LETTER OF TRANSMITTAL

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects

48 Constitution Drive
Bedford, NH 03110
Phone: (603) 472-4488
Fax: (603) 472-9747

☒ Standard Mail ☐ 2nd Day ☐ Overnight ☒ Electronic ☐ Hand Carry ☐ To Be Picked Up

DATE	5/24/2022	JOB NO.	17752-01
ATTENTION	Jane Beaulieu, Piscataquog River LAC Chair		
RE:	Greggs Substation Rebuild		
	NHDES AoT App – Project Notification		
	39 Mast Road, Goffstown, NH 03045		
	Tax Map 5, Lot 15		

TO: Piscataquog River LAC
609 South Main Street
Manchester, NH 03102

PHONE:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☒ Prints ☒ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐

COPIES	DATE	NO.	DESCRIPTION
1	5/20/22	-	Cover Letter & Project Narrative
1	5/20/22	16	Site Plans (Full Size)
1	5/20/22	-	Stormwater Management Report (Parts 1 & 2)
1	-	-	Electronic PDF (submitted via email to houligan@comcast.net)

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☒ For review and comment ☐
☐ FOR BIDS DUE _____ 20 ___ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS:

Please see attached materials associated with a NHDES AoT Permit per Env-Wq 1503-05(e). Should there be any comments/questions please contact Nick Golon (603) 472-4488 or Jeremy Belanger at (603) 491-3362.

COPY: _____ SIGNED: _____

If enclosures are not as noted, kindly notify us at once.

Nicholas Golon, P.E., Principal

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

May 24, 2022

Jane Beaulieu, Chair
Piscataquog River Local Advisory Committee
609 South Main Street
Manchester, NH 03102

Re: NHDES AoT Application – Project Notification
Greggs Substation Rebuild
39 Mast Road, Goffstown, NH
Tax Map 5, Lot 15

Dear Jane:

On behalf of our Client, Public Service Company of NH (DBA Eversource Energy), please find a complete Site Plan Application package for the proposed rebuild of the existing Eversource Energy Greggs Substation, including phased utility pole relocations. The property is located at 39 Mast Road and is within the Agricultural (A) Zoning District. It is bordered by Glen Lake to the north, Greggs Falls to the east, Goffstown Physical Therapy, Goffstown Rail Trail and baseball fields to the south. Undeveloped State land, which includes an existing utility ROW, is located immediately to the west and a residential condominium project is under construction further west and south of this undeveloped State land.

To improve system reliability and replace existing aged infrastructure, Eversource is proposing to rebuild the Gregg's substation directly adjacent to the existing substation which was built in the 1940's. Access to the rebuilt substation is provided via the existing driveway on Mast Road, which would not be altered. Additional site improvements for circulation around the rebuilt substation will be incorporated as will areas dedicated for a proposed water well, septic field, and stormwater management for conveyance, treatment and attenuation of site stormwater runoff.

Relative to operations of the facility and traffic, no additional vehicle trips are anticipated once construction in complete, as access to the site will be limited to routine maintenance and emergency access as necessary to ensure reliable energy transmission service to the public.

Once the new substation is constructed within an area currently defined by pole storage and existing utility structures, the existing electrical equipment associated within the prior substation will be decommissioned and removed from the site. Relative to the ultimate reuse of the existing decommissioned substation yard, Eversource's intention is to reuse this area for pole storage, which will offset the area lost by the rebuilt substation. In that Eversource cannot confirm at this time the limits of fence and gravel areas to remain for said use, as this is under consideration by their facilities group, we would respectfully request the Board consider a condition of approval that states within 2-years of a site plan approval for the proposed substation rebuild, Eversource shall provide the proposed layout of the pole yard, and that it be permitted accordingly with the Town. As stated in our prior correspondence, it is our expectation that the total project timeline for phased pole relocation, substation construction, and substation decommissioning will take approximately 3-years. As such, a condition as suggested would allow the project to move forward in a timely manner to best service the public's electrical infrastructure needs, but also accommodate the Town's need to have a date certain for how the area will be used, and the opportunity to impose conditions on its use as appropriate consistent with the regulations of the Town.

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Please note zoning relief relative to the proximity of utility service structures within 50-feet of a property line (section 5.16.1) as well as relief for an alternative landscape buffer due to limitations imposed by overhead line construction (section 5.16.2) was approved by the Goffstown ZBA on Tuesday, May 3, 2022.

Additional permit needs beyond the Town ZBA authorization and proposed Site Plan Approval consist of a Conditional Use Permit to allow construction within the Wetland and Surface Water Conservation (WSWC) district associated with Glenn Lake, a New Hampshire Department of Environmental Services (NHDES) Alteration of Terrain (AoT) Permit, NHDES Shoreland Permit, a NHDES Subsurface Effluent Disposal Permit, and a New Hampshire Department of Transportation (NHDOT) Driveway Permit.

Should there be any questions or concerns regarding this submittal or the project in general please do not hesitate to contact the undersigned at (603) 472-4488 or ngolon@tfmoran.com.

Sincerely,
TFMoran, Inc.

Nicholas Golon, P.E.
Principal

48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

GREGGS SUBSTATION REBUILD

39 MAST ROAD
GOFFSTOWN, NEW HAMPSHIRE

GENERAL INFORMATION

OWNER
TAX MAP 233 LOT 2
PUBLIC SERVICE CO OF NH
(DBA EVERSOURCE ENERGY)
PO BOX 270
HARTFORD, CT 06141-0270

APPLICANT/PREPARED FOR
PUBLIC SERVICE CO OF NH
(DBA EVERSOURCE ENERGY)
C/O KURT NELSON
13 LEGENDS DRIVE
HOOKSETT, NH 03106

RESOURCE LIST
GOFFSTOWN PLANNING DEPT.
16 MAIN STREET
GOFFSTOWN, NH
(603) 497-8990
JO ANN DUFFY, PLANNING & ECONOMIC DEVELOPMENT DIRECTOR

GOFFSTOWN ZONING DEPT.
16 MAIN STREET
GOFFSTOWN, NH
(603) 497-8990
NANCY LARSON, ZONING CODE ENFORCEMENT OFFICER

GOFFSTOWN BUILDING DEPT.
16 MAIN STREET
GOFFSTOWN, NH
(603) 497-8990
MARC TERRIER, BUILDING INSPECTOR & HEALTH OFFICER

GOFFSTOWN PUBLIC WORKS
404 ELM STREET
GOFFSTOWN, NH
(603) 497-3617

GOFFSTOWN POLICE DEPT.
326 MAST ROAD
GOFFSTOWN, NH
(603) 497-4858

GOFFSTOWN FIRE DEPT.
18 CHURCH STREET
GOFFSTOWN, NH 03045
(603) 497-3619

GRASMERE VILLAGE WATER PRECINCT.
PO BOX 689
183 NO. MAST ROAD
GOFFSTOWN, NH 03045
(603) 497-3619

ASSOCIATED PROFESSIONALS
CIVIL ENGINEER
TFMORAN, INC.
48 CONSTITUTION DRIVE
BEDFORD, NH 03110
603-472-4488
NICHOLAS GOLON, PE, PRINCIPAL

GEOTECHNICAL SERVICES
S.W.COLE ENGINEERING, INC.
13 DELTA DRIVE #8
LONDONDERRY, NH 03053
CHAD MICHAUD, PE, SENIOR GEOTECHNICAL ENGINEER

ABUTTERS
TAX MAP 5 LOT 15-2
GREGG FALLS HYDRO ASSOCIATES
C/O EAGLE CREEK RENEW ENERGY
NESHKORO, NH 54960

TAX MAP 5 LOTS 15-4 & 59A
TAX MAP 19 LOT 47-5
TOWN OF GOFFSTOWN
16 MAIN STREET
GOFFSTOWN, NH 03045

TAX MAP 5 LOT 15-5
STATE OF NEW HAMPSHIRE
STATE HOUSE
MAST ROAD
CONCORD, NH 03301

TAX MAP 5 LOT 58
CHOQUETTE, MICHAEL G & JUNE M
77 MAST ROAD
GOFFSTOWN, NH 03045

TAX MAP 5 LOT 59
46-48 MAST RD REALTY LLC
PO BOX 545
GOFFSTOWN, NH 03045

VICINITY PLAN

HORIZONTAL SCALE 1"=500'
500 250 0 500

INDEX OF SHEETS

SHEET	SHEET TITLE
09539900	COVER SHEET
09539901	NOTES & LEGEND
09539902	NOTES
09539903	EXISTING CONDITIONS PLAN
09539904	SITE PREPARATION PLAN
09539905	OVERALL SITE LAYOUT PLAN
09539906	SITE LAYOUT PLAN
09539907	GRADING & DRAINAGE PLAN
09539908	UTILITY PLAN
09539909	STORMWATER MANAGEMENT PLAN
09539910	LANDSCAPE PLAN
09539911 TO 09539913	DETAILS
09539914	EFFLUENT DISPOSAL SYSTEM DESIGN PLAN
REFERENCE PLANS BY ASSOCIATED PROFESSIONALS	
A-01	PRELIMINARY ARCHITECTURAL ELEVATION

PERMITS/APPROVALS

	NUMBER	APPROVED	EXPIRES
GOFFSTOWN PLANNING BOARD SITE PLAN REVIEW			
NHDES ALT. OF TERRAIN			
NHDES SHORELAND			
NHDES SEPTIC			
NHDOT DRIVEWAY			

VARIANCES

THE FOLLOWING VARIANCES FROM THE TOWN OF GOFFSTOWN ZONING ORDINANCE WERE GRANTED BY THE ZONING BOARD OF ADJUSTMENT ON MAY 3, 2022:

1. ARTICLE 5.16.1 – UTILITY STRUCTURE SETBACK
TO PERMIT UTILITY SERVICE STRUCTURES TO BE LOCATED 2-FT AND 12-FT FROM THE PROPERTY LINE WHERE 50-FT IS REQUIRED

2. ARTICLE 5.16.2 – SCREENING
TO PERMIT AN 8-FT HIGH FENCE WITH 1-FT BARB WIRE ARM AT THE EXISTING AND PROPOSED SUBSTATION WHERE A SAFETY FENCE OF NOT LESS THAN 6-FT HIGH WITH LANDSCAPE SCREENING OF AT LEAST 75% OPAQUENESS IS REQUIRED

WAIVERS

THE FOLLOWING WAIVERS FROM THE TOWN OF GOFFSTOWN DEVELOPMENTS REGULATIONS ARE REQUESTED FROM THE PLANNING BOARD:

1. APPENDIX F, SECTION 2, ITEMS 2, 3, & 4
TO PERMIT AN ALTERNATIVE LANDSCAPE DESIGN

CONDITIONAL USE PERMIT

THE FOLLOWING CONDITIONAL USE PERMIT FROM THE TOWN OF GOFFSTOWN ZONING ORDINANCE IS REQUESTED FROM THE ZONING BOARD OF ADJUSTMENT:

1. ARTICLE 13.3.7.1: USE IN THE WETLAND AND SURFACE WATER CONSERVATION (WSWC) DISTRICT
TO PERMIT CONSTRUCTION AND REPLACEMENT OF POWER LINES WITHIN THE WSWC DISTRICT

This Site Plan is approved in accordance with the Town of Goffstown Development Regulations.

Date: _____

Signed: _____

STATE OF NEW HAMPSHIRE – NICHOLAS C. GOLON No. 14086 – LICENSED PROFESSIONAL ENGINEER – 5/19/22

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com
TFM Proj: 17752-01

CONTRACT SERVICES

REV.	DESCRIPTION	ENG/PE#	DATE	DRN	CHKD	APPR
B	DETAILED DESIGN	–	5/20/22	PH	NG	NG
A	PRELIMINARY DESIGN	–	4/8/22	PH	NG	NG

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

COVER SHEET

EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T	#
DRAWN	NC
ENGINEER	JB
CHECKED	NG
APPROVED	NG
DATE	4/8/22
SCALE	AS NOTED
FILE:	17752-01 COVER & DETAILS.DWG
IMAGE:	
DRAWING NO.	09539900

EVERSOURCE VER: 04/2015

5/20/2022 12:04 PM – jbelanger – F:\TFM Projects\17752 Eversource Gregg Substation\17752-01 Greggs Substation Expansion\17752-01 CSD\PRODUCTION\17752-01 Cover & Details.dwg – COVER

LEGEND

PROPOSED	
	PROPERTY LINE
	ZONING LINE
	EASEMENT
	BASELINE
	FLOODPLAIN
	EDGE OF WATERBODY
	EDGE OF WETLAND
	SETBACK (WETLAND)
	SETBACK (STRUCTURE)
	SETBACK (PARKING)
	SETBACK (LANDSCAPE)
	GRAVEL ROAD
EOP	EDGE OF PAVEMENT
VGC	VERTICAL GRANITE CURB
SGC	SLOPED GRANITE CURB
CC	CONCRETE CURB
ICC	INTEGRATED CONCRETE CURB
BIT	BITUMINOUS ASPHALT CURB
CCB	CAPE COD BERM
	SAWCUT
	BUILDING
	BUILDING ROOF OVERHANG
	BUILDING FOUNDATION
	BUILDING ENTRANCE
	OVERHEAD DOOR
	TREE LINE
	FENCE (CHAIN LINK)
X X	FENCE (WIRE)
	FENCE (STOCKADE)
	GUARDRAIL
	STONE WALL
	RETAINING WALL
X X X	SILT FENCE
SS SS SS	SILT SOCK
	SOIL BOUNDARY
	LIMIT OF GRADING
XXX	CONTOUR
TC100.50 BC100.00 OR XX00.00	SPOT GRADE
##	PARKING COUNT
DSLY	YELLOW DOUBLE SOLID LINE
SSLY	YELLOW SINGLE SOLID LINE
SSLW	WHITE SINGLE SOLID LINE
SBLW	WHITE SINGLE BROKEN LINE
STOP	STOP BAR
	CROSSWALK
	ACCESSIBLE PARKING SYMBOL
	PAVEMENT ARROW
	TRAFFIC FLOW ARROW (NOT PAINTED)
	SIGN (SINGLE POST)
	SIGN (DOUBLE POST)
	SIGN (PYLON)
	SIGN (MONUMENT)
	BOLLARD
D	DUMPSTER PAD

PROPOSED	
	CONCRETE
	GRAVEL
	HEAVY DUTY PAVEMENT
	CONSTRUCTION ENTRANCE
	SNOW STORAGE
	RIPRAP
	INLET PROTECTION
	DRAIN LINE
	DRAINAGE SWALE
	STORMWATER BMP
S	SEWER LINE
FM	SEWER FORCE MAIN LINE
W	WATER LINE
G	GAS LINE
OHE	OVERHEAD UTILITY LINE
UGE	UNDERGROUND UTILITY LINE
	CATCH BASIN
	DRAIN INLET
	OUTLET CONTROL STRUCTURE
	ROOF DRAIN
	DRAIN CLEANOUT
	DRAIN MANHOLE
	FARED END SECTION
	SEWER CLEAN OUT
	SEWER MANHOLE
	SEWER VENT
	DRAIN/SEWER/WATER PLUG OR CAP
	HYDRANT
	FIRE DEPARTMENT CONNECTION
	WATER GATE VALVE
	WATER SHUTOFF
	THRUST BLOCK
	WATER METER
	WATER MANHOLE
	WELL
	GAS GATE VALVE
	GAS SHUT OFF
	GAS METER
	TELEPHONE MANHOLE
	ELECTRIC MANHOLE
	TRAFFIC CONTROL CABINET
	ELECTRIC HANDHOLE
	ELECTRIC PULL BOX
	ELECTRIC METER
	FLOOD LIGHT
	LIGHT POLE
	UTILITY POLE
	GUY POLE
T	TRANSFORMER PAD
B-#	BORING LOCATION
TP-#	TEST PIT LOCATION
IT-#	INFILTRATION TEST LOCATION
MW-#	MONITORING WELL

GENERAL NOTES

1. THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. TFMORAN, INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
2. ALL IMPROVEMENTS SHOWN ON THE SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE GOFFSTOWN PLANNING BOARD.
3. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF GOFFSTOWN, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK TO CONFORM TO TOWN OF GOFFSTOWN DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS. ALL WORK WITHIN THE RIGHT-OF-WAY OF THE TOWN AND/OR STATE SHALL COMPLY WITH APPLICABLE STANDARDS. COORDINATE ALL WORK WITHIN THE RIGHT-OF-WAY WITH APPROPRIATE TOWN, COUNTY, AND/OR STATE AGENCY.
4. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION. VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.
5. CONTACT EASEMENT OWNERS PRIOR TO COMMENCING ANY WORK WITHIN THE EASEMENTS.
6. PRIOR TO COMMENCING ANY SITE WORK, ALL LIMITS OF WORK SHALL BE CLEARLY MARKED IN THE FIELD.
7. SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS, NOT ALL FEATURES ARE DETAILED ON EVERY PLAN. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.
8. TFMORAN, INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.
9. ALL DEMOLITION SHALL INSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKWAYS, AND ANY OTHER ADJACENT OPERATING FACILITIES. PRIOR WRITTEN PERMISSION FROM THE OWNER/DEVELOPER AND LOCAL PERMITTING AUTHORITY IS REQUIRED IF CLOSURE/OBSTRUCTIONS TO ROADS, STREET, WALKWAYS, AND OTHERS IS DEEMED NECESSARY. CONTRACTOR TO PROVIDE ALTERNATE ROUTES AROUND CLOSURES/OBSTRUCTIONS PER LOCAL/STATE/FEDERAL REGULATIONS.
10. REFER TO ARCHITECTURAL PLANS FOR LAYOUT OF BUILDING FOUNDATIONS AND CONCRETE ELEMENTS WHICH ABUT THE BUILDING SUCH AS STAIRS, SIDEWALKS, LOADING DOCK RAMPS, PADS, AND COMPACTOR PADS. DO NOT USE SITE PLANS FOR LAYOUT OF FOUNDATIONS.
11. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
12. IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
13. CONTRACTOR'S GENERAL RESPONSIBILITIES:
    A. BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, AND STANDARDS AND CONDITIONS OF ALL PROJECT-SPECIFIC PERMITS AND APPROVALS AS LISTED ON THE COVER SHEET TO THESE PLANS OR OTHERWISE REQUIRED.
    B. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES OF PROPOSED LAYOUT AND/OR EXISTING FEATURES.
    C. EMPLOY A LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES AND LAYOUT OF SITE ELEMENTS AND BUILDINGS.
    D. THE CONTRACTOR SHALL BE RESPONSIBLE TO BECOME FAMILIAR WITH THE SITE AND ALL SURROUNDING CONDITIONS. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF INTENTIONS AT LEAST 48 HOURS IN ADVANCE.
    E. TAKE APPROPRIATE MEASURES TO REDUCE, TO THE FULLEST EXTENT POSSIBLE, NOISE, DUST, AND UNSIGHTLY DEBRIS.
    F. MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.
    G. IN ACCORDANCE WITH RSA 430:53 AND AGR 3800, THE CONTRACTOR SHALL NOT TRANSPORT INVASIVE SPECIES OFF THE PROPERTY, AND SHALL DISPOSE OF INVASIVE SPECIES ON-SITE IN A LEGAL MANNER.
    H. COORDINATE WITH ALL UTILITY COMPANIES AND CONTACT DIGSAFE (811 OR 888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION.
    I. PROTECT NEW AND EXISTING BURIED UTILITIES DURING INSTALLATION OF ALL SITE ELEMENTS. DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
    J. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY TFMORAN, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
    K. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
    L. VERIFY LAYOUT OF PROPOSED BUILDING FOUNDATIONS WITH ARCHITECT AND THAT PROPOSED FOUNDATION MEETS PROPERTY LINE SETBACKS PRIOR TO COMMENCING ANY FOUNDATION CONSTRUCTION.
    M. IF ANY DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS HAVE BEEN MADE, THE SITE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS STAMPED BY A LICENSED SURVEYOR OR QUALIFIED ENGINEER ALONG WITH A LETTER STAMPED BY A QUALIFIED ENGINEER DESCRIBING ALL SUCH DEVIATIONS, AND BEAR ALL COSTS FOR PREPARING AND FILING ANY NEW PERMITS OR PERMIT AMENDMENTS THAT MAY BE REQUIRED.
    N. THIS PROJECT IS SUBJECT TO THE AOT PERMIT LISTED ON THE COVER SHEET. THE CONTRACTOR SHALL CONFORM TO ALL CONDITIONS OF THE PERMIT AND PROVIDE THE FOLLOWING DOCUMENTATION TO OWNER AND ENGINEER:
        1) ADVANCE WRITTEN NOTICE AT LEAST ONE WEEK PRIOR TO COMMENCING ANY WORK UNDER THE PERMIT AND NOTIFICATION TO AOT VIA THE START OF CONSTRUCTION FORM.
        2) IF ANY UNDERGROUND DETENTION SYSTEMS, INFILTRATION SYSTEMS, OR FILTERING SYSTEMS WERE INSTALLED, FOR EACH SUCH SYSTEM:
            A) REPRESENTATIVE PHOTOGRAPHS OF THE SYSTEM AFTER COMPLETION BUT PRIOR TO BACKFILLING; AND
            B) A LETTER SIGNED BY A QUALIFIED ENGINEER WHO OBSERVED THE SYSTEM PRIOR TO BACKFILLING, THAT THE SYSTEM CONFORMS TO THE APPROVED PLANS AND SPECIFICATIONS.
        3) UPON COMPLETION OF CONSTRUCTION, NOTIFICATION TO AOT VIA THE COMPLETION OF CONSTRUCTION FORM AND WRITTEN CERTIFICATION THAT:
            A) ALL WORK UNDER THE PERMIT HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
            B) IF ANY DEVIATIONS FROM THE APPROVED PLANS WERE MADE, WRITTEN DESCRIPTIONS AND AS-BUILT DRAWINGS OF ALL SUCH DEVIATIONS, STAMPED BY A QUALIFIED ENGINEER, SHALL BE PROVIDED.
            C) CONTRACTOR SHALL BEAR ALL COSTS FOR PREPARING AND FILING ANY NEW PERMITS OR PERMIT AMENDMENTS THAT MAY BE REQUIRED.

GRADING NOTES

1. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF GOFFSTOWN, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE SITE AND ALL SURROUNDING CONDITIONS.
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 BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
4. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL COORDINATE MATERIALS AND INSTALLATION SPECIFICATIONS WITH THE INDIVIDUAL UTILITY AGENCIES/COMPANIES, AND ARRANGE FOR ALL INSPECTIONS.
6. ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET LOCAL STANDARDS AND THE REQUIREMENTS OF THE LATEST NHDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION AND THE NHDOT STANDARD STRUCTURE DRAWINGS UNLESS OTHERWISE NOTED.
7. STORM DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. CONSTRUCTION METHODS SHALL CONFORM TO NHDOT STANDARD SPECIFICATIONS, SECTION 603. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 604. ALL CATCH BASIN GRATES SHALL BE TYPE B AND CONFORM TO NHDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
8. ALL MANHOLES IN PAVEMENT SHALL HAVE RIMS SET TO FINISH GRADE REGARDLESS OF ANY ELEVATIONS OTHERWISE SHOWN.
9. ALL ELEVATIONS SHOWN AT CURB ARE TO THE BOTTOM OF CURB UNLESS OTHERWISE NOTED. CURBS HAVE A 6" REVEAL UNLESS OTHERWISE NOTED.
10. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
11. IN ACCORDANCE WITH RSA 430:53 AND Agr 3800, THE CONTRACTOR SHALL NOT TRANSPORT INVASIVE SPECIES OFF THE PROPERTY, AND SHALL DISPOSE OF INVASIVE SPECIES ON-SITE IN A LEGAL MANNER.
12. THE SITE CONTRACTOR SHALL PREPARE, MAINTAIN, AND EXECUTE A S.W.P.P.P. IN ACCORDANCE WITH EPA REGULATIONS AND THE CONSTRUCTION GENERAL PERMIT.
13. THE SITE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO SUBMIT AN eNOI AT LEAST 14 DAYS IN ADVANCE OF ANY EARTHWORK ACTIVITIES AT THE SITE.
14. COORDINATE WITH ARCHITECTURAL PLANS FOR DETAILED GRADING AT BUILDING, AND SIZE AND LOCATION OF ALL BUILDING SERVICES.
15. COORDINATE WITH GEOTECHNICAL/STRUCTURAL PLANS FOR SITE PREPARATION AND OTHER BUILDING INFORMATION.
16. COORDINATE WITH MECHANICAL AND PLUMBING PLANS FOR ROOF DRAIN INFORMATION.
17. THE CONTRACTOR SHALL COORDINATE ALL WORK TO PROVIDE SMOOTH TRANSITIONS. THIS INCLUDES GRADING, PAVEMENT, CURBING, SIDEWALKS AND ALIGNMENTS.
18. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR INFORMATION ABOUT GROUNDWATER CONDITIONS. THE CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL ENGINEER'S RECOMMENDED METHODS TO ADDRESS ANY GROUNDWATER ISSUES THAT ARE FOUND ON SITE.
19. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE CONDITIONS AT THE SITE. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND REPORT DISCREPANCIES TO THE ENGINEER.
20. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK THE ACCURACY OF THE TOPOGRAPHY AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ANY EARTHWORK BEING PERFORMED ON THE SITE. NO CLAIM FOR EXTRA WORK WILL BE CONSIDERED FOR PAYMENT AFTER EARTHWORK HAS COMMENCED.
21. VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.
22. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
23. IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
24. THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. TFMORAN INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
25. TFMORAN INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.
26. THE SITE CONTRACTOR SHALL ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF NHDES ENV-WQ 1500 AS APPLICABLE.
27. AT COMPLETION OF CONSTRUCTION, THE SITE CONTRACTOR SHALL PROVIDE A LETTER CERTIFYING THAT THE PROJECT WAS COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND A LETTER STAMPED BY A QUALIFIED ENGINEER THAT THEY HAVE OBSERVED ALL UNDERGROUND DETENTION SYSTEMS, INFILTRATION SYSTEMS, OR FILTERING SYSTEMS PRIOR TO BACKFILL AND THAT SUCH SYSTEMS CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS.
28. IF ANY DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS HAVE BEEN MADE, THE SITE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS STAMPED BY A LICENSED SURVEYOR OR QUALIFIED ENGINEER ALONG WITH A LETTER STAMPED BY A QUALIFIED ENGINEER DESCRIBING ALL SUCH DEVIATIONS, AND BEAR ALL COSTS FOR PREPARING AND FILING ANY NEW PERMITS OR PERMIT AMENDMENTS THAT MAY BE REQUIRED.

UTILITY NOTES

1. ALL PROPOSED UTILITY WORK, INCLUDING MATERIAL, INSTALLATION, TERMINATION, EXCAVATION, BEDDING, BACKFILL, COMPACTION, TESTING, CONNECTIONS, AND CONSTRUCTION SHALL BE COORDINATED WITH AND COMPLETED IN ACCORDANCE WITH THE APPROPRIATE REQUIREMENTS, CODES, AND STANDARDS OF ALL CORRESPONDING UTILITY ENTITIES AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
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 SHALL BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
3. COORDINATE ALL WORK ADJACENT TO PROPOSED BUILDINGS WITH ARCHITECTURAL BUILDING DRAWINGS. CONFIRM UTILITY PENETRATIONS AND INVERT ELEVATIONS ARE COORDINATED PRIOR TO INSTALLATION.
4. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE EXACT LOCATION OF NEW UTILITY CONNECTIONS SHALL BE DETERMINED BY THE CONTRACTOR IN COORDINATION WITH UTILITY COMPANY, COUNTY AGENCY, AND/OR PRIVATE UTILITY COMPANY.
6. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER THE UTILITY INSTALLATION COMPLETE AND OPERATIONAL.
7. ALL UTILITY COMPANIES REQUIRE INDIVIDUAL CONDUITS. CONTRACTOR TO COORDINATE WITH TELEPHONE, CABLE, AND ELECTRIC COMPANIES REGARDING NUMBER, SIZE, AND TYPE OF CONDUITS REQUIRED PRIOR TO INSTALLATION OF ANY CONDUIT.
8. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONDUIT AND WIRING TO ALL SIGNS AND LIGHTS. CONDUIT TO BE A MINIMUM OF 24" BELOW FINISH GRADE.
9. ALL PROPOSED UTILITIES SHALL BE UNDERGROUND. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES.
10. THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL INSPECTIONS, TESTING AND RELATED SERVICES AND SUBMIT COPIES OF ACCEPTANCE TO THE OWNER, UNLESS OTHERWISE INDICATED.
11. PROVIDE PERMANENT PAVEMENT REPAIR FOR ALL UTILITY TRENCHES IN EXISTING ROAD OR PAVEMENT TO REMAIN. SAW CUT TRENCH, PAVEMENT AND GRANULAR BASE THICKNESS TO MATCH EXISTING PAVEMENT. OBTAIN ALL PERMITS REQUIRED FOR TRENCHING.
12. UNLESS OTHERWISE SPECIFIED, ALL UNDERGROUND STRUCTURES, PIPES, CHAMBERS, ETC. SHALL BE COVERED WITH A MINIMUM OF 18" OF COMPACTED SOIL BEFORE EXPOSURE TO VEHICLE LOADS.
13. THE PROPERTY WILL BE SERVICED BY THE FOLLOWING:

DRAINAGE	PRIVATE
SEWER	ON-SITE SEPTIC
WATER	ON-SITE WELL
GAS	N/A
ELECTRIC	PSNH
TELEPHONE	DUNBARTON CONSOLIDATED COMMUNICATIONS
CABLE	N/A

SITE PREPARATION NOTES

1. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.
2. THE CONTRACTOR SHALL VERIFY ALL SURVEY INFORMATION IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
3. EXISTING UTILITY SERVICES TO BE DISCONTINUED ARE TO BE CAPPED AS REQUIRED BY THE RESPECTIVE UTILITY COMPANIES.
4. ALL DEMOLITION AND CONSTRUCTION DEBRIS SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.
5. CONTRACTOR TO LIMIT AREA OF DISTURBANCE TO NO MORE THAN 5 ACRES AT ONE TIME DURING CONSTRUCTION.
6. CONTRACTOR TO INSTALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE WORK.
7. ALL WORK PERFORMED ON BEHALF OF THIS PROJECT, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF AMHERST CONSTRUCTION STANDARDS AND DETAILS, LATEST ADDITION.
8. AS A CONDITION OF THIS SITE PLAN APPROVAL, EVERSOURCE SHALL WITHIN TWO YEARS OF THE DATE OF APPROVAL, PROVIDE THE TOWN OF GOFFSTOWN THE PROPOSED LAYOUT OF THE EXISTING GREGGS SUBSTATION, AND THAT IT BE PERMITTED ACCORDINGLY WITH THE TOWN.

NICHOLAS C. GOLON No. 14086 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 5/5/2022

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TFM Proj: 17752-01

CONTRACT SERVICES

REV	DESCRIPTION	ENG/PE#	DATE	DRN	CHKD	APPR
B	DETAILED DESIGN	–	5/20/22	PH	NG	NG
A	PRELIMINARY DESIGN	–	4/8/22	PH	NG	NG

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

NOTES & LEGEND

EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T	#
DRAWN	NC
ENGINEER	JB
CHECKED	NG
APPROVED	NG
DATE	4/8/22
SCALE	NTS
FILE:	17752-01 COVER & DETAILS.DWG
IMAGE:	
DRAWING NO.	09539901

LANDSCAPE NOTES

GENERAL

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES, REGULATIONS, LAWS, AND ORDINANCES HAVING JURISDICTION OVER THIS PROJECT SITE.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND NOTIFY OWNER'S REPRESENTATIVE OF CONFLICTS.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON PLANS BEFORE PRICING THE WORK. ANY DIFFERENCE IN QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION. LANDSCAPE QUANTITIES SHOWN ON THE PLAN SHALL SUPERCEDE QUANTITIES LISTED IN LANDSCAPE LEGEND.
4. THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT PRIOR TO STARTING WORK AND VERIFY THAT THE PLANS IN THE CONTRACTOR'S POSSESSION ARE THE MOST CURRENT PLANS AVAILABLE AND ARE THE APPROVED PLAN SET FOR USE IN CONSTRUCTION.
5. ALL PLANT MATERIALS INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
6. ALL PLANTS SHALL BE FIRST CLASS AND SHALL BE REPRESENTATIVE OF THEIR NORMAL SPECIES AND/OR VARIETIES. ALL PLANTS MUST HAVE GOOD, HEALTHY, WELL-FORMED UPPER GROWTH AND A LARGE, FIBROUS, COMPACT ROOT SYSTEM.
7. ALL PLANTS SHALL BE FREE FROM DISEASE AND INSECT PESTS AND SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL LAWS PERTAINING TO PLANT DISEASES AND INFESTATIONS.
8. ALL TREES SHALL BE BALLED AND BURLAPPED (B & B) UNLESS OTHERWISE NOTED OR APPROVED BY LANDSCAPE ARCHITECT.
9. IF APPLICABLE, THE CONTRACTOR SHALL HAVE ALL FALL TRANSPLANTING HAZARD PLANTS DUG IN THE SPRING AND STORED FOR FALL PLANTING.

GUARANTEE

THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE WORK FOR A PERIOD OF ONE YEAR, BEGINNING AT THE START OF THE MAINTENANCE PERIOD.

SITE AND SOIL PREPARATION

1. WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR LEDGE, NOTIFY LANDSCAPE ARCHITECT/ENGINEER BEFORE PLANTING.
2. ALL DISTURBED AREAS & PLANTING AREAS, INCLUDING AREAS TO BE SODDED, SHALL RECEIVE THE FOLLOWING SOIL PREPARATION PRIOR TO PLANTING: A MINIMUM OF 6 INCHES OF LIGHTLY COMPACTED TOPSOIL SHALL BE INSTALLED OVER THE SUBSOIL IF TOPSOIL HAS BEEN REMOVED OR IS NOT PRESENT.
3. LOAM SHALL CONSIST OF LOOSE FRIABLE TOPSOIL WITH NO ADMIXTURE OF REFUSE OR MATERIAL TOXIC TO PLANT GROWTH. LOAM SHALL BE FREE FROM STONES, LUMPS, STUMPS, OR SIMILAR OBJECTS LARGER THAN TWO INCHES (2") IN GREATEST DIAMETER, SUBSOIL, ROOTS, AND WEEDS. THE MINIMUM AND MAXIMUM PH VALUE SHALL BE FROM 5.5 TO 7.6. LOAM SHALL CONTAIN A MINIMUM OF THREE PERCENT (3%) AND A MAXIMUM OF TWENTY PERCENT (20%) ORGANIC MATTER AS DETERMINED BY LOSS BY IGNITION. NOT MORE THAN SIXTY-FIVE PERCENT (65%) SHALL PASS A NO. 200 SIEVE AS DETERMINED BY THE WASH TEST IN ACCORDANCE WITH ASTM D1140. IN NO INSTANCE SHALL MORE THAN 20% OF THAT MATERIAL PASSING THE #4 SIEVE CONSIST OF CLAY SIZE PARTICLES.
4. NATURAL TOPSOIL NOT CONFORMING TO THE PARAGRAPH ABOVE OR CONTAINING EXCESSIVE AMOUNTS OF CLAY OR SAND SHALL BE TREATED BY THE CONTRACTOR TO MEET THOSE REQUIREMENTS.
5. SUBMIT TEST RESULTS OBTAINED FROM SOURCE TO ENGINEER/LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL, PRIOR TO SPREADING OPERATIONS.
6. APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT TO USE THE TOPSOIL WILL DEPEND UPON THE RESULTS OF THE SOIL TESTS.
7. THE BURDEN OF PROOF OF SOIL AMENDMENT INSTALLATION RESTS WITH THE CONTRACTOR. SOIL TESTS MAY BE REQUIRED AT THE CONTRACTOR'S EXPENSE IN ORDER TO CONFIRM AMENDMENT INSTALLATION.

LANDSCAPE MAINTENANCE

LAWN

1. BEGIN MAINTENANCE IMMEDIATELY AFTER EACH AREA IS PLANTED AND CONTINUE UNTIL ACCEPTABLE LAWN IS ESTABLISHED, BUT NOT LESS THAN THE FOLLOWING PERIODS:
   - A. SEEDED LAWNS: 60 DAYS FROM DATE OF SUBSTANTIAL COMPLETION.
     1. WHEN FULL MAINTENANCE PERIOD HAS NOT ELAPSED BEFORE END OF PLANTING SEASON, OR IF LAWN IS NOT FULLY ESTABLISHED, CONTINUE MAINTENANCE DURING NEXT PLANTING SEASON.
   - B. SODDED LAWNS: 30 DAYS FROM DATE OF SUBSTANTIAL COMPLETION.
   - C. PLUGGED LAWNS: 30 DAYS FROM DATE OF SUBSTANTIAL COMPLETION.
   - D. SPRIGGED LAWNS: 30 DAYS FROM DATE OF SUBSTANTIAL COMPLETION.
2. MAINTAIN AND ESTABLISH LAWN BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, REPLANTING, AND OTHER OPERATIONS. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS AND REMULCH TO PRODUCE A UNIFORMLY SMOOTH LAWN.
   - A. IN AREAS WHERE MULCH HAS BEEN DISTURBED BY WIND OR MAINTENANCE OPERATIONS, ADD NEW MULCH. ANCHOR AS REQUIRED TO PREVENT DISPLACEMENT.
3. WATERING: PROVIDE AND MAINTAIN TEMPORARY PIPING, HOSES, AND LAWN-WATERING EQUIPMENT TO CONVEY WATER FROM SOURCES AND KEEP LAWN UNIFORMLY MOIST TO A DEPTH OF FOUR INCHES (100 mm).
   - A. SCHEDULE WATERING TO PREVENT WILTING, PUDDLING, EROSION, AND DISPLACEMENT OF SEED OR MULCH. LAY OUT TEMPORARY WATERING SYSTEM TO AVOID WALKING OVER MUDDY OR NEWLY PLANTED AREAS.
   - B. WATER LAWN AT A MINIMUM RATE OF ONE INCH (25 mm) PER WEEK.
4. MOW LAWN AS SOON AS TOP GROWTH IS TALL ENOUGH TO CUT. REPEAT MOWING TO MAINTAIN SPECIFIC HEIGHT WITHOUT CUTTING MORE THAN 40 PERCENT OF GRASS HEIGHT. REMOVE NO MORE THAN 40 PERCENT OF GRASS-LEAF GROWTH IN INITIAL OR SUBSEQUENT MOWINGS. DO NOT DELAY MOWING UNTIL GRASS BLADES BEND OVER AND BECOME MATTED. DO NOT MOW WHEN GRASS IS WET. SCHEDULE INITIAL AND SUBSEQUENT MOWINGS TO MAINTAIN THE FOLLOWING GRASS HEIGHT.
   - A. MOW GRASS TO ½ INCH (13 mm) HIGH OR LESS.
   - B. MOW GRASS ½ TO 1 INCH (13 TO 25 mm) HIGH OR LESS.
   - C. MOW GRASS 1 TO 2 INCHES (25 TO 50 mm) HIGH OR LESS.
   - D. MOW GRASS 1-1/2 TO 2 INCHES (38 TO 50 mm) HIGH OR LESS.
   - E. MOW GRASS 2 TO 3 INCHES (50 TO 75 mm) HIGH OR LESS.
5. LAWN POSTFERTILIZATION: APPLY FERTILIZER AFTER INITIAL MOWING AND WHEN GRASS IS DRY.
   - A. USE FERTILIZER THAT WILL PROVIDE ACTUAL NITROGEN OF AT LEAST 1 lb/1,000 SF (0.45 kg/92.9 SM) TO LAWN AREA.

MEADOW

1. BEGIN MAINTENANCE IMMEDIATELY AFTER EACH AREA IS PLANTED AND CONTINUE UNTIL ACCEPTABLE MEADOW IS ESTABLISHED, BUT FOR NOT LESS THAN 40 DAYS FROM DATE OF SUBSTANTIAL COMPLETION.
2. MAINTAIN AND ESTABLISH MEADOW BY WATERING, WEEDING, MOWING, TRIMMING, REPLANTING, AND OTHER OPERATIONS. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS AND REMULCH.
3. WATERING: PROVIDE AND MAINTAIN TEMPORARY PIPING, HOSES, AND LAWN-WATERING EQUIPMENT TO CONVEY WATER FROM SOURCES AND KEEP MEADOW UNIFORMLY MOIST.
   - A. SCHEDULE WATERING TO PREVENT WILTING, PUDDLING, EROSION, AND DISPLACEMENT OF SEED OR MULCH. LAY OUT TEMPORARY WATERING SYSTEM TO AVOID WALKING OVER MUDDY OR NEWLY PLANTED AREAS.
   - B. WATER LAWN AT A MINIMUM RATE OF 1/2 INCH (13 mm) PER WEEK FOR 4 WEEKS.

TREES AND SHRUBS:

1. PRUNING SHOULD BE STARTED EARLY AND KEPT UP AT REGULAR INTERVALS. TREES SHOULD BE PRUNED AND SHAPED TO AVOID SPLITTING LATER IN LIFE. BROKEN TOPS AND BRANCHES SHOULD BE REMOVED AS SOON AS POSSIBLE AFTER INJURY. BROKEN, WEAK OR DISEASED BRANCHES SHOULD BE REMOVED FIRST, DEAD BRANCHES SECOND AND HEALTHY BRANCHES LAST.
2. TREES AND SHRUBS SHOULD BE PROTECTED AGAINST DAMAGE INCURRED WITH LAWN MOWERS AND GARDEN EQUIPMENT. KEEPING GRASS AWAY FROM TREE TRUNKS WITH THE USE OF MULCH IS RECOMMENDED.
3. THE USE OF ROAD SALT AROUND TREES AND SHRUBS SHOULD BE AVOIDED OR MINIMIZED.
4. LANDSCAPED AREAS SHALL BE ROUTINELY MAINTAINED FREE OF DEBRIS AND LITTER. SPRAY AS REQUIRED TO KEEP TREES AND SHRUBS FREE OF INSECTS AND DISEASE. MAINTENANCE SHALL INCLUDE THE REPLACEMENT OF ALL DEAD PLANT MATERIAL WITHIN THE GUARANTEED CONTRACT PERIOD.

LANDSCAPE SPECIFICATIONS

SEEDING

1. ROUGH GRADING SHALL BE COMPLETED PRIOR TO THE START OF PLANTING IN ANY GIVEN AREA OF THE PROJECT SITE.
2. SEEDING SHALL BE DONE BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 15, EXCEPT FOR RESEEDING OF BARE SPOTS AND MAINTENANCE. ALL DISTURBED AREAS NOT COVERED BY BUILDINGS, PAVING OR AREAS THAT HAVE NOT BEEN OTHERWISE DEVELOPED SHALL BE SEEDED OR SODDED. SLOPES GREATER THAN 3:1 SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET. AFTER OCTOBER 15 DISTURBED SOILS SHALL BE PROTECTED IN ACCORDANCE WITH THE WINTER CONSTRUCTION NOTES.

   ACCEPTABLE SEED MIXES ARE AS FOLLOWS:

   TYPICAL LAWN MIX, SLOPES LESS THAN 3:1 (MIN. 200 LBS/ACRE):

33% CREEPING RED FESCUE	(MIN. 66 LBS/ACRE)
42% PERENNIAL RYEGRASS	(MIN. 84 LBS/ACRE)
21% KENTUCKY BLUEGRASS	(MIN. 42 LBS/ACRE)
4% REDTOP	(MIN. 8 LBS/ACRE)

   WILDFLOWER SLOPE (NHDOT TYPE 45) MIX 3:1 OR GREATER SLOPES (MIN. 160 LBS/ACRE):

38% CREEPING RED FESCUE	(MIN. 60 LBS/ACRE)
32% PERENNIAL RYEGRASS	(MIN. 51 LBS/ACRE)
5% REDTOP	(MIN. 8 LBS/ACRE)
5% ALSIKE CLOVER	(MIN. 8 LBS/ACRE)
5% BIRDSFOOT TREFOIL	(MIN. 8 LBS/ACRE)
3% LANCE-LEAF COREOPSIS	(MIN. 3 LBS/ACRE)
3% OXEYE DAISY	(MIN. 3 LBS/ACRE)
3% BUTTERFLY WEED	(MIN. 3 LBS/ACRE)
3% BLACKEYED SUSAN	(MIN. 3 LBS/ACRE)
3% WILD LUPINE	(MIN. 3 LBS/ACRE)

   GENERAL SLOPE (NHDOT TYPE 44) MIX 3:1 OR GREATER SLOPES (MIN. 160 LBS/ACRE):

44% CREEPING RED FESCUE	(MIN. 70 LBS/ACRE)
38% PERENNIAL RYEGRASS	(MIN. 60 LBS/ACRE)
6% REDTOP	(MIN. 10 LBS/ACRE)
6% ALSIKE CLOVER	(MIN. 10 LBS/ACRE)
6% BIRDSFOOT TREFOIL	(MIN. 10 LBS/ACRE)

PLANTING

1. EXCAVATE PITS, PLANTERS, BEDS AND TRENCHES WITH VERTICAL SIDES AND WITH BOTTOM OF EXCAVATION SLIGHTLY RAISED AT CENTER TO PROVIDE PROPER DRAINAGE. LOOSEN HARD SUBSOIL IN BOTTOM OF EXCAVATION.
2. ANY LEDGE OR RUBBLE MATERIAL SHALL BE FRACTURED TO A DEPTH OF 3 FEET AND EXCAVATED TO A DEPTH OF 30 INCHES FOR TREE POCKETS AND 18 INCHES FOR SHRUB BEDS. THIS PROCEDURE SHALL BE HANDLED BY THE SITE CONTRACTOR. SITE TOPSOIL SHALL BE DEPOSITED IN ALL EXCAVATED POCKETS.
3. DISPOSE OF SUBSOIL REMOVED FROM PLANTING EXCAVATIONS. DO NOT MIX WITH PLANTING SOIL OR USE AS BACKFILL.
4. FILL EXCAVATIONS FOR TREES AND SHRUBS WITH WATER AND ALLOW TO PERCOLATE OUT BEFORE PLANTING.
5. DISH TOP OF BACKFILL TO ALLOW FOR MULCH – PLANT SAUCERS SHALL BE AS SHOWN ON DETAIL SHEETS; 6' DIAMETER FOR ALL DECIDUOUS TREES, AND FOR EVERGREEN TREES A RADIUS 2' BEYOND THE OUTER MOST BRANCHES.
6. MULCH TREES, SHRUBS, PLANTERS AND BEDS. PROVIDE NOT LESS THAN 3" THICKNESS OF BARK MULCH, 3/8"-2" OF WIDTH, AND WORK INTO TOP OF BACKFILL. FINISH LEVEL WITH ADJACENT FINISH GRADES AS DIRECTED IN THE FIELD.
7. STAKE AND GUY TREES IMMEDIATELY AFTER PLANTING (TREE SUPPORT STAKES SHALL BE 2" X 3" X 8'0", WOOD STAKES. GUYING WIRE SHALL BE NO. 12 GAUGE GALVANIZED SOFT STEEL WIRE. HOSE FOR COVERING WIRE SHALL BE NEW OR USED TWO PLY RUBBER HOSE NOT LESS THAN 1/2 INCH INSIDE DIAMETER. (PLASTIC "CINCH-TIES" OR EQUIVALENT FASTENING DEVICE MAY BE AN ACCEPTABLE GUY WIRE AND HOSE PROTECTOR SUBSTITUTE.)
8. ALL PLANT MATERIALS SHALL HAVE DEAD OR DAMAGED BRANCHES REMOVED AT TIME OF PLANTING. ALL TAGS AND RIBBONS SHALL BE REMOVED AT THIS TIME.
9. TREES TO REMAIN STAKED FOR 1 FULL GROWING SEASON.
10. THE CONTRACTOR SHALL REQUEST A FINAL OBSERVATION BY THE OWNER'S REPRESENTATIVE UPON COMPLETION OF INSTALLATION.

CONSTRUCTION SEQUENCE NOTES

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. CUT AND CLEAR TREES WITHIN AREA OF DISTURBANCE UNLESS OTHERWISE NOTED.
3. CONSTRUCT TEMPORARY AND PERMANENT EROSION CONTROL FACILITIES PRIOR TO ANY EARTH MOVING OPERATION.
4. ROUGH GRADE SITE OR PHASED WORK AREA. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED NO LATER THAN 72 HOURS AFTER CONSTRUCTION ACTIVITY CEASES. IF EARTHWORK TEMPORARILY CEASES ON A PORTION OF OR THE ENTIRE SITE, AND WILL NOT RESUME WITHIN 21 DAYS, THE AREA SHALL BE STABILIZED.

   AN AREA SHALL BE CONSIDERED STABILIZED IF:
   - 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" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED, OR
   - D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
5. CONSTRUCT CULVERTS, DETENTION BASINS AND TREATMENT SWALES. PLACE HEADWALLS, RIP-RAP AND OTHER DRAINAGE FACILITIES ACCORDING TO PLAN. THE CONTRACTOR SHALL STABILIZE ALL DITCHES, SWALES, AND PONDS/BASINS PRIOR TO DIRECTING FLOW TO THEM.
6. CONSTRUCT BUILDING AND ELECTRICAL EQUIPMENT. CONTRACTOR TO COORDINATE BASELINE COORDINATES OF EXISTING AND PROPOSED SUBSTATION YARD WITH EVERSOURCE AND ELECTRICAL CONTRACTOR PRIOR TO STARTING CONSTRUCTION OF ELECTRICAL EQUIPMENT.
7. INSTALL UTILITIES.
8. CONSTRUCT FINISH GRADE SITE ACCORDING TO PLAN. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
9. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL MEASURES WEEKLY AND IMMEDIATELY AFTER 0.5" OF RAINFALL.
10. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
11. REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE ALL AREAS ARE STABILIZED WITH A SUITABLE STAND OF GRASS, PAVEMENT OR COMPACTED GRAVELS.

* REFER TO THE STORMWATER MANAGEMENT PLAN FOR EROSION CONTROL MEASURES AND SPECIFIC INFORMATION.

GENERAL NOTES

1. ALL IN PAVEMENT MANHOLES SHALL HAVE RIMS SET TO FINISH GRADE REGARDLESS OF ANY ELEVATIONS OTHERWISE SHOWN.
2. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.
4. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
5. EROSION CONTROL SYSTEMS SHALL BE INSTALLED AND MAINTAINED FOR THE DURATION OF THE PROJECT IN ACCORDANCE WITH APPLICABLE NHDES STANDARDS. THESE DETAILS SERVE AS A GUIDE ONLY.
6. REFER TO THE TOWN STANDARD DETAILS, LATEST REVISION, FOR ADDITIONAL INFORMATION AND CRITERIA.
7. THE CONTRACTOR SHALL STABILIZE ALL DITCHES, SWALES, AND PONDS PRIOR TO DIRECTING FLOW TO THEM.
8. 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.

WINTER CONSTRUCTION

IN ADDITION TO THE OTHER NOTES CONTAINED ON THIS PLAN, THE FOLLOWING MUST BE IMPLEMENTED:

1. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED AS SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
2. AN AREA WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIER.
3. TEMPORARY MULCH MUST BE APPLIED WITHIN 7 DAYS OF SOIL EXPOSURE OR PRIOR TO ANY STORM EVENT, BUT AFTER EVERY WORKDAY IN AREAS WITHIN 100 FEET FROM A PROTECTED NATURAL RESOURCE.
4. AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE PERMANENTLY MULCHED THE SAME DAY.
5. IN THE EVENT OF A SNOWFALL GREATER THAN 1 INCH (FRESH OR CUMULATIVE), THE SNOW SHALL BE REMOVED FROM THE AREAS DUE TO BE SEEDED AND MULCHED.
6. LOAM SHALL BE FREE OF FROZEN CLUMPS BEFORE IT IS APPLIED.
7. ALL PROPOSED VEGETATIVE AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85% 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 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION 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.
8. 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 TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
9. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF GRAVEL PER NHDOT ITEM 304.3.

OVERWINTER STABILIZATION

1. PERMANENT STABILIZATION CONSISTS OF AT LEAST 85% VEGETATION, PAVEMENT/GRAVEL BASE OR RIPRAP.
2. DO NOT EXPOSE SLOPES OR LEAVE SLOPES EXPOSED OVER THE WINTER OR FOR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY PROTECTED WITH MULCH.
3. APPLY HAY MULCH AT TWICE THE STANDARD RATE (150 LBS. PER 1,000 SF). THE MULCH MUST BE THICK ENOUGH SUCH THAT THE GROUND SURFACE WILL NOT BE VISIBLE AND MUST BE ANCHORED.
4. USE MULCH AND MULCH NETTING OR AN EROSION CONTROL MULCH BLANKET OR MIX FOR ALL SLOPES GREATER THAN 8% OR OTHER AREAS EXPOSED TO DIRECT WIND.
5. INSTALL AN EROSION CONTROL BLANKET IN ALL DRAINAGE WAYS (BOTTOM AND SIDES) WITH A SLOPE GREATER THAN 3%.
6. SEE THE VEGETATION MEASURES FOR MORE INFORMATION ON SEEDING DATES AND TYPES.

EROSION CONTROL NOTES

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED:

1. INSTALLATION OF SILTATION FENCES AND OTHER EROSION CONTROL MEASURES SHALL BE COMPLETED PRIOR TO THE START OF SITE WORK IN ANY GIVEN AREA. PREFABRICATED SILTATION FENCES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
2. SILTATION FENCES AND OTHER EROSION CONTROL MEASURES SHALL BE KEPT CLEAN DURING CONSTRUCTION AND REMOVED WHEN ALL SLOPES HAVE A VEGETATIVE COVER OF GREATER THAN 85%. EROSION CONTROL MEASURES SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EVERY RAINFALL.
3. EXISTING VEGETATION IS TO REMAIN UNDISTURBED WHEREVER POSSIBLE.
4. THE AREA OF LAND EXPOSED AND THE TIME OF EXPOSURE SHALL BE MINIMIZED. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 72 HOURS AFTER FINAL GRADING.
5. ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 4" OF LOAM. ACCEPTABLE SEED MIXES ARE AS FOLLOWS:

   PARK SEED MIX (NHDOT TYPE 44) MIN. 135 LBS/ACRE:

33% CREEPING RED FESCUE	(MIN. 45 LBS/ACRE)
42% PERENNIAL RYEGRASS	(MIN. 55 LBS/ACRE)
21% KENTUCKY BLUEGRASS	(MIN. 30 LBS/ACRE)
4% REDTOP	(MIN. 5 LBS/ACRE)

   TEMPORARY LAWN MIX: (MIN. 47 LBS/ACRE)
   100% ANNUAL RYE

   SLOPE SEED (WF) (NHDOT TYPE 45) MIX 3:1 OR GREATER SLOPES (MIN. 105 LBS/ACRE):

38% CREEPING RED FESCUE	(MIN. 40 LBS/ACRE)
32% PERENNIAL RYEGRASS	(MIN. 35 LBS/ACRE)
5% REDTOP	(MIN. 5 LBS/ACRE)
5% ALSIKE CLOVER	(MIN. 5 LBS/ACRE)
5% BIRDSFOOT TREFOIL	(MIN. 5 LBS/ACRE)
3% LANCE-LEAF COREOPSIS	(MIN. 3 LBS/ACRE)
3% OXEYE DAISY	(MIN. 3 LBS/ACRE)
3% BUTTERFLY WEED	(MIN. 3 LBS/ACRE)
3% BLACKEYED SUSAN	(MIN. 3 LBS/ACRE)
3% WILD LUPINE	(MIN. 3 LBS/ACRE)

   SLOPE SEED (NHDOT TYPE 44) MIX 3:1 OR GREATER SLOPES (MIN. 90 LBS/ACRE):

44% CREEPING RED FESCUE	(MIN. 40 LBS/ACRE)
38% PERENNIAL RYEGRASS	(MIN. 35 LBS/ACRE)
6% REDTOP	(MIN. 5 LBS/ACRE)
6% ALSIKE CLOVER	(MIN. 5 LBS/ACRE)
6% BIRDSFOOT TREFOIL	(MIN. 5 LBS/ACRE)

   A. PLACING LOAM ON SITE
   - a. ALL SUBGRADE ELEVATIONS SHOULD BE UNIFORMLY GRADED TO RECEIVE LOAM AND SHALL BE INSPECTED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO PLACEMENT OF LOAM.
   - b. PLACE LOAM TO FORM A MINIMUM DEPTH OF 4" WHEN ROLLED, UNLESS OTHERWISE INDICATED.
   - c. ALL DEPRESSIONS EXPOSED DURING THE ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM.

   B. SEED BED PREPARATION
   AFTER FINISH GRADING AND JUST BEFORE SEEDING, THE AREAS TO BE SEEDED SHALL BE LOOSENED TO PROVIDE A ROUGH, FIRM BUT FINELY PULVERIZED SEEDBED. THE INTENT IS A TEXTURE CAPABLE OF RETAINING WATER, SEED AND FERTILIZER WHILE REMAINING STABLE AND ALLOWING SEED TIME TO GERMINATE. SEED SHALL BE APPLIED TO THE CONDITIONED SEEDBED NOT MORE THAN 48 HOURS AFTER THE SEEDBED HAS BEEN PREPARED.
6. LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE SOIL PRIOR TO OR AT THE TIME OF AT THE TIME OF SEEDING. A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS. PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED. SEEDING PRACTICES SHALL COMPLY WITH LOCAL USDA SOIL CONSERVATION SERVICES RECOMMENDATIONS.
7. HAY MULCH OR JUTE MATTING SHALL BE USED WHERE INDICATED ON THE PLANS. A MINIMUM OF 1.5 TONS OF MULCH PER ACRE SHALL BE APPLIED. MULCH SHALL BE ANCHORED IN PLACE WHERE NECESSARY. JUTE MATTING SHALL BE LAID IN THE DIRECTION OF RUNOFF FLOW AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
8. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 15 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING WINTER MONTHS.
9. WATER SHALL BE USED FOR DUST CONTROL IN APPROPRIATE AREAS.
10. SEDIMENT TRAPS AND/OR BASINS MUST BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.

STATE OF NEW HAMPSHIRE — NICHOLAS C. GOLON No. 14086 — LICENSED PROFESSIONAL ENGINEER — 5/20/22

TFM © Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists
48 Constitution Drive, Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com
TFM Proj: 17752-01

CONTRACT SERVICES	REV	DESCRIPTION	ENG/PE#	DATE	DRN	CHKD	APPR
	B	DETAILED DESIGN	–	5/20/22	PH	NG	NG
	A	PRELIMINARY DESIGN	–	4/8/22	PH	NG	NG
	DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

NOTES

EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T	#
DRAWN	NC
ENGINEER	JB
CHECKED	NG
APPROVED	NG
DATE	4/8/22
SCALE	AS NOTED
FILE:	17752-01 COVER & DETAILS.DWG
IMAGE:	
DRAWING NO.	09539902

EVERSOURCE VER: 04/2015

REFERENCE PLANS

1. GLEN LAKE AND GREGGS FALLS PROPERTY GOFFSTOWN, N.H. R-30 BY PUBLIC SERVICE CO OF NEW HAMPSHIRE ENGINEERING DEPARTMENT 8-9-67, RECORDED IN THE HCRD AS PLAN NO. 3705.
2. SURVEY OF BOSTON & MAINE RAILROAD CORRIDOR GOFFSTOWN, HILLSBOROUGH COUNTY, N.H. PREPARED FOR TOWN OF GOFFSTOWN SEPTEMBER 10, 2007, BY PROVAN & LORBER, INC., RECORDED IN THE HCRD AS PLAN NO. 35888.
3. EASEMENT AND LICENSE AREA PLANS (MASTER LAYOUT PLAN) BICYCLE-PEDESTRIAN RAIL-TRAIL MAST ROAD-ROUTE 114 IN GOFFSTOWN, NEW HAMPSHIRE PREPARED FOR TOWN OF GOFFSTOWN FEBRUARY 5, 2014, BY VANASSE HANGEN BRUSTIN, INC., RECORDED IN THE HCRD AS PLAN NO. 38422.
4. PLAN OF LAND GOFFSTOWN, NH FOR GREGGS FALLS HYDRO ELECTRIC ASSOCIATES DECEMBER 1983, BY JOHN W. DURGIN ASSOCIATES, INC. RECORDED IN THE HCRD AS PLAN NO. 17824.

LEGEND

CHAINLINK FENCE
EDGE OF PAVEMENT (EOP)
SIGN
GUY ANCHOR
OVERHEAD UTILITIES (OHW)
STONEWALL
UTILITY POLE
GRANITE/CONCRETE BOUND
IRON PIN/PIPE
DRILL HOLE
CONCRETE
BUILDING
CONIFEROUS TREE

NOTES

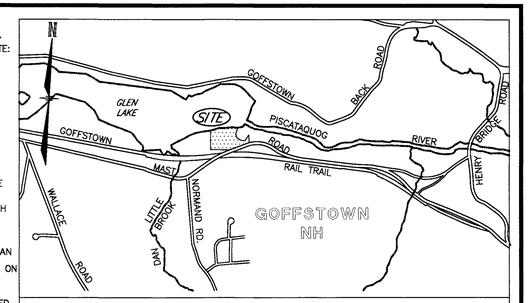
1. OWNER OF RECORD OF MAP 5 LOT 15:
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
D/B/A EVERSOURCE ENERGY
PO BOX 270
HARTFORD, CT
DEED REFERENCE TO PARCEL: B.861 P.295 AND B.861 P.121 IN THE HCRD.
AREA OF PARCEL: 11.3 ACRES±
2. 5-15 INDICATES TAX MAP AND LOT NUMBER.
3. THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULTS OF AN EXISTING CONDITIONS SURVEY OF LOT 5-15 AS OF THE DATE OF FIELD SURVEY. FIELD SURVEY PERFORMED ON OCTOBER 28, 2021.
4. CURRENT ZONING IS AGRICULTURAL
MIN. LOT SIZE: 2.0 ACRES
MIN. LOT FRONTAGE: 200 FEET
MAX. BUILDING HEIGHT: 35 FEET
MIN. BUILDING SETBACKS:
•FRONT: 35 FEET
•SIDE: 25 FEET
•REAR: 30 FEET (FOR PUBLIC UTILITY STRUCTURES SEE ZONING SECTION 5.16.1. 50 FOOT STRUCTURE SETBACK FROM ALL PROPERTY LINES.)
•LOT IS SUBJECT TO SHORELAND PROTECTION

NOTES (CONT.)

5. EXAMINATION OF THE FLOOD INSURANCE RATE MAP FOR HILLSBOROUGH COUNTY ALL JURISDICTIONS, NEW HAMPSHIRE, MAP NUMBER 33011C0214D EFFECTIVE DATE: SEPTEMBER 25, 2009, INDICATES THAT THE SUBJECT PARCEL IS PARTIALLY LOCATED WITHIN FLOOD ZONE AE.
6. VERTICAL DATUM: NAVD 1988
HORIZONTAL DATUM: NAD 1983
BENCHMARKS SET: AS NOTED
7. EASEMENTS, RIGHTS AND RESTRICTIONS:
•B.1972 P.415: RESERVATION OF ACCESS TO LOT 5-15-1
•B.8747 P.2564: RECREATIONAL TRAIL LICENSE AGREEMENT TO TOWN OF GOFFSTOWN.
•B.3176 P.179 AND B.3162 P.26: AGREEMENT AND CONSENT TO JOINT USE BETWEEN PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE AND GREGG FALLS HYDROELECTRIC ASSOCIATES
•B.2492 P.36, B.3036 P.365 AND B.1972 P.415: RIGHTS OF ACCESS TO STATE AND LOT 5-15-2

EASEMENTS, RIGHTS, AND RESTRICTIONS SHOWN OR IDENTIFIED ARE THOSE WHICH WERE FOUND DURING RESEARCH PERFORMED AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. OTHER RIGHTS, EASEMENTS, OR RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF SUBJECT PARCEL(S) WOULD DETERMINE.

8. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. TFMORAN INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UNDERGROUND UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG-SAFE AT 811.
9. REFERENCE LINE IS DEFINED BY NHDES AS ELEVATION 274.9' ON THE NGVD 29 DATUM. TFM HAS CONVERTED THE ELEVATION TO NAVD 88, HAVING AN ADJUSTED ELEVATION OF 274.2'. LIMIT OF BOUNDARY OF LOT 5-15 MAY EXTEND INTO GLEN LAKE.



VICINITY PLAN NOT TO SCALE

CERTIFICATION

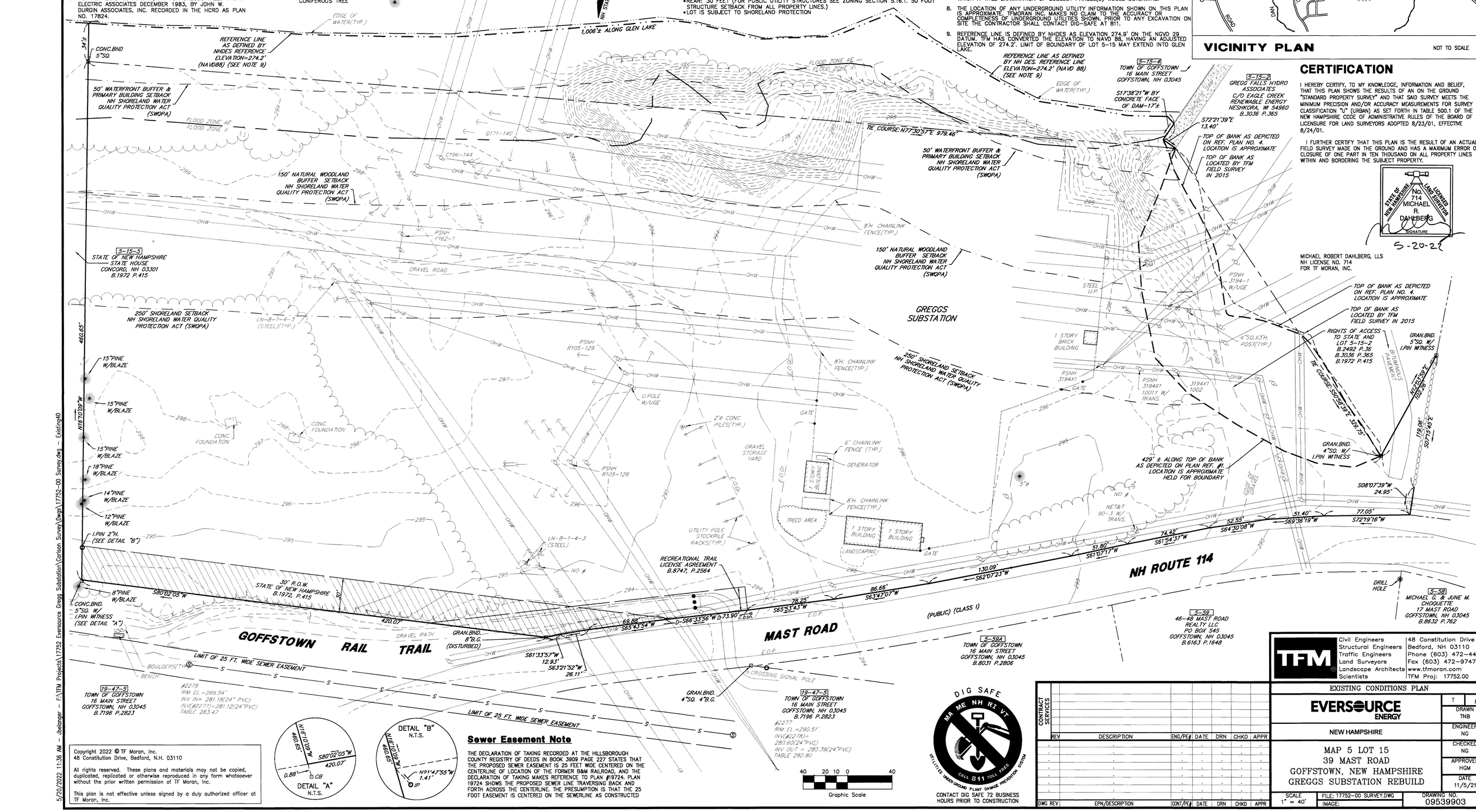
I HEREBY CERTIFY, TO MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN SHOWS THE RESULTS OF AN ON THE GROUND "STANDARD PROPERTY SURVEY" AND THAT SAID SURVEY MEETS THE MINIMUM PRECISION AND/OR ACCURACY MEASUREMENTS FOR SURVEY CLASSIFICATION "U" (URBAN) AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS ADOPTED 8/23/01, EFFECTIVE 8/24/01.

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 TEN THOUSAND ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

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

5-20-22

MICHAEL ROBERT DAHLBERG, LLS
NH LICENSE NO. 714
FOR TF MORAN, INC.



DETAIL "A" N.T.S.
N16°10'09"W 460.65'
S80°02'05"W 420.07'
0.88' CB

DETAIL "B" N.T.S.
N16°10'09"W 460.65'
N21°47'55"W 1.41' IP

Sewer Easement Note

THE DECLARATION OF TAKING RECORDED AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS IN BOOK 3909 PAGE 227 STATES THAT THE PROPOSED SEWER EASEMENT IS 25 FEET WIDE CENTERED ON THE CENTERLINE OF LOCATION OF THE FORMER B&M RAILROAD, AND THE DECLARATION OF TAKING MAKES REFERENCE TO PLAN #19724. PLAN 19724 SHOWS THE PROPOSED SEWER LINE TRAVERSING BACK AND FORTH ACROSS THE CENTERLINE. THE PRESUMPTION IS THAT THE 25 FOOT EASEMENT IS CENTERED ON THE SEWERLINE AS CONSTRUCTED

40 20 10 0 40
Graphic Scale

DIG SAFE — MA ME NH RI VT — UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM — CALL 811 TOLL FREE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

CONTRACT SERVICES						
REV	DESCRIPTION	ENG/PE#	DATE	DRN	CHKD	APPR
DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

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TFM Proj: 17752.00

EXISTING CONDITIONS PLAN

EVERSOURCE ENERGY
NEW HAMPSHIRE

MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NEW HAMPSHIRE
GREGGS SUBSTATION REBUILD

T	#
DRAWN	TNB
ENGINEER	NG
CHECKED	NG
APPROVED	HGM
DATE	11/5/21

SCALE 1" = 40' | FILE: 17752-00 SURVEY.DWG | IMAGE: | DRAWING NO. 09539903

5/20/2022 11:36 AM - jbelanger - F:\TFM Projects\17752 Eversource Gregg Substation\Cartson Survey\Dwgs\17752-00 Survey.dwg - Existing40

NOTES

1. SEE SITE PREPARATION NOTES ON SHEET 09539901.

SOIL LEGEND (PER USDA NRCS WEB SOIL SURVEY)			
SYMBOL	DESCRIPTION	HYDROLOGIC SOIL GROUP	DRAINAGE CLASS
HsA	HINCKLEY LOAMY SAND 0% – 3% SLOPES	A	EXCESSIVELY
HsD	HINCKLEY LOAMY SAND 15% – 35% SLOPES	A	EXCESSIVELY

GLEN LAKE

NH STATE PLANE

100-FT SURFACE WATER BUFFER
PERMANENT UTILITY STRUCTURE
IMPACTS = 8 S.F. (TOTAL)
8 S.F/ POLE = 8 S.F.

100-FT SURFACE WATER BUFFER
TEMPORARY UTILITY STRUCTURE
IMPACTS = 36 S.F. (TOTAL)
8 S.F/ POLE = 24 S.F.
4 S.F / GUY = 12 S.F.

TEMPORARY OHE (TO BE REMOVED AFTER PERMANENT CONSTRUCTION) (TYP.)
COORDINATE WITH ELECTRICAL PLANS (BY OTHERS)

EXISTING OHE TO BE REMOVED
COORDINATE WITH ELECTRICAL
PLANS BY OTHERS (TYP.)

EDGE OF WATER(TYP.)

CONC.BND 5"SQ.

PROPOSED TREELINE (TYP.)

FLOOD ZONE AE
FLOOD ZONE X

APPROX. LIMIT OF TREE CLEARING (STUMPS TO REMAIN)

APPROXIMATE LIMITS OF WORK (TYP.)

SILT SOCK (TYP.)

PSNH #196-144

GRAVEL ROAD TO BE REMOVED

PSNH #162-1

LN-B-1-4-3 (STEEL)(TYP.)

15"PINE W/BLAZE

CLEAR & GRUB (TYP.)

CONC. FOUNDATION TO BE REMOVED

EXISTING TREES ALONG PROPERTY LINE TO REMAIN WITH TREE PROTECTION (SEE DETAILS) (TYP.)

14"PINE W/BLAZE

12"PINE W/BLAZE

8"PINE W/BLAZE

CONC.BND. 5"SQ. W/ I.PIN WITNESS (SEE DETAIL "A")

BOULDERS(TYP.)

BENCH

#2278
RIM EL.=289.54'
INV IN= 281.16(24" PVC)
INV(#2277)= 281.12(24"PVC)
TABLE 283.47

PSNH R105-129

PSNH R105-128

EXISTING OHE TO BE REMOVED COORDINATE WITH ELECTRICAL PLANS BY OTHERS (TYP.)

EXISTING UTILITY POLES WITHIN LIMITS OF WORK TO BE REMOVED COORDINATE WITH ELECTRICAL PLANS BY OTHERS (TYP.)

PROPOSED TREELINE (TYP.)

LN-B-1-4-3 (STEEL)

NO.#

SILT SOCK (TYP.)

GRAVEL WITHIN LIMITS OF WORK TO BE REMOVED

8'H. CHAINLINK FENCE(TYP.) TO REMAIN

U.POLE W/UGE

GATE TO REMAIN

2'ø CONC. PILES(TYP.) TO BE REMOVED

GRAVEL STORAGE YARD TO BE REMOVED

6' CHAINLINK FENCE (TYP.) TO REMAIN

GENERATOR TO REMAIN

STORY BUILDING

E.O.P.

TO REMAIN

UTILITY RACKS WITHIN LIMITS OF WORK TO BE REMOVED (TYP.)

UTILITY POLE STOCKPILE RACKS(TYP.)

TREED AREA TO REMAIN

8'H. CHAINLINK FENCE(TYP.) TO REMAIN

1 STORY BUILDING TO REMAIN

LANDSCAPING TO REMAIN

STABILIZED CONSTRUCTION ENTRANCE (SEE DETAILS)

DANDY-BAG

APPROXIMATE LIMITS OF WORK (TYP.)

GOFFSTOWN RAIL TRAIL

GRAVEL PATH

MAST ROAD

(PUBLIC) (CLASS I)

NH ROUTE 114

TEMPORARY OHE (TO BE REMOVED AFTER PERMANENT CONSTRUCTION) (TYP.)
COORDINATE WITH ELECTRICAL PLANS (BY OTHERS)

100' SURFACE WATER BUFFER (WSWC DISTRICT)

8'H. CHAINLINK FENCE(TYP.)

TEMPORARY UTILITY STRUCTURE WITH CONCRETE BARRIER (TO BE REMOVED AFTER PERMANENT CONSTRUCTION) (TYP.)
COORDINATE WITH ELECTRICAL PLANS (BY OTHERS)

GREGGS SUBSTATION
FOR RESTORATION/REUSE OF EXISTING GREGGS SUBSTATION YARD SEE SITE PREPARATION NOTE #8 ON DRAWING NO. 09539901

EXISTING UTILITY STRUCTURE TO BE REBUILT IN PLACE (TYP.)

PSNH #194-1 GUIDE

STEEL I.P.

1 STORY BRICK BUILDING

4"SQ.X3'H. POST(TYP.)

PSNH 3194X1 GATE

PSNH 3194X1 1001Y W/ TRANS.

3194X1 1002

GRAN.BND. 4"SQ. W/ I.PIN WITNESS

BITUMINOUS PAVEMENT

NO.# NET&T 90-3 W/ TRANS.

EDGE OF GRAVEL

DRILL HOLE

#2277
RIM EL.=290.51'
INV(#2278)= 280.60(24"PVC)
INV OUT = 280.39(24"PVC)
TABLE 282.80

E.O.P. CROSSING SIGNAL POLE

GRAN.BND. 4"SQ. W/I.P. TO BE REMOVED

HORIZONTAL SCALE 1"=40'
40 20 0 40

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

STATE OF NEW HAMPSHIRE
NICHOLAS C. GOLON
No. 14088
LICENSED PROFESSIONAL ENGINEER
5/20/2022

CONTRACT SERVICES							
B	DETAILED DESIGN	–	5/20/22	PH	NG	NG
A	PRELIMINARY DESIGN	–	4/8/22	PH	NG	NG
REV	DESCRIPTION	ENG/PE#	DATE	DRN	CHKD	APPR

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

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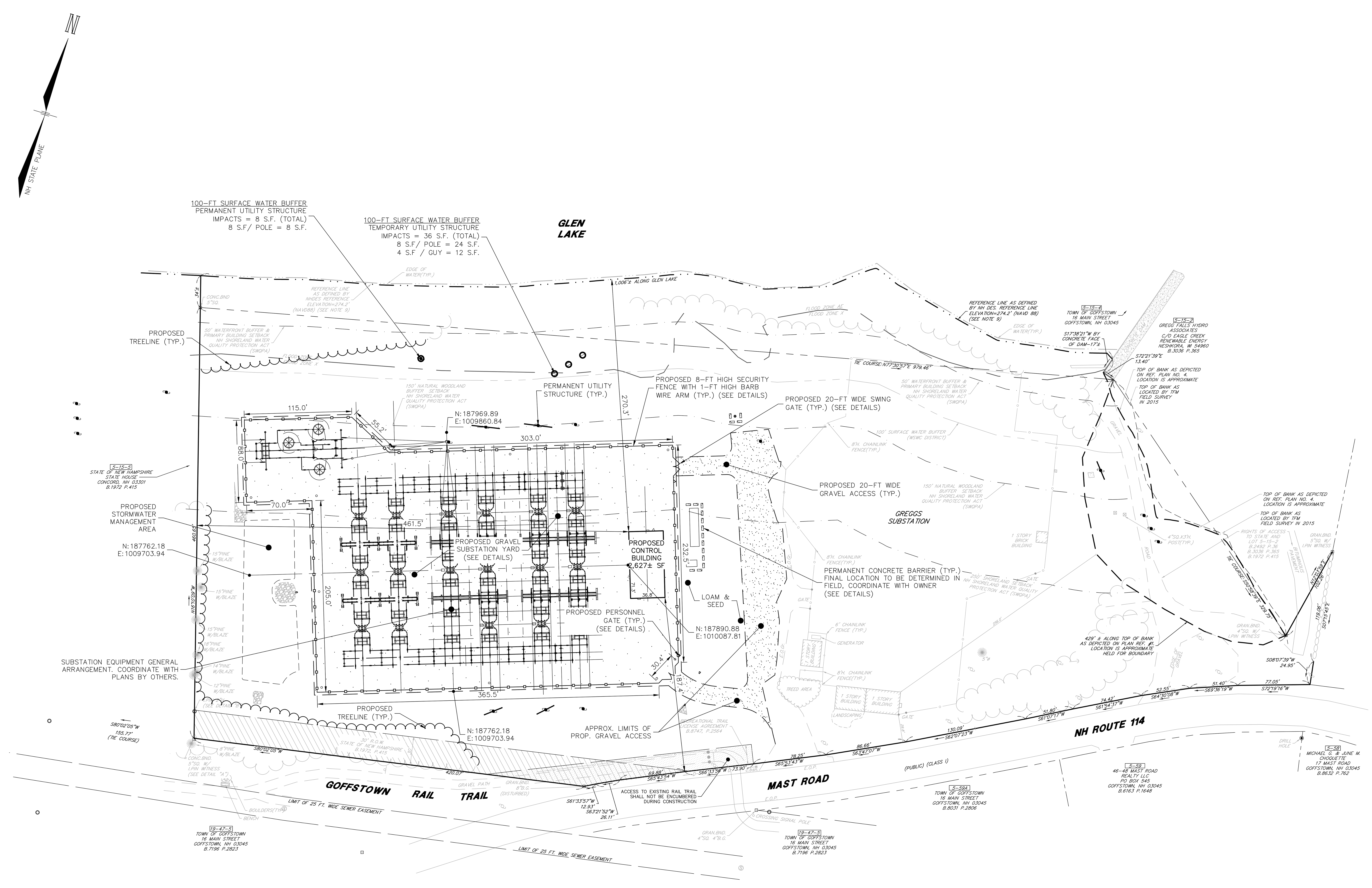
SITE PREPARATION PLAN

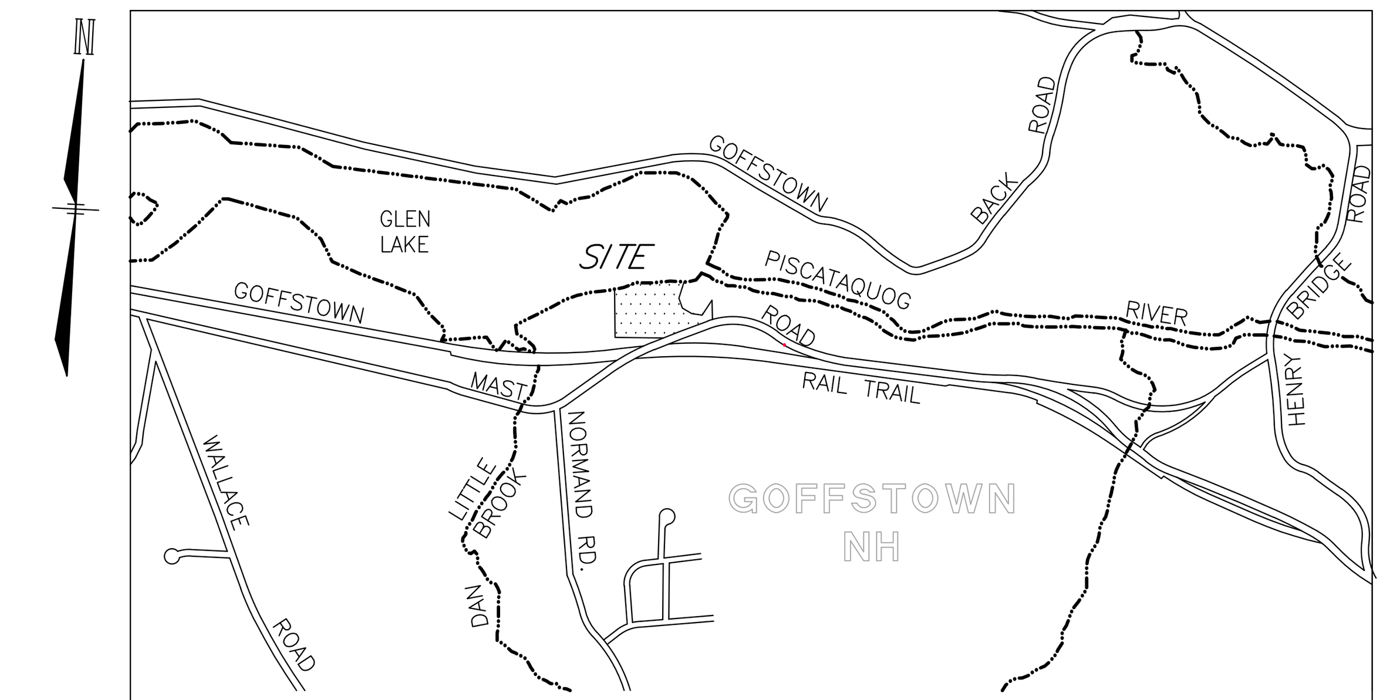
EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T	#
DRAWN	NC
ENGINEER	JB
CHECKED	NG
APPROVED	NG
DATE	4/8/22
SCALE	1"=40'
FILE:	17752-01 DESIGN_LAYOUT.DWG
IMAGE:	
DRAWING NO.	09539904





VICINITY PLAN

NOT TO SCALE

NOTES

1. OWNER OF RECORD OF MAP 5 LOT 15: PUBLIC SERVICE CO OF NH, PO BOX 270, HARTFORD, CT 06141-0270
   DEED REFERENCE TO PARCEL IS BK 861 PG 295 & BK 861 PG 121
   AREA OF PARCEL = 11.3± ACRES

2. THE PURPOSE OF THIS PLAN IS TO CONSTRUCT A SUBSTATION YARD, INSTALL ELECTRIC EQUIPMENT UPGRADES, AND A CONTROL BUILDING WITH ASSOCIATED SITE IMPROVEMENTS ADJACENT TO THE EXISTING EVERSOURCE ENERGY GREGGS SUBSTATION.

3. CURRENT ZONING IS AGRICULTURAL (A) ZONING DISTRICT.

		REQUIRED	PROPOSED
MIN.	LOT SIZE:	2.0 ACRES	11.3 ACRES
MIN.	LOT FRONTAGE:	200'	785.04'
MIN.	BUILDING SETBACKS:		
	FRONT	50'	29.8' (EXISTING CONDITION)
	SIDE	50'	256.0' (EXISTING CONDITION)
	REAR	50'	270.3'
MAX.	BUILDING COVERAGE	10%	1.0%
MAX.	BUILDING HEIGHT:	35'	<35'

5. <u>PARKING CALCULATIONS:</u>
   REQUIRED: NOT REQUIRED BY ORDINANCE
   PROPOSED: ADEQUATE PARKING PROVIDED WITHIN SUBSTATION YARD.

6. EXAMINATION OF THE FLOOD INSURANCE RATE MAP FOR HILLSBOROUGH COUNTY ALL JURISDICTIONS, NEW HAMPSHIRE, MAP NUMBER 33011C0214D EFFECTIVE DATE: SEPTEMBER 25, 2009, INDICATES THAT THE SUBJECT PARCEL IS PARTIALLY LOCATED WITHIN FLOOD ZONE AE.

7. IN THE EVENT THAT THE SNOW STORAGE AREAS PROVIDED ON THE SITE ARE COMPLETELY UTILIZED, EXCESS SNOW SHALL BE TRANSPORTED OFF SITE FOR DISPOSAL IN ACCORDANCE WITH N.H.D.E.S. REGULATIONS.

8. THE CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS AND STANDARDS.

9. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.

10. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY TFMORAN, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.

11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE SITE AND ALL SURROUNDING CONDITIONS. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF HIS INTENTIONS AT LEAST 48 HOURS IN ADVANCE.

12. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.

13. LIGHTING, SIGNAGE, LANDSCAPING, AND SCREENING SHALL MEET THE REQUIREMENTS OF THE TOWN OF GOFFSTOWN ZONING ORDINANCE AND SITE PLAN REGULATIONS.

14. SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS, NOT ALL FEATURES ARE DETAILED ON EVERY PLAN. THE ENGINEER SHALL BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.

15. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.

16. IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.

17. THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. TFMORAN INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.

18. TFMORAN INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.

19. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF GOFFSTOWN CONSTRUCTION STANDARDS AND DETAILS (LATEST ADDITION). THESE CONSTRUCTION STANDARDS SHALL TAKE PRECEDENCE IN THE EVENT OF CONFLICTS BETWEEN PLANS, DETAILS OR OTHER DRAWINGS.

This Site Plan is approved in accordance with the Town of Goffstown Development Regulations.

Date:____________________

Signed:____________________

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

WAIVERS

THE FOLLOWING WAIVERS FROM THE TOWN OF GOFFSTOWN DEVELOPMENTS REGULATIONS ARE <u>REQUESTED</u> FROM THE PLANNING BOARD:

1. APPENDIX F, SECTION 2, ITEMS 2, 3, & 4
   TO PERMIT AN ALTERNATIVE LANDSCAPE DESIGN

CONDITIONAL USE PERMIT

THE FOLLOWING CONDITIONAL USE PERMIT FROM THE TOWN OF GOFFSTOWN ZONING ORDINANCE IS <u>REQUESTED</u> FROM THE ZONING BOARD OF ADJUSTMENT:

1. ARTICLE 13.3.7.1: USE IN THE WETLAND AND SURFACE WATER CONSERVATION (WSWC) DISTRICT TO PERMIT CONSTRUCTION AND REPLACEMENT OF POWER LINES WITHIN THE WSWC DISTRICT

STATE OF NEW HAMPSHIRE — NICHOLAS C. GOLON No. 14086 LICENSED PROFESSIONAL ENGINEER — 5/20/2022

REV	DESCRIPTION	ENG/PE#	DATE	DRN	CHKD	APPR
B	DETAILED DESIGN	–	5/20/22	PH	NG	NG
A	PRELIMINARY DESIGN	–	4/8/22	PH	NG	NG

CONTRACT SERVICES

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com
TFM Proj: 17752-01

OVERALL SITE LAYOUT PLAN

EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T	#
DRAWN	NC
ENGINEER	JB
CHECKED	NG
APPROVED	NG
DATE	4/8/22

SCALE 1"=60'
FILE: 17752-01 DESIGN_LAYOUT.DWG
IMAGE:
DRAWING NO. 09539905


N
NH STATE PLANE
GLEN LAKE
100-FT SURFACE WATER BUFFER
PERMANENT UTILITY STRUCTURE
IMPACTS = 8 S.F. (TOTAL)
8 S.F/ POLE = 8 S.F.
100-FT SURFACE WATER BUFFER
TEMPORARY UTILITY STRUCTURE
IMPACTS = 36 S.F. (TOTAL)
8 S.F/ POLE = 24 S.F.
4 S.F / GUY = 12 S.F.
PROPOSED TREELINE (TYP.)
1,006'± ALONG GLEN LAKE
EDGE OF WATER(TYP.)
REFERENCE LINE AS DEFINED BY NH DES. REFERENCE LINE ELEVATION=274.2' (NAVD 88) (SEE NOTE 9)
S17°38'21"W BY CONCRETE FACE OF DAM-17'±
S72°21'39"E 13.40'
TOP OF BANK AS DEPICTED ON REF. PLAN NO. 4. LOCATION IS APPROXIMATE
TOP OF BANK AS LOCATED BY TFM FIELD SURVEY IN 2015
TIE COURSE: N77°30'57"E 979.46'
PROPOSED PERSONNEL GATE (TYP.) (SEE DETAILS)
PROPOSED 8-FT HIGH SECURITY FENCE WITH 1-FT HIGH BARB WIRE ARM (TYP.) (SEE DETAILS)
PROPOSED 20-FT WIDE SWING GATE (TYP.) (SEE DETAILS)
PERMANENT UTILITY STRUCTURE (TYP.)
N:187969.89
E:1009860.84
100' SURFACE WATER BUFFER (WSWC DISTRICT)
PROPOSED 20-FT WIDE GRAVEL ACCESS (TYP.)
PERMANENT CONCRETE BARRIER (TYP.) FINAL LOCATION TO BE DETERMINED IN FIELD, COORDINATE WITH OWNER (SEE DETAILS)
GREGGS SUBSTATION
PROPOSED STORMWATER MANAGEMENT AREA
N:187762.18
E:1009703.94
PROPOSED GRAVEL SUBSTATION YARD (SEE DETAILS)
PROPOSED CONTROL BUILDING 2,627± SF
N:187890.88
E:1010087.81
LOAM & SEED
APPROX. LIMITS OF PROP. GRAVEL ACCESS
1 STORY BRICK BUILDING
8'H. CHAINLINK FENCE(TYP.)
6' CHAINLINK FENCE (TYP.)
GENERATOR
4"SQ.X3'H POST(TYP.)
RIGHTS OF ACCESS TO STATE AND LOT 5-15-2 B.2492 P.36 B.3036 P.365 B.1972 P.415
TIE COURSE: S50°58'39"E 329.75'
429' ± ALONG TOP OF BANK AS DEPICTED ON PLAN REF. #1. LOCATION IS APPROXIMATE HELD FOR BOUNDARY
S08°07'39"W 24.95'
N16°10'09"W 460.65'
SUBSTATION EQUIPMENT GENERAL ARRANGEMENT. COORDINATE WITH PLANS BY OTHERS.
N:187762.18
E:1009703.94
RECREATIONAL TRAIL LICENSE AGREEMENT B.8747, P.2564
30' R.O.W. STATE OF NEW HAMPSHIRE B.1972, P.415
S80°02'05"W 420.07'
S65°43'54"W 69.88'
S66°33'59"W 73.90'
S65°53'43"W 78.25'
S63°47'07"W 86.66'
S62°07'23"W 130.09'
S61°07'17"W 51.80'
S61°54'37"W 74.42'
S64°30'08"W 52.55'
S69°36'19"W 51.40'
S72°19'16"W 77.05'
NH ROUTE 114
MAST ROAD
(PUBLIC) (CLASS I)
GOFFSTOWN RAIL TRAIL
ACCESS TO EXISTING RAIL TRAIL SHALL NOT BE ENCUMBERED DURING CONSTRUCTION
S61°33'57"W 12.93'
S63°21'52"W 26.11'
LIMIT OF 25 FT. WIDE SEWER EASEMENT
CROSSING SIGNAL POLE
DRILL HOLE
STATE OF NEW HAMPSHIRE NICHOLAS C. GOLON No. 14086 LICENSED PROFESSIONAL ENGINEER
HORIZONTAL SCALE 1"=40'
40 20 0 40

NOTES

1. SEE GENERAL NOTES ON SHEET 09539901.
2. SEE SITE PLAN NOTES ON SHEET 09539905.

WAIVERS

THE FOLLOWING WAIVERS FROM THE TOWN OF GOFFSTOWN DEVELOPMENTS REGULATIONS ARE REQUESTED FROM THE PLANNING BOARD:

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   TO PERMIT AN ALTERNATIVE LANDSCAPE DESIGN

CONDITIONAL USE PERMIT

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1. ARTICLE 13.3.7.1: USE IN THE WETLAND AND SURFACE WATER CONSERVATION (WSWC) DISTRICT TO PERMIT CONSTRUCTION AND REPLACEMENT OF POWER LINES WITHIN THE WSWC DISTRICT

This Site Plan is approved in accordance with the Town of Goffstown Development Regulations.

Date: ______________________

Signed: ______________________

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B	DETAILED DESIGN	–	5/20/22	PH	NG	NG
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CONTRACT SERVICES

SITE LAYOUT PLAN

EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

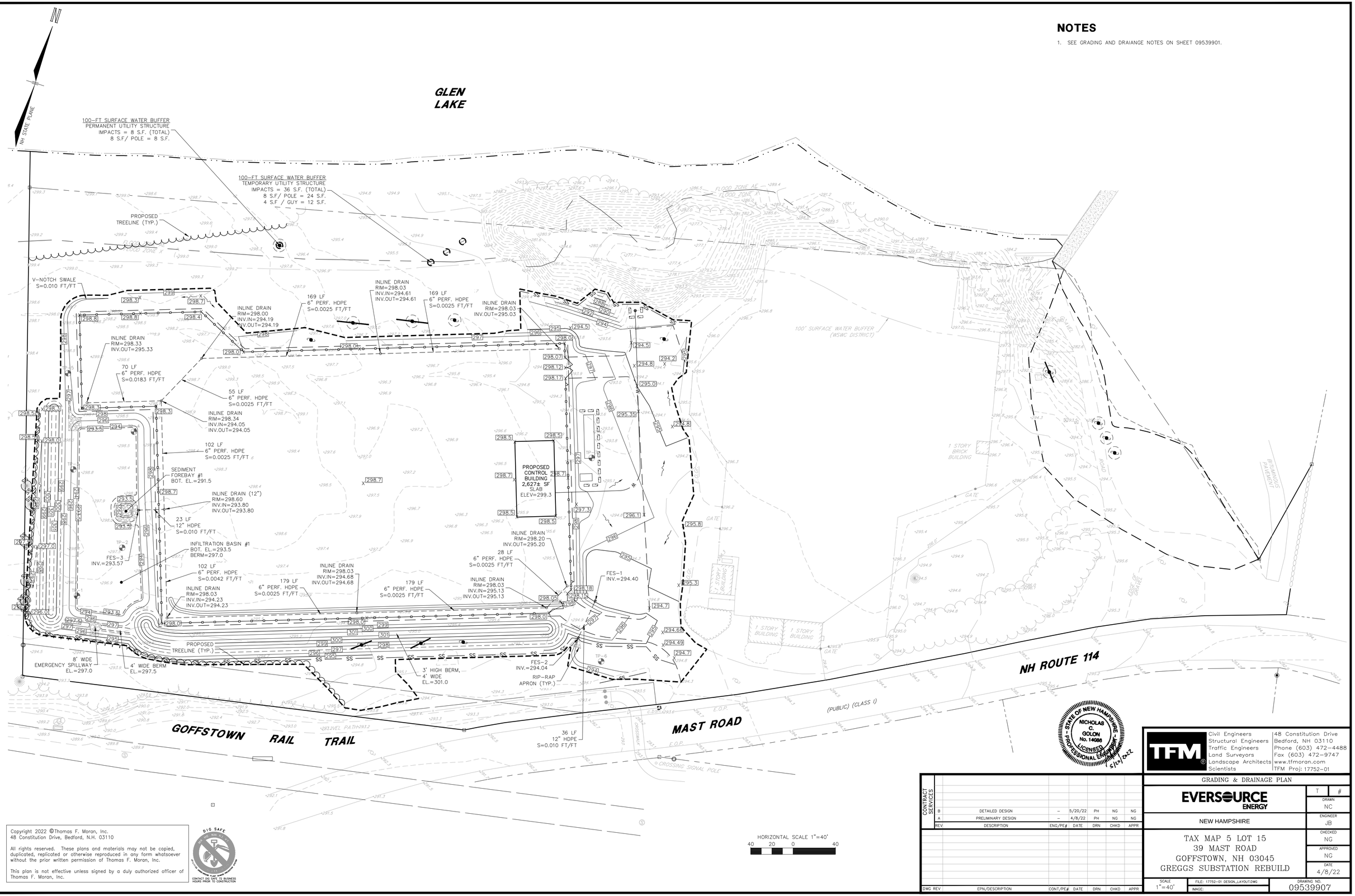
T	#
DRAWN	NC
ENGINEER	JB
CHECKED	NG
APPROVED	NG
DATE	4/8/22

SCALE 1"=40' — FILE: 17752-01 DESIGN_LAYOUT.DWG — IMAGE: — DRAWING NO. 09539906

DWG REV | EPN/DESCRIPTION | CONT/PE# | DATE | DRN | CHKD | APPR

NOTES

1. SEE GRADING AND DRAIANGE NOTES ON SHEET 09539901.



HORIZONTAL SCALE 1"=40'
40 20 0 40

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

STATE OF NEW HAMPSHIRE
NICHOLAS C. GOLON
No. 14086
LICENSED PROFESSIONAL ENGINEER
5/20/22

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DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

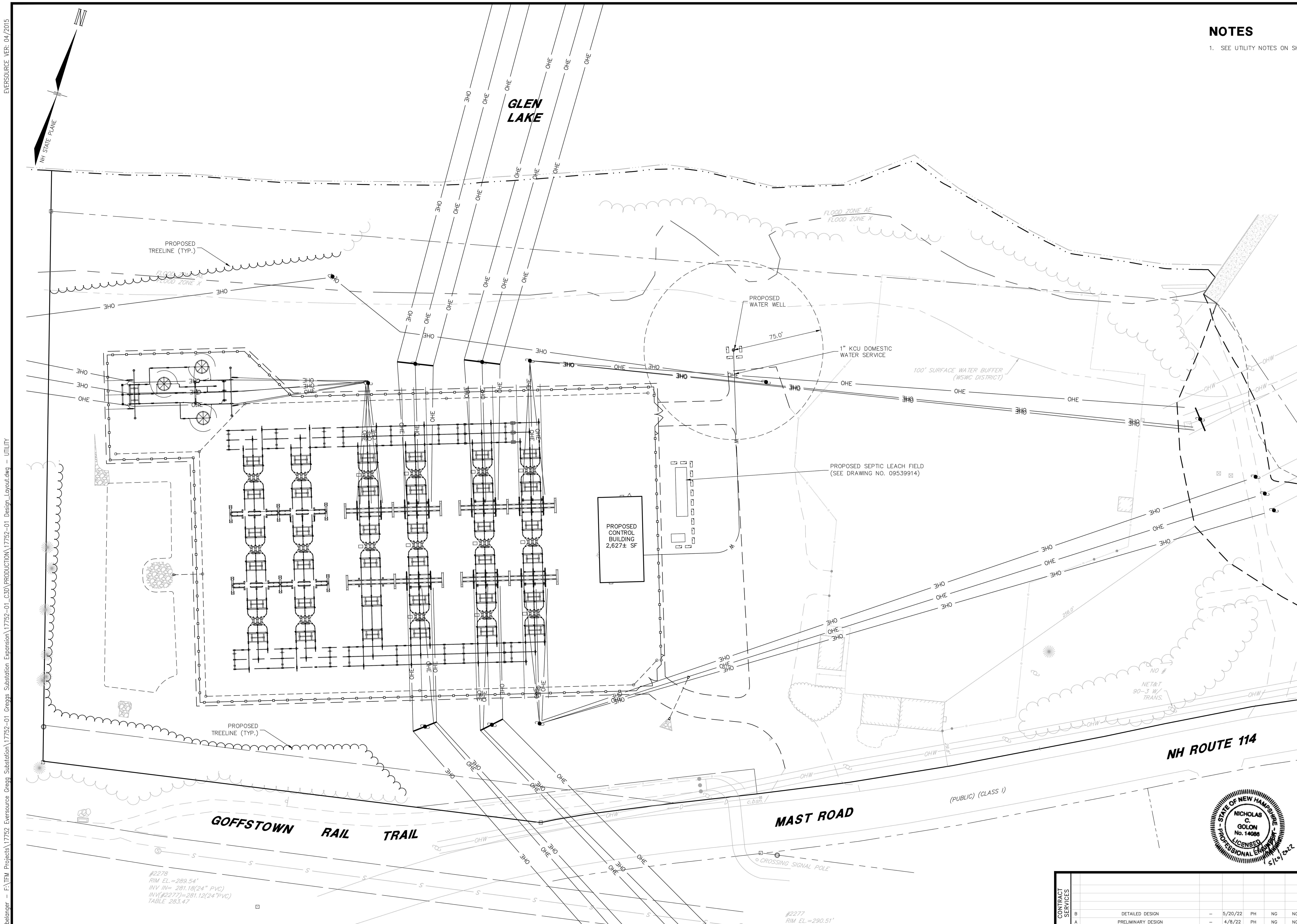
GRADING & DRAINAGE PLAN

EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T	#
DRAWN: NC	
ENGINEER: JB	
CHECKED: NG	
APPROVED: NG	
DATE: 4/8/22	
SCALE: 1"=40'	FILE: 17752-01 DESIGN_LAYOUT.DWG
IMAGE:	DRAWING NO: 09539907



NOTES

1. SEE UTILITY NOTES ON SHEET 09539901.

EVERSOURCE VER: 04/2015

5/20/2022 12:08 PM – jbelanger – F:\TFM Projects\17752 Eversource Gregg Substation\17752-01 Greggs Substation Expansion\17752-01_C3D\PRODUCTION\17752-01 Design_Layout.dwg – UTILITY

DIG SAFE — CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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CONTRACT SERVICES

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DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

UTILITY PLAN

EVERSOURCE ENERGY

NEW HAMPSHIRE

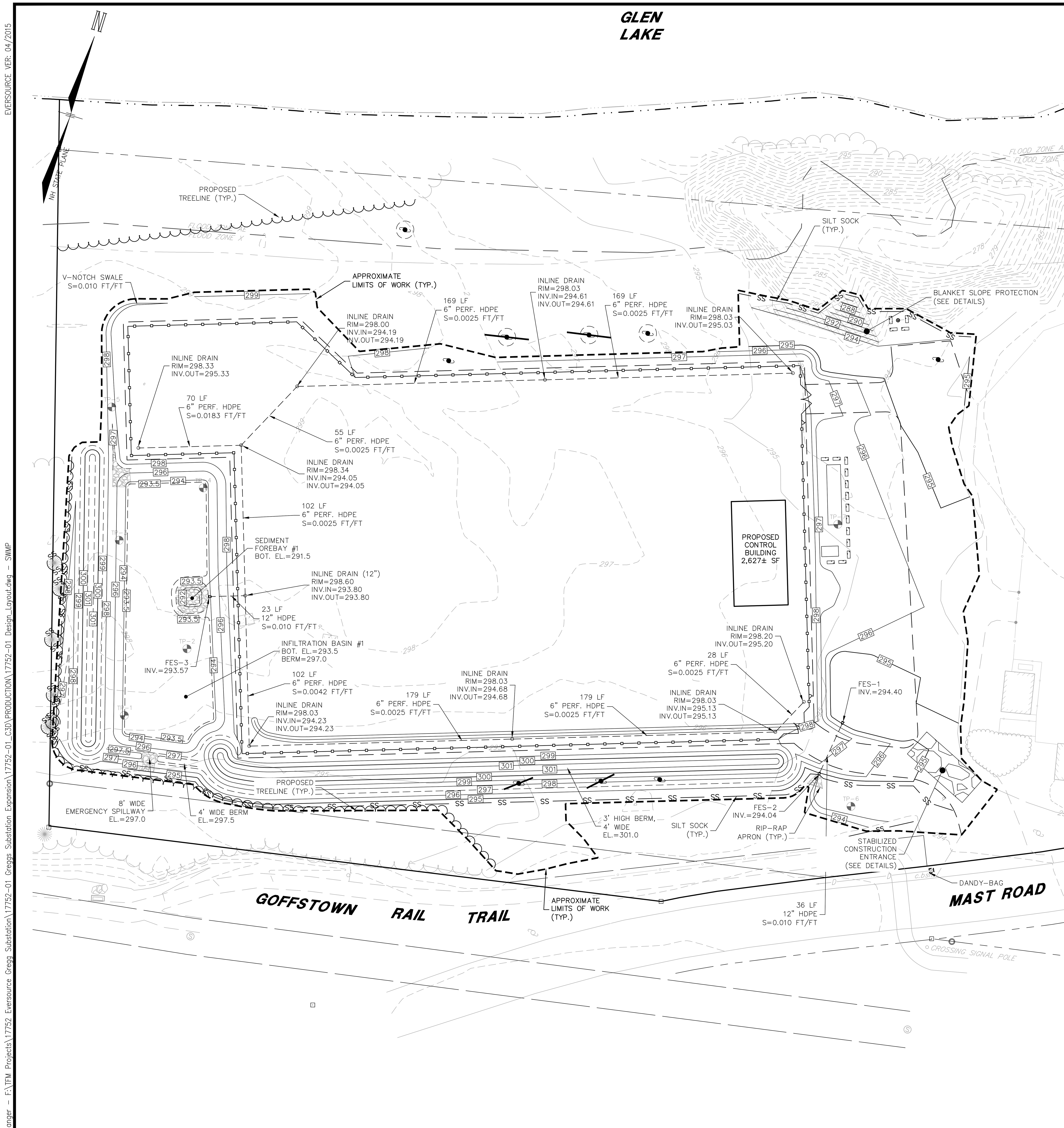
TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T	#
DRAWN	NC
ENGINEER	JB
CHECKED	NG
APPROVED	NG
DATE	4/8/22

SCALE 1"=40' | FILE: 17752–01 DESIGN_LAYOUT.DWG | IMAGE: | DRAWING NO. 09539908

EVERSOURCE VER: 04/2015

5/20/2022 12:08 PM – Jbelanger – F:\TFM Projects\17752 Eversource Gregg Substation\17752 Eversource Greggs Substation Expansion\17752-01 Greggs Substation Expansion\17752-01_C3D\PRODUCTION\17752-01 Design_Layout.dwg – SWMP



HORIZONTAL SCALE 1"=40'

40 20 0 40

CONSTRUCTION GENERAL PERMIT

1. THE OWNER, IN CONJUNCTION WITH THE CONTRACTOR (OPERATORS), MUST OBTAIN A CONSTRUCTION GENERAL PERMIT (CGP) FOR LARGE CONSTRUCTION ACTIVITIES (FIVE OR MORE ACRES) OR SMALL CONSTRUCTION ACTIVITIES (GREATER THAN ONE ACRE BUT LESS THAN FIVE ACRES) FROM THE ENVIRONMENTAL PROTECTION AGENCY (EPA). AS PART OF THE CGP, A STORMWATER NOTICE OF INTENT (NOI) MUST BE SUBMITTED TO THE EPA AT LEAST 7 DAYS PRIOR TO COMMENCING CONSTRUCTION. THE NOI MUST BE SUBMITTED TO STORM WATER NOTICE OF INTENT (4203M), USEPA, 1200 PENNSYLVANIA AVE. NW, WASHINGTON, DC 20460.

2. THE CGP OUTLINES A SET OF PROVISIONS MANDATING THE OWNER AND CONTRACTOR TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER REGULATIONS, INCLUDING, BUT NOT LIMITED TO, STORM WATER POLLUTION PREVENTION PLANS (SWPPP'S), IMPLEMENTATION OF EROSION AND SEDIMENTATION CONTROLS, EQUIPMENT MAINTENANCE GUIDELINES, ETC. PLEASE CONTACT USEPA OFFICE OF WASTEWATER MANAGEMENT AT 202-564-9545 OR AT WWW.EPA.GOV/NPDES/STORMWATER FOR ADDITIONAL INFORMATION. FOR FURTHER ASSISTANCE, CONTACT ABBY SWAINE OF NEW ENGLAND'S EPA REGION 1 AT 617-918-1841.

NOTES

1. IT IS BEING PROPOSED TO TO CONSTRUCT A SUBSTATION YARD, INSTALL ELECTRIC EQUIPMENT UPGRADES, AND A CONTROL BUILDING WITH ASSOCIATED SITE IMPROVEMENTS ADJACENT TO THE EXISTING EVERSOURCE ENERGY GREGGS SUBSTATION.

2. TOTAL SITE AREA: 11.3 AC
   TOTAL AREA OF DISTURBANCE: 4.67 AC

3. SOILS SHOWN ARE FROM THE SOIL SURVEY OF OF HILLSBOROUGH COUNTY, NH, EASTERN PART, PREPARED BY USDA-SOIL CONSERVATION SERVICES.
   HsA – HINCKLEY LOAMY SAND, 0%–3% SLOPES
   HsD – HINCKLEY LOAMY SAND, 15%–35% SLOPES

4. STORM WATER DRAINAGE SYSTEM IS SHOWN ON THE PLAN. SEE GRADING & DRAINAGE PLAN FOR RIM, INVERT, PIPE LENGTH, AND SLOPE INFORMATION.
   POST-CONSTRUCTION RUNOFF COEFFICIENT: C=0.63
   IMPERVIOUS SURFACE AREA: 0.24± AC

5. STABILIZATION PRACTICES FOR EROSION AND SEDIMENTATION CONTROLS:

   TEMPORARY STABILIZATION – TOPSOIL STOCKPILES AND DISTURBED AREAS OF THE CONSTRUCTION SITE THAT WILL NOT BE REDISTURBED FOR 14 DAYS OR MORE MUST BE STABILIZED BY THE 14TH DAY AFTER THE LAST DISTURBANCE. THE TEMPORARY SEED SHALL BE ANNUAL RYE APPLIED AT THE RATE OF 1.1 LBS PER 1,000 SF. PRIOR TO SEEDING, A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH 1.5 TONS PER ACRE OF HAY MULCH. MULCH TO BE ANCHORED IN PLACE WHERE NECESSARY. AREAS OF THE SITE THAT WILL BE PAVED WILL BE TEMPORARILY STABILIZED BY APPLYING GEOTEXTILES AND A STONE SUB-BASE UNTIL BITUMINOUS PAVEMENT CAN BE APPLIED. CALCIUM CHLORIDE SHALL BE USED FOR DUST CONTROL IF NEEDED.

   PERMANENT STABILIZATION – DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASES SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 3 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY. THE PERMANENT SEED MIX SHALL CONSIST OF 0.45 LBS/1,000 SF TALL FESCUE, 0.20 LBS/1,000 SF CREEPING RED FESCUE, AND 0.20 LBS/1,000 SF BIRDSFOOT TREFOIL. PRIOR TO SEEDING, A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS PER ACRE IF 10-20-20 FERTILIZER SHALL BE APPLIED. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH 1.5 TONS PER ACRE OF HAY MULCH. MULCH TO BE ANCHORED IN PLACE WHERE NECESSARY.

6. STRUCTURAL PRACTICES FOR EROSION AND SEDIMENTATION CONTROL

   SILT SOCK – WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE DISTURBED AREAS AND WILL DELINEATE THE LIMITS OF WORK FOR THE PROPOSED CONSTRUCTION. THE SILT SOCK WILL BE INSTALLED BY OTHERS. POSTS SHALL BE USED WITH AT LEAST 6" OF THE POST BURIED BELOW THE GROUND SURFACE TO PREVENT THE SILT SOCK FROM FORMING GAPS NEAR THE GROUND SURFACE. RUNOFF WILL FLOW THROUGH THE OPENINGS IN THE SILT SOCK WHILE RETAINING THE SEDIMENT WITHIN THE CONSTRUCTION AREA.

   SILT FENCE – WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE DISTURBED AREAS AND WILL DELINEATE THE LIMITS OF WORK FOR THE PROPOSED CONSTRUCTION. THE SILT FENCE WILL BE INSTALLED BY STRETCHING REINFORCED FILTER FABRIC BETWEEN POSTS WITH AT LEAST 8" OF THE FABRIC BURIED BELOW THE GROUND SURFACE TO PREVENT GAPS FROM FORMING NEAR THE GROUND SURFACE. RUNOFF WILL FLOW THROUGH THE OPENINGS IN THE FILTER FABRIC WHILE RETAINING THE SEDIMENT WITHIN THE CONSTRUCTION AREA.

   STABILIZED CONSTRUCTION ENTRANCE – WILL BE INSTALLED IN ACCORDANCE WITH THE DETAIL AT THE ENTRANCE TO THE CONSTRUCTION SITE TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS OFF THE SITE. THE STABILIZED ENTRANCE WILL BE 20'-WIDE AND FLARE AT THE ENTRANCE TO THE PAVED ROAD AND HAVE A DEPTH OF 12" OF STONE. THE STABILIZED ENTRANCE SHALL BE MAINTAINED UNTIL THE REMAINDER OF THE CONSTRUCTION SITE HAS BEEN FULLY STABILIZED. THE PAVED STREET ADJACENT TO THE SITE SHALL BE SWEPT ON A WEEKLY BASIS TO REMOVE EXCESS MUD AND DIRT FROM BEING TRACKED FROM THE SITE. TRUCKS HAULING MATERIAL TO AND/OR FROM THE SITE SHALL BE COVERED WITH A TARPAULIN.

   CATCH BASINS – WILL BE CLEANED ON AN ANNUAL BASIS TO REMOVE ALL SEDIMENTS FROM THE CATCH BASIN SUMPS.

   CATCH BASIN PROTECTION – WILL BE INSTALLED AT ALL CATCH BASINS WITHIN THE CONSTRUCTION AREA. FILTER FABRIC WILL BE INSTALLED AROUND THE GRATES OF CATCH BASINS THAT ARE LOCATED IN THE TRAVEL WAY AND STONE/FILTER FABRIC PROTECTION WILL BE INSTALLED AT THE CATCH BASINS FOUND WITHIN THE PARKING AREA AND GRASS.

   BLANKET SLOPE PROTECTION – SHALL BE INSTALLED ON ALL 2:1 SLOPES OR STEEPER ON SITE. ANCHOR THE TOP OF THE BLANKET BY ANCHORING THE BLANKET IN A 6" DEEP TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING. ROLL THE BLANKET IN THE DIRECTION OF STORM WATER FLOW. WHERE 2 OR MORE STRIPS OF BLANKET ARE REQUIRED, A MINIMUM OF 4" OF OVERLAP SHALL BE PROVIDED.

   STONE CHECK DAMS – WILL BE INSTALLED IN EXISTING AND PROPOSED GRASS SWALES TO REDUCE THE VELOCITY OF CONCENTRATED STORM WATER FLOWS AND PREVENT EROSION OF THE SWALE.

7. STORM WATER MANAGEMENT

   STORM WATER DRAINAGE FOR DEVELOPED AREAS WILL BE COLLECTED BY AN OPEN AND CLOSED DRAINAGE SYSTEM. APPROXIMATELY 6.6± ACRES OF THE 11.3 ACRE SITE WILL REMAIN UNTOUCHED AND IN ITS NATURAL STATE.

8. ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURE DUMPSTERS OR APPROVED ENCLOSURE AND REMOVED FROM THE SITE ON A WEEKLY BASIS. NO CONSTRUCTION WASTE SHALL BE BURIED ON SITE. PORTABLE TOILET SANITARY WASTE FACILITIES WILL BE PROVIDED DURING CONSTRUCTION AND MAINTAINED/DISPOSED OF ON A REGULAR BASIS IN ACCORDANCE WITH TOWN AND STATE REGULATIONS.

9. THRUST BLOCK SHALL BE PROVIDED WHERE WATER LINE CHANGES DIRECTION OR TAPS INTO EXISTING WATER LINE.

10. A LIST OF CONSTRUCTION ITEMS AND OTHER PRODUCTS USED ON THIS PROJECT SHALL BE KEPT ON RECORD WITH THIS PLAN ONSITE. ALL CHEMICALS, PETROLEUM PRODUCTS AND OTHER MATERIALS USED DURING CONSTRUCTION SHALL BE STORED IN A SECURE AREA, AND PRECAUTIONS USED TO PREVENT POTENTIAL SOURCES OF CONTAMINATION OR POLLUTION. ANY SPILL OF THESE TYPES OF SUBSTANCES SHALL BE CLEANED UP AND DISPOSED OF IN A LEGAL MANNER AS SPECIFIED BY STATE REGULATIONS AND THE MANUFACTURER. ANY SPILL IN AMOUNTS EQUAL TO OR EXCEEDING REPORTABLE QUANTITY AS DEFINED BY THE EPA SHALL TAKE THE FOLLOWING STEPS:
    - NOTIFY THE NATIONAL RESPONSE CENTER IMMEDIATELY AT (888) 424-8802; IN WASHINGTON, D.C., CALL (202) 426-2675.
    - WITHIN 14 DAYS, SUBMIT A WRITTEN DESCRIPTION OF THE RELEASE TO THE EPA REGIONAL OFFICE PROVIDING THE DATE AND CIRCUMSTANCES OF THE RELEASE AND THE STEPS TO BE TAKEN TO PREVENT ANOTHER RELEASE.
    - MODIFY THE POLLUTION PREVENTION PLAN TO INCLUDE THE INFORMATION LISTED ABOVE.

    GOOD HOUSEKEEPING:
    THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.
    - AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB;
    - ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE;
    - PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL;
    - SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
    - WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER;
    - MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED;
    - TRASH DUMPSTERS SHALL BE GASKETED OR HAVE A SECURE WATERTIGHT LID AND BE PLACED AWAY FROM STORMWATER CONVEYANCES AND DRAINS.
    - THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.

    HAZARDOUS PRODUCTS:
    THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
    - PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
    - ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION;
    - IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

    PRODUCT SPECIFIC PRACTICES:
    THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:

    PETROLEUM PRODUCTS:
    ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

    FERTILIZERS:
    FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

    PAINTS:
    ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

    CONCRETE TRUCKS:
    EXCESS CONCRETE SHALL BE USED IN AREAS DESIGNATED BY THE SITE CONTRACTOR. WASH WATER SHALL BE DISPOSED OF USING BEST MANAGEMENT PRACTICES. BUILDING CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL DRUM WASH WATER ASSOCIATED WITH CONCRETE FOR THE BUILDING PAD. SITE CONTRACTOR TO COORDINATE AND PROVIDE BUILDING CONTRACTOR WITH AN AREA FOR DRUM WASH WATER.

    SPILL CONTROL PRACTICES:
    IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
    - MANUFACTURER'S 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.
    - MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
    - ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
    - THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
    - SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF SIZE.
    - 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.
    - THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THEY WILL DESIGNATE AT LEAST THREE OTHER SITE PERSONNEL WHO WILL EACH RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.

11. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN RECORDS OF CONSTRUCTION ACTIVITIES, INCLUDING DATES OF MAJOR GRADING ACTIVITIES, DATES WHEN CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED ON A PORTION OF THE SITE, DATES WHEN WORK IS COMPLETED ON A PORTION OF THE SITE, AND DATES WHEN STABILIZATION MEASURES ARE INITIATED ONSITE.

12. THE CONTRACTOR OR OWNER SHALL PERFORM INSPECTIONS OR HAVE A CONSULTING ENGINEER PERFORM INSPECTIONS EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS AFTER A STORM OF 0.5" OR GREATER. INSPECTIONS REPORTS ARE TO BE KEPT ON FILE AT THE SITE WITH THIS PLAN. MAINTENANCE OR MODIFICATION SHALL BE IMPLEMENTED AND ADDED TO THE PLAN AS RECOMMENDED BY THE QUALIFIED INSPECTOR.

STATE OF NEW HAMPSHIRE – NICHOLAS C. GOLON No. 14086 LICENSED – PROFESSIONAL ENGINEER – 5/20/2022

TFM
Civil Engineers | Structural Engineers | Traffic Engineers | Land Surveyors | Landscape Architects | Scientists
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CONTRACT SERVICES						
B	DETAILED DESIGN	–	5/20/22	PH	NG	NG
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REV	DESCRIPTION	ENG/PE#	DATE	DRN	CHKD	APPR
DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

STORMWATER MANAGEMENT PLAN

EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T	#
DRAWN	NC
ENGINEER	JB
CHECKED	NG
APPROVED	NG
DATE	4/8/22

SCALE 1"=60' | FILE: 17752-01 DESIGN_LAYOUT.DWG | IMAGE: | DRAWING NO. 09539909

DIG SAFE – CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

EVERSOURCE VER. 04/2015

5/20/2022 12:08 PM - jbelanger - F:\TFM Projects\17752 Eversource Gregg Substation\17752-01 Eversource Gregg Substation Expansion\17752-01_CSD\PRODUCTION\17752-01 Design_Layout.dwg - LANDSCAPE PLAN

N

NH STATE PLANE

GLEN LAKE

EDGE OF WATER(TYP.)

PROPOSED TREELINE (TYP.)

FLOOD ZONE AE
FLOOD ZONE X

EDGE OF WATER(TYP.)

100' SURFACE WATER BUFFER (WSWC DISTRICT)

8'H. CHAINLINK FENCE(TYP.)

GREGGS SUBSTATION

4"SQ.X3'H. POST(TYP.)

BITUMINOUS PAVEMENT

8'H. CHAINLINK FENCE(TYP.)

6' CHAINLINK FENCE (TYP.)

GENERATOR

8'H. CHAINLINK FENCE(TYP.)

TREED AREA

LANDSCAPING

NO #

NET&T 90-3 W/ TRANS.

PROPOSED CONTROL BUILDING 2,627± SF

6' TALL GIANT GREEN ARBORVITAE 6' O.C. (TYP.)

10' MIN.

10' MIN.

PROPOSED TREELINE (TYP.)

NH ROUTE 114

GOFFSTOWN RAIL TRAIL

BOULDERS(TYP.)

BENCH

MAST ROAD

(PUBLIC) (CLASS I)

CROSSING SIGNAL POLE

NOTES

1. SEE LANDSCAPE NOTES ON SHEET 09539902.

LANDSCAPE LEGEND

SYMBOL	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
❁	91	THUJA PLICATA 'GIANT GREEN' GIANT GREEN WESTERN ARBORVITAE	6' MIN.	B&B

HORIZONTAL SCALE 1"=40'

40 20 0 40

DIG SAFE
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DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

LANDSCAPE PLAN

EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T	#
DRAWN	NC
ENGINEER	JB
CHECKED	NG
APPROVED	NG
DATE	1/21/22

SCALE 1"=40'

FILE: 17752-01 DESIGN_LAYOUT.DWG

IMAGE:

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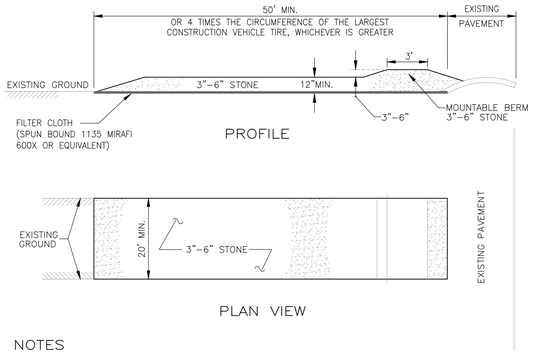
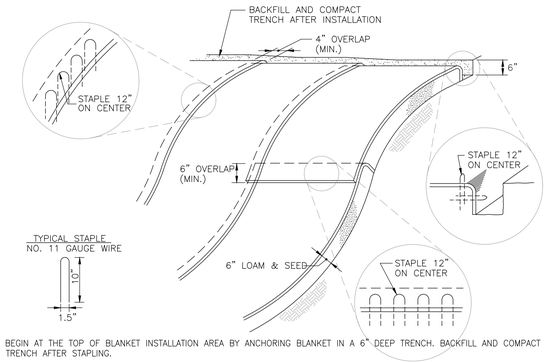


NOTES

1. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE SURFACE.
2. NO SURFACE WATER SHALL BE DIRECTED TOWARD CONSTRUCTION ENTRANCES.
3. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
4. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
5. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN STORM EVENT.

STABILIZED CONSTRUCTION ENTRANCE

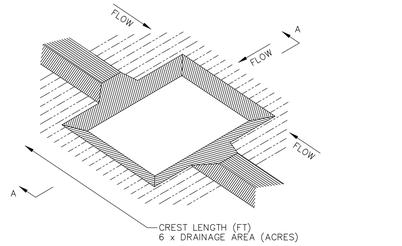
SEE PLAN FOR PROPOSED LOCATION — NOT TO SCALE



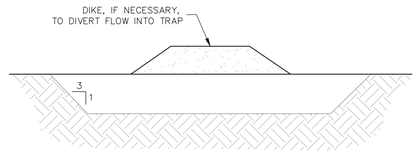
1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING.
2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW.
3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE BLANKET END OVER END WITH 6 INCH (MIN.) OVERLAP AND ANCHOR DOWN SLOPE BLANKET IN A 6 INCH DEEP TRENCH.
5. BLANKET SHALL BE NORTH AMERICAN GREEN C125BN, EAST COAST EROSION CONTROL ECC–2B, AMERICAN EXCELSIOR COMPANY CURLEX III FIBRENET, ROLANKA GEONATURAL EROSION & SEDIMENT CONTROL MATTE JUTEMAT OR BIOD–OCF 30, OR APPROVED EQUAL.
6. **BLANKET SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, MULTI–FILAMENT, OR MONO–FILAMENT POLYPROPYLENE NETTING OR MESH.**

BLANKET SLOPE PROTECTION

FOR EROSION CONTROL — NOT TO SCALE



SEDIMENT TRAP – ISOMETRIC VIEW



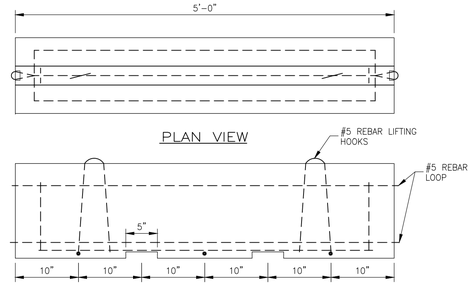
SECTION A–A

NOTES

1. SEDIMENT TRAP TO BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL BASINS/PONDS ARE STABILIZED. IF IT IS DETERMINED THAT CONSTRUCTION OF A SEDIMENT TRAP IS WARRANTED, CONSULT WITH ENGINEER TO DETERMINE APPROPRIATE NUMBER AND DIMENSIONS.

SEDIMENT TRAP

NOT TO SCALE

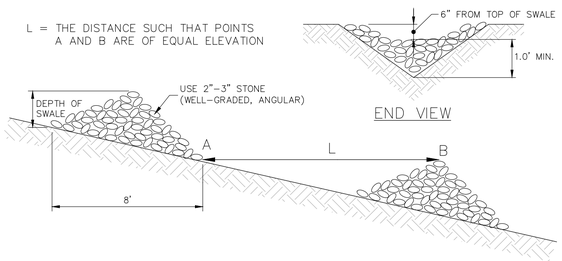


NOTES

1. CONCRETE: 5,000 P.S.I. AFTER 28 DAYS.
2. REINFORCING: #5 REBAR FOR LIFTING, #4 REBAR REINFORCING.
3. WEIGHT: APPROX. 4200 LBS.
4. SUPERIOR CONCRETE CO., INC. ITEM 5425T OR APPROVED EQUAL.

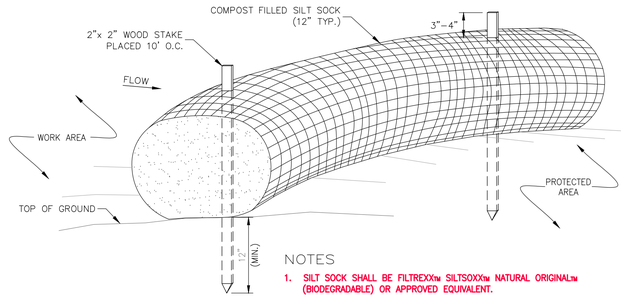
CONCRETE BARRIER

NOT TO SCALE



STONE CHECK DAM

IF NECESSARY — NOT TO SCALE

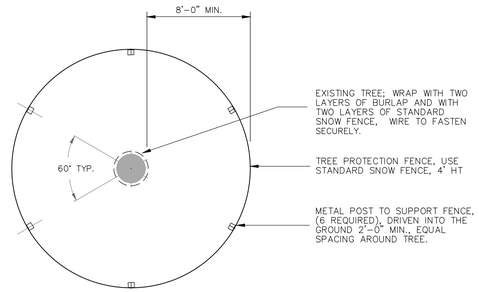


NOTES

1. **SILT SOCK SHALL BE FILTREXX™ SILTSOXX™ NATURAL ORIGINAL™ (BIODEGRADABLE) OR APPROVED EQUIVALENT.**
2. SEE SPECIFICATIONS FOR SOCK SIZE AND COMPOST FILL REQUIREMENTS.
3. SILT SOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED AS NEEDED.
4. COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.

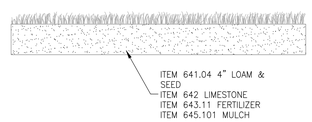
SILT SOCK

NOT TO SCALE



TREE PROTECTION

NOT TO SCALE



LOAM & SEED DETAIL

NOT TO SCALE

STATE OF NEW HAMPSHIRE – NICHOLAS C. GOLON No. 14088 – LICENSED PROFESSIONAL ENGINEER – 5/20/2022

CONTRACT SERVICES	REV	DESCRIPTION	ENG/PE#	DATE	DRN	CHKD	APPR
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DETAILS

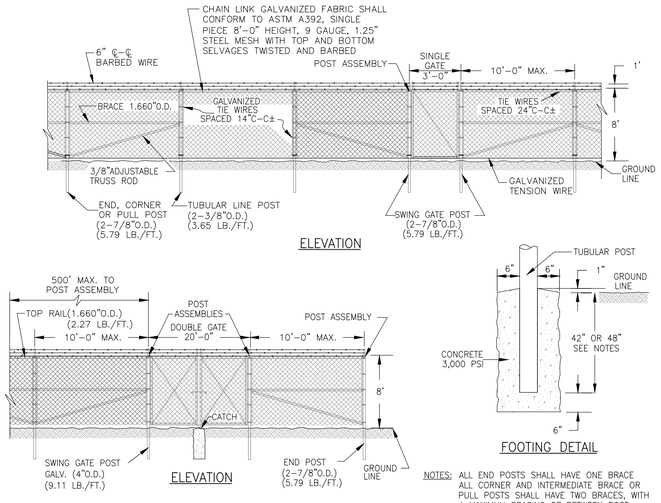
EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T	#
DRAWN	NC
ENGINEER	JB
CHECKED	NG
APPROVED	NG
DATE	4/8/22

SCALE: AS NOTED
FILE: 17752–01 COVER & DETAILS.DWG
IMAGE:
DRAWING NO. 09539911



NOTES: ALL END POSTS SHALL HAVE ONE BRACE
ALL CORNER AND INTERMEDIATE BRACE OR PULL POSTS SHALL HAVE TWO BRACES, WITH A MAXIMUM SPACING OF BETWEEN POST ASSEMBLIES OF 500 FEET.

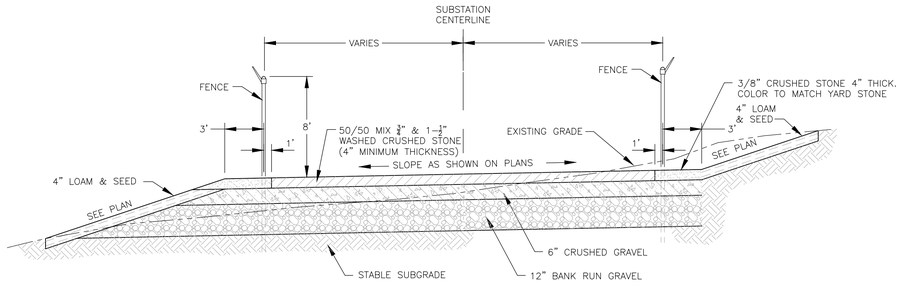
CONCRETE DEPTH TO BE 48" FOR LINE POSTS, 54" FOR GATE POSTS.

GENERAL NOTES

1) FENCE SHALL BE INSTALLED PER NU SPECIFICATIONS SUB 015, 115, & 215.

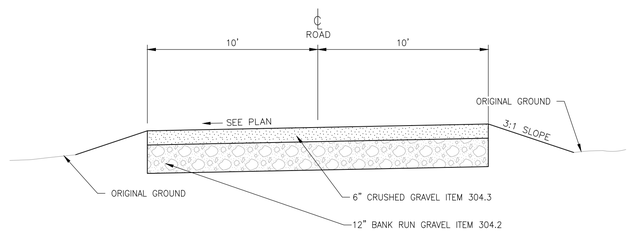
SECURITY FENCE DETAIL

NOT TO SCALE



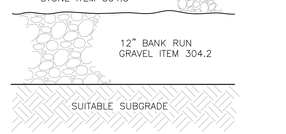
TYPICAL SUBSTATION CROSS SECTION

NOT TO SCALE



GRAVEL DRIVE

NOT TO SCALE

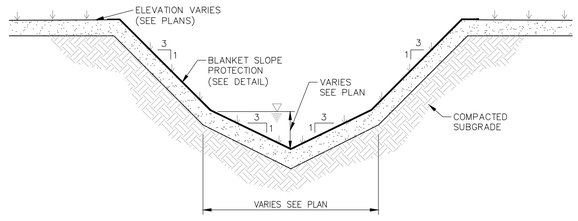


TYPICAL NEW YARD AREA SECTION

NOT TO SCALE

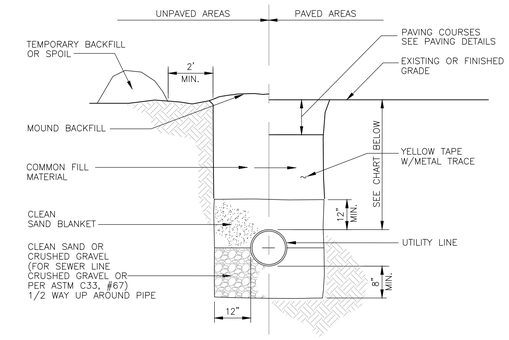
MAINTENANCE

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



V-BOTTOM GRASS SWALE

WITH BLANKET SLOPE PROTECTION NOT TO SCALE



UTILITY	MINIMUM PIPE COVER	
	PAVED AREAS	UNPAVED AREAS
SANITARY SEWER MAIN	6'	4'
STORM DRAIN	3'	3'
WATER SERVICE	5'	5'

TRENCH

FOR SEWER, WATER AND DRAIN LINES NOT TO SCALE

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

STATE OF NEW HAMPSHIRE
NICHOLAS C. GOLON
No. 14088
LICENSED PROFESSIONAL ENGINEER
5/19/22

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DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

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TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T	#
DRAWN: NC	
ENGINEER: JB	
CHECKED: NG	
APPROVED: NG	
DATE: 4/8/22	

SCALE: AS NOTED
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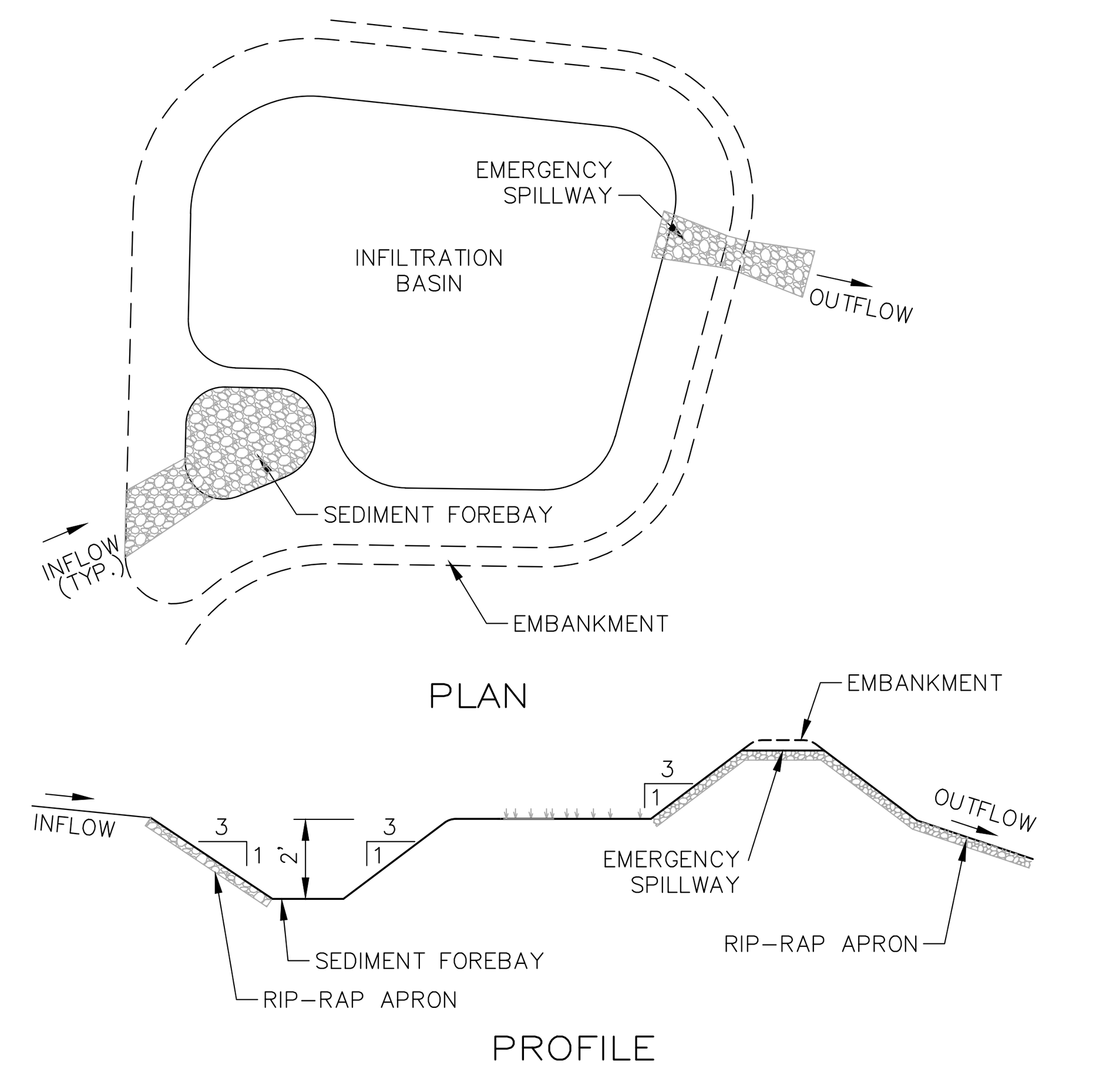
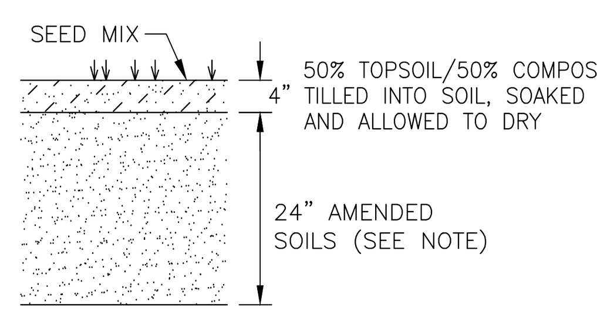


INFILTRATION BASIN NOTES

1. THE INSTALLER SHALL NOT ALLOW ANY VEHICULAR OR CONSTRUCTION EQUIPMENT TRAVEL TO OCCUR ACROSS THE PROPOSED BASIN AREA AT ANY TIME EXCEPT DURING EXCAVATION OF TOPSOIL, SUBSOIL AND OTHER MATERIALS NOT SUITABLE FOR BED BOTTOM CONDITIONS.
2. CAUTION SHOULD BE EXERCISED DURING SITE PREPARATION TO AVOID COMPACTION OF THE INFILTRATIVE SURFACE.
3. SEED MIX
NEW ENGLAND ROADSIDE MATRIX WET MEADOW SEED MIX (MIN. 35 LBS/ACRE)
4. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE BASIN.
5. AFTER THE BASIN IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
6. VEGETATION SHOULD BE ESTABLISHED IMMEDIATELY.
7. DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.



BASIN BOTTOM

AMENDED SOIL NOTE

1. CERTIFIED SOIL SCIENTIST, ENGINEER OR PROFESSIONAL GEOLOGIST TO CONFIRM INFILTRATION RATE OF AMENDED SOIL IN ACCORDANCE WITH ENV-WQ. 1504.14(e). RESULTS TO BE SUBMITTED TO NHDES WITHIN 7 DAYS OF TESTING

INFILTRATION BASIN

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

PREPARE BEDDING:

BACKFILL MATERIAL AROUND THE END SECTION MAY BE THE SAME AS THE MATERIAL AROUND THE PIPE, PLACE A FEW INCHES OF BACKFILL MATERIAL IN THE TRENCH OR DITCH WHERE THE END SECTION WILL BE PLACED. COMPACT AND CONTOUR THIS BEDDING MATERIAL TO GENERALLY MATCH THE END SECTION, EXCAVATE AN AREA IN THE BEDDING WHERE TOE TROUGH WILL SEAT SO THAT THE END SECTION WILL BE LEVEL WITH THE BOTTOM OF THE TRENCH OR DITCH IN THE FINISHED INSTALLATION.

PLACE END SECTION OF PIPE:

OPEN THE END SECTION COLLAR AND SEAT IT OVER THE TWO PIPE CONNECTIONS. ONCE THE END SECTION IS POSITIONED, CHECK TO MAKE SURE THAT THE INVERT OF THE END SECTION MATCHES THE INVERT OF THE PIPE AND THAT THE END SECTION IS LEVEL WITH THE TRENCH OR DITCH BOTTOM.

SECURE THE END SECTION:

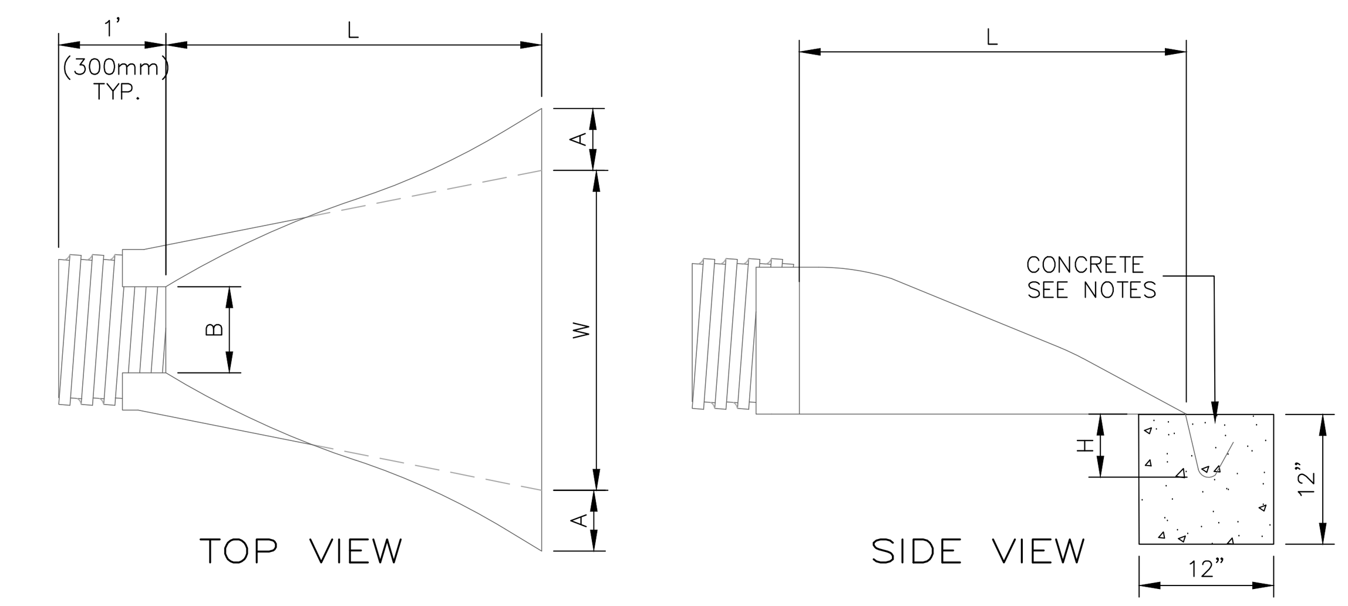
SLIP THE STAINLESS STEEL ROD THROUGH THE PRE-DRILLED HOLES AT THE TOP OF THE COLLAR. THE ROD SHOULD BE BETWEEN THE CROWNS OF THE TWO PIPE CONNECTIONS. PLACE A WASHER ON EITHER END OF THE ROD. PLACE A NUT ON EITHER END OF THE ROD AND TIGHTEN WITH A WRENCH.

SECURE THE TOE TROUGH:

TO PREVENT WASHOUTS FROM HIGH VELOCITY FLOW, IT IS RECOMMENDED THAT THE TROUGH BE SECURED WITH CONCRETE. POUR CONCRETE IN THE TROUGH UP TO THE LEVEL OF THE TRENCH OR DITCH BOTTOM AND ALONG THE ENTIRE LENGTH OF THE TROUGH.

FINISH BACKFILL:

SHOVEL BACKFILL AROUND THE END SECTION IN 6 TO 9 INCH LAYERS EQUALLY ON BOTH SIDES, KNIFING IT TO ELIMINATE VOIDS. TAMP WITH A SMALL-FACED COMPACTOR OR OTHER EQUIPMENT SUITABLE FOR SMALL AREAS. CONTINUE PLACING, KNIFING, AND COMPACTING BACKFILL LAYERS TO THE TOP OF THE END SECTION TO SEAT IT WELL INTO THE BACKFILL.

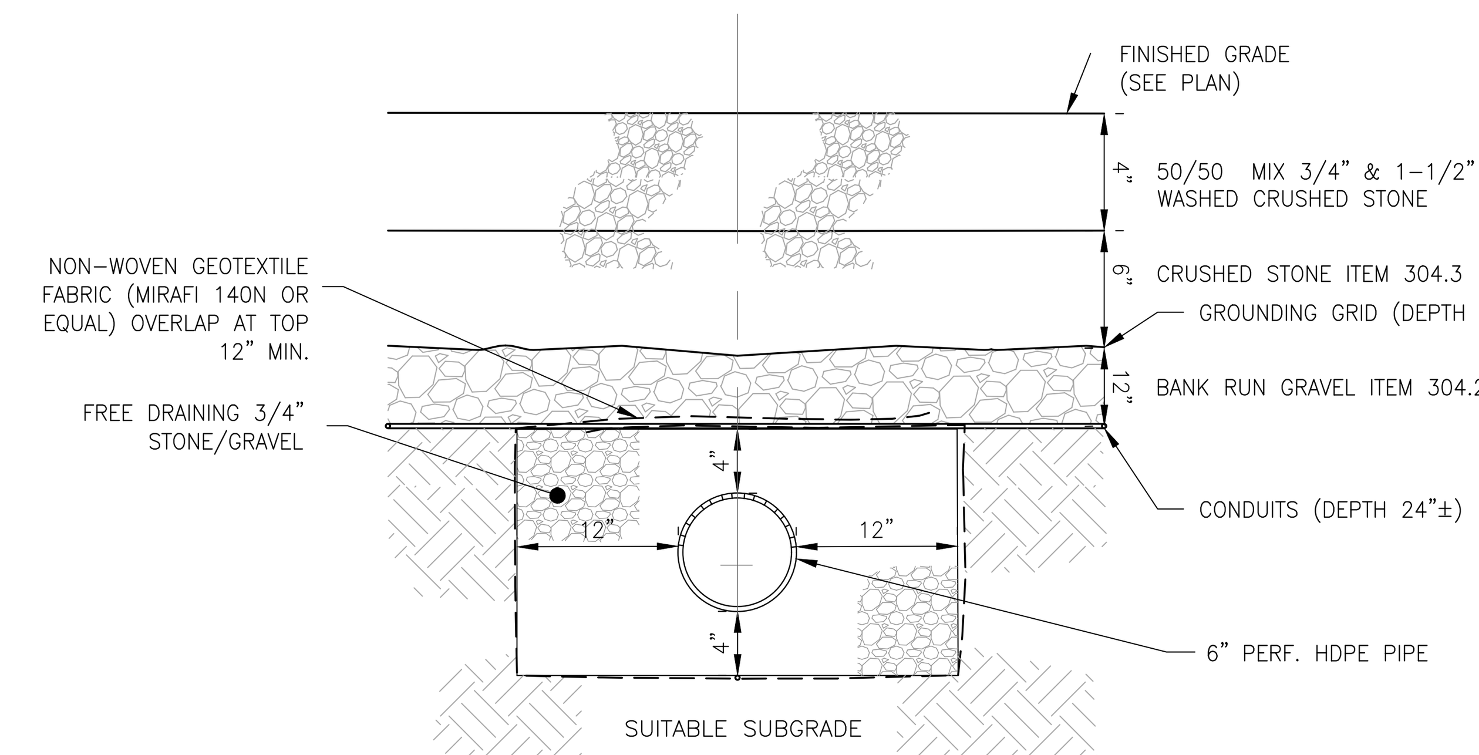


	DIMENSIONS, INCHES (mm)					
PIPE DIAMETER	PART NO.	A, ±1 (25)	B MAX	H, ±1 (25)	L, ±1/2 (13)	W, ±2 (50)
12", 15" (300,375)	1210 NP	6.5 (165)	10 (254)	6.5 (165)	25 (635)	29 (736)
18" (450)	1810 NP	7.5 (190)	15 (380)	6.5 (168)	32 (812)	35 (890)
24" (600)	2410 NP	7.5 (190)	18 (450)	6.5 (165)	36 (900)	45 (1140)
30" (750)	3010 NP	10.5 (266)	NA	7.0 (178)	53 (1346)	68 (1725)
36" (900)	3610 NP	10.5 (266)	NA	7.0 (178)	53 (1346)	68 (1725)

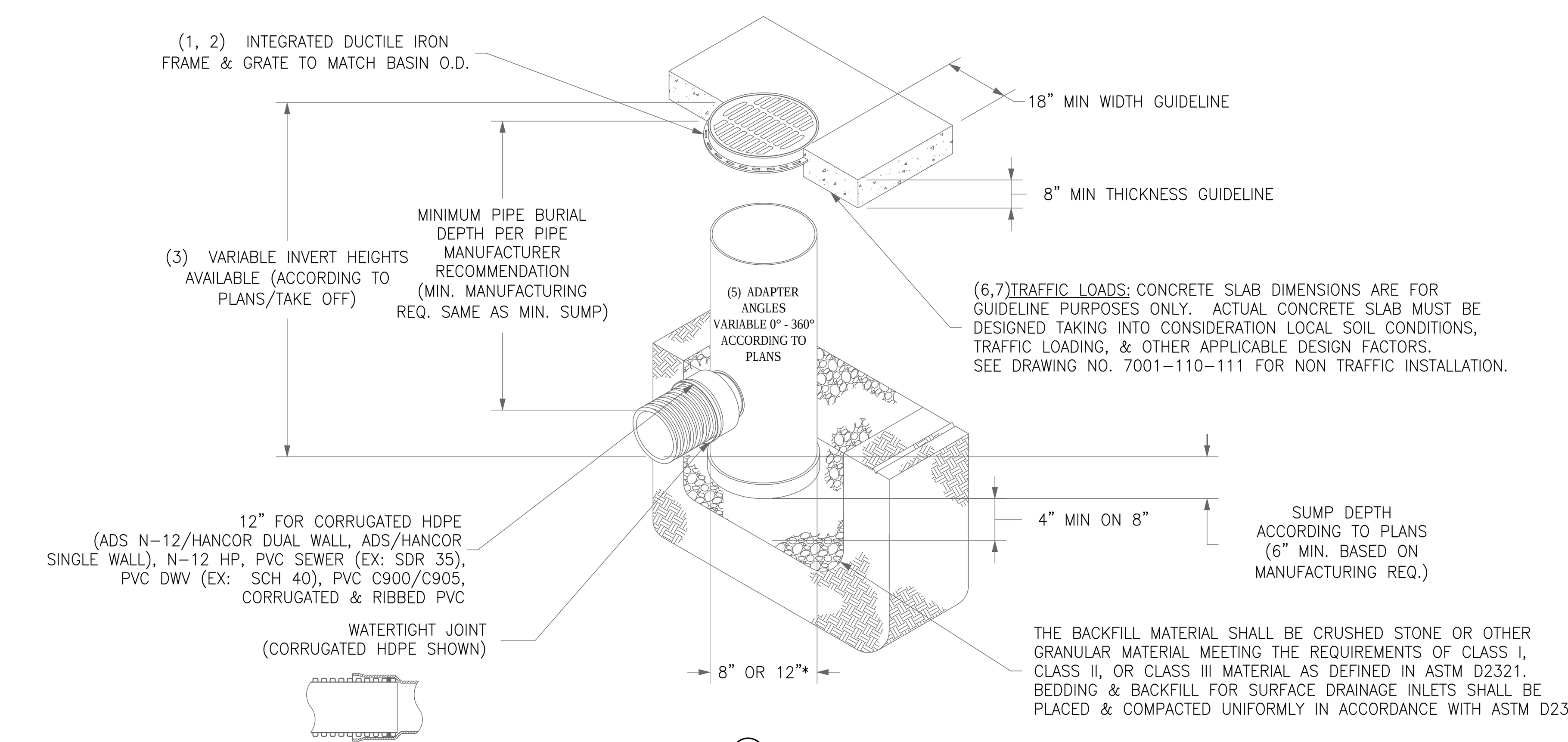
FLARED END SECTION

HIGH DENSITY POLYETHYLENE (HDPE)

NOT TO SCALE



UNDER DRAIN TRENCH

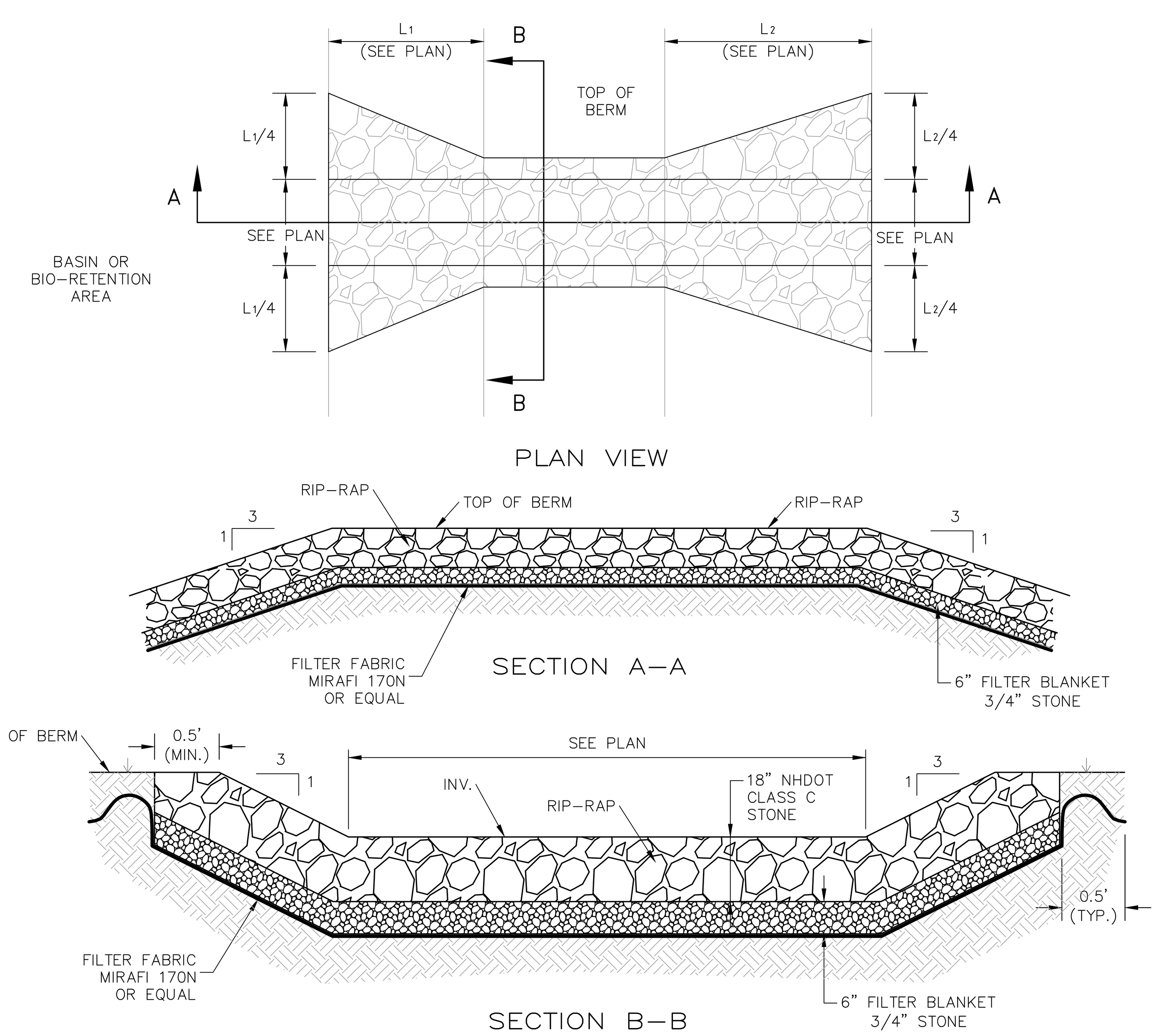


ADS DRAIN BASIN Nyloplast

*INLINE DRAIN AT OUTLET TO FOREBAY TO BE 12", SEE PLAN

IN-LINE DRAIN

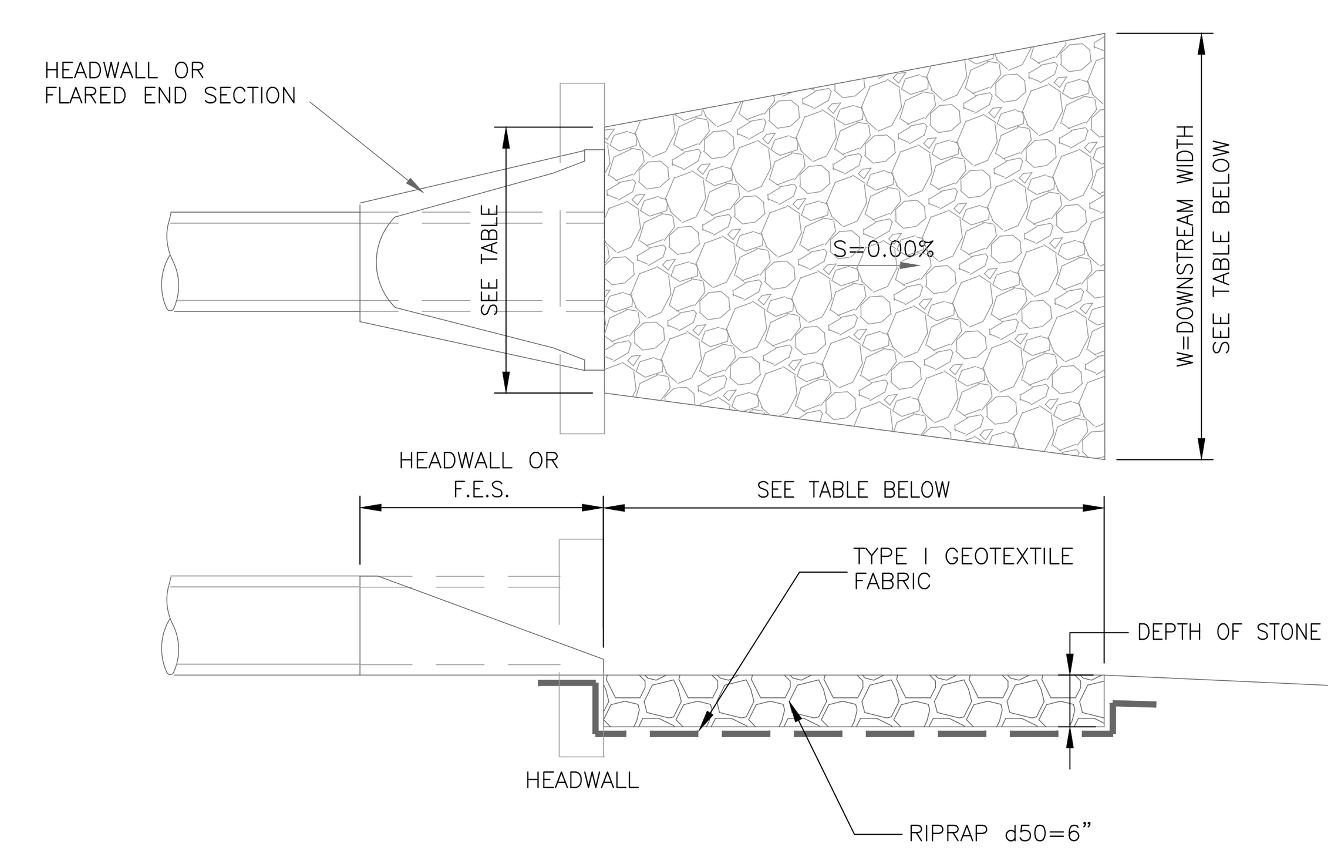
NOT TO SCALE



SPILLWAY	TOP OF BERM EL.	SPILLWAY INV.
INFILTRATION BASIN #1	297.5	297.0

EMERGENCY SPILLWAY

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS:

1. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIP-RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK USED FOR 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.

OUTLET APRON

NOT TO SCALE

OUTLET APRON DIMENSIONS			
OUTLET	L	Wup	Wdown
FES-2	8'	3'	11'
FES-3	30'	3'	33'

STATE OF NEW HAMPSHIRE - NICHOLAS C. GOLON No. 14086 LICENSED - PROFESSIONAL ENGINEER - 5/20/2022

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CONTRACT SERVICES						
REV	DESCRIPTION	ENG/PE#	DATE	DRN	CHKD	APPR
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A	PRELIMINARY DESIGN	–	4/8/22	PH	NG	NG

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

DETAILS

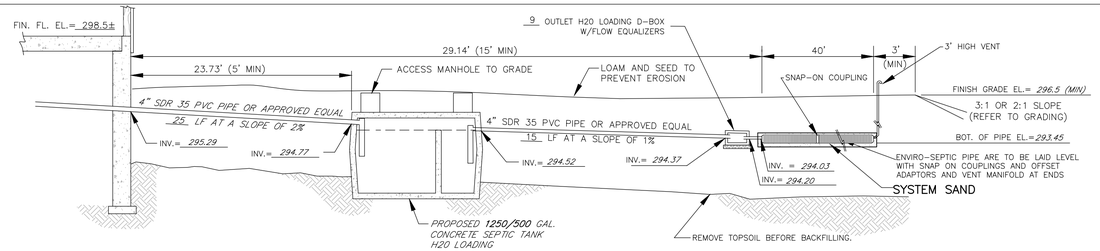
EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

T #
DRAWN: NC
ENGINEER: JB
CHECKED: NG
APPROVED: NG
DATE: 4/8/22

SCALE: AS NOTED
FILE: 17752-01 COVER & DETAILS.DWG
IMAGE:
DRAWING NO. 09539913



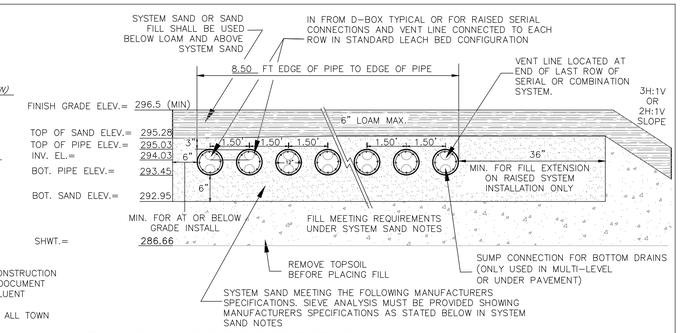
PRODUCT SPECIFICATIONS/SUPPLIERS

1. CONCRETE PRODUCTS ARE TO BE SUPPLIED BY PHOENIX PRECAST PRODUCTS OR APPROVED EQUAL.
2. D-BOX FLOW EQUALIZERS ARE TO BE SUPPLIED BY POLYLOCK INC.

THIS DOCUMENT HAS BEEN PREPARED TO ASSIST IN THE CONSTRUCTION OF A EFFLUENT DISPOSAL SYSTEM. PERSONS USING THIS DOCUMENT FOR PURPOSES OTHER THAN THE CONSTRUCTION OF A EFFLUENT DISPOSAL SYSTEM DO SO AT THEIR OWN RISK. TO THE BEST OF MY KNOWLEDGE THIS PLAN CONFORMS TO ALL TOWN REGULATIONS.

TYPICAL SECTION OF PROPOSED EFFLUENT DISPOSAL SYSTEM (EDS)

NOT TO SCALE



TYPICAL CROSS SECTION

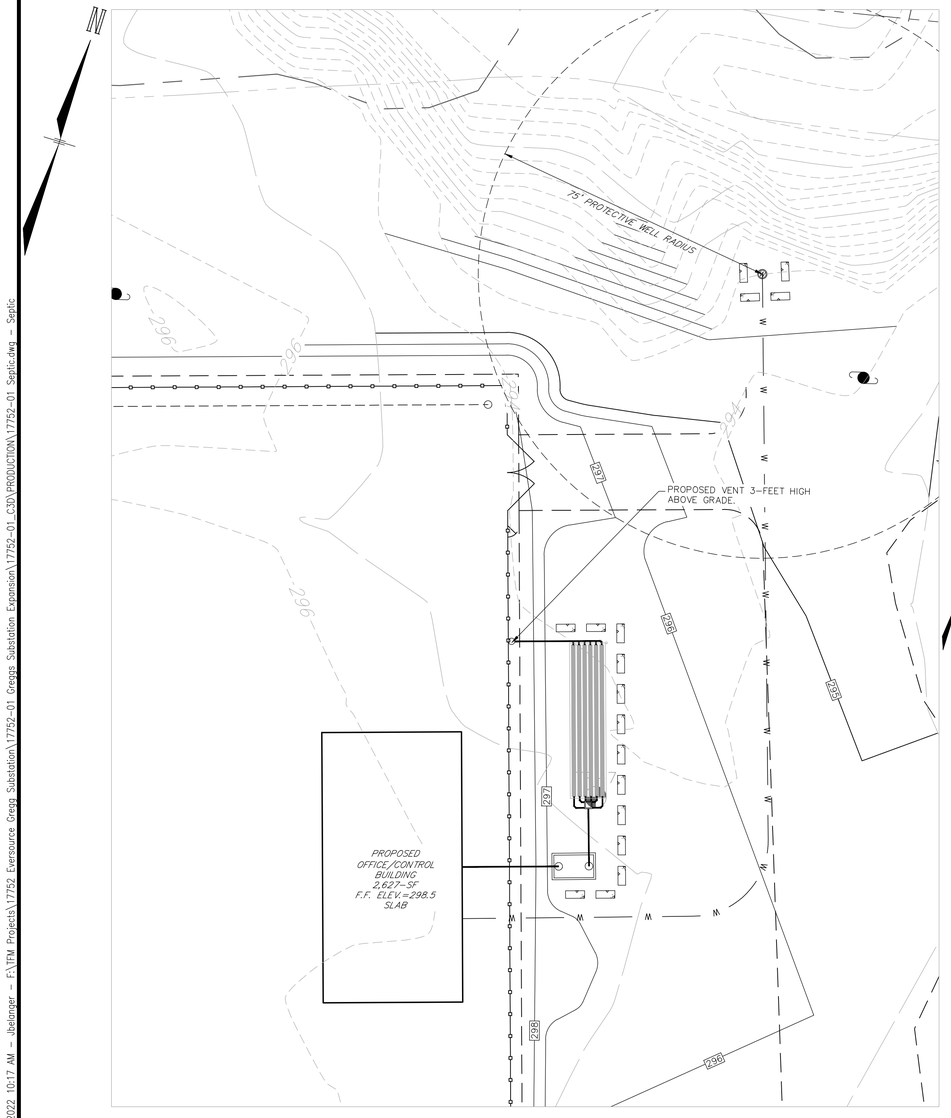
NOT TO SCALE

NOTES

1. THIS IS NOT A PROPERTY LINE SURVEY. ALL PROPERTY LINES TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. INSTALLER SHALL NOT ALLOW ANY VEHICULAR TRAVEL TO OCCUR ACROSS THE PROPOSED EFFLUENT DISPOSAL AREA (EDA) AREA AT ANY TIME EXCEPT DURING THE CONSTRUCTION OF THE EDA.
3. NO OPEN WATER OR VERY POORLY DRAINED SOILS WITHIN 75' OF THIS PROPOSED ISDS OR ITS COMPONENTS.
4. NO POORLY DRAINED SOILS WITHIN 50' OF THIS PROPOSED ISDS OR ITS COMPONENTS. ALL TANK/CHAMBER PENETRATIONS SHALL BE BOOTED AND REQUIRE STAINLESS STEEL STRAPS. TANK/CHAMBER JOINTS SHALL BE SEALED WITH A CONSEAL TYPE SEAL FOR WATER TIGHTNESS.
5. THIS DESIGN DOES NOT PROVIDE FOR THE USE OF A GARBAGE GRINDER OR HIGH WATER USE FIXTURES. BUILDINGS ON HIGH PRESSURE OFFSITE WATER SYSTEMS SHALL HAVE A WATER REGULATOR INSTALLED REDUCING THE FLOW TO 45-50 PSI MAXIMUM.
6. CAUTION IS TO BE EXERCISED DURING FILL PLACEMENT/SITE PREPARATION TO AVOID COMPACTION OR SMEARING OF THE INFILTRATIVE SURFACE; SYSTEM SAND/FILL MATERIAL SHOULD BE MIXED INTO UNDERLYING SOIL WITH EXCAVATOR TEETH TO AVOID ABRUPT MATERIAL CHANGES;
7. MAINTAIN 12 INCHES OF FILL BETWEEN EQUIPMENT TRACKS AND PREPARED SURFACE. DESIGNER SHALL BE NOTIFIED OF ANY CONDITIONS CONTRARY TO THOSE DEPICTED ON THIS PLAN.
8. PROPOSED WATER SERVICE IS SUPPLIED BY ON-SITE WELL.
9. NO FOUNDATION DRAINS ARE PROPOSED
10. ALL PIPING IS TO BE 4" SCH. 40 PVC UNLESS OTHERWISE SPECIFIED ON PLANS.
11. METAL MARKING TAPE MUST BE LAID OVER COMPONENTS.
12. THE INTENT IS TO CONSTRUCT A NEW SEPTIC SYSTEM INCLUDING TANKS AND LEACH BED AREA.
13. INSTALLER TO VERIFY WHETHER AN INSPECTION IS REQUIRED BY LOCAL HEALTH INSPECTOR AND/OR NHDES FOR THE FOLLOWING:
    BED BOTTOM INSPECTION AND/OR INSPECTION OF ENTIRE FIELD, D-BOX & TANKS PRIOR TO BACKFILLING AND LOAM PLACEMENT.
14. RSA 289-3, III., THERE IS NO KNOWN BURIAL SITE OR CEMETERY ON THE LOT WITHIN 100 FEET OF ANY COMPONENT OF THE ISDS.
15. SYSTEM SAND SHALL BE USED FOR THE FIRST 6-INCHES DIRECTLY BELOW THE PIPE, IN-BETWEEN ALL PIPES, 3-INCHES ABOVE THE PIPES AND EXTENDING LATERALLY ACROSS THE FILL EXTENSION (3' MIN.). SYSTEM SAND SHALL CONSIST OF PRESBY ENVIRONMENTAL SYSTEM SAND SPECIFICATIONS AS LISTED BELOW:

SYSTEM SAND CONTENTS REFERENCE	PEI SPECS (BY WEIGHT)	PARTICLE SIZE (METRIC)	PARTICLE SIZE (INCHES)	SIEVE #
GRAVEL UP TO 3/4"	0-35%	2-76 MM	0.08-0.75 IN. 5/64-3/4 IN.	PASSES 3/4 IN. RETAINED #10
SAND (COARSE & VERY COARSE)	40-90%	0.5-2.0 MM	0.0196-0.079 IN. 1/64 - 5/64 IN.	PASSES #10 RETAINED #35
FINES (SILT/CLAY)	< 2%	< .075 MM	< .0029 IN.	PASSES #200

16. SYSTEM SAND SHALL HAVE A PERC RATE OF NOT GREATER THAN 2 MIN./IN.. AREA OF FILL SHALL BE THE PROPOSED EDA AREA AND 3' AROUND, TO THE ORIGINAL GRADE FOR A RAISED SYSTEM AND 6" AROUND FOR AN IN-THE-GROUND SYSTEM. IN A RAISED SYSTEM THE FINISHED GRADE OVER THE BED SHALL EXTEND FOR A MINIMUM OF 3 FEET HORIZONTALLY BEYOND THE OUTER MOST PIPES BEFORE STARTING TO SLOPE, AND BE COVERED BY 4 TO 6 INCHES OF LOAM SUITABLE FOR SEEDING. THE SIDES OF A RAISED EDA SHALL TAPER AT A 3:1 OR 2:1 SLOPE AND STABILIZED BY BEING COVERED WITH: AT LEAST 4 INCHES OF LOAM THAT IS SEEDED IMMEDIATELY; AT LEAST 3 INCHES OF BARK MULCH; OR OTHER MATERIAL THAT WILL PREVENT EROSION AND LEAD TO LONG-TERM STABILITY OF THE SLOPES WITHOUT INTERFERING WITH VENTILATION, SUCH AS AN EROSION CONTROL BLANKET.
17. FILL REQUIRED TO RAISE THE EDA TO THE APPROVED DISTANCE ABOVE THE SEASONAL HIGH GROUND WATER TABLE OR IMPERVIOUS SUBSTRATUM SHALL BE CLEAN BANK RUN SAND, FREE OF TOPSOIL OR HUMUS, DREDGINGS, OR STONES MORE THAN 6 INCHES IN ANY DIMENSION. FILL USED TO CREATE A RECEIVING LAYER IN ACCORDANCE WITH THIS SECTION SHALL CONTAIN NO TREE STUMPS, SAWDUST, WOOD CHIPS, TREE BARK, BRICKS, ASPHALT, CONCRETE, METAL, WALLBOARD, CONSTRUCTION DEBRIS, OR OTHER SUCH NON-SOIL MATERIALS. THE FIRST 6 INCHES DIRECTLY BENEATH THE BED BOTTOM (6" BELOW PRESBY SAND FOR PRESBY SYSTEMS) AND EXTENDING LATERALLY ACROSS THE FILL EXTENSION SHALL CONSIST OF MATERIALS MEETING THE ASTM C-33 SPECIFICATION, HAVE A PERCOLATION RATE OF NOT GREATER THAN 15 MINUTES PER INCH AFTER PLACEMENT AND COMPACTION, AND BE HOMOGENEOUS, AND IF BEDDING PLANES OR OTHER DISCONTINUITIES ARE PRESENT, THE APPLICANT SHALL SUBMIT DETAILED SOIL ANALYSIS FROM A PERSON OR LABORATORY QUALIFIED TO PERFORM THE ANALYSIS WITH THE APPLICATION TO ESTABLISH THAT THE FILL MEETS THE ABOVE CRITERIA.



TEST PIT DATA

TEST PIT #7

DATE 05-08-22

0'	Ap	10YR 4/2 DARK BROWN LOAMY SAND, MASSIVE-WEAK, VERY FRIABLE
3"	B	10YR 4/6, MEDUIM BROWN LOAMY SAND, MASSIVE-WEAK, FRIABLE
20"	C	10YR 7/6, LIGHT YELLOWISH BROWN COARSE SAND, GRANULAR WEAK, LOOSE
94"		

ESHWT: 94"+
GWT: N/O
ROOTS: N/O
LEDGE: 94"+
PERC. TEST: 4 MIN/IN @ 24"

SOIL DATA

HILLSBOROUGH COUNTY, NEW HAMPSHIRE, EASTERN PART VIA WEB SOIL SURVEY ON 5-18-2022

HsA-HINCKLEY LOAMY SAND, 0 TO 3 PERCENT SLOPES
HsD-HINCKLEY LOAMY SAND, 15 TO 35 PERCENT SLOPES

LOT LOADING

11.99 ACRES

WETLAND NOTE

NO WETLANDS WERE LOCATED IN ACCORDANCE WITH ENV-WQ 1014.06 BY MATTHEW R. ROUTHIER, DESIGNER # 1740 ON 03/22/2022.

SEPTIC TANK SIZING

NHDES REQ'D: 1,250 GAL. (300-600 GPD) = 1,250 GAL.
PROVIDED: (1) 1,250/500 TANK = 1,750 GAL.

SYSTEM REPLACEMENT

IF SYSTEM FAILURE OCCURS, THE SYSTEM IS TO BE REBUILT IN SAME LOCATION.

DESIGN DATA

NHDES: 2,627-SF/100 SF = 26.27 * 5 GPD = 131.35 GPD (300 GPD MIN. REQ'D) 425-SF REQ'D @ 4 MIN. PERC

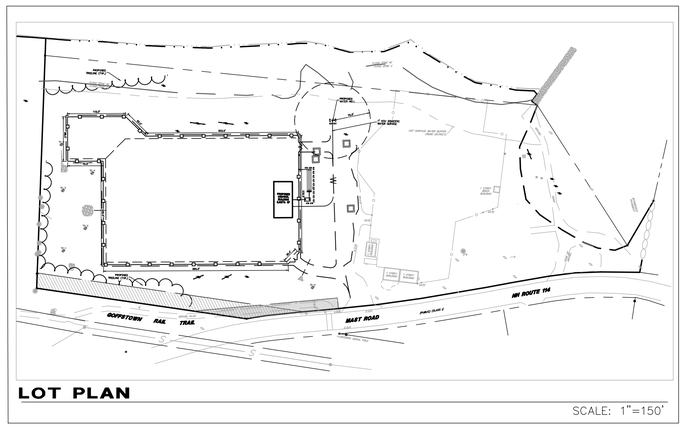
ENVIRO-SEPTIC REQUIRES 141 LF AT 4 MIN PERC RATE FOR 300 GPD UNSPECIFIED OFFICE

PROPOSED IS 240 LF AT 8.5' X 40.0' EDGE OF PIPE TO EDGE OF PIPE. 6 LINES, 40' LONG, 1.50' CTR TO CTR.

DESIGN INTENT

THE BOTTOM OF THE EFFLUENT DISPOSAL SYSTEM (EDS) SHALL BE CONSTRUCTED AT 293.45 ELEVATION, AND THERE IS APPROXIMATELY 0.55 FT. BELOW ORIGINAL GROUND ON THE HIGH CONTOUR (ELEV 294.0) OF THE DESIGNED EDS.

SUBDIVISION APPROVAL NO. PRE 1967
PREVIOUS CONSTRUCTION APPROVAL NO. N/A DATED: N/A
PREVIOUS OPERATIONAL APPROVAL DATE: N/A

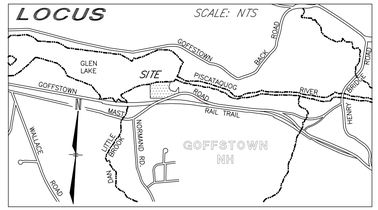


LOT PLAN

SCALE: 1"=150'

LOCUS

SCALE: NTS



NEW HAMPSHIRE
Designer of Subsurface Disposal Systems
Matthew Routhier No. 1740
Department of Environmental Services
05/20/2022

DIG SAFE NH
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

CONTRACT SERVICES

REV	DESCRIPTION	ENG/PE#	DATE	DRN	CHKD	APPR
B	DETAILED DESIGN	-	5/20/22	PH	NG	NG
A	PRELIMINARY DESIGN	-	4/8/22	PH	NG	NG

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

EFFLUENT DISPOSAL SYSTEM DESIGN PLAN

EVERSOURCE ENERGY

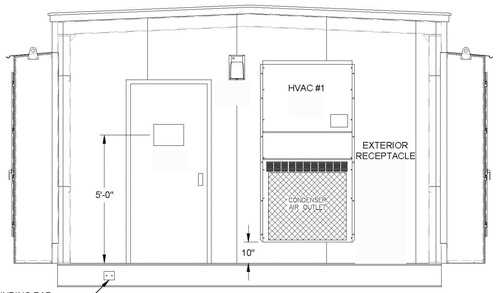
NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

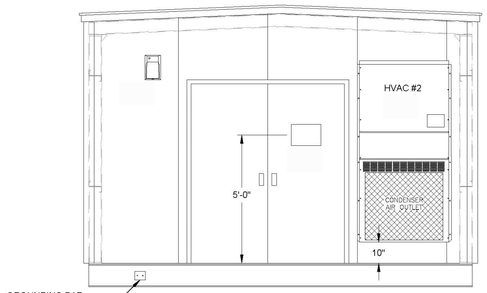
T #
DRAWN NC
ENGINEER MR
CHECKED NG
APPROVED NG
DATE 4/8/22
SCALE AS NOTED
FILE: 17752-01 SEPTIC.DWG
IMAGE:
DRAWING NO. 09539914

5/20/2022 10:17 AM - jbetanger - F:\TM Projects\17752 Eversource Gregg Substation\17752-01 Greggs Substation Expansion\17752-01 c3D\PRODUCTION\17752-01 Septic.dwg - Septic

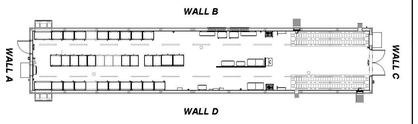
EVERSOURCE VER: 04/2015



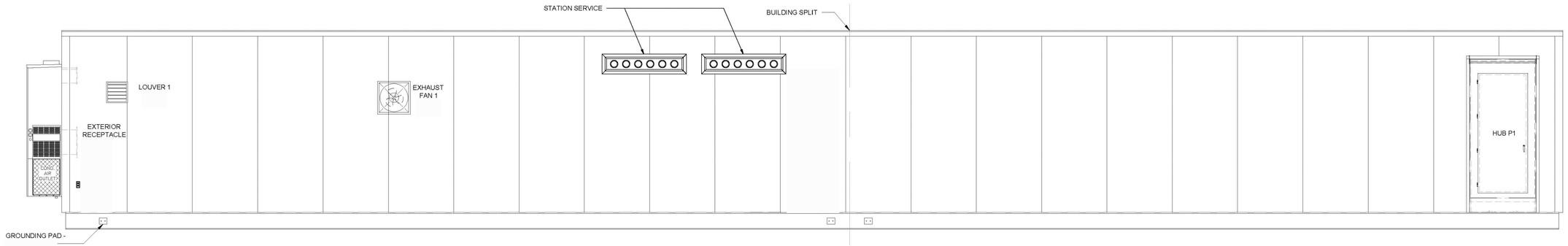
WALL A



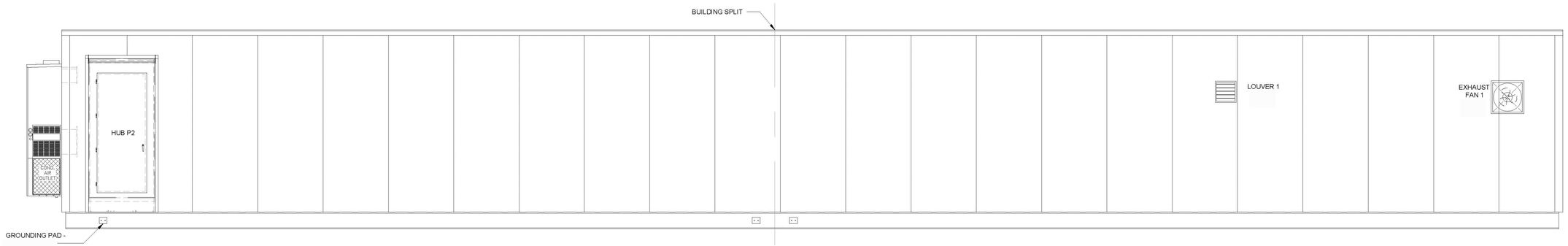
WALL C



ELEVATION VIEW LAYOUT



WALL B



WALL D

NOTES

1. THESE ELEVATIONS ARE FOR PRELIMINARY DISCUSSION PURPOSES ONLY AND ARE NOT SUITABLE FOR CONSTRUCTION.
2. CONTROL BUILDING COLOR SHALL BE NEUTRAL TONES.
3. FINAL DESIGN INCLUDING LAYOUT, COLOR AND MATERIALS MAY CHANGE FROM WHAT IS SHOWN ON THIS PLAN.

PRELIMINARY ARCHITECTURAL ELEVATIONS

PROPOSED ELECTRICAL CONTROL BUILDING — NOT TO SCALE

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com
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CONTRACT SERVICES

REV.	DESCRIPTION	ENG/PE#	DATE	DRN	CHKD	APPR
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A	PRELIMINARY DESIGN	–	4/8/22	PH	NG	NG

DWG REV	EPN/DESCRIPTION	CONT/PE#	DATE	DRN	CHKD	APPR

PRELIMINARY ARCHITECTURAL ELEVATION

EVERSOURCE ENERGY

NEW HAMPSHIRE

TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
GREGGS SUBSTATION REBUILD

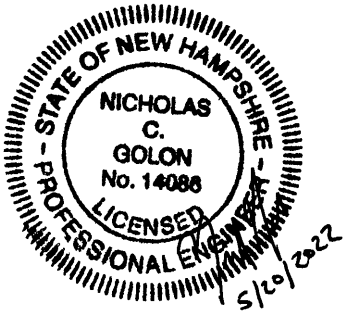
T	#
DRAWN	NC
ENGINEER	JB
CHECKED	NG
APPROVED	NG
DATE	4/8/22

SCALE: AS NOTED
FILE: 17752-01 COVER & DETAILS.DWG
IMAGE:
DRAWING NO. A-01

STORMWATER MANAGEMENT REPORT

Eversource Energy
Greggs Substation Rebuild
Tax Map 5 Lot 15
39 Mast Road
Goffstown, NH

Prepared On:
May 20, 2022



Prepared for:
Eversource Energy
13 Legends Drive
Hooksett, NH 03106

TFM Job Number:
17752-01

Prepared by:

TFM®
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

48 Constitution Drive, Bedford, NH 03110
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Eversource Energy
Greggs Substation Rebuild

39 Mast Rd, Goffstown, NH 03045
May 17, 2022

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- Area & Soil Listings
- Node Listing: 2-yr, 10-yr, 25-yr, and 50-yr (per AoT & Goffstown)
- Full Summary: 10-yr (per-AoT)

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- Diagram
- Area & Soil Listings
- Node Listing: 2-yr, 10-yr, 25-yr, and 50-yr (per AoT & Goffstown)
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Riprap Calculations

Part 7 Infiltration Feasibility Report

Infiltration Feasibility Report

Part 8 Inspection and Maintenance Manual

Inspection & Maintenance Manual

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Pre- & Post-Development Drainage Plans (full size in pocket)

Executive Summary

The project proposes a rebuild of the Greggs Substation with associated site improvements and phased utility pole relocations. The property is located at 39 Mast Road and is within the Agricultural (A) Zoning District and is bordered by Glen Lake and Greggs Falls to the north , Greggs Falls to the east, Goffstown Physical Therapy, Goffstown Rail Trail and baseball fields to the south, and undeveloped land which includes an existing utility ROW to the west.

There is an existing de facto stormwater management area, located northwest of the existing substation yard, which ultimately receives stormwater runoff from the majority of the developed portions of the site in its current condition. One (1) proposed infiltration basin shall be located west of the proposed substation yard, which will provide pretreatment/treatment and manage runoff from the portions of the property subject to this development.

The systems have been designed to maintain peak flows during all storm conditions up to and including the 50-year storm event.

- Best Management Practices are proposed to manage stormwater from the development and provide treatment, groundwater recharge and maintain existing flow rates leaving the site.
    - (1) proposed infiltration basin will collect and recharge stormwater from proposed impervious surfaces on the site. These basins are required to have pre-treatment prior to stormwater entering the main cell of the basin. The proposed forebay will allow sediment to settle out of the stormwater. Infiltration basins remove pollutants, reduce the peak rates of flow, and flow volume by allowing evaporation and infiltration of the stormwater. The stormwater receives treatment as it percolates through the soil allowing for filtration and absorption by the organic matter and mineral complexes. Infiltration also provides groundwater recharge.
- The Water Quality Volume (WQV) has been met by providing the required storage below the lowest outlet orifice of the stormwater management area.

Description of Project

The proposed area of work is located to the west of the existing substation yard and currently consists of open grassed area and overhead electric lines and further west by mature wooded areas. The site is relatively flat with the exception of the northern boundary of the site which slopes downward toward Glen Lake. Access to the site consists of a gravel drive from Mast Road (NH-114). Photos of existing features can be found in Section 2 of this Report.

One (1) proposed infiltration basin, located along the western portion of the proposed substation will provide pretreatment/treatment and manage runoff from the developed portions of the property.

The objectives for the post-development drainage design are to use best management practices to attenuate flows, provide pretreatment and treatment to collected stormwater runoff and maintain groundwater recharge.

The intent of this report is: 1) to analyze the rate of runoff from the site for the pre- and post-development conditions. The drainage system will be designed to maintain the current peak rate of runoff from the site, and 2) to provide stormwater treatment and groundwater recharge for the runoff from the site expansion in accordance with the requirements of the NHDES and Town of Goffstown.

Storm Water Methodology

Pre-Development Conditions

The site is located at 39 Mast Road just north of NH-114 and south of Glen Lake and the Piscataquog River. The existing lot is a total 11.3+/- acres and approximately 4.6+/- acres will be disturbed as part of the proposed development. The area of work is located primarily throughout the western half of the site.

The areas to the east and west of the site are wooded / undeveloped with the exception of an existing utility corridor. Existing topography consists of a level plateau in the area of the existing substation. The remainder of the site is relatively flat with the exception of the northern boundary of the site which slopes downward to Glen Lake.

Evaluation points have been defined by abutting parcels, with identifying HydroCAD Links as follows:

- The southeastern abutting parcels (Tax Map 5, Lots 58, 59, and 59A) have been denoted as POI-A;
- The southwestern abutting parcels (Tax Map 5, Lot 60) has been denoted as POI-B;
- The western abutting parcel (Tax Map 31, Lot 23) has been denoted as POI-C;
- The existing lake (Glen Lake) ahs been denoted as POI-D; and
- The eastern abutting parcel (Tax Map 5, Block 15, Lot 2) denoted as POI-E.

Due to the existing and proposed site improvements, stormwater runoff from the property does not discharge to POI-C in pre-development conditions. These evaluation points have been included in the HydroCAD Analysis for informative purposes.

A NRCS Soils Report was referenced for the subject property which resulted in hydrologic soils group (HSG) type A soils. Rainfall amounts were obtained from the Northeast Regional Climate Center and NRCS Storm Type-III was utilized for the HydroCAD Analysis. An Extreme Precipitation Table has been provided in Section 2 of this Report.

To model the site drainage, the HydroCAD Version 10.10-3a program has been used. The software is based on the SCS TR-20 technique used for modeling the hydrology and hydraulics of storm water runoff. The 2-year, 10-year, 25-year, and 50-year storm-events are included per the requirements of the NHDES AoT and the Town of Goffstown.

Post-Development Conditions

The project proposes to rebuild the existing Eversource Energy Greggs Subsation, including phased utility pole relocations and a 2,627-sf control house within the substation yard. The control house will be served by private septic and water. The proposed area of work is located to the west of the existing substation yard and currently consists of undeveloped land with predominantly grass and an existing utility service corridor. There is natural vegetation and steep slopes along the property line abutting Glen Lake. Access to the site is located via an existing gravel access drive from Mast Road.

Stormwater runoff from the proposed substation yard will be conveyed via an open and closed drainage system to the proposed infiltration basin which allow for removal of pollutants prior to recharging the aquifer.

The objectives for the post-development drainage design is to use best management practices to attenuate the flow, provide pre-treatment and treatment to collected stormwater and maintain groundwater recharge.

The post-development drainage model represents the site divided into multiple subcatchments based on the layout of the proposed stormwater collection systems.

The Groundwater Recharge Volume (GRV) has been met via the existing and prosed infiltration systems.

All pre-development evaluation points have been analyzed in post-development conditions.

Groundwater Recharge

The required GRV for the HSG A soils which has been replaced by impervious cover per AoT regulations has been provided within the proposed infiltration systems. Supporting calculations has been provided on the GRV and Best Management Practices (BMP) Worksheet, Section 3 of this Report.

Stormwater Treatment

Best Management Practices are proposed to manage the stormwater from the development and provide treatment, groundwater recharge and maintain existing flow rates leaving the site.

The proposed infiltration basin is designed to maintain existing recharge rates and to preserve groundwater levels. Pollutant removal is achieved as stormwater percolates through the 24-inches of amended soils below the infiltration system and existing subsurface material of the infiltration basin. Pretreatment will be provided prior to stormwater entering the main cell of the basin by sediment forebays, which allow sediment to settle out of the stormwater.

The Water Quality Volume (WQV) is fully detained within the existing and proposed infiltration basins providing the storm water treatment.

Test pits and infiltration testing were performed as part of the project design to identify Estimated Seasonal High-Water Table (ESHWT) and subgrade Infiltration Rates. The infiltration rates used in these calculations are based on those values obtained, with a factor of safety. Due to an existing infiltration rate exceeding 10 inches/hour in the area of the proposed infiltration system, 18-inches of amended soils will be installed per NHDES AoT regulations. Specifications have been included on the Site Plan Detail Sheets.

NRCS Soils Mapping was utilized to determine the on-site soil characteristics, which in turn, were used to specify CN and Tc values in both the Pre- and Post- development subcatchment analysis.

Erosion Control Measures

Erosion Control Measures are found on the Stormwater Management Plan within the plan set. The erosion control and construction sequence notes on the Notes Sheets contain specifications for stabilizing disturbed areas and limiting the length of time these areas are exposed.

Temporary Erosion Control Measures

Silt sock is proposed along the edges of downslope site work to prevent sediment from discharging from the project area. A stabilized construction entrance is proposed to keep sediment from being tracked onto the street during construction.

Permanent Erosion Control Measures

A combination of open and closed drainage systems is proposed on the site to capture stormwater runoff from the project. As the majority of the proposed drainage will be captured in closed and open systems, areas of concentrated flow will be stabilized with riprap and discharge to centralized stable discharge points. Areas disturbed during construction which will not be impervious or stabilized with riprap in post-development conditions will be loam and seeded to restabilize the areas upon completion of constructions.

Flood Protection

Examination of the Flood Insurance Rate Map for Cheshire County New Hampshire (All Jurisdictions), Map Numbered 33011C0214D, Effective Date: September 25, 2009, indicates that the proposed work is not located within the floodplain.

Conclusion

Peak Rate Flows

There is no increase in the peak rate of runoff or stormwater volumes at the discharge points from the project site.

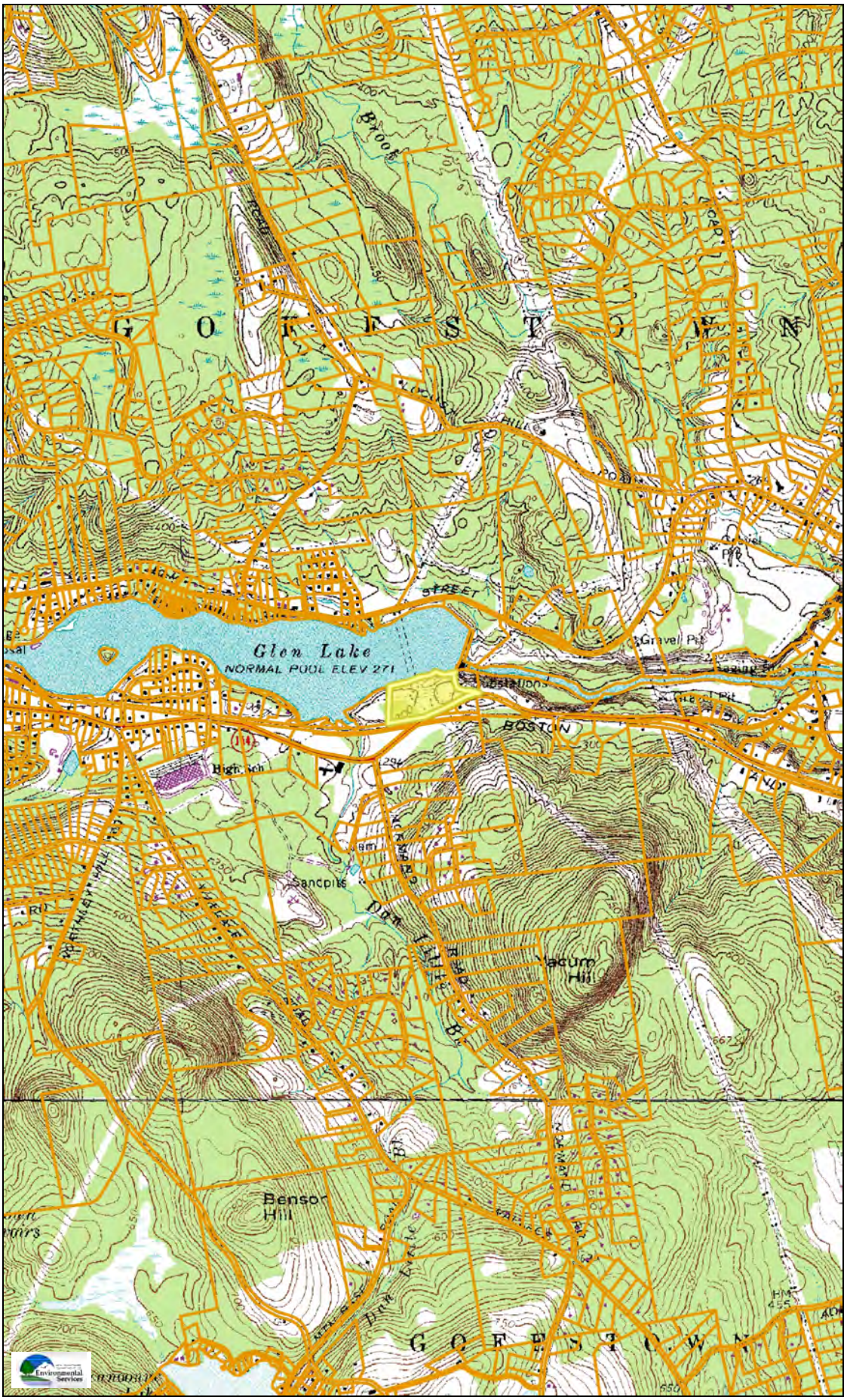
Flow (cfs)	2-YR		10-YR		25-YR		50-YR	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST
POI-A	0.0	0.0	0.3	0.3	0.7	0.6	1.2	0.9
POI-B	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2
POI-C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POI-D	2.2	2.2	3.4	3.4	4.3	4.3	5.2	5.2
POI-E	0.0	0.0	0.2	0.2	0.4	0.4	0.7	0.7

Volume (cf)	2-YR		10-YR		25-YR		50-YR	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST
POI-A	489	425	2,497	1,907	4,868	3,764	7,530	5,889
POI-B	0.0	0.0	180	268	1,570	991	3,933	1,998
POI-C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POI-D	7,441	7,441	12,049	12,049	16,383	16,383	20,880	20,880
POI-E	242	242	1,229	1,229	2,394	2,394	3,701	3,701

Treatment

The proposed infiltration basin has been designed to provide adequate treatment for stormwater runoff.

7.5' USGS Map of the Gregg Substation Expansion



Legend

Parcels
- Parcel Polygons
- Attributes for Additional Lines

Additional Lines

Map Scale

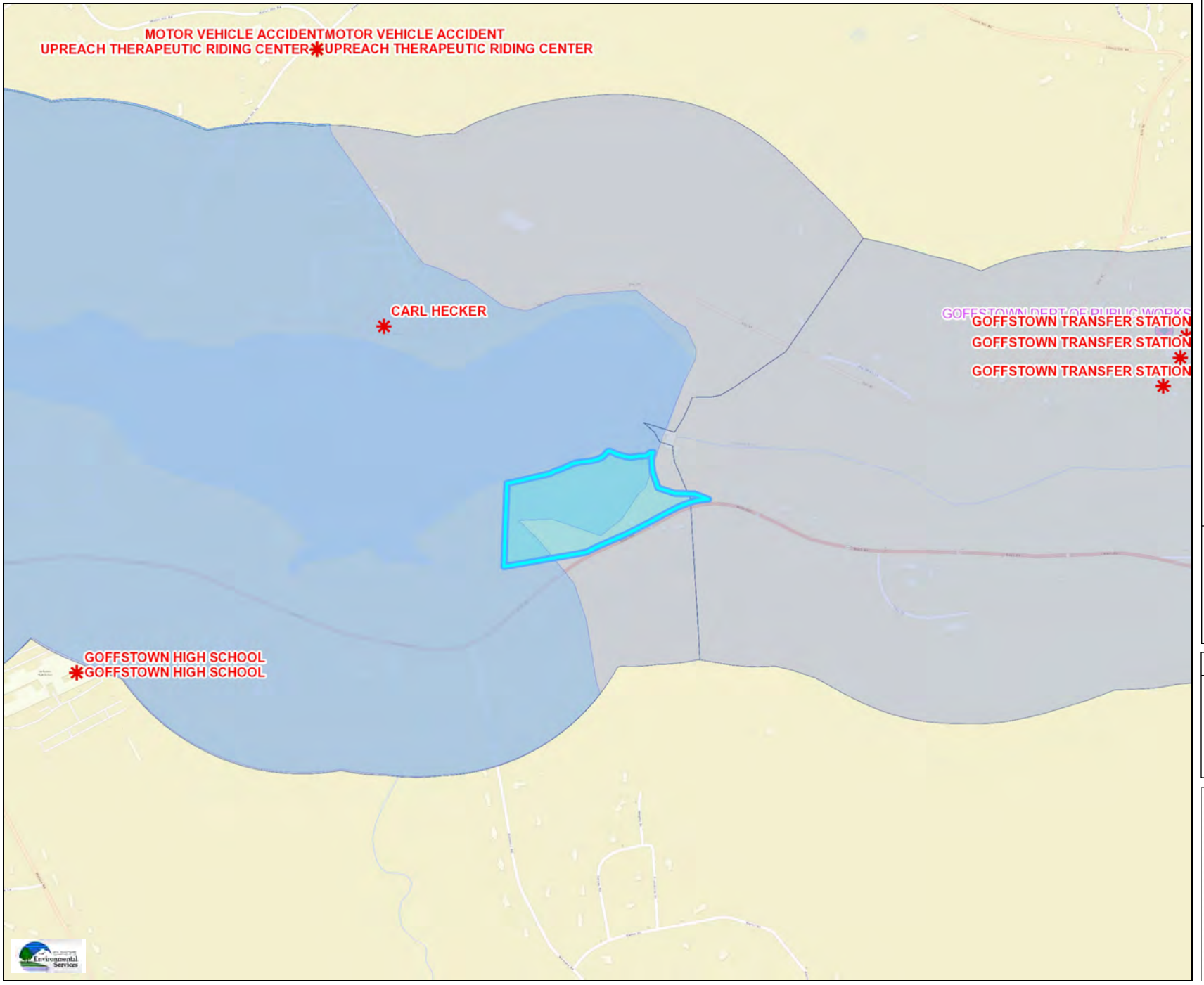
1: 24,000

Map Generated: 4/14/2022

Notes

OneStop 7.5' USGS map of
39 Mast Road, Goffstown NH
Tax Map 5 Lot 15

NHDES AoT Screening Layers



Legend

- Remediation Sites
- Coastal and Great Bay Regi Communities
- Designated Rivers Quarterm Buffer
- Public Water Supply Wells
- Groundwater Classification / GA1
- Groundwater Classification / GA2
- Water Supply Intake Protect Areas
- Wellhead Protection Areas
- Class A Lakes with a Quarte Buffer
- Class A - All Features
- All Lakes, with a Quarter Mil Buffer
- Outstanding Resource Wate Watersheds
- Surface Waters with Impairn 2016 with Quarter Mile Buffe
- Watersheds with Chloride Impairments 2016

Map Scale

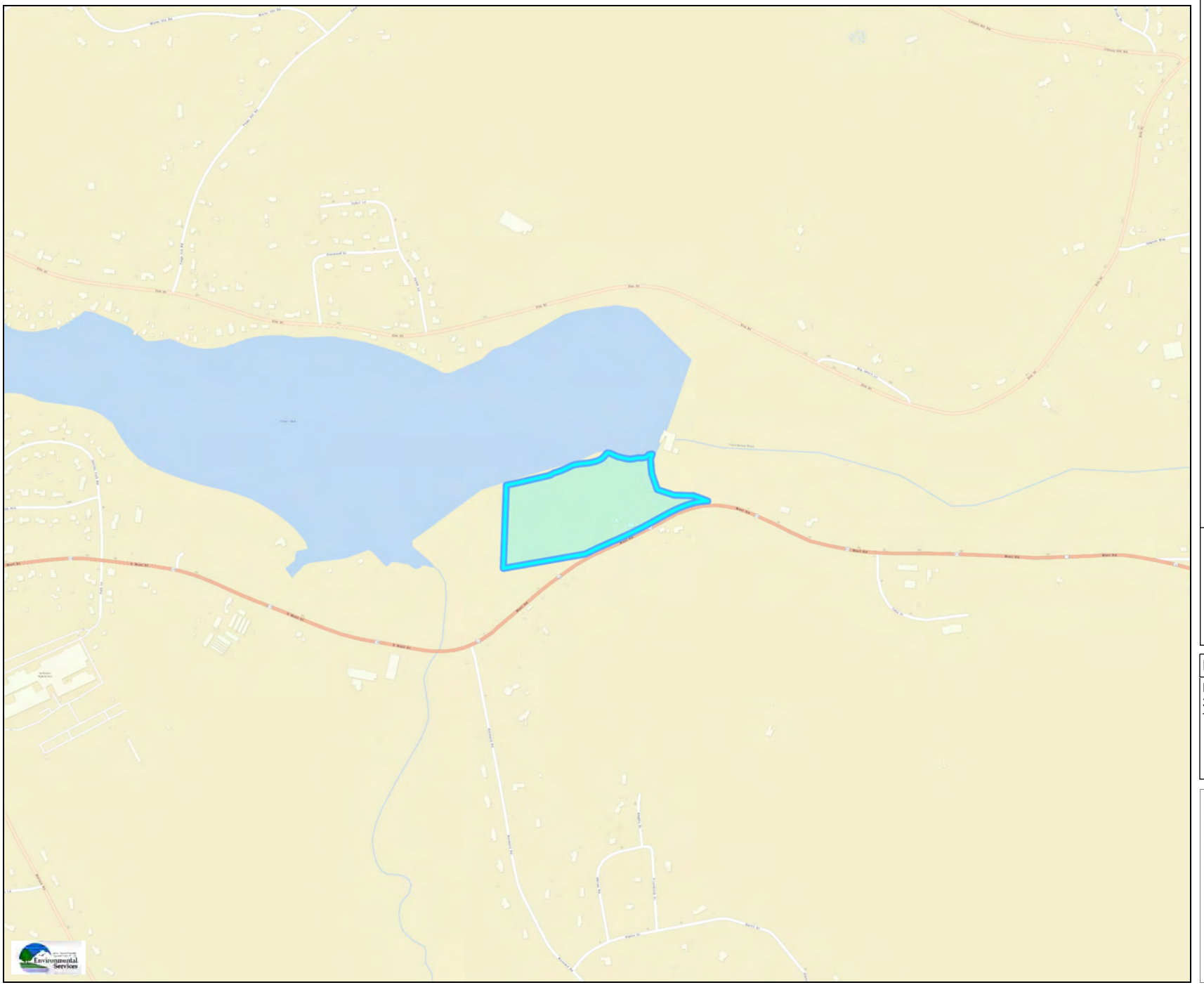
1: 10,000

Map Generated: 11/16/2021

Notes

Eversource Greggs Substation
39 Mast Road
Tax Map 5 Lot 15

NHDES Drinking Water & Groundwater Screening



Legend

- Wellhead Protection Areas
- Hydrologic Areas of Concern
- High-Yield Stratified-Drift Aq

Map Scale

1: 10,000

Map Generated: 11/16/2021

Notes

Eversource Greggs Substation
39 Mast Road
Tax Map 5 Lot 15

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Jeremy Belanger
48 Consitution Dr

Bedford, NH 03110

From: NH Natural Heritage Bureau
Date: 10/19/2021 (valid until 10/19/2022)
Re: Review by NH Natural Heritage Bureau of request submitted 10/4/2021
Permits: MUNICIPAL POR - Goffstown, NHDES - Alteration of Terrain Permit, USCEQ - Federal: NEPA Review, USEPA - Stormwater Pollution Prevention

NHB ID: **NHB21-3128** **Applicant:** Jeremy Belanger

Location: Goffstown
39 Mast Road

Project Description: The project proposes to reconstruct the existing Eversource Energy Gregg's Substation. The project will include electrical upgrades within the existing gravel substation yard and the adjacent electric utility corridor.

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

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 10/4/2021 3:31:45 PM, and cannot be used for any other project.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

MAP OF PROJECT BOUNDARIES FOR: **NHB21-3128**

NHB21-3128

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Hillsborough County, New Hampshire, Eastern Part

Eversource Greggs Substation

November 19, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

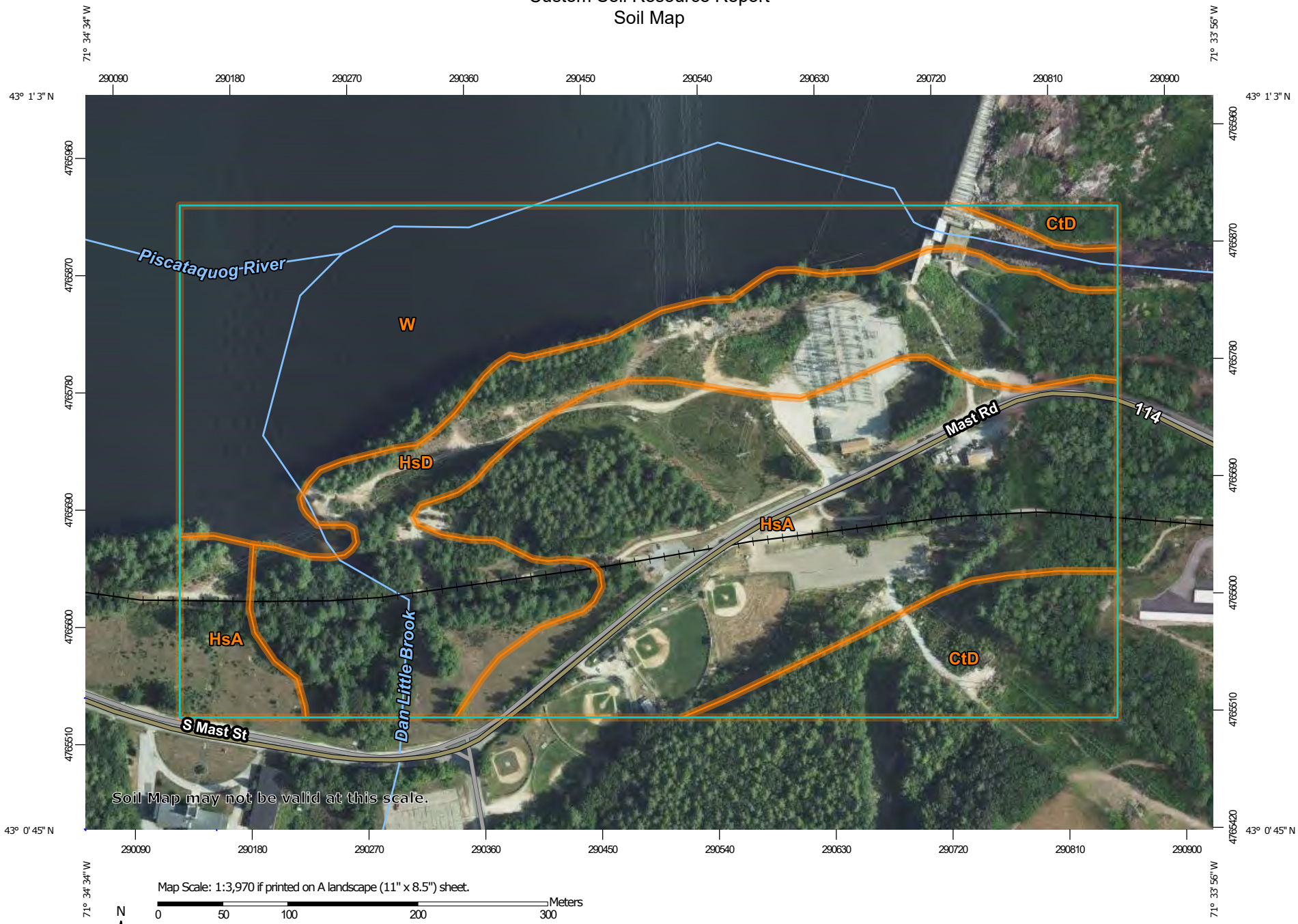
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:3,970 if printed on A landscape (11" x 8.5") sheet.

N

0 50 100 200 300 Meters

0 150 300 600 900 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hillsborough County, New Hampshire, Eastern Part
Survey Area Data: Version 24, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 1, 2014—Aug 13, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CtD	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	6.6	9.4%
HsA	Hinckley loamy sand, 0 to 3 percent slopes	26.1	37.0%
HsD	Hinckley loamy sand, 15 to 35 percent slopes	17.5	24.8%
W	Water (less than 40 acres)	20.3	28.8%
Totals for Area of Interest		**70.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Hillsborough County, New Hampshire, Eastern Part

CtD—Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 2w69h
Elevation: 0 to 1,540 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Chatfield, extremely stony, and similar soils: 35 percent
Hollis, extremely stony, and similar soils: 30 percent
Rock outcrop: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chatfield, Extremely Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 2 inches: fine sandy loam
Bw - 2 to 30 inches: gravelly fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 20 to 41 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Description of Hollis, Extremely Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: gravelly fine sandy loam
Bw - 7 to 16 inches: gravelly fine sandy loam
2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 8 to 23 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Ridges, hills
Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 79 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Charlton, extremely stony

Percent of map unit: 7 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Leicester, extremely stony

Percent of map unit: 4 percent
Landform: Ground moraines, hills, drainageways, depressions
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton, extremely stony

Percent of map unit: 2 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Paxton, extremely stony

Percent of map unit: 2 percent
Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

HsA—Hinckley loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svm7

Elevation: 0 to 1,420 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash terraces, outwash plains, kame terraces, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Outwash deltas, outwash terraces, kame terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave

Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Outwash deltas, outwash terraces, kame terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Outwash deltas, kame terraces, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

HsD—Hinckley loamy sand, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 2svmd
Elevation: 0 to 860 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash deltas, outwash terraces, moraines, eskers, kames, outwash plains, kame terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand

BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Windsor

Percent of map unit: 10 percent
Landform: Moraines, eskers, kames, outwash deltas, outwash terraces, outwash plains, kame terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Merrimac

Percent of map unit: 3 percent
Landform: Kame terraces, outwash plains, outwash terraces, moraines, eskers, kames
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

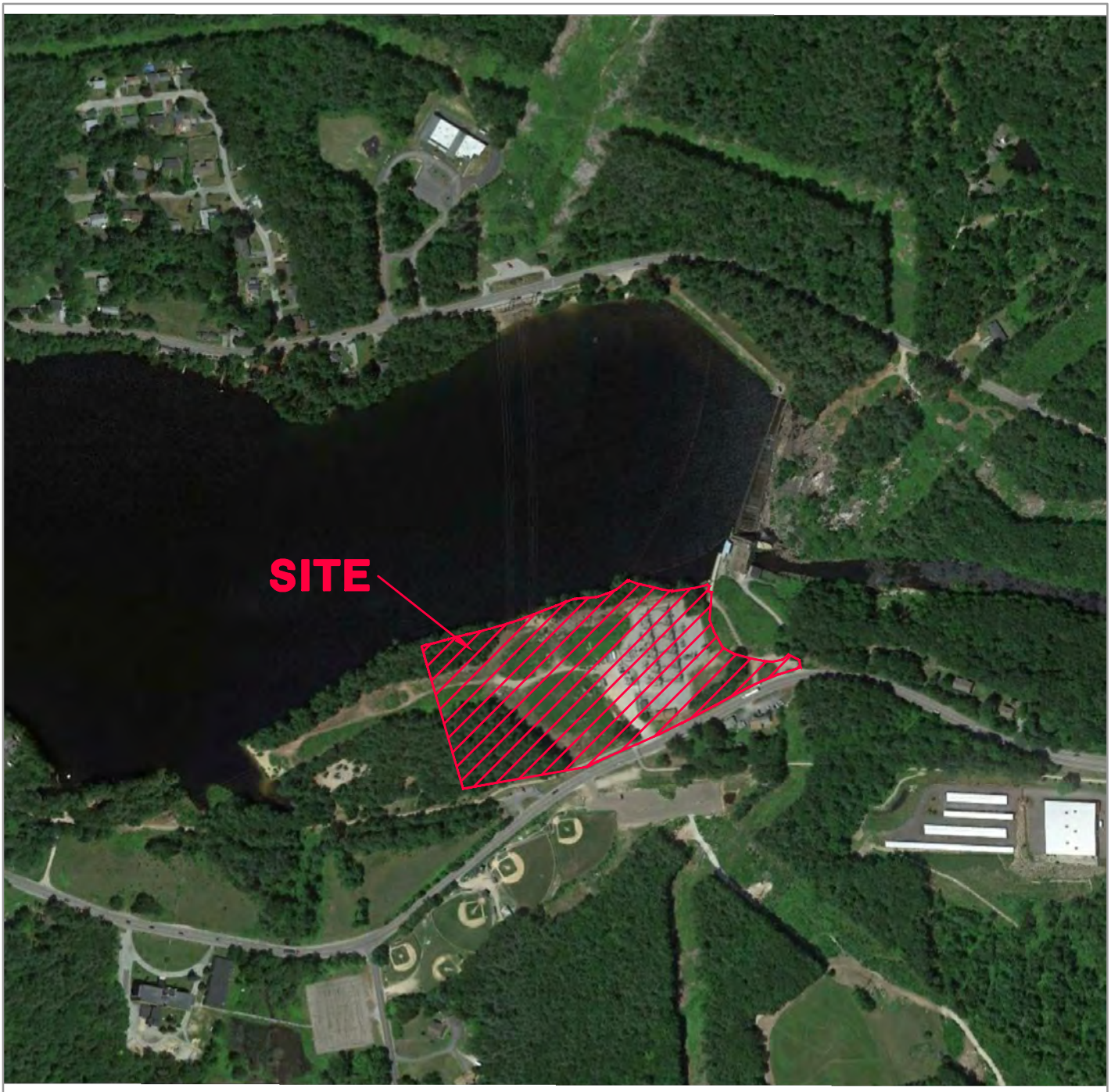
Percent of map unit: 2 percent
Landform: Outwash deltas, outwash plains, kame terraces, outwash terraces, moraines
Landform position (two-dimensional): Backslope, footslope, toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

W—Water (less than 40 acres)

Map Unit Composition

Water < 40: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.



TFM

Civil Engineers
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Traffic Engineers
Land Surveyors
Land Planners
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48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
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www.tfmoran.com

AERIAL PHOTO

EVERSOURCE GREGGS SUBSTATION

For
TAX MAP 5 LOT 15
39 MAST ROAD
GOFFSTOWN, NH 03045
Prepared for

EVERSOURCE ENERGY
13 LEGENDS DRIVE
GOFFSTOWN, NH 03106

FILE	17752.01	SCALE	1"=500'	MAY 20, 2022
		CADFILE	AERIAL	

National Flood Hazard Layer FIRMette

FEMA

71°34'28"W 43°1'9"N

71°33'51"W 43°0'42"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/19/2022 at 1:33 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Name and Number and/or Project Title: Greggs Substation Expansion – (17752.01)	DHR R&C #:

PHOTO LOG

Photo #	Photo location and description
1	Looking east towards the existing Greggs Substation located on the western half of Tax Map 5 Lot 15.
2	Looking southeast towards Mast Road from the northern edge of woods.
3	Image captures the Existing utility infrastructure facing northeast towards Glen Lake
4	Image captures the location of the proposed access drive and adjacent control house.
5	Mast Road sidewalk located along southern portion of site.
6	Image capturing the existing structure from the sites entrance facing northeast
7	Looking west along existing gravel access drive located along northern portion of the site.
8	Looking east along the vegetative buffer located in the northwestern portion of the site.
9	Looking east through vegetative area located in the southwestern portion of the site.

Civil Engineers
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Land Surveyors
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Greggs Substation Expansion, Goffstown NH

Photo 1

Looking east towards the existing Greggs Substation located on the western half of Tax Map 5 Lot 15. (11/23/2022)

Photo 2

Looking southeast towards Mast Road from the northern edge of woods. (11/23/2021)

Photo 3

Image captures the existing utility infrastructure facing northeast towards Glen Lake. (11/23/2021)

Photo 4

Image captures the location of the proposed access drive and adjacent control house. (11/23/2021)

Photo 5

Mast Road sidewalk located along southern portion of site. (11/23/2021)

Photo 6

Image capturing the existing control house from the sites entrance facing northeast. (11/23/2021)

Photo 7

Looking west along existing gravel access drive located along northern portion of the site. (11/23/2021)

Photo 8

Looking east along the vegetative buffer located in the northwestern portion of the site. (11/23/2021)

Photo 9

Looking east through vegetative area located in the southwestern portion of the site. (11/23/2021)

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	71.485 degrees West
Latitude	42.981 degrees North
Elevation	0 feet
Date/Time	Tue, 30 Nov 2021 14:57:50 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.27	0.41	0.51	0.66	0.83	1.04	**1yr**	0.71	1.00	1.20	1.51	1.90	2.40	2.63	**1yr**	2.12	2.53	2.92	3.61	4.18	**1yr**
2yr	0.32	0.49	0.62	0.81	1.02	1.28	**2yr**	0.88	1.18	1.48	1.84	2.29	2.86	3.18	**2yr**	2.53	3.06	3.54	4.23	4.83	**2yr**
5yr	0.38	0.59	0.74	0.99	1.27	1.61	**5yr**	1.10	1.47	1.87	2.33	2.90	3.60	4.06	**5yr**	3.18	3.90	4.50	5.30	5.97	**5yr**
10yr	0.43	0.67	0.85	1.16	1.51	1.93	**10yr**	1.30	1.73	2.24	2.80	3.47	4.28	4.88	**10yr**	3.79	4.69	5.40	6.28	7.02	**10yr**
25yr	0.51	0.81	1.03	1.42	1.88	2.43	**25yr**	1.62	2.17	2.83	3.55	4.40	5.40	6.23	**25yr**	4.78	5.99	6.88	7.87	8.70	**25yr**
50yr	0.57	0.92	1.18	1.65	2.23	2.91	**50yr**	1.93	2.56	3.40	4.26	5.27	6.44	7.50	**50yr**	5.70	7.21	8.26	9.33	10.24	**50yr**
100yr	0.66	1.06	1.37	1.94	2.64	3.46	**100yr**	2.28	3.03	4.06	5.09	6.29	7.68	9.04	**100yr**	6.80	8.69	9.93	11.07	12.05	**100yr**
200yr	0.75	1.22	1.58	2.27	3.14	4.14	**200yr**	2.71	3.60	4.86	6.10	7.53	9.17	10.90	**200yr**	8.11	10.48	11.93	13.14	14.19	**200yr**
500yr	0.91	1.49	1.94	2.81	3.94	5.22	**500yr**	3.40	4.50	6.14	7.72	9.52	11.58	13.97	**500yr**	10.25	13.43	15.22	16.50	17.63	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.22	0.33	0.41	0.55	0.67	0.82	**1yr**	0.58	0.80	1.04	1.31	1.64	2.21	2.45	**1yr**	1.95	2.35	2.64	3.19	3.60	**1yr**
2yr	0.31	0.47	0.58	0.79	0.97	1.17	**2yr**	0.84	1.14	1.33	1.74	2.23	2.76	3.06	**2yr**	2.44	2.94	3.41	4.10	4.67	**2yr**
5yr	0.35	0.53	0.66	0.91	1.16	1.38	**5yr**	1.00	1.35	1.57	2.03	2.60	3.29	3.72	**5yr**	2.91	3.58	4.09	4.88	5.53	**5yr**
10yr	0.38	0.58	0.72	1.01	1.31	1.56	**10yr**	1.13	1.52	1.77	2.29	2.92	3.75	4.30	**10yr**	3.32	4.14	4.67	5.56	6.25	**10yr**
25yr	0.43	0.66	0.82	1.17	1.53	1.81	**25yr**	1.32	1.77	2.08	2.67	3.38	4.45	5.20	**25yr**	3.94	5.00	5.55	6.60	7.34	**25yr**
50yr	0.47	0.71	0.89	1.28	1.72	2.05	**50yr**	1.48	2.01	2.36	3.02	3.79	5.06	6.02	**50yr**	4.48	5.79	6.31	7.50	8.27	**50yr**
100yr	0.52	0.78	0.98	1.41	1.93	2.31	**100yr**	1.67	2.26	2.68	3.42	4.24	5.74	6.95	**100yr**	5.08	6.68	7.14	8.53	9.32	**100yr**
200yr	0.57	0.85	1.08	1.56	2.18	2.61	**200yr**	1.88	2.55	3.02	3.89	4.79	6.51	8.03	**200yr**	5.76	7.73	8.07	9.71	10.48	**200yr**
500yr	0.64	0.96	1.23	1.79	2.55	3.08	**500yr**	2.20	3.01	3.58	4.61	5.63	7.66	9.72	**500yr**	6.78	9.34	9.42	11.50	12.25	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.30	0.46	0.57	0.76	0.94	1.10	**1yr**	0.81	1.08	1.22	1.61	2.04	2.58	2.83	**1yr**	2.29	2.72	3.28	4.15	4.59	**1yr**
2yr	0.34	0.52	0.65	0.87	1.08	1.27	**2yr**	0.93	1.25	1.44	1.86	2.38	2.98	3.33	**2yr**	2.64	3.21	3.72	4.40	5.01	**2yr**
5yr	0.42	0.65	0.81	1.11	1.41	1.60	**5yr**	1.22	1.57	1.82	2.32	2.92	3.95	4.41	**5yr**	3.49	4.24	4.92	5.77	6.49	**5yr**
10yr	0.51	0.78	0.97	1.36	1.75	1.94	**10yr**	1.51	1.90	2.18	2.75	3.45	4.91	5.51	**10yr**	4.34	5.30	6.14	7.08	7.89	**10yr**
25yr	0.66	1.00	1.24	1.77	2.33	2.51	**25yr**	2.01	2.45	2.78	3.45	4.27	6.56	7.39	**25yr**	5.81	7.11	8.26	9.31	10.27	**25yr**
50yr	0.79	1.21	1.50	2.16	2.91	3.04	**50yr**	2.51	2.97	3.34	4.10	5.02	8.18	9.25	**50yr**	7.24	8.89	10.34	11.46	12.54	**50yr**
100yr	0.97	1.46	1.83	2.64	3.63	3.70	**100yr**	3.13	3.61	4.03	4.87	5.92	10.21	11.56	**100yr**	9.04	11.12	12.92	14.12	15.35	**100yr**
200yr	1.17	1.77	2.24	3.24	4.52	4.48	**200yr**	3.90	4.38	4.84	5.78	6.98	12.76	14.49	**200yr**	11.29	13.93	16.23	17.43	18.79	**200yr**
500yr	1.53	2.28	2.93	4.26	6.06	5.80	**500yr**	5.23	5.67	6.19	7.26	8.68	17.13	19.53	**500yr**	15.16	18.78	21.94	23.00	24.61	**500yr**