER"

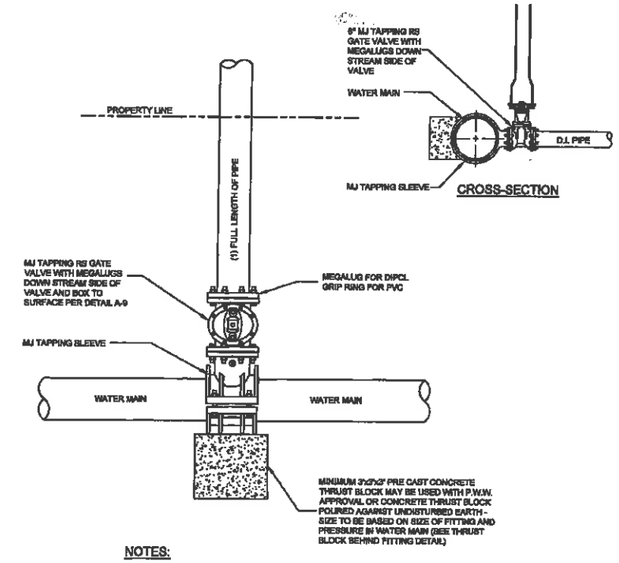
DROP STYLE COVER



NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO PENNICHUCK WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5'-0" FROM TOP OF PIPE TO FINISH GRADE.

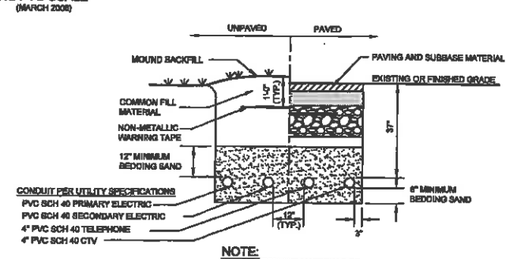
END OF MAIN INSTALLATION
(A-08)
NOT TO SCALE
(MARCH 2008)



NOTES:

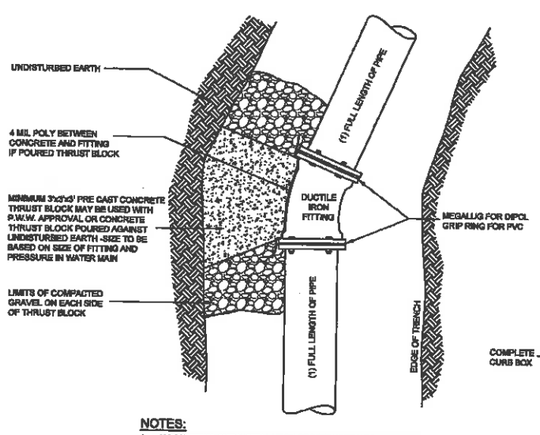
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO PENNICHUCK WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5'-0" FROM TOP OF PIPE TO FINISH GRADE.

LARGE SERVICE AND/OR TAPPING SLEEVE DETAIL
(A-21)
NOT TO SCALE
(MARCH 2008)



NOTE:
INSTALLATION AND MATERIALS OF UNDERGROUND UTILITIES SHALL CONFORM TO LOCAL UTILITY COMPANY SPECIFICATIONS.

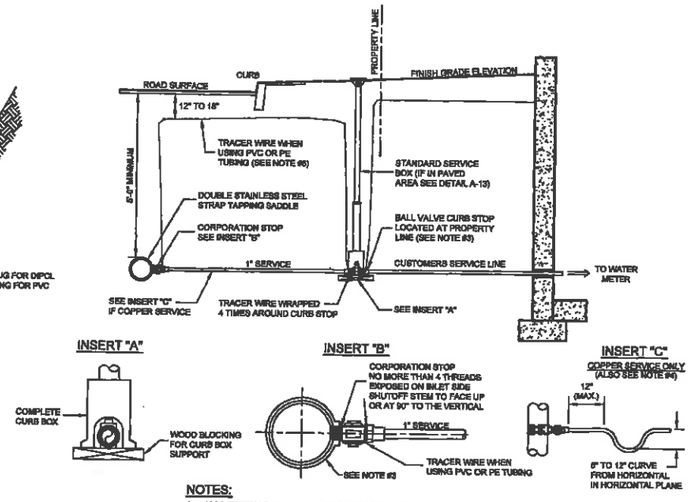
UTILITY TRENCH DETAIL
NOT TO SCALE
(MARCH 2008)



NOTES:

1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO PENNICHUCK WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTHS OF 5'-0" FROM TOP OF PIPE TO FINISH GRADE.
3. 3/4"Ø S.S. RODS SHALL BE USED IN CONJUNCTION WITH REQUIRED S.S. NUTS. RODS ARE TO BE ATTACHED TO FITTINGS WITH EITHER STAR BOLTS OR DUC LUGS.
   10" FITTING OR SMALLER = (2) 3/4"Ø S.S. RODS & ASSOCIATED HARDWARE.
   12" FITTING OR LARGER = (4) 3/4"Ø S.S. RODS & ASSOCIATED HARDWARE.
4. MIN 3'x3'x3' PRE CAST CONCRETE THRUST BLOCK MAY BE USED WITH PENNICHUCK WATER WORKS, INC. APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH - SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATER MAIN.

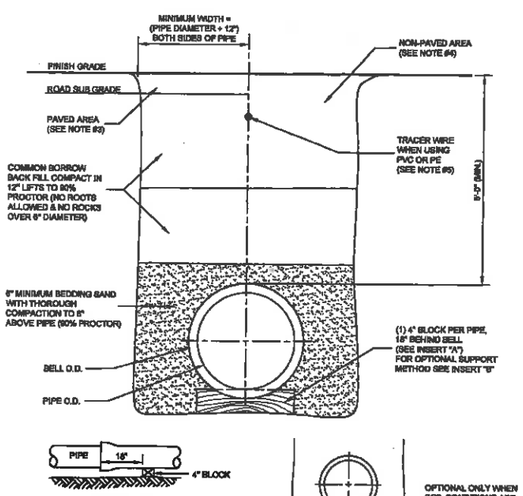
THRUST BLOCK BEHIND FITTINGS INSTALLATION
(A-07)
NOT TO SCALE
(MARCH 2008)



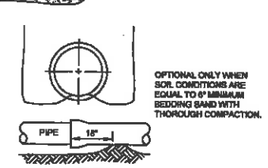
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO PENNICHUCK WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5'-0" FROM TOP OF PIPE TO FINISH GRADE.
3. IF WATER MAIN IS PVC OR TRANSITE, A DOUBLE STAINLESS STEEL STRAP TAPPING SADDLE MUST BE USED TO CONNECT THE CORPORATION TO THE WATER MAIN.
4. IF WATER MAIN IS PVC OR TRANSITE, AND THE NEW WATER SERVICE IS COPPER THEN SEE DETAIL A-15.
5. IF WATER MAIN IS A FIRE SERVICE, THEN SEE DETAIL A-24.
6. 10 GAUGE TRACER WIRE AS MANUFACTURED BY BMS, DIVISION OF ALBESTAR CORP., AVON, MA OR EQUIVALENT.

1" SERVICE AND VALVE BOX INSTALLATION DETAIL
(A-20)
NOT TO SCALE
(MARCH 2008)



INSERT "A"



INSERT "B"

NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO PENNICHUCK WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5'-0" FROM TOP OF PIPE TO FINISH GRADE.
3. REQUIREMENTS FOR SUBBASE AND BASE MATERIAL TYPE ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN PAVED AREAS.
4. REQUIREMENTS FOR GRAVEL, LOAM AND/OR SEED ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN NON-PAVED AREAS.
5. 10 GAUGE TRACER WIRE AS MANUFACTURED BY BMS, DIVISION OF ALBESTAR CORP., AVON, MA OR EQUIVALENT.

TRENCH DETAIL
(A-02)
NOT TO SCALE
(MARCH 2008)

CONSTRUCTION DETAILS
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
ROSCOMMON INVESTMENTS, LLC
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KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020	SCALE: AS SHOWN
PROJECT NO: 17-1011-1	SHEET 20 OF 22

TURF ESTABLISHMENT SCHEDULE

PURPOSE:
TO ESTABLISH AND MAINTAIN PERMANENT AND TEMPORARY TURF AREAS, RESTORE GROWTH TO EXISTING TURF AREAS DISTURBED DURING CONSTRUCTION AND CONTROL SOIL EROSION.

PREPARATION AND EXECUTION:
1. RAKE THE SUBGRADE OF ALL AREAS TO BE LOAMED AND SEEDED TO REMOVE RUBBISH, STICKS, ROOTS AND STONES LARGER THAN 1 INCH.
2. PLACE LOAM OVER AREAS TO BE SEEDED AND SPREAD.
3. FINE GRADE SUBGRADE AND SUPPLEMENT WITH SUITABLE LOAM WHERE NEEDED TO CREATE A UNIFORM SURFACE ACCORDING TO THE FINISH GRADES INDICATED; TOP AND BOTTOM OF SLOPES SHALL BE ROUNDED. NO LOAM SHALL BE SPREAD IF THE SUBGRADE IS EXCESSIVELY WET OR FROZEN.
4. APPLY LIME EVENLY OVER LOAM SURFACE AND THOROUGHLY INCORPORATE LIME INTO THE LOAM BY HEAVY RAKING TO AT LEAST ONE-HALF THE DEPTH OF THE LOAM.
5. APPLY NO PHOSPHATE, SLOW RELEASE FERTILIZER AND MIX WITH THE UPPER 2 INCHES OF LOAM.
6. DETERMINE APPROPRIATE MIXTURE FOR AREA TO BE SEEDED BASED ON EXAMINATION OF PROJECT PLANS. UNIFORMLY SPREAD THE SEED BY BROADCASTING OR HYDROSEEDING. IF BROADCASTING, LIGHTLY RAKE INTO THE PREPARED SURFACE AND ROLL. IF, HYDROSEEDING, USE 4 TIMES THE RECOMMENDED RATE OF INOCULANT. AFTER SEED IS SPREAD, WATER THOROUGHLY WITH A FINE SPRAY.
7. SEEDING FOR PERMANENT COVER SHALL OCCUR BETWEEN SEPTEMBER 15 AND OCTOBER 15 AND BETWEEN APRIL 15 AND JUNE 15. SEEDING SHALL NOT BE DONE DURING WINDY WEATHER, WHEN THE GROUND IS FROZEN OR EXCESSIVELY WET OR OTHERWISE UNTILLABLE.
8. WITHIN 24 HOURS AFTER SEEDING OPERATION, UNIFORMLY MULCH THE AREA WITH STRAW. ANCHOR MULCH ON ALL SLOPES EXCEEDING 3 : 1 USING MULCH NETTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER.
9. PROTECT AND PREVENT AGAINST WASHOUTS, ANY WASHOUTS WHICH OCCUR SHALL BE PROMPTLY REGRADED AND RESEEDED.
10. WHEN IT IS IMPRACTICAL TO ESTABLISH PERMANENT GROWTH ON DISTURBED EARTH BY OCTOBER 15, A TEMPORARY SEED MIXTURE SHALL BE USED. WHEN TEMPORARY SEEDING CANNOT ESTABLISH VISIBLE GROWTH, THE DISTURBED AREA SHALL BE COVERED WITH SIX INCHES OF MULCH FOR THE WINTER.

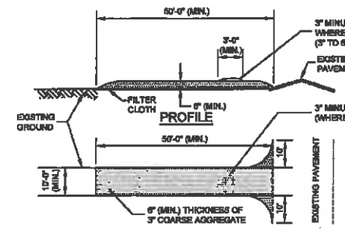
MAINTENANCE:
ALL SEEDED AREAS SHALL BE KEPT WATERED AND IN GOOD CONDITION. RESEED AS NECESSARY TO ESTABLISH HEALTHY UNIFORM GROWTH OVER THE ENTIRE SEEDED AREA. MAINTAIN SEEDED AREAS IN AN APPROVED CONDITION UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE REPAIRS FOR DAMAGE CAUSED BY EROSION.

APPLICATION RATES:
1. LOAM SHALL BE APPLIED AT A MINIMUM COMPACTED THICKNESS OF 4 INCHES.
2. LIME SHALL BE APPLIED AT A RATE OF 75 TO 100 POUNDS PER 1,000 S.F.
3. FERTILIZER SHALL BE APPLIED AT A RATE OF 30 POUNDS PER 1,000 S.F. IT IS RECOMMENDED THAT THE SOIL BE TESTED PRIOR TO APPLYING ANY FERTILIZERS TO DETERMINE WHAT LEVELS AND RATES ARE NECESSARY.
4. SEED MIXTURE FOR LAWN AREAS SHALL BE APPLIED AT A RATE OF AT LEAST 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
5. TEMPORARY SEED MIXTURE SHALL BE APPLIED AT A RATE OF 2 POUNDS PER 1,000 S.F.
6. SEED MIXTURE FOR SLOPE AREAS SHALL BE APPLIED AT A RATE OF 60 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS SHALL BE APPLIED AT A RATE OF 70 POUNDS PER ACRE OR 1.6 POUNDS PER 1,000 S.F.
8. MULCH SHALL BE APPLIED AT A RATE OF 90 POUNDS PER 1,000 S.F.

MATERIALS:
1. LOAM USED FOR TOPSOIL SHALL BE FRIABLE, FERTILE, NATURAL FREE-DRAINING LOAM; FREE OF ROOTS, GRASS, STICKS, WEEDS, CLAY, SOD LUMPS, DEBRIS AND STONES LARGER THAN 1 INCH IN ANY DIMENSION. SOIL SHALL NOT BE EXCESSIVELY ACID OR ALKALINE AND CONTAIN NO TOXIC MATERIALS.
2. LIME SHALL BE GROUND LIMESTONE CONTAINING NO LESS THAN 95% CALCIUM AND MAGNESIUM CARBONATES.
3. FERTILIZER SHALL BE NO PHOSPHORUS, SLOW RELEASE.
4. SEED MIXTURE FOR LAWN AREAS SHALL BE 95% PURE LIVE SEED AND CONSIST OF THE FOLLOWING:
   - 25% CREEPING RED FESCUE
   - 25% KENTUCKY BLUEGRASS
   - 25% REDTOP
   - 25% MANHATTAN PERENNIAL RYEGRASS
5. TEMPORARY SEEDING MIXTURE SHALL BE AN APPROVED CONSERVATION MIX OR CONSIST OF THE FOLLOWING:
   - 15% BLACKWELL OR SHELTER SWITCHGRASS
   - 30% NIAGRA OR KAW BIG BLUESTEM
   - 30% CAMPER OR BLAZE LITTLESTEM
   - 15% NE-27 OR BLAZE SAND LOVEGRASS
   - 10% VIRGINIA BIRDSFOOT TREFOIL

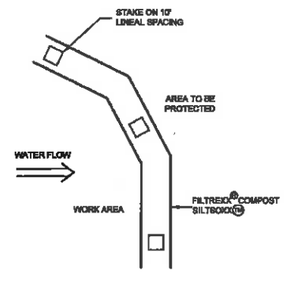
   INOCULUM SPECIFIC TO BIRDSFOOT TREFOIL MUST BE USED WITH THIS MIXTURE. IF SEEDING BY HAND, A STICKING AGENT SHALL BE USED. IF SEEDING WITH A HYDROSEEDER, USE FOUR TIMES THE RECOMMENDED AMOUNT OF INOCULUM.
6. SEED MIXTURE FOR SLOPE AREAS SHALL BE 95% PURE LIVE SEED AND SHALL CONSIST OF THE FOLLOWING:
   - 30% CREEPING RED FESCUE
   - 40% PERENNIAL RYE GRASS
   - 10% REDTOP
   - 15% BIRDSFOOT TREFOIL

   *IN ADDITION TO THE MIX SPECIFIED ABOVE, CROWN VETCH SHALL BE USED ON ALL SLOPES STEEPER THAN 3 : 1. CROWN VETCH SHALL BE APPLIED AT A RATE OF 10 POUNDS PER ACRE AND INOCULUM SPECIFIC TO CROWN VETCH MUST BE USED.
7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS, INCLUDING DETENTION BASINS AND VEGETATED TREATMENT SWALES SHALL CONSIST OF THE FOLLOWING:
   - 25% CREEPING RED FESCUE
   - 15% SWITCH GRASS
   - 15% FOX SEDGE
   - 15% CREEPING BENTGRASS
   - 10% PLATPEA
   - 20% WILDFLOWER VARIETY
8. STRAW USED FOR MULCH SHALL CONSIST OF MOWED AND PROPERLY CURED GRASS OR LEGUME MOWINGS, FREE FROM WEEDS, TWIGS, DEBRIS OR OTHER DELETERIOUS MATERIAL AND ROT OR MOLD.
9. NATIVE PLANTINGS SHOULD BE USED FOR ALL NEW GREENSCAPES.
10. ALL WILDFLOWER SEEDING MIXES SHOULD BE FREE OF INVASIVE SPECIES.

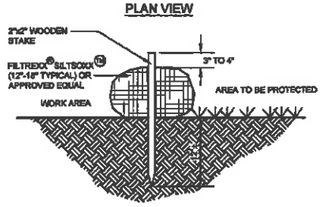


PLAN VIEW

STABILIZED CONSTRUCTION EXIT DETAIL
NOT TO SCALE



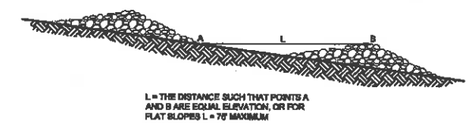
PLAN VIEW



SECTION VIEW

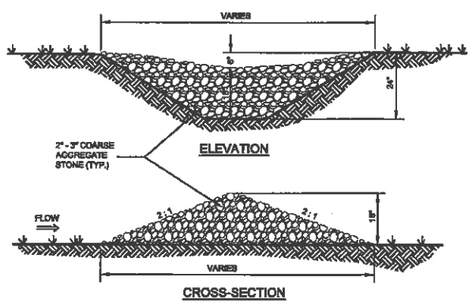
NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. SILTSOXX™ COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. SILTSOXX™ DEPICTED IS FOR MINIMUM SLOPES. GREAT SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTREXX® SILTSOXX™ DETAIL
NOT TO SCALE
(AUGUST 2011)

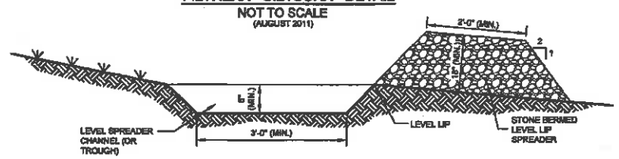


L = THE DISTANCE SUCH THAT POINTS A AND B ARE EQUAL ELEVATION, OR FOR FLAT SLOPES L = 70' MAXIMUM

STONE CHECK DAM SPACING DETAIL
NOT TO SCALE
(MARCH 2008)



STONE CHECK DAM DETAIL
NOT TO SCALE
(MARCH 2008)



NOTES:
1. CONSTRUCT THE LEVEL SPREADER LIP ON A ZERO PERCENT GRADE TO INSURE UNIFORM SPREADING OF RUN-OFF.
2. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL AND NOT ON FILL.
3. THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET INTO STABILIZED AREAS. WATER SHOULD NOT RECONCENTRATE IMMEDIATELY BELOW THE SPREADER.
4. PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PERFORMED.

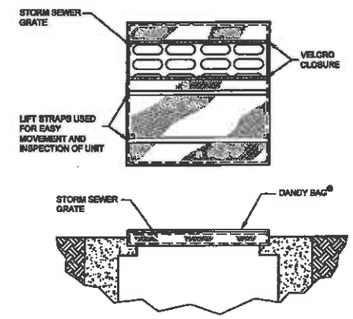
GRADATION OF STONE FOR LEVEL SPREADER BERM	
SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
12 INCH	100%
6 INCH	64 - 100%
3 INCH	86 - 83%
1 INCH	42 - 86%
NO. 4	8 - 12%

MAINTENANCE REQUIREMENTS:
1. INSPECT AT LEAST ONCE ANNUALLY FOR ACCUMULATION OF SEDIMENT AND DEBRIS AND FOR SIGNS OF EROSION WITHIN APPROACH CHANNEL, SPREADER CHANNEL OR DOWN-SLOPE OF THE SPREADER.
2. REMOVE DEBRIS WHENEVER OBSERVED DURING INSPECTION.
3. REMOVE SEDIMENT WHEN ACCUMULATION EXCEEDS 25% OF SPREADER CHANNEL DEPTH.
4. MOW AS REQUIRED BY LANDSCAPE DESIGN. AT A MINIMUM, MOW ANNUALLY TO CONTROL WOODY VEGETATION WITHIN THE SPREADER.
5. SNOW SHOULD NOT BE STORED WITHIN OR DOWN-SLOPE OF THE LEVEL SPREADER OR ITS APPROACH CHANNEL.
6. REPAIR ANY EROSION AND RE-GRADE OR REPLACE STONE BERM MATERIAL, AS WARRANTED BY INSPECTION.
7. RECONSTRUCT THE SPREADER IF DOWN-SLOPE CHANNELIZATION INDICATES THAT THE SPREADER IS NOT LEVEL OR THAT DISCHARGE HAS BECOME CONCENTRATED, AND CORRECTIONS CANNOT BE MADE THROUGH MINOR RE-GRADING.

STONED BERMED LEVEL LIP SPREADER DETAIL
NOT TO SCALE
(APRIL 2010)

MAINTENANCE:
1. MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE CRUSHED STONE AND THE EFFECTIVENESS OF THE CRUSHED STONE PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOPDRESSED WITH NEW CRUSHED STONE OR COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.
2. IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THAT ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

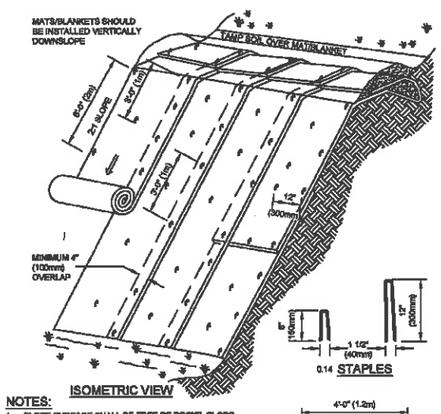
CONSTRUCTION SPECIFICATIONS:
1. STONE FOR A STABILIZED CONSTRUCTION EXIT SHALL BE 1 TO 2 INCH STONE, RECLAIMED STONE OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED EXIT SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE EXIT SHALL NOT BE LESS THAN THE FULL WIDTH OF THE AREA WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE EXIT. IF PIPING IS IMPRACTICAL, A BERM WITH 3:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.



HI-FLOW DANDY BAG® (SAFETY ORANGE)

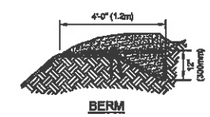
MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	kN (lbs)	1.82 (365) x 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 x 19
PUNCTURE STRENGTH	ASTM D 4833	kN (lbs)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	kPa (psi)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4533	kN (lbs)	0.51 (115) x 0.33 (75)
UV RESISTANCE	ASTM D 4355	%	90
APPARENT OPENING SIZE	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
FLOW RATE	ASTM D 4491	l/min/m² (gal/min/ft²)	6907 (145)
PERMITTIVITY	ASTM D 4491	Sec⁻¹	2.1

DANDY BAG®
NOT TO SCALE
(APRIL 2010)



ISOMETRIC VIEW

NOTES:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/ BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. EROSION BLANKETS TO BE A BCN150 OR AN APPROVED ALTERNATIVE WHICH MUST CONSIST OF ALL NATURAL FIBERS.



BERM

EROSION CONTROL BLANKETS - SLOPE INSTALLATION
NOT TO SCALE
(AUGUST 2011)

CONSTRUCTION SEQUENCE
1. THE CONTRACTOR WILL ENSURE THAT NO MORE THAN 5 ACRES IS DISTURBED AT ANY ONE TIME.
2. FIRST CUT AND CLEAR TREES AND BRUSH ONLY WITHIN DESIGNATED LIMITS OF CLEARING AS NECESSARY TO FACILITATE PROPOSED CONSTRUCTION. ALL TREES, BRANCHES AND OTHER VEGETATIVE MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR. THIS PROJECT IS MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
3. PRIOR TO COMMENCEMENT OF ANY EARTHMOVING OPERATIONS, ALL APPLICABLE TEMPORARY EROSION CONTROL MEASURES, INCLUDING SPECIFIED PERIMETER SILTATION FENCING AND STABILIZED CONSTRUCTION EXIT SHALL BE IN PLACE AS SHOWN ON THE PROJECT PLANS.
4. COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND SIMILAR ORGANIC DEBRIS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR. NATIVE ORGANIC SOIL MATERIALS SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED WITHIN AREAS OUT OF THE WAY OF OTHER CONSTRUCTIONS ACTIVITIES AND DRAINAGE FLOW. STOCKPILES SHALL BE TEMPORARILY SEEDED WITH WINTER RYE AND BE SURROUNDED WITH STRAW BALES AND/OR FABRIC SILTATION FENCE IN ORDER TO PREVENT LOSS DUE TO EROSION.
5. BEGIN EARTHMOVING OPERATIONS, COMMENCING WITH WORK NEEDED TO BALANCE SITE AND FACILITATE BUILDING FOUNDATION AND RETAINING WALL CONSTRUCTION. PERMANENT DOWNSLOPE WORK SHALL BE PROTECTED FROM UPGRADIENT STORMWATER FLOW BY THE CONSTRUCTION OF TEMPORARY EARTHEN DIKES OR EXCAVATED SWALES.
6. ONCE BUILDING FOUNDATION WORK IS UNDERWAY, CONTINUE EARTHMOVING OPERATIONS UNTIL DESIGN SUBGRADE IS ACHIEVED.
7. DETENTION BASINS/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
8. DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
9. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
10. INSTALL DRAINAGE SWALE SYSTEMS AND OTHER UTILITIES WORKING FROM LOW TO HIGH. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE USE OF SILTATION BARRIERS AROUND SWALES UNTIL THE SITE HAS BECOME FULLY STABILIZED.
11. DEEPLY TILL THE BASE OF THE INFILTRATION BASIN TO RESTORE INFILTRATION RATES FOLLOWED BY A PASS WITH A LEVELING DRAG. STORMWATER FLOWS ARE NOT TO BE DIRECTED TO THE INFILTRATION AREA UNTIL CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
12. PLACE GRAVEL AND CRUSHED GRAVEL OVER PROPOSED DRIVEWAY, WALKS AND PARKING AREAS AND COMPACT IN SPECIFIED LIFT THICKNESS.
13. COMPLETE EXCAVATION/STABILIZATION GRADING ACTIVITIES. WHEN COMPLETE, IMMEDIATELY BEGIN TOPSOILING PROPOSED TURF AREAS USING STOCKPILED LOAM SUPPLEMENTED WITH BORROW LOAM, IF NECESSARY, TO LEAVE A THICKNESS OF 4 INCHES OF FRIABLE LOAM.
14. FINE GRADE ALL FUTURE TURF AREAS AND HYDROSEED WITH THE SPECIFIED SEED MIXTURE IMMEDIATELY AFTER FINE GRADING IS COMPLETED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
15. INSTALL THE BINDER COURSE OF PAVEMENT OVER ALL DESIGNATED AREAS.
16. CONTINUE TO MONITOR AND RECTIFY MINOR SITE AND SLOPE EROSION UNTIL ENTIRE SITE APPEARS TO BE COMPLETELY STABILIZED AND VEGETATED WITH A HEALTHY STAND OF TURF OR GROUND COVER. MAINTAIN SPECIFIED SILTATION/EROSION CONTROL MEASURES THROUGH ONE WINTER.
17. INSTALL THE SPECIFIED WEARING COURSE OF PAVEMENT OVER THE BINDER COURSE.
18. COMPLETE INSTALLATION OF LANDSCAPING, SIGNAGE AND OTHER SITE AMENITIES.

CERTIFICATE OF OCCUPANCY PHASING PLAN AGREEMENT:
1. THE FOLLOWING SITE IMPROVEMENTS ARE REQUIRED FOR INDIVIDUAL CERTIFICATES OF OCCUPANCY AS CONSTRUCTION PROGRESSES:
   - A. ROAD BASE COAT;
   - B. STOP SIGNS AND TEMPORARY STRIPING OF STOP BAR;
   - C. GRADING AND DRAINAGE;
   - D. LOAM AND SEED THAT SUPPORTS THE SUBJECT UNIT OF THE CERTIFICATE OF OCCUPANCY;
   - E. TEMPORARY STRIPING OF VISITOR PARKING; AND
   - F. UTILITIES.

EROSION CONTROL NOTES
1. EXPOSED EARTHWORK SHALL BE CONFINED TO AS LIMITED AN AREA AS IS PRACTICAL AT ANY GIVEN TIME THROUGHOUT THE CONSTRUCTION SEQUENCE. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION UNLESS AN ENVIRONMENTAL MONITOR IS EMPLOYED THROUGH THE DURATION OF CONSTRUCTION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING FORTY-FIVE (45) CALENDAR DAYS.
2. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PROJECT PLANS. IN ADDITION, SIMILAR MEASURES SHALL BE INSTALLED WHERE AND WHEN THE FIELD CONDITION, OR FIELD OPERATION OF THE INDIVIDUAL SITE CONTRACTOR, MAY WARRANT. ALL TEMPORARY EROSION CONTROL MEASURES USED SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OF RAINFALL OR MORE. THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
3. ALL DISTURBED AREAS DESIGNATED TO BE TURF, SHALL RECEIVE A MINIMUM APPLICATION OF 4 INCHES OF LOAM (COMPACTED THICKNESS), PRIOR TO FINAL SEEDING AND MULCHING.
4. EROSION CONTROL AND STABILIZATION SHALL BE IN ACCORDANCE WITH HILLSBOROUGH COUNTY CONSERVATION DISTRICT-VEGETATIVE STANDARD AND SPECIFICATIONS FOR SEEDING GRASSES AND LEGUMES FOR LONG-TERM COVER ON EXCAVATED AREAS.
5. ALL SWALES AND DITCHLINES SHALL BE PERIODICALLY CLEANED OF DEPOSITED SEDIMENT SO AS TO MAINTAIN AN EFFECTIVE GRADE AND CROSS SECTION. ALL SWALES AND DITCHLINES SHALL BE FULLY STABILIZED PRIOR TO HAVING STORMWATER DIRECTED TOWARDS THEM.
6. IN THE EVENT THAT, DURING CONSTRUCTION OF ANY PORTION OF THIS PROJECT, A WINTER SHUTDOWN IS NECESSARY, THE CONTRACTOR SHALL STABILIZE ALL INCOMPLETE WORK AND PROVIDE FOR SUITABLE METHODS OF DIVERTING RUNOFF IN ORDER TO ELIMINATE SHEET FLOW ACROSS FROZEN SURFACES.
7. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
   - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
   - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
8. DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH ENV-A 1000.
9. IN NO WAY ARE THOSE TEMPORARY EROSION CONTROL MEASURES INDICATED ON THESE PLANS TO BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL USE JUDGEMENT IN INSTALLING SUPPLEMENTARY EROSION CONTROL MEASURES WHERE AND WHEN SPECIFIC SITE CONDITIONS AND/OR CONSTRUCTION METHODOLOGIES MAY WARRANT.
10. THE TOWN RESERVES THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION.
11. AREAS HAVING FINISH GRADE SLOPES OF 3 : 1 OR STEEPER, SHALL BE STABILIZED WITH JUTE MATTING WHEN AND IF FIELD CONDITIONS WARRANT, OR IF SO ORDERED. JUTE MATTING INSTALLED TO CONFORM WITH THE RECOMMENDED BEST MANAGEMENT PRACTICE OUTLINED IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION."
12. DETENTION BASINS/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
13. DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
14. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
15. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
16. ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

WINTER CONSTRUCTION NOTES:
1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3 OR, IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
   - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
   - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

CONSTRUCTION DETAILS
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
ROSCOMMON INVESTMENTS, LLC
147 DANIEL WEBSTER HIGHWAY
NASHUA, NH 03060
(603) 888-5050

KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-5851

STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15078 LICENSED PROFESSIONAL ENGINEER 10/1/20

REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/29/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020 | SCALE: AS SHOWN
PROJECT NO: 17-1011-1 | SHEET 21 OF 22

TP #1

LOGGED BY GPC
PERC TEST @ 20"
DATE: 4-22-2020
PERC RATE: 8 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: 40"

0"	SANDY, STONE FILL
40" E.S.H.W.T.	2.5Y 6/4, FIRM, LOAMY SAND, W/ REDOX FEATURES
64" BOTTOM OF HOLE	

TP #2

LOGGED BY GPC
PERC TEST @ 20"
DATE: 4-22-2020
PERC RATE: 8 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: 26"

0"	FILL/TOPSOIL
10"	10YR 5/4, GRANULAR, FRIABLE LOAMY SAND, MASSIVE, COBBLES, ROOTS
26" E.S.H.W.T.	10YR 7/3, SAND, SINGLE GRAIN REDOX FEATURES
65" BOTTOM OF HOLE	

TP #3

LOGGED BY GPC
PERC TEST @ 20"
DATE: 4-22-2020
PERC RATE: 8 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: 60"

0"	SANDY, STONE FILL
36" E.S.H.W.T.	10YR 7/3, SAND, SINGLE GRAIN REDOX FEATURES
78" BOTTOM OF HOLE	

TP #4

LOGGED BY GPC
PERC TEST @ 20"
DATE: 4-22-2020
PERC RATE: 8 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: 65"

0"	SANDY, STONE FILL
32" E.S.H.W.T.	10YR 7/3, SAND, FINE PLATY REDOX FEATURES
85" BOTTOM OF HOLE	

TP #5

LOGGED BY GPC
PERC TEST @ 20"
DATE: 4-22-2020
PERC RATE: 8 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FILL/TOPSOIL
6" E.S.H.W.T.	SAND FILL, STONES
68" BOTTOM OF HOLE	

TP #6

LOGGED BY GPC
PERC TEST @ 20"
DATE: 4-22-2020
PERC RATE: 8 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: 48"

0"	TOPSOIL
4"	7.5Y 4/4, GRANULAR, FRIABLE SANDY LOAM, MASSIVE, COBBLES, ROOTS
28" E.S.H.W.T.	10YR 7/3, SAND, SINGLE GRAIN REDOX FEATURES
65" BOTTOM OF HOLE	

TP #7

LOGGED BY GPC
PERC TEST @ 20"
DATE: 6-15-2020
PERC RATE: 8 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FILL/TOPSOIL
6" E.S.H.W.T.	10YR 6/3, GRANULAR, FRIABLE SILTY SAND, MASSIVE, REDOX FEATURES
48"	10YR 5/4, SAND, PLATY, REDOX FEATURES
60" BOTTOM OF HOLE	

TP #8

LOGGED BY GPC
PERC TEST @ 20"
DATE: 6-15-2020
PERC RATE: 8 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: 76"

0"	FILL/TOPSOIL
16"	10YR 4/6, GRANULAR, FRIABLE LOAMY SAND MASSIVE, FEW ROOTS
32"	10YR 5/4, LOAMY SAND, MASSIVE, REDOX FEATURES, FEW ROOTS
36" E.S.H.W.T.	10YR 7/8, SILTY SAND, BLOCKY, REDOX FEATURES
80" BOTTOM OF HOLE	

TP #9

LOGGED BY GPC
PERC TEST @ 20"
DATE: 6-15-2020
PERC RATE: 8 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FILL/TOPSOIL
20"	10YR 2/2, GRANULAR, FRIABLE LOAMY SAND MASSIVE, FEW ROOTS
28"	10YR 5/6, LOAMY SAND, MASSIVE, REDOX FEATURES, FEW ROOTS
46" E.S.H.W.T.	10YR 7/6, SILTY SAND, BLOCKY, REDOX FEATURES
60" BOTTOM OF HOLE	

TP #10

LOGGED BY GPC
PERC TEST @ 20"
DATE: 6-15-2020
PERC RATE: 8 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: 32"

0"	FILL/TOPSOIL
18" E.S.H.W.T.	10YR 4/4, GRANULAR SAND BLOCKY, FEW ROOTS
32"	10YR 7/8, SILTY SAND, BLOCKY, REDOX FEATURES
48" BOTTOM OF HOLE	

TP #11

LOGGED BY GPC
PERC TEST @ 20"
DATE: 6-15-2020
PERC RATE: 8 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FILL/TOPSOIL
20"	10YR 4/6, GRANULAR / FRIABLE GRAVELY SAND MASSIVE, FEW ROOTS
48" E.S.H.W.T.	10YR 3/6, GRANULAR FRIABLE SANDY LOAM MASSIVE
60" BOTTOM OF HOLE	

TEST PITS
AUTO BODY SHOP
MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER/APPLICANT:
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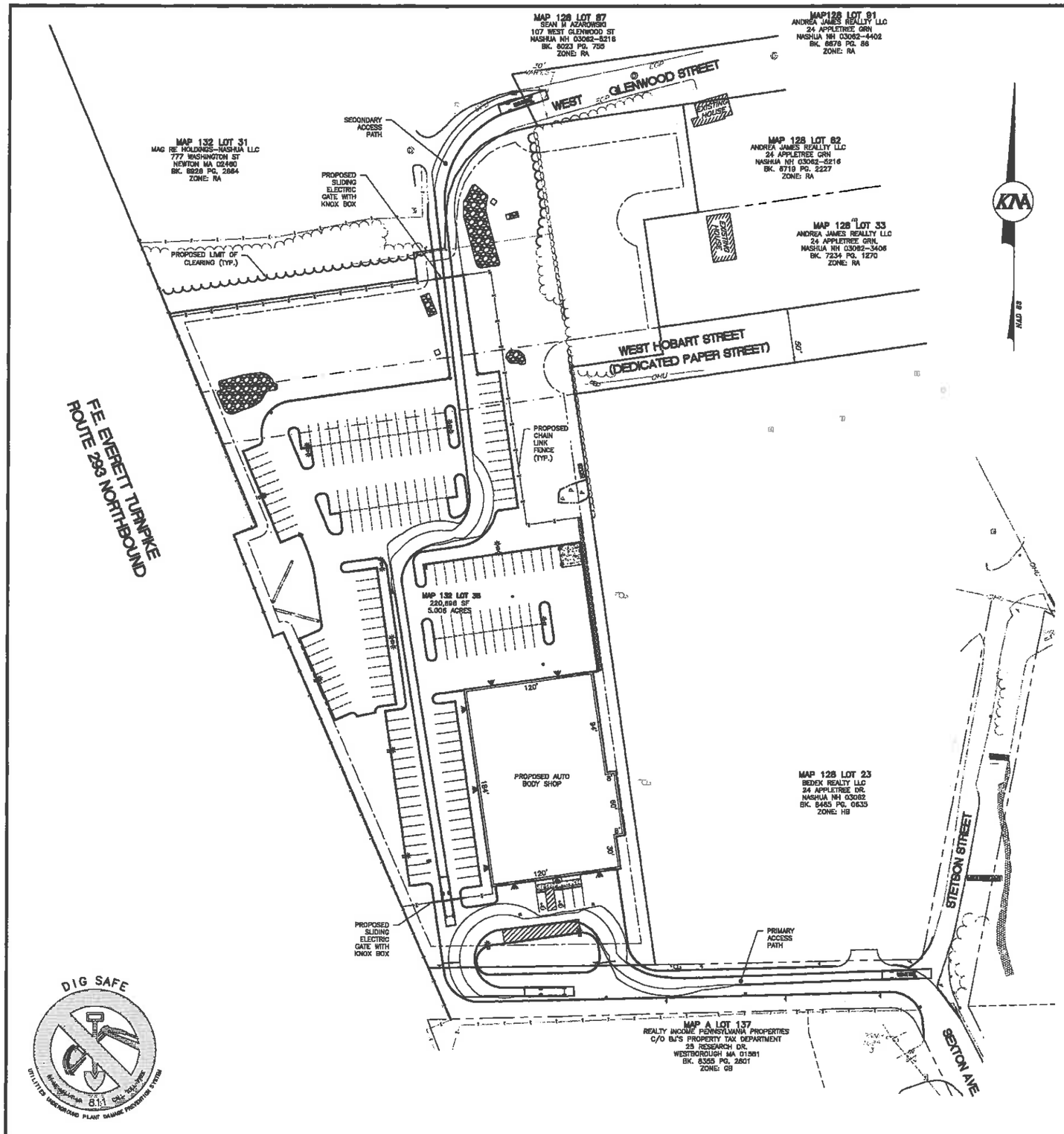
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-8881

STATE OF NEW HAMPSHIRE PAUL CHISHOLM No. 15076 LICENSED PROFESSIONAL ENGINEER
10/1/20

REVISIONS

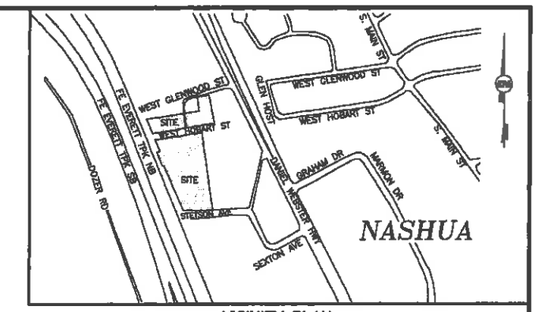
No.	DATE	DESCRIPTION	BY
1	7/28/20	AUTO STORAGE & MEZZANINE REVS	PCM
2	10/1/20	CITY ENGINEERING REVISIONS	PCM

DATE: JUNE 22, 2020 | SCALE: AS SHOWN
PROJECT NO: 17-1011-1 | SHEET 22 OF 22



LEGEND

- SB-F — STONE BOUND FOUND
- IPIN-F — IRON PIN FOUND
- IPP-F — IRON PIPE FOUND
- UTILITY POLE
- SIGN
- LIGHT
- GAS VALVE
- WATER VALVE
- HYDRANT
- WATER SHUT OFF
- SEWER MANHOLE
- DRAINAGE MANHOLE
- CATCH BASIN
- FLARED END SECTION
- WELL
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- CHAIN LINK FENCE
- OVERHEAD UTILITIES
- GAS LINE
- WATER LINE
- SEWER LINE
- DRAINAGE LINE
- TREELINE
- STONE WALL
- EDGE OF PAVEMENT
- VERTICAL GRANITE CURB
- STONE WALL
- BUILDING SETBACK
- EASEMENT
- ZONE LINE
- PROPOSED UTILITY POLE
- PROPOSED SIGN
- PROPOSED BUILDING MOUNTED LIGHT
- PROPOSED PARKING LOT LIGHT
- PROPOSED BACK TO BACK PARKING LOT LIGHT
- PROPOSED GAS VALVE
- PROPOSED WATER VALVE
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED BITUMINOUS CURB
- PROPOSED EDGE OF PAVEMENT
- SNOW STORAGE
- PROPOSED TREELINE
- PROPOSED STORMWATER SYSTEM
- PROPOSED MODULAR BLOCK WALL
- PROPOSED STOCKADE FENCE

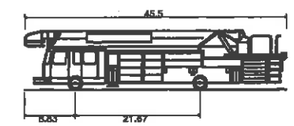


VICINITY PLAN

SCALE: 1" = 500' +/-

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PATH OF A TYPICAL NASHUA FIRE ENGINE TRAVERSING THE SITE.



NASHUA FIRE ENGINE	
Overall Length	45.500ft
Overall Width	8.670ft
Overall Body Height	10.227ft
Min Body Ground Clearance	0.657ft
Track Width	6.830ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

GRAPHIC SCALE

20 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

FIRE TRUCK OVERLAY PLAN

AUTO BODY SHOP

MAP 128 LOTS 31, 32 & 84
MAP 132 LOTS 38 & 84
WEST GLENWOOD STREET
NASHUA, NEW HAMPSHIRE
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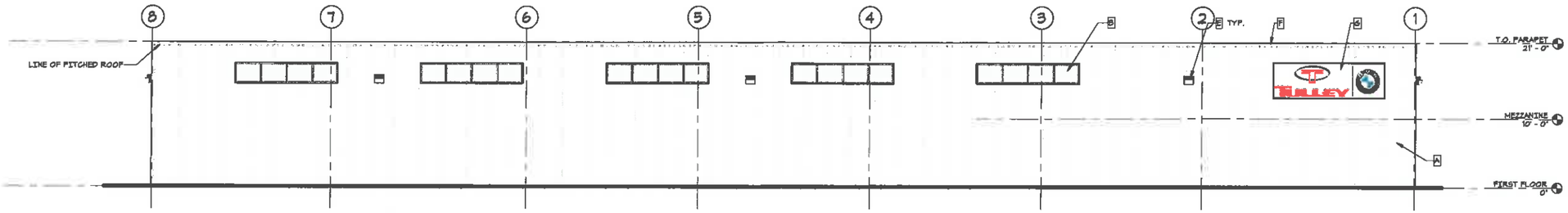
REVISIONS

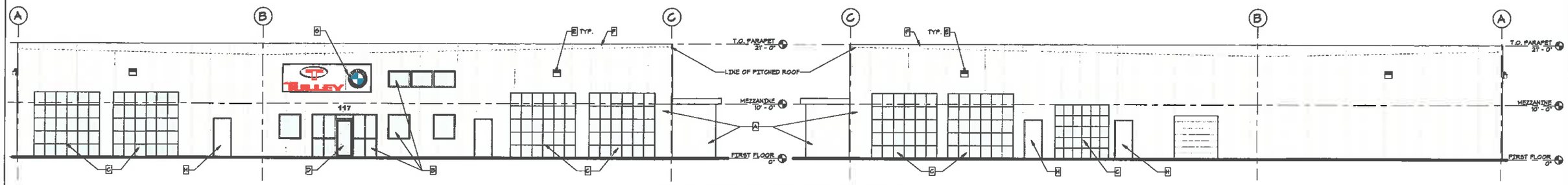
No.	DATE	DESCRIPTION	BY
1	9/30/20	UPDATED LAYOUT	PCM

DATE: JULY 7, 2020	SCALE: 1"=50'
PROJECT NO: 17-1011-1	SHEET 1 OF 1

DIG SAFE
811 CALL BEFORE YOU DIG
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM



1 WEST ELEVATION
1/8" = 1'-0"

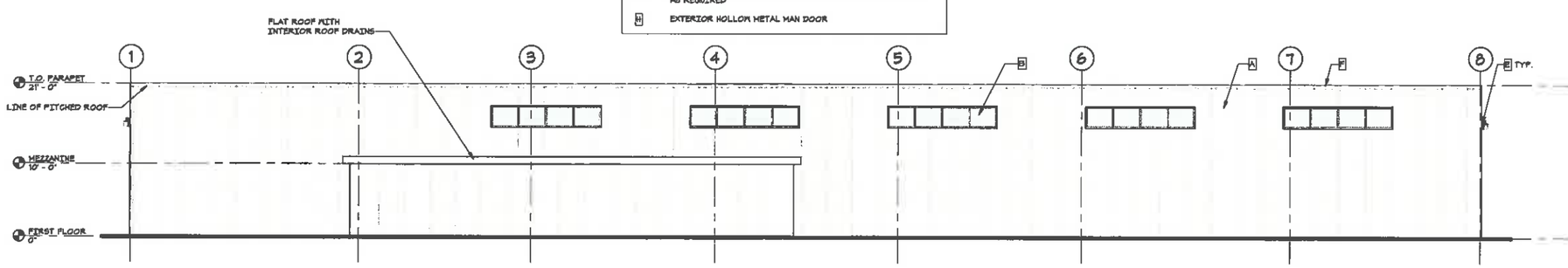


4 SOUTH ELEVATION
1/8" = 1'-0"

2 NORTH ELEVATION
1/8" = 1'-0"

MATERIAL LEGEND

A	3" INSULATED METAL PANEL, 42" WIDE, BY METL SPAN (OR APPROVED EQUAL) COLOR TO MATCH RAL 9010 (WHITE)
B	FIXED ALUM & GLASS STOREFRONT WINDOWS W/ INSULATED GLAZING AND THERMALLY BROKEN FRAMES (CLEAR ANODIZED)
C	FULL LITE OVERHEAD DOORS
D	EXTERIOR ALUM. & GLASS DOOR
E	EXTERIOR WALL PACKING LIGHTING (SEE CIVIL)
F	PRE-FINISHED ALUM. ROOF EDGE - COLOR TBD
G	EXTERIOR SIGNAGE, PROVIDE BLOCKING & ELECTRICAL FEED AS REQUIRED
H	EXTERIOR HOLLOW METAL MAN DOOR



3 EAST ELEVATION
1/8" = 1'-0"

EXTERIOR ELEVATIONS

0 2' 4' 8'

TULLEY BODY SHOP

WEST GLENWOOD STREET
NASHUA, NH, 03060
4/29/20

ARCHITECTURE
LAND PLANNING
INTERIOR DESIGN
3D VISUALIZATION

BRUCE ROSCOSE HAMILTON ARCHITECTS

833 TURNPIKE ROAD P.O. BOX 104
NEW IPSWICH NEW HAMPSHIRE 03071

NASHUA CITY PLANNING BOARD
STAFF REPORT

TO: Nashua City Planning Board
FROM: Linda McGhee, Deputy Planning Manager
FOR: September 24, 2020
RE: **New Business #7- Site Plan**

I. Project Statistics:

Owner:	Granite State Credit Union
Proposal:	Amendment to NR2186 to show a proposed credit union
Location:	190 Broad Street
Total Site Area:	1.224 acres (53,333 sf)
Existing Zoning:	GB-General Business
Surrounding Uses:	Retail and medical

II. Background Information:

According to assessing records, this parcel has been home to medical offices since the 1960's. On November 16, 2014, the planning board approved a site plan to construct a 2-story 10,388 sf multi-tenant office. In 2015, 2016 and 2017 the board granted one year extensions; however that project never moved forward. Copies of the approval letters and staff reports are attached.

III. Project Description:

The proposal is to redevelop the existing two-story 6,400 sf building and construct a new two-story, 10,000 sf credit union building. Like the current site, there will be access from Coliseum Avenue to an upper driveway entry with four drive-through lanes and one bypass lane. The lower floor of the building will face the south and contain a parking lot, with access to Norwood Street. A one-way directional travel lane will connect the north drive-through lanes to the parking lot. A total of 37 parking spaces will service the proposed credit union. On-site drainage improvements include two subsurface stormwater recharge areas. Additionally, a number of other site improvements including curbing, sidewalks, landscaping and new site lighting are proposed.

A traffic memorandum dated July 9, 2020 from Stephen G. Pernaw, P.E., PTOE has been submitted for the proposed development. The Traffic Impact Report (TIR) Threshold Worksheet demonstrates a formal Traffic Impact Report is not required. A waiver request for architectural standards has been requested.

City Staff reviewed the plans; comments are attached.

Staff Recommendations and Findings:

The Planning Board should make a determination that the plan meets, or does not meet, the requirements outlined in the Site Plan NRO § 190-146(D). The Board should review these prior to making a motion. If the Planning Board chooses to disapprove the plan, specific reasons should be given. If the Planning Board chooses to approve this plan, staff recommends the following stipulations be made part of that approval:

1. The request for a waiver of § 190-172(D) (3) and (4), which requires façade colors and predominant exterior building materials, **is/is not** granted, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation.

2. Prior to the Chair signing the plan, minor drafting corrections will be made.

3. Prior to the Chair signing the plan, all comments in a letter Joe Mendola, Street Construction Engineer, dated _____ shall be addressed to the satisfaction of the Engineering Department.

MAP 'E' , LOT 744

SITE PLAN

PROPOSED CREDIT UNION BUILDING

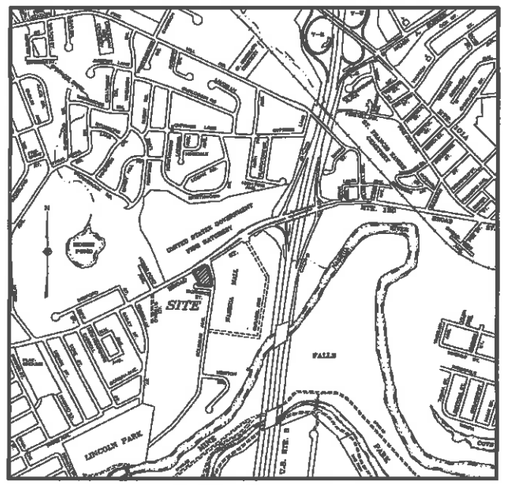
190 BROAD STREET

NASHUA, NEW HAMPSHIRE

PREPARED FOR / RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET
MANCHESTER, NEW HAMPSHIRE 03108
(603)-668-2221



VICINITY PLAN
SCALE 1" = 1,000'

30 JULY 2020
24 SEPTEMBER 2020

INDEX OF PLANS

SHEET No.	TITLE	
1 OF 16	MASTER SITE PLAN	1"=30'
2 OF 16	EXISTING CONDITIONS PLAN	1"=20'
3 OF 16	SITE DEMOLITION PLAN	1"=20'
4 OF 16	SITE PLAN	1"=20'
5 OF 16	FIRE TRUCK TURNING ANALYSIS PLAN	1"=30'
6 OF 16	UTILITY PROFILES AND SMA DETAILS	H:1" = 30' V:1" = 4'
7-8 OF 16	DETAIL SHEET - GENERAL SITE	
9 OF 16	DETAIL SHEET - SEWER	
10 OF 16	DETAIL SHEET - WATER	
11 OF 16	EROSION CONTROL PLAN	1"=20'
12 OF 16	DETAIL SHEET - EROSION CONTROL	
13 OF 16	LANDSCAPE PLAN	1"=20'
14 OF 16	DETAIL SHEET - LANDSCAPE	
15 OF 16	PHOTOMETRIC LIGHTING PLAN	1"=20'
16 OF 16	LIGHTING SPECIFICATIONS	
	BUILDING ELEVATIONS	

STATE OF NEW HAMPSHIRE JAMES N. PETROPULOS No. 10274 LICENSED PROFESSIONAL ENGINEER

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street
Nashua, NH 03062
(603) 883-2057
131 Middlesex Turnpike
Burlington, MA 01803
(781) 203-1501
www.hayner-swanson.com

STATE OF MASSACHUSETTS No. 5893 PAUL G. INTERBOGE LICENSED PROFESSIONAL ENGINEER
9.28.20

HSI Hayner/Swanson, Inc.
3 Congress Street Nashua, NH 03062 (603) 883-2057
131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
www.hayner-swanson.com

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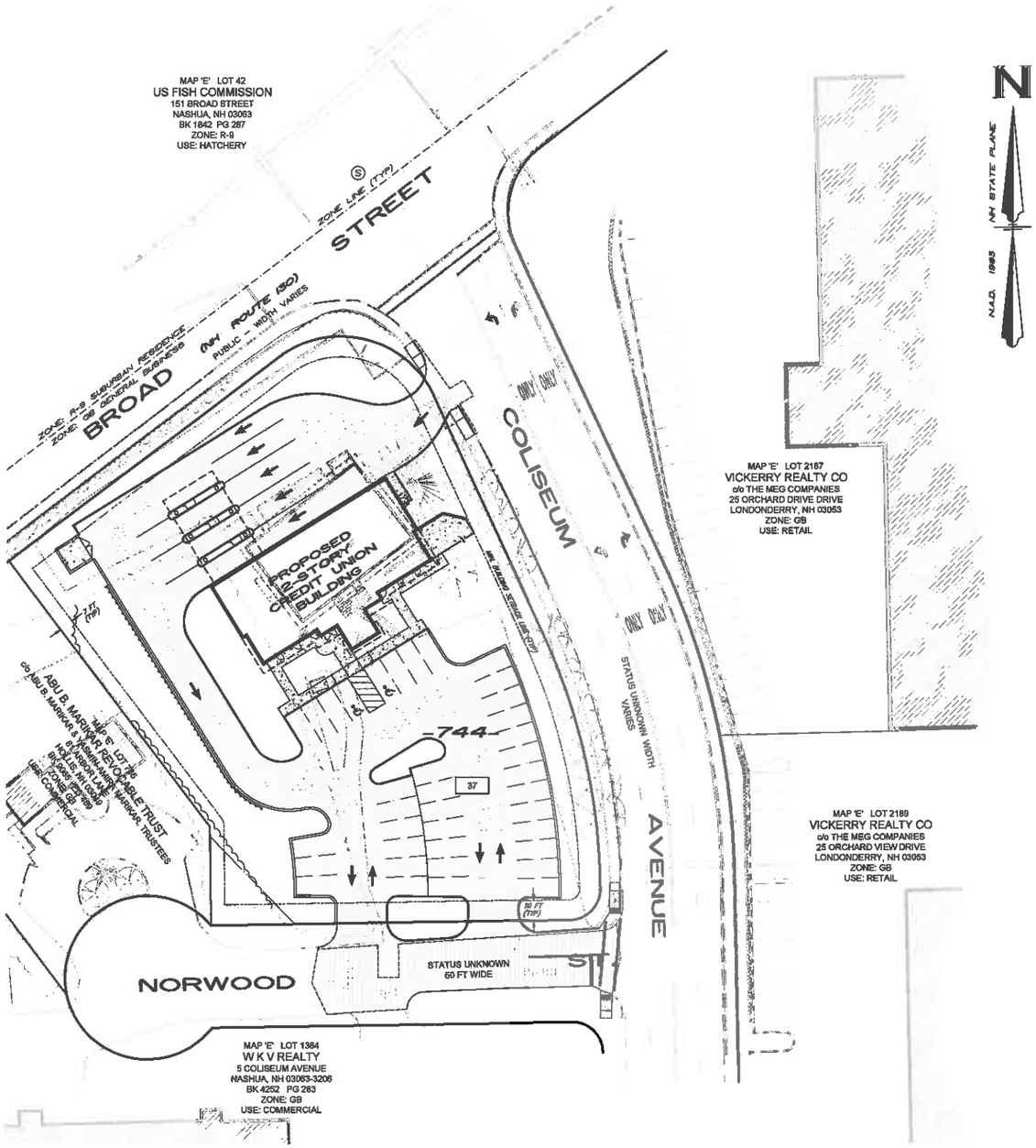
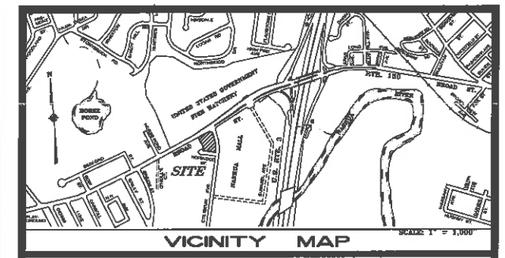
FILE No. Q:\5292\CIVIL DWG\5292CU CS00



NOTES – CONT'D:

14. ALL LIGHTING SHALL BE AS SHOWN ON THE PLANS, DIRECTED ONTO THE SITE AND CONFORM TO APPLICABLE CITY OF NASHUA LAND USE CODE REGULATIONS.
15. A PRE-CONSTRUCTION MEETING WITH THE CITY OF NASHUA PLANNING/ENGINEERING/FIRE OFFICIALS SHALL TAKE PLACE PRIOR TO ANY WORK BEING PERFORMED.
16. HOURS OF OPERATION:
    MONDAY THRU FRIDAY: 8:30 AM TO 5:00 PM
    SATURDAY 8:30 AM TO 12:00 NOON
17. THE APPLICANT SHALL SUBMIT AN ELECTRONIC FILE OF THE SITE PLAN (PLOT) PRIOR TO ISSUANCE OF A BUILDING PERMIT.
18. PRIOR TO A BUILDING PERMIT BEING ISSUED, BONDING FOR ALL PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEERING DEPARTMENT AND CORPORATION COUNSEL.
19. PRIOR TO A BUILDING PERMIT BEING ISSUED, DOCUMENTS PERTAINING TO THE STORM WATER OPERATION AND MAINTENANCE PLAN SHALL BE RECORDED.
20. THE PARCEL IS NOT LOCATED IN A FLOOD HAZARD AREA AS DETERMINED FROM THE FLOOD INSURANCE STUDY (FIRM), HILLSBOROUGH COUNTY, CITY OF NASHUA, NEW HAMPSHIRE, COMMUNITY No. 330067, PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBER: 33011C0513D, DATED: SEPTEMBER 25, 2008.
21. ROOF DRAIN TIE-INS AND DRAIN LINES SHALL BE INSPECTED PRIOR TO BACKFILLING AND PAVING.
22. MECHANICAL APPURTENANCES, IF ANY, SHALL BE SCREED AND FINISHED TO MATCH THE BUILDING EXTERIOR. MECHANICAL APPURTENANCES SHALL NOT EXCEED 50 DECIBELS BETWEEN 7 AM – 8 PM AND 45 DECIBELS AT NIGHT 8 PM – 7 AM ALONG RESIDENTIAL ZONING DISTRICTS.
23. THE DEVELOPER/BUILDER SHALL WORK WITH THE CITY OF NASHUA PLANNING STAFF TO OPTIMIZE SIGHT DISTANCE, WHICH MAY REQUIRE TREE REMOVAL, AT THE NORWOOD STREET/COLISEUM AVENUE INTERSECTION.
24. PRESENT OWNER OF RECORD:
    MAP 'E', LOT 744
    GRANITE STATE CREDIT UNION
    1415 ELM STREET
    MANCHESTER, NEW HAMPSHIRE 03101
    BK 5316, PG 185



VICINITY MAP

PLAN REFERENCES:

1. RIVERSIDE PARK, NASHUA, NEW HAMPSHIRE. SCALE: 1"=50', DATED: AUGUST 1965. PREPARED BY: A.E. MAYNARD C.E.
   RECORDED: HCRD - PLAN No. 3130.
2. BOUNDARY PLAN OF LAND OF, CHANTAL VON OLDENBURG, NORWOOD STREET. SHT F – LOT 736, NASHUA, NEW HAMPSHIRE, SCALE: 1"=20', DATED: 8 JUNE 1967, PREPARED BY: GEORGE F. KELLER INC.
   RECORDED: HCRD - PLAN No. 20757
3. NASHUA, NH BROAD STREET 1936 S.A.O., SCALE 1"= 50', DATED JANUARY 1936 ON FILE AT THE CITY OF NASHUA PUBLIC WORKS DEPARTMENT, CITY ENGINEERS OFFICE.

NOTES:

1. SITE AREA: 1.224 ACRES (53,333 SF)
2. PRESENT ZONING: GB; GENERAL BUSINESS

	GB	LOT 744
MINIMUM LOT REQUIREMENTS		
- LOT AREA	10,000 SF	53,333 SF
- LOT FRONTAGE	50 FT	709 FT
- LOT WIDTH	50 FT	194.7 FT
- LOT DEPTH	75 FT	N/A FT
MINIMUM YARD SETBACKS		
- FRONT YARD	10 FT	33.9 FT
- SIDE YARD	7 FT	57.8 FT
- REAR YARD	10 FT	N/A FT
- MAX. BUILDING HEIGHT	60 FT	26 FT
- MAX STORIES	5	2
- OPEN SPACE (%)	10%	37.6%
- F.A.R.	1.25	0.22

   LOT NUMBERS REFER TO THE CITY OF NASHUA ASSESSORS MAP 'E'.
4. SITE IS SERVICED BY MUNICIPAL SEWER, WATER BY PENNICHUCK WATER WORKS AND UNDERGROUND TELEPHONE, ELECTRIC AND GAS UTILITIES.
5. PURPOSE OF PLAN:
   TO AMEND PLAN #NR-2186, TO SHOW PROPOSED 2-STORY 10,000 SF BANK BUILDING WITH DRIVE-THROUGH FACILITIES AND ACCOMPANYING SITE IMPROVEMENTS.
6. PARKING:
   REQUIRED (BANK):
   MINIMUM: 1 SPACE/300 SF x 10,000 SF = 34 SPACES
   MAXIMUM: 1 SPACE/150 SF x 10,000 SF = 67 SPACES
   PROVIDED: (INCLUDING 2 RESERVED SPACES) = 37 SPACES
7. THE SUBJECT PROPERTY WAS INSPECTED BY A CERTIFIED WETLAND SCIENTIST ON AUGUST 28, 2014 AT THE DATE OF THE INSPECTION, IT WAS DETERMINED THAT THERE ARE NO WETLANDS OR ASSOCIATED BUFFERS AFFECTING THE PROPERTY.
8. ALL LANDSCAPING SHALL BE AS SHOWN ON THE PLANS AND CONFORM TO THE APPLICABLE CITY OF NASHUA LAND USE CODE UNDER ARTICLE XXVII.
9. ALL SIGNAGE SHALL CONFORM TO THE APPLICABLE CITY OF NASHUA REGULATIONS WITH ALL PERMITS SECURED PRIOR TO INSTALLATION.
10. SITE IMPROVEMENTS DEPICTED ON THE PLAN SHALL CONFORM WITH TITLE III OF THE AMERICANS WITH DISABILITIES ACT WITH REGARD TO DIMENSION, GRADE AND NUMBER OF PARKING SPACES.
11. IT SHALL BE UNLAWFUL TO MODIFY, CHANGE, OR ALTER ANY STRUCTURE SHOWN ON THIS SITE PLAN IN ANYWAY WHATSOEVER, OR CONVERT OR ALTER ANY STRUCTURE SHOWN ON THIS SITE PLAN, OR CHANGE THE ABOVE USE INDICATED ON THE PLAN WITHOUT RECEIVING APPROVAL FROM THE CITY.
12. PUBLIC STREET RESTORATION WORK SHALL BE IN ACCORDANCE WITH N R O. SECTION 285-13, LATEST EDITION
13. FUTURE BUILDING CONSTRUCTION SHALL INCORPORATE FOUNDATION DRAINAGE SYSTEMS, EXCEPT WHERE AN INVESTIGATION ESTABLISHES THAT SPECIFIC BUILDING SITES ARE LOCATED IN WELL-DRAINED SOILS AND THAT SUCH SYSTEMS ARE NOT REQUIRED.

No.	DATE	REVISION	BY
1	08/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

MASTER SITE PLAN
(LOT 744, MAP 'E')

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

30 0 30 60 90 120 FEET
15 0 15 30 METERS
SCALE: 1"=30 Feet
1"=9.144 Meters

30 JULY 2020

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3 Congress Street, Nashua, NH 03062, (603) 883-2057
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www.haynerswanson.com

FIELD BOOK: ---	DRAWING NAME: 5292CU FG31	5292	1 OF 15
DRAWING LOC: Q:\5292\CIVIL DWG		File Number	Sheet

APPROVED
NASHUA CITY PLANNING BOARD

CHAIRMAN DATE

* ZONING NOTE *

THE ZONING/BUILDING SETBACKS DEPICTED ON THIS PLAN ARE THOSE WE HAVE INTERPRETED FROM THE LATEST ZONING ORDINANCE OF THE MUNICIPALITY AND, AS SUCH, ARE ONLY OPINIONS EXPRESSED BY HAYNER/SWANSON, INC. THE FINAL INTERPRETATION OF THE ORDINANCE CAN ONLY BE MADE BY THE APPROPRIATE ZONING AUTHORITY. SINCE BUILDING ORIENTATION, PROPOSED USES, AND OTHER FACTORS CAN AFFECT THE SETBACKS, PRIOR TO ANY DEVELOPMENT OF THIS PROPERTY, THE BUILDER/OWNER MUST CONSULT WITH THE TOWN/CITY TO INSURE THE CORRECT APPLICATION OF THE ZONING ORDINANCE.

THE UNDERSIGNED DOES HEREBY AGREE TO PERFORM ALL OF THE SITE IMPROVEMENTS AS SHOWN ON THIS PLAN AND AS CONDITIONED OR STIPULATED BY THE NASHUA CITY PLANNING BOARD. ALL REQUIRED SITE IMPROVEMENTS MUST BE COMPLETED OR GUARANTEED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

FOR GRANITE STATE CREDIT UNION 7-13-2020 DATE

STATE OF NEW HAMPSHIRE JAMES N. PETROPULOS No. 10274 LICENSED PROFESSIONAL ENGINEER

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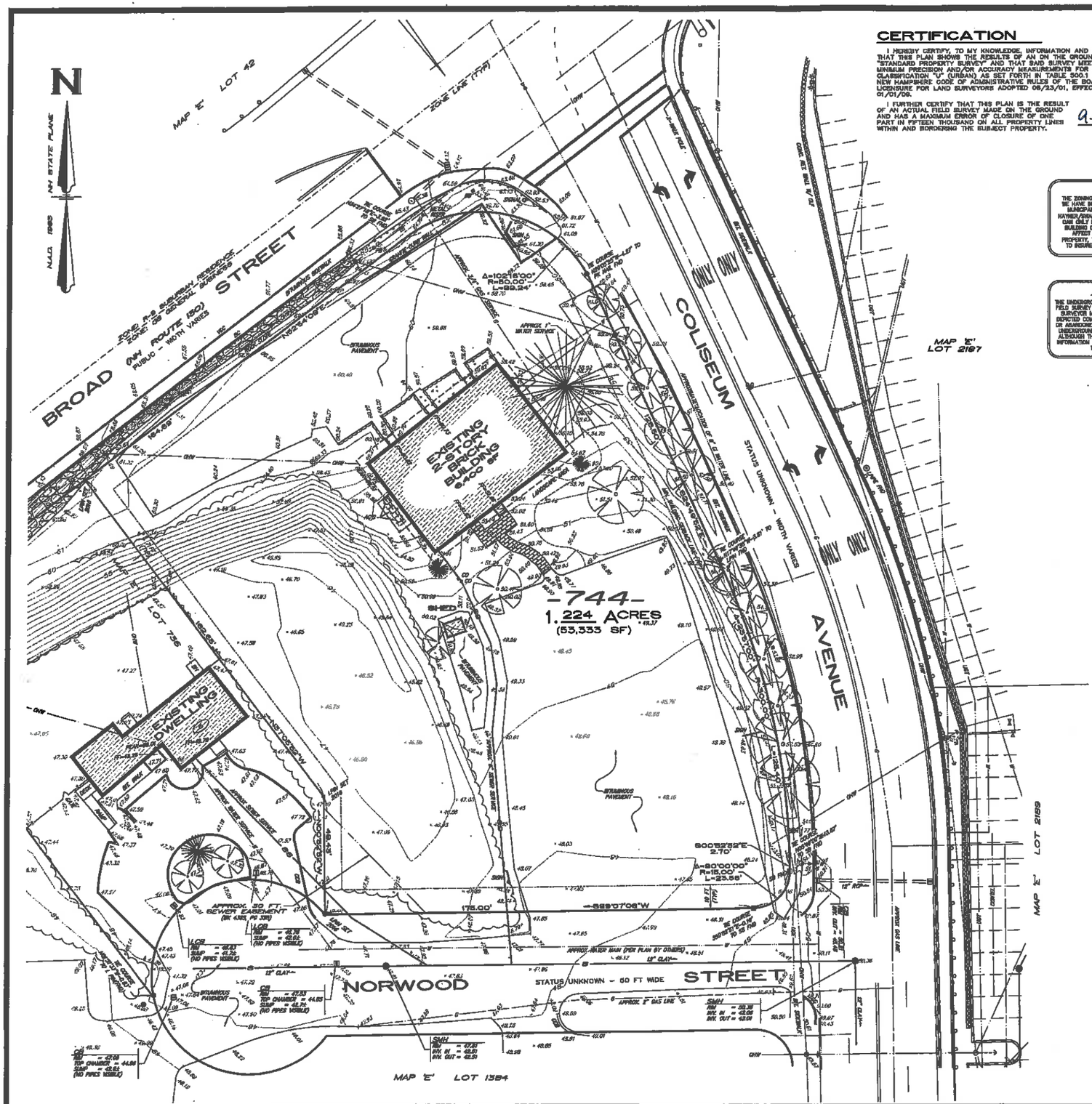

CERTIFICATION

I HEREBY CERTIFY, TO MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN SHOWS THE RESULTS OF AN ON THE GROUND "STANDARD PROPERTY SURVEY" AND THAT SAID SURVEY MEETS THE MINIMUM PRECISION AND/OR ACCURACY MEASUREMENTS FOR SURVEY CLASSIFICATION "U" (URBAN) AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS ADOPTED 08/23/01, EFFECTIVE 01/01/02.

I FURTHER CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS A MAXIMUM ERROR OF CLOSURE OF ONE PART IN FIFTEEN THOUSAND ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

9-28-20
DATE

NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 968 PAUL C. LIVERSIDGE

PAUL C. LIVERSIDGE, LLS

" ZONING NOTE "

THE ZONING/BUILDING SETBACKS DEPICTED ON THIS PLAN ARE THOSE WE HAVE INTERPRETED FROM THE LATEST ZONING ORDINANCE OF THE MUNICIPALITY AND, AS SUCH, ARE ONLY OPINIONS EXPRESSED BY HAYNER/SWANSON, INC. THE FINAL INTERPRETATION OF THE ORDINANCE CAN ONLY BE MADE BY THE APPROPRIATE ZONING AUTHORITY. SPACE BUILDING ORIENTATION, PROPOSED USES, AND OTHER FACTORS CAN AFFECT THE SETBACKS. PRIOR TO ANY DEVELOPMENT OF THIS PROPERTY, THE BUILDER/OWNER MUST CONSULT WITH THE TOWN/CITY TO ENSURE THE CORRECT APPLICATION OF THE ZONING ORDINANCE.

UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND PLOTTED FROM EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED 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 ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

GENERAL NOTES:

1. THE EXISTING TOPOGRAPHY, AS SHOWN ON THE PLANS, IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND IN AUGUST 2014.
2. THE NASHUA CITY DATUM HAS BEEN USED ON THIS PROJECT. (NASHUA CITY DATUM TO NGVD 1929 DATUM = + 90.47).
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACCURACY OF THE EXISTING TOPOGRAPHY PRIOR TO EARTHWORK OPERATIONS. NO CLAIM FOR EXTRA WORK DUE TO TOPOGRAPHIC INACCURACY SHALL BE CONSIDERED AFTER EARTHWORK HAS COMMENCED.
4. THE CONTRACTOR SHALL ONLY USE BENCHMARKS AS PROVIDED BY THE ENGINEER.
5. MAP E, LOT 744 IS SUBJECT TO THE RESTRICTIONS CONTAINED IN THE DEED FROM F.N.M., INC. RECORDED AT BOOK 2588, PAGE 62 AS AMENDED BY THE LIMITED WAIVER OF VICKERRY REALTY CO. TRUST RECORDED AT BOOK 8316, PAGE 173 AND THE CONSENT AND WAIVER OF TD BANK, NA AS RECORDED AT BOOK 8515 PAGE 176

LEGEND

- EXISTING GROUND CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED GRADE
- PROPOSED SPOT GRADE
- STORM DRAIN & CATCH BASIN
- STORM DRAIN & MANHOLE
- SANITARY SEWER & MANHOLE
- WATER MAIN & HYDRANT
- WATER MAIN & GATE VALVE
- GAS LINE & GATE VALVE
- UTILITY POLE WITH GUY SUPPORT
- STREET LIGHT
- OVERHEAD ELECTRIC & TELEPHONE
- UNDERGROUND ELEC/TEL & MANHOLES
- SIGN
- TREE LINE
- STONE BOUND
- IRON PIN
- BUILDING SETBACK LINE
- CHAINLINK FENCE
- CAPE COD BERM
- VERTICAL GRANITE CURBING
- SLOPE GRANITE CURBING
- STORMWATER RUNOFF DIRECTION
- HANDICAP PARKING SPACE
- HANDICAP SIDEWALK RAMP
- PARKING SPACE COUNT
- GUARD RAIL
- PAVEMENT SAWCUT
- CONCRETE
- PROPOSED FULL-DEPTH PAVEMENT
- PROPOSED MILL/FILL PAVEMENT
- RIPRAP / STONE
- RETAINING WALL
- CONIFEROUS TREE
- DECIDUOUS TREE
- STREET ADDRESS

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	BJA

EXISTING CONDITIONS PLAN
(LOT 744, MAP 'E')

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

30 JULY 2020

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2 OF 16

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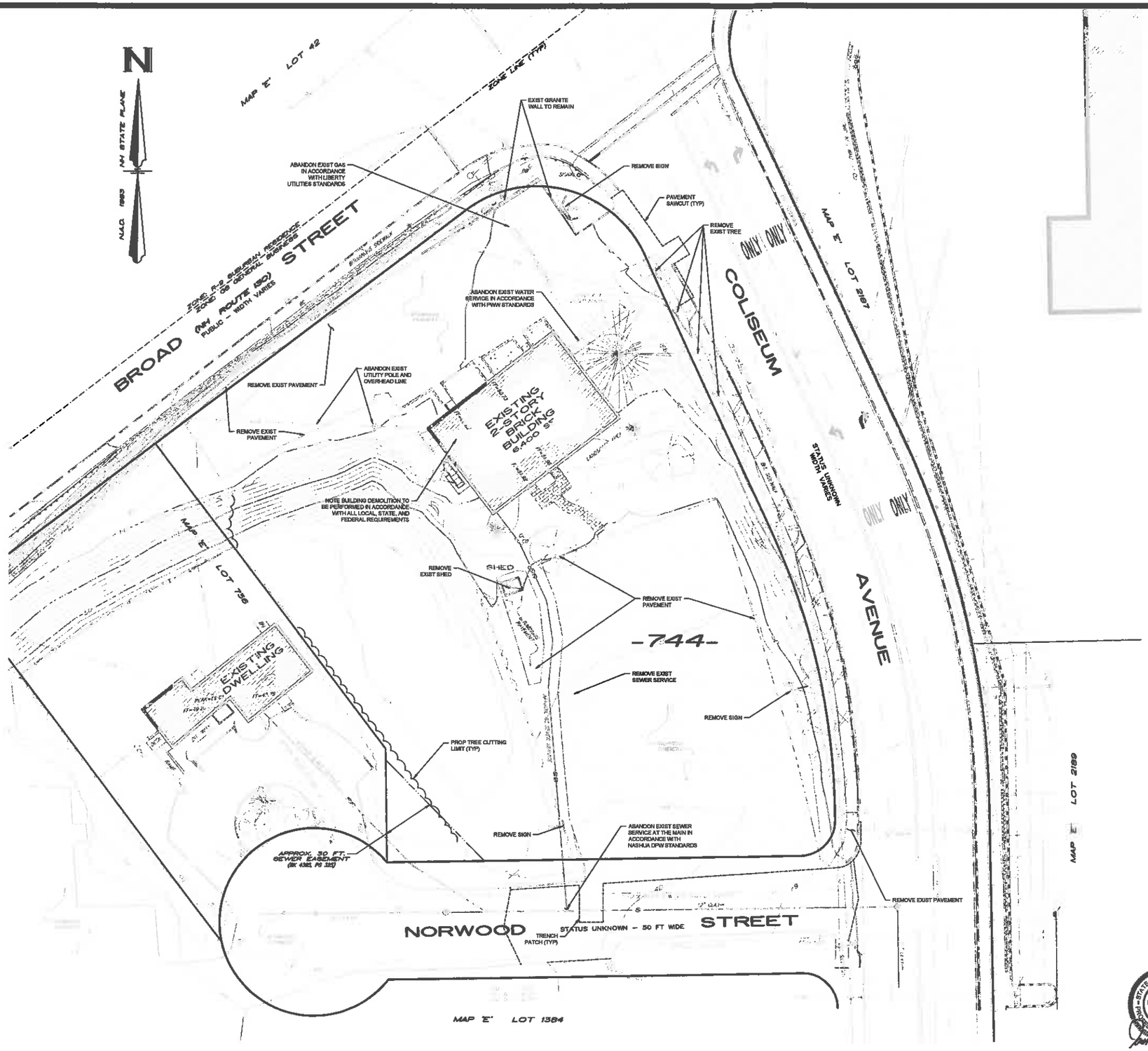

SITE DEMOLITION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSING IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES, OF ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PARKING, DRIVES, DRAINAGE, STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE GEOTECHNICAL SPECIFICATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
3. THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
4. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ON SITE LOCATIONS OF EXISTING UTILITIES.
5. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK.
6. ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE. CONTRACTOR SHALL PAY CLOSE ATTENTION TO EXISTING UTILITIES WITHIN THE ANY ROAD RIGHT OF WAY DURING CONSTRUCTION.
7. DURING ANY WORK ON CITY OF NASHUA SEWER OR DRAINAGE, CONTRACTOR SHALL ENSURE NO DEBRIS ENTERS THE CITY SYSTEM.
8. FOR ALL WORK ON COUSEUM AVENUE, A TRAFFIC CONTROL PLAN WILL BE SUBMITTED TO THE NASHUA ENGINEERING DEPARTMENT FOR REVIEW AT LEAST 14 CALENDAR DAYS PRIOR TO A PRE-CONSTRUCTION MEETING. THIS TRAFFIC CONTROL PLAN WILL INCLUDE PEDESTRIAN ACCOMMODATIONS.
9. ACCESS TO BUSINESSES ON NORWOOD STREET WILL BE MAINTAINED. THIS MAY REQUIRE WORK TO BE PERFORMED AT NIGHT OR ON WEEKENDS.
10. THERE WILL BE NO STAGING OF EQUIPMENT OR SUPPLIES NOR PARKING OF CONSTRUCTION VEHICLES ON NORWOOD STREET.
11. CONTRACTOR TO OBTAIN A STREET OPENING PERMIT PRIOR TO WORK IN THE RIGHT OF WAY.

811 DigSafe
CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION
digsafe.com
DIAL 811 or
1-888-DIG SAFE
1-888-344-7233

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

SITE DEMOLITION PLAN
(LOT 744, MAP 'E')

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

30 JULY 2020

STATE OF NEW HAMPSHIRE
JAMES N. PETROPULOS
No. 10274
LICENSED
PROFESSIONAL ENGINEER

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street
Nashua, NH 03063
(603) 883-2057
15 Middlesex Turnpike
Burlington, MA 01803
(781) 273-1301
www.haynerswanson.com

FIELD BOOK: --
DRAWING NAME: 5292CU DM21
DRAWING LOC: G:\5292\DWG.DWG
File Number: 5292
Sheet: 3 OF 15

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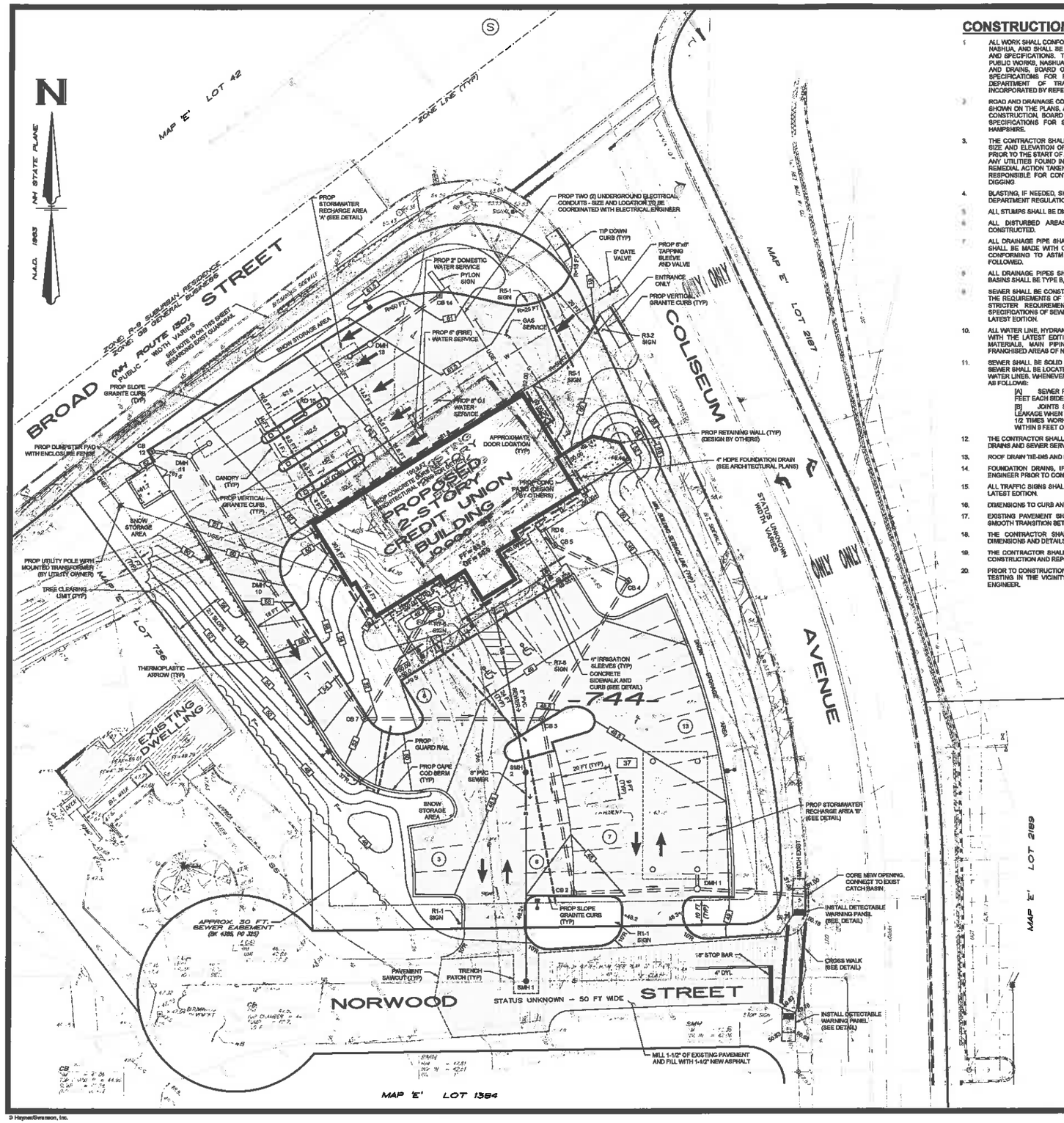


CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF NASHUA, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD CONSTRUCTION, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE, AND THE STANDARD SPECIFICATIONS FOR SEWERS AND DRAINS, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2010 ARE HEREBY INCORPORATED BY REFERENCE.
2. ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS FOR ROAD CONSTRUCTION, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE, AND THE STANDARD SPECIFICATIONS FOR SEWERS AND DRAINS, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS. PRIOR TO THE START OF ANY CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS BEFORE DIGGING
4. BLASTING, IF NEEDED, SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF NASHUA FIRE DEPARTMENT REGULATIONS.
5. ALL STUMPS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.
6. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED IMMEDIATELY UPON BEING CONSTRUCTED.
7. ALL DRAINAGE PIPE SHALL BE FURNISHED AND INSTALLED WITH FLEXIBLE GASKETS. JOINTS SHALL BE MADE WITH OIL RESISTANT COMPRESSION RINGS OF AN ELASTOMERIC MATERIAL CONFORMING TO ASTM C-443. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE FOLLOWED.
8. ALL DRAINAGE PIPES SHALL BE CLASS IV 3000 D (RCP) UNLESS OTHERWISE NOTED. CATCH BASINS SHALL BE TYPE B, AND HAVE 4 FT SUMPS UNLESS OTHERWISE NOTED.
9. SEWER SHALL BE CONSTRUCTED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AND WITH THE REQUIREMENTS OF THE DEPARTMENT OF ENVIRONMENTAL SERVICES, WS & PCC AND ANY STRICTER REQUIREMENTS OF DIVISION 3 - SANITARY SEWERS, OF THE STANDARD SPECIFICATIONS OF SEWERS AND DRAINS, BOARD OF PUBLIC WORKS, NASHUA, NEW HAMPSHIRE, LATEST EDITION.
10. ALL WATER LINE, HYDRANT VALVES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE TECHNICAL SPECIFICATIONS FOR THE INSTALLATION OF MATERIALS, MAIN PIPING, SERVICE CONNECTIONS IN THE PENNICHUCK WATER WORKS FRANCHISED AREAS OF NASHUA AND MERRIMACK, NEW HAMPSHIRE.
11. SEWER SHALL BE SOLID WALL PVC UNLESS OTHERWISE REQUIRED BY THESE SPECIFICATIONS. SEWER SHALL BE LOCATED AT LEAST 10 FEET HORIZONTALLY AND 18 INCHES VERTICALLY FROM WATER LINES. WHENEVER SEWER MUST CROSS WATER MAINS, SEWER SHALL BE CONSTRUCTED AS FOLLOWS:
    - (A) SEWER PIPE SHALL BE CLASS 52 DUCTILE IRON FOR A MINIMUM DISTANCE OF 9 FEET EACH SIDE OF THE CROSSING.
    - (B) JOINTS SHALL BE MECHANICAL TYPE WATER PRESSURE RATED WITH ZERO LEAKAGE WHEN TESTED AT 25 POUNDS PER SQUARE INCH FOR GRAVITY SEWERS AND 1-1/2 TIMES WORKING PRESSURE FOR FORCE MAINS. JOINTS SHALL NOT BE LOCATED WITHIN 9 FEET OF THE CROSSING.
12. THE CONTRACTOR SHALL COORDINATE THE EXACT SIZE, LOCATION AND ELEVATION OF ALL ROOF DRAINS AND SEWER SERVICE CONNECTIONS PRIOR TO THE CONSTRUCTION OF THE BUILDING.
13. ROOF DRAIN TIE-INS AND DRAIN LINES WILL BE INSPECTED PRIOR TO BACKFILLING AND PAVING.
14. FOUNDATION DRAINS, IF NECESSARY, SHALL BE COORDINATED WITH THE ARCHITECT AND ENGINEER PRIOR TO CONSTRUCTION.
15. ALL TRAFFIC SIGNS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
16. DIMENSIONS TO CURB AND GUTTERS INDICATE EDGE OF PAVING UNLESS OTHERWISE NOTED.
17. EXISTING PAVEMENT SHALL BE SAWCUT AS NECESSARY. CONTRACTOR SHALL ENSURE A SMOOTH TRANSITION BETWEEN NEW AND EXISTING PAVEMENT
18. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS AND DETAILS.
19. THE CONTRACTOR SHALL MONITOR THE EXISTING GUARDRAIL ALONG BROAD STREET DURING CONSTRUCTION AND REPORT ANY CHANGES, IF ANY, TO THE ENGINEER
20. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL DIG TEST PITS AND PERFORM PERMEABILITY TESTING IN THE VICINITY OF SMA 'A' AND SMA 'B'. RESULTS SHALL BE REPORTED TO THE ENGINEER.

CITY OF NASHUA CONTACTS

PLANNING DEPARTMENT
COMMUNITY DEVELOPMENT DIVISION
229 MAIN STREET
NASHUA, NH 03060

ATT: LINDA MeGHEE
(603) 589-3110

ENGINEERING DEPARTMENT
NASHUA DIVISION. OF
PUBLIC WORKS / ENGINEERING
9 RIVERSIDE STREET
NASHUA, NH 03062

ATT: JOE MENDOLA
(603) 589-3124

FIRE DEPARTMENT
NASHUA FIRE RESCUE
177 LAKE STREET
NASHUA, NH 03062

ATT: ADAM POULIOT
(603) 589-3460

UTILITY CONTACTS

WATER:
PENNICHUCK WATER WORKS
25 MANCHESTER STREET
MERRIMACK, NH 03054

ATT: JOHN BOISVERT, PE
(603) 913-2300

TELEPHONE:
CONSOLIDATED COMMUNICATIONS
100 DAY STREET
MANCHESTER, NH 03103

ATT: ROBERTO DIAZ
(603) 296-5996

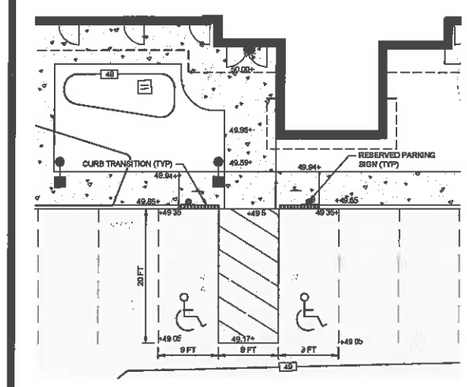
POWER:
EVERSOURCE
370 AMHERST STREET
NASHUA, NH 03060

ATT: MARC GAGNON
(603) 882-5594

GAS:
LIBERTY UTILITIES
11 NORTHEASTERN BOULEVARD
SALEM, NH 03079

ATT: ANDREW MORGAN
(603) 327-5357

STATE OF NEW HAMPSHIRE
JAMES N. PETROPULOS
No. 10274
LICENSED
PROFESSIONAL ENGINEER



RESERVED PARKING AREA PLAN

SCALE: 1" = 10'

SIGN LEGEND

TEXT (SEE MUTCD FOR TEXT DIMENSIONS)	IDENTIFICATION NUMBER	SIZE WIDTH/HEIGHT
	TEXT DIMENSIONS	
STOP	R1-1	30"/30"
	SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS	
ONE WAY	R5-1	30"/30"
	SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS	
	R3-2	36"/36"
	SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS	

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

SITE PLAN
(LOT 744, MAP 'E')

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1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

30 JULY 2020

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DRAWING LOC: Q:\5292\CIVIL DWG		File Number	Sheet

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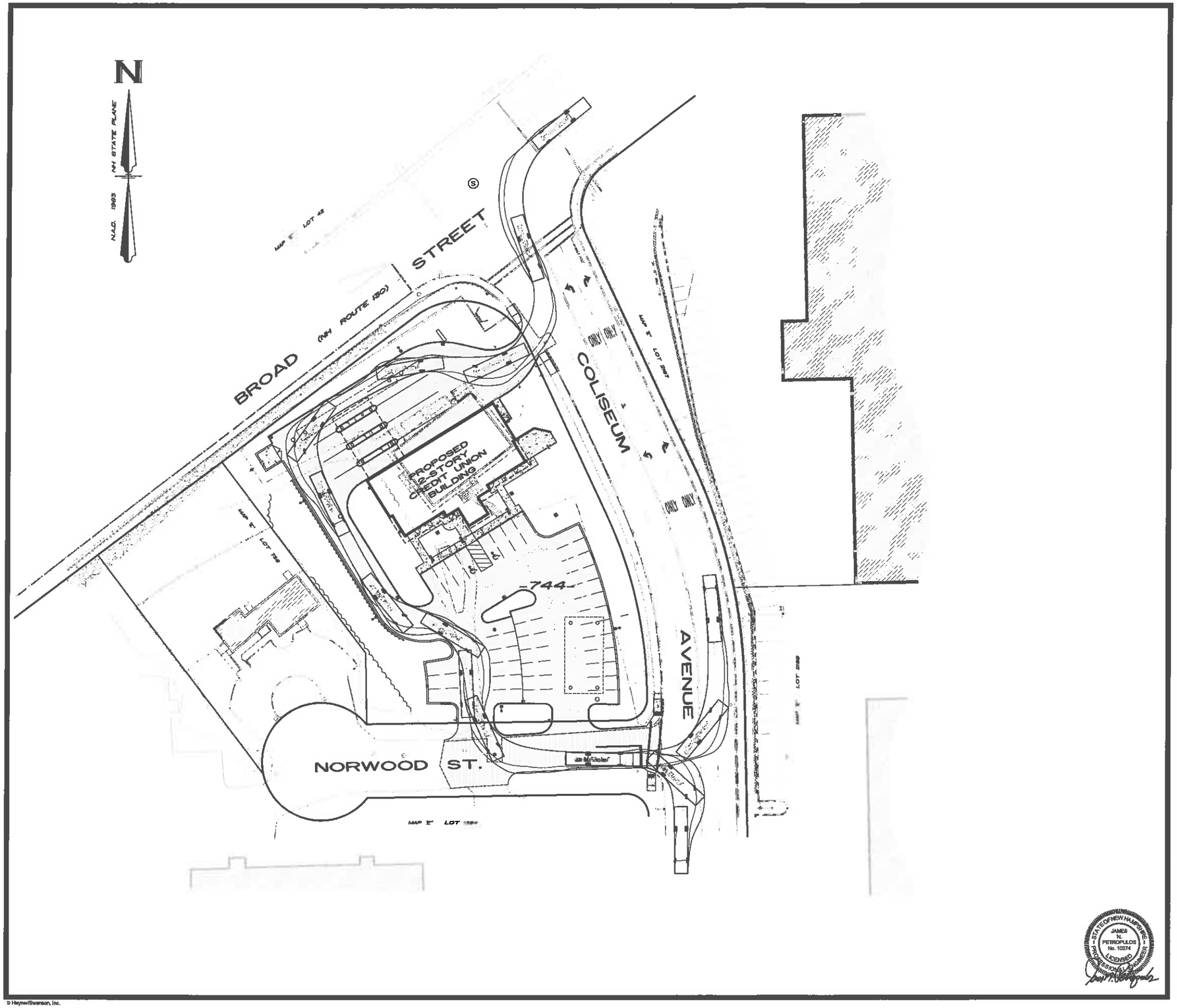

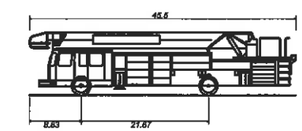

Custom - Nashua FD Pierce Arrow-XT	
Overall Length	45.500ft
Overall Width	8.670ft
Overall Body Height	10.622ft
Min Body Ground Clearance	1.052ft
Track Width	9.085ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	36.920ft

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

FIRE TRUCK TURNING ANALYSIS PLAN
(LOT 744, MAP 'E')

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30 0 30 60 90 120 FEET
15 0 15 30 METERS
SCALE: 1"=30 Feet
1"=9.144 Meters

30 JULY 2020

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DRAWING LOC: G:\5292\CIVIL.DWG		PM	

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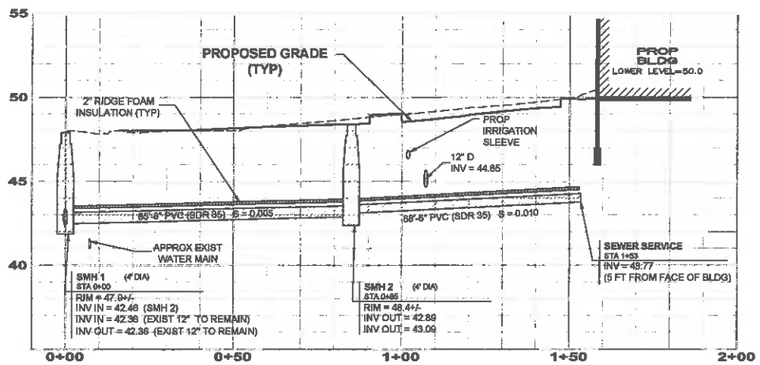
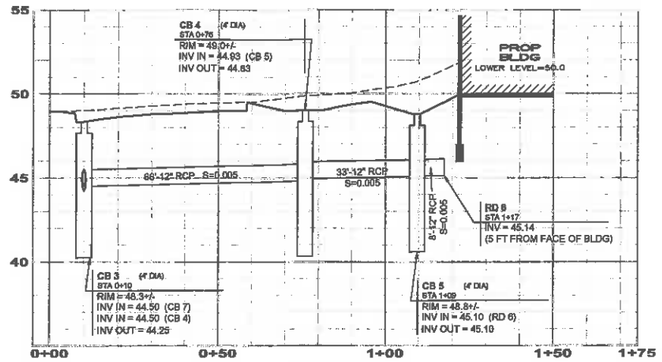
NOTES

1. STRUCTURE DIAMETERS AS SHOWN ON DRAINAGE PROFILES ARE CONSIDERED TO BE MINIMUM INSIDE DIMENSIONS. ALL STRUCTURES SHALL BE A MINIMUM INSIDE DIAMETER OF 48" UNLESS OTHERWISE INDICATED. LARGER STRUCTURES MAY BE NECESSARY DUE TO ALIGNMENT AND/OR PIPE SIZES. STRUCTURE MANUFACTURER SHALL DETERMINE FINAL SIZE.
2. PIPE LENGTHS ARE MEASURED FROM CENTERLINE OF STRUCTURE TO CENTERLINE OF STRUCTURE.
3. EXTERIOR FOUNDATION WALLS AND FOOTINGS AS SHOWN ARE APPROXIMATE. REFER TO ARCHITECTURAL PLANS.



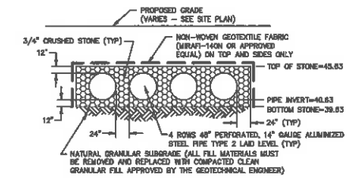
SANITARY SEWER



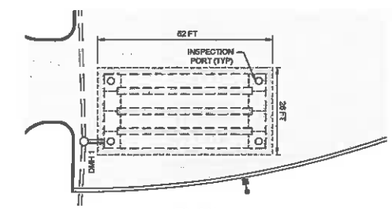
DRAINAGE

STORMWATER RECHARGE AREA NOTES

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE PROPOSED SUBSURFACE STORMWATER MANAGEMENT AREA FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE PREPARED BY A NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER.
2. DIMENSIONS OF THE PIPE/FIELD ARE SUBJECT TO MANUFACTURES TOLERANCES.
3. SYSTEM IS TO BE DESIGNED FOR H20 AND H25 LOADING.
4. PRIOR TO CONSTRUCTION, THE ENGINEER SHALL WITNESS A TEST PIT AND PERFORM A PERCOLATION TEST AT THE PROPOSED STORMWATER RECHARGE AREAS. THE RESULTS SHALL BE SUBMITTED TO THE CITY OF NASHUA ENGINEERING DEPARTMENT.



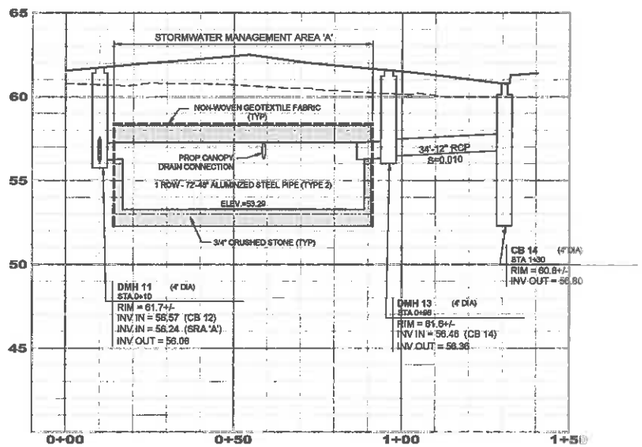
SECTION
SCALE: 1"=10'



PLAN
SCALE: 1"=20'

STORMWATER RECHARGE AREA 'B'

SCALE AS SHOWN



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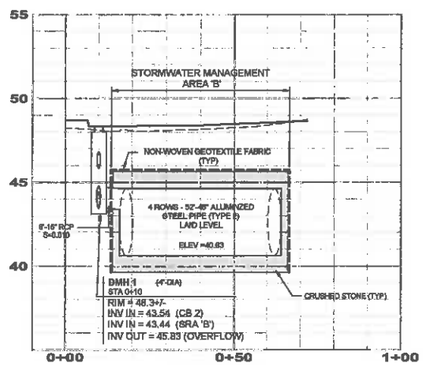

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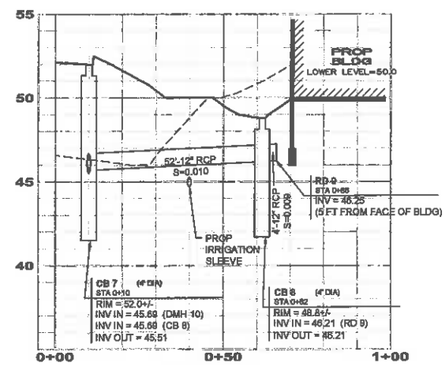

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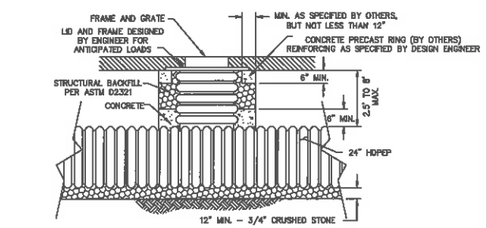
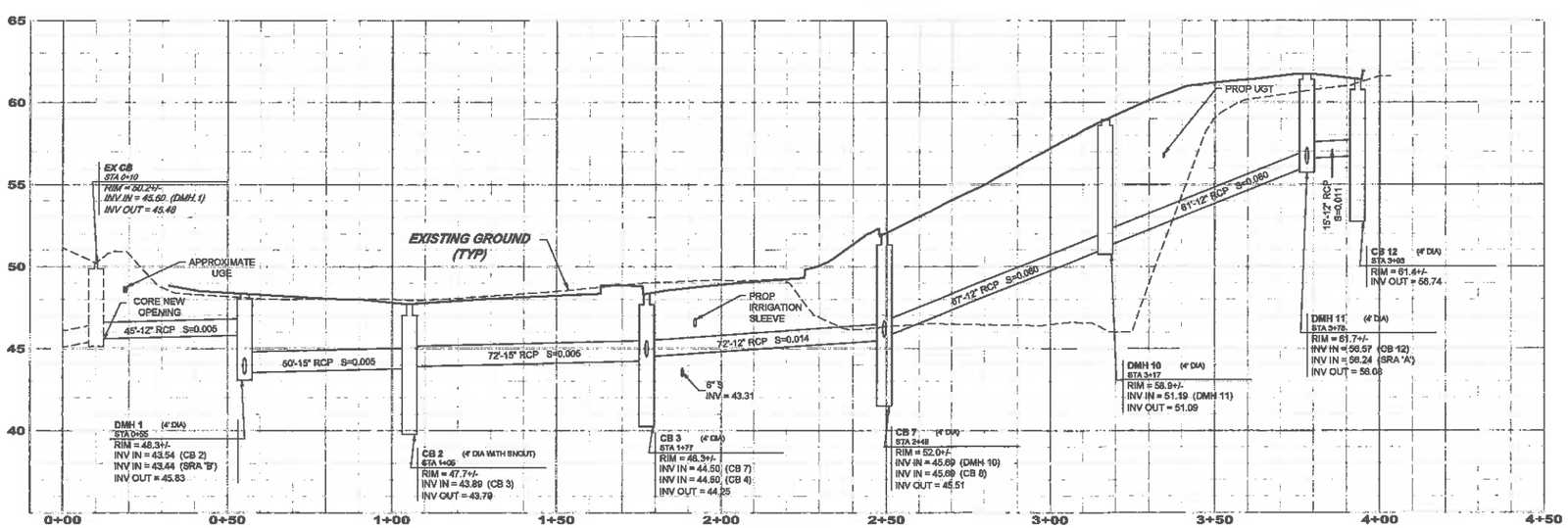


ACCESS RISER DETAIL

NOT TO SCALE



DRAINAGE

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

UTILITY PROFILES AND STORMWATER MANAGEMENT AREA (SMA) DETAILS
(LOT 744, MAP 'E')

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NASHUA, NEW HAMPSHIRE

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GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

40 0 40 40 60 80 FEET

SCALE: HORIZ. 1" = 20 Feet
VERT. 1" = 4 Feet

30 JULY 2020

STATE OF NEW HAMPSHIRE JAMES N. PETROPULOS No. 10274 LICENSED PROFESSIONAL ENGINEER

HSI Hayner/Swanson, Inc.
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3 Congress Street, Nashua, NH 03062 (603) 883-2057
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DRAWING LOC: Q:\5292\CIVIL DWG
5292 — FILE NUMBER
6 OF 16 — SHEET

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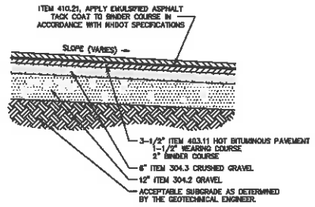
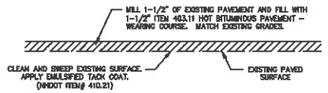


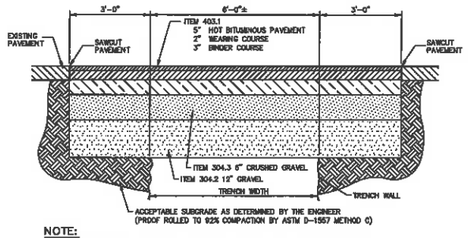
TYPICAL PAVEMENT SECTION

NOT TO SCALE



PAVEMENT MILL/FILL DETAIL

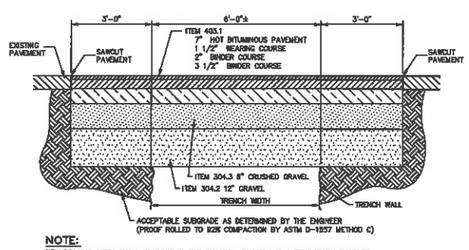
NOT TO SCALE



NOTE:
RESURFACING WORK SHALL BE DONE IN TWO PHASES. PHASE 1 IS A TEMPORARY SURFACE PATCH WITH 3" OF ASPHALT AND 12" OF GRAVEL. FINAL SURFACING, AS SHOWN IN THE DETAIL, IS TO BE PLACED 30-45 WORKING DAYS AFTER TEMPORARY SURFACE PATCH.

TRENCH PATCH DETAIL NORWOOD STREET

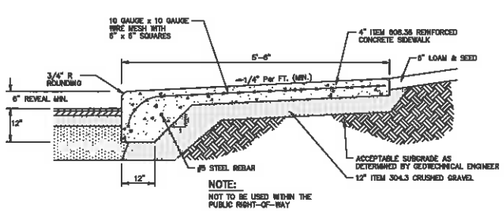
NOT TO SCALE



NOTE:
RESURFACING WORK SHALL BE DONE IN TWO PHASES. PHASE 1 IS A TEMPORARY SURFACE PATCH WITH 4" OF ASPHALT AND 12" OF GRAVEL. FINAL SURFACING, AS SHOWN IN THE DETAIL, IS TO BE PLACED 30-45 WORKING DAYS AFTER TEMPORARY SURFACE PATCH.

TRENCH PATCH DETAIL COLISEUM AVENUE

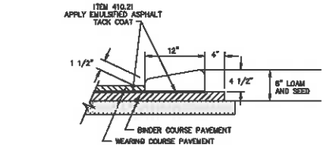
NOT TO SCALE



NOTE:
NOT TO BE USED WITHIN THE PUBLIC RIGHT-OF-WAY

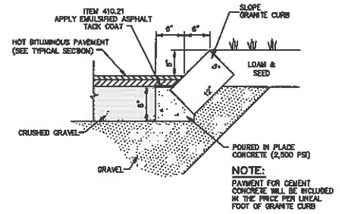
CONCRETE SIDEWALK AND CURB DETAIL

NOT TO SCALE



CAPE COD BERM DETAIL

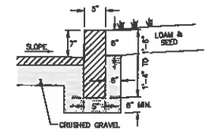
NOT TO SCALE



NOTE:
PAVEMENT FOR CONDIT CONCRETE WILL BE INCLUDED IN THE PRICE PER LINEAL FOOT OF GRANITE CURB

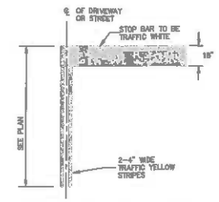
SLOPE GRANITE CURB DETAIL

NOT TO SCALE



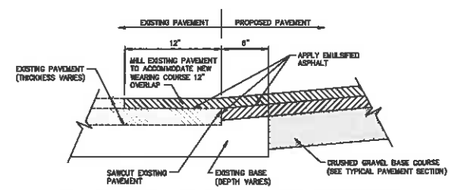
STRAIGHT OR CURVED GRANITE CURB

(ITEM 608.1 OR 608.2-MODIFIED)
NOT TO SCALE



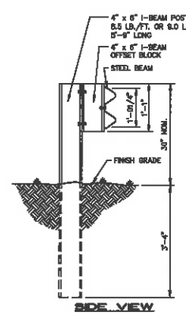
STOP BAR DETAIL

NOT TO SCALE



SAWCUT PAVEMENT DETAIL

NOT TO SCALE

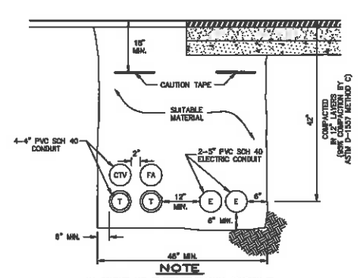


SIDE VIEW

NOTE:
GUARDRAIL MATERIAL AND INSTALLATION SHALL MEET THE REQUIREMENTS OF SECTION 606 OF THE NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).

STEEL POST GUARDRAIL DETAIL

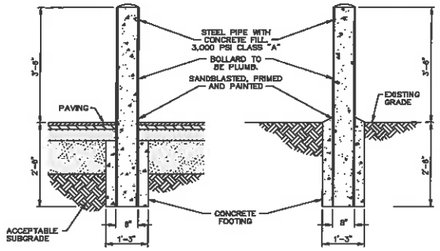
NOT TO SCALE



NOTE
ALL CONDUIT AND TRENCH WORK SHALL CONFORM TO THEIR RESPECTIVE UTILITY COMPANY REQUIREMENTS

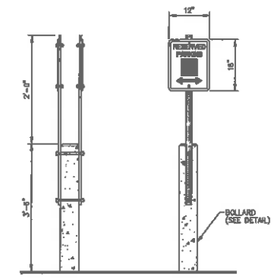
TYPICAL UTILITY TRENCH

NOT TO SCALE



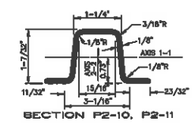
BOLLARD DETAIL

NOT TO SCALE



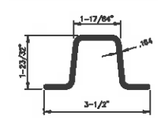
RESERVED PARKING SIGN DETAIL

NOT TO SCALE



SECTION P2-10, P2-11

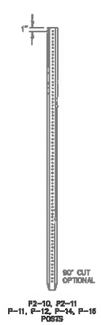
LENGTH: P2-10, 10'-0", P2-11, 11'-0"
WEIGHT PER LINEAR FOOT: 3.00 LBS
HOLES: 3/8" DIA. 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-572H (GRADE 1070-1050).
FINISH: SHALL BE PAINTED WITH TWO COATS OF BAKED OR OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING. PAINT SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT.



SECTION P-11 THRU P-16

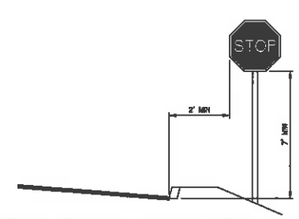
LENGTH: P-11, 11'-0", P-12, 12'-0", P-14, 14'-0", P-16, 16'-0"
WEIGHT PER LINEAR FOOT: 3.00 LBS
STEEL: SAME AS FOR P2-10, P2-11
FINISH: SAME AS FOR P2-10, P2-11

DIMENSIONS SHOWN ARE NOMINAL. ALTERNATE SECTIONS MUST BE APPROVED PRIOR TO USE.



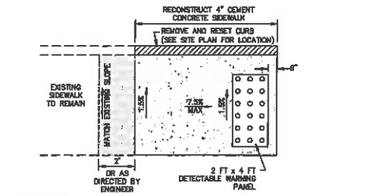
TRAFFIC SIGN SUPPORT DETAIL

NOT TO SCALE



STOP SIGN LOCATION DETAIL

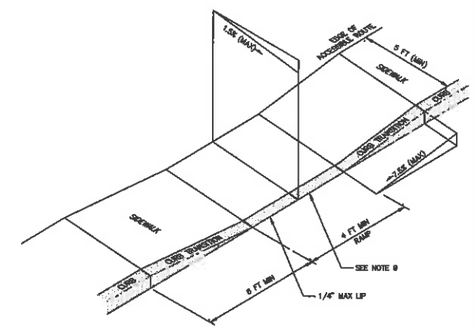
NOT TO SCALE



NOTES
1. DETECTABLE WARNING PANEL TO BE MADE OF CAST IRON.
2. DETECTABLE WARNING PANEL FRAME OR STUDS TO BE EMBEDDED IN CONCRETE.
3. DETECTABLE WARNING PANEL TO BE "BRICK RED".
4. SIDEWALK RAMP TO BE CONSTRUCTED OF CONCRETE.

COLISEUM AVENUE SIDEWALK DETAIL

NOT TO SCALE



NOTES
1. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 1.5% (1% MIN).
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL BE 7.5%.
4. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.)
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
8. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5 FT IN WIDTH (EXCLUDING CURB) A 5 FT x 5 FT PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
9. ELIMINATE ALL CURBING AT RAMP (OTHER THAN VERTICAL CURBING, WHICH SHALL BE SET FLUSH) WHERE IT ABUTS PAVEMENT.

HANDICAP ACCESSIBLE CURB RAMP DETAIL

NOT TO SCALE

No.	DATE	REVISION	BY
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DETAIL SHEET - GENERAL SITE
(LOT 744, MAP "E")

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

SCALE AS SHOWN

30 JULY 2020

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.haynerswanson.com

STATE OF NEW HAMPSHIRE — JAMES N. PETROPULOS No. 10274 — LICENSED PROFESSIONAL ENGINEER

FIELD BOOK: —	DRAWING NAME: 5292CU DET1	5292	7 OF 16
DRAWING LOC: Q:\5292\CIVIL DWG		File Number	Sheet

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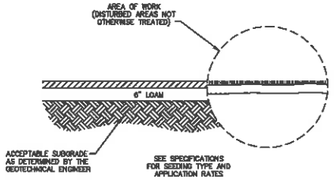
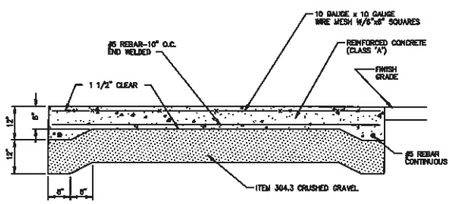
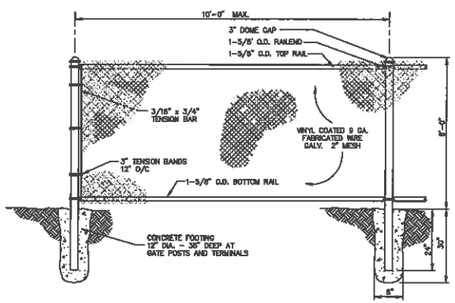


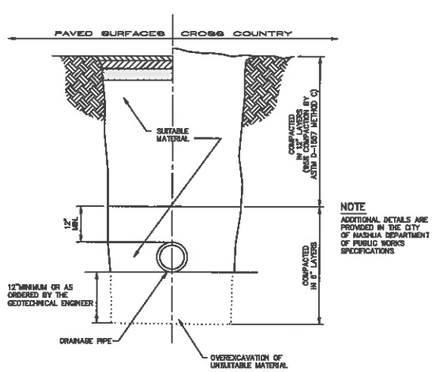
LOAM AND SEED DETAIL
NOT TO SCALE



DUMPSTER PAD DETAIL
NOT TO SCALE

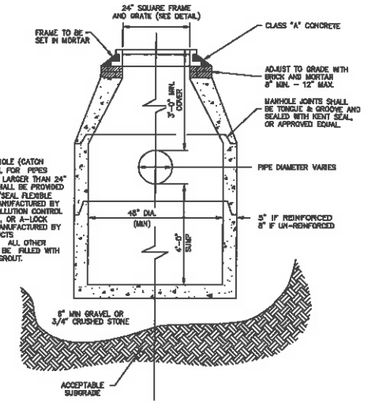


CHAINLINK (6'-0") FENCE DETAIL
NOT TO SCALE



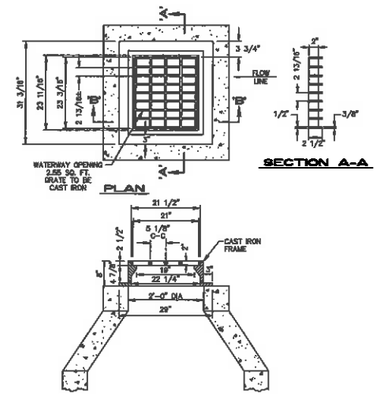
NOTE
ADDITIONAL DETAILS ARE PROVIDED IN THE CITY OF NASHUA DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS

TYPICAL DRAINAGE TRENCH SECTION
NOT TO SCALE

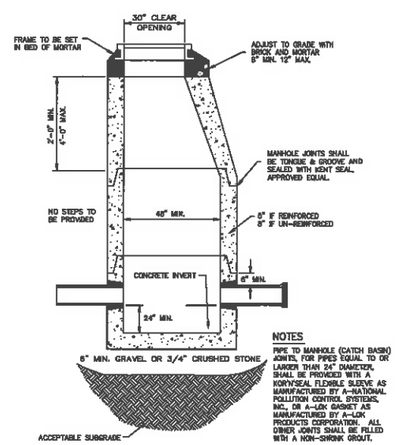


NOTE:
PIPE TO MANHOLE (CATCH BASIN) JOINTS, FOR PIPES EQUAL TO OR LARGER THAN 24" DIAMETER, SHALL BE PROVIDED WITH A KORNESEAL FLEXIBLE SLEEVE AS MANUFACTURED BY NATIONAL POLLUTION CONTROL SYSTEMS, INC., OR A-LOCK GASKET AS MANUFACTURED BY A-LOK PRODUCTS CORPORATION. ALL OTHER JOINTS SHALL BE FILLED WITH NON-SHRINK GROUT.

CATCH BASIN DETAIL
NOT TO SCALE



CATCH BASIN - TYPE B FRAME AND COVER DETAIL
(NHDOT STANDARD)
NOT TO SCALE



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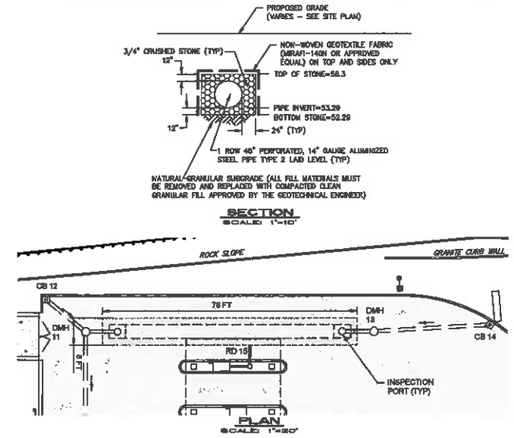
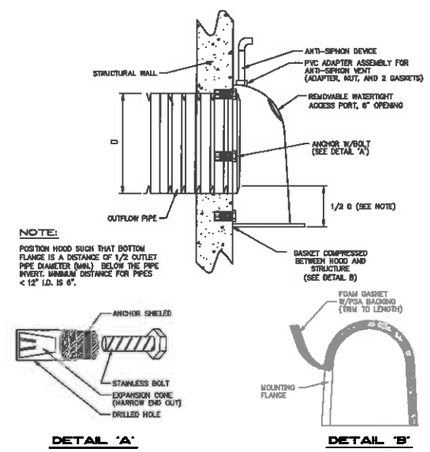
DRAIN MANHOLE DETAIL
NOT TO SCALE

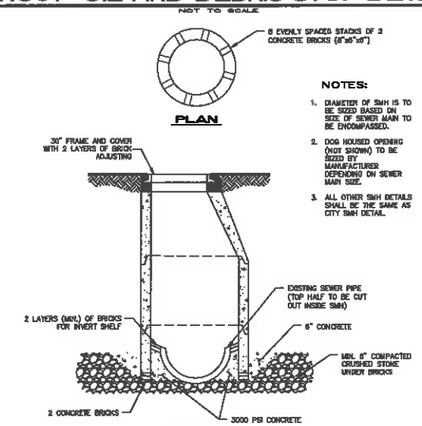


STORMWATER RECHARGE AREA 'A'
SCALE AS SHOWN



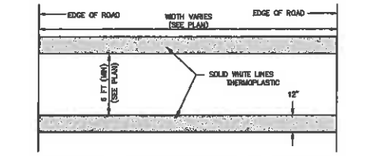
NOTE:
POSITION HOOD SUCH THAT BOTTOM FLANGE IS A DISTANCE OF 1/2 OUTLET PIPE DIAMETER (MIN.) BELOW THE PIPE INVERT. MINIMUM DISTANCE FOR PIPES < 12" I.D. IS 6".

SNOUT® OIL AND DEBRIS STOP DETAIL
NOT TO SCALE

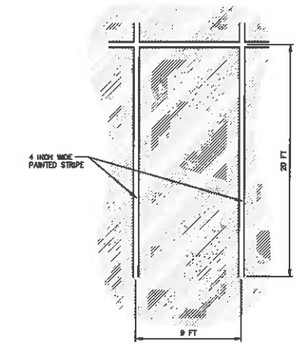


NOTES:
1. DIAMETER OF SMH IS TO BE SIZED BASED ON SIZE OF SEWER MAIN TO BE ENCOMPASSED.
2. DOG HOUSED OPENING (NOT SHOWN) TO BE SIZED BY MANUFACTURER DEPENDING ON SEWER MAIN SIZE.
3. ALL OTHER SMH DETAILS SHALL BE THE SAME AS CITY SMH DETAIL.

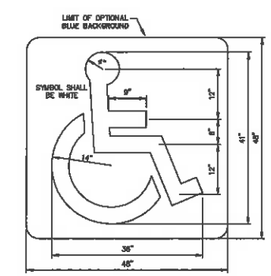
DROP OVER SEWER MANHOLE
(CITY OF NASHUA STANDARDS)
NOT TO SCALE



TYPICAL CROSSWALK DETAIL
NOT TO SCALE



TYP. PARKING STALL DETAIL
NOT TO SCALE



ACCESSIBLE PARKING SPACE PAVEMENT MARKING
NOT TO SCALE

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DETAIL SHEET - GENERAL SITE
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PREPARED FOR/RECORD OWNER
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SCALE AS SHOWN

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STATE OF NEW HAMPSHIRE — JAMES N. PETROPULOS No. 10274 — LICENSED PROFESSIONAL ENGINEER

FIELD BOOK: --	DRAWING NAME: 5292CU DETI	5292	8 OF 16
DRAWING LOC: Q:\5292\CIVIL.DWG		File Number	Sheet

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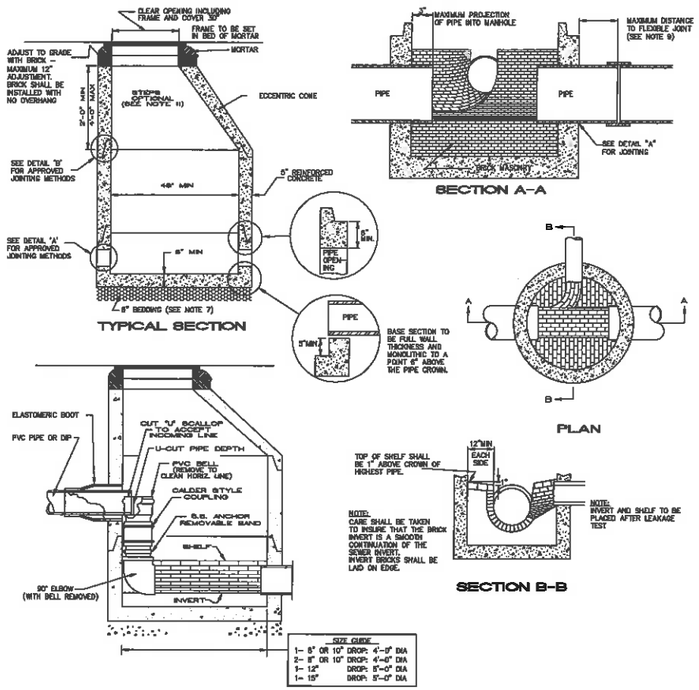
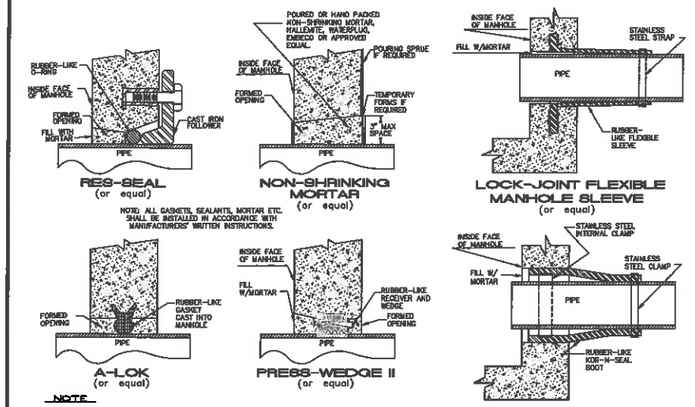


NOTES

1. IT IS INTENDED THAT THE MANHOLES INCLUDING ALL CONNECTIONS THERETO, HAVE DESIGNATE SPACE, STRENGTH, AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHOWN ARE AS SHOWN ON THE DRAWING. SECTIONS WITH STEEL REINFORCEMENT, WITH ACCEPTABLE JOINTS OR OPTIONALLY CAST MONOLITHICALLY IN PLACE WITH REINFORCEMENT, IN ANY APPROVED MANNER, THE CONCRETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADING CONDITIONS (HEAD LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE. THE STEEL IN THE CONCRETE SHALL PROVIDE FOR VERTICAL POST OF MANHOLE CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE A PERIOD GENERALLY IN EXCESS OF 50 YEARS AS TO BE UNDERSTOOD IN BOTH CASES.
2. MANHOLE REINFORCEMENT SHALL BE PRECAST REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED CONCRETE.
3. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C 478.
4. PRECAST CONCRETE SECTIONS SHALL CONFORM TO ASTM C 478.
5. PRECAST OR POURED IN PLACE MANHOLES SHALL HAVE A INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE. TRANSITIONS FROM SMALLER TO LARGER PIPE SEWER SHALL BE MADE IN THE MANHOLE SO THAT THE ELEVATION OF THE TOP OF THE PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOW THROUGH CHANNEL. UNDER-LAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY OR PRECAST CONCRETE.
6. COVERS AND COVERS, MANHOLE FRAMES AND COVERS SHALL BE HEAVY DUTY DESIGN AND PROVIDE A 30 INCH CLEAR OPENING. A 9 INCH (MINIMUM HEIGHT) LETTER "S" FOR SEWER OR "D" FOR DRAINS SHALL BE PLANLY CAST INTO THE CENTER OF EACH COVER.
7. BEDDING SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 SIZE 67 AS:
   100% PASSING 1 INCH SCREEN
   90-100% PASSING 3/4 INCH SCREEN
   20-55% PASSING 3/8 INCH SCREEN
   0-10% PASSING #4 SIEVE
   0-5% PASSING #8 SIEVE
   WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 TO 1-1/2 INCH SHALL BE USED.
8. SAND BLANKET CLEAN SAND, FREE FROM ORGANIC MATTER, SO GRADED THAT 90-100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #50 SIEVE. BLANKET MAY BE OMITTED FOR DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE.
9. SURFACE MATERIAL IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE ROCKS, FROZEN MATERIAL, ORGANIC MATTER, TRASH, ALL VEGETABLE MATERIAL, MUCK, PEAT, CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL STONES OVER SIX INCHES IN LARGEST DIMENSION OR ANY MATERIAL WHICH AS DETERMINED BY THE ENGINEER WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE SUBGRADE TO PROVIDE A STABLE TRENCH. SUITABLE MATERIAL SHALL BE EXCAVATED FROM TRENCHES WHEN THE ENGINEER MAY PERMIT THE USE OF THAT SOIL. LOAM, LAUM, OR PEAT, ONLY AS AUTHORIZED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT ADEQUATE ACCESS TO THE SEWER FOR MAINTENANCE (AND POSSIBLE RECONSTRUCTION WHEN NECESSARY) WILL BE PRESERVED.
10. BASE COURSE IF ORDERED BY THE ENGINEER SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE STANDARD SPECIFICATIONS, THE GENERAL CONDITIONS AND THE WATER AND SEWER CONSTRUCTION OF THE STATE OF N.H. DEPT. OF TRANSPORTATION.
11. WOOD SHEETING, IF REQUIRED, IS PLACED MECHANICALLY, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE THE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT ELEV 1 FOOT ABOVE THE TOP OF THE PIPE NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
12. W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE TOP OF PIPES IS NOT TO EXCEED NOMINAL DIAMETER PLUS 24 INCHES. FOR PIPES LARGER THAN 24 INCHES NOMINAL DIAMETER W SHALL BE 24 INCHES PLUS PIPE O.D. W SHALL ALSO BE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
13. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
14. CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000#) CONCRETE OF THE N.H. DEPT. OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:
   CEMENT: 6.0 BAGS PER CUBIC YARD
   WATER: 5.75 GALLONS PER BAG OF CEMENT
   MAXIMUM AGGREGATE SIZE: 1 INCH

STANDARD MANHOLE - PART A



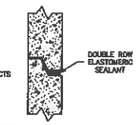
NOTE

1. REPAIRS OR MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL WILL DEPEND FOR WATERTIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.

NOTE:
ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

STATE OF NEW HAMPSHIRE APPROVED PRODUCTS

[A] SIKAFLEX-12-SL
[B] SONNEBORN BUILDING PRODUCTS SONOLASTIC SL-1



ELASTOMERIC SEALANT

DETAIL B

DETAIL A

STANDARD MANHOLE - PART B

NOTES

1. MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE 6 INCHES.
2. PIPE AND JOINT MATERIALS
   A. PLASTIC SEWER PIPE
      1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

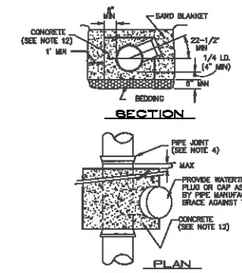
ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F789	PVC (SOLID WALL)	4" THROUGH 18" (T-1 TO T-3)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
D2680	ABS (COMPOSITES WALL)	8" THROUGH 15"

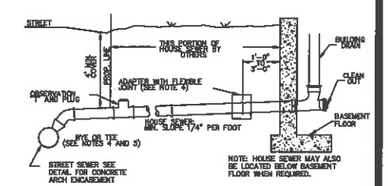
      PVC: POLY VINYL CHLORIDE
      ABS: ACRYLONITRILE-BUTADIENE-STYRENE

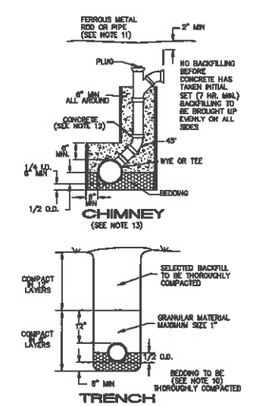
      2. JOINTS SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON, BELL AND SPIGOT TYPE.

      ABS TRUSS PIPE AND FITTINGS SHALL CONFORM TO ASTM D-2680. POLYMER COMPOUNDING SHALL BE TO ASTM D-1789 (CLASS 322).

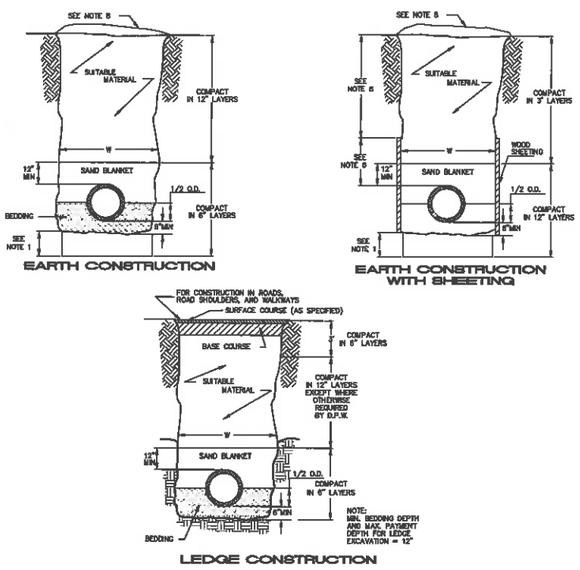
      JOINTS FOR ABS TRUSS PIPE SHALL BE CHEMICAL WELDED COUPLINGS TYPE (C) ACCORDANCE WITH ASTM D-2680, FORMING A CHEMICAL WELDED JOINT.
   B. DUCTILE-IRON PIPE, FITTINGS AND JOINTS.
      1. DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITUTE:
         A21.50 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A-536 DUCTILE IRON CASTINGS.
         A21.51 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS.
      2. JOINTS SHALL BE OF THE MECHANICAL OR PUSH-ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO:
         A21.11 RUBBER GASKETS JOINTS FOR CAST IRON PRESSURE PIPE AND FITTINGS.
3. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
4. JOINTS SHALL BE BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATERTIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET, "Y" OR AT THE FOUNDATION WALL, APPROPRIATE ADAPTERS SHALL BE USED.
5. TIE AND CLEANOUT WHERE A "T" OR "Y" IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE IN THE SEWER, FOLLOWING MANUFACTURER'S RECOMMENDATIONS USING A SADDLE, CLAMPED OR EPOXY CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING. THE SADDLE SHALL BE CENTERED ON THE PIPE WITH A SLOPE HANGER RETURNED DOWN TO THE BOTTOM OF THE PIPE. THE USE OF A "T" OR "Y" SADDLE WITH THE TOP OF THE CONNECTION AND ANY OTHER SIMILAR CAUSE TO BE INSERT ONE SIZE BY DIMENSIONS WILL NOT BE PERMITTED. THE CONNECTION SHALL BE CONCRETE ENCASED, AS SHOWN IN THE DETAIL UP TO AND INCLUDING 12" DIAMETER."
6. HOUSE SEWER INSTALLATION THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURES. IT SHALL BE CAREFULLY BEDDED ON A 6 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL, AS SPECIFIED IN NOTE 3. THE PIPE SHALL BE LAID TO A UNIFORM LINE AND GRADE. TOP OF THE PIPE SHALL BE CAREFULLY TO THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.
7. TESTING THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS PRIOR TO BACKFILLING:
   A. AIR OBSERVATION "T" WILL BE ACCEPTABLE WHEN READY JOINT UPSTREAM FROM THE CONNECTION IS TIGHT. AFTER INSTALLING WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 3 FEET OR TO THE LEVEL OF THE PIPE.
   B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY MOISTENED WITH WATER FOR THREE HOURS. IF AS DETERMINED BY THE ENGINEER, THE PIPE SHALL BE PERMITTED TO RINE IN THE TRENCH OVER THE PIPE. INSPECTION FOR STAINS SHALL BE MADE THROUGHOUT THE SEWER WITH A FLASHLIGHT.
   C. DRY FLUORESCENT DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY MOISTENED WITH WATER. IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKAGE SHALL BE MADE IN THE TRENCH DOWNSTREAM. LEAKAGE OBSERVED IN ANY OF THE ABOVE ALTERNATE TESTS SHALL BE CORRECTED, REPAIRED, REPLACED, AS NECESSARY, AND RELAID SO AS TO ENSURE WATERTIGHTNESS.
8. BUILDING CONNECTION NOTHING BUT SANITARY WASTE FLOW FROM THE BUILDING SHALL BE PERMITTED TO ENTER THE SEWER. PROPERLY LICENSED CONTRACTORS MAY PUMP OR DIVERT OTHER SUBSURFACE WATER. CONNECTION OF SUMP PUMPS OR OTHER GROUND WATER SHALL NOT BE PERMITTED.
9. HOUSE WATER SERVICE SHALL NOT BE LAID IN THE SAME TRENCH AS THE SEWER SERVICE.
10. BEDDING SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33-67:
   100-PASSING 1 INCH SCREEN 90-100%PASSING 3/4 INCH SCREEN
   20-55%-PASSING 3/8 INCH SCREEN 0-10%-PASSING #4 SIEVE
   0-5%-PASSING #8 SIEVE.
   WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE SCREENED GRAVEL OR CRUSHED STONE (1-1/2 TO 1/2 INCH) SHALL BE USED.
11. LOCATION THE LOCATION OF THE "T" OR "Y" SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE "T" OR "Y" AS ORDERED IN THE SPECIFICATIONS - DETAIL TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEDDLE OR PIPEFINDER.
12. CONCRETE CONCRETE SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000#) CONCRETE OF THE N.H. DEPT. OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:
   CEMENT: 6.0 BAGS PER CUBIC YARD
   WATER: 5.75 GALLONS PER BAG OF CEMENT
   AGGREGATE: 1 INCH SIZE
13. CHIMNEYS IF VERTICAL DROP INTO THE SEWER IS GREATER THAN 4 FEET A CHIMNEY SHALL BE CONSTRUCTED AS SHOWN. IN LIEU OF MASONRY CHIMNEYS, VARIOUS INSTALLATIONS FOR COMPLETE PIPE MANUFACTURER MAY BE USED IF APPROVED BY THE ENGINEER.







HOUSE SEWER DETAILS



STANDARD TRENCH SECTION

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

DETAIL SHEET - SEWER
(LOT 744, MAP "E")

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

SCALE AS SHOWN

30 JULY 2020

HSI Heyner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1921
www.heynerswanson.com

STATE OF NEW HAMPSHIRE JAMES N. PETROPULOS No. 10274 LICENSED PROFESSIONAL ENGINEER

FIELD BOOK: —	DRAWING NAME: 5292CU DET1	5292	9 OF 16
DRAWING LOC: Q:\5292\DWG.DWG		File Number	Sheet

REV: 08/07/11

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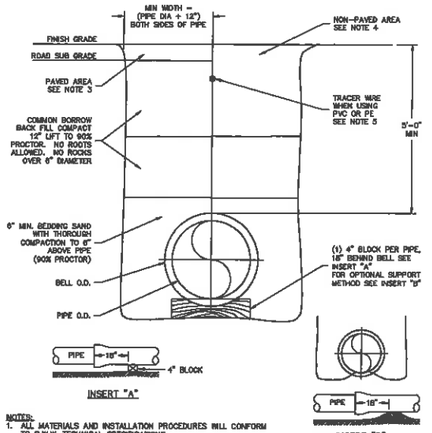
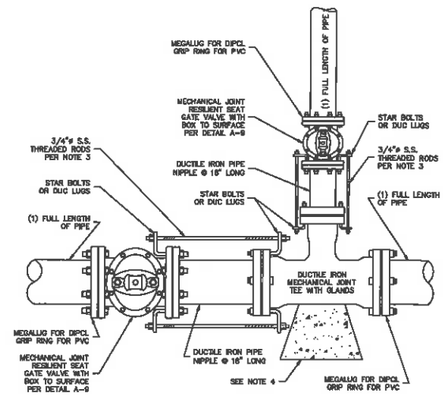


NOTES:
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO P.W.W. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. REQUIREMENTS FOR SUBBASE AND BASE MATERIAL TYPE ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN PAVED AREAS.
4. REQUIREMENTS FOR GRAVEL, LOAM AND/OR SEED ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN NON-PAVED AREAS.
5. 10 GAUGE TRACER WIRE AS MANUFACTURED BY BMS, DIVISION OF ALBESTAR CORP., AVON, MA OR EQUIVALENT.

OPTIONAL ONLY WHEN SOIL CONDITIONS ARE EQUAL TO 6" MIN. BEDDING SAND WITH THOROUGH COMPACTION

TYPICAL TRENCH DETAIL

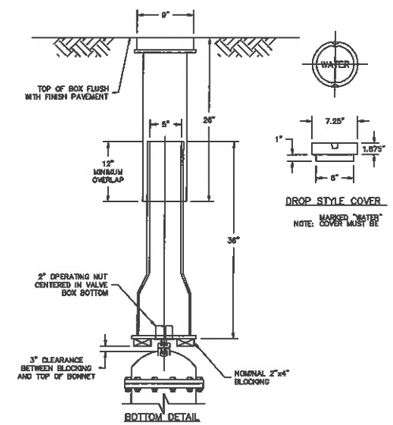
NOT TO SCALE



NOTES:
1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO P.W.W. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTHS OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. 3/4"ø S.S. RODS SHALL BE USED IN CONJUNCTION WITH REQUIRED S.S. NUTS. RODS ARE TO BE ATTACHED TO FITTINGS WITH EITHER STAR BOLTS OR DUC LUGS.
   10" FITTING OR SMALLER = (2) 3/4"ø S.S. RODS & ASSOC. HARDWARE.
   12" FITTING OR LARGER = (4) 3/4"ø S.S. RODS & ASSOC. HARDWARE.
4. MIN 3'x3'x3' PRE CAST CONCRETE THRUST BLOCK MAY BE USED WITH P.W.W. APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH – SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATER MAIN. SEE DETAIL A-7.

TYPICAL TEE INSTALLATION

NOT TO SCALE



NOTES:
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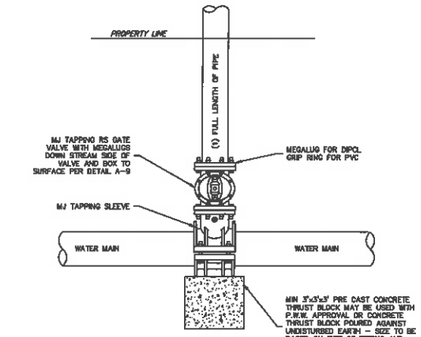
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.

TYPICAL VALVE BOX DETAIL

NOT TO SCALE



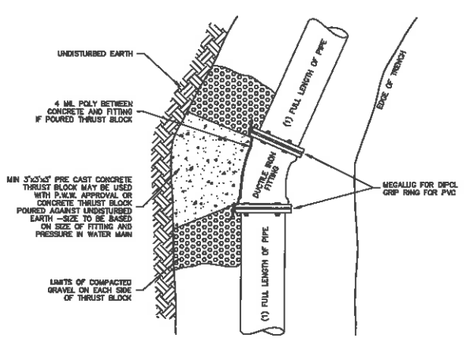
NOTES:
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO P.W.W. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL A-22 FOR CROSS-SECTIONAL VIEW.

TYPICAL LARGE SERVICE AND/OR TAPPING SLEEVE DETAIL

NOT TO SCALE

WATER NOTES

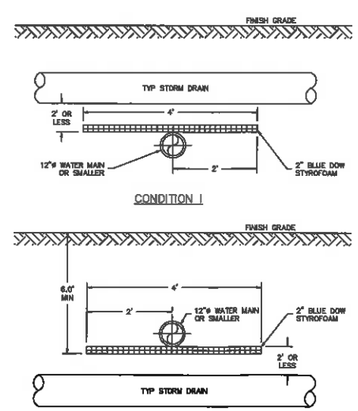
1. REFERENCE PENNICHUCK WATER WORKS SPECIFICATIONS FOR INSTALLATION OF ALL WATER LINES.
2. ALL SPRINKLER AND DOMESTIC LEADS TO BUILDING SHALL END 5'-0" OUTSIDE THE FACE OF BUILDING WALL UNLESS NOTED, AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT END (FOR OTHERS TO REMOVE AND EXTEND AS NECESSARY).
3. THRUST BLOCKS AND MEGALUG RESTRAINTS SHALL BE PROVIDED AT ALL HORIZONTAL BENDS, TEES, AND FIRE HYDRANTS. SEE DETAIL.
4. MINIMUM COVER ON ALL WATER LINES IS 5'-6".
5. CONTRACTOR SHALL MAINTAIN A 5'-0" HORIZONTAL (UNLESS OTHERWISE NOTED) AND 12" VERTICAL SEPARATION BETWEEN WATER SERVICE AND UTILITIES OTHER THAN SANITARY SEWER.
6. INSPECTIONS ON WATER SERVICE INSTALLATION DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE SITE CONTRACTOR AND SHALL BE COORDINATED WITH PENNICHUCK WATER WORKS, AND ALL INSPECTION FEES SHALL BE PAID BY THE CONTRACTOR.
7. CONTRACTOR SHALL HAVE BACTERIOLOGICAL AND PRESSURE TESTING PERFORMED. CONTRACTOR SHALL GIVE PENNICHUCK WATER WORKS A COPY OF RESULTS. PENNICHUCK WATER WORKS SHALL BE ON-SITE TO WITNESS TEST.
8. ALL PIPE, VALVES, MISCELLANEOUS MATERIALS AND INSTALLATION SHALL CONFORM WITH PENNICHUCK WATER WORKS SPECIFICATIONS.
9. ALL FIRE HYDRANTS, VALVES, FITTINGS, PIPES, ETC. SHALL BE IN ACCORDANCE WITH PENNICHUCK WATER WORKS REQUIREMENTS.
10. METALLIC TAPE OR DETECTOR WIRE SHALL BE INSTALLED IN THE SAME TRENCH WITH ALL NONMETALLIC PIPE SUCH THAT THE PIPE MAY BE LOCATED WITH ELECTRONIC LOCATING EQUIPMENT. DETECTOR WIRE OR METALLIC TAPE SHALL BE INSTALLED APPROXIMATELY 12" TO 18" BELOW GRADE DIRECTLY ABOVE THE TOP OF THE PIPE. DETECTOR WIRE SHALL BE 14 – GAUGE SOLID COPPER, SIMPLEX EN3001, OR EQUAL. METALLIC TAPE SHALL BE 2" MINIMUM METALIZED TAPE, GRIFFOLYN COMPANY, INC. TERRATAPE OR EQUAL.
11. CONTRACTOR SHALL ENSURE ALL WATER VALVES ARE IN A FULLY-OPEN POSITION UPON COMPLETION OF PROJECT.
12. CONTRACTOR SHALL COORDINATE ALL WATER INTERRUPTIONS WITH THE PENNICHUCK WATER WORKS AND AFFECTED PROPERTY OWNERS



NOTES:
1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO P.W.W. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTHS OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. 3/4"ø S.S. RODS SHALL BE USED IN CONJUNCTION WITH REQUIRED S.S. NUTS. RODS ARE TO BE ATTACHED TO FITTINGS WITH EITHER STAR BOLTS OR DUC LUGS.
   10" FITTING OR SMALLER = (2) 3/4"ø S.S. RODS & ASSOC. HARDWARE.
   12" FITTING OR LARGER = (4) 3/4"ø S.S. RODS & ASSOC. HARDWARE.
4. MIN 3'x3'x3' PRE CAST CONCRETE THRUST BLOCK MAY BE USED WITH P.W.W. APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH – SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATER MAIN.

TYPICAL THRUST BLOCK BEHIND FITTINGS INSTALLATION

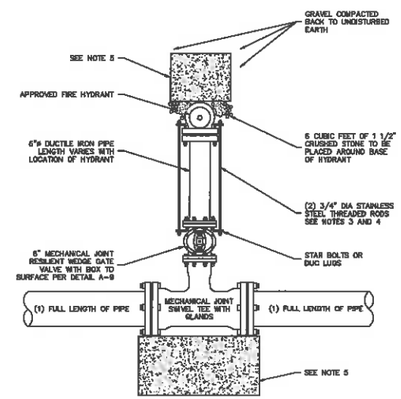
NOT TO SCALE



NOTES:
1. PENNICHUCK WATER WORKS, INC. RESERVES THE RIGHT TO MODIFY INSULATION REQUIREMENTS AS NECESSARY BASED ON FIELD CONDITIONS, ETC.
2. THE LENGTH OR WIDTH OF INSULATION SHALL EXTEND 1 STORM DRAIN PIPE DIAMETER BEYOND THE EDGE OF STORM DRAIN PIPE IN EACH DIRECTION OR A MINIMUM OF 2' BEYOND THE CENTERLINE OF THE STORM DRAIN PIPE, WHICHEVER IS GREATER.
3. ALL BUTT JOINT SEAMS TO BE OVERLAPPED WITH A 1' PIECE OF INSULATION CENTERED OVER SEAM.

STORM DRAIN/WATER MAIN INTERSECTING RUNS-ELEV. VIEW

NOT TO SCALE



NOTES:
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2. ALL PIPE SHOULD HAVE A MINIMUM DEPTHS OF 5' FROM TOP OF PIPE TO FINISH GRADE.
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   10" FITTING OR SMALLER = (2) 3/4"ø S.S. RODS & ASSOC. HARDWARE.
   12" FITTING OR LARGER = (4) 3/4"ø S.S. RODS & ASSOC. HARDWARE.
4. WHEN DISTANCE FROM WATER MAIN TO HYDRANT IS MORE THAN 10' SUBSTITUTE MEGALUGS (OR GRIP RINGS) IN LIEU OF THREADED RODS.
5. MIN 3'x3'x3' PRE CAST CONCRETE THRUST BLOCK MAY BE USED WITH P.W.W. APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH – SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATER MAIN. SEE DETAIL A-7.

TYPICAL HYDRANT INSTALLATION

NOT TO SCALE

DETAILS SHOWN SUPPLIED BY PENNICHUCK WATER WORKS, INC.

STATE OF NEW HAMPSHIRE
JAMES N. PETROPULOS
No. 10274
LICENSED
PROFESSIONAL ENGINEER

No.	DATE	REVISION	BY
1	08/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

DETAIL SHEET - WATER
(LOT 744, MAP 'E')

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

SCALE AS SHOWN

30 JULY 2020

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03063, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1301
www.haynerswanson.com

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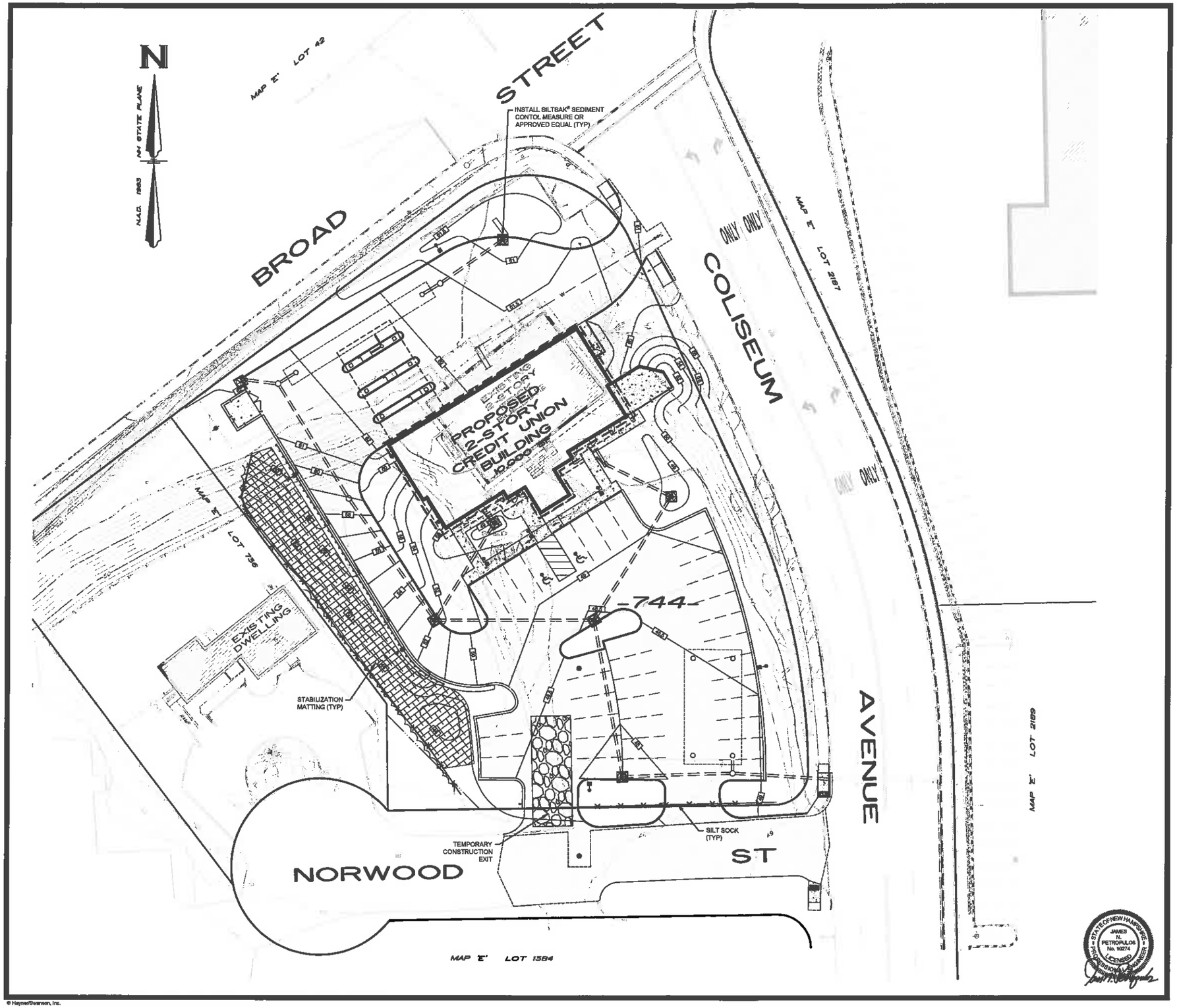

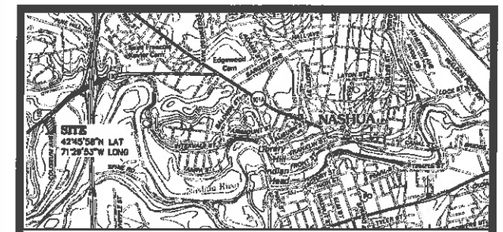

VICINITY MAP

CONSTRUCTION SEQUENCE

1. CLEAR SITE ACCORDING TO PLAN.
2. CONSTRUCTION OF TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES, INCLUDING SILT FENCES, TO BE IN ACCORDANCE WITH THE PLANS.
3. GRUB SITE ACCORDING TO PLAN.
4. CUT AND DISPOSE OF ANY DEBRIS PRODUCED DURING THE CLEARING AND GRUBBING ACTIVITY.
5. SITE GRADING OF BUILDING AND PARKING AREAS. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED AFTER BEING CONSTRUCTED.
6. INSTALLATION OF UNDERGROUND UTILITIES AND SUBSURFACE STORMWATER MANAGEMENT AREAS. CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT IN ACCORDANCE WITH THE SILTSAK DETAIL. THE CONTROL SHALL REMAIN UNTIL THE SITE IS SUFFICIENTLY STABILIZED.
7. AS THE BUILDING IS COMPLETED, ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED.
8. NO PORTION OF THE PROJECT SHALL BE LEFT DISTURBED AND UNSTABILIZED FOR A PERIOD OF TWO (2) MONTHS OR GREATER. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED PRIOR TO WINTER CONDITIONS. STABILIZATION SHALL BE DEFINED AS 70% VEGETATIVE GROWTH BY NOVEMBER 1ST OR INSTALLATION OF EROSION CONTROL MATTING.
9. COMPLETED AREAS SHALL BE STABILIZED 72 HOURS AFTER COMPLETION.
10. FINAL PAVING OF PARKING LOT.
11. LOAM AND SEED ALL DISTURBED AREAS.
12. INSPECTION OF ALL SEDIMENT AND EROSION CONTROL MEASURES.
13. SITE LANDSCAPING ALONG WITH PERMANENT SEEDING OF ALL DISTURBED AREAS.
14. REMOVE ANY TEMPORARY EROSION CONTROL MEASURES NOT NEEDED.

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

EROSION CONTROL PLAN
(LOT 744, MAP 'E')

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

30 JULY 2020

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street
Nashua, NH 03062
(603) 883-2057
135 Middlesex Turnpike
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STATE OF NEW HAMPSHIRE JAMES N. PETROPULOS No. 10274 LICENSED PROFESSIONAL ENGINEER

FIELD BOOK: ---	DRAWING NAME: 5292CU ER21	5292	11 OF 16
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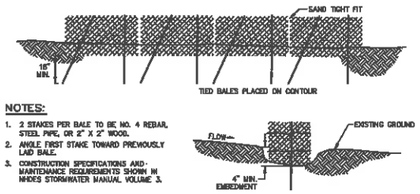
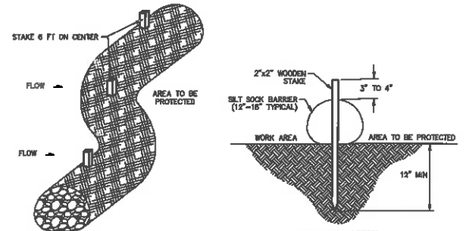


NOTES:

1. 2 STAKES PER BALE TO BE NO. 4 REBAR, STEEL PIPE, OR 2" X 2" WOOD.
2. ANGLE FIRST STAKE TOWARD PREVIOUSLY LAID BALE.
3. CONSTRUCTION SPECIFICATIONS AND MAINTENANCE REQUIREMENTS SHOWN IN NHDES STORMWATER MANUAL VOLUME 3.

STRAW BALE BARRIER DETAIL

NOT TO SCALE



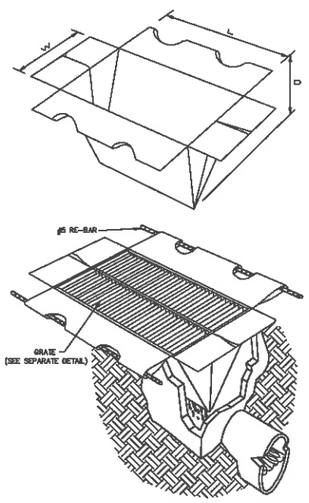
SECTION VIEW

NOTES:

1. SILT SOCK BARRIER SHALL BE FILTEREX® SILTSOCK (OR APPROVED EQUAL) AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. SILT SOCK BARRIER SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
3. IF THE SILT SOCK SHOULD DECOMPOSE OR BECOME INEFFECTIVE, THE BARRIER SHALL BE REPLACED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.
5. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE BARRIER HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.
6. COMPOST TO BE REMOVED OR DISPOSED ON-SITE AS DETERMINED BY THE ENGINEER.

SILT SOCK DETAIL

NOT TO SCALE



SILTSAK NOTES

1.0 THE SILTSAK® SHALL BE MANUFACTURED FROM WOVEN POLYPROPYLENE AND SEWN BY A DOUBLE NEEDLE MACHINE, USING A HIGH STRENGTH NYLON THREAD.

2.0 THE SILTSAK® SEAMS SHALL HAVE A CERTIFIED AVERAGE WIDE WIDTH STRENGTH PER ASTM D-4884 STANDARDS AS FOLLOWS:

SILTSAK® STYLE	TEST METHOD	TEST METHOD
REGULAR FLOW	ASTM D-4884	150.0 LBS/IN
HI-FLOW	ASTM D-4884	114.6 LBS/IN

3.0 THE SILTSAK® WILL BE MANUFACTURED TO FIT THE OPENING OF THE CATCH BASIN OR DROP INLET. THE SILTSAK® WILL HAVE THE FOLLOWING FEATURES: TWO DUMP STRAPS ATTACHED AT THE BOTTOM TO FACILITATE THE EMPTYING OF THE SILTSAK®. THE SILTSAK® SHALL HAVE LIFTING LOOPS AS AN INTEGRAL PART OF THE SYSTEM TO BE USED TO LIFT THE SILTSAK® FROM THE BASIN. THE SILTSAK® SHALL HAVE A RESTRAINT CORD APPROXIMATELY HALFWAY UP THE SACK TO KEEP THE SIDES AWAY FROM THE CATCH BASIN WALLS. THIS YELLOW CORD IS ALSO A VISIBLE MEANS OF INDICATING WHEN THE SACK SHOULD BE EMPTIED, CLEANED, AND PLACED BACK INTO THE BASIN.

4.0 THE GEOTEXTILE FABRIC SHALL BE WOVEN POLYPROPYLENE FABRIC WITH THE FOLLOWING PROPERTIES:

SILTSAK® REGULAR FLOW

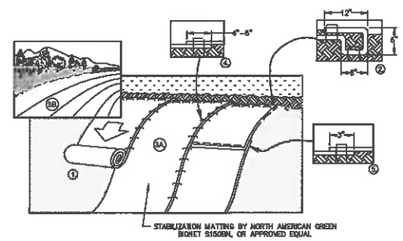
PROPERTY	TEST METHOD	TEST RESULT
GRAB TENSILE	ASTM D-4632	300 LBS
GRAB ELONGATION	ASTM D-4631	25%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	600 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/FT2
PERMITTIVITY	ASTM D-4491	0.55 SEC

OR SILTSAK® HI-FLOW

PROPERTY	TEST METHOD	TEST RESULT
GRAB TENSILE	ASTM D-4632	265 LBS
GRAB ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	130 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/FT2
PERMITTIVITY	ASTM D-4491	1.5 SEC

SILTSAK® DETAIL

NOT TO SCALE

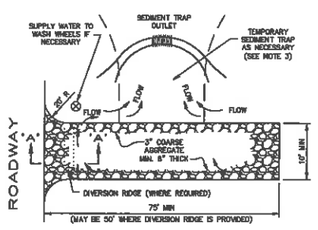


1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURES RECOMMENDATION.
4. 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH MINIMUM 6" OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
6. PLACE STAPLES/STAKES PER MANUFACTURE RECOMMENDATION FOR THE APPROPRIATE SLOPE BEING APPLIED.

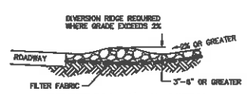
NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

STABILIZATION MATTING DETAIL

NOT TO SCALE



PLAN VIEW



SECTION 'A'-'A' VIEW

NOTES

1. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO EXITING THE SITE ONTO A PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. CONSTRUCTION SPECIFICATIONS AND MAINTENANCE REQUIREMENTS SHOWN IN NHDES STORMWATER MANUAL VOLUME 3.

TEMPORARY GRAVEL CONSTRUCTION EXIT

NOT TO SCALE

GENERAL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS THEREOF IN NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES STORMWATER MANUALS, VOLUME 1-3, LATEST EDITION.
2. 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, STRAW BALES AND/OR DETENTION BASINS WILL BE NECESSARY TO ACCOMPLISH THIS END.
3. STRIPPED TOPSOIL SHALL BE STOCKPILED, WITHOUT COMPACTION, AND STABILIZED AGAINST EROSION IN ACCORDANCE WITH "TEMPORARY STABILIZATION OF DISTURBED AREAS", AS OUTLINED IN NOTE No. 4.
4. TEMPORARY STABILIZATION OF DISTURBED AREAS:
   SEED BED PREPARATION: 10-10-10 FERTILIZATION TO BE SPREAD AT THE RATE OF 7 LBS PER 1,000 SF AND AGRICULTURAL LIMESTONE AT A RATE OF 90 LBS PER 1,000 SF AND INCORPORATED INTO THE SOIL. THE SOIL, FERTILIZER AND LIMESTONE SHALL BE TILLED TO PREPARE FOR SEEDING.

A. SEED MIXTURE: USE ANY OF THE FOLLOWING:

SPECIES	RATE PER 1,000 SF	DEPTH	SEEDING DATES
WINTER RYE	2.5 LBS	1"	08/15 TO 09/15
OATS	2.5 LBS	1"	04/15 TO 10/15
ANNUAL RYE GRASS	1.0 LBS	0.25"	08/15 TO 09/15

B. MULCHING: MULCH SHOULD BE USED ON HIGHLY ERODABLE AREAS, AND WHERE CONSERVATION OF MOISTURE WILL FACILITATE PLANT ESTABLISHMENT AS FOLLOWS:

TYPE	RATE PER 1,000 SF	USE & COMMENTS
STRAW	70 TO 90 LBS	MAY BE USED WITH PLANTINGS, MUST BE ANCHORED TO BE USED ALONE
WOOD CHIPS OR BARK MULCH	460 TO 920 LBS	USED WITH TREE AND SHRUB PLANTINGS
FIBROUS MATTING	AS RECOMMENDED BY MANUFACTURER	MUST BE BIODEGRADABLE, USE IN SLOPE AREAS AND AREAS DIFFICULT TO VEGETATE.
CRUSHED STONE ½" TO 1 ½" DIA	SPREAD TO GREATER THAN 95" THICKNESS	USE IN SPECIFIC AREAS AS SHOWN ON PLAN OR AS NEEDED.

5. PERMANENT STABILIZATION OF DISTURBED AREAS:
   A. ALL ROADWAYS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
   B. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
6. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
7. AN AREA SHALL BE CONSIDERED STABILIZED IF ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
   C. A MINIMUM OF 3 INCHES OF NON-ERODIBLE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.
   D. OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED
8. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
9. SITE LOCATION:
   42° 45' 58" N LATITUDE, 71° 29' 53" W LONGITUDE (PER GOOGLE EARTH)
10. TOTAL AREA OF DISTURBED SOILS: 50,905± SF
11. REFERENCE IS MADE TO THE LATEST EDITION OF THE FEDERAL REGISTER (93 FR 7557), ENVIRONMENTAL PROTECTION AGENCY NPDES GENERAL PERMITS FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. FOR ADDITIONAL INFORMATION CONTACT (202) 564-9545 OR www.epa.gov/npdes/stormwater.
12. THE ENTIRE CONTENTS OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE RETAINED ON-SITE FOR THE DURATION OF THE CONTRACT AND BE MADE AVAILABLE TO LOCAL, STATE AND FEDERAL CODE ENFORCEMENT PERSONNEL.

WINTER CONDITION NOTES

1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

SITE MAINTENANCE/INSPECTION PROGRAM

THE FOLLOWING PROVIDES AN ITEMIZATION OF SPECIFIC SITE MAINTENANCE PRACTICES THAT WILL BE EMPLOYED ON THIS SITE TO MINIMIZE POLLUTANT GENERATION AND TRANSPORT FROM THE SITE. THE SITE MAINTENANCE PROGRAM INCLUDES ROUTINE INSPECTIONS, PREVENTATIVE MAINTENANCE AND "GOOD HOUSEKEEPING" PRACTICES.

ROUTINE INSPECTIONS

1. THE CONTRACTOR SHALL INSPECT ALL CONTROL MEASURES AT LEAST ONCE A WEEK AND WITHIN TWELVE (12) HOURS OF THE END OF A STORM WITH RAINFALL AMOUNT GREATER THAN 0.5 INCHES. THE INSPECTIONS WILL VERIFY THAT THE STRUCTURAL BMPs DESCRIBED IN THE PLANS ARE IN GOOD CONDITION AND ARE MINIMIZING EROSION. A MAINTENANCE INSPECTION REPORT WILL BE MADE WITH EACH INSPECTION. COMPLETED INSPECTION FORMS SHALL BE KEPT ON-SITE FOR THE DURATION OF THE PROJECT. FOLLOWING CONSTRUCTION, THE COMPLETED FORMS SHALL BE RETAINED AT THE CONTRACTOR'S OFFICE FOR A MINIMUM OF ONE YEAR.

PREVENTATIVE MAINTENANCE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL TEMPORARY AND PERMANENT CONTROLS THROUGHOUT THE DURATION OF THIS CONTRACT. MAINTENANCE PRACTICES SHALL INCLUDE, BUT ARE NOT LIMITED TO,

1. CLEANING OF CATCH BASINS TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY QUARTERLY INSPECTIONS
2. CLEANING OF SEDIMENT AND DEBRIS FROM STORMWATER MANAGEMENT AREA FOREBAY TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY MONTHLY INSPECTIONS.
3. IMPLEMENTATION OF OTHER MAINTENANCE OR REPAIR ACTIVITIES AS DEEMED NECESSARY BASED UPON WEEKLY INSPECTIONS.
4. REMOVAL OF BUILT UP SEDIMENT ALONG SILT FENCES AND/OR STRAW BALE BARRIERS.
5. REMOVAL OF BUILT UP SEDIMENT IN BOTH TEMPORARY AND PERMANENT CONTROLS SUCH AS GRASS SWALES, SEDIMENT FOREBAYS AND RECHARGE/DETENTION BASINS
6. RECONSTRUCTING THE TEMPORARY GRAVEL CONSTRUCTION EXIT IF NOT WORKING PROPERLY.
7. TREATMENT OF NON-STORM WATER DISCHARGES SUCH AS WATER FROM WATER LINE FLUSHINGS OR GROUNDWATER FROM DEWATERING EXCAVATIONS. SUCH FLOWS SHOULD BE DIRECTED TO A TEMPORARY SEDIMENTATION BASIN OR STORMWATER MANAGEMENT AREA.
8. SWEEP PARKING LOTS AND DRIVES REGULARLY TO MINIMIZE SEDIMENT ACCUMULATION. FREQUENCY WILL VARY SEASONALLY ACCORDING TO SEDIMENT ACCUMULATION ON PAVE SURFACES (E.G., MORE FREQUENT SWEEPING DURING THE WINTER AND SPRING).

GOOD HOUSEKEEPING PRACTICES

1. THE CONTRACTOR SHALL EMPLOY MEASURES AND PRACTICES TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS TO STORM AND WATER RUNOFF. THE CONTRACTOR SHALL PAY SPECIAL ATTENTION TO THE HANDLING, USE AND DISPOSAL OF MATERIALS SUCH AS PETROLEUM PRODUCTS, FERTILIZERS AND PAINTS TO ENSURE THAT THE RISK ASSOCIATED WITH THE USE OF THESE PRODUCTS IS MINIMIZED. THE FOLLOWING "GOOD HOUSEKEEPING" PRACTICES SHALL BE FOLLOWED DURING CONSTRUCTION OF THE PROJECT:
   A. AN EFFORT SHALL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
   B. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
   C. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THEIR MANUFACTURERS' LABELS.
   D. WHENEVER POSSIBLE, ALL OF A PRODUCT SHALL BE USED BEFORE DISPOSING OF THE CONTAINER.
   E. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
   F. THE CONTRACTOR SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.

SPILL PREVENTION AND CLEANUP PRACTICES

A. MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

B. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON-SITE. EQUIPMENT AND MATERIAL WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

C. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

D. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

E. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.

F. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL, IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

EPA
THE CONTRACTOR SHALL FILE THE EPA NOTICE OF INTENT (NOI) FORM AT LEAST 14 DAYS PRIOR TO CONSTRUCTION

STATE OF NEW HAMPSHIRE
JAMES H. PETROPULOS
No. 10274
LICENSED
PROFESSIONAL ENGINEER

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

DETAIL SHEET - EROSION CONTROL
(LOT 744, MAP 'E')

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

SCALE AS SHOWN

30 JULY 2020

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1301
www.haynerswanson.com

FIELD BOOK: —
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DRAWING LOC: G:\5292\CIVIL.DWG
File Number: 5292
Sheet: 12 OF 16

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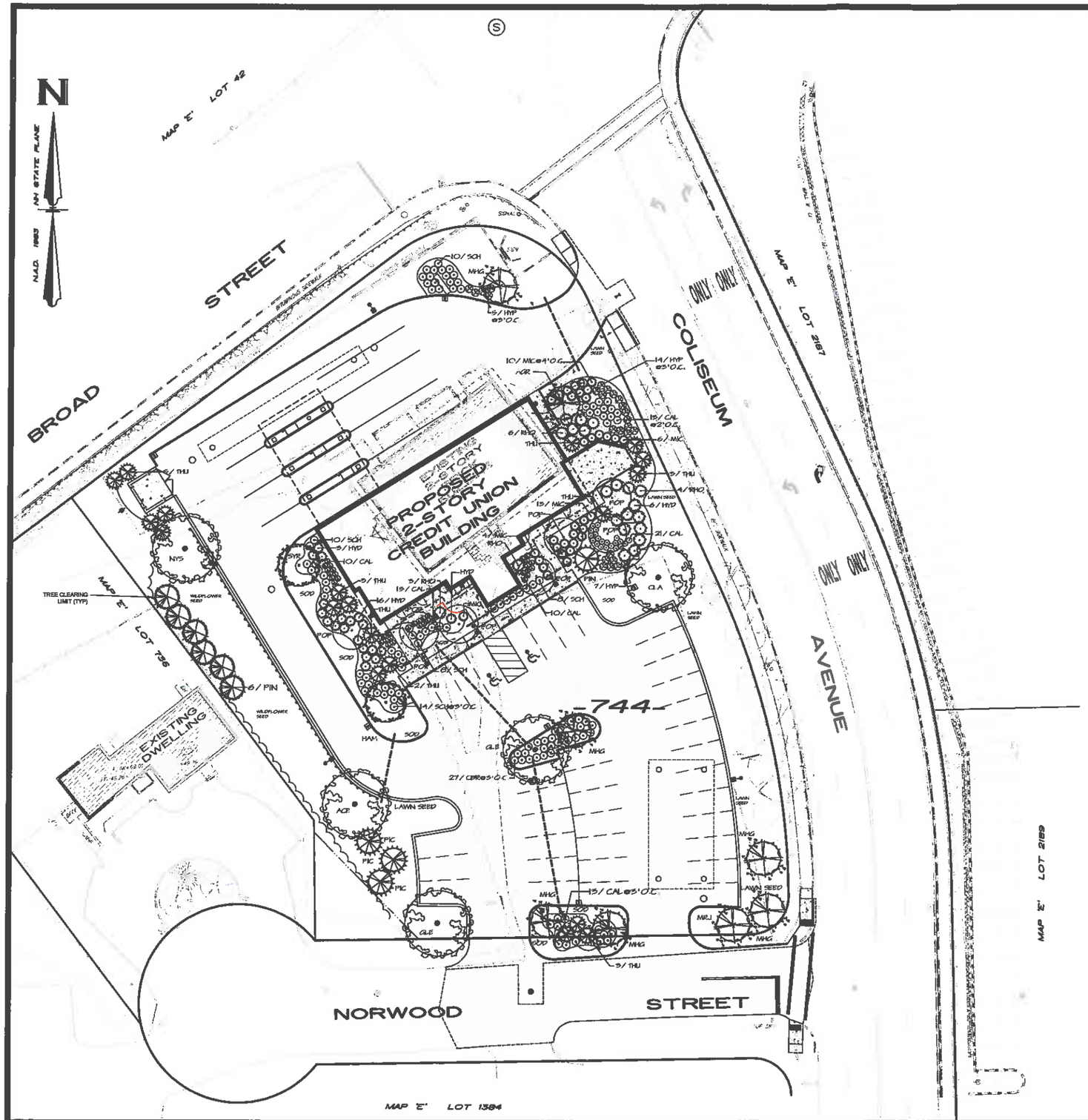

PLANT MATERIAL LIST

1/ ACE	ACER RUBRUM (RED SUNSET MAPLE)	2.5"-3" CAL.
1/ ACR	ACER GRISEUM (PAPERBARK MAPLE)	10'-12' MULTI-STEM
82/ CAL	CALAMAGROSTIS A. (OVERDAM FEATHER REED)	#2GAL.
27/ CDR	CALAMAGROSTIS BRACHYTRICHA (KOREAN FEATHER REED)	#1GAL.
2/ GLE	GLEDITSIA T. I. (HALKA HONEYLOCUST)	2.5"-3" CAL.
1/ HAM	HAMAMELIS VIRGINIANA (COMMON WITCHAZZEL)	7'-8' BB
27/ HYD	HYDRANGEA QUERCIFOLIA (RUBY SLIPPERS OAKLEAF)	2.5'-3' B&B
25/ HYP	HYPERICUM KALMIANUM (AMES ST. JOHNSWORT)	#2GAL.
5/ MHG	MALUS SPECIS (HARVEST GOLD CRABAPPLE)	2.5"-3" CAL.
34/ MIC	MICROBIOTA DECUSSATA (RUSSIAN CYPRESS)	#5GAL.
1/ MRJ	MALUS SPECIES (RED JADE CRABAPPLE)	2.5"-3" CAL.
2/ NYS	NYSSA SYLVATICA (TUPELO & WILDFIRE)	2.5"-3" CAL.
1/ PIT	PINUS THUNBERGIANA (THUNDERHEAD JAPANESE PINE)	6'-7' BB
3/ PIC	PICEA GLAUCA (WHITE SPRUCE)	7'-8' BB
6/ PIN	PINUS STROBUS (WHITE PINE)	6'-7' B&B
8/ POP	POPULUS TREMULOIDES (MOUNTAIN SENTINEL ASPEN)	2"-2.5" CAL.
12/ RHO	RHODODENDRON (WHITE CATAWBA RHODODENDRON)	#7GAL.
61/ SCH	SCHIZACHYRIUM ACOPARIUM (THE BLUES BLUESTEM)	#1GAL.
2/ SYR	SYRINGA RETICULATA (IVORY SILK JAPANESE TREE LILAC)	3"-3.5" CAL.
19/ THU	THUJA OCCIDENTALIS (TECHNY MISSION ARBORVITAE)	7'-8' B&B

MISCELLANEOUS:

SOD	PER PLAN
GENERAL LAWN SEED (BLUE SEAL 'EZ GREEN' @1LB./ 200SF.)	PER PLAN
PREMIUM BLEND PINE BARK MULCH (DO NOT USE TINTED MULCH!)	4" SETTLED

PLANT LIST REVISED: 7/ 28/ 20

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

LANDSCAPE PLAN
(LOT 744, MAP 'E')

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 665-2221

20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

30 JULY 2020

PREPARED BY :

BLACKWATER DESIGN
PHONE (603) 648 - 4309 FAX (603) 648 - 4596
Land Planning - Landscape Architecture
85 Frost Lane - Webster, NH 03303

FIELD BOOK: --	DRAWING NAME: 5292CU LS21	5292	13 OF 16
DRAWING LOC: G:\5292\CIVIL DWG		File Number	Sheet

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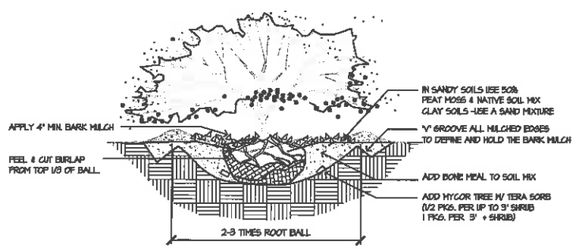
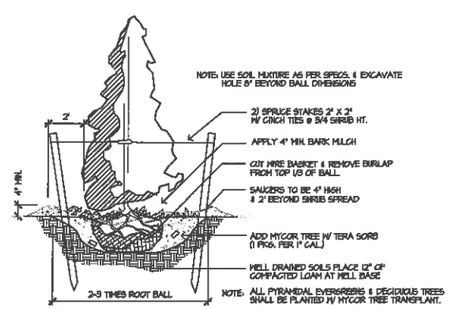
General Specifications

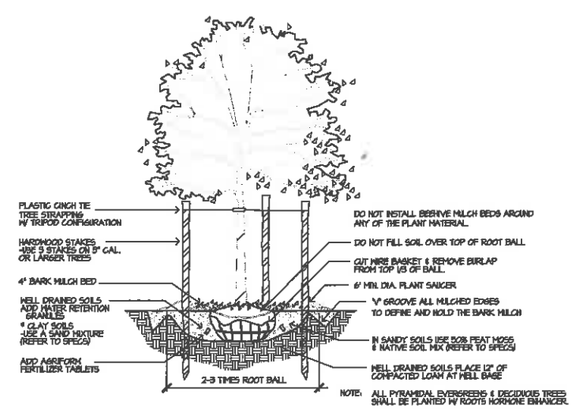
1. The contractor shall at his expense furnish all the materials, supplies, machinery, equipment, tool, superintendent, labor, insurance, & other accessories and services necessary to complete the said project within the unit costs stated within the bid price.
2. The work to be done under this contract is as shown and described on the drawings. Each bidder shall make a careful examination of the plans and specifications (the plan shall dictate quantities) and acquaint himself with all conditions before making his proposal. He will be held responsible for errors in his proposal resulting from his failure to make such an examination. All bidders shall visit the site and inform themselves of all conditions.
3. The bids shall be based on materials and equipment complying with the drawings and the specifications. The contractor shall be responsible under this contract price, for furnishing and installing materials confirming to the bid items. Under no circumstances may a species 'hybrid' be substituted or size changed without written consent of the landscape architect.
4. The contractor shall be responsible for the protection of such existing utilities as water mains, sewer systems, gas mains, electrical conduits, telephone lines and any other utilities and if any damage or destruction may occur to these utilities, he shall be responsible for their repair and/or replacement at his expense.
5. The contractor shall make payment for all damages to buildings, structures, trees, shrubs and/or any other property outside the construction area or located within those limits but not designated for removal or reconstructed providing such damage shall result from accident caused by negligence for which the contractor shall be legally liable.
6. If additional labor and/or materials is requested or required, the contractor shall submit a price to the owner. If the owner approves the price he shall prepare a change order for approval and signature. The contractor shall not proceed without a written authorization from the owner for the additional work. If the contractor proceeds with the additional work without this authorization he shall forfeit any claim for additional compensation.
7. The landscape architect shall reserve the right to inspect the project work at any time deemed necessary to insure that the specifications and plans and any other contract documents are being followed.
8. The L.A. shall have the right to reject any plant on-site based upon condition, size, or incorrect species or hybrid. LA must be contacted prior to install, to inspect materials delivered to the site, and to insure that soil amendments, bark mulch, roof ballast, etc. are to the written specifications.
9. All seeded areas shall receive a minimum 6" topsoil blanket (by site contractor) w/site preparation, raking and general clean up prior to application. Operations shall include a preemergence type herbicide, 12 -25 -12 granular fertilizer @ 10 lbs./1000 sf., and pelletized limestone @ 25 lbs. /1000 s/f power raked into the top 2" of soil prior to hydro-seeding. Ratios & application rates may change based upon the required soil analysis.
10. Contractor is responsible for establishing a thick, weed free lawn. Seed shall be spread @ 4lbs./1000. Lawn germination shall be 95% free of noxious weeds for acceptance. Define differences in seed mixes (if applicable) with irrigation flagging until 2nd mowing. Site review by LA is required.
11. Review of the installed irrigation system by the designer is required prior to release of final payment.
12. Hydroseeding operations shall be a one part process with a paper fiber mulch; a tackifier shall be applied on all slopes greater than 3:1, Excelsor Drainage mat shall be applied to all 2:1 slopes and drainage swales per plan.
13. Contractor shall maintain, from acceptance date, the lawn areas through the first mowing. Contractor is not responsible for the first mowing.
14. All plant materials shall be installed in accordance with A.L.C.C. Trees and shrubs shall have appropriate soil mixtures, fertilizer and soil retention granules.
15. If the soil conditions are extremely sandy, all trees shall have a 6" layer of compacted topsoil (verify with Landscape Architect) placed in the base of the plant pit as a moisture retention layer. The plant pit sidewalls shall be over excavated by an additional 12" beyond the normal outside radius of the hole. A topsoil planting mixture shall be used to backfill as per spec # 22.
16. Landscape architect shall have the right to reject and have ground removed any plant material not of proper size or of weak quality, ie. thin, no lower branching, etc. Contractor must submit shipping lists (billing invoices) for verification, prior to installation.
17. All plant material shall be guaranteed for a period of one (1) year from date of installation. Any material which dies or does not show a healthy appearance within this time shall be replaced at the contractors expense; with same warranty requirements as the original. Warranty does not cover loss due mechanical damage, ie. snow storage. Contractor should protect susceptable species from insect infestation. Use a liquid systemic application on birch, etc.
18. Plant beds and saucers vary in dia. (refer to dwg). Trees and shrubs shall receive a 4" (settled) covering of pine/hemlock bark mulch; saucer diameters per drawing & details. Deciduous trees shall have a 8' dia. saucer (typ.), evergreen trees shall have a saucer 2' min. beyond it's outter branches. All edges shall have a 'V' groove.
19. All B&B material which are encased in wire baskets shall have the wires cut loose and the top third removed prior to backfill operation.
20. If road base is encountered in any plant bed areas, ie. parking islands, it shall be removed and suitable amended soil installed per drawings and specifications.
21. Soil planting mixture shall be a 6%-10% organic topsoil, amended with 10% wood ash, 10% manure, & 30% peatmoss or incorporate a dehydrated compost material. If planting in sand, gravel or other well drained soils, a 50% peatmoss to excavated soil. Other soil amendments shall include; Agriform tablets, Hydro-Gel or equal, and Roots growth enhancer to all trees and shrubs listed, per manufacturers specifications. All plant material pits will receive a min. 20% in volume mix of a compost soil amendment. Submittal required. 'Roots' STEP 1 can be substituted for the individual supplements. Install per manufacturer's specs.
22. Landscape contractor shall not be responsible for topsoil spreading but shall coordinate with the site contractor adherence to the mound grades, plant bed soil depths and soil type per dwgs & spec. Landscape contractor shall power rake-out for seed.
23. Landscape contractor shall provide a soil analysis of the topsoil planting mixture. Analysis to show soil classification (min. sandy loam) and nutrients.
24. Contractor shall protect all B&B materials left above grade prior to installation from drying out. All plants shall be stored, covered in mulch, and irrigated until planted. Any plant left on the ground and whose outter ball surface drys out, shall be rejected by the landscape architect. Plants stored in shade and off pavement.
25. Plan dictates, contractor shall alert Landscape Architect if any discrepancies exist between the plan, the material list, and as-built site conditions.
26. Installer shall notify landscape architect prior to planting, to review plant locations and bedline configurations. If contractor installs without the placement approval of the L.A., said architect shall have the right to relocate any installed plants at the contractor's expense.
27. Installer shall notify landscape architect prior to plant installation to review all materials. Any plants of poor condition, improper size, or species will be rejected.
28. Upon one year review, contractor shall straighten any trees that have shifted. Any weak or bare spots in lawn shall be reseeded.
29. All bedlines shall have a deep 'V' groove to define lawn to mulch edge. No 'Beehive" mounding of mulch is allowed, also keep mulch away from base of perennials.
30. Do not plant materials too close to the edge of bedlines. Refer to drawings for center of plant to bedline. At a minimum no outter branching of a shrub or perennial shall be closer than two feet from the bedlines. If the as-built does not comply contractor shall adjust the plant location or bedline at his expense.
31. Seed mixes include: Sandy Soil Lawn Mix by: deercreekseed.com; New England Wetland Plants, Amherst, Ma. refer to planting plan for designations.
32. Any items not completed to the specifications will be required at contractors expense prior to final approvals. Contractor is to bid the work according to the specifications and not to what they may do under their standard practices. Special attention will be payed to soils, amendments, guy stakes, bedline & saucer configurations, seed mixtures, etc.
33. Certain designated foundation edging is road ballast (washed rounds, non-crushed, natural) Size of stone is a range of 3/4"-1.5"dia. placed to a depth of 3", upon placement apply a coating of granular Preen (preemergent).
34. Any questions concerning this drawing shall be directed to Joseph Hochrein c/o Blackwater Design, 85 Frost Lane, Webster, NH 03303, 603-648-2541.



B&B SHRUB PLANTING
NOT TO SCALE



PYRAMIDAL EVERGREEN TREE PLANTING
NOT TO SCALE



TREE PLANTING 2" + CAL.
NOT TO SCALE

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	BJA

DETAIL SHEET - LANDSCAPE
(LOT 744, MAP 'E')

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

30 JULY 2020

PREPARED BY :
BLACKWATER DESIGN
PHONE (603) 648 - 6500 FAX (603) 648 - 6505
Land Planning - Landscape Architecture
85 Frost Lane - Webster, NH 03303

FIELD BOOK: --
DRAWING NAME: 5292CU LS21
DRAWING LOC: Q:\5292\CIVIL.DWG
File Number: 5292
Sheet: 14 OF 16

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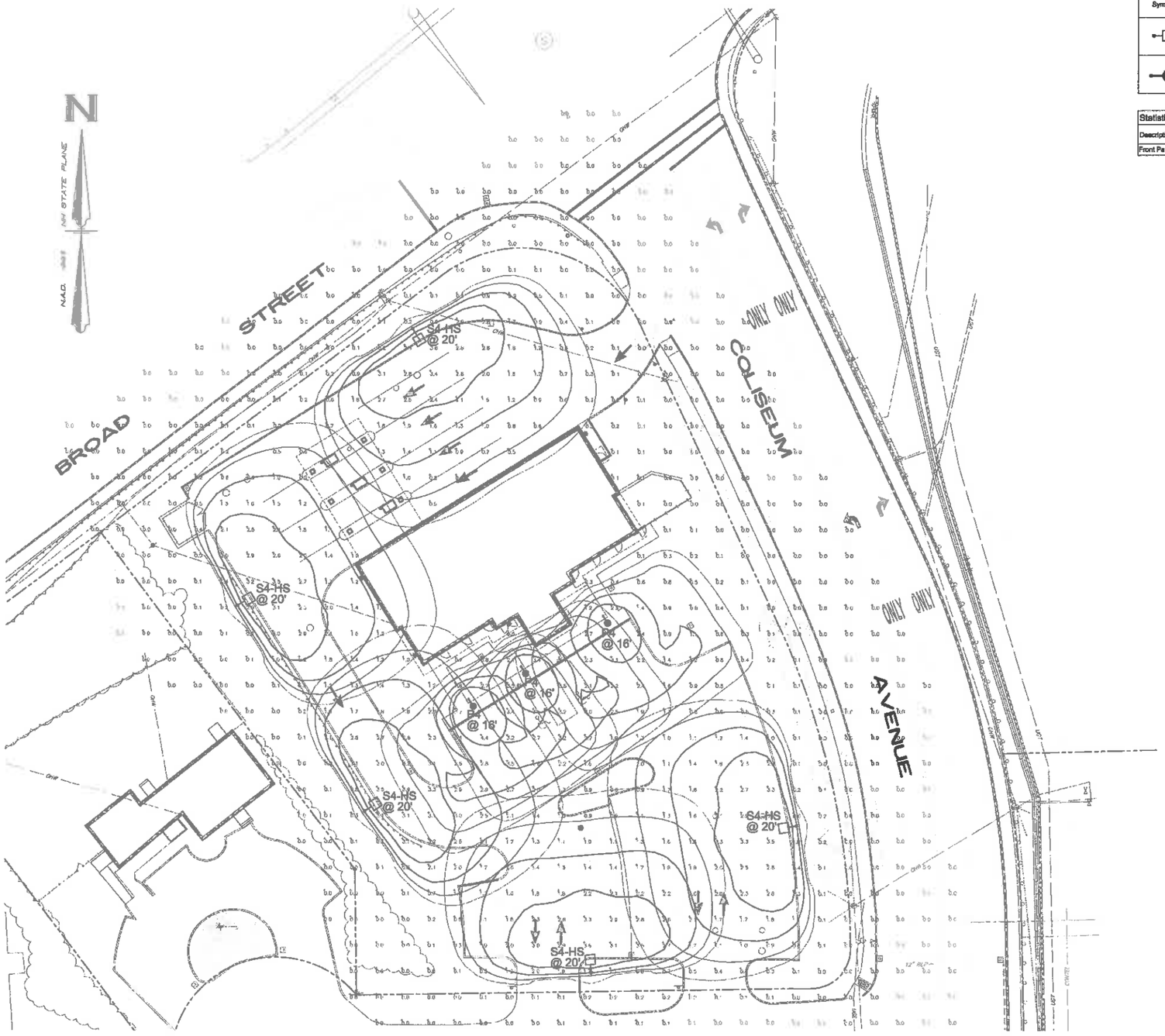


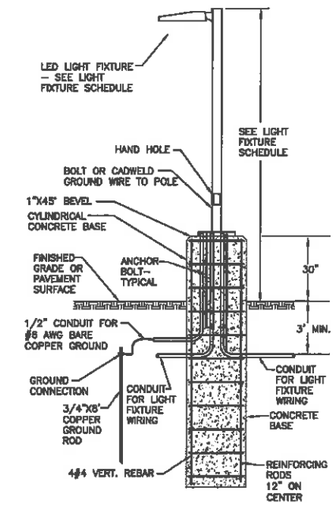
PHOTOMETRIC SITE PLAN

SCALE: 1" = 20'-0"

Light Fixture Schedule									
Symbol	Label	QTY	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage
	S4-HS	5	GLEON-AF-02-LED-E1-SL4-7030-HSS/ SSS4A20SFN1	EATON MCGRAW-EDISON AREA/SITE POLE LIGHT WITH TYPE 4 DISTRIBUTION WITH SPILL CONTROL, 20-FT SQUARE STRAIGHT STEEL POLE	LED	1	7,374	-	113
	P4	3	ECM-E02-LED-E1-SL4-SO-BL-BK-7030/SA6164-BK/STL1843RS4BK	EATON EPIC MEDIUM DECORATIVE/SITE POLE LIGHT WITH TYPE 4 DISTRIBUTION WITH SPILL CONTROL, 16-FT DECORATIVE POLE	LED	1	5,847	-	52

Statistics Area 1					
Description	Avg	Max	Min	Avg/Min	Max/Min
Front Parking Lot Only	1.99 fc	4.4 fc	0.5 fc	3.98	8.80

Statistics Area 2					
Description	Avg	Max	Min	Avg/Min	Max/Min
Side Drive and Drive Up Area	1.91 fc	3.9 fc	0.5 fc	3.82	7.80



POLE BASE DETAIL

N.T.S.

No.	DATE	REVISION	BY
1	08/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

PHOTOMETRIC LIGHTING PLAN
(LOT 744, MAP 'E')

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

30 JULY 2020

YEATON ASSOCIATES, INC.
Bedford, NH | Littleton, NH
MEP/FP Engineers
603.444.6578

5292

FIELD BOOK —	DRAWING NAME: 5292CU SL21	5292	15 OF 16
DRAWING LOC: Q:\5292\CIVIL.DWG		File Number	Sheet

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McGraw-Edison

DESCRIPTION

The Galleon™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated and UL/cUL Listed for wet locations.

SPECIFICATION FEATURES

Construction
Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Heavy-wall, die-cast aluminum end caps enclose housing and die-cast aluminum heat sinks. A unique, patent pending interlocking housing and heat sink provides scalability with superior structural rigidity. 3G vibration tested and rated. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

Optics
Patented, high-efficiency injection-molded AccuLED Optics technology. Optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT 70 CRI. Optional 3000K, 5000K and 6000K CCT.

Electrical
LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Standard with 0-10V dimming. Shipped standard with Eaton proprietary circuit module designed to withstand 10kV of transient line surge. The Galleon LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Light Squares are IP66 rated. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 600mA, 800mA and 1200mA drive currents (nominal).

Mounting
STANDARD ARM MOUNT: Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during mounting. When mounting two or more luminaires at 90° and 120° apart, the EA extended arm may be required. Refer to the arm mounting requirement table. Round pole adapter included. For wall mounting, specify wall mount bracket option. QUICK MOUNT ARM: Adapter is bolted directly to the pole. Quick mount arm slide into place on the adapter and is secured via two screws, facilitating quick and easy installation. The versatile, patent pending, quick mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the quick mount arm enables wiring of the fixture without having to access the driver compartment. A knock-out enables round pole mounting.

Finish
Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is powder coated black. Standard housing colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

Warranty
Five-year warranty.

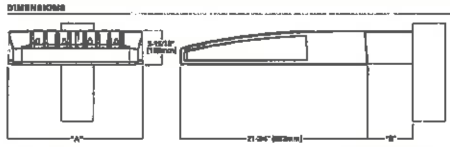
GLEON
GALLEON LED

1-10 Light Squares
Solid State LED

AREA/SITE LUMINAIRE

LumenSafe Technology

DIMENSIONS



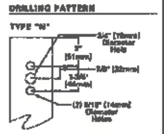
DIMENSION DATA

Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Optional Arm Length [1]	Weight with Arm (lbs.)	EPA with Arm [2] (Sq. Ft.)
1-4	15-1/2" (394mm)	7" (178mm)	10" (254mm)	33 (15.0 kgs.)	0.96
5-6	21-5/8" (549mm)	7" (178mm)	10" (254mm)	44 (20.0 kgs.)	1.00
7-8	27-5/8" (702mm)	7" (178mm)	13" (330mm)	54 (24.5 kgs.)	1.07
9-10	33-3/4" (857mm)	7" (178mm)	16" (406mm)	63 (28.6 kgs.)	1.12

NOTES: 1. Optional arm length to be used when mounting two fixtures at 90° on a single pole. 2. EPA calculated with optional arm length.

DRILLING PATTERN

TYPE "N"



DLC DLC

CERTIFICATION DATA
UL/cUL Wet Location Listed
ISO 9001
LM79 / LM80 Compliant
3G Vibration Rated
IP66 Rated
DesignLights Consortium® Qualified*

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120V-277V 50/60Hz
347V & 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

EATON

*www.designlights.org

TD500023EN
January 17, 2019 2:09 PM

ORDERING INFORMATION

Sample Number: GLEON-AF-04-LED-E1-T3-GM-QM

Product Family [1,2]	Light Engine	Number of Light Squares [3]	Lamp Type	Voltage	Distribution	Color	Mounting
GLEON=Galleon	AF=1A Drive Current	01=1 02=2 03=3 04=4 05=5 [4] 06=6 07=7 [4] 08=8 [4] 09=9 [4] 10=10 [4]	LED=Solid State Light Emitting Diodes	E1=120-277V 347=347V [5] 480=480V [5,6]	T2=Type II T2R=Type II Roadway T3=Type III T3R=Type III Roadway T4FT=Type IV Forward Throw T4W=Type IV Wide 5NQ=Type V Narrow 5MQ=Type V Square Medium 5WQ=Type V Square Wide SL2=Type II w/Spill Control SL3=Type III w/Spill Control SL4=Type IV w/Spill Control SLL=90° Spill Light Eliminator Left SLR=90° Spill Light Eliminator Right RW=Rectangular Wide Type I AFL=Automotive Frontline	AP=Grey BZ=Bronze BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White	[Blank]=Arm for Round or Square Pole EA=Extended Arm [7] MA=Mast Arm Adapter [8] WM=Wall Mount QM=Quick Mount Arm (Standard Length) [9] QMEA=Quick Mount Arm (Extended Length) [10]

Options (Add as Suffix)	Accessories (Order Separately)
7027=70 CRI 2700K [11] 7030=70 CRI 3000K [11] 8030=80 CRI 3000K [11] 7050=70 CRI 5000K [11] 7060=70 CRI 6000K [11] 600=Drive Current Factory Set to Nominal 600mA [12] 800=Drive Current Factory Set to Nominal 800mA [12,13] 1200=Drive Current Factory Set to Nominal 1200mA [12,13] F=Single Fuse (120, 277 or 347V. Must Specify Voltage) FF=Double Fuse (208, 240 or 480V. Must Specify Voltage) 2L=Two Circuits [14,15] DIM=External 0-10V Dimming Leads [16,17] P=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Voltage) [18] PR=NEMA 7-PIN Twistlock Photocontrol Receptacle [19] R=NEMA Twistlock Photocontrol Receptacle [19] AHD145=After Hours Dim, 5 Hours [20] AHD245=After Hours Dim, 6 Hours [20] AHD255=After Hours Dim, 7 Hours [20] AHD355=After Hours Dim, 8 Hours [20] HA=50°C High Ambient [21] [illegible] L90=Optics Rotated 90° Left R90=Optics Rotated 90° Right MT=Factory Installed Mesh Top TH=Tool-less Door Hardware LCF=Light Square Trim Plate Painted to Match Housing [33] HSS=Factory Installed House Side Shield [34] CE=CE Marking [35]	OA/RA1016=NEMA Photocontrol Multi-Tap - 105-285V OA/RA1027=NEMA Photocontrol - 480V OA/RA1201=NEMA Photocontrol - 347V OA/RA1013=Photocontrol Shorting Cap OA/RA1014=120V Photocontrol MA1252=10kV Surge Module Replacement [illegible] FSIR-100=Wireless Configuration Tool for Occupancy Sensor [31] GLEON-MT1=Field Installed Mesh Top for 1-4 Light Squares GLEON-MT2=Field Installed Mesh Top for 5-6 Light Squares GLEON-MT3=Field Installed Mesh Top for 7-8 Light Squares GLEON-MT4=Field Installed Mesh Top for 9-10 Light Squares GLEON-QM=Quick Mount Arm Kit [9] GLEON-QMEA=Quick Mount Extended Arm Kit [10] LS/HSS=Field Installed House Side Shield [34,36] WOLC-7P-10A=WaveLinx Outdoor Control Module (7-pin) [37]

NOTES: [illegible]

LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul
L=LumenSafe Technology*	D=Dome Camera	C=Cellular, Customer Installed SIM Card A=Cellular, Factory Installed AT&T SIM Card V=Cellular, Factory Installed Verizon SIM Card S=Cellular, Factory Installed Sprint SIM Card R=Cellular, Factory Installed Rogers SIM Card W=Wi-Fi Networking w/ Omni-Directional Antenna E=Ethernet Networking

*Consult LumenSafe system pages for additional details and compatibility. [illegible]

EATON

Eaton
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.eaton.com/lighting

Specifications and dimensions subject to change without notice.

TD500023EN
January 17, 2019 2:09 PM

Steel Poles

SSS SQUARE
STRAIGHT STEEL

FEATURES
- ASTM Grade steel base plate with ASTM A366 base cover
- Hand hole assembly 3" x 5" on 5" and 6" pole; and 2" x 4" on 4" pole
- 10'-39' mounting heights
- Drilled or tenon (specify)

DESIGN CONSIDERATIONS

[illegible]

Specifications and dimensions subject to change without notice. Consult your lighting representative at Eaton or visit www.eaton.com/lighting for available options, accessories and ordering information.

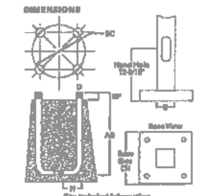
ORDERING INFORMATION

SAMPLE NUMBER: SSA4A20SFM1XG

Base Type	Shaft Size	Wall Thickness	Mounting Height	Material	Finish	Mounting Type	Bracket	Arm Length	Options
SSS=Square Straight Steel	4=4" 5=5" 6=6"	A=0.120" M=0.188" S=0.250"	10=10' 15=15' 20=20' 25=25' 30=30' 35=35' 39=39'	S=Square Steel Base	F=Dark Bronze G=Galvanized Steel J=Summit White K=Carbon Bronze L=Dark Platinum M=Hartford Green S=Silver T=Graphite Metallic V=Grey W=White X=Custom Color Y=Black	2=2-3/8" O.D. Tenon (4" Long) 3=2-1/2" O.D. Tenon (6" Long) 4=4" O.D. Tenon (6" Long) 5=3" O.D. Tenon (4" Long) 6=2-3/8" O.D. Tenon (6" Long) 7=4" O.D. Tenon (10" Long) A=Type A Drilling C=Type C Drilling E=Type E Drilling F=Type F Drilling G=Type G Drilling J=Type J Drilling K=Type K Drilling M=Type M Drilling N=Type N Drilling R=Type R Drilling S=Standard Upsweep Arm Z=Type Z Drilling	1=Single 2=2 at 180° 3=Triple 4=4 at 90° 5=2 at 90° X=None	X=None 2=2' 3=2.5' 4=4' 6=6' 8=8'	A=1/2" Tapped Hub B=3/4" Tapped Hub C=Convenience Outlet E=GFCI Convenience Outlet G=Ground Lug H=Additional Hand Hole V=Vibration Dampener

NOTES: 1. All shaft sizes nominal. 2. Square poles are 0 at 90°, round poles are 0 at 120°. 3. Tapped Hub is located 3' below the pole top and on the same side of pole as hand hole, unless specified otherwise. 4. Outlet is located 4' above base and on same side of pole as hand hole, unless specified otherwise. Receptacle not included, provision only. 5. Additional hand hole is located 12" below pole top and 90° from standard hand hole location, unless otherwise specified.

DIMENSIONS



EATON

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June 5, 2019 11:14 AM

Invue

DESCRIPTION

The EPIC Collection delivers custom luminaire flexibility with high quality, yet availability expectations of standard specification grade product. The EPIC Collection can be dressed to suit any application. Recognizing evolving environmental and legislative trends, the EPIC Collection delivers world class LED optical and performance solutions to the decorative luminaire marketplace.

SPECIFICATION FEATURES

Construction
TOP: Cast aluminum top housing attaches to cast aluminum mounting arm hub with four stainless steel fasteners. One-piece silicone gasket between mounting hub and top casting seals out moisture and contaminants. (See the mounting accessories section for a full selection of mounting arms. (Only these arms are compatible with the Epic luminaire). MIDSECTION: Continuous silicone gaskets seal lens to top casting and shade. The mid section features cast aluminum construction and stainless steel assembly. SHADES: Heavy gauge precision spun aluminum shades offer superior surface finish and consistency in form. DOORFRAME: Die-cast aluminum 1/8" thick door and doorframe seal to underside of shade with a thick wall continuous silicone gasket. Mounting hub ships attached to mounting arm.

Optics
Choice of twelve patented, high-efficiency AccuLED Optic™ technology manufactured from injection-molded acrylic. Optics are precisely designed to shape the optics, maximizing efficiency and application spacing. AccuLED Optic technology, creates consistent distributions with the scalability to meet customized application requirements. Offered Standard in 4000K (+/- 275K) CCT and nominal 70 CRI. Optional 3000K CCT and 5000K CC. For the ultimate level of spill light control, an optional house-side shield accessory can be field or factory installed. The house-side shield is designed to seamlessly integrate with the SL2, SL3 or SL4 optics.

Electrical
LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation, greater than 0.9 power factor, less that 20% harmonic distortion, and is suitable for operation in -40°C to 40°C ambient environments. All fixtures are shipped standard with 10kV/10kA common – and differential – mode surge protection. LightBARs feature and IP66 enclosure rating and maintain greater than 95% lumen maintenance at 60,000 hours per IESNA TM-21. Occupancy sensor and dimming options available.

Finish
Housing is finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. LightBAR™ cover plates are standard white and may be specified to match finish of luminaire housing. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult Outdoor Architectural Colors brochure for a complete selection.

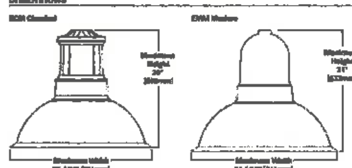
Warranty
Five-year warranty.

ECM/EMM
EPIC MEDIUM LED

1 - 4 LightBARs
Solid State LED

DECORATIVE AREA LUMINAIRE

DIMENSIONS



See configurations for more detailed information.

CERTIFICATION DATA
UL/cUL Listed
IP66 LightBARs
LM79 / LM80 Compliant
3G Vibration Tested
ISO 9001

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V 50/60Hz, 347V/60Hz, 480V/60Hz
-40°C Minimum Temperature
40°C Ambient Temperature Rating

EPA
Effective Projected Area: Sq. Ft. 1.54

SHIPPING DATA
Approximate Net Weight:
45 lbs. (20 kgs.)

EATON

TD506030EN
January 4, 2019 8:54 AM

ORDERING INFORMATION

Sample Number: ECM-SB4-LED-E1-T3-FL-GM

Product Family [1]	Number of LightBARs [2,3]	Lamp Type	Voltage	Distribution	Mid-Section Type	Shade Type	Color [7]
ECM=Epic Classical Medium EMM=Epic Modern Medium	SB1=(1) 21 LED LightBAR SB2=(2) 21 LED LightBARs SB3=(3) 21 LED LightBARs SB4=(4) 21 LED LightBARs FB1=(1) 7 LED LightBAR FB2=(2) 7 LED LightBARs FB3=(3) 7 LED LightBARs FB4=(4) 7 LED LightBARs	LED=Solid State Light Emitting Diodes	E1=Electronic (120-277V) 347=347V 480=480V [4]	T2=Type II T3=Type III T4=Type IV SL2=Type II w/Spill Control SL3=Type III w/Spill Control SL4=Type IV w/Spill Control 5MQ=Type V Square Medium 5WQ=Type V Square Wide 5XQ=Type V Square Extra Wide RW=Rectangular Wide SLL=90° Spill Light Eliminator Left SLR=90° Spill Light Eliminator Right	SO=Solid SR=Solid Rings	SN=Straight Narrow SW=Straight Wide BL=Bell FL=Flare	AP=Grey BZ=Bronze BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White

Options (Add as Suffix)	Accessories (Order Separately) [8]	
2L=Two Circuits [7] 7030=70 CRI / 3000K CCT [7] 7050=70 CRI / 5000K CCT [7] 8030=80 CRI / 3000K CCT [7] LCF=LightBAR Cover Plate Matches Housing Finish MS/LXX=Motion Sensor for ON/OFF Operation [8] MS/X-LXX=Motion Sensor for Bi-Level Switching [9] PXXX=Pendant Mount (XX=Pendant Length in Inches, 9.5" min. - 48.5" max) [10] HSS=Factory Installed House Side Shield [11] DIM=0-10V Dimming Driver [12]	OA/RA1016=NEMA Twistlock Photocontrol - Multi-Tap OA/RA1027=NEMA Twistlock Photocontrol - 480V OA/RA1201=NEMA Twistlock Photocontrol - 347V OA/RA1013=Photocontrol Shorting Cap LS/HSS-23=Field Installed House Side Shield for "S" LightBARs [13,14] LS/HSS-07=Field Installed House Side Shield for "F" LightBARs [13,14] Mounting Accessories (Order Separately) Classical VA5101-XX=Bishop Wall Mount Arm VA5102-XX=Bishop Wall Mount Arm with Cross Rod VA5103-XX=Traditional Wall Mount Arm VA5105-XX=Traditional Wall Mount Arm with 45° Strap VA5104-XX=Bishop Single Pole Mount Arm VA5106-XX=Bishop Single Pole Mount Arm with Cross Rod VA5108-XX=Bishop Twin Pole Mount Arm VA5107-XX=Bishop Twin Pole Mount Arm with Cross Rods VA5109-XX=Traditional Single Pole Mount Arm VA5110-XX=Traditional Single Pole Mount Arm with Rounded Upper Bar VA5111-XX=Traditional Single Pole Mount Arm with Rounded Lower Bar [15] VA5112-XX=Traditional Single Pole Mount Arm with 45° Upper Bar VA5113-XX=Traditional Single Pole Mount Arm with 45° Lower Bar [15] VA5114-XX=Traditional Single Pole Mount Arm with 45° Upper Strap VA5115-XX=Traditional Twin Pole Mount Arm VA5116-XX=Traditional Twin Pole Mount Arm with Rounded Upper Bars VA5117-XX=Traditional Twin Pole Mount Arm with Rounded Lower Bars [15] VA5118-XX=Traditional Twin Pole Mount Arm with 45° Upper Bars VA5119-XX=Traditional Twin Pole Mount Arm with 45° Lower Bars [15] VA5120-XX=Traditional Twin Pole Mount Arm with 45° Upper Straps VA5171-XX=Mast Arm Adapter Modern VA5201-XX=Bishop Wall Mount Arm VA5202-XX=Bishop Wall Mount Arm with Cross Rod VA5203-XX=Traditional Wall Mount Arm VA5204-XX=Traditional Wall Mount Arm with 45° Strap VA5205-XX=Bishop Single Pole Mount Arm VA5206-XX=Bishop Single Pole Mount Arm with Cross Rod VA5207-XX=Bishop Twin Pole Mount Arm VA5208-XX=Bishop Twin Pole Mount Arm with Cross Rods VA5209-XX=Traditional Single Pole Mount Arm VA5210-XX=Traditional Single Pole Mount Arm with Rounded Upper Bar VA5211-XX=Traditional Single Pole Mount Arm with Rounded Lower Bar [15] VA5212-XX=Traditional Single Pole Mount Arm with 45° Upper Bar VA5213-XX=Traditional Single Pole Mount Arm with 45° Lower Bar [15] VA5214-XX=Traditional Single Pole Mount Arm with 45° Upper Strap VA5215-XX=Traditional Twin Pole Mount Arm VA5216-XX=Traditional Twin Pole Mount Arm with Rounded Upper Bars VA5217-XX=Traditional Twin Pole Mount Arm with Rounded Lower Bars [15] VA5218-XX=Traditional Twin Pole Mount Arm with 45° Upper Bars VA5219-XX=Traditional Twin Pole Mount Arm with 45° Lower Bars [15] VA5220-XX=Traditional Twin Pole Mount Arm with 45° Upper Straps VA5171-XX=Mast Arm Adapter	Accessory Options [16] V=Victorian Finial [17] M=Modern Finial [17] A=Architectural Finial [17] N=Nostalgic Finial [17] R=NEMA Twistlock Photocontrol Receptacle [18]

NOTES: [illegible]

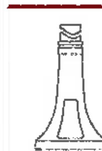
EATON

Eaton
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.eaton.com/lighting

Specifications and dimensions subject to change without notice.

TD506030EN
January 4, 2019 8:54 AM

DECORATIVE POLES



STL SEATTLE

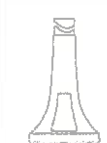
ORDERING INFORMATION

SAMPLE NUMBER: STL0814SR4AP

Base Type	Mounting Height	Shaft Size at Base	Wall Thickness	Shaft Type	Top	Color	Options
STL=Seattle	08=8' 10=10' 12=12' 14=14' 16=16'	4=4"	3=0.188" 2=0.250"	SR=Round Straight SF=Straight Fluted	4=4" O.D. Tenon 8=3" O.D. Tenon	AP=Grey BK=Black BZ=Bronze DP=Dark Platinum GM=Graphite Metallic GN=Hartford Green WH=White	C=Provision for Convenience Outlet E=GFI Convenience Outlet G=Ground Lug

NOTES: 1. Provides 4" tenon on 3" shafts or no tenon on 4" shafts allowing slip over of Epic Collection. [illegible] See individual product specifications for additional information.

BASE HEIGHT: 23"
BOLT CIRCLE: 8"



TAM TAMPA

ORDERING INFORMATION

SAMPLE NUMBER: TAM1041SR3GK

Base Type	Mounting Height	Shaft Size at Base	Wall Thickness	Shaft Type	Top	Color	Options
TAM=Tampa	10=10' 12=12' 14=14' 16=16' 18=18'	6=6"	1=0.125" 2=0.188"	SR=Round Straight SF=Straight Fluted	4=4" O.D. Tenon 8=3" O.D. Tenon	AP=Grey BK=Black BZ=Bronze DP=Dark Platinum GM=Graphite Metallic GN=Hartford Green WH=White	C=Provision for Convenience Outlet E=GFI Convenience Outlet G=Ground Lug

NOTES: 1. Provides 4" tenon on 3" shafts or no tenon on 4" shafts allowing slip over of Epic Collection. [illegible] See individual product specifications for additional information.

BASE HEIGHT: 30"
BOLT CIRCLE: 8-1/2"

UBN UTICA

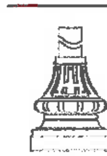
ORDERING INFORMATION

SAMPLE NUMBER: UBN1041SF3GK

Base Type	Mounting Height	Shaft Size at Base	Wall Thickness	Shaft Type	Top	Color	Options
UBN=Utica	08=8' 10=10' 12=12'	4=4" 5=5"	8=0.125" 3=0.188"	SR=Round Straight SF=Straight Fluted	4=4" O.D. Tenon 8=3" O.D. Tenon	AP=Grey BK=Black BZ=Bronze DP=Dark Platinum GM=Graphite Metallic GN=Hartford Green WH=White	C=Provision for Convenience Outlet E=GFI Convenience Outlet G=Ground Lug

NOTES: 1. Provides 4" tenon on 3" shafts or no tenon on 4" shafts allowing slip over of Epic Collection. [illegible] See individual product specifications for additional information.

BASE HEIGHT: 31-3/8"
BOLT CIRCLE: 12-1/2"



WAS WASHINGTON

ORDERING INFORMATION

SAMPLE NUMBER: WAS0441SR3GK

Base Type	Mounting Height	Shaft Size at Base	Wall Thickness	Shaft Type	Top	Color	Options
WAS=Washington 3	08=8' 10=10' 12=12' 14=14' 16=16' 18=18'	4=4" 5=5" 6=6"	8=0.125" 3=0.188"	SR=Round Straight SF=Straight Fluted	4=4" O.D. Tenon 8=3" O.D. Tenon	AP=Grey BK=Black BZ=Bronze DP=Dark Platinum GM=Graphite Metallic GN=Hartford Green WH=White	C=Provision for Convenience Outlet E=GFI Convenience Outlet G=Ground Lug

NOTES: 1. 4" shaft size available in 8', 10' and 12' mounting heights. 5" shaft size available in 8', 10', 12', 14' and 16' mounting heights. 6" shaft size available in 12', 14', 16' and 18' mounting heights. 2. Provides 4" tenon on 3" shafts or no tenon on 4" shafts allowing slip over of Epic Collection. [illegible] See individual product specifications for additional information.

BASE HEIGHT: 21"
BOLT CIRCLE: 10-3/4"

WARNING: [illegible]

Specifications and dimensions subject to change without notice. Consult your Cooper Lighting Representative or visit www.cooperlighting.com for available options, accessories and ordering information.

INVUE

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

LIGHTING SPECIFICATIONS
(LOT 744, MAP 'E')

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

SCALE AS SHOWN

30 JULY 2020

YA
YEATON ASSOCIATES, INC.
Bedford, NH | Littleton, NH
MEP/FP Engineers
603.444.6578
5292

FIELD BOOK: --	DRAWING NAME: 5292CU DET1	5292	16 OF 16
DRAWING LOC: Q:\5292\CIVIL DWG		File Number	Sheet

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McGraw-Edison

DESCRIPTION

The Galleon™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated and UL/cUL Listed for wet locations.

SPECIFICATION FEATURES

Construction
Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Heavy-wall, die-cast aluminum end caps enclose housing and die-cast aluminum heat sinks. A unique, patent pending interlocking housing and heat sink provides scalability with superior structural rigidity. 3G vibration tested and rated. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

Optics
Patented, high-efficiency injection-molded AccuLED Optics technology. Optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT 70 CRI. Optional 3000K, 5000K and 6000K CCT.

Electrical
LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Standard with 0-10V dimming. Shipped standard with Eaton proprietary circuit module designed to withstand 10kV of transient line surge. The Galleon LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Light Squares are IP66 rated. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 600mA, 800mA and 1200mA drive currents (nominal).

Mounting
STANDARD ARM MOUNT: Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during mounting. When mounting two or more luminaires at 90° and 120° apart, the EA extended arm may be required. Refer to the arm mounting requirement table. Round pole adapter included. For wall mounting, specify wall mount bracket option. QUICK MOUNT ARM: Adapter is bolted directly to the pole. Quick mount arm slide into place on the adapter and is secured via two screws, facilitating quick and easy installation. The versatile, patent pending, quick mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the quick mount arm enables wiring of the fixture without having to access the driver compartment. A knock-out enables round pole mounting.

Finish
Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is powder coated black. Standard housing colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

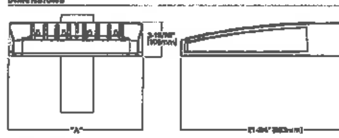
Warranty
Five-year warranty.

GLEON
GALLEON LED

1-10 Light Squares
Solid State LED

AREA/SITE LUMINAIRE

DIMENSIONS



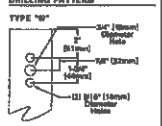
DIMENSION DATA

Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Optional Arm Length [1]	Weight with Arm (lbs.)	EPA with Arm [2] (Sq. Ft.)
1-4	15-1/2" (394mm)	7" (178mm)	10" (254mm)	33 (15.0 kgs.)	0.96
5-6	21-5/8" (549mm)	7" (178mm)	10" (254mm)	44 (20.0 kgs.)	1.00
7-8	27-5/8" (702mm)	7" (178mm)	13" (330mm)	54 (24.5 kgs.)	1.07
9-10	33-3/4" (857mm)	7" (178mm)	16" (406mm)	63 (28.6 kgs.)	1.12

NOTES: 1. Optional arm length to be used when mounting two fixtures at 90° on a single pole. 2. EPA calculated with optional arm length.

DRILLING PATTERN

TYPE "N"



CERTIFICATION DATA
UL/cUL Wet Location Listed
ISO 9001
LM79 / LM80 Compliant
3G Vibration Rated
IP66 Rated
DesignLights Consortium® Qualified*

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120V-277V 50/60Hz
347V & 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

*www.designlights.org

TD500020EN
January 17, 2019 2:39 PM

page 2

GLEON GALLEON LED

ORDERING INFORMATION

Sample Number: GLEON-AF-04-LED-E1-T3-GM-QM

Product Family	Light Engine	Number of Light Squares	Lamp Type	Voltage	Distribution	Color	Mounting
GLEON=Galleon	AF=1A Drive Current	01=1, 02=2, 03=3, 04=4, 05=5, 06=6, 07=7, 08=8, 09=9, 10=10	LED=Solid State Light Emitting Diodes	E1=120-277V, 347=347V, 480=480V	T2=Type II, T2R=Type II Roadway, T3=Type III, T3R=Type III Roadway, T4FT=Type IV Forward Throw, T4W=Type IV Wide, 5NQ=Type V Narrow, 5MQ=Type V Square Medium, 5WQ=Type V Square Wide, SL2=Type II w/Spill Control, SL3=Type III w/Spill Control, SL4=Type IV w/Spill Control, SLL=90° Spill Light Eliminator Left, SLR=90° Spill Light Eliminator Right, RW=Rectangular Wide Type I, AFL=Automotive Frontline	AP=Grey, BZ=Bronze, BK=Black, DP=Dark Platinum, GM=Graphite Metallic, WH=White	[Blank]=Arm for Round or Square Pole, EA=Extended Arm, MA=Mast Arm Adapter, WM=Wall Mount, QM=Quick Mount Arm (Standard Length), QMEA=Quick Mount Arm (Extended Length)

Options (Add as Suffix)	Accessories (Order Separately)
[illegible]	[illegible]

Lumenfield Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul
L=LumenSafe Technology	[illegible]	[illegible]

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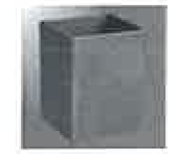
Steel Poles



SSS SQUARE
STRAIGHT STEEL

FEATURES
- ASTM Grade steel base plate with ASTM A366 base cover
- Hand hole assembly 3" x 5" on 5" and 6" pole; and 2" x 4" on 4" pole
- 10'-39' mounting heights
- Drilled or tenon (specify)

DESIGN CONSIDERATIONS

[illegible]

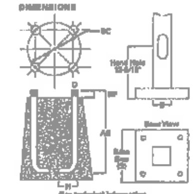
ORDERING INFORMATION

SAMPLE NUMBER: SSA[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SSS=Square Straight Steel	4=4", 5=5", 6=6"	[illegible]	[illegible]	[illegible]	[illegible]	2=2-3/8" O.D. Tenon (4" Long), 3=3-1/2" O.D. Tenon (6" Long), 4=4" O.D. Tenon (6" Long), 5=3" O.D. Tenon (4" Long), 6=2-3/8" O.D. Tenon (6" Long), 7=4" O.D. Tenon (10" Long), A=Type A Drilling, C=Type C Drilling, E=Type E Drilling, F=Type F Drilling, G=Type G Drilling, J=Type J Drilling, K=Type K Drilling, M=Type M Drilling, N=Type N Drilling, R=Type R Drilling, S=Standard Upsweep Arm, Z=Type Z Drilling	1=Single, 2=2 at 180°, 3=Triple, 4=4 at 90°, 5=2 at 90°, X=None	X=None, 2=2', 3=2.5', 4=4', 5=5', 6=6'	A=1/2" Tapped Hub, B=3/4" Tapped Hub, C=Convenience Outlet, E=GFCI Convenience Outlet, G=Ground Lug, H=Additional Hand Hole, V=Vibration Dampener

NOTES: [illegible]

DIMENSIONS



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June 6, 2018 11:14 AM

Invue

DESCRIPTION

The EPIC Collection delivers custom luminaire flexibility with high quality, yet availability expectations of standard specification grade product. The EPIC Collection can be dressed to suit any application. Recognizing evolving environmental and legislative trends, the EPIC Collection delivers world class LED optical and performance solutions to the decorative luminaire marketplace.

SPECIFICATION FEATURES

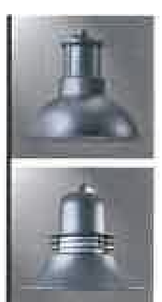
Construction
TOP: Cast aluminum top housing attaches to cast aluminum mounting arm hub with four stainless steel fasteners. One-piece silicone gasket between mounting hub and top casting seals out moisture and contaminants. (See the mounting accessories section for a full selection of mounting arms. (Only these arms are compatible with the Epic luminaire). MIDSECTION: Continuous silicone gaskets seal lens to top casting and shade. The mid section features cast aluminum construction and stainless steel assembly. SHADES: Heavy gauge precision spun aluminum shades offer superior surface finish and consistency in form. DOORFRAME: Die-cast aluminum 1/8" thick door and doorframe seal to underside of shade with a thick wall continuous silicone gasket. Mounting hub ships attached to mounting arm.

Optics
Choice of twelve patented, high-efficiency AccuLED Optic™ technology manufactured from injection-molded acrylic. Optics are precisely designed to shape the optics, maximizing efficiency and application spacing. AccuLED Optic technology, creates consistent distributions with the scalability to meet customized application requirements. Offered Standard in 4000K (+/- 275K) CCT and nominal 70 CRI. Optional 3000K CCT and 5000K CC. For the ultimate level of spill light control, an optional house-side shield accessory can be field or factory installed. The house-side shield is designed to seamlessly integrate with the SL2, SL3 or SL4 optics.

Electrical
LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation, greater than 0.9 power factor, less that 20% harmonic distortion, and is suitable for operation in -40°C to 40°C ambient environments. All fixtures are shipped standard with 10kV/10kA common – and differential – mode surge protection. LightBARs feature and IP66 enclosure rating and maintain greater than 89% lumen maintenance at 60,000 hours per IESNA TM-21. Occupancy sensor and dimming options available.

Finish
Housing is finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. LightBAR™ cover plates are standard white and may be specified to match finish of luminaire housing. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult Outdoor Architectural Colors brochure for a complete selection.

Warranty
Five-year warranty.

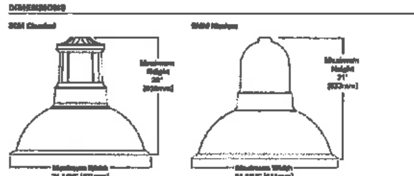


ECM/EMM
EPIC MEDIUM LED

1 - 4 LightBARs
Solid State LED

DECORATIVE AREA LUMINAIRE

DIMENSIONS



See configurations for more detailed information.

CERTIFICATION DATA
UL/cUL Listed
IP66 LightBARs
LM79 / LM80 Compliant
3G Vibration Tested
ISO 9001

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V 50/60Hz, 347V/60Hz, 480V/60Hz
-40°C Minimum Temperature
40°C Ambient Temperature Rating

EPA
Effective Projected Area (Sq. Ft.): 0.84

SHIPPING DATA
Approximate Net Weight:
45 lbs. (20 kgs.)

TD500032EN
January 4, 2019 8:54 AM

page 4

ECM/EMM EPIC MEDIUM LED

ORDERING INFORMATION

Sample Number: ECM-S04-LED-E1-T3-FL-GM

Product Family	Number of LightBARs	Lamp Type	Voltage	Distribution	Mid Section Type	Shade Type	Color
ECM=Epic Classical Medium, EMM=Epic Modern Medium	S01=(1) 21 LED LightBAR, S02=(2) 21 LED LightBARs, S03=(3) 21 LED LightBARs, S04=(4) 21 LED LightBARs, F01=(1) 7 LED LightBAR, F02=(2) 7 LED LightBARs, F03=(3) 7 LED LightBARs, F04=(4) 7 LED LightBARs	LED=Solid State Light Emitting Diodes	E1=Electronic (120-277V), 347=347V, 480=480V	T2=Type II, T3=Type III, T4=Type IV, SL2=Type II w/Spill Control, SL3=Type III w/Spill Control, SL4=Type IV w/Spill Control, 5MQ=Type V Square Medium, 5WQ=Type V Square Wide, 5XQ=Type V Square Extra Wide, RW=Rectangular Wide, SLL=90° Spill Light Eliminator Left, SLR=90° Spill Light Eliminator Right	SD=Solid, SR=Solid Rings	SN=Straight Narrow, SW=Straight Wide, BL=Bell, FL=Flare	AP=Grey, BZ=Bronze, BK=Black, DP=Dark Platinum, GM=Graphite Metallic, WH=White

Options (Add as Suffix)	Accessories (Order Separately)	
2L=Two Circuits, 7030=70 CRI / 3000K CCT, 7050=70 CRI / 5000K CCT, 8030=80 CRI / 3000K CCT, LCF=LightBAR Cover Plate Matches Housing Finish, MS-LXX=Motion Sensor for ON/OFF Operation, MS/X-LXX=Motion Sensor for Bi-Level Switching, PXXX=Pendant Mount (XX=Pendant Length in Inches, 6.5" min. - 48.0" max), HSS=Factory Installed House Side Shield, DIM=0-10V Dimming Driver	OA/RA1016=NEMA Twistlock Photocontrol - Multi-Tap, OA/RA1027=NEMA Twistlock Photocontrol - 480V, OA/RA1201=NEMA Twistlock Photocontrol - 347V, OA/RA1013=Photocontrol Shorting Cap, LS/HSS-01=Field Installed House Side Shield for "S" LightBARs, LS/HSS-07=Field Installed House Side Shield for "F" LightBARs. Mounting Accessories (Order Separately): Classical: [illegible]; Modern: [illegible]	Accessory Options: [illegible]

NOTES: [illegible]

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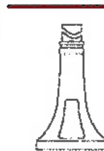
DECORATIVE POLES



STL SEATTLE

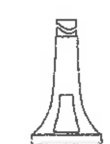
ORDERING INFORMATION

SAMPLE NUMBER: STL[illegible]

Base Type	Mounting Height (Feet)	Shaft Size at Base (Inches)	Wall Thickness (Inches)	Shaft Type	Luminaire Mounting	Color	Options (Add as Suffix)
STL=Seattle	08=8', 10=10', 12=12', 14=14', 16=16'	4=4"	3=0.156", 5=0.250"	RN=Round Straight, SF=Straight Fluted	4=4" O.D. Tenon, 5=3" O.D. Tenon	AP=Grey, BK=Black, BZ=Bronze, DP=Dark Platinum, GM=Graphite Metallic, GN=Hartford Green, WH=White	C=Provision for Convenience Outlet, E=GFI Convenience Outlet, G=Ground Lug

NOTES: [illegible]

BASE HEIGHT: 23"
BOLT CIRCLE: 9"



TAM TAMPA

ORDERING INFORMATION

SAMPLE NUMBER: TAM[illegible]

Base Type	Mounting Height (Feet)	Shaft Size at Base (Inches)	Wall Thickness (Inches)	Shaft Type	Luminaire Mounting	Color	Options (Add as Suffix)
TAM=Tampa	10=10', 12=12', 13=13', 14=14', 15=15', 16=16'	4=4"	1=0.156, 2=0.188"	RN=Round Straight, SF=Straight Fluted	4=4" O.D. Tenon, 5=3" O.D. Tenon	AP=Grey, BK=Black, BZ=Bronze, DP=Dark Platinum, GM=Graphite Metallic, GN=Hartford Green, WH=White	C=Provision for Convenience Outlet, E=GFI Convenience Outlet, G=Ground Lug

NOTES: [illegible]

BASE HEIGHT: 30"
BOLT CIRCLE: 8-1/2"

UBN UTICA

ORDERING INFORMATION

SAMPLE NUMBER: UBN[illegible]

Base Type	Mounting Height (Feet)	Shaft Size at Base (Inches)	Wall Thickness (Inches)	Shaft Type	Luminaire Mounting	Color	Options (Add as Suffix)
UBN=Utica	08=8', 10=10', 12=12'	4=4', 5=5'	0=0.125", 2=0.188"	RS=Round Straight, SF=Straight Fluted	4=4" O.D. Tenon, 5=3" O.D. Tenon	AP=Grey, BK=Black, BZ=Bronze, DP=Dark Platinum, GM=Graphite Metallic, GN=Hartford Green, WH=White	C=Provision for Convenience Outlet, E=GFI Convenience Outlet, G=Ground Lug

NOTES: [illegible]

BASE HEIGHT: 31-3/8"
BOLT CIRCLE: 13-1/2"

WA3 WASHINGTON

ORDERING INFORMATION

SAMPLE NUMBER: WA3[illegible]

Base Type	Mounting Height (Feet)	Shaft Size at Base (Inches)	Wall Thickness (Inches)	Shaft Type	Luminaire Mounting	Color	Options (Add as Suffix)
WA3=Washington 3	08=8', 10=10', 12=12', 14=14', 16=16', 18=18'	4=4', 5=5', 6=6'	0=0.125", 2=0.188"	RS=Round Straight, SF=Straight Fluted	4=4" O.D. Tenon, 5=3" O.D. Tenon	AP=Grey, BK=Black, BZ=Bronze, DP=Dark Platinum, GM=Graphite Metallic, GN=Hartford Green, WH=White	C=Provision for Convenience Outlet, E=GFI Convenience Outlet, G=Ground Lug

NOTES: [illegible]

BASE HEIGHT: 31"
BOLT CIRCLE: 10-3/4"

WARNING: [illegible]

INVUE

18-93 Cooper Lighting by Eaton | Product Selection Guide | Ninth Edition | www.cooperlighting.com

No.	DATE	REVISION	BY
1	09/24/20	ADDRESS TECHNICAL REVIEW COMMITTEE COMMENTS	SJA

LIGHTING SPECIFICATIONS
(LOT 744, MAP "E")

PROPOSED CREDIT UNION BUILDING

190 BROAD STREET
NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108 (603) 668-2221

SCALE AS SHOWN

30 JULY 2020

YEATON ASSOCIATES, INC.
Bedford, NH | Littleton, NH
MEP/FP Engineers
603.444.6578
5292

FIELD BOOK: — | DRAWING NAME: 5292CU DET\ | 5292 (File Number) | 16 OF 16 (Sheet)
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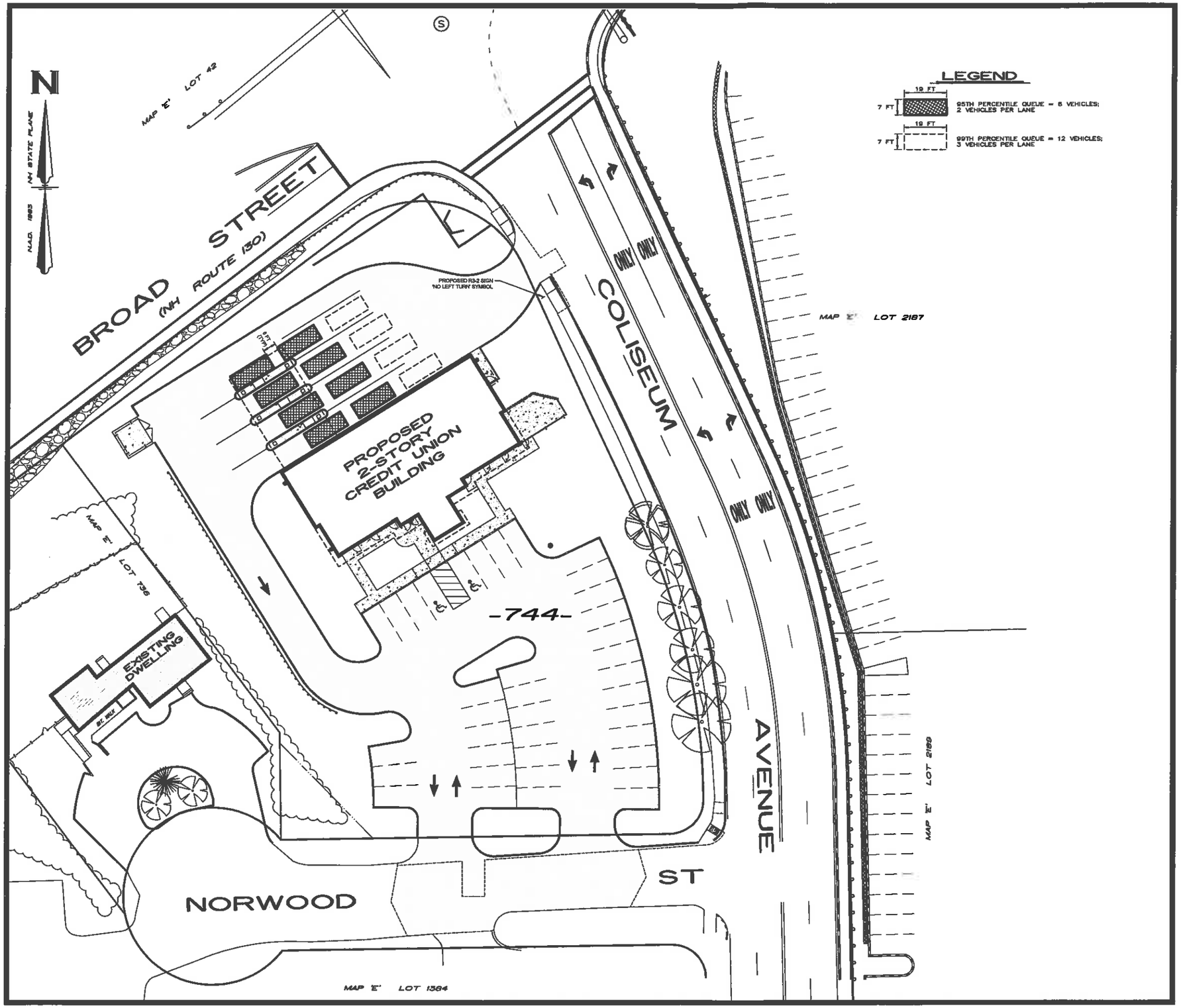

No.	DATE	REVISION	BY

DRIVE-THRU STACKING PLAN
(LOT 744, MAP 'E')

PROPOSED CREDIT UNION BUILDING

NASHUA, NEW HAMPSHIRE

PREPARED FOR/RECORD OWNER

GRANITE STATE CREDIT UNION

1415 ELM STREET MANCHESTER, NEW HAMPSHIRE 03108

20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

14 SEPTEMBER 2020

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Civil Engineers/Land Surveyors
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Nashua, NH 03063
(603) 883-3057
181 Middlesex Turnpike
Burlington, MA 01803
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www.haynerswanson.com

FIELD BOOK: --	DRAWING NAME: S292CU TD21 STACK 2	5292-CU	1 OF 1
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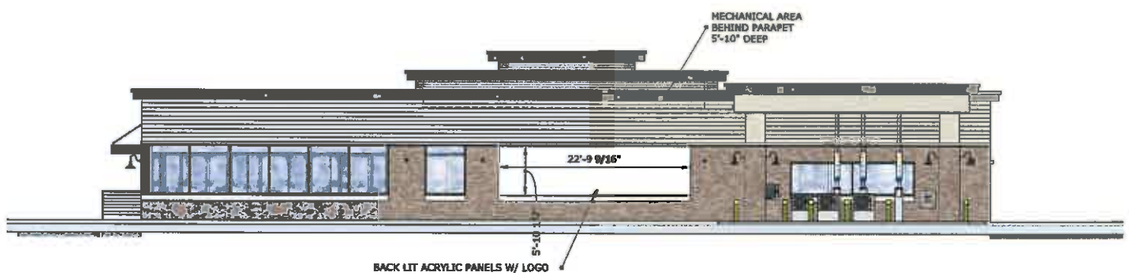
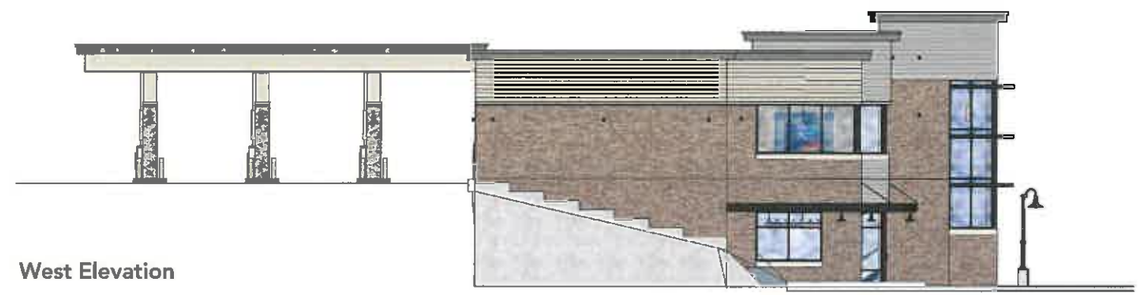
South Elevation

East Elevation



North Elevation



West Elevation

Right Perspective

Drive Thru Perspective

Left Perspective

element

190 Broad Street / Nashua, NH

The Element Group | 155 Brewery Lane | Suite 1 | Portsmouth, NH 03801

08.24.20

Granite State credit union

NASHUA CITY PLANNING BOARD
STAFF REPORT

TO: Nashua City Planning Board
FROM: Linda McGhee, Deputy Planning Manager
FOR: October 8, 2020
RE: **New Business #9 - Site Plan**

I. Project Statistics:

Owner: 278 Daniel Webster Highway, LLC
Proposal: Site plan amendment to NR974 to demolish existing building and construct a 4,000 sf Sleep Number store and associated site improvements
Location: 278 Daniel Webster Highway
Total Site Area: 0.69 acres
Existing Zoning: HB - Highway Business and TOD – Transit Oriented Development
Surrounding Uses: Commercial

II. Background Information:

On the subject parcel is two-story mixed use retail and office building that was constructed in 1983. The building is comprised of eight units ranging in size from 798 sf to 1,914sf. Primary access is via a curb cut on Danforth Road. The property is located adjacent to the Daniel Webster Highway.

III. Project Description:

The proposal is to demolish the existing building and construct a new 4,000 sf Sleep Number store along with parking, utilities, signs, landscaping, lighting and other improvements. A 24' wide entrance from Danforth Road is being proposed along with 20 parking spaces. The site plan also maintains the cross-access easement between the subject property and the U-Haul facility to the south. Typical store hours will be 11 am to 7 pm during the weekdays and weekends.

A stormwater management plan was submitted and is attached to this report.

A Traffic Impact Report (TIR) Threshold Worksheet was submitted for this project and indicates that a formal Traffic Impact Report (TIR) is not required as the daily and peak hour trip estimates are below the TIR threshold values.

Within the Mixed Use Districts, all site plans submitted to the planning board for approval shall be accompanied by a site plan suitability report and is subject to the provisions of the code. The report has been attached for the board's review.

One waiver is being requested for setback relief. In the TOD, a maximum setback of 15' is allowed. The applicant is requesting a setback of 50'7" from Daniel Webster Highway and 66'7" are being proposed to allow for vehicle access and parking.

City staff reviewed the plans; comments are attached.

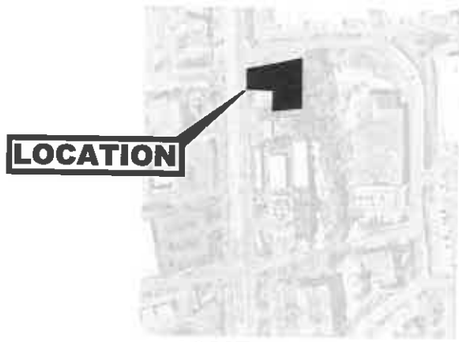
Staff Recommendations and Findings:

The Planning Board should make a determination that the plan meets, or does not meet, the requirements outlined in the Site Plan NRO § 190-146(D) and §190-23(E). The Board should review these prior to making a motion. If the Planning Board chooses to disapprove the plan, they should state specific reasons. If the Planning Board chooses to approve this plan, staff recommends the following stipulation(s) be made part of that approval:

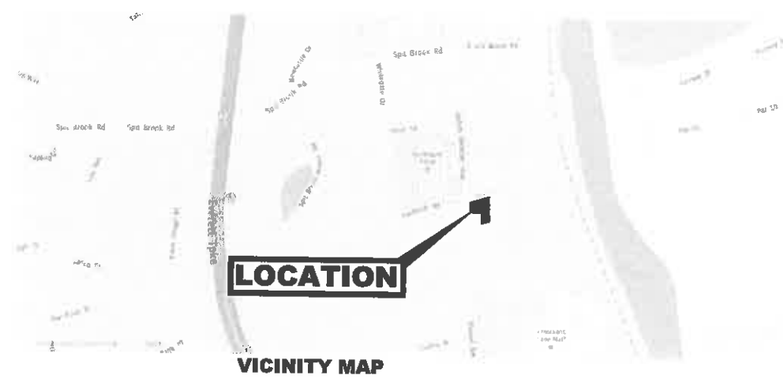
1. The request for a waiver of NRO § 190-26.1(H)(2), which requires a maximum front setback of 15 feet, **is/is not** granted, finding that the waiver **will/will not** be contrary to the spirit and intent of the regulation.
2. Prior to the Chair signing the plan, all conditions from the Planning Board approval letter will be added to the cover page of the final plans.
3. Prior to the Chair signing the plan, minor drafting corrections will be made.
4. Prior to the Chair signing the plan, all comments in an e-mail from Pete Kohalmi, P.E. dated October 5, 2020 shall be addressed to the satisfaction of the Engineering Department.
5. Prior to the issuance of a building permit, stormwater documents shall be submitted to Planning Staff for review and recorded at the applicant's expense.
6. Prior to any work and a pre-construction meeting, a financial guarantee shall be approved.
7. Prior to the issuance of a Certificate of Occupancy, all off-site and on-site improvements will be completed.

GMX REAL ESTATE

278 DANIEL WEBSTER HWY & DANFORTH RD
CITY OF NASHUA
HILLSBOROUGH COUNTY, NEW HAMPSHIRE
MAP A, LOT 133



LOCATION MAP



VICINITY MAP

OWNER / APPLICANT/CONTACT

GMX REAL ESTATE GROUP, LLC
3000 DUNDEE RD STE 408
NORTHBROOK, IL 60062

ANDY GOODMAN
PHONE (312) 607-6418

APPROVED - NASHUA PLANNING BOARD

CHAIRMAN SIGNATURE DATE

SECRETARY SIGNATURE DATE

SHEET INDEX

Sheet List Table

Sheet Number	Sheet Title	Revision Date
C0.0	TITLE SHEET	
C1.0	EXISTING CONDITIONS & DEMOLITION PLAN	
C2.0	SITE PLAN	
C3.0	UTILITY PLAN	
C3.1	UTILITY PROFILES	
C4.0	GRADING PLAN	
C5.0	EROSION CONTROL PLAN	
C5.1	EROSION CONTROL DETAILS	
C6.0	SPECIFICATIONS	
C7.0	DETAILS	
C7.1	DETAILS	
C8.0	OPERATION AND MAINTENANCE PLAN	
ES1.0	PHOTOMETRIC PLAN	
X1.0	DRAINAGE PLAN	

CITY OF NASHUA CONTACTS:

1. PLANNING / ZONING DEPARTMENT:
   COMMUNITY DEVELOPMENT DIVISION
   229 MAIN STREET
   NASHUA, NH 03060

   ATT: ROGER HOUSTON,
   PLANNING DIRECTOR
   (603) 589-3090

2. BUILDING DEPARTMENT:
   229 MAIN STREET
   NASHUA, NH 03060

   ATT: NELSON ORTEGA,
   CODE ENFORCEMENT MANAGER
   (603) 589-3080

3. ENGINEERING DEPARTMENT:
   NASHUA DEPT. OF PUBLIC WORKS
   9 RIVERSIDE STREET
   NASHUA, NH 03060

   ATT: LISA FAUTEUX,
   PUBLIC WORKS DIRECTOR
   (603) 589-3169

4. FIRE DEPARTMENT:
   NASHUA FIRE DEPARTMENT
   70 EAST HOLLIS STREET
   NASHUA, NH 03060

   ATT: BRAIN RHODES, CHIEF
   (603) 594-3651

UTILITY CONTACTS:

1. WATER:
   PENNICHUCK WATER WORKS
   25 MANCHESTER STREET
   MERRIMACK, NH 03054

   ATT: JOHN BOISVERT, PE
   (603) 913-2300

2. GAS:
   LIBERTY UTILITIES
   130 ELM STREET
   MANCHESTER, NH 03101

   ATT: RYAN LAGASSE
   (603) 327-7151

3. TELEPHONE:
   FAIRPOINT COMMUNICATIONS
   237 DANIEL WEBSTER HWY,
   MERRIMACK, NH 03054

   ATT: ROBERTO DIAZ
   (603) 595-1150

4. POWER:
   EVERSOURCE
   370 AMHERST STREET
   NASHUA, NH 03060
   ATT: THOMAS VALITON
   (603) 662-5894 EXT. 5208

OWNER SIGNATURE BLOCK

THE UNDER-SIGNED DOES HEREBY AGREE TO PERFORM ALL OF THE IMPROVEMENTS AS SHOWN ON THIS PLAN AND AS CONDITIONED OR STIPULATED BY THE NASHUA CITY PLANNING BOARD. ALL REQUIRED SITE IMPROVEMENTS MUST BE COMPLETED OR GUARANTEED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY

OWNER SIGNATURE DATE

811 DigSafe

1. THE LOCATION OF THE UTILITIES SHOWN ARE APPROXIMATE. ITS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PRESERVE ALL UTILITY SERVICES.
2. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING AND COORDINATING WITH ALL UTILITY COMPANIES AND JURISDICTIONAL AGENCIES PRIOR TO AND DURING CONSTRUCTION.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND WORK PRIOR TO CONSTRUCTION.

CONTACT DIG SAFE
72 HOURS PRIOR
TO CONSTRUCTION
DIGSAFE.COM
OR DIAL 811
CALL BEFORE YOU DIG
ITS THE LAW

NOTES

1. SITE ACCESS CONTROL INCLUDING SAFETY FENCES AND TRAFFIC CONTROL, ALL CONSTRUCTION MEANS AND METHODS, AND SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. THE CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES FOR FIELD LOCATIONS OF THEIR FACILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THESE FACILITIES. ALL UTILITIES SHOWN IN THE PLANS ARE FROM RECORDS OR FIELD OBSERVABLE IN FORMATION LOCATED BY SURVEYOR. ANY UTILITY LOCATIONS SHOWN SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.
3. PLANS BASED UPON GEOTECHNICAL ENGINEERING REPORT PREPARED BY JOHN TURNER CONSULTING, INC., DATED: AUGUST 18, 2020

STATE OF NEW HAMPSHIRE
SCOTT A. DIGIULIO
No. 18397
LICENSED
PROFESSIONAL ENGINEER

SIGNED AT : 08-26-2020

No.	DATE	DESCRIPTION
0	08/26/20	ISSUED FOR PERMIT

No.	DATE	DESCRIPTION

rtm engineering consultants
650 E. Algonquin Road
Suite 200
Schaumburg, IL 60173
Telephone: (847) 756-4160
www.rtmec.com

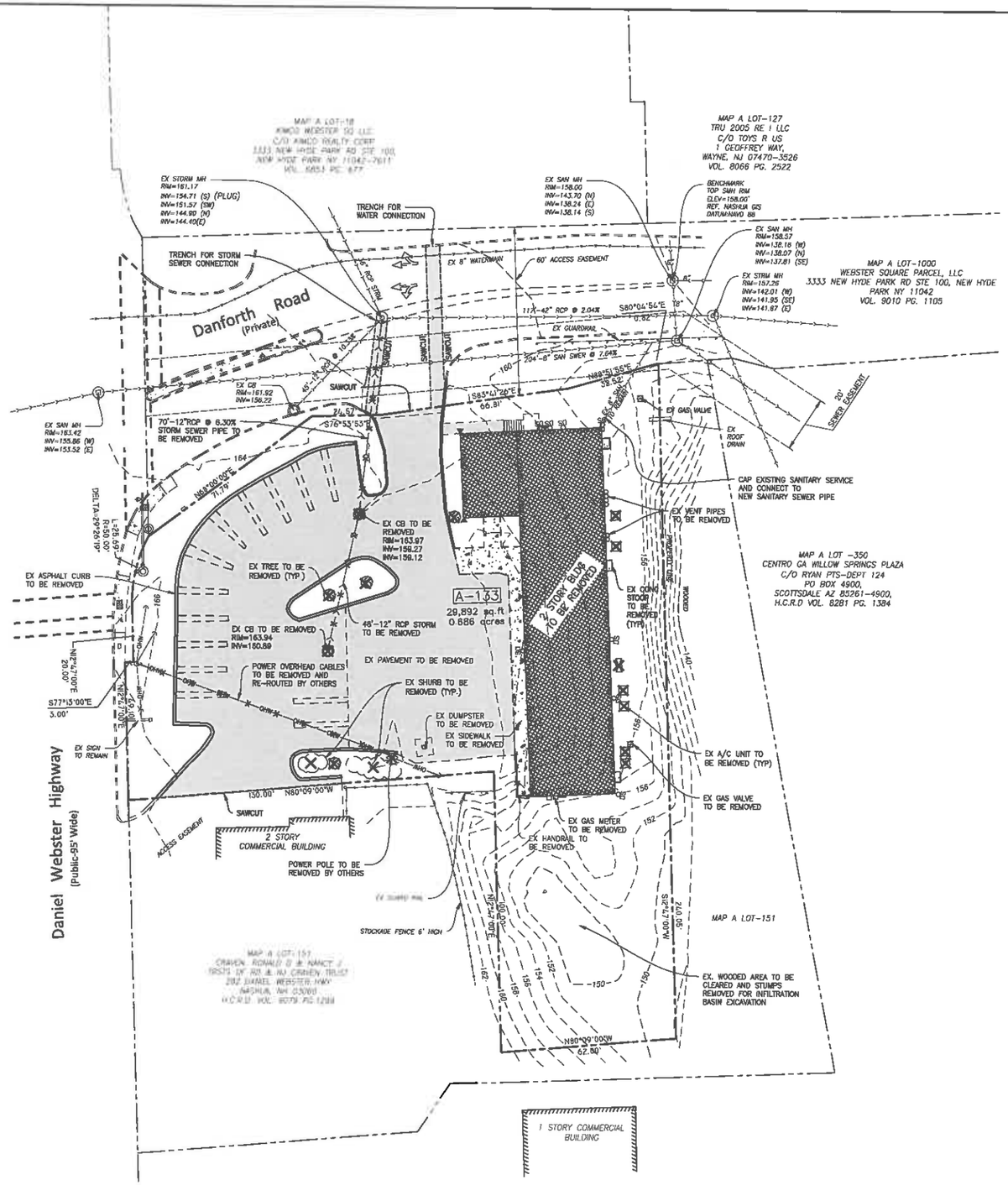
SHEET NAME: TITLE SHEET

PROJECT NAME: GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

PROJECT No. 19.GMX.C08

SHEET No. C0.0 OF 14 SHEETS

User: emir.sefimon File: J:\2019\19.GMX.C08 - GMX Nashua, NH\09 DESIGN DRAWINGS\02-SHEETS\C0.0_TITLE SHEET.dwg Time: Aug 26, 2020 - 1:14pm



LEGEND:

- SAWCUT LINE
- LINEAR ITEM REMOVAL
- ITEM REMOVAL
- EXISTING BUILDING REMOVAL
- CONCRETE PAVEMENT/SIDEWALK REMOVAL
- ASPHALT PAVEMENT REMOVAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

NOTES:

1. SITE ACCESS CONTROL INCLUDING SAFETY FENCES AND TRAFFIC CONTROL, ALL CONSTRUCTION MEANS AND METHODS, AND SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD THE OWNER AND DESIGN PROFESSIONAL HARMLESS OF ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR DESIGN PROFESSIONAL.
3. ALL SITE CLEARING, TOPSOIL STRIPPING, EXCAVATION, EMBANKMENT, GRADING, COMPACTION, SUB GRADE PREPARATION AND OTHER WORK HEREIN CONTEMPLATED SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ILLINOIS DEPARTMENT OF TRANSPORTATION, JANUARY 2016 EDITION, (HEREINAFTER REFERRED TO AS STANDARD SPECIFICATIONS) EXCEPT THAT PAYMENT WILL BE DEFINED AS DETAILED IN THE STANDARD SPECIFICATIONS FOR WATER AND SEWER SIXTH EDITION, 2009.
4. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES SHALL BE INVESTIGATED AND VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING WORK IN THE CONSTRUCTION AREA. EXCAVATION IN THE VICINITY OF EXISTING STRUCTURES AND UNDERGROUND UTILITIES SHALL BE PERFORMED BY HAND. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING FACILITIES, MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR IS TO UNCOVER ALL LINES BEING TIED INTO AND VERIFY SIZE AND ELEVATION BEFORE ANY CONSTRUCTION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL STREET AND SIDEWALK CLOSURES WITH THE MUNICIPALITY.
7. CONDUCT DEMOLITION OPERATIONS AND REMOVAL OF DEBRIS AND SPOILS TO INSURE MINIMAL INTERFERENCE WITH OWNER OPERATIONS.
8. INSURE SAFE PASSAGE OF PERSONS AROUND AREAS OF DEMOLITION. REMOVE FROM SITE ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FORM DEMOLITION AND LAWFULLY DISPOSE OF SAME.
9. ALL ITEMS TO BE REMOVED SHALL BE PROPERLY AND LEGALLY DISPOSED OF BY THE CONTRACTOR.
10. AT LOCATIONS OF UTILITY REMOVAL, ANY OPEN TRENCHES REQUIRED, SHALL BE BACKFILLED WITH COMPACTED TRENCH BACKFILL.
11. NOTIFY UTILITY OWNER 72 HOURS IN ADVANCE OF ANY UTILITY SHUTDOWN.
12. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ALL ITEMS DESIGNATED TO BE REMOVED OR RELOCATED.
13. IF ANY ITEMS ARE ENCOUNTERED IN THE FIELD THAT ARE NOT SHOWN ON THE PLAN WHICH REQUIRE DEMOLITION OR RELOCATION, THE CONTRACTOR SHALL NOTIFY THE A/E IMMEDIATELY.
14. THE SURVEY BASE PROVIDED HEREIN IS FOR INFORMATIONAL PURPOSES ONLY. THE OWNER, ARCHITECT & ENGINEER(S) ARE NOT RESPONSIBLE FOR ANY MISCHARTED OR UNCHARTED UTILITIES, OR OTHER DESCREPENCIES DETECTED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL SITE CONDITIONS.
15. THE CONTRACTOR WILL PROTECT ALL UTILITIES, STREETS, STRUCTURES, VEGETATION, AND ADJACENT PROPERTY DESIGNATED TO REMAIN. ANY DAMAGE BY THE CONTRACTOR TO UTILITIES, STREETS, STRUCTURES, VEGETATION AND ADJACENT PROPERTY WILL BE REPLACED OR REPAIRED AT THE CONTRACTOR'S EXPENSE.
16. THE CONTRACTOR WILL PAY ALL REQUISITE FEES TO THE MUNICIPALITY, AND ANY OTHER AGENCY REQUIRED, FOR COMPLETION OF DEMOLITION WORK.
17. CONTRACTOR TO ADJUST RIMS OF EXISTING STRUCTURES WITHIN SCOPE OF WORK TO FINAL GRADE ELEVATIONS.
18. EXISTING LATERAL CONNECTIONS FOR UTILITIES SHALL BE COORDINATED WITH THE CORRESPONDING UTILITY COMPANY FOR CAPPING AND CUT OFF WITHIN THE SCOPE OF WORK.
19. THE CONTRACTOR IS TO COMPLY WITH FEDERAL, STATE, AND LOCAL ORDINANCES WITH REGARD TO REMOVAL AND DISPOSAL OF MATERIALS FOR ALL ITEMS TO BE DEMOLISHED. WORK INCLUDES THE COMPLETE REMOVAL AND LEGAL DISPOSAL OF ALL OBJECTS AND MATERIALS (REGARDLESS OF THEIR NATURE) INCLUDING BUT NOT LIMITED TO TREE ROOTS, ORGANIC SOIL, DRUMS, TIRES, WOOD, BROKEN CONCRETE PIECES, AND FENCES ABOVE THE REQUIRED ELEVATION.
20. BURNING ON OWNERS PROPERTY IS NOT PERMITTED.
21. FULL DEPTH SAWCUTS ARE REQUIRED FOR PAVEMENT REMOVALS, ADJACENT TO EXISTING PAVEMENT TO REMAIN.
22. SAWCUT ALL TREE ROOTS ENCOUNTERED IN LIEU OF USING SHOVELS (HAND SHOVELS OR MECHANICAL).
23. ALTA/NSPS LAND TITLE AND TOPOGRAPHIC SURVEY PREPARED BY GATE CITY SURVEY, INC., DATED JANUARY 2ND, 2020.

No.	DATE	DESCRIPTION
0	08/26/20	ISSUED FOR PERMIT

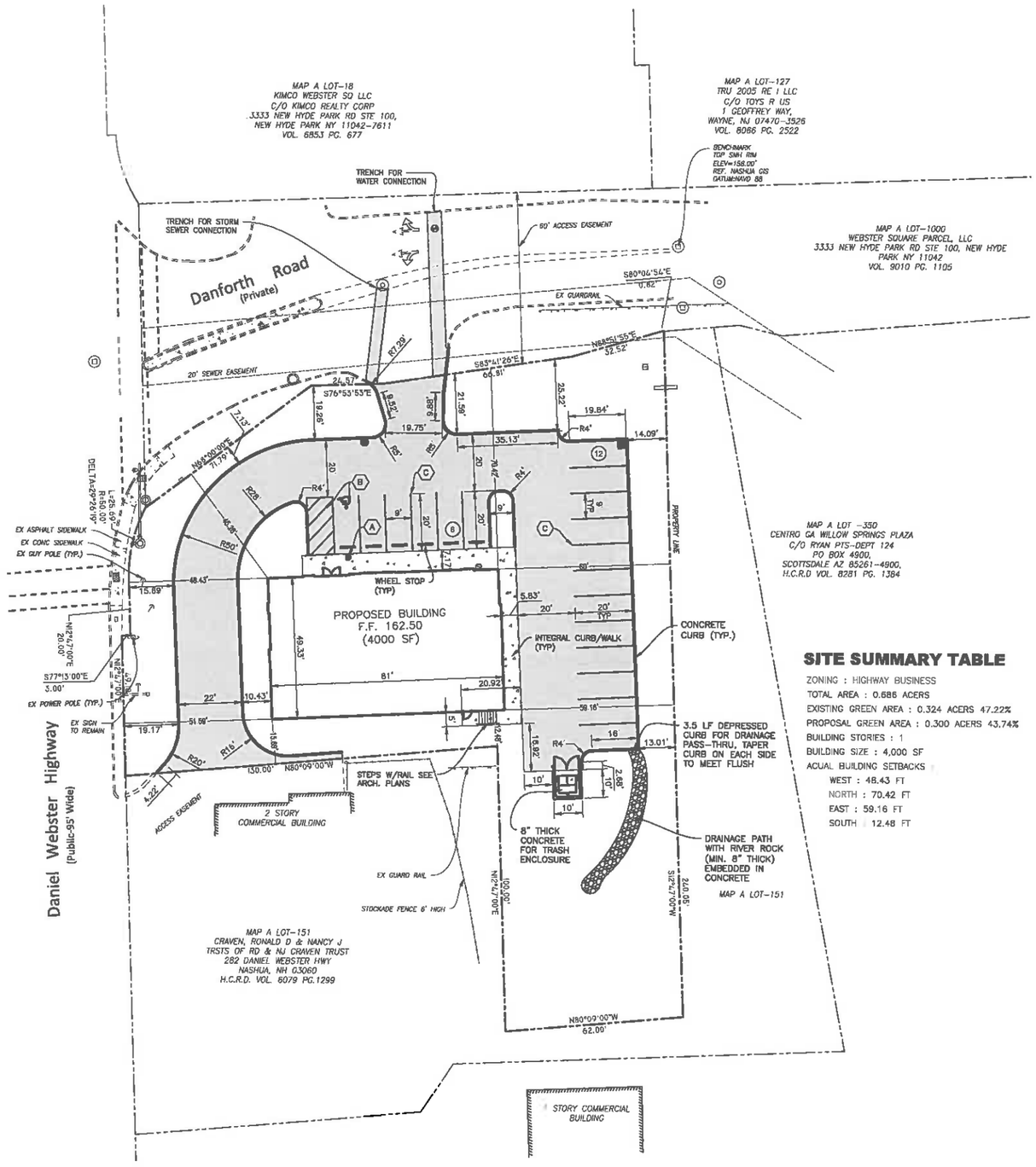
659 E. Algonquin Road
Suite 2-200
Schaumburg, IL 60173
Telephone: (847) 798-4180
www.rtmec.com
rtm engineering consultants

SHEET NAME
EXISTING CONDITIONS & DEMOLITION PLAN

PROJECT NAME
GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

PROJECT No.
19.GMX.C08

SHEET No.
C1.0
OF 14 SHEETS



LEGEND

- CONCRETE SIDEWALK
- CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- BARRIER CURB UNLESS NOTED OTHERWISE
- DEPRESSED CURB
- EXISTING CURB
- EXISTING STRIPING
- EXISTING SIDEWALK
- (X) PARKING STALL COUNT
- (X) SIGN AND STRIPING CALLOUT

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

SITE SUMMARY TABLE

ZONING : HIGHWAY BUSINESS
TOTAL AREA : 0.686 ACERS
EXISTING GREEN AREA : 0.324 ACERS 47.22%
PROPOSAL GREEN AREA : 0.300 ACERS 43.74%
BUILDING STORIES : 1
BUILDING SIZE : 4,000 SF
ACUAL BUILDING SETBACKS
WEST : 48.43 FT
NORTH : 70.42 FT
EAST : 59.16 FT
SOUTH : 12.48 FT

CITY OF NASHUA SITE NOTES:

1. THE PURPOSE OF THIS PLAN IS TO OBTAIN SITE PLAN APPROVAL AND PERMITS FOR CONSTRUCTION OF THE NEW COMMERCIAL BUILDING, PARKING LOT, SIDEWALKS, TRASH ENCLOSURE AND UTILITY SERVICES.
2. PROPERTY IS ZONED: HIGHWAY BUSINESS
3. ALL SIGNAGE SHALL CONFORM TO APPLICABLE CITY OF NASHUA ZONING REGULATIONS WITH ALL PERMITS SECURED PRIOR TO INSTALLATION.
4. SITE IMPROVEMENTS DEPICTED ON THESE PLANS SHALL CONFORM TO TITLE 111 OF THE AMERICANS WITH DISABILITIES ACT WITH REGARD TO DIMENSIONS AND GRADE AND NUMBER OF SPACES.
5. BASED ON AVAILABLE GIS MAPPING, THE SITE IS BELIEVED TO BE SERVED BY BOTH MUNICIPAL SEWER AND BY PENNICHUCK WATERWORKS.
6. NO VARIANCES OR SPECIAL EXCEPTIONS ARE BEING REQUESTED AS PART OF THESE PLANS.
7. PER FEMA FLOOD INSURANCE RATE MAP (FIRM) NUMBER 33011C0658D. THE SITE IS NOT LOCATED IN A FLOOD ZONE.
8. THE PURPOSE OF THIS PLAN IS TO DEPICT THE PROPOSED SITE DESIGN AND ASSOCIATED FEATURES IN SUPPORT OF THE APPLICATION FOR PLANNING BOARD ACTION.
9. FUTURE BUILDING CONSTRUCTION SHALL INCORPORATE FOUNDATION DRAINAGE SYSTEMS EXCEPT WHERE AN INVESTIGATION ESTABLISHES THAT SPECIFIC BUILDING SITES ARE LOCATED IN WELL DRAINED SOILS AND THAT SUCH SYSTEMS ARE NOT REQUIRED.
10. PRIOR TO ANY WORK BEING CONDUCTED, A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE PLANNING STAFF AND OTHER CITY DEPARTMENTS AS NECESSARY TO REVIEW THE PROPOSED WORK.
11. UTILITIES, INCLUDING ALL ELECTRIC, TELEPHONE, CABLE TELEVISION, AND OTHER COMMUNICATION LINES, BOTH MAIN AND SERVICE CONNECTIONS, SERVICING NEW DEVELOPMENTS SHALL BE PROVIDED BY UNDERGROUND WIRING WITHIN EASEMENTS OR DEDICATED PUBLIC RIGHT-OF-WAY INSTALLED IN ACCORDANCE WITH THE BOARD OF PUBLIC WORKS SPECIFICATIONS.
12. STREET RESTORATION WORK IS TO BE IN ACCORDANCE WITH NRO SECTION 19-26.
13. THE PRESENCE OF WETLANDS HAVE NOT BEEN OBSERVED ON THE SUBJECT SITE.
14. THE PROPOSED SITE PLAN DOCUMENTS, AS DESIGNED, ARE BELIEVED TO COMPLY WITH THE MINIMUM REQUIREMENTS ESTABLISHED IN THE LAND USE CODE CHAPTER 190 OF THE CITY OF NASHUA BY-LAWS.
15. IT SHALL BE UNLAWFUL TO MODIFY, CHANGE, OR ALTER ANY STRUCTURE SHOWN ON THIS PLAN IN ANY WAY WHATSOEVER, OR CONVERT OR ALTER THE STRUCTURE SHOWN ON THIS SITE PLAN, OR CHANGE THE ABOVE USE INDICATED ON THE PLAN WITHOUT RECEIVING APPROVAL FROM THE CITY.
16. PERMITTED USE: RETAIL.

GENERAL NOTES:

1. ALL DIMENSIONS ALONG CURB LINES ARE TO FACE OF CURB, UNLESS NOTED OTHERWISE.
2. BUILDINGS AND ADJACENT TO BUILDING IMPROVEMENTS SHOWN ON THESE PLANS ARE BASED UPON THE BUILDING PLANS PROVIDED BY OTHERS AT THE DATE OF THESE PLANS BEING PREPARED. BUILDING PLANS NORMALLY CONTINUE TO CHANGE AFTER SITE PLANS HAVE BEEN APPROVED. THEREFORE THE CONTRACTOR SHALL USE THE BUILDING PLANS FOR FINAL BUILDING IMPROVEMENTS, AND VERIFY THAT ALL ADJACENT IMPROVEMENTS ARE CONSISTENT WITH THE DESIGN INTENT AND REQUIREMENTS OF THE SITE PLANS. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF CLARIFICATION IS NEEDED, OR IF CONFLICTS OR INCONSISTENCIES EXIST.
3. ADA DETECTIBLE WARNING STRIPS SHALL BE CAST IRON TILES, WET SET INTO CONCRETE SURFACE, PER MANUFACTURERS INSTALLATION RECOMMENDATIONS.
4. REFER TO LANDSCAPE PLAN FOR RESTORATION OF ALL NON-PAVED AREAS.

(X) SIGNING AND STRIPING SCHEDULE

A. HANDICAP SIGN
B. HANDICAP SYMBOL AND STRIPING (BLUE)
C. 4" YELLOW STRIPE

PARKING SUMMARY

PARKING SPACES PROVIDED: 17

ADA PARKING SPACED PROVIDED = 1

TOTAL PARKING SPACES PROVIDED = 18

No.	DATE	DESCRIPTION
0	08/26/20	ISSUED FOR PERMIT

rtm engineering consultants
660 E. Algonquin Road
Suite 2-200
Schaumburg, IL 60173
Telephone: (847) 795-4180
www.rtmec.com

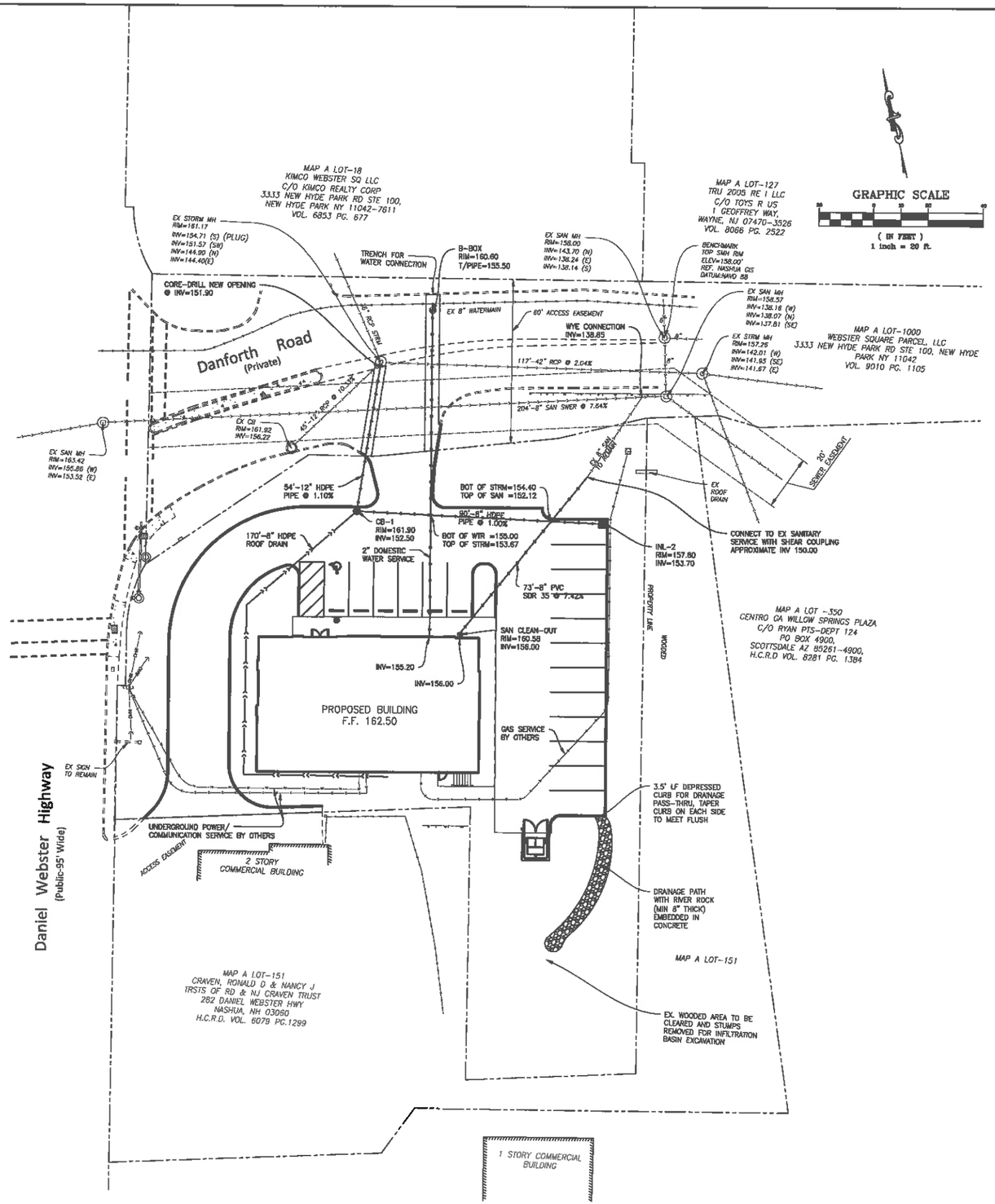
SHEET NAME: SITE PLAN

PROJECT NAME: GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

PROJECT No. 19.GMX.C08

SHEET No. C2.0
OF 14 SHEETS

User: emir.sadimon File: J:\2019\19.GMX.C08 - GMX Nashua, NH\08 DESIGN DRAWINGS\02-SHEETS\C2.0_SITE PLAN.dwg Time: Aug 26, 2020 - 1:14pm



UTILTIY LEGEND

EXISTING / PROPOSED	EXISTING / PROPOSED
VALVE VAULT	WATERMAIN PIPE
WATER B-BOX	STORM SEWER PIPE
WATER VALVE BOX	STORM UNDERDRAIN
FIRE HYDRANT	SANITARY SEWER PIPE
WELL HEAD	ELECTRICAL DUCT BANK
FIRE DEPT CONNECTION	NATURAL GAS LINE
STORM INLET	COMMUNICATIONS LINE
STORM MANHOLE	TELEVISION CABLE
CATCH BASIN	UNDERGROUND WIRE
STORM CLEANOUT	TELEPHONE CABLE
DOWNSPOUT	FIBER OPTIC CABLE
FLARED END SECTION	AERIAL WIRES
SANITARY MANHOLE	CONSTRUCTION LIMITS
SANITARY CLEANOUT	PROPERTY LINE
LIGHT POLE	EASEMENT LINE
TELEPHONE MANHOLE	VENT LINE
POWER POLE	HIGH WATER LINE
GAS VALVE	NORMAL WATER LINE
GAS METER	BIORETENTION AREA
HAND HOLE	CHAIN LINK FENCE
ELECTRICAL MANHOLE	BARBED-WIRE FENCE
CABLE TV PEDESTAL	WOODEN FENCE
TELEPHONE PEDESTAL	

NOTES:

1. EX. ITEMS SHALL BE FIELD VERIFIED. RELOCATION OR ADJUSTMENT MAY BE NEEDED. CONTRACTOR TO VERIFY.
2. CONTRACTOR SHALL VERIFY ALL WORK, INCLUDING BUT LIMITED TO, SIZES, MATERIALS AND LOCATION, WITH UTILITY COMPANIES PRIOR TO INSTALLATION.
3. VERIFY SERVICE LOCATIONS WITH BUILDING PLANS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
4. RIM GRADES ALONG CURBS ARE FLOW LINE ELEVATIONS.
5. SEE SPECIFICATIONS SHEET C8.00 FOR ALL STORM, SANITARY, AND WATER PIPE AND STRUCTURE SPECIFICATIONS.
6. ALL UTILITY TIE DIMENSIONS ARE FROM CENTER OF UTILITY AND TO BACK OF CURB WHEN TIED TO CURB LINES, UNLESS OTHERWISE NOTED.
7. CONTRACTOR TO INSPECT EXISTING SEWER AT POINT OF CONNECTION. CONTRACTOR TO VERIFY THAT EXISTING PIPE IS IN GOOD WORKING CONDITION. CONTRACTOR TO REPAIR AS REQUIRED.
8. CONTRACTOR TO NOTIFY OWNER/ENGINEER IF CONFLICTS OCCUR.
9. NEW OPENING/CONNECTIONS TO EXISTING MANHOLE/STRUCTURES SHALL BE CORE-DRILLED.
10. SEE PLUMBING PLANS FOR DOWNSPOUT (DSC) DETAILS.

No.	DATE	DESCRIPTION
0	08/26/20	ISSUED FOR PERMIT

602 E. Sponsoline Road
Suite 100
Schaumburg, IL 60173
Telephone: (847) 795-4160
www.jrtinc.com
jrtm engineering consultants

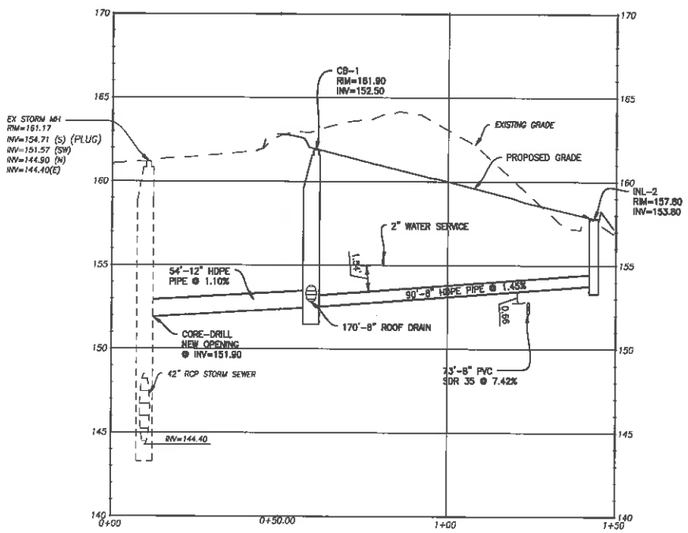
SHEET NAME
UTILITY PLAN

PROJECT NAME
GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

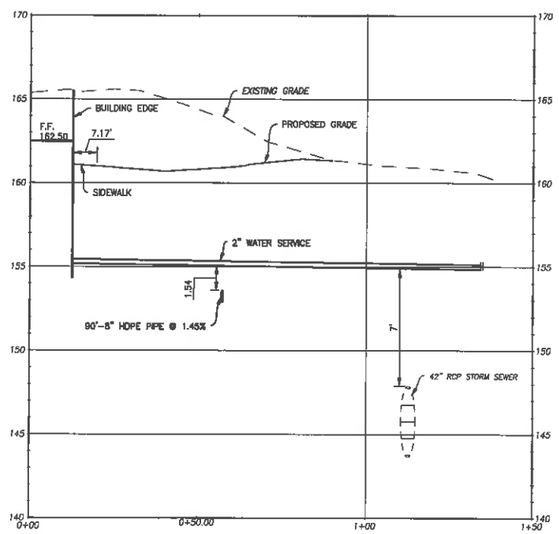
PROJECT No.
19.GMX.C08

SHEET No.
C3.0
OF 14 SHEETS

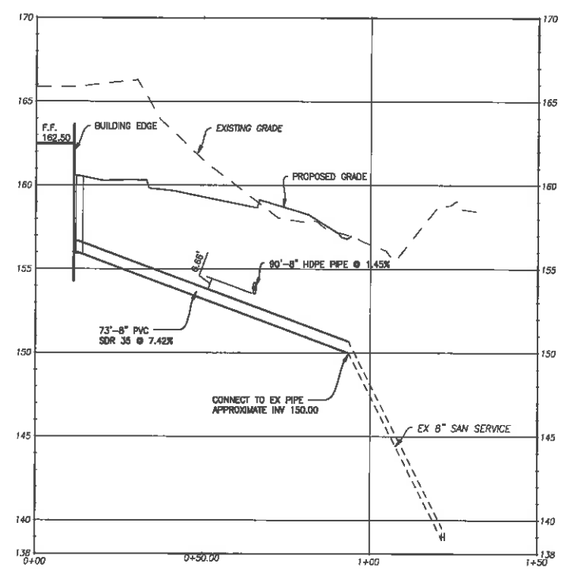
User: cmir.wilmon File: J:\2019\19.GMX.C08 - GMX Nashua, NH\09 DESIGN DRAWINGS\02-SHEETS\C3.0_UTILITY PLAN.dwg Time: Aug 28, 2020 - 1:15pm



STORM PROFILE



WATER PROFILE



SANITARY PROFILE

VERTICAL

1 inch = 4 ft.

HORIZONTAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

rtm engineering consultants
650 E. Algonquin Road
Suite 250
Schaumburg, IL 60173
Telephone: (847) 756-4180
www.rtmec.com

No.	DATE	DESCRIPTION
0	08/26/20	ISSUED FOR PERMIT

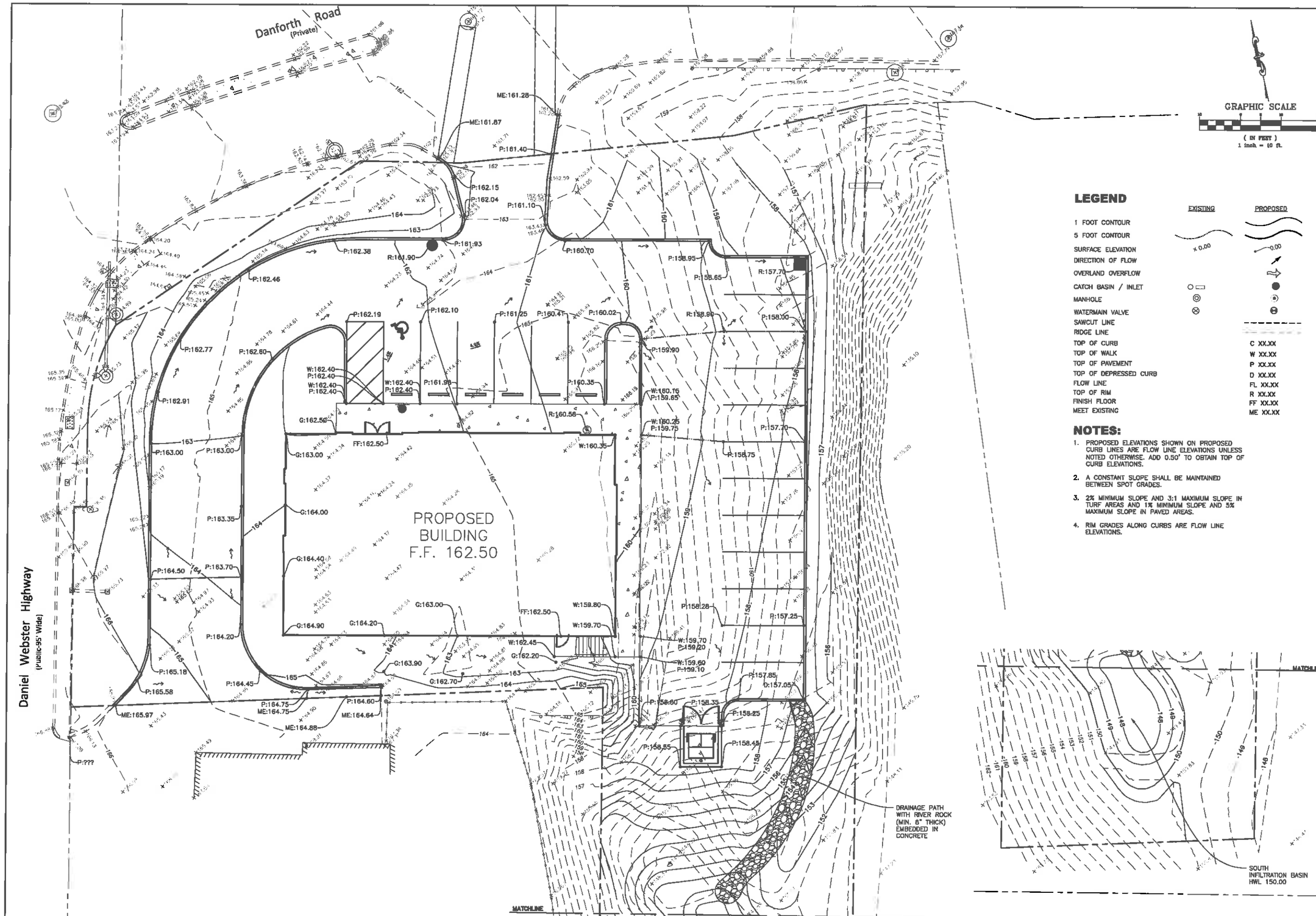
SHEET NAME: UTILITY PROFILES

PROJECT NAME: GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

PROJECT No. 19.GMX.C08

SHEET No. C3.1 OF 14 SHEETS

User: smir.salimon File: J:\2019\19.GMX.C08 - GMX Nashua, NH\09 DESIGN DRAWINGS\02-SHEETS\C3.0_UTILITY PLAN.dwg Time: Aug 26, 2020 1:15pm



LEGEND

	EXISTING	PROPOSED
1 FOOT CONTOUR		
5 FOOT CONTOUR		
SURFACE ELEVATION	x 0.00	0.00
DIRECTION OF FLOW		
OVERLAND OVERFLOW		
CATCH BASIN / INLET		
MANHOLE		
WATERMAIN VALVE		
SAWCUT LINE		
RIDGE LINE		
TOP OF CURB		C XX.XX
TOP OF WALK		W XX.XX
TOP OF PAVEMENT		P XX.XX
TOP OF DEPRESSED CURB		D XX.XX
FLOW LINE		FL XX.XX
TOP OF RIM		R XX.XX
FINISH FLOOR		FF XX.XX
MEET EXISTING		ME XX.XX

NOTES:

1. PROPOSED ELEVATIONS SHOWN ON PROPOSED CURB LINES ARE FLOW LINE ELEVATIONS UNLESS NOTED OTHERWISE. ADD 0.50' TO OBTAIN TOP OF CURB ELEVATIONS.
2. A CONSTANT SLOPE SHALL BE MAINTAINED BETWEEN SPOT GRADES.
3. 2% MINIMUM SLOPE AND 3:1 MAXIMUM SLOPE IN TURF AREAS AND 1% MINIMUM SLOPE AND 5% MAXIMUM SLOPE IN PAVED AREAS.
4. RIM GRADES ALONG CURBS ARE FLOW LINE ELEVATIONS.

No.	DATE	DESCRIPTION
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Suite 250
Schaumburg, IL 60173
Telephone: (847) 756-4180
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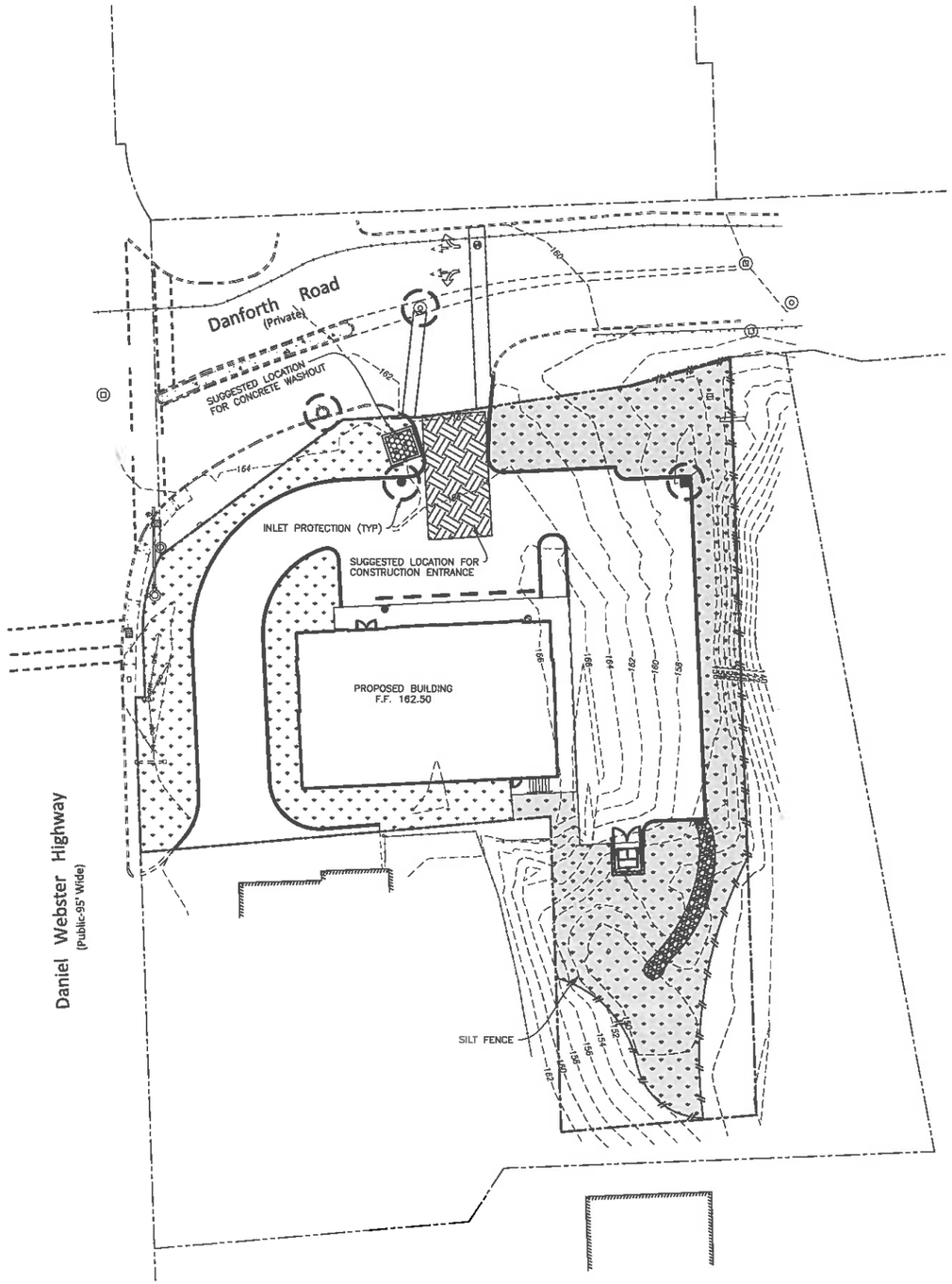
SHEET NAME
GRADING PLAN

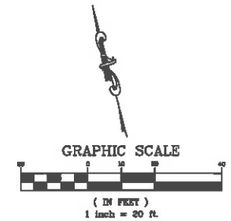
PROJECT NAME
GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

PROJECT No.
19.GMX.C08

SHEET No.
C4.0
OF 14 SHEETS

User: amir.soliman File: J:\2019\19.GMX.C08 - GMX Nashua, NH\09 DESIGN DRAWINGS\02-SHEETS\C4.0_GRADING PLAN.dwg Time: Aug 26, 2020 - 1:15pm





LEGEND

- 20' X 40' CONSTRUCTION ENTRANCE, SEE DETAILS.
- EROSION CONTROL BLANKET
- RESTORE PER LANDSCAPE PLANS
- INLET PROTECTION, AND INLET BASKET FILTERS, SEE DETAILS.
- SILT FENCE, SEE DETAILS.
- CONCRETE/MORTAR WASHOUT FACILITY
- CATCH BASIN/INLET
- STORM SEWER MANHOLE

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. INLET PROTECTION SHALL BE INSTALLED AT EACH DRAINAGE STRUCTURE THAT ACCEPTS WATER ONCE THAT STRUCTURE IS ABLE TO RECEIVE WATER.
2. ALL ROADS INCLUDING ADJACENT ROADWAYS, SWALES, DRAINAGE STRUCTURES, MANHOLES AND PIPES MUST BE KEPT CLEAN AND FREE OF DIRT, SILT AND DEBRIS AT ALL TIMES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD ADJUSTING THE LOCATION OF THE SILT FENCE TO ACCOMMODATE CONSTRUCTION ACTIVITIES. RELOCATED SILT FENCE SHALL BE PLACED TO PREVENT SILT FROM RUNNING OFF THE SITE. SILT FENCE SHALL BE RELOCATED BACK TO ORIGINAL LOCATION AS NECESSARY AFTER CONSTRUCTION ACTIVITY IN THE EFFECTED AREA IS COMPLETED.
4. AFTER PERMANENT GROUND COVER IS ESTABLISHED THROUGHOUT THE SITE, THE SEDIMENT SHALL BE REMOVED FROM THE UNDERGROUND DETENTION SYSTEM AND ALL STORM SEWER PIPES AND STRUCTURES.

INSPECTION SCHEDULE

1. EROSION CONTROL DEVICES & SWALES SHALL BE BE MONITORED DAILY.
2. FOREBAY/SEDIMENT TRAPS SHALL BE MONITORED WEEKLY. TRAPPED SEDIMENT SHALL BE REMOVED, RESPREAD, & STABILIZED.
3. VEGETATIVE PLANTINGS (SEEDING, SODDING, ETC.) SHALL BE CHECKED PERIODICALLY TO VERIFY THAT ADEQUATE GROUND COVER IS BEING ESTABLISHED. AREAS OF INSUFFICIENT COVER SHALL BE RESEEDED.
4. REPAIRS TO EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY UPON DISCOVERY.

ANTICIPATED CONSTRUCTION SEQUENCE	RESPONSIBLE CONTRACTOR: GRADING	UNDERGROUND	PAVING	LANDSCAPE
1. INSTALL SEDIMENT CONTROL DEVICES				
STABILIZED CONSTRUCTION ENTRANCE	X			
SILT FENCE	X			
2. GRADE SITE / STOCK PILE TOPSOIL	X			
SILT FENCE (TOPSOIL STOCKPILES & OPEN SPACE SLOPES)	X			
3. INSTALL STORM WATER MANAGEMENT				
STORM SEWER EXPLORATORY DIG		X		
INLET PROTECTION		X		
4. TEMPORARY VEGETATIVE STABILIZATION				
TEMPORARY SEEDING				X
MULCHING				X
5. SITE WORK - CONCRETE WASHOUT AREA			X	
CURB & GUTTER & PATCHING			X	
AGGREGATE SUBBASE			X	
BAM & BINDER			X	
SIDEWALKS AND CONCRETE PAVEMENT			X	
ASPHALT PATCHES			X	
LANDSCAPE INSTALLATION				X
6. TEMPORARY SEEDING ON ALL AREAS TO BE EXPOSED LONGER THAN 60 DAYS				X
7. SURFACE PARKING LOTS			X	
8. PERMANENT VEGETATIVE STABILIZATION OF EXPOSED AREAS				
PERMANENT SEEDING				X
SODDING				X
9. PERFORM CONTINUING MAINTENANCE	X	X	X	X

SEEDING SCHEDULE

A KENTUCKY BLUEGRASS 135#/ac. MIXED WITH PERENNIAL RYEGRASS 45#/ac. & 2 TONS STRAW MULCH PER ACRE
B SPRING OATS 100#/ac.
C WHEAT OR CEREAL RYE 150#/ac.
D SALT TOLERANT SOD, PER PROJECT SPECIFICATIONS
E STRAW MULCH

STABILIZATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
DORMANT SEEDING	A									A		
TEMPORARY SEEDING			B				C					
SODDING			D**									
MULCHING	E											

* IRRIGATE AS NECESSARY
** IRRIGATE AS NECESSARY TO ESTABLISH SOD

No.	DATE	DESCRIPTION
0	08/28/20	ISSUED FOR PERMIT

No.	DATE	DESCRIPTION

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650 E. Algonquin Road
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Schaumburg, IL 60173
Telephone: 847/786-4160
www.rtmec.com
Design Firm: 184006777-0002

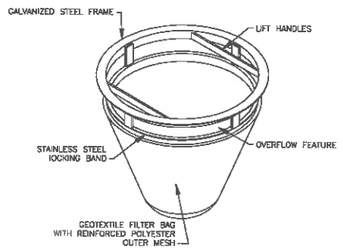
SHEET NAME: EROSION CONTROL PLAN

PROJECT NAME: GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

PROJECT No. 19.GMX.C08

SHEET No. C5.0
OF 14 SHEETS

User: amir.ad3mon File: J:\2019\19.GMX.C08 - GMX Nashua, NH\03 DESIGN DRAWINGS\02-SHEETS\C5.0 EROSION CONTROL.dwg Time: Aug 26, 2020 - 1:15pm

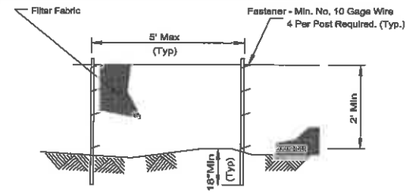


All Products Shall be:
Catch-All
Marathon Materials, Inc.
25523 W. Schultz Street
Plainfield, IL 60544
800 983-9493
www.marathonmaterials.com
(OR APPROVED EQUAL)

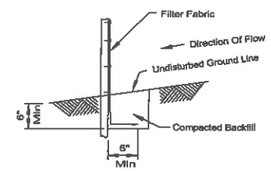
TO BE PROVIDED AT ALL STRUCTURES THAT TAKE WATER. REMOVE AFTER FINAL STABILIZATION.

INLET PROTECTION
NOT TO SCALE

SILT FENCE PLAN



ELEVATION

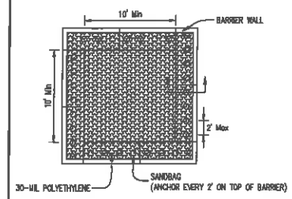


FABRIC ANCHOR DETAIL

NOTES:
1. Temporary sediment fence shall be installed prior to any grading work in the area to be protected. They shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
2. Filter fabric shall meet the requirements of material specification 592 Geotextile Table 1 or 2, Class with equivalent opening size of at least 30 for nonwoven and 40 for woven.
3. Fence posts shall be either standard steel post or wood post with a minimum cross-sectional area of 3.0 sq. in.

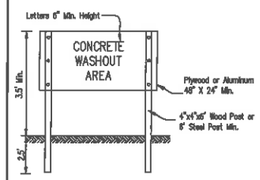
REFERENCE
Project
Designed Date
Checked Date
Approved Date

STANDARD DWG. NO.
IUM-620
SHEET 1 OF 2
DATE 3-16-12



PLAN VIEW

BARRIER WALL ANCHOR SECTION



SIGN DETAIL

NOTES:
1. Maintaining temporary concrete washout facilities shall include removing and disposing of hardend concrete and/or slurry and returning the facilities to a functional condition.
2. Facility shall be cleaned or reconstructed in a new area once washout becomes two-thirds full.

TEMPORARY CONCRETE WASHOUT FACILITY – BARRIER WALL

No.	DATE	DESCRIPTION
0	08/26/20	ISSUED FOR PERMIT

rtm engineering consultants
650 E. Algonquin Road
Suite 250
Schaumburg, IL 60173
Telephone: (847) 756-4180
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SHEET NAME
EROSION CONTROL DETAILS

PROJECT NAME
GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

PROJECT No.
19.GMX.C08

SHEET No.
C5.1
OF 14 SHEETS

User: amir.salimon File: J:\2019\19.GMX.C08 - GMX Nashua, NH\09 DESIGN DRAWINGS\02-SHEETS\C5.0 EROSION CONTROL.dwg Time: Aug 26, 2020 - 1:15pm

GENERAL NOTES AND CONDITIONS

1. THE MUNICIPAL AUTHORITY GOVERNING THIS WORK IS CITY OF NASHUA.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING SPECIFICATIONS. IF A CONFLICT ARISES BETWEEN ANY PROVISION(S) OF THE THESE STANDARDS AND SPECIFICATIONS, THEN THE MOST RESTRICTIVE PROVISION(S) SHALL APPLY.
   A. NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION. (STANDARD SPECIFICATIONS)
   B. CITY OF NASHUA "CITY STANDARD SPECIFICATIONS", LATEST EDITION.
   B. "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.) LATEST EDITION.
   C. THE MUNICIPALITY'S CODES, REGULATIONS, ORDINANCES AND STANDARDS.
3. THE PROJECT SPECIFICATIONS SHALL GOVERN THE CONSTRUCTION OF THIS DEVELOPMENT WITH THE ABOVE SPECIFICATIONS. WHERE ANY CONFLICT MAY OCCUR, THE CONTRACTOR SHALL SUBMIT IN WRITING A NOTICE OF SUCH CONFLICT TO THE OWNER'S REPRESENTATIVE OR ENGINEER FOR A WRITTEN DECISION ON WHICH MAY GOVERN.
4. IN THE EVENT OF CONFLICTS, ERRORS, OR AMBIGUITIES IN THE DOCUMENTS CLIENT AND OR CONTRACTOR SHALL IMMEDIATELY, AND BEFORE ANY WORK HAS BEGUN OR COSTS INCURRED, REQUEST CLARIFICATION FROM THE ENGINEER WHOSE INTERPRETATION SHALL BE FINAL AND BINDING UPON ALL PARTIES CONCERNED. NEITHER CLIENT NOR CONTRACTOR SHALL TAKE ADVANTAGE OF CONFLICTS, ERRORS, OR AMBIGUITIES IN THE DOCUMENTS. OTHERWISE THE CONTRACTOR ASSUMES FULL RESPONSIBILITY. FAILING TO SECURE SUCH CLARIFICATION, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT HIS OWN RISK AND EXPENSE.
5. THE STANDARD SPECIFICATIONS, CONSTRUCTION PLANS AND SUBSEQUENT DETAILS ARE ALL TO BE CONSIDERED AS PART OF THE CONTRACT. INCIDENTAL ITEMS OR ACCESSORIES NECESSARY TO COMPLETE THIS WORK MAY NOT BE SPECIFICALLY NOTED BUT ARE TO BE CONSIDERED A PART OF THE CONTRACT.
6. THE MUNICIPALITY SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE AND REJECT THE CONSTRUCTION OF THE IMPROVEMENTS CONSTRUCTED UNDER THESE CONTRACT DOCUMENTS.
7. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES INDICATED ON THE ENGINEERING PLANS. THE QUANTITIES SHOWN ARE ESTIMATED FOR BIDDING PURPOSES ONLY, ANY DISCREPANCIES SHALL BE REPORTED TO ENGINEER. THE BIDDER SHALL CAREFULLY EXAMINE ALL CONTRACT DOCUMENTS, VISIT THE PROJECT SITE AND FULLY INFORM THEMSELVES AS TO ALL CONDITIONS AND MATTERS WHICH CAN AFFECT THEIR WORK AND THE COST THEREOF. ANY DISCREPANCIES, OMISSIONS OR DOUBTS IN INTENT OF THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY AND OBTAIN CLARIFICATION PRIOR TO SUBMITTING OF ANY BID.
8. THE IMPROVEMENTS SHOWN ON THE ENGINEERING PLANS SHALL CONSIST OF FURNISHING ALL LABOR, MATERIAL AND EQUIPMENT, ETC., AS NECESSARY TO PERFORM THE WORK INDICATED.
9. ANY QUANTITIES CONTAINED IN THESE DOCUMENTS ARE APPROXIMATE AND ESTIMATED, AND ARE PRESENTED AS A GUIDE TO THE CONTRACTOR IN DETERMINING ALL QUANTITIES AND TO BECOME FAMILIAR WITH THE SITE CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALL MATERIAL QUANTITIES AND APPRAISE HIMSELF OF ALL SITE CONDITIONS. THE BIDDER SUBMITTED BY THE CONTRACTOR SHALL BE CONSIDERED AS SUM FOR THE COMPLETE PROJECT, NO CLAIMS FOR EXTRA WORK WILL BE RECOGNIZED, UNLESS ORDERED IN WRITING BY THE OWNER.
10. NO CONSTRUCTION PLANS SHALL BE USED FOR CONSTRUCTION UNLESS SPECIFICALLY MARKED "FOR CONSTRUCTION".
11. ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH OSHA REQUIREMENTS AND MUNICIPALITY REGULATIONS AND STANDARDS AND SHALL CONFORM IN ALL RESPECTS TO ALL STATE AND FEDERAL LAWS.
12. UTILITY INFORMATION SHOWN HEREON WAS OBTAINED FROM THE BEST AVAILABLE SOURCE AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. THE CONTRACTOR MUST CALL 811 AT LEAST 48 HOURS BEFORE THE START OF ANY CONSTRUCTION WORK. THE CONTRACTOR SHALL ON HIS INITIATIVE AND AT NO EXTRA COSTS HAVE LOCATED ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. NO CLAIMS FOR DAMAGES OR EXTRA COMPENSATION SHALL ACCRUE TO THE CONTRACTOR FROM THE PRESENCE OF SUCH PIPE, OTHER OBSTRUCTIONS OR FROM ANY DELAY DUE TO REMOVAL OR REARRANGEMENT OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND STRUCTURES. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL NON-SUBSCRIBING UTILITIES. THE CONTRACTOR(S) SHALL CONTACT LOCAL UTILITY LOCATION SERVICE FOR ASSISTANCE IN LOCATING EXISTING UTILITIES. IF ANY EXISTING UTILITIES ARE ENCOUNTERED OR DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPAIRED PROPERLY BY THE CONTRACTOR. IF THEY ARE UTILITIES TO BE ABANDONED, THEY SHALL BE CAPPED, SEALED AND ABANDONED PROPERLY PER THEIR RESPECTIVE OWNER'S CRITERIA.
13. THE CITY OF NASHUA MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY APPROVED CONSTRUCTION ACTIVITY, TO SCHEDULE ALL REQUIRED INSPECTIONS, OR RESUMPTION OF ANY CONSTRUCTION WORK.
14. EXCAVATIONS SHOULD COMPLY WITH THE REQUIREMENTS OF OSHA 29CFR, PART 1926, SUBPART P, "EXCAVATIONS" AND ITS APPENDICES, AS WELL AS OTHER APPLICABLE CODES. THIS DOCUMENT STATES THAT THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF STABLE, TEMPORARY EXCAVATIONS. THE EXCAVATIONS SHOULD NOT ONLY BE IN ACCORDANCE WITH CURRENT OSHA EXCAVATION AND TRENCH SAFETY STANDARDS BUT ALSO WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS. THE CONTRACTOR SHOULD SHORE, SLOPE OR BENCH THE EXCAVATION SIDES WHEN APPROPRIATE. SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL ALSO BE RESPONSIBLE FOR THE MEANS, METHODS AND SEQUENCING OF CONSTRUCTION OPERATIONS.
15. REMOVED PAVEMENT, SIDEWALK, CURB AND GUTTER, EXCESS MATERIALS, DEBRIS, ANY EXCESS DIRT OR MATERIALS, ETC. SHALL BE LEGALLY DISPOSED OF AT OFF-SITE LOCATIONS PROVIDED BY THE CONTRACTOR AT HIS OWN EXPENSE. CONTRACTOR TO BE AWARE OF "SPECIAL HANDLING" OF EXISTING SOILS TO BE REMOVED.
16. CONSTRUCTION SITE SAFETY IS SOLE RESPONSIBILITY OF THE CONTRACTOR WHO CONTROLS THE MEANS, METHODS, AND SEQUENCING OF CONSTRUCTION OPERATIONS. UNDER NO CIRCUMSTANCES SHALL THE INFORMATION PROVIDED HEREIN BE INTERPRETED TO MEAN RTM IS ASSUMING RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY, OR THE CONTRACTOR'S ACTIVITIES; SUCH RESPONSIBILITY SHALL NEITHER BE IMPLIED NOR INFERRED.
17. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE SIGNS, BARRICADES, FENCING, TRAFFIC CONTROL DEVICES AND MEASURES, AND ALL OTHER MEASURES THAT ARE NECESSARY TO PROTECT THE SAFETY OF THE SITE AT ALL TIMES.
18. SITE ACCESS CONTROL INCLUDING SAFETY FENCES, AND ALL CONSTRUCTION MEANS AND METHODS AND SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
19. ALL PERMANENT TYPE PAVEMENTS OR PERMANENT IMPROVEMENTS WHICH ABUT THE PROPOSED IMPROVEMENT AND MUST BE REMOVED, SHALL BE FULL DEPTH SAW-CUT PRIOR TO REMOVAL. ALL ITEMS SO REMOVED SHALL BE REPLACED WITH SIMILAR CONSTRUCTION MATERIALS TO THEIR ORIGINAL CONDITION OR BETTER. PAYMENT FOR SAWING SHALL BE INCLUDED IN THE COST FOR REMOVAL OF EACH ITEM AND REPLACEMENT WILL BE PAID UNDER THE RESPECTIVE ITEMS IN THE CONTRACT, UNLESS OTHERWISE INDICATED.
20. WHENEVER THE PERFORMANCE OF WORK IS INDICATED ON THE PLANS, AND NO ITEM IS INCLUDED IN THE CONTRACT FOR PAYMENT, THE WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
21. THE CONTRACTOR, BY AGREEING TO PERFORM THE WORK, AGREES TO INDEMNIFY AND HOLD HARMLESS THE OWNER, THE ENGINEER, THE CITY, AND ALL AGENTS AND ASSIGNS OF THOSE PARTIES, FROM ALL SUITS AND CLAIMS ARISING OUT OF THE PERFORMANCE OF SAID WORK, AND FURTHER AGREES TO DEFEND OR OTHERWISE PAY ALL LEGAL FEES ARISING OUT OF THE DEFENSE OF SAID PARTIES.
22. ALL ROADS, SWALES, DRAINAGE STRUCTURES, MANHOLES AND PIPES MUST BE KEPT CLEAN AND FREE OF DIRT, SILT AND DEBRIS AT ALL TIMES.
23. IF ANY EXISTING UNDERGROUND UTILITIES ARE ENCOUNTERED OR DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPAIRED PROPERLY BY THE CONTRACTOR. IF THEY ARE UTILITIES TO BE ABANDONED, THEY SHALL BE CAPPED, SEALED AND ABANDONED PROPERLY PER THEIR RESPECTIVE OWNER'S CRITERIA.
24. CONTRACTOR SHALL PURCHASE AND MAINTAIN FOR THE DURATION OF THE WORK INSURANCE TO PROTECT ENGINEER, OWNER, ALL OF THEIR AGENTS, EMPLOYEES, SUCCESSORS, AND ASSIGNS FROM ANY AND ALL CLAIMS ARISING OUT OF THE CONSTRUCTION OF THE WORK INCLUDING NAMING THEM AS ADDITIONAL INSURED ON THE CONTRACTORS GENERAL LIABILITY POLICY, WHICH SHALL STATE THAT IT IS PRIMARY IN COVERAGE TO ANY INSURANCE CARRIED BY AGENTS, EMPLOYEES, SUCCESSORS, OR ASSIGNS.
25. ALL WORK PERFORMED BY THE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A MINIMUM PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF FINAL ACCEPTANCE, OR AS SPECIFIED IN THE PROJECT MANUAL. THIS GUARANTEE SHALL INCLUDE ALL DEFECTS IN MATERIALS AND WORKMANSHIP.

EARTHWORK AND GRADING

1. THE GEOTECHNICAL REPORT FOR THE PROJECT WAS PREPARED BY JOHN TURNER CONSULTING, DATED, AUGUST 18, 2020. THEIR REQUIREMENTS AND RECOMMENDATIONS SHALL BE FOLLOWED. THE GEOTECHNICAL INVESTIGATION REPORT WILL BE PROVIDED.
2. SOIL EROSION CONTROL SPECIFICATIONS SHALL BE CONSIDERED AS PART OF THIS SECTION. ALL SOIL EROSION CONTROLS SHALL BE IN PLACE BEFORE THE START OF ANY SITE WORK, PER THE APPROVED EROSION CONTROL PLANS AND SWPPP.
3. SOIL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE CHARLES SOIL CONSERVATION DISTRICT SHALL BE FOLLOWED AT THE DISCRETION OF THE MUNICIPALITY.
4. ALL PROPOSED PAVEMENT AREAS SHALL BE STRIPPED OF ALL TOPSOIL AND UNSUITABLE MATERIAL AND EXCAVATED OR FILLED TO DESIGN SUBGRADE.
5. STOCKPILING OF SOIL SHALL BE AT LOCATIONS APPROVED BY THE OWNER.
6. PROPOSED PAVEMENT AREAS AND WHEN APPLICABLE, BUILDING PADS, DRIVEWAYS AND SIDEWALKS SHALL BE EXCAVATED OR FILLED TO PLUS OR MINUS 0.1 FOOT OF DESIGN SUBGRADE ELEVATIONS BY THE CONTRACTOR. PRIOR TO PLACEMENT OF ANY PAVEMENTS, CURBS, WALK, ETC., THE SUBGRADE SHALL BE PROOF-ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK, MINIMUM OF 20 TONS. PROOF-ROLLING SHALL BE WITNESSED THE GEOTECHNICAL ENGINEER, PROVIDED BY THE CONTRACTOR, AND THE MUNICIPAL REPRESENTATIVE. THE DENSITY OF IN-PLACE BASE, SUBGRADE AND ASPHALT PAVEMENT MATERIALS SHALL BE TESTED BY THE GEOTECHNICAL ENGINEER. ALL TEST RESULTS SHALL BE PROVIDED TO THE ENGINEER FOR CONFIRMATION OF THE CONTRACTORS COMPACTION EFFORTS.
7. THE SUBGRADE SHALL BE FREE OF UNSUITABLE MATERIAL AND SHALL BE COMPACTED TO A MINIMUM OF NINETY-FIVE (95) PERCENT OF MODIFIED PROCTOR DENSITY, PER ASTM D-1557. TESTING FOR COMPACTION SHALL FOLLOW THE GEOTECHNICAL REPORT RECOMMENDATION AND BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL TEST RESULTS SHALL BE SUBMITTED TO THE OWNER & ENGINEER.
8. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL INSURE POSITIVE SITE DRAINAGE AT THE CONCLUSION OF EACH DAY. SITE DRAINAGE MAY BE ACHIEVED BY DITCHING, PUMPING OR ANY OTHER METHOD ACCEPTABLE TO THE ENGINEER. THE CONTRACTOR'S FAILURE TO PROVIDE THE ABOVE WILL PRECLUDE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF.
9. UPON COMPLETION OF THE SURFACE IMPROVEMENTS, THE CONTRACTOR SHALL RE-SPREAD A MINIMUM OF A 6" LAYER OF TOPSOIL ON ALL DISTURBED PARKWAY AND LANDSCAPED/LAWN AREAS AND RESTORE WITH SOD.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL SPOILS MATERIAL AS NECESSARY, PREPARING THE PAVEMENT SUBGRADE, PLACING REQUIRED DEPTH OF TOPSOIL TO FINISH GRADE, GRADING OF DRAINAGE SWALES, AND ALL OTHER TASKS AS DIRECTED BY THE OWNER OR ENGINEER.

PAVING

1. THE PROPOSED ASPHALT PAVEMENT SHALL CONSIST OF THE SUBGRADE COURSE (AS SPECIFIED) BASE COURSE, BITUMINOUS CONCRETE BINDER COURSE, AND BITUMINOUS CONCRETE SURFACE COURSE, OF THE THICKNESS AND MATERIALS AS SPECIFIED ON THE CONSTRUCTION PLANS. EMULSIFIED ASPHALT TACK COAT MATERIAL SHALL BE ITEM 410.21, UNLESS SHOWN AS A BID ITEM, TACK COAT SHALL BE CONSIDERED AS INCIDENTAL TO THE COST OF THE CONTRACT. ALL PAVEMENT MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT "STANDARD SPECIFICATIONS" AND SUPPLEMENTAL SPECIFICATIONS, LATEST EDITIONS.
2. ALL DAMAGED AREAS IN THE BINDER, BASE OR CURB AND GUTTER SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND MUNICIPALITY PRIOR TO LAYING THE SURFACE COURSE. THE CONTRACTOR SHALL PROVIDE WHATEVER EQUIPMENT AND MANPOWER NECESSARY INCLUDING THE USE OF POWER BROOMS IF REQUIRED BY THE ENGINEER TO PREPARE THE PAVEMENT FOR APPLICATION OF THE SURFACE COURSE. EQUIPMENT AND MANPOWER FOR CLEANING SHALL BE CONSIDERED AS INCIDENTAL TO THE COST OF THE CONTRACT. PRIME COAT FOR THE BINDER COURSE SHALL ALSO BE CONSIDERED AS INCIDENTAL TO THE COST OF THE CONTRACT AND SHALL BE APPLIED TO THE BINDER AT A RATE OF 0.3 GALLONS PER SQUARE YARD.
3. CONCRETE CURBS (& GUTTERS):
   A. ALL CURB AND GUTTER SHALL BE CONSTRUCTED WITH NHDOT CLASS A, APPROVED CONCRETE, WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. ALL CONCRETE SHALL HAVE A MINIMUM FLEXURAL STRENGTH OF 650 PSI. ALL CONCRETE SHALL BE BROOM FINISHED.
   B. CONTRACTION JOINTS SHALL BE SAW-CUT AT TWENTY (20) FOOT INTERVALS AND ALL ON-SITE CURB JOINTS CAULKED WITH JOINT SEALANT.
   C. PREFORMED FIBER BOARD EXPANSION JOINTS, ONE (1) INCH THICK, SHALL BE PLACED FIVE FEET EITHER SIDE OF STORM STRUCTURES IN CURB AND GUTTER, AT CURB RETURNS AND AT POINTS OF CURVATURE, AT ALL CONNECTIONS BETWEEN NEW AND EXISTING CURB AND GUTTER, AND AT 40 FOOT INTERVALS ON TANGENTS.
   D. TWO (2)-#5 PLAIN ROUND STEEL DOWELS, 2 FEET LONG, SHALL BE PROVIDED AT ALL EXPANSION JOINTS AND AT CONNECTIONS BETWEEN EXISTING AND NEW CURB AND GUTTER. DOWELS SHALL BE CENTERED ON THE JOINT, (DRILLED INTO EXISTING CURB AND GUTTER), AND SHALL BE INSTALLED WITH GREASE CAPS ON ONE SIDE.
   E. THE PROPOSED CURB AND GUTTER AND PAVEMENT SHALL BE OF THE TYPE AND THICKNESS AS SPECIFIED IN THESE DRAWINGS, AND CONSTRUCTED IN CONFORMANCE WITH THE NHDOT "STANDARD SPECIFICATIONS" PREVIOUSLY REFERENCED.
   F. DEPRESSED CURB SHALL BE PROVIDED FOR HANDICAPPED RAMPS LOCATIONS.
   G. ALL ON-SITE JOINTS SHALL BE SEALED WITH CONCRETE JOINT SEALANT PER NOTE 8 BELOW.
4. CONCRETE SIDEWALK (INCLUDING CURB RAMPS):
   A. ALL SIDEWALK SHALL BE CONSTRUCTED WITH NHDOT, CLASS A CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. ALL CONCRETE SHALL HAVE A MINIMUM FLEXURAL STRENGTH OF 650 PSI. ALL CONCRETE SHALL BE LIGHTLY BROOM FINISHED.
   B. TOOLED CONTRACTION JOINTS SHALL CONSTRUCTED AT EVERY + FIVE (5) FEET, OR AS SHOWN ON PLANS. TOOLED CONTRACTION JOINTS SHALL EXTEND TO 1/4 THE DEPTH OF THE SIDEWALK AND SHALL BE 1/4 INCH IN WIDTH.
   C. PREFORMED FIBER BOARD EXPANSION JOINTS, 3/4" THICK, SHALL BE PLACED EVERY 100' AND AT ALL ABUTTING DRIVEWAYS AND CURB AND GUTTER. FOR SIDEWALK ADJACENT TO CURB, EXPANSION JOINT SPACING SHALL MATCH CURB EXPANSION JOINTS AS PRACTICAL. FOR ON-SITE WALKS, FIBER BOARDS SHALL BE PLACED 1/2 INCH BELOW THE FINISHED SURFACE OF THE SIDEWALK AND CAULKED WITH JOINT SEALANT, MATCHING THE COLOR OF THE SIDEWALK.
   D. PREFORMED EXPANSION JOINTS, 1/2" THICK, SHALL BE PLACED BETWEEN BUILDINGS, LIGHT POLES, TRAFFIC SIGNALS, AND OTHER RIGID STRUCTURES AND ON-SITE JOINTS CAULKED WITH JOINT SEALANT, MATCHING THE COLOR OF THE SIDEWALK.
   E. ALL SIDEWALKS CROSSING UTILITY TRENCHES SHALL HAVE TWO #4 REINFORCING BARS, 10 FOOT LONG, CENTERED OVER TRENCH.
   F. DETECTIBLE WARNINGS SHALL CONSIST OF TRUNCATED DOMES MEETING THE REQUIREMENTS OF ADAAG AND INSTALLED AT LOCATIONS SHOWN ON PLAN AND WERE PEDESTRIANS ARE REQUIRED TO CROSS A HAZARDOUS VEHICULAR WAY. DETECTIBLE WARNINGS SHALL BE AN APPROVED COLOR CONTRASTING TO THE CURB RAMP MATERIAL AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
4. CONCRETE PAVEMENT AND DRIVE APRONS:
   A. CONCRETE PAVEMENT SHALL BE CONSTRUCTED WITH NHDOT CLASS AA CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. ALL CONCRETE SHALL HAVE A MINIMUM FLEXURAL STRENGTH OF 650 PSI. ALL CONCRETE SHALL BE BROOM FINISHED.
   B. ADEQUATE CONSTRUCTION JOINTS, CONTRACTION JOINTS FOR ISOLATION JOINTS SHOULD BE PROVIDED IN THE AREAS OF RIGID PAVEMENT TO REDUCE THE IMPACTS OF CRACKING AND SHRINKAGE. PLEASE REFER TO ACI 330R-01 GUIDE FOR DESIGN OF CONCRETE PARKING LOTS.
   C. ALL ON-SITE JOINTS, WITH THE EXCEPTION OF SAWED JOINTS, SHALL BE SEALED WITH CONCRETE JOINT SEALANT PER NOTE 8 BELOW.
5. CURING AND PROTECTION OF ALL CONCRETE SHALL BE IN CONFORMANCE WITH NHDOT "STANDARD SPECIFICATIONS", PREVIOUSLY REFERENCED.
6. CONCRETE JOINT SEALANT SHALL BE POURTHANE SL, SIKAFLEX 1C SL OR APPROVED EQUAL, MATCHING THE COLOR OF THE CONCRETE.
7. THE PAVING CONTRACTOR IS RESPONSIBLE FOR THE FINAL SUBGRADE PREPARATION, THE PAVEMENT BASE, BINDER, AND SURFACE, AND ALL FINAL CLEAN-UP AND RELATED WORK ASSOCIATED WITH THE PAVING OPERATIONS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL CORING, TESTING, AND PAVEMENT EVALUATION AS REQUIRED BY THE MUNICIPALITY FOR ACCEPTANCE AT HIS OWN EXPENSE. THE CONTRACTOR SHALL INCLUDE THIS AS A SEPARATE BID ITEM OR ELSE IT WILL BE ASSUMED THAT THIS COST HAS BEEN FIGURED INTO THE UNIT PRICES FOR THE PAVING ITEMS. ALL TESTING RESULTS SHALL BE MADE AVAILABLE TO THE MUNICIPALITY FOR REVIEW.

STANDARD UTILITY PROVISIONS

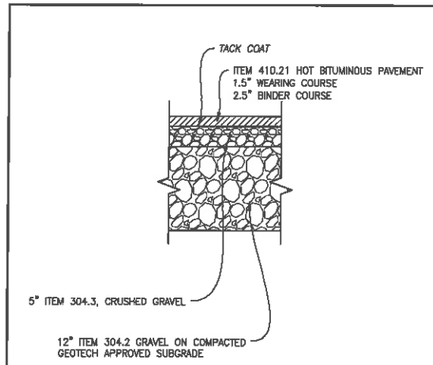
1. ALL UTILITY CONSTRUCTION WORK SHALL GOVERNED BY:
   - SANITARY DISTRICT REQUIREMENTS
   - MUNICIPAL/LOCAL REQUIREMENTS
   - ROADWAY AUTHORITIES REQUIREMENTS
2. ALL UTILITY TRENCHES UNDER AND WITHIN TWO FEET OF PAVEMENT, SIDEWALK, CURB AND GUTTER, ETC. SHALL BE BACKFILLED WITH SCREENED GRAVEL CONFORMING TO ASTEM C33, STONE SIZE #67, COMPACTED IN 8" LIFTS TO 95% OF MODIFIED PROCTOR, PER ASTM D-1557.
3. UTILITY CONNECTIONS WITHIN THE STREET RIGHT OF WAY SHALL BE ACCOMPLISHED BY SAW CUTTING AND REMOVING EXISTING PAVEMENT. BACKFILL AND RESTORATION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STREET JURISDICTIONAL AUTHORITY.
4. THE UNDERGROUND CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, SHALL REMOVE AND DISPOSE OF OFFSITE ANY EXCESS DIRT OR MATERIALS.
5. "BAND/SEAL" OR SIMILAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPE OR DISSIMILAR MATERIALS.
6. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN WATER MAIN AND ANY SEWERS WHEN THEY ARE PARALLEL. WHENEVER A SEWER CROSSES A WATER MAIN, A MINIMUM VERTICAL DISTANCE OF 18 INCHES MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE PIPES, AND THE SEWER JOINTS ARRANGED SO THEY ARE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS.
7. ALL CAST AND DUCTILE IRON PIPE AND FITTINGS SHALL BE ENCASED IN A 8-MIL POLYETHYLENE TUBING. THE TUBING SHALL COMPLY WITH THE AMERICAN NATIONAL STANDARD FOR POLYETHYLENE ENCASEMENT FOR GRAY AND DUCTILE IRON PIPING AWS/AWWA C105/72/A21.5 OR AS REVISED. INSTALLATION PROCEDURES SHALL BE THOSE AS RECOMMENDED BY THE CAST IRON PIPE RESEARCH ASSOCIATION.
8. ALL MANHOLES, CATCH BASINS, INLETS AND VALVE VAULTS SHALL BE CONSTRUCTED OF REINFORCED PRECAST CONCRETE RING CONSTRUCTION WITH TONGUE AND GROOVE JOINTS IN CONFORMANCE WITH THE LATEST REVISION OF ASTM C-478. ALL STRUCTURE SECTIONS AND ADJUSTING RINGS SHALL BE SECURELY SEALED TO EACH OTHER AND TO CASTING USING RESILIENT FLEXIBLE NON-HARDENING PREFORMED BITUMINOUS MASTIC (REM-NEK OR APPROVED EQUAL) OR BUTYL RUBBER JOINT SEALER (EASY STICK OR APPROVED EQUAL). CONTRACTOR SHALL REMOVE EXCESS MASTIC INSIDE STRUCTURE AND BUTTER JOINTS WITH MORTAR. ALL STORM AND SANITARY STRUCTURES SHALL HAVE OFFSET CONES, EXCEPT WHERE HEIGHT RESTRICTIONS REQUIRE A REINFORCED CONCRETE FLAT TOP. VALVE VAULTS SHALL HAVE CONCENTRIC CONES. A MAXIMUM OF 2 PRECAST CONCRETE ADJUSTMENT RINGS LIMITED TO 8 INCHES TOTAL HEIGHT SHALL BE PERMITTED. MOLDED PLASTIC, REINFORCED, MANHOLE STEPS SHALL BE PROVIDED. CONTRACTOR SHALL ADJUST STRUCTURES TO FINISHED GRADE AS NEEDED.
10. SEE DETAIL SHEETS THIS SET FOR FURTHER INFORMATION REGARDING THE STORM, SANITARY AND WATERMAIN REQUIREMENTS, INCLUDING BUT NOT LIMITED TO BEDDING AND BACKFILL MATERIALS.

STANDARD SANITARY SEWER PROVISIONS:

1. ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER.
2. ALL DOWNSPOUTS, FOOTING DRAINS, AND OUTSIDE DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM OR TO GRADE.
3. SANITARY SEWER SHALL BE CONSTRUCTED OF ONE OR MORE OF THE FOLLOWING MATERIALS AS SPECIFIED ON THE PLANS:
   A. POLYVINYLCHLORIDE PLASTIC GRAVITY SEWER PIPE (PVC) SDR-35 (ASTM D-3034 WITH GASKETED JOINTS PER ASTM D-3212)
   B. DUCTILE IRON PIPE CLASS 52 (ANSI A21.51 WITH ANSI A21.11 JOINTS)
   C. ALL SANITARY PIPING SHALL BE INSTALLED ON CLASS "B" BEDDING
4. "BAND-SEAL" OR SIMILAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPE OF DISSIMILAR MATERIALS OR SIZES.
5. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS SHALL BE USED:
   A. CIRCULAR SAW-CUT OF THE SEWER MAIN BY PROPER TOOLS ("SEWER-TAP" MACHINE OR SIMILAR) AND PROPER INSTALLATION OF HUB-WYE SADDLE OR HUB-TEE SADDLE.
   B. REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH SECTION.
   C. WITH PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF PROPER FITTING, USING "BAND-SEAL" OR SIMILAR COUPLINGS TO HOLD IT FIRMLY IN PLACE.
   D. INSTALL A NEW MANHOLE.
6. SANITARY MANHOLES SHALL HAVE IN ADDITION TO THE GENERAL MANHOLE REQUIREMENTS:
   A. BASE AND BOTTOM SECTION SHALL BE MONOLITHICALLY CAST INCLUDING BENCHES, INVERTS AND FLOW LINES.
   B. PIPE CONNECTION OPENINGS SHALL BE PRECAST WITH RESILIENT RUBBER WATERTIGHT PIPE SLEEVES CONFORMING TO ASTM C-923.
   C. CHIMNEY SEAL OR APPROVED ALTERNATE AS REQUIRED BY MUNICIPALITY OR SANITARY DISTRICT.
   D. ALL SANITARY MANHOLES SHALL BE TESTED PER ASTM C-969 OR ASTM C-1244.
   E. SANITARY MANHOLES SHALL HAVE NEENAH R-1772 CASTINGS, WITH CONCEALED PICK HOLES, SELF-SEALING GASKET AND "SANITARY" CAST IN LID, OR APPROVED EQUAL.
9. ALL SEPTIC TANKS (IF ANY) BEING ABANDONED SHALL BE FILLED OR REMOVED. APPROVAL MUST BE OBTAINED FROM THE APPROPRIATE HEALTH DEPARTMENTS. ALL SEWER CONNECTIONS SHALL BE MADE UPSTREAM FROM THE TANK. CONTRACTORS SHALL OBTAIN ANY NECESSARY PERMITS FOR REMOVAL.
10. ALL SANITARY SEWERS SHALL BE TESTED PER MUNICIPAL STANDARDS IN KEEPING WITH ALL STATE AND MUNICIPALITY REQUIREMENTS. INFILTRATION SHALL NOT EXCEED 100 GALLONS/INCH DIAMETER/MILE/DAY.
11. ALL SANITARY SEWER MANHOLES SHALL BE INSPECTED AND TESTED PER MUNICIPAL STANARDS, IN CONFORMANCE WITH ASTM C-969 OR ASTM C-1244.
12. ALL FLEXIBLE (PVC) PIPE SHALL BE DEFLECTION TESTED PER MUNICIPAL AND/OR MANUFACTURER REQUIREMENTS.
13. ALL SANITARY SEWERS SHALL BE TELEVISED AND TESTED AS REQUIRED BY THE MUNICIPALITY. TWO (2) COPIES OF THE VIDEO(S) AND REPORT(S) SHALL BE SUBMITTED TO THE ENGINEER.

STANDARD WATER MAIN PROVISIONS

1. WATER MAIN AND SERVICES SHALL BE CONSTRUCTED OF ONE OR MORE OF THE FOLLOWING MATERIALS AS SPECIFIED ON THE PLANS:
   A. DUCTILE IRON PIPE CLASS 52 PER ANSI A 21.51 (AWWA C151), 150 PSI, CEMENT LINED PER ANSI A 21.4 (AWWA C104), WITH "PUSH ON" JOINTS.
   B. TYPE K, OR GREATER, COPPER WATER TUBE, CONFORMING TO ASTM B88 AND ASTM B251.
   C. POLYVINYLCHLORIDE PLASTIC PRESSURE PIPE, PER AWWA C-900, CLASS 150, WITH A DR OF 18, BLUE IN COLOR AND CLEARLY LABELED AS "WATER", BEAR THE NSF SEAL, WITH RUBBER COMPRESSION RING SEALS PER ASTM D-1869. PIPE INSTALLATION SHALL ALSO INCLUDE A 14-GAUGE UF TRACER WIRE WITH JOINT SEAL AND BLUE INSULATION.
2. FITTINGS TO BE FURNISHED AND INSTALLED AS NEEDED. FITTINGS FOR PIPE LARGER THAN 3 INCH DIAMETER SHALL SHALL BE MECHANICAL TYPE, IN ACCORDANCE WITH ANSI A21.10-03/AWWA C110 STANDARD AND HAVE A 250 PSI PRESSURE RATING. COMPACT FITTINGS IN ACCORDANCE WITH ANSI A21.53-00/AWWA C153, MAY ALSO BE USED. CAST AND DUCTILE IRON FITTINGS SHALL BE LINED, PER THE DUCTILE IRON PIPE SPECIFICATION ABOVE.
3. ALL JOINTS AT BENDS, TEES, OFFSETS, REDUCERS, ETC. SHALL HAVE MEGA-LUG 1100 MECHANICAL JOINT RESTRAINTS. THE LENGTH OF RUN AND BRANCH PIPING RESTRAINT SHALL BE IN ACCORDANCE WITH MANUFACTURERS GUIDELINES AND APPROVED PRIOR TO INSTALLATION.
4. ALL RUBBER GASKETS SHAL



ASPHALT PAVEMENT
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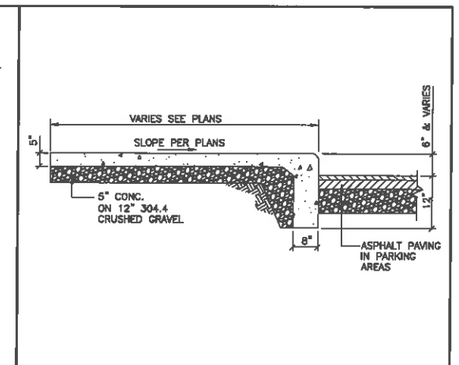

INTEGRAL SIDEWALK
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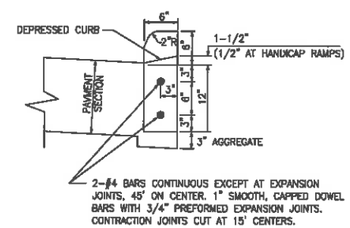

TYPE B6 BARRIER CURB

BARRIER CURB
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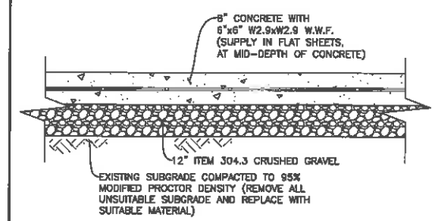

CONCRETE PAVEMENT
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No.	DATE	DESCRIPTION

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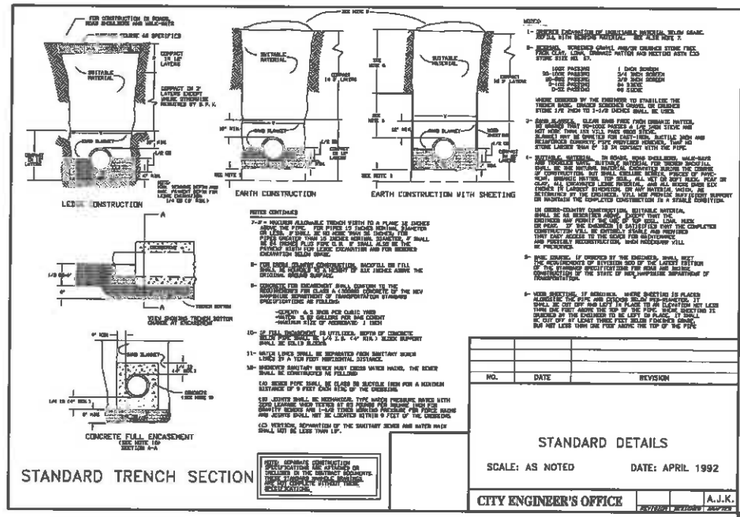
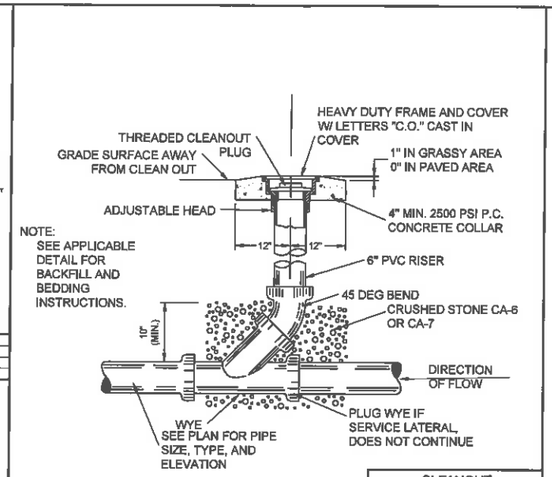
SHEET NAME
DETAILS

PROJECT NAME
GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

PROJECT No.
19.GMX.C08

SHEET No.
C7.0
OF 14 SHEETS





CLEANOUT
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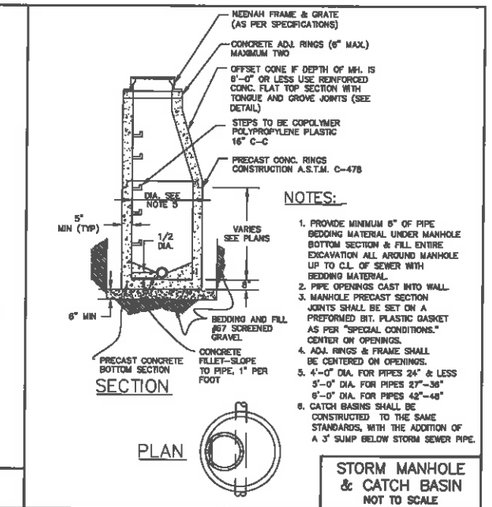
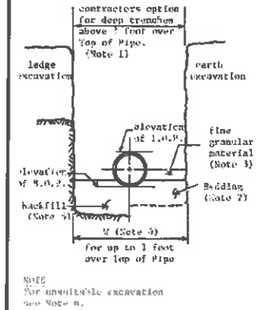


NOTES:

1. PROVIDE MINIMUM 6" OF PIPE BEDDING MATERIAL UNDER MANHOLE BOTTOM SECTION & FILL ENTIRE EXCAVATION ALL AROUND MANHOLE UP TO C.L. OF SEWER WITH BEDDING MATERIAL.
2. PIPE OPENINGS CAST INTO WALL.
3. MANHOLE PRECAST SECTION JOINTS SHALL BE SET ON A PREFORMED BIT. PLASTIC GASKET AS PER "SPECIAL CONDITIONS." CENTER ON OPENINGS.
4. ADJ. RINGS & FRAME SHALL BE CENTERED ON OPENINGS.
5. 4'-0" DIA. FOR PIPES 24" & LESS
   5'-0" DIA. FOR PIPES 27"-36"
   6'-0" DIA. FOR PIPES 42"-48"
6. CATCH BASINS SHALL BE CONSTRUCTED TO THE SAME STANDARDS, WITH THE ADDITION OF A 3' SUMP BELOW STORM SEWER PIPE.

STORM MANHOLE
& CATCH BASIN
NOT TO SCALE



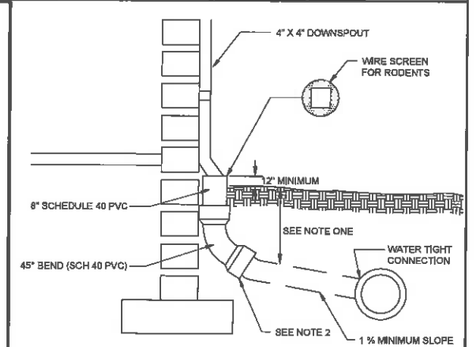
1. The width of trenches shall be held to a minimum consistent with the space required to permit satisfactory jointing and thorough tamping of the bedding material under and around the pipe. Trenches wider than 3 times the diameter of the pipe will not be permitted. If necessary shoring or sheeting shall be used to prevent overcutting at the level of the top of the pipe.
2. Bedding shall consist of carefully preparing and shaping a bed of fine granular material to fit the lower 15 percent of the external height of the pipe with a minimum of 4" under the bottom of the pipe. Recesses shall be excavated for the bells of the pipe.
3. Fine granular material shall be placed and compacted to mid-diameter.
4. Width limits shall be as follows:

Inside diameter	Total width
up to 12"	36"
12" to 24"	I.D. +24"
over 24"	2 x I.D.

5. Granular backfill or other approved material shall be used to backfill the spaces left by the excavation of ledge. The material shall be uniformly compacted by the use of light construction equipment and shaped as indicated in Note 2 or 3 above with a minimum of 8" under the elevation of the bottom of the pipe.
6. UNSUITABLE EXCAVATION
   Where soft or other unsuitable material is encountered, all of such unsuitable material, for the depth and width ordered, shall be removed and backfilled with granular or other approved material and shaped as indicated in note 2 or 3 above.

TRENCH DETAILS
FOR
DRAINAGE PIPE

B-1



1. FOR ALL DEPTHS OF COVER LESS THAN TWO (2) FEET. PIPE MUST BE SCHEDULE 40 PVC. FOR DEPTHS COVER GREATER THAN TWO (2) FEET, FLEXIBLE PIPE MAY BE USED. REFER TO SPECIFICATIONS FOR ALLOWABLE PIPE TYPES.
2. A WATERTIGHT CONNECTION SHALL BE MAINTAINED WITH ANY TRANSITION FROM SCHEDULE 40 PVC PIPE TO ANY OTHER PIPE TYPE.
3. THE DOWNSPOUT COLLECTOR DRAIN SHALL BE INSTALLED BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING. SITEWORK CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK TO AND INCLUDING THE RODENT SCREEN. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONNECTION AT THE POINT OF THE RODENT SCREEN.

DOWNSPOUT COLLECTOR
NOT TO SCALE

No.	DATE	DESCRIPTION
0	08/28/20	ISSUED FOR PERMIT

No.	DATE	DESCRIPTION

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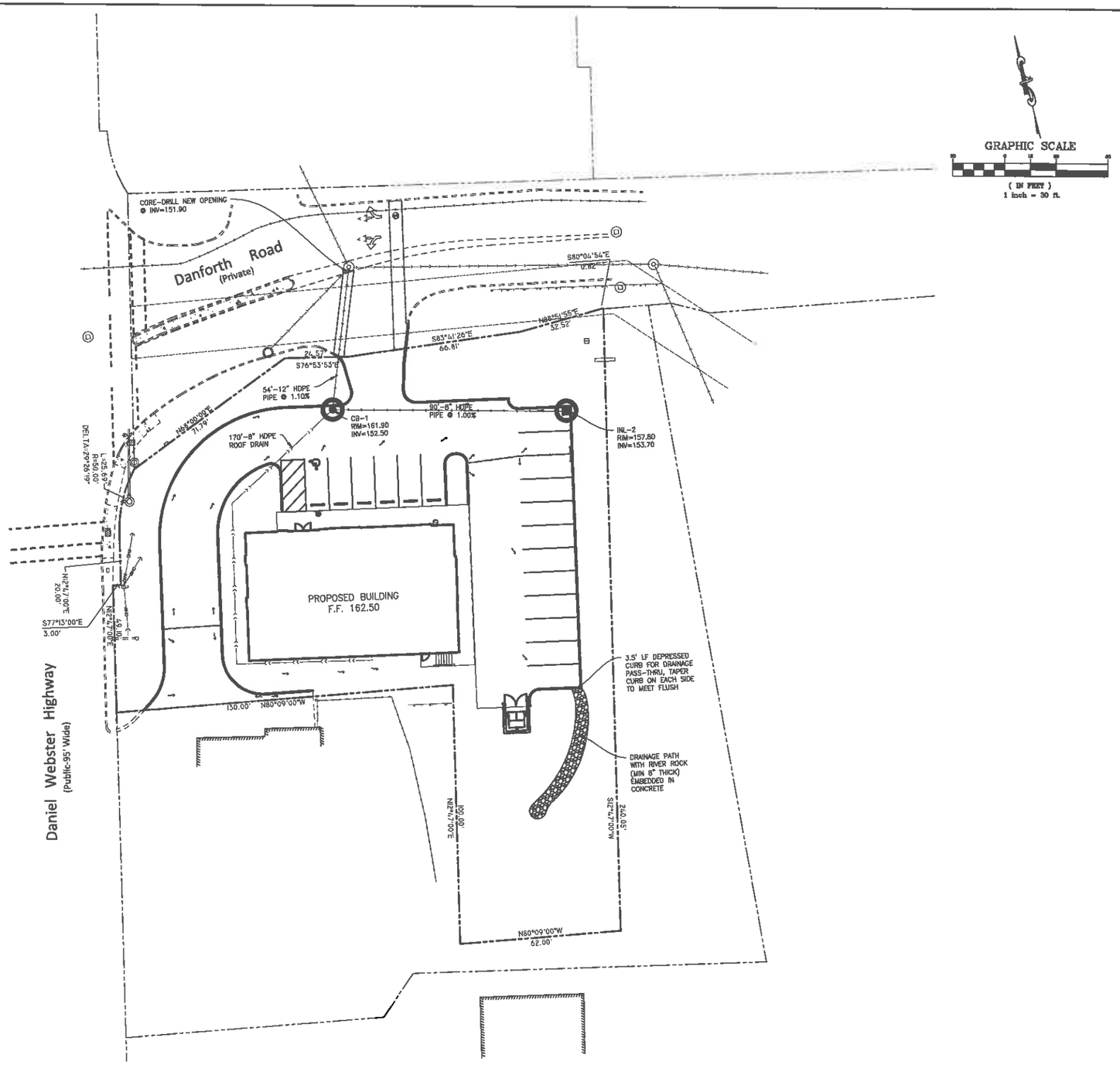
SHEET NAME: DETAILS

PROJECT NAME: GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

PROJECT No. 19.GMX.C08

SHEET No. C7.1
OF 14 SHEETS

User: emir.aslman File: J:\2019\19.GMX.C08 - GMX Nashua, NH\03 DESIGN DRAWINGS\02-SHEETS\C7.0 DETAILS.dwg Time: Aug 28, 2020 - 1:16pm



GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

O & P PRACTICES AND IMPLEMENTATION SCHEDULE:

INFORMATION IN THIS SECTION OUTLINES THE SPECIFIC INSPECTION AND MAINTENANCE REGIMEN FOR BMP AND MUST COMPLY WITH THE FOLLOWING:

1. O&M PLAN PROCEDURES AND PRACTICES MUST BE REVIEWED AND ASSESSED ANNUALLY.
2. THE CITY REQUIRES THAT PROPERTY OWNERS KEEP AN O&M INSPECTION AND MAINTENANCE LOGBOOK. IN GENERAL, THE LOGBOOK SHOULD NOTE ALL INSPECTION AND ANY MAINTENANCE PERFORMED AND REPAIRS MADE. ALL INSPECTIONS AND MAINTENANCE, BOTH ROUTINE AND EMERGENCY, SHOULD BE RECORDED IN THE LOGBOOK. EACH BMP-SPECIFIC O&M SHEET SHOULD SERVE AS A CHECKLIST FOR DESIGN ELEMENTS THAT REQUIRE INSPECTION, THE FREQUENCY OF INSPECTIONS, AND CONDITIONS THAT INDICATE THAT THE MAINTENANCE IS NEEDED. LOG BOOKS MUST BE PRODUCED UPON THE REQUEST OF CITY INSPECTOR.
3. DRAINAGE STRUCTURES AND FLOW RESTRICTORS MUST BE INSPECTED AND CLEANED SEMI-ANNUALLY.

DETENTION BASINS

1. MAINTENANCE BEGINS IMMEDIATELY AFTER EACH PLANT IS INSTALLED AND SHALL INCLUDE WATERING, NECESSARY CULTIVATION, WEEDING, PRUNING,, DISEASE AND INSECT PEST CONTROL, PROTECTIVE SPRAYING, RESETTING OF PLANTS TO PROPER GRADES OR UPRIGHT POSITION, RESTORATION OF DAMAGED PLANTING SAUCERS, AND ANY OTHER PROCEDURE CONSISTENT WITH GOOD HORTICULTURAL PRACTICE NECESSARY TO ENSURE NORMAL, VIGOROUS, AND HEALTHY GROWTH OF WORK.

RESTRICTOR CATCH BASIN STRUCTURE

1. ONCE A MONTH AND AFTER EVERY SIGNIFICANT RAINFALL
   1.1. INSPECT THE INLET AND OUTLET AREAS AND CLEAN MATERIALS TRAPPED ON GRATES PROTECTING CATCH BASINS AND INLETS AREA.
2. AS NEEDED GOING
   2.1. ROUTE SWEEPING AND CLEANING OF IMPERVIOUS DRAINAGE AREAS WILL REDUCE FLOATABLES AND SEDIMENT LOADING TO UNDERGROUND STORMWATER STORAGE.
   2.2. ANY STRUCTURAL REPAIRS REQUIRED TO INLET AND OUTLET AREAS.
3. AT LEAST TWICE PER YEAR
   3.1. REMOVAL OF FLOATABLES AND ACCUMULATING SEDIMENTS WITHIN THE RESTRICTOR CATCH BASIN. SEDIMENTS ARE BEST REMOVED MECHANICALLY RATHER THAN FLUSHING. IF FLUSHING IS THE ONLY OPTION THEN GREAT CARE MUST BE TAKEN NOT TO FLUSH SEDIMENTS DOWNSTREAM INTO NATIVE WATERS.

O & M PLAN/SITE MAP:

THE SITE MAP OUTLINES THE LOCATION OF ALL BMPs AND DOCUMENTS THE FOLLOWING:

1. STORMWATER RUNOFF FLOW DIRECTION.
2. OPEN GRATE STRUCTURES (CATCH BASIN, INLETS AND MANHOLE) TO BE PROPERLY MAINTAINED.

OWNER INFORMATION:

THE PEOPLE REPRESENTED BELOW ARE INVOLVED WITH AND RESPONSIBLE FOR THE OPERATIONS AND MAINTENANCE (O&M) OF THE STOEMWATER DETENTION FACILITIES AS OUTLINED HEREIN.

1. PROPERTY OWNER LISTED BELOW SHALL BE RESPONSIBLE FOR OVERSEEING AND ENSURING PROPERTY O&M IS CARRIED OUT AND PERFORMED AS DOCUMENTED HEREIN.

CONTACT:

No.	DATE	DESCRIPTION
0	08/28/20	ISSUED FOR PERMIT

No.	DATE	DESCRIPTION

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860 E. Algonquin Road
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Schaumburg, IL 60173
Tel: (847) 780-4160
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Design Firm: 184008774-0002

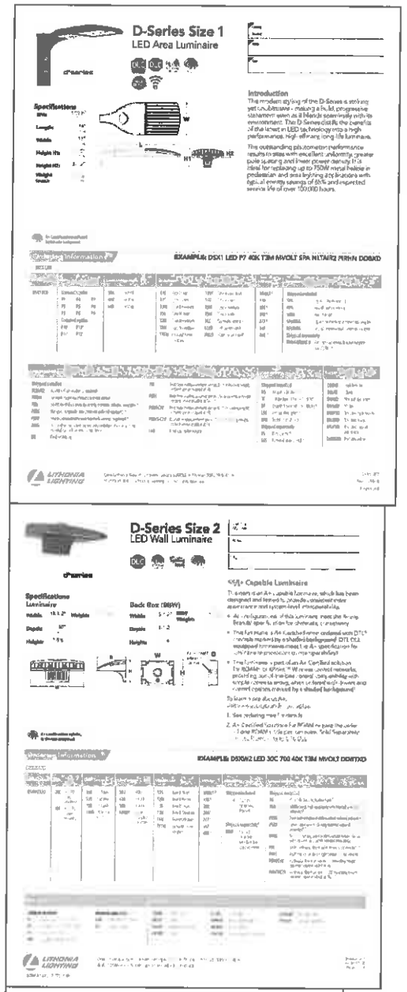
SHEET NAME
OPERATION AND MAINTENANCE PLAN

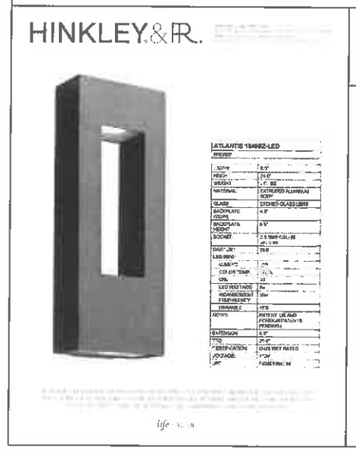
PROJECT NAME
GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

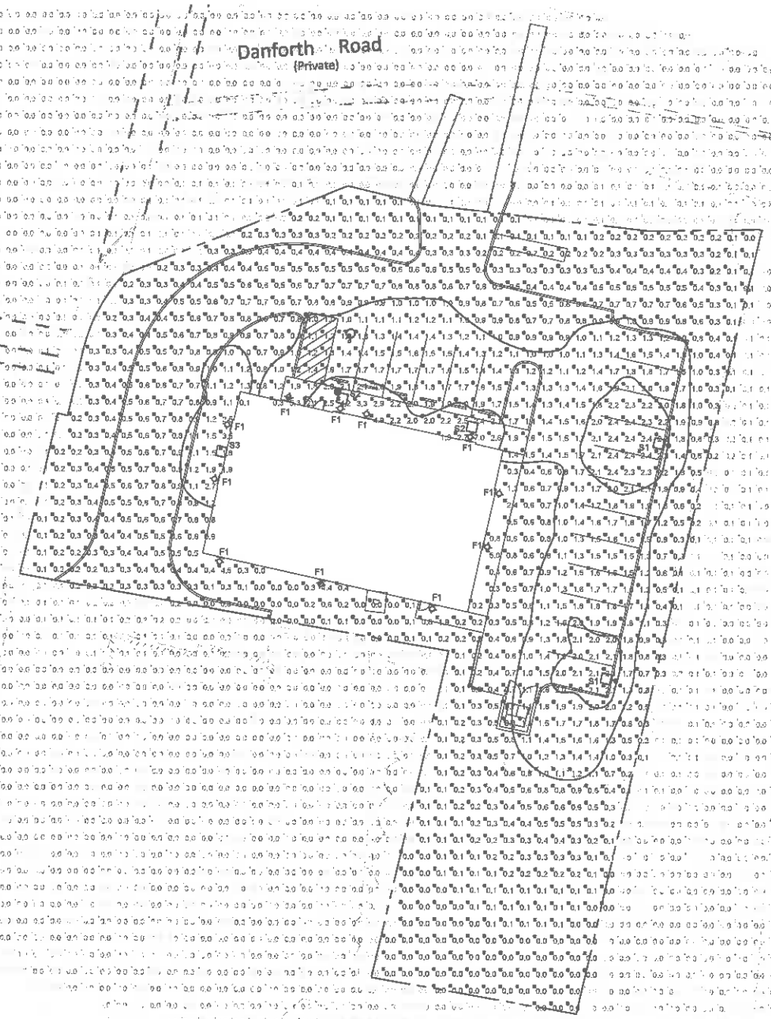
PROJECT No.
19.GMX.C08

SHEET No.
C8.0
OF 14 SHEETS

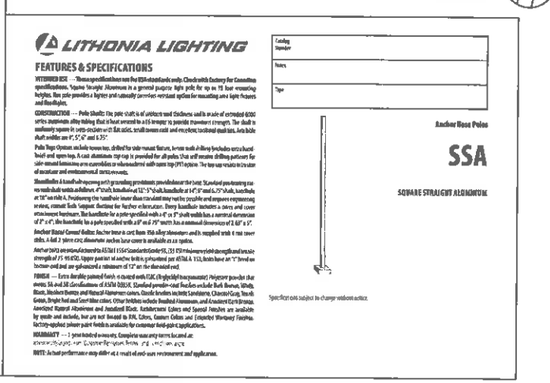
User: omir.sollmen File: J:\2019\19.GMX.C08 - GMX Nashua, NH\08 DESIGN DRAWINGS\02-SHEETS\C8.0 O&M PLAN.dwg Time: Aug 28, 2020 - 1:16pm







1 PHOTOMETRIC – SITE PLAN
1"= 20'-0"
ELECTRICAL

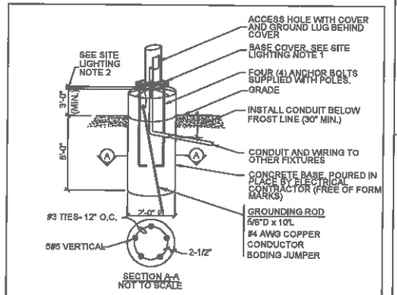


GENERAL NOTES

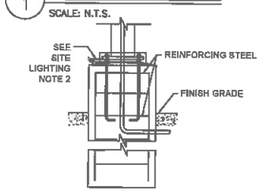
1. ALL EXTERIOR LIGHTING, WHETHER FREE-STANDING OR MOUNTED ON A STRUCTURE, SHALL BE FULL-CUTOFF.
2. THE TOWNSHIP RESERVES THE RIGHT TO CONDUCT A POST-INSTALLATION NIGHT TIME INSPECTION TO VERIFY COMPLIANCE WITH TOWNSHIP LIGHTING STANDARDS. IF SAID INSPECTION REVEALS A VIOLATION OF SAID STANDARDS, THE TOWNSHIP SHALL DIRECT CORRECTIVE ACTION, WHICH SHALL BE EXECUTED BY THE PROPERTY OWNER AT NO EXPENSE TO THE TOWNSHIP.
3. POST-APPROVAL ALTERATIONS TO LIGHTING PLANS OR SUBSTITUTIONS FOR APPROVED LIGHTING EQUIPMENT SHALL BE SUBMITTED TO THE TOWNSHIP FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION OR INSTALLATION.
4. EXTERIOR LIGHT FIXTURE CONTROLLED VIA ELECTRONIC ASTRONOMIC TIME CLOCK WITH OVERRIDE PHOTOCELL.
5. CALCULATIONS ARE BASED ON FIXTURE TYPE SCHEDULED. IF FIXTURE OTHER THAN THOSE SPECIFIED IS PROVIDED THE MANUFACTURER SHALL PROVIDE A DETAILED POINT BY POINT CALCULATION TO VERIFY COMPLIANCE WITH LOCAL STREET LIGHTING GUIDELINES.
6. INFORMATION CONCERNING EXISTING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR DETERMINES THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND UTILITY CROSSING BY DIGGING TEST PITS BY HAND, WELL IN ADVANCE OF THE START OF EXCAVATION. CONTACT "EVERSOURCE" AT 603-882-5884, 48 HOURS PRIOR TO THE START OF EXCAVATION. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE UTILITY COMPANY BEFORE PROCEEDING WITH CONSTRUCTION. CLEARANCES LESS THAT NOTED MAY REQUIRE REVISIONS TO THIS PLAN.

SITE AREA STATISTICS (WITH LLF=0.90)

Description	Avg	Max	Min	Max/Min	Avg/Min
ALL PROPERTY	0.8fc	7.0fc	0.0fc	N/A	N/A
PARKING & DRIVE	1.2fc	2.4fc	0.2fc	12.0:1	6.0:1
PARKING - NORTH	1.6fc	2.4fc	1.0fc	2.4:1	1.6:1
PARKING - EAST	1.6fc	2.4fc	1.2fc	2.0:1	1.3:1



1 LIGHTING POLE BASE DETAIL
SCALE: N.T.S.



2 ENLARGE CROW DETAIL
SCALE: N.T.S.

LIGHTING FIXTURE SCHEDULE

SYMBOL	FIXTURE: INCAND.	FIXTURE: FLUOR.	FIXTURE: H.I.D.	FIXTURE: L.E.D.	VOLTS	LAMPS: #	LAMPS: WATT	LAMPS: LUMENS	MOUNTING: POLE	MOUNTING: WALL	MOUNTING: HT. (FT)	DESCRIPTION & VARIATIONS	MANUFACTURER & CATALOG # OR APPROVED EQUAL
F1				L	120V		6W	250 LUMENS		W	10FT	ARCHITECTURAL LED WALL MOUNTED LIGHT FIXTURE, WET LOCATION.	HINKLEY LIGHTING: ATLANTIS 1849BZ-LED
S1				L	120V 277V		70W	8240 LUMENS	P		23FT	POLE MOUNTED 23' HIGH (INCLUDING 3' BASE) WITH 1 HEAD. HOUSE SHIELD	LITHONIA LIGHTING: DSX1 LED P2 30K T2M MVOLT HS
S2				L	120V 277V		47W	5080 LUMENS		W	18FT	WALL MOUNTED 18' HIGH	LITHONIA LIGHTING: DSXW2 LED 20C 700 30K T4M MVOLT
S3				L	120V 277V		36W	3990 LUMENS		W	18FT	WALL MOUNTED 18' HIGH	LITHONIA LIGHTING: DSXW2 LED 20C 530 30K T4M MVOLT

LIGHTING NOTES

1. PROVIDE CROWN ON TOP OF CONCRETE BASE TO COMPLETELY SHED WATER.
2. 1/2" (MIN) AIRGAP SPACE BETWEEN TOP OF CONCRETE CROWN AND BOTTOM OF POLE BASE PLATE FOR VENTILATION.
3. LOCATE LUMINAIRE ON THE DRAWING; AND VERIFY LUMINAIRE CATALOG NUMBER, POSITION OF LAMP SOCKET AND DIRECTION.
4. PRIOR TO LUMINAIRE INSTALLATION, VERIFY THAT THE LUMINAIRE CATALOG NUMBER MATCHES THE CATALOG NUMBER SHOWN ON THE DRAWING.
5. CONTRACTOR SHALL CONFIRM THE MANUFACTURER STANDARD COLOR FOR THE POLE AND FIXTURE WITH THE ARCHITECT.
6. CONTRACTOR SHALL CONFIRM THE LIGHT POLE BASE BOLT PATTERN/ LAYOUT PRIOR TO INSTALLATION OF THE CONCRETE BASE.

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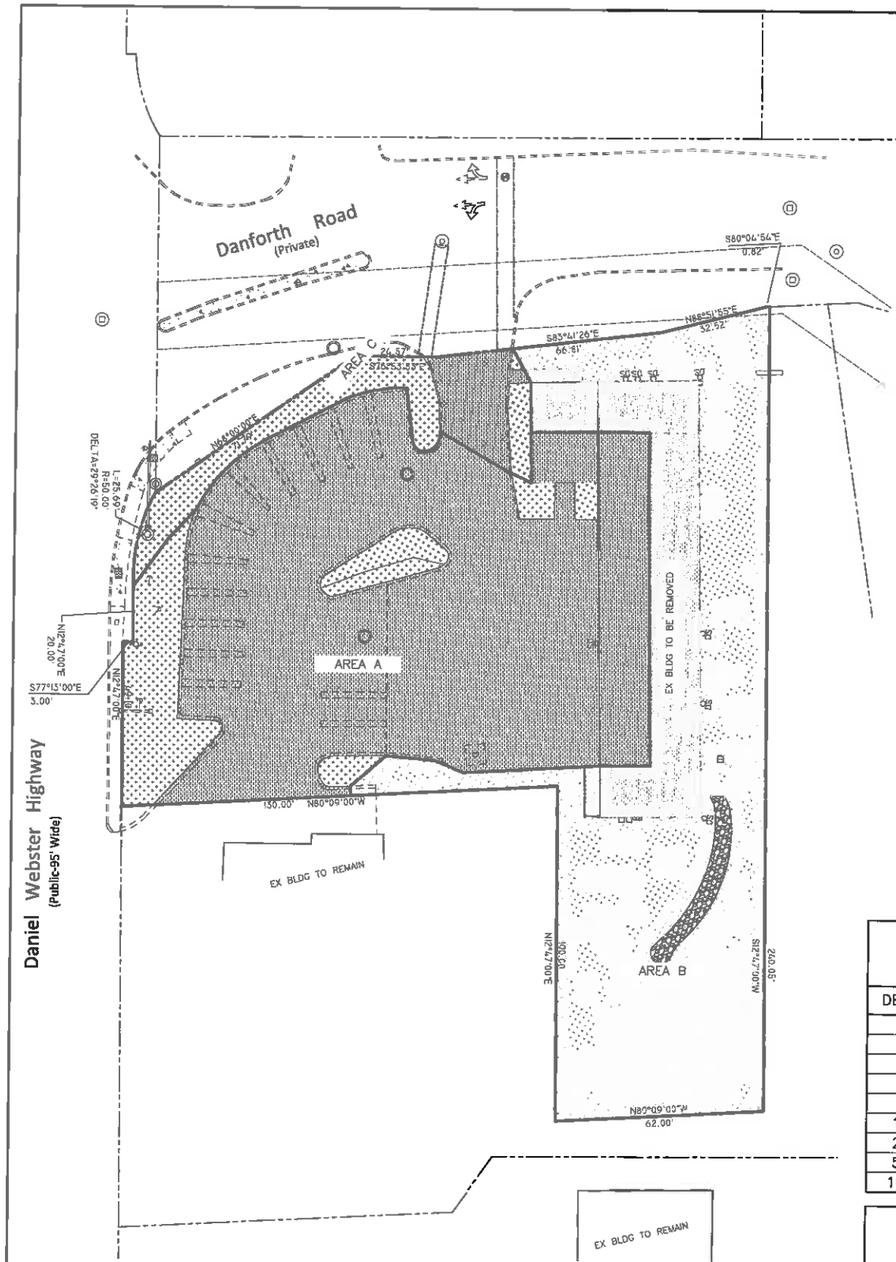
SHEET NAME
PHOTOMETRIC PLAN

PROJECT NAME
GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

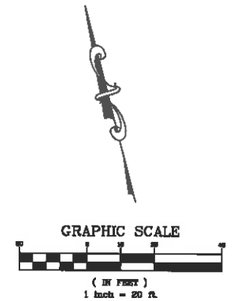
PROJECT No.
19.GMX.C08

SHEET No.
ES1.0
OF 14 SHEETS

Users: amir-aslimen File: J:\2019\19-GMX.C08 - GMX Nashua, NH\09 DESIGN DRAWINGS\08-MSP\04 ELEC\ELECTRICAL- SITE-19-GMX.C08.dwg Time: Aug 26, 2020 - 1:16pm

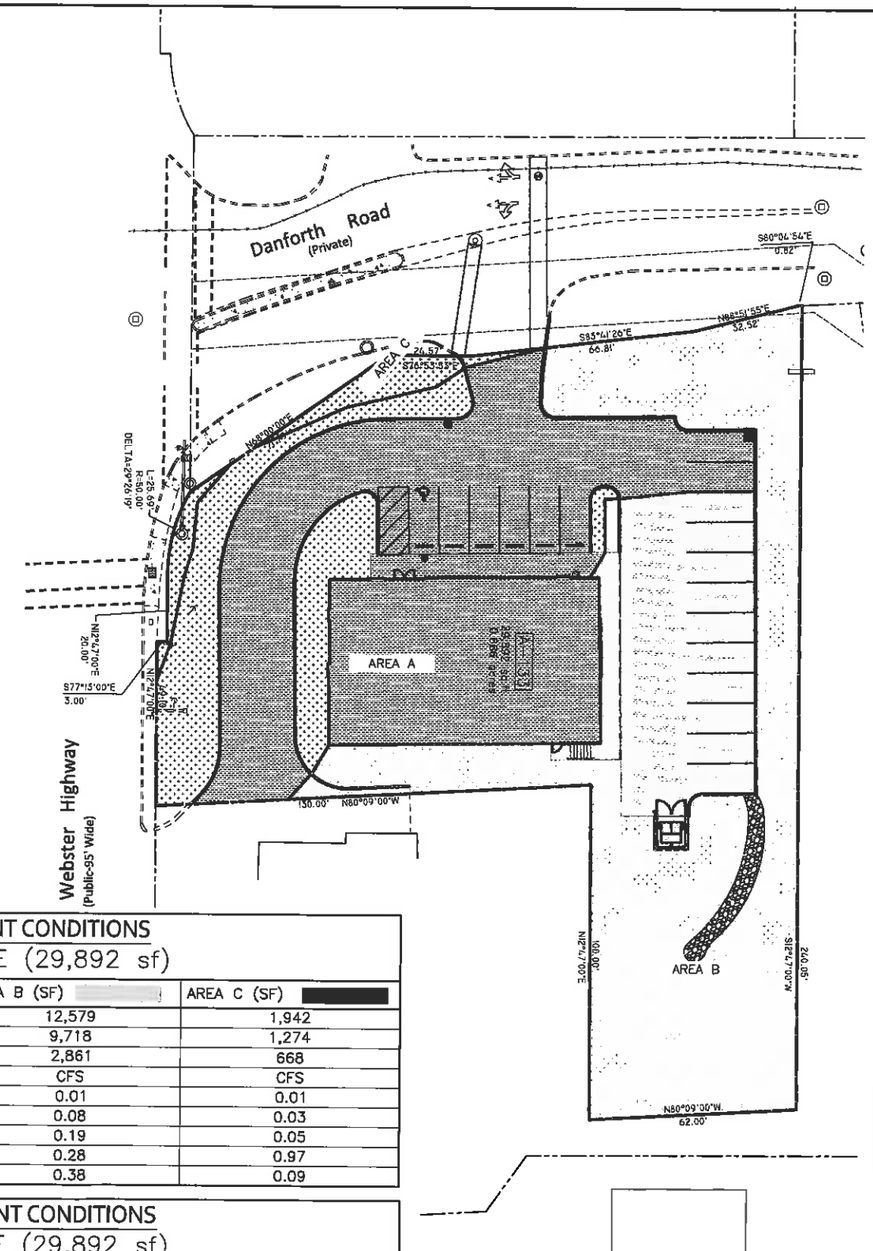


PREDEVELOPMENT CONDITIONS



LEGEND

- PERVIOUS AREA
- IMPERVIOUS AREA
- DRAINAGE AREA
- PROPERTY LINE



POSTDEVELOPMENT CONDITIONS

PREDEVELOPMENT CONDITIONS
DRAINAGE TABLE (29,892 sf)

DESCRIPTION/AREA	AREA A (SF)	AREA B (SF)	AREA C (SF)
TOTAL	15,371	12,579	1,942
PERVIOUS	2,078	9,718	1,274
IMPERVIOUS	13,293	2,861	668
	CFS	CFS	CFS
2-YR RUNOFF	0.70	0.01	0.01
10-YR RUNOFF	1.12	0.08	0.03
25-YR RUNOFF	1.40	0.19	0.05
50-YR RUNOFF	1.59	0.28	0.97
100-YR RUNOFF	1.78	0.38	0.09

POSTDEVELOPMENT CONDITIONS
DRAINAGE TABLE (29,892 sf)

DESCRIPTION/AREA	AREA A (SF)	AREA B (SF)	AREA C (SF)
TOTAL	14,322	14,854	716
PERVIOUS	3,000	10394	716
IMPERVIOUS	11,322	4,460	0
	CFS	CFS	CFS
2-YR RUNOFF	0.55	0.01 reduced to 0.00	0.00
10-YR RUNOFF	0.93	0.03 reduced to 0.00	0.00
25-YR RUNOFF	1.20	0.36 reduced to 0.00	0.00
50-YR RUNOFF	1.38	0.48 reduced to 0.00	0.00
100-YR RUNOFF	1.55	0.62 reduced to 0.00	0.00

AREA B RUNOFF REDUCED TO ZERO THROUGH RECHARGE IN THE SOUTH INFILTRATION BASIN

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No.	DATE	DESCRIPTION

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SHEET NAME: DRAINAGE PLAN

PROJECT NAME: GMX NASHUA
278 DANIEL WEBSTER HWY NASHUA,NH

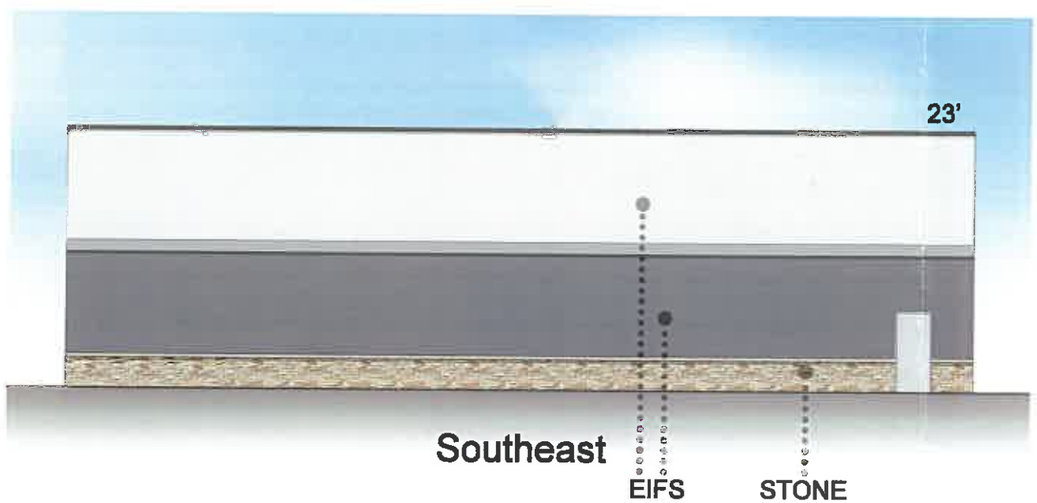
PROJECT No. 19.GMX.C08

SHEET No. X1.0
OF 14 SHEETS

User: amir.salmon File: J:\2019\19.GMX.C08 - GMX Nashua, NH\08 DESIGN DRAWINGS\02-SHEETS\DRAINAGE PLAN.dwg Time: Aug 26, 2020 - 1:17pm

Northwest

Northeast



Southeast

Southwest

JTS Architects