

Application for Extension to Meet Precedent Conditions

City of Rochester, New Hampshire

Case # 243-39-A-21

Project name Champlin Place - Easter Seals NH Senior Housing Project

Date of original Planning Board approval June 7, 2021

Present deadline date to meet precedent conditions December 7, 2021

New deadline date requested June 7, 2022

Reason(s) for request/comments Easter Seals NH respectively request additional time to obtain funding needed

for construction and to obtain all State and Federal permits. Easter Seals NH is likely to secure funding and have State permit

within the next 6 months, if not sooner.

How many extensions have already been granted on this project? None

Name of applicant or agent filling out this form Scott Lawler, PE; Norway Plains Associates, Inc.

Mailing Address PO Box 249, Rochester NH 03866

Phone Number: 603 335-3948 Email Address: slawler@norwayplains.com

Please check box: Applicant ☐ Agent ☒

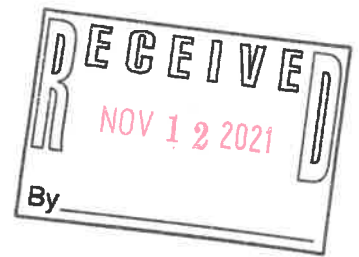
Signature of applicant/developer: Miller Christopher

Digitally signed by Miller Christopher
Date: 2021.11.09 13:32:46 -05'00'

Signature of property owner (if different): _____

Date: 11/09/2021

Please note: This request must be submitted before the deadline date to meet precedent conditions. The application fee is \$100.00 for the first extension request and \$150 for each request beyond the first.



Modification to Approved Project
City of Rochester, New Hampshire

Case # 243-39-A-21 **Property Address** 215 Rochester Hill Road

Type of project: Site Plan X; Subdivision _____; Line Adjustment _____; Other _____

Project name Champlin Place - Easter Seals NH Senior Housing Project

Date of original Planning Board approval June 7, 2021

Description of modification: The proposed modification is to reduce the overall number of senior dwelling units from 80 to 65 and minor adjustments to the overall footprint of the building. There are no changes to the proposed parking, vehicular circulations, storm water management systems, or utility connections.

Applicant Name: Easter Seals New Hampshire, Inc. c/o Christopher Miller

Mailing Address 555 Auburn Street, Manchester NH 03103

Phone Number: 603 621-3423 Email Address: cmiller@eastersealsnh.org

Please note: Modifications are reviewed by the Planning Board but no public hearing is held and no notices are required. (In contrast, projects, which are considered to have a potential impact upon abutters, are considered amendments for which notice and a public hearing is required.) There is a \$125.00 fee for a modification.

Name of applicant or agent filling out this form Norway Plains Associates, Inc., Scott Lawler, PE

Please check box: **Applicant** ☐ **Agent** ☒

Signature of person completing form: Miller Christopher Digitally signed by Miller Christopher
Date: 2021.11.09 13:38:24 -0500 Date: 11/09/21

Signature of property owner (if different): _____ Date: _____

NORWAY PLAINS ASSOCIATES, INC.

LAND SURVEYORS • SEPTIC SYSTEM DESIGNERS • CIVIL ENGINEERS

P.O. Box 249
Continental Blvd. (03867)
Rochester, NH 03866-0249
Phone (603) 335-3948
www.norwayplains.com



P. O. Box 268
31 Mooney St.
Alton, NH 03809
Phone & Fax (603) 875-3948

November 12, 2021

Shanna Saunders, Director
Planning Department
City of Rochester
33 Wakefield Street
Rochester, NH 03867

Re: Residential Site Plan Modifications; Easter Seals New Hampshire; 215 Rochester Hill Road, Map 243, Lots 39.

Dear Ms. Saunders:

On behalf of Easter Seals New Hampshire, we hereby submit revised plans and Modification to Approved project application for a proposed senior housing facility located at 215 Rochester Hill Road. The parcel, Tax Map 243, Lot 39 comprising of 21.17 acres is currently developed with Homemakers Health Services office.

On June 7, 2021, the Rochester Planning Board granted conditional approval for a Residential Site Plan for an 80-unit senior housing facility. The 80-unit building, having an approximate footprint of approximately 25,000 square feet and three stories tall was to contain seventy-four (74) 1-bedroom units and six (6) 2-bedroom units. Although not specifically designated, this building was likely to be constructed in two phases due to the size and configuration.

This Planning Board approval included the relocation of the main access to Healthcare Drive, associated parking, and municipal utility connections for the existing and proposed structures. This approval included granting waivers to the overall number of parking spaces and for light poles with a 20 foot fixture height.

Over the past several months, Easter Seals New Hampshire has been working on multiple funding applications and programs. As such, it was determined that the best alternative to secure the necessary finances, is to reduce the overall size of the building and number of units to allow for a single phased project rather than a potential two phased construction. As such, the proposed building is being designed for a total of 65 units rather than 80 units. This building will still be three stories tall and generally have the same "L" shape as the approved structure. The overall building footprint decreases slightly to approximately 18,730 square feet and will have fifty-nine (59) 1-bedroom units and six (6) 2-bedroom units.

To accommodate the reduction in the building footprint and slight shifts in doorways, all of the site plans have been revised. However, the overall parking lots, walkways, stormwater management systems, and utility designs were not changed from the approved plans.

Essentially, the smaller building footprint increased the green space between the parking lots and reduced the overall impervious coverage associated with the development but has not resulted in any significant changes to the proposed development. The building architecture will also be very similar to the plans and renderings that were presented to the City.

Based on the revised footprint, all of the applications to the State agencies are being finalized and should be submitted within the next couple weeks. Easter Seals New Hampshire are optimistic that construction on the site could start next spring.

We look forward to discussing this project with staff and the Planning Board. Thank you for your consideration
Sincerely,

NORWAY PLAINS ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Scott A. Lawler", written in a cursive style.

By:
Scott A. Lawler, PE, Project Engineer

cc: Easter Seals New Hampshire

DRAINAGE MAINTENANCE AGREEMENT

In consideration of Approval to Norman P. & Stacia R. Vetter Revocable Trust of 2004 granted by the Planning Board of the City of Rochester to a plan entitled Subdivision Plan situated on TAX MAP 232 Lot 18 approved September 13, 2021 and pursuant to a condition thereof, Norman P. & Stacia R. Vetter Revocable Trust of 2004 with a place of business currently at PO Box 181 Rochester, NH 03866-0181, the Owner(s) of the subject premises, does hereby agree, for themselves, their successors and Assigns (the "Owners") as follows:

That they will, at their own cost and expense and at times in perpetuity, maintain in good repair and in proper working order the surface water drainage system as shown on said plan; including but not limited to the detention basin or catch basins and the outlet or outlets therefrom, and removal of snow if the amount block drainage and parking, for the benefit of the said City of Rochester, all persons in lawful possession of said premises and abutters thereto; further that the said City of Rochester, said person in lawful possession and said abutters, or any of them may enforce this Agreement by an action at law or in equity in any court of competent jurisdiction; further, that after giving the Owner written notice and a reasonable time to perform, the said City of Rochester may, by its authorized agents or representatives, enter upon said premises or any of said surface water drainage system in the event of any failure or neglect thereof for purposes of repair, the cost and expense thereof to be reimbursed in full to the said City of Rochester by the Owner upon demand.

This Agreement shall not confer upon the City of Rochester or any other person the right to utilize said surface water drainage system for public use or for the development of any other property, and the Owner shall bear no financial responsibility by virtue of this Agreement for enlarging the capacity of said surface water drainage system for any reason whatsoever.

The Agreement shall bind the undersigned only so long as they retain any interest in said premises, and shall run with the land and be binding upon its successors and assigns as their interests may from time to time appear.

Signed:  _____

Date: 11/11/21

Signed: _____

Date: _____

Drawing Name: M:\2019\19249\UNITS\05 UNIT BUILDING\19249 SP-1.dwg
Wed, 10 Nov 2021 - 11:00am

LAND SURVEYORS



CIVIL ENGINEERS

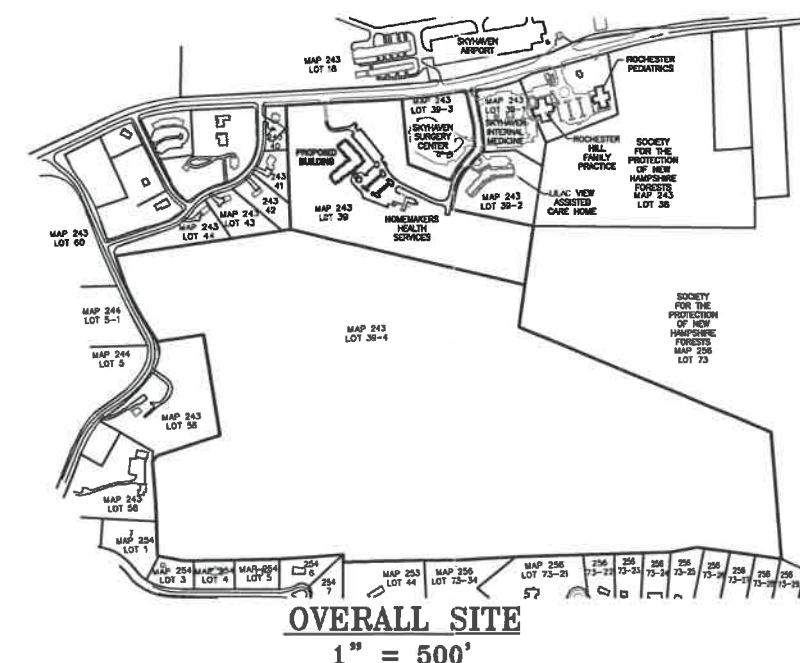
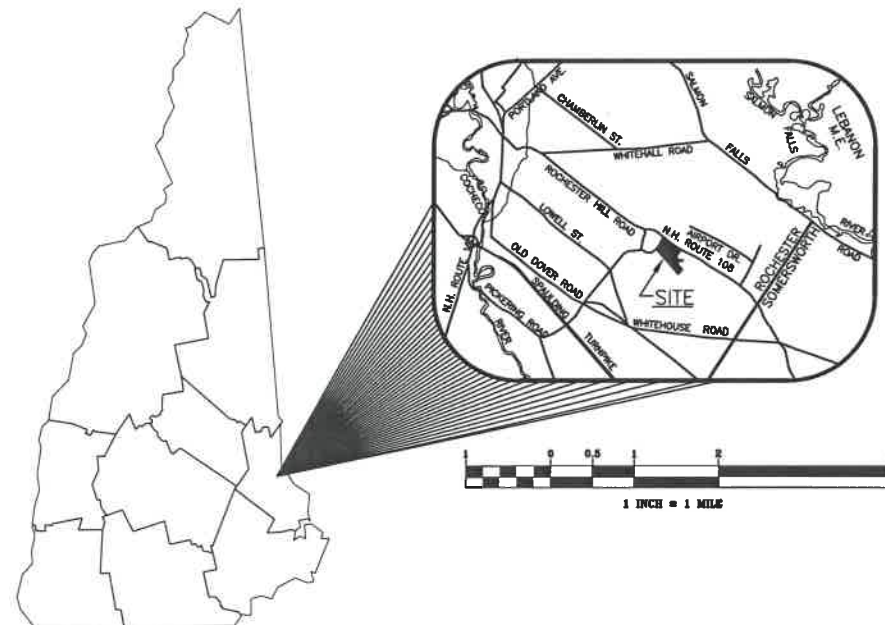
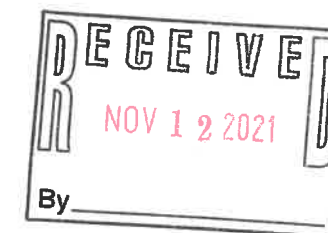
CHAMPLIN PLACE

215 ROCHESTER HILL ROAD

PREPARED FOR

EASTER SEALS NH, INC.

NOVEMBER 2021



CIVIL ENGINEERS

NORWAY PLAINS ASSOCIATES, INC.
2 CONTINENTAL BOULEVARD
ROCHESTER, NEW HAMPSHIRE 03867
(603) 335-3948

ARCHITECTS

MARKET SQUARE ARCHITECTS, PLLC
104 CONGRESS STREET, SUITE 203
PORTSMOUTH, NEW HAMPSHIRE 03801
(603) 501-0202

LANDSCAPING ARCHITECTS

TIGHE & BOND
177 CORPORATION DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801
(603) 294-9234

OWNER OF RECORD

TAX MAP 243, LOT 39
OWNER OF RECORD:
EASTER SEALS NEW HAMPSHIRE, INC.
555 AUBURN STREET
MANCHESTER, NH 03103
SCRD BOOK 4801, PAGE 784

APPLICANT

EASTER SEALS NEW HAMPSHIRE, INC.
555 AUBURN STREET
MANCHESTER, NH 03103

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

STATE AND FEDERAL PERMITS:

STATE OF NEW HAMPSHIRE PERMIT NUMBERS:

NHDES ALTERATION OF TERRAIN:	REQUIRED
NHDES WETLANDS PERMIT:	NOT REQUIRED
NHDES DAM PERMIT:	NOT REQUIRED
NHDES SUBDIVISION PERMIT:	NOT REQUIRED
NHDES SUBSURFACE SYSTEMS PERMIT:	NOT REQUIRED
NHDES WASTEWATER PERMIT:	REQUIRED
NHDOT DRIVEWAY/ENTRANCE PERMIT:	REQUIRED

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES):

NPDES PERMITS ARE ONLY REQUIRED FOR PROJECTS MEETING THE DISTURBED AREA CRITERIA BELOW AND HAVING A POINT SOURCE STORMWATER DISCHARGE FROM THE SITE TO AN ADJACENT WETLAND OR WATER BODY (I.E. CULVERT, SWALE, ETC. OUTLETING TO A WETLAND, CREEK, STREAM OR RIVER).

NPDES PERMIT: REQUIRED

NPDES PERMITS CONSIST OF A NOTICE OF INTENT (NOI) FILED WITH THE ENVIRONMENTAL PROTECTION AGENCY AT LEAST 14 DAYS PRIOR TO CONSTRUCTION COMMENCING AND A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) BEING PREPARED, KEPT ON SITE AND FOLLOWED BY THE CONTRACTOR.

FOR STATUS OF THIS PERMIT, CONTACT THE PROJECT GENERAL CONTRACTOR.

FINAL APPROVAL BY ROCHESTER PLANNING BOARD

CERTIFIED BY: _____ DATE: _____

SHEET INDEX

COVER		
SHEET	S-1	SUBDIVISION PLAN
SHEET	S-2	SUBDIVISION TOPOGRAPHY PLAN
SHEET	E-1	EXISTING FEATURES
SHEET	E-2	DEMOLITION PLAN
SHEET	C-1	OVERALL SITE PLAN
SHEET	C-2	SITE LAYOUT PLAN
SHEET	C-3	GRADING AND DRAINAGE PLAN
SHEET	C-4	EROSION AND SEDIMENTATION CONTROL PLAN
SHEET	C-5	UTILITY PLAN
SHEET	C-6	PARKING AND SIDEWALK DETAILS
SHEET	C-7	CONSTRUCTION DETAILS
SHEET	C-8	DRAINAGE DETAILS
SHEET	C-9	INFILTRATION BASIN #1 DETAILS
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SHEET	C-13	SEWER GRAVITY PROFILE
SHEET	C-14	SEWER DETAILS
SHEET	C-15	PUMP STATION DETAILS
SHEET	C-16	SEWER FORCE MAIN DETAILS
SHEET	C-17	UTILITY DETAIL
SHEET	C-18	GUARDRAIL DETAIL
SHEET	L-1	LIGHTING PLAN AND DETAILS
SHEET	L-101	SITE LANDSCAPING PLAN
SHEET	L-501	SITE LANDSCAPING DETAILS

FILE NO. 102
PLAN NO. C-3154
DWG. NO. 19249 SP-1
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

Drawing Location: H:\2019\19249\DWG\19249-SP-1.dwg
Date: 10 Nov 2021 - 11:05am

LAND SURVEYORS

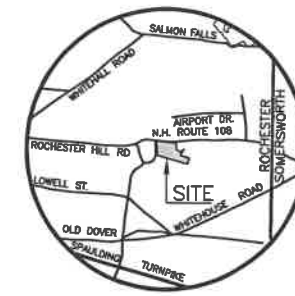
CIVIL ENGINEERS

MAP 243
LOT 18
SKYHAVEN AIRPORT



ROCHESTER HILL ROAD

- GENERAL NOTES
1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE AREAS THAT WILL BE DEMOLISHED.
 2. ALL EXISTING UTILITIES LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATION PRIOR TO ANY WORK BEING PERFORMED.
 3. INSTALL ALL EROSION AND SEDIMENTATION CONTROLS PRIOR TO THE START OF DEMOLITION. SEE EROSION AND SEDIMENTATION PLAN SHEET C-4.
 4. ORIENTATION: HORIZONTAL NAD83 AND VERTICAL NGVD29 DATUMS.



LOCUS
N.T.S.

- LEGEND
- 10' --- PROPERTY LINE
 - 100' --- LIMITS OF JURISDICTIONAL WETLANDS
 - EXISTING TREE LINE
 - EXISTING STONEWALLS
 - EXISTING RAILROAD TRACKS
 - 25' --- EXISTING CONTOUR LINE
 - EXISTING DRAIN LINE
 - EXISTING OVERHEAD WIRES
 - EXISTING WATER LINE
 - EXISTING SEWER LINE
 - EXISTING UTILITY POLE
 - EXISTING SEWER MANHOLE
 - EXISTING MONUMENT
 - EXISTING HYDRANT
 - EXISTING WATER GATE OR SHUT-OFF VALVE
 - EXISTING TEST PIT LOCATION & NUMBER
 - EXISTING WETLANDS
 - EXISTING SIGN

DEMOLITION PLAN
TAX MAP 243, LOT 39
215 ROCHESTER HILL RD
ROCHESTER, NH

PREPARED FOR:
EASTER SEALS NH, INC.

NOVEMBER 2021

GRAPHIC SCALE



E-2

FILE NO. 102
PLAN NO. C-3154
DWG. NO. 19249 SP-1
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

LAND SURVEYORS

CIVIL ENGINEERS

LEGEND

- PROPERTY LINE
- JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- EXISTING OVERHEAD WRES
- EXISTING HYDRANT
- EXISTING UTILITY POLE
- EXISTING SEWER MAN HOLE
- EXISTING CATCH BASIN
- EXISTING LIGHT POLES
- PROPOSED BUILDING
- PROPOSED PAVEMENT
- PROPOSED PAVEMENT WITH CURBS
- PROPOSED TREE LINE

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



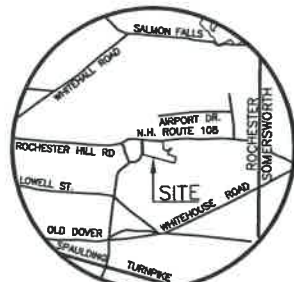
- GENERAL SITE PLAN NOTES**
1. THIS PARCELS ARE LOCATED IN THE AGRICULTURAL ZONE (AG).
 2. TOTAL PARCEL AREA: 21.17 ACRES.
 3. THE PURPOSE OF THIS PLAN IS TO DEPICT THE PROPOSED FEATURES ON THE LOT.
 4. ALL EXISTING UTILITIES LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATION PRIOR TO ANY WORK BEING PERFORMED.
 5. THESE PLANS SHOW ONLY THOSE FEATURES THAT WERE VISUALLY PER REFERENCE PLAN 1.
 6. DIMENSIONAL REGULATIONS PER ZONING ORDINANCE:
- AGRICULTURAL ZONE (AG):
- MINIMUM LOT AREA (MUNICIPAL WATER & SEWER) = 20,000 SF
 - MINIMUM LOT AREA (MUNICIPAL WATER OR SEWER) = 30,000 SF
 - MINIMUM LOT AREA (NEITHER MUNICIPAL WATER NOR SEWER) = 45,000 SF
 - MINIMUM LOT FRONTAGE = 150'
 - MINIMUM YARD SETBACKS:
- FRONT = 20'
 - SIDE = 10'
 - REAR = 20'
- MAXIMUM LOT COVERAGE = 35%
 - MAXIMUM BUILDING HEIGHT = 35'
 - ORIENTATION: HORIZONTAL NAD83 AND VERTICAL NGVD2001 - CITY OF ROCHESTER GIS
8. PARCEL IS NOT LOCATED WITHIN A FLOOD ZONE (100YR FLOOD) AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAPS, COMMUNITY #33017002120 #33017002140, #33017002160, DATED MAY 17, 2005 AND #33017002180 DATED SEPTEMBER 30, 2015.
 9. THE SITE-SPECIFIC SOIL MAP WAS COMPLETED BY JOSEPH W. NOEL, NH CSS#017 ON MARCH 2021.
 10. JURISDICTIONAL WETLANDS WERE DELINEATED BY B.H. KEITH ASSOCIATES IN NOVEMBER 2021.
 11. REQUIRED PARKING CALCULATIONS:
- REQUIRED PARKING PER ROCHESTER SITE REVIEW REGULATIONS (SECTION 10)
- RESIDENTIAL USE: 2 SPACES PER DWELLING UNIT
- 2 SPACE PER DWELLING UNITS x 65 UNITS = 130 SPACES
- OFFICE USE: 3 SPACES PER 1,000 SQUARE FEET OF GROSS FLOOR AREA
- 9,400 SF OFFICE USE x 3 SPACES/1,000 SF = 28 SPACES
- PROPOSED PARKING CALCULATIONS:**
- RESIDENTIAL PARKING:
- 1 SPACE PER ONE-BEDROOM UNITS AND 2 SPACES PER TWO-BEDROOM UNITS
 - 59 ONE-BEDROOM UNITS x 1 SPACE / UNIT = 59 SPACES
 - 6 TWO-BEDROOM UNITS x 2 SPACES / UNIT = 12 SPACES
 - TOTAL PROPOSED RESIDENTIAL PARKING SPACES = 71 SPACES
- OFFICE PARKING:
- 9,400 SF OFFICE USE x 3 SPACES/1,000 SF = 28 SPACES
 - TOTAL NUMBER OF REQUIRED SPACES = 99 SPACES
 - TOTAL NUMBER OF PROPOSED SPACE PROVIDED = 109 SPACES
12. THIS DEVELOPMENT MUST BE IN COMPLIANCE WITH ALL APPLICABLE LAW - INCLUDING ALL PERTINENT PROVISIONS OF THE CITY OF ROCHESTER SITE PLAN REGULATIONS - UNLESS OTHERWISE WAIVED.
 13. THE APPLICANT SHALL OBTAIN A STORMWATER MANAGEMENT PERMIT FROM THE PUBLIC WORKS DEPARTMENT (UNLESS DETERMINED TO BE UNNECESSARY BY THE CITY ENGINEER) AND FOLLOW THE REQUIREMENTS OF THE CITY ORDINANCE CHAPTER 21B. THE PERMITTEE SHALL PREPARE A WRITTEN PLAN FOR MANAGING STORMWATER THAT ENTERS THE CONSTRUCTION SITE AND SHALL PRESENT IT TO THE INSPECTION ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE PERMITTEE SHALL FOLLOW BEST MANAGEMENT PRACTICES TO PREVENT EROSION IN AREAS WHERE SOIL HAS BEEN DISTURBED.
 14. ACCESS INTO THE SITE FOR FIRE APPARATUS MUST BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROCESS. THE SOLE RESPONSIBILITY OF THE APPLICANT/DEVELOPER TO MAINTAIN THIS ACCESS. PLEASE CONTACT THE FIRE DEPARTMENT AT 330-7182 WITH ANY QUESTIONS ABOUT ACCESS REQUIREMENTS.
 15. SNOW SHALL NOT BE PILED IN SUCH A MANNER AS TO BLOCK THE VISIBILITY OF THE VEHICLES ON NH ROUTE 108 AND HEALTHCARE DRIVE.
 16. ALL OUTSIDE CONSTRUCTION ACTIVITY RELATED TO THE DEVELOPMENT OF THIS SITE IS RESTRICTED TO THE HOURS OF 7:00 A.M. TO 6:00 P.M. MONDAY THROUGH FRIDAY AND 8:00 A.M. TO 6:00 P.M. SATURDAY.
 17. ALL UTILITIES MUST BE UNDERGROUND, INCLUDING UTILITIES EXTENDED ONTO THE SITE FROM EXISTING POLES NEAR THE SITE. HOWEVER, IF THE ONLY POLE NEARBY IS ACROSS THE STREET, ONE ADDITIONAL POLE MAY BE PLACED ON/NEAR THE PROPERTY TO ALLOW FOR OVERHEAD EXTENSION OF WRES ACROSS THE STREET. UTILITIES EXTENDING FROM ANY SUCH NEW POLE MUST BE UNDERGROUND. THE APPLICANT MAY WORK WITH THE CITY STAFF AS APPROPRIATE TO ADDRESS THIS REQUIREMENT.
 18. THE CODE ENFORCEMENT OFFICER ADMINISTERS THE CITY OF ROCHESTER SIGN ORDINANCE. SIGNAGE SUBMITTED AS PART OF THIS SITE PLAN PACKAGE IS STILL SUBJECT TO HIS REVIEW TO ENSURE COMPLIANCE WITH THAT ORDINANCE AND OTHER APPLICABLE CODES, INDEPENDENT FROM THIS SITE PLAN REVIEW. IN ADDITION, IF ANY SIGNIFICANT CHANGE OR EXPANSION IS PROPOSED TO THE DESIGN OF THE APPROVED FREESTANDING SIGN OR TO THE OVERALL ADVERTISING SIGNAGE FOR THE SITE (NOT INCLUDING ACCESSORY SIGNAGE, SUCH AS HANDICAP PARKING SIGNS), THE PROPOSED SIGN DESIGNS MUST BE PRESENTED TO THE PLANNING BOARD FOR REVIEW PRIOR TO ISSUANCE OF THOSE SIGN PERMITS. A SIGN PERMIT MUST BE OBTAINED PRIOR TO INSTALLATION OF ANY SIGNS ON SITE.
 19. ALL ELEMENTS SHOWN ON THE APPROVED SITE PLAN MUST BE PROPERLY COMPLETED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY, UNLESS APPROPRIATE SURETY IS PLACED WITH THE PLANNING DEPARTMENT.
 20. NOTE THAT THIS APPROVAL IS FOR THE SITE PLAN ONLY. LIFE SAFETY CODE AND BUILDING CODE REVIEW WILL BE REQUIRED AS PART OF THE BUILDING PERMIT PROCESS WHEN THE CONSTRUCTION PLANS ARE SUBMITTED. VARIOUS REQUIREMENTS REGARDING THE BUILDING DESIGN POSSIBLY INCLUDING A SPRINKLER SYSTEM - MAY BE SPECIFIED AT THAT TIME.
 21. THE SEWER IMPACT CONTRIBUTION MUST BE PAID IN FULL TO THE CODE ENFORCEMENT DEPARTMENT, PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY. THE SEWER IMPACT IS A ONE TIME PAYMENT OF \$2.00 PER GALLON FOR AVERAGE DAILY FLOW.
 22. THIS PROJECT PROPOSED TO DISTURB OVER ONE ACRE OF EXISTING GROUND COVER AND MEETS OTHER SPECIFIC REQUIREMENTS RELATED TO PERMIT CRITERIA FOR EPA NPDES COMPLIANCE. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), SUBMISSION OF A NOTICE OF INTENT (NOI) TO EPA, INSPECTIONS AND MAINTENANCE OF SEDIMENT CONTROL MEASURES, DOCUMENTATION OF MAINTENANCE ACTIVITIES, AND SUBMISSION OF A NOTICE OF TERMINATION (NOT) TO EPA. THE CONTRACTOR IS ALSO RESPONSIBLE TO COMPLY WITH ANY OR ALL OTHER ASPECTS OF THE CURRENT FEDERAL, STATE AND LOCAL STORM WATER OR NPDES REGULATIONS OR REQUIREMENTS.
 23. A SIGN PERMIT APPLICATION TO THE CITY OF ROCHESTER WILL BE REQUIRED PRIOR TO ERECTION OF A SIGN.
 24. THE PROPOSED SENIOR HOUSING FACILITY WILL NEED TO HAVE PERMITTED FIRE SERVICE AND DOMESTIC SERVICE BACKFLOW PREVENTION DEVICES. DEPARTMENT OF PUBLIC WORKS WILL DETERMINE THE HAZARD CLASS (LOW OR HIGH) OF BOTH BACKFLOW PREVENTION DEVICES BASED UPON PROPOSED USE, BUILDING PLANS, SPECIFICATIONS, AND SCHEMATICS OF THE DOMESTIC/FIRE SERVICES. A CERTIFICATE OF OCCUPANCY WILL NOT BE APPROVED FOR THE FACILITY UNTIL THE DOMESTIC AND FIRE SERVICE BACKFLOW DEVICES ARE FULLY PERMITTED WHICH REQUIRES A PASSING TEST ON BOTH DEVICES BY A CERTIFIED BACKFLOW PREVENTION DEVICE TESTING FIRM.

FINAL APPROVAL BY
ROCHESTER PLANNING BOARD

CERTIFIED BY: _____ DATE: _____

SITE REVIEW APPROVAL

WHETHER OR NOT OTHERWISE EXPRESSLY RECITED ON THIS SITE REVIEW PLAN, THE SITE REVIEW APPROVAL GRANTED IS CONDITIONED ON FAITHFUL AND DILIGENT ADHERENCE BY THE OWNER/DEVELOPER TO ALL WRITTEN AND VERBAL REPRESENTATIONS MADE REGARDING SUCH MATTERS AS USE, NUMBER OF EMPLOYEES, DRAINAGE, CONSTRUCTION, ETC. AS WELL AS ALL OTHER TERMS, CONDITIONS, PROVISIONS, REQUIREMENTS AND SPECIFICATIONS OF THE SITE PLAN REVIEW REGULATIONS OF THE CITY OF ROCHESTER, N.H., AS AMENDED, IN EFFECT ON THE DATE OF APPROVAL. ANY VARIATION FROM THE PROPOSAL AS APPROVED MAY ALSO REQUIRE THE SUBMISSION AND APPROVAL OF A NEW SITE REVIEW APPLICATION.



LOCUS
N.T.S

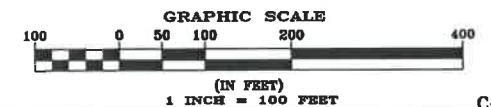
FILE NO. 102
PLAN NO. C-3154
DWG. NO. 19249 SP-1
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

OVERALL SITE PLAN
TAX MAP 243, LOT 39
215 ROCHESTER HILL RD
ROCHESTER, NH
PREPARED FOR:
EASTER SEALS NH, INC.
NOVEMBER 2021

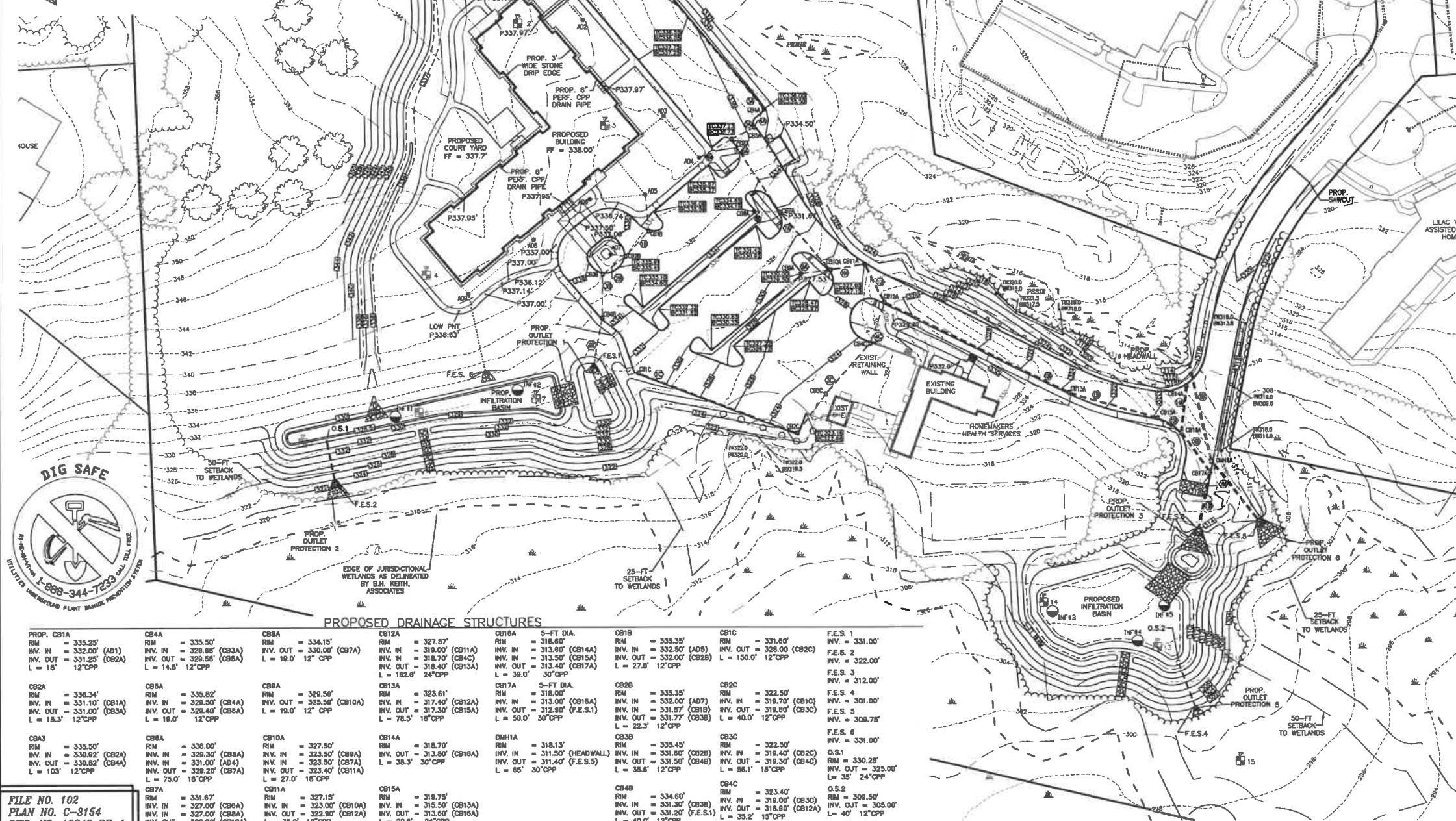


C-1



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- LEGEND**
- 100' PROPERTY LINE
 - JURISDICTIONAL WETLANDS
 - EXISTING TREE LINE
 - EXISTING DRAIN LINE
 - 232' EXISTING CONTOUR LINE
 - TP#1 TEST PIT
 - INF#1 INFILTRATION TEST
 - E234.1' EXISTING SPOT GRADE
 - P234.25' PROPOSED SPOT GRADE
 - PROPOSED TREE LINE
 - PROPOSED DRAIN LINE
 - PROPOSED CONTOUR LINE
 - PROPOSED CATCH BASIN
 - PROPOSED DRAIN MANHOLE
 - PROPOSED AREA DRAIN
 - PROPOSED FLARED END SECTION (FES)
 - CORRUGATED POLYETHYLENE PIPE
 - CATCH BASIN
 - AREA DRAIN
 - TOW TOP OF WALL
 - TC TOP OF CURB
 - BC BASE OF CURB
 - SPOT GRADE CURBING
 - PROPOSED OUTLET PROTECTION



PROPOSED AREA DRAINS

AD1 RM = 336.00' INV. IN = 334.75' (DRP EDGE) INV. IN = 334.75' (AD2) INV. OUT = 334.50' (CB1A) L = 30' 12"CPP	AD5 RM = 336.75' INV. IN = 334.50' (DRP EDGE) INV. IN = 334.25' (AD6) INV. OUT = 334.50' (CB1B) L = 30' 12"CPP	AD8 RM = 336.75' INV. IN = 334.75' INV. OUT = 334.00' (AD9) L = 50' 12"CPP
AD2 RM = 336.90' INV. OUT = 335.00' (AD1) L = 50' 12"CPP	AD6 RM = 336.50' INV. OUT = 334.50' (AD5) L = 47.5' 12"CPP	AD9 RM = 336.50' INV. IN = 333.50' INV. OUT = 333.00' (FES3) L = 70' 12"CPP
AD3 RM = 336.60' INV. IN = 333.00' (DRP EDGE) INV. OUT = 333.00' (AD4) L = 47' 12"CPP	AD7 RM = 335.50' INV. OUT = 333.00' (CB2B) L = 10' 12"CPP	
AD4 RM = 336.75' INV. IN = 334.75' (AD3) INV. OUT = 334.50' (CB1A) L = 30' 12"CPP		

PROPOSED DRAINAGE PIPES

1A PROP. PIPE 1A 12" CPP L = 18.0'	1B PROP. PIPE 1B 12" CPP L = 27.0'	1C PROP. PIPE 1C 12" CPP L = 15.0'
2A PROP. PIPE 2A 12" CPP L = 15.3'	2B PROP. PIPE 2B 12" CPP L = 22.3'	2C PROP. PIPE 2C 12" CPP L = 40.0'
3A PROP. PIPE 3A 12" CPP L = 103.0'	3B PROP. PIPE 3B 12" CPP L = 35.6'	3C PROP. PIPE 3C 12" CPP L = 25.1'
4A PROP. PIPE 4A 12" CPP L = 14.8'	4B PROP. PIPE 4B 12" CPP L = 40.0'	4C PROP. PIPE 4C 12" CPP L = 33.2'
5A PROP. PIPE 5A 15" CPP L = 19.0'		
6A PROP. PIPE 6A 18" CPP L = 75.0'		
7A PROP. PIPE 7A 18" CPP L = 60.0'		
8A PROP. PIPE 8A 12" CPP L = 19.0'		
9A PROP. PIPE 9A 12" CPP L = 22.5'		
10A PROP. PIPE 10A 24" CPP L = 27.0'		
11A PROP. PIPE 11A 24" CPP L = 35.0'		
12A PROP. PIPE 12A 24" CPP L = 182.6'		
13A PROP. PIPE 13A 24" CPP L = 78.5'		
14A PROP. PIPE 14A 30" CPP L = 38.3'		
15A PROP. PIPE 15A 24" CPP L = 20.6'		
16A PROP. PIPE 16A 30" CPP L = 39.0'		
17A PROP. PIPE 17A 30" CPP L = 50.0'		
18A PROP. PIPE 18A INV. IN = 312.00' (HEADWALL) 30" CPP L = 90'		
19A PROP. PIPE 19A 30" CPP L = 65'		

PROPOSED DRAINAGE STRUCTURES

CB1A RM = 335.25' INV. IN = 332.00' (AD1) INV. OUT = 331.25' (CB2A) L = 18' 12"CPP	CB4A RM = 335.50' INV. IN = 329.85' (CB3A) INV. OUT = 329.58' (CB5A) L = 14.8' 12"CPP	CB8A RM = 334.15' INV. OUT = 330.00' (CB7A) L = 18.0' 12"CPP	CB12A RM = 327.57' INV. IN = 318.00' (CB11A) INV. IN = 318.70' (CB14A) INV. OUT = 313.40' (CB13A) L = 182.6' 24"CPP	CB16A 5-FT DIA. RM = 318.60' INV. IN = 318.60' (CB14A) INV. IN = 313.50' (CB15A) INV. OUT = 313.40' (CB17A) L = 39.0' 30"CPP	CB18 RM = 335.35' INV. IN = 332.50' (AD5) INV. OUT = 332.00' (CB2B) L = 27.0' 12"CPP	CB1C RM = 331.80' INV. OUT = 328.00' (CB2C) L = 150.0' 12"CPP	F.E.S. 1 INV. = 331.00'	F.E.S. 2 INV. = 322.00'	F.E.S. 3 INV. = 312.00'	F.E.S. 4 INV. = 301.00'	F.E.S. 5 INV. = 308.75'	F.E.S. 6 INV. = 331.00'
CB2A RM = 336.34' INV. IN = 331.10' (CB1A) INV. OUT = 331.00' (CB3A) L = 15.3' 12"CPP	CB5A RM = 335.82' INV. IN = 329.50' (CB4A) INV. OUT = 329.40' (CB6A) L = 19.0' 12"CPP	CB9A RM = 329.50' INV. OUT = 325.50' (CB10A) L = 19.0' 12"CPP	CB13A RM = 323.61' INV. IN = 317.40' (CB12A) INV. OUT = 317.30' (CB15A) L = 78.5' 18"CPP	CB17A 5-FT DIA. RM = 318.00' INV. IN = 313.00' (CB16A) INV. OUT = 312.90' (F.E.S.1) L = 50.0' 30"CPP	CB2B RM = 335.35' INV. IN = 332.00' (AD7) INV. IN = 331.87' (CB1B) INV. OUT = 331.77' (CB3B) L = 22.3' 12"CPP	CB2C RM = 322.50' INV. IN = 319.70' (CB1C) INV. OUT = 319.80' (CB3C) L = 40.0' 12"CPP	F.E.S. 7 INV. = 301.00'	F.E.S. 8 INV. = 308.75'	F.E.S. 9 INV. = 331.00'	F.E.S. 10 INV. = 330.25'	F.E.S. 11 INV. = 325.00'	F.E.S. 12 INV. = 305.00'
CB3A RM = 335.50' INV. IN = 331.10' (CB2A) INV. OUT = 330.82' (CB4A) L = 103' 12"CPP	CB6A RM = 336.00' INV. IN = 329.30' (CB5A) INV. OUT = 331.00' (AD4) INV. OUT = 329.20' (CB7A) L = 75.0' 18"CPP	CB10A RM = 327.50' INV. IN = 323.50' (CB9A) INV. OUT = 323.50' (CB7A) L = 27.0' 18"CPP	CB14A RM = 318.70' INV. IN = 317.40' (CB13A) INV. OUT = 317.30' (CB15A) L = 30.3' 30"CPP	DM11A RM = 318.13' INV. IN = 311.50' (HEADWALL) INV. OUT = 311.40' (F.E.S.5) L = 65' 30"CPP	CB3B RM = 335.45' INV. IN = 331.80' (CB2B) INV. OUT = 331.50' (CB4B) L = 35.6' 12"CPP	CB3C RM = 322.50' INV. IN = 319.40' (CB2C) INV. OUT = 319.30' (CB4C) L = 56.1' 15"CPP	F.E.S. 13 INV. = 331.00'	F.E.S. 14 INV. = 330.25'	F.E.S. 15 INV. = 325.00'	F.E.S. 16 INV. = 305.00'	F.E.S. 17 INV. = 305.00'	F.E.S. 18 INV. = 305.00'
CB7A RM = 331.67' INV. IN = 327.00' (CB6A) INV. IN = 327.00' (CB8A) INV. OUT = 329.90' (CB10A) L = 85.0' 18"CPP	CB8A RM = 327.15' INV. IN = 323.00' (CB10A) INV. IN = 327.00' (CB8A) INV. OUT = 322.90' (CB12A) L = 35.0' 18"CPP	CB11A RM = 327.15' INV. IN = 323.00' (CB10A) INV. IN = 327.00' (CB8A) INV. OUT = 322.90' (CB12A) L = 35.0' 18"CPP	CB15A RM = 319.75' INV. IN = 315.50' (CB13A) INV. OUT = 313.80' (CB16A) L = 20.6' 24"CPP		CB4B RM = 334.60' INV. IN = 331.30' (CB3B) INV. OUT = 331.20' (F.E.S.1) L = 40.0' 12"CPP	CB4C RM = 323.40' INV. IN = 318.00' (CB3C) INV. OUT = 318.90' (CB12A) L = 35.2' 15"CPP						

FILE NO. 102
PLAN NO. C-3154
DWG. NO. 19249 SP-1
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

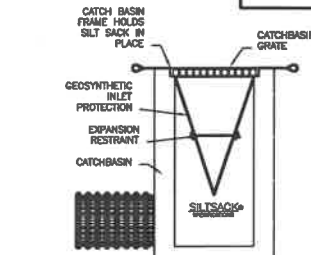
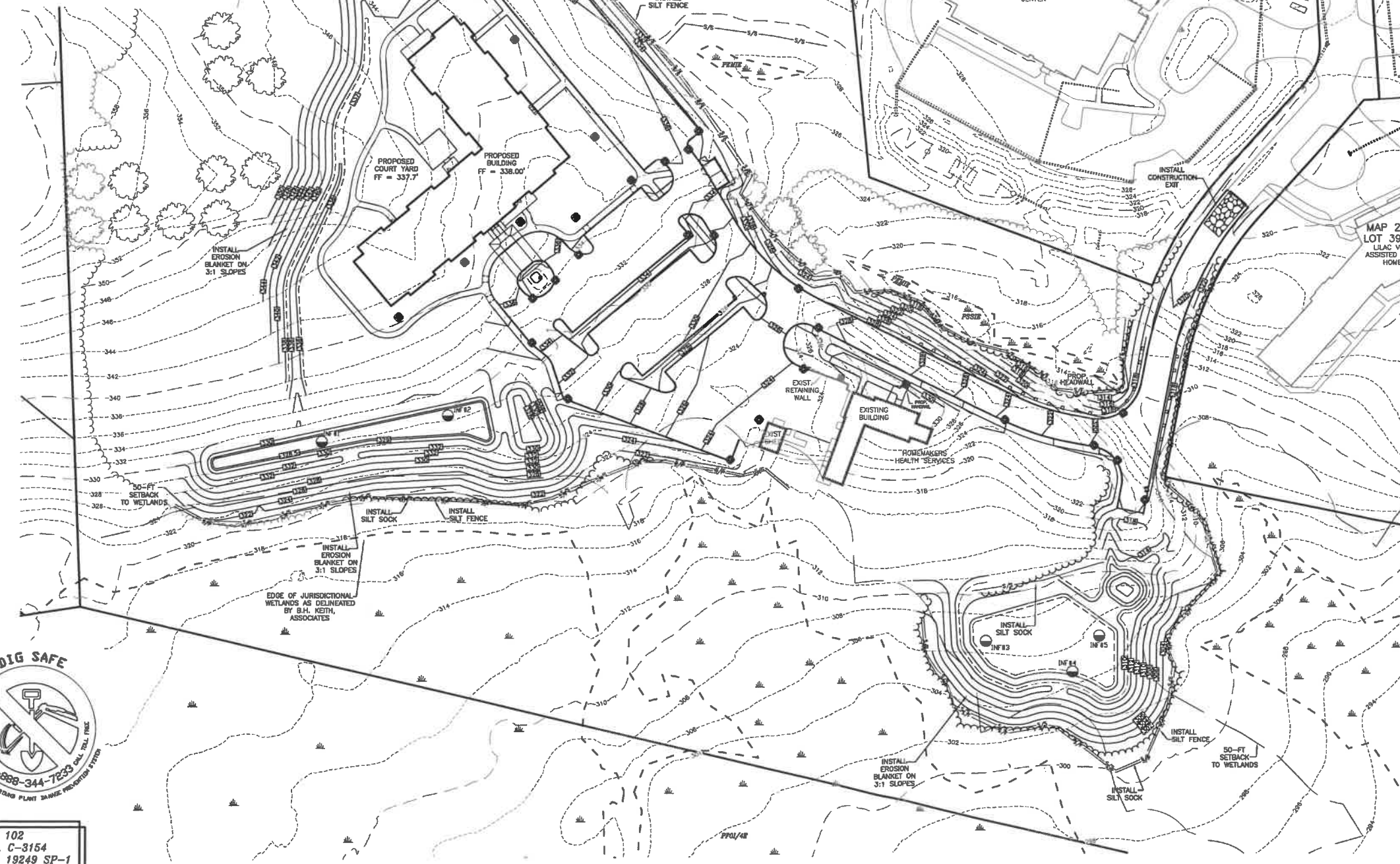
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LEGEND

- PROPERTY LINE
- - - JURISDICTIONAL WETLANDS
- - - EXISTING TREE LINE
- - - EXISTING DRAIN LINE
- - - EXISTING CONTOUR LINE
- - - EXISTING CATCH BASIN
- - - PROPOSED TREE LINE
- - - PROPOSED DRAIN LINE
- - - PROPOSED CONTOUR LINE
- - - PROPOSED SILTATION FENCE
- - - PROPOSED SILTATION SOCK
- - - PROPOSED CATCH BASIN
- - - PROPOSED DRAIN MANHOLE
- - - PROPOSED FLARED END SECTION (FES)
- - - PROPOSED TEMPORARY CATCH BASIN FILTERS
- - - PROPOSED TEMPORARY STABILIZED CONSTRUCTION EXIT
- - - PROPOSED TEMPORARY STONE CHECK DAMS



CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



REGULAR FLOW SILTSACK

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4832	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4832	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLER BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4833	120 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPROXIMATE OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4481	40 US SIEVE
PERMEABILITY	ASTM D-4481	0.55 SEC -1

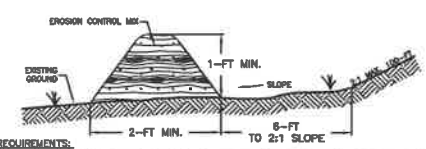
NOTES:

1. GEOSYNTHETIC SEDIMENT FILTER TRAP SHALL BE "REGULAR FLOW SILTSACK" OR APPROVED EQUAL. SPECIFICATIONS FOR SILTSACKS ARE DETAILED.
2. FILTER TRAPS SHALL BE INSPECTED AFTER EVERY RAIN EVENT OF 0.25" OR GREATER AND SEDIMENTS SHALL BE REMOVED FROM TRAP WHEN SEDIMENT HAS REACHED TWO THIRDS OF THE DEPTH OF THE TRAP, OR IF PONDING OF WATER AT SURFACE BEGINS TO OCCUR. DO NOT PUNCTURE FILTER TRAP TO MITIGATE PONDING.
3. INSTALL SILT SACKS IN CATCH BASIN UPON INSTALLATION OF STRUCTURE.

CATCH BASIN

GEOSYNTHETIC SEDIMENT TRAP

NOT TO SCALE



MAINTENANCE REQUIREMENTS:

1. EROSION CONTROL MIX BERM SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
2. EROSION CONTROL MIX BERM SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM.
3. IF THERE ARE SIGNS OF BREAKING OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, THE EROSION CONTROL MIX BERM SHOULD BE REPLACED WITH OTHER MEASURES TO INTERCEPT AND TRAP SEDIMENT (SUCH AS A DIVERSION BERM DIRECTING RUNOFF TO A SEDIMENT TRAP OR BASIN).
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT.
5. SEDIMENT DEPOSITS MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE THIRD (1/3) OF THE HEIGHT OF THE BARRIER.
6. EROSION CONTROL MIX BERM SHOULD BE RESHAPED OR REAPPLIED AS NEEDED.
7. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDS.

CONSTRUCTION SPECIFICATIONS:

1. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF OF THE PROJECT SITE.
2. EROSION CONTROL MIX MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS.
3. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

COMPOSITION OF THE EROSION CONTROL MIX SHOULD BE AS FOLLOWS:

- A. EROSION CONTROL MIX SHALL BE A WELL GRADED MIXTURE OF PARTICLE SIZES FREE OF REFUSE, PHYSICAL CONTAMINANTS, MATERIAL TOXIC TO PLANT GROWTH AND MAY NOT CONTAIN ROCKS LESS THAN 4-INCHES IN DIAMETER.
- B. ORGANIC MATTER = 25-55% DRY WEIGHT BASIS
- C. PARTICLES PASSING BY WEIGHT:
 - 5-INCH 100%
 - 1-INCH 90-100%
 - 3/4-INCH 70-100%
 - 1/4-INCH 30-75%
- D. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
- E. THE MIX SHOULD CONTAIN NO SILTS, CLAYS OR FINE SANDS.
- F. SOLUBLE SALTS CONTENT < 4.0 mmhos/cm
- G. pH OF THE MIX SHOULD BE BETWEEN 5.0 AND 8.0

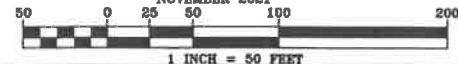
4. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR.
5. IT MAY BE NECESSARY TO CUT TALL GRASSES AND WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES IN THE BARRIER THAT WOULD CHARGE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
6. THE BARRIER MUST BE A MINIMUM OF 12-INCHES TALL AS MEASURED ON THE UPHILL SIDE OF THE BARRIER.
7. THE BARRIER MUST BE A MINIMUM OF 2-FT WIDE.

EROSION CONTROL MIX BERM DETAIL

NOT TO SCALE

EROSION & SEDIMENTATION CONTROL PLAN
CHAMPLIN PLACE
TAX MAP 243, LOT 39
ROCHESTER HILL ROAD & HEALTHCARE DRIVE
ROCHESTER, NH

PREPARED FOR:
EASTER SEALS NH, INC.
NOVEMBER 2021



FILE NO. 102
PLAN NO. C-3154
DWG. NO. 19249 SP-1
F.B. NO.

LAND SURVEYORS

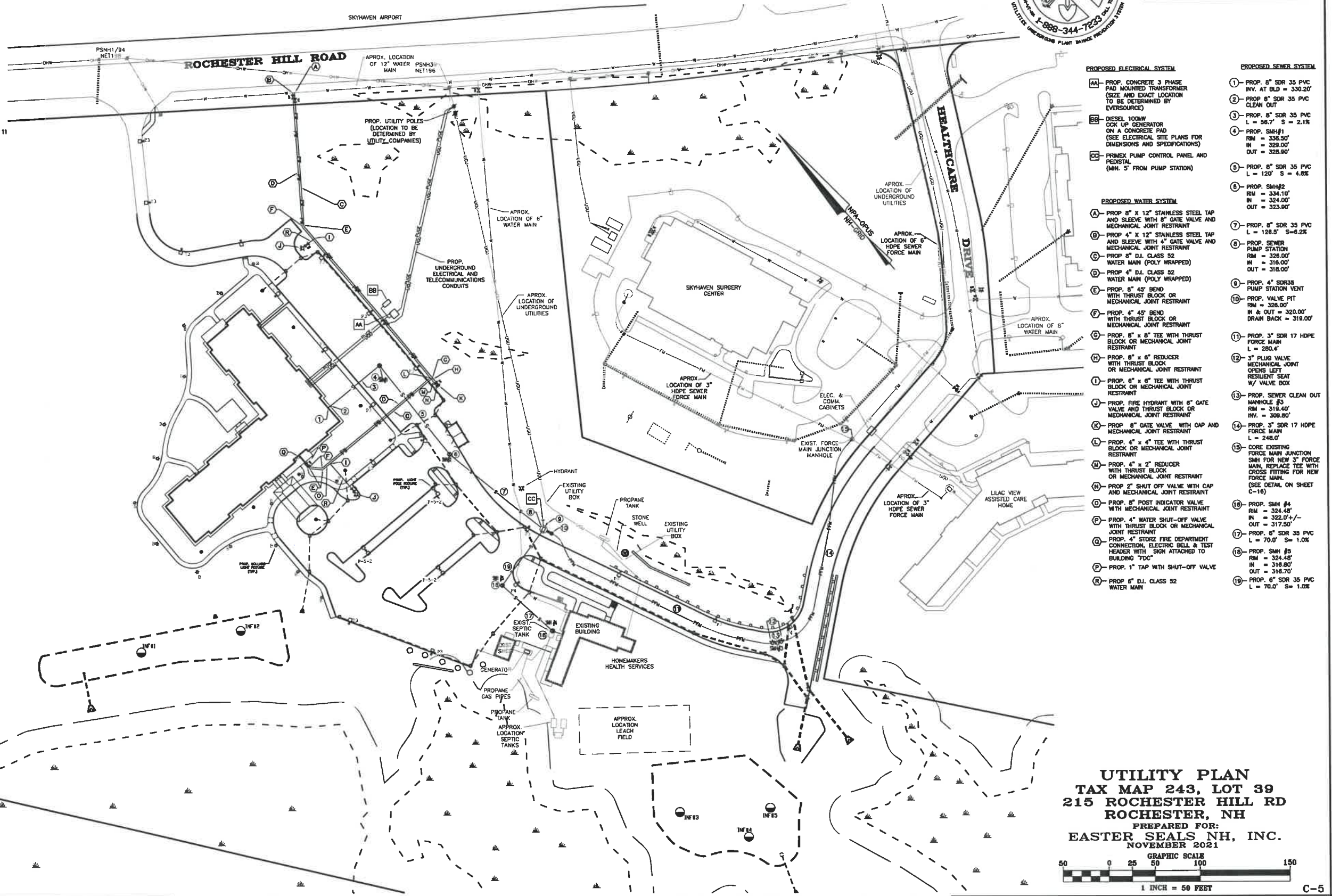
CIVIL ENGINEERS

LEGEND

- PROPERTY LINE
- JURISDICTIONAL WETLANDS
- EXISTING OVER-HEAD WIRES
- EXISTING WATER MAIN
- EXISTING GRAVITY SEWER MAIN
- EXISTING SEWER FORCE MAIN
- EXISTING UNDERGROUND ELECTRIC WIRES
- EXISTING UNDERGROUND UTILITY WIRES
- EXISTING GAS PIPE
- EXISTING DRAIN LINE
- EXISTING HYDRANT
- EXISTING WATER GATE OR SHUT-OFF VALVE
- EXISTING UTILITY POLE
- EXISTING SEWER MANHOLE
- EXISTING CATCH BASIN
- EXISTING LIGHT POLES
- PROPOSED DRAIN LINE
- PROPOSED WATER SERVICE
- PROPOSED SEWER LINE
- PROPOSED SEWER FORCE MAIN PIPE HOPE SDR 11
- PROPOSED PROPANE GAS LINE
- PROPOSED UNDERGROUND UTILITY WIRES
- PROPOSED UNDERGROUND ELECTRIC WIRES
- PROPOSED HYDRANT
- PROPOSED WATER GATE VALVE
- PROPOSED WATER SHUT-OFF VALVE
- PROPOSED SEWER SHUT-OFF VALVE
- PROPOSED UTILITY POLE
- PROPOSED SEWER MANHOLE
- PROPOSED DRAIN MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED LIGHT POLES
- PROPOSED BUILDING LIGHT FIXTURES
- T.O.P. TOP OF PIPE
- B.O.P. BOTTOM OF PIPE

- NOTES:
- CONSTRUCTION WILL CONFORM TO THE FOLLOWING UTILITIES STANDARDS AND SPECIFICATIONS:
 - SANITARY SEWER DISPOSAL - CITY OF ROCHESTER
 - ELECTRIC DISTRIBUTION - EVERSOURCE
 - TELEPHONE - FAIRPOINT
 - CABLE - CONSOLIDATED COMMUNICATIONS
 - WATER - CITY OF ROCHESTER
 - ALL PROPOSED ON-SITE UTILITIES SHALL BE INSTALLED UNDERGROUND.

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PROPOSED ELECTRICAL SYSTEM

- AA - PROP. CONCRETE 3 PHASE PAD MOUNTED TRANSFORMER (SIZE AND EXACT LOCATION TO BE DETERMINED BY EVERSOURCE)
- BB - DIESEL 100KW CKR UP GENERATOR ON A CONCRETE PAD (SEE ELECTRICAL SITE PLANS FOR DIMENSIONS AND SPECIFICATIONS)
- CC - PREMIX PUMP CONTROL PANEL AND PEDISTAL (MIN. 5' FROM PUMP STATION)

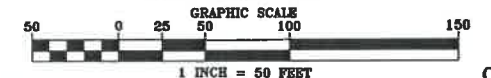
PROPOSED WATER SYSTEM

- A - PROP. 8" X 12" STAINLESS STEEL TAP AND SLEEVE WITH 8" GATE VALVE AND MECHANICAL JOINT RESTRAINT
- B - PROP. 1" X 12" STAINLESS STEEL TAP AND SLEEVE WITH 4" GATE VALVE AND MECHANICAL JOINT RESTRAINT
- C - PROP. 6" D.I. CLASS 52 WATER MAIN (POLY WRAPPED)
- D - PROP. 4" D.I. CLASS 52 WATER MAIN (POLY WRAPPED)
- E - PROP. 6" 45° BEND WITH THRUST BLOCK OR MECHANICAL JOINT RESTRAINT
- F - PROP. 4" 45° BEND WITH THRUST BLOCK OR MECHANICAL JOINT RESTRAINT
- G - PROP. 8" X 8" TEE WITH THRUST BLOCK OR MECHANICAL JOINT RESTRAINT
- H - PROP. 8" X 6" REDUCER WITH THRUST BLOCK OR MECHANICAL JOINT RESTRAINT
- I - PROP. 6" X 6" TEE WITH THRUST BLOCK OR MECHANICAL JOINT RESTRAINT
- J - PROP. FIRE HYDRANT WITH 8" GATE VALVE AND THRUST BLOCK OR MECHANICAL JOINT RESTRAINT
- K - PROP. 8" GATE VALVE WITH CAP AND MECHANICAL JOINT RESTRAINT
- L - PROP. 4" X 4" TEE WITH THRUST BLOCK OR MECHANICAL JOINT RESTRAINT
- M - PROP. 4" X 2" REDUCER WITH THRUST BLOCK OR MECHANICAL JOINT RESTRAINT
- N - PROP. 2" SHUT OFF VALVE WITH CAP AND MECHANICAL JOINT RESTRAINT
- O - PROP. 8" POST INDICATOR VALVE WITH MECHANICAL JOINT RESTRAINT
- P - PROP. 4" WATER SHUT-OFF VALVE WITH THRUST BLOCK OR MECHANICAL JOINT RESTRAINT
- Q - PROP. 4" STORZ FIRE DEPARTMENT CONNECTION, ELECTRIC BELL & TEST HEADER WITH SIGN ATTACHED TO BUILDING "FDC"
- R - PROP. 1" TAP WITH SHUT-OFF VALVE
- S - PROP. 6" D.I. CLASS 52 WATER MAIN

PROPOSED SEWER SYSTEM

- 1 - PROP. 8" SDR 35 PVC INV. AT BLD = 330.20'
- 2 - PROP. 8" SDR 35 PVC CLEAN OUT
- 3 - PROP. 8" SDR 35 PVC L = 56.7' S = 2.1%
- 4 - PROP. SMH#1 RM = 334.50' IN = 329.00' OUT = 328.90'
- 5 - PROP. 8" SDR 35 PVC L = 120' S = 4.8%
- 6 - PROP. SMH#2 RM = 334.10' IN = 324.00' OUT = 323.90'
- 7 - PROP. 8" SDR 35 PVC L = 124.5' S = 0.2%
- 8 - PROP. SEWER PUMP STATION RM = 328.00' IN = 318.00' OUT = 318.00'
- 9 - PROP. 4" SDR35 PUMP STATION VENT
- 10 - PROP. VALVE PIT RM = 328.00' IN & OUT = 320.00' DRAIN BACK = 319.00'
- 11 - PROP. 3" SDR 17 HOPE FORCE MAIN L = 280.4'
- 12 - 3" PLUG VALVE MECHANICAL JOINT OPENS LEFT RESILIENT SEAT W/ VALVE BOX
- 13 - PROP. SEWER CLEAN OUT MANHOLE #3 RM = 319.40' INV. = 309.80'
- 14 - PROP. 3" SDR 17 HOPE FORCE MAIN L = 248.0'
- 15 - CORE EXISTING FORCE MAIN JUNCTION SMH FOR NEW 3" FORCE MAIN. REPLACE TEE WITH CROSS FITTING FOR NEW FORCE MAIN. (SEE DETAIL ON SHEET C-10)
- 16 - PROP. SMH #4 RM = 324.48' IN = 322.0' +/- OUT = 317.50'
- 17 - PROP. 6" SDR 35 PVC L = 70.0' S = 1.0%
- 18 - PROP. SMH #5 RM = 324.48' IN = 316.80' OUT = 316.70'
- 19 - PROP. 6" SDR 35 PVC L = 70.0' S = 1.0%

UTILITY PLAN
TAX MAP 243, LOT 39
215 ROCHESTER HILL RD
ROCHESTER, NH
PREPARED FOR:
EASTER SEALS NH, INC.
NOVEMBER 2021



FILE NO. 102
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31 Mooney Street, Alton, N.H. 603-875-3948

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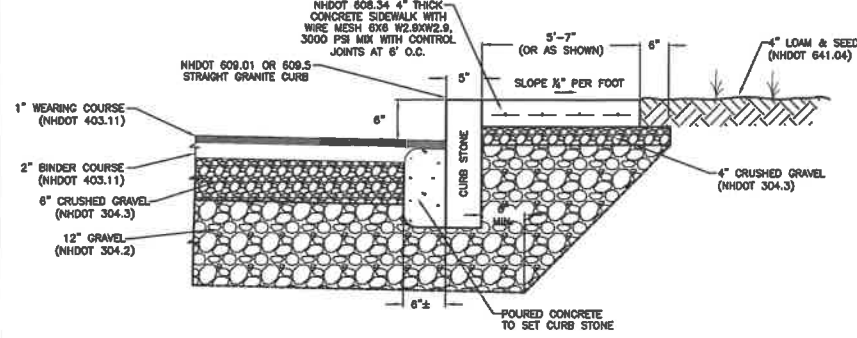
2 Continental Blvd., Rochester, N.H. 603-335-3948

LAND SURVEYORS

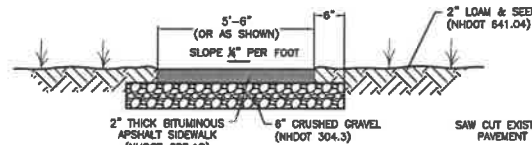


CIVIL ENGINEERS

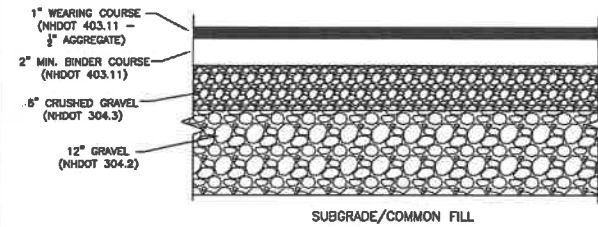
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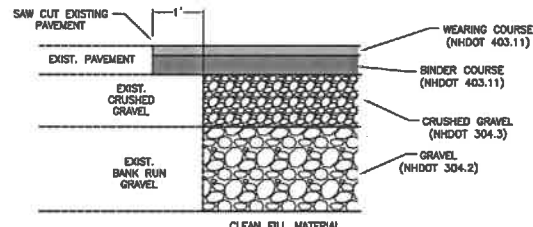
CONCRETE SIDEWALK WITH GRANITE CURB DETAIL
NOT TO SCALE



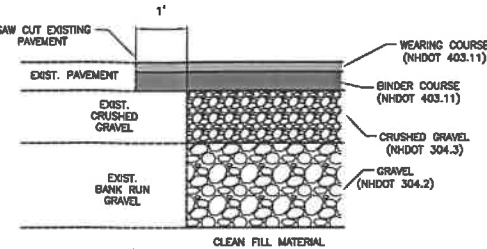
PAVED SIDEWALK DETAIL
NOT TO SCALE



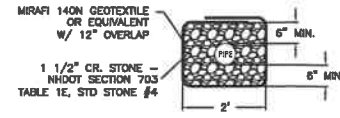
PARKING LOT CROSS-SECTIONS
NOT TO SCALE



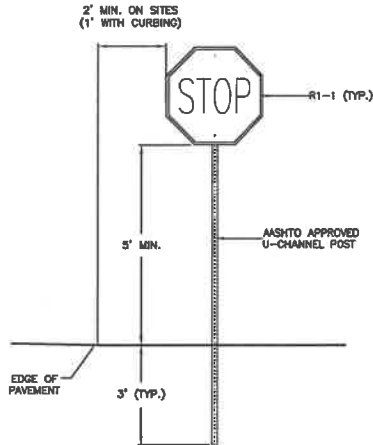
TYPICAL PAVEMENT MATCHING DETAIL
NOT TO SCALE



TYPICAL PAVEMENT SAWCUT DETAIL
NOT TO SCALE



TYPICAL UNDERDRAIN
NOT TO SCALE



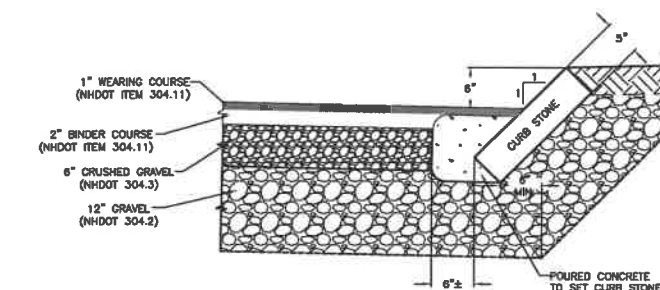
TYPICAL TRAFFIC SIGN
NOT TO SCALE

ITEM NO.	SIGN SIZE		TEXT	NO. SIGNS REQ'D
	HEIGHT	WIDTH		
R1-1	30"	30"	STOP	3
R7-8 R7-8a	18"	12"	WHEELCHAIR	6
R7-8P	6"	18"	VAN ACCESSIBLE	2
R7-1	18"	12"	NO PARKING FIRE LANE	2
NHE-9455	7"	10"	FDC	1
W14-2	30"	30"	NO OUTLET	1
W11A-2	30"	30"	WALKER	2
ROCHESTER STREET SIGN WITH REMOVABLE "PRIVATE" TOPPER	4"	8"	PRIVATE	1
	9"	24"	XXX DRIVE	1
R5-1	30"	30"	DO NOT ENTER	8

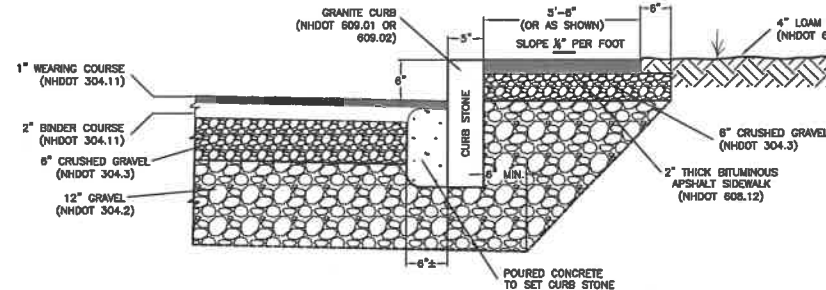
NOTES:
1. ALL SIGNS SHALL BE PER "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.

SIGN SCHEDULE
NOT TO SCALE

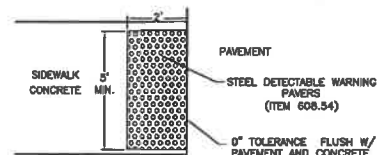
- PAVEMENT NOTES:
1. PLACE COMMON FILL IN 12 INCH LIFTS. COMPACT COMMON FILL TO 95% MAXIMUM PROCTOR DENSITY.
2. PLACE GRAVEL IN MAXIMUM 8 INCH LIFTS. COMPACT TO 95% MAXIMUM PROCTOR DENSITY.
3. PLACE CRUSHED GRAVEL IN MAXIMUM 8 INCH LIFTS. COMPACT TO 95% MAXIMUM PROCTOR DENSITY.
4. PAVEMENT MUST BE INSTALLED IN TWO COURSES, A BINDER COURSE AND A WEARING COURSE.



GRANITE SLOPE CURB DETAIL
NOT TO SCALE

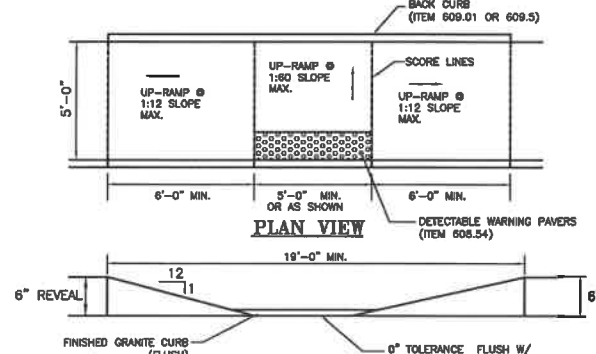


PAVED SIDEWALK WITH GRANITE CURB DETAIL
NOT TO SCALE



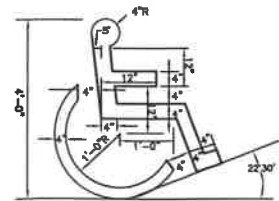
DETECTABLE WARNING PAVER DETAIL
NOT TO SCALE

- DETECTABLE WARNING PAVER NOTES:
1. THE MAXIMUM CROSS OF CONCRETE WALKWAY SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
2. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
3. DETECTABLE WARNING PAVERS (ITEM 608.54) SHALL BE USED ON CONCRETE RAMPS AS SHOWN. EACH TACTICAL WARNING STRIP PANEL SHALL A TRUNCATED DOMED SURFACE AT LEAST 2'-0" IN WIDTH, MEASURED FROM THE BACK OF THE CURB TIP DOWN, AND 5'-0" IN LENGTH MEASURED PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.
4. ALL DETECTABLE WARNING PAVERS SHALL BE CAST IN PLACE ARMOR-TILE TACTILE SYSTEM, YELLOW IN COLOR, OR APPROVED EQUAL.

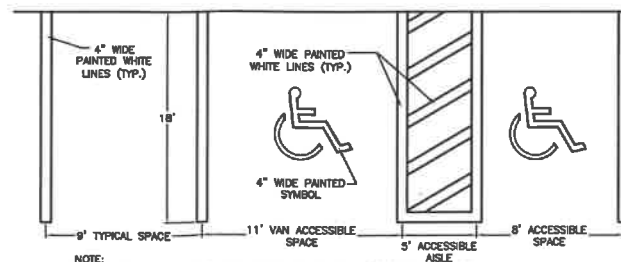


HANDICAP RAMP DETAIL "A"
NOT TO SCALE

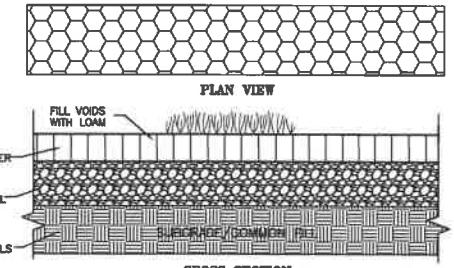
- GENERAL SIDEWALK NOTES:
1. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB IS 1:21. THE MAXIMUM CROSS SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
2. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
3. DETECTABLE WARNING PAVERS (ITEM 608.54) SHALL BE USED ON CONCRETE RAMPS AS SHOWN. EACH TACTICAL WARNING STRIP PANEL SHALL A TRUNCATED DOMED SURFACE AT LEAST 2'-0" IN WIDTH, MEASURED FROM THE BACK OF THE CURB TIP DOWN, AND 5'-0" IN LENGTH MEASURED PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.



ACCESSIBLE SYMBOL



STALL STRIPING DETAIL
NOT TO SCALE



GRASS PAVER DRIVE DETAIL
NOT TO SCALE

- NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

PARKING AND SIDEWALK DETAILS
TAX MAP 243, LOT 39
215 ROCHESTER HILL RD
ROCHESTER, NH
PREPARED FOR:
EASTER SEALS NH, INC.
NOVEMBER 2021

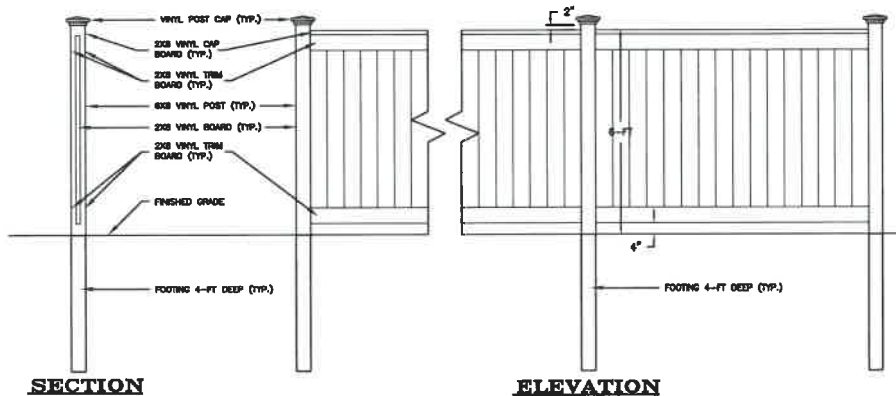
FILE NO. 102
PLAN NO. C-3154
DWG. NO. 19249 SP-1
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

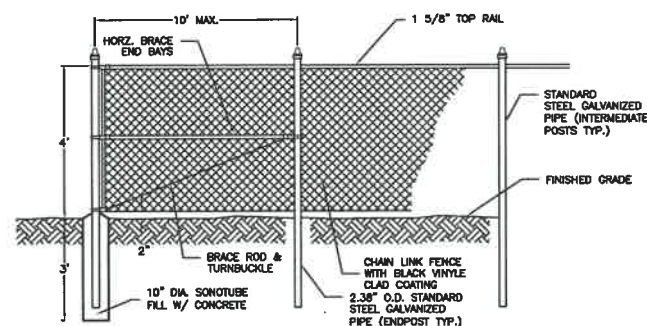
LAND SURVEYORS



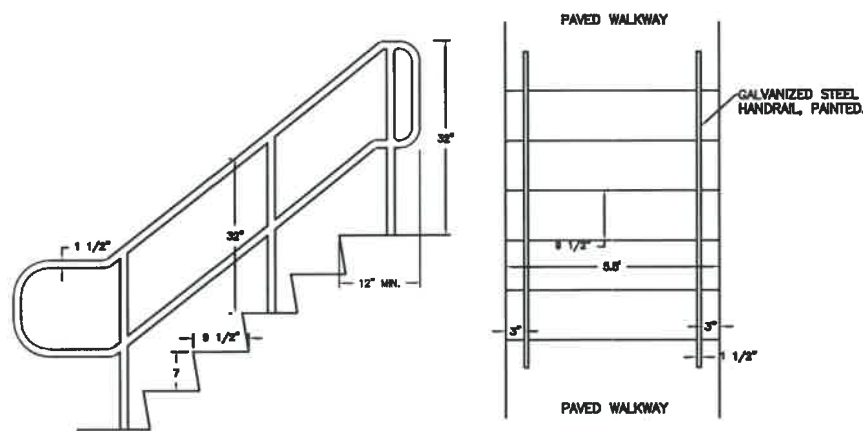
SECTION

ELEVATION

TYPICAL SOLID VINYL FENCE DUMPSTER ENCLOSURE
SCALE: 1/2"=1'



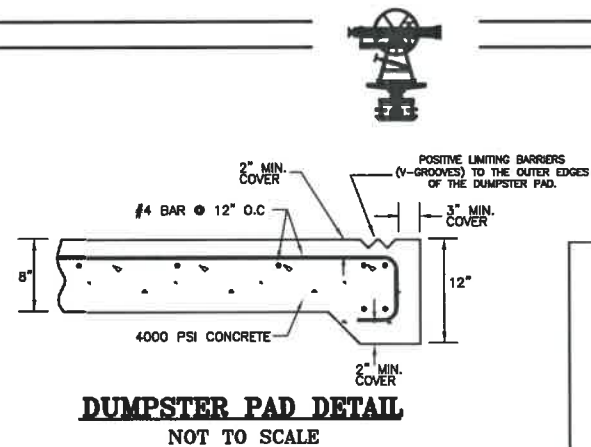
TYPICAL CHAINLINK FENCE
NOT TO SCALE



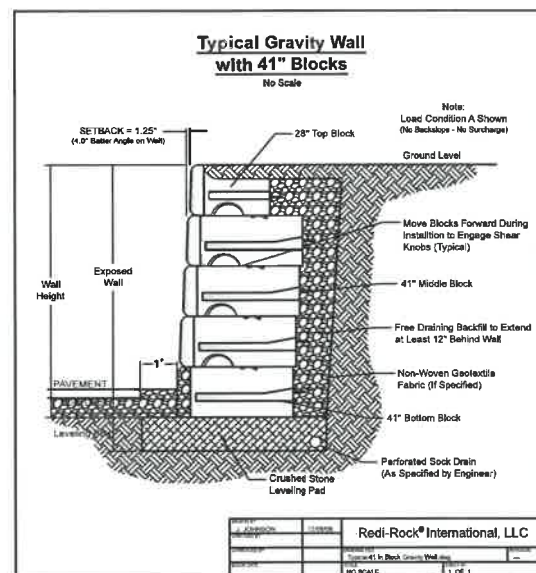
PROFILE

PLAN

RAIL & STAIR DETAIL
NOT TO SCALE

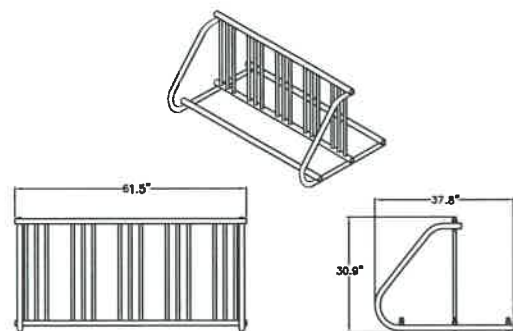


DUMPSTER PAD DETAIL
NOT TO SCALE



TYPICAL BLOCK RETAINING WALL DETAIL
NOT TO SCALE

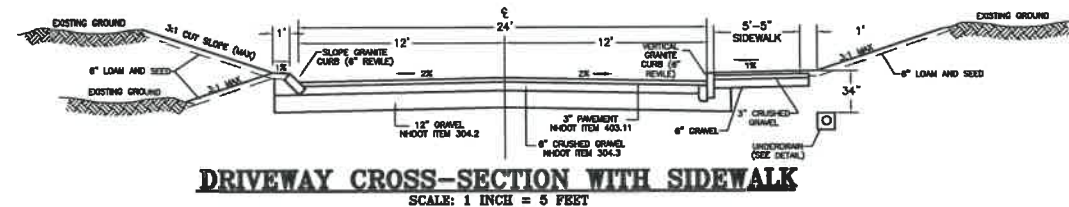
- NOTES:
1. DESIGN OF RETAINING WALLS TO BE PROVIDED BY MANUFACTURE AND INSTALLED PER THE MANUFACTURES REQUIREMENTS.
 2. SHOP DRAWINGS SHALL BE SUBMITTED PRIOR TO ORDERING AND APPROVED BY NORWAY PLAINS ASSOCIATES, INC.
 3. CHAINLINK FENCE SHALL BE INSTALLED ON TOP OF WALL WHERE THE VERTICAL DROP IS GREATER THAN 2 FEET OR AS REQUIRED BY CODES.



BICYCLE RACK DETAIL
NOT TO SCALE

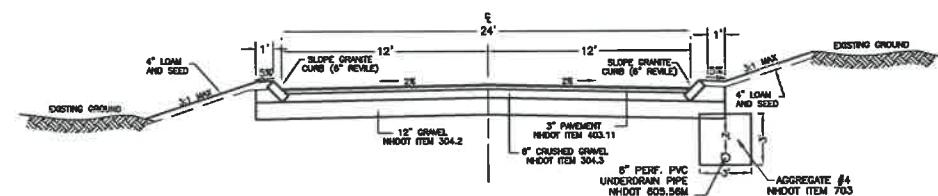
CIVIL ENGINEERS

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITH IN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



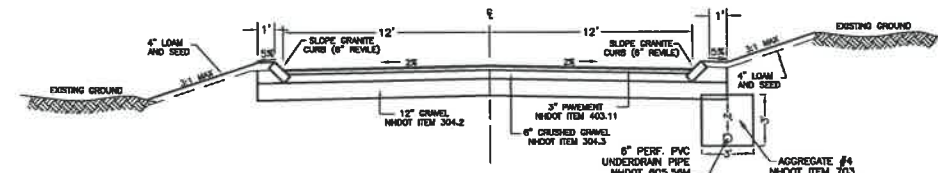
DRIVEWAY CROSS-SECTION WITH SIDEWALK

SCALE: 1 INCH = 5 FEET



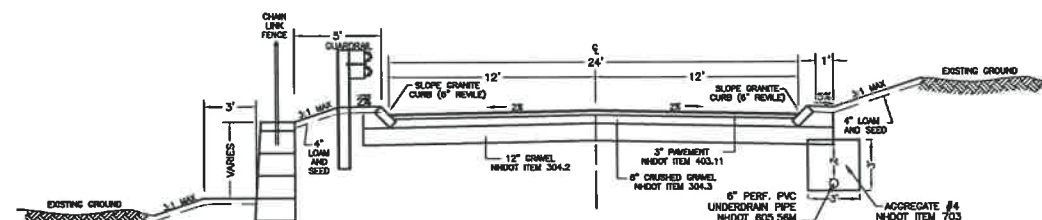
DRIVEWAY CROSS SECTION WITH OUT SIDEWALK

SCALE: 1 INCH = 5 FEET



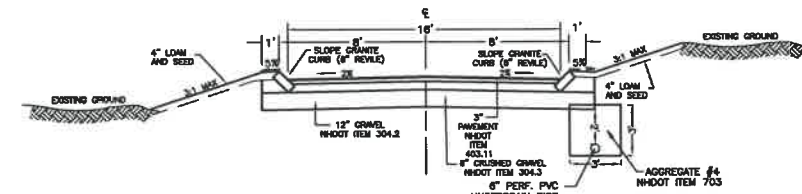
HEATHCARE DRIVE EXTENSION

SCALE: 1 INCH = 5 FEET



HEATHCARE DRIVE EXTENSION

SCALE: 1 INCH = 5 FEET



DRIVEWAY CROSS SECTION

SCALE: 1 INCH = 5 FEET

CONSTRUCTION DETAILS
TAX MAP 243, LOT 39
ROCHESTER HILL ROAD &
HEALTHCARE DRIVE
ROCHESTER, NH
PREPARED FOR:
EASTER SEALS NH, INC.
NOVEMBER 2021

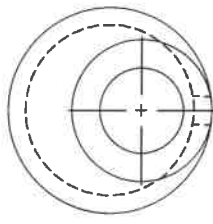
FILE NO. 102
PLAN NO. C-3154
DWG. NO. 19249 SP-1
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

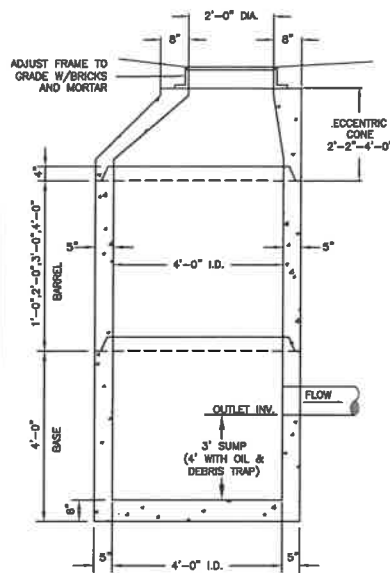
C-7



PLAN VIEW

DRAIN LINE DIAMETER	SUM OF DRAIN LINE DIAMETER	CATCH BASIN DIAMETER
15" TO 18"	LESS THAN 54"	4'
21" TO 27"	LESS THAN 72"	5'
30" TO 33"	LESS THAN 90"	6'
36" & LARGER	GREATER THAN 90"	REFER TO THE STANDARD

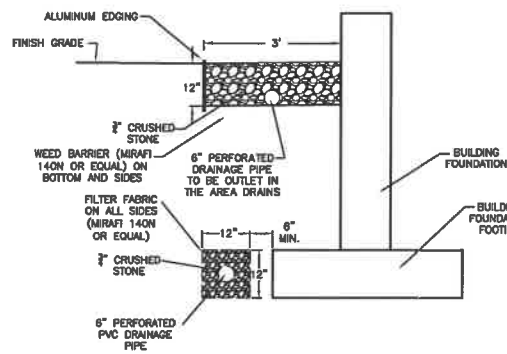
- NOTES:
1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
 2. REINFORCING: SHALL BE PROVIDED FOR H-20 LOADING.
 3. SHIPLAP JOINTS SEALED WITH 1 STRIP OF BUTYL RUBBER SEALANT.
 4. PIPE OPENINGS CAST IN AS REQUIRED.
 5. RISER HEIGHT VARIES 1', 2', 3' OR 4' TO REACH DESIRED DEPTH.
 6. PIPE CONNECTIONS SHALL BE MORTARED.
 7. PRECAST SECTIONS SHALL CONFORM TO ASTM C-478.
 8. SEE SLAB TOP DETAIL FOR STRUCTURES REQUIRING SLAB TOPS, I.E. DOUBLE GRATE AND FRAME STRUCTURES.



SECTION VIEW

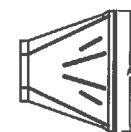
PRE-CAST REINFORCED CATCH BASIN

NOT TO SCALE

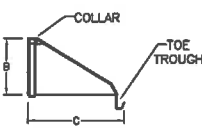


FOUNDATION AND DRIP EDGE DRAIN DETAIL

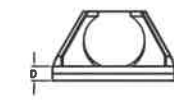
NOT TO SCALE



TOP VIEW



SIDE VIEW



FRONT VIEW

FLAIRED END SECTION DETAIL

NOT TO SCALE

PIPE DIAMETERS	A	B	C	D
10" / 12"	42	14.5	33	8
18"	41	19	34	8
24"	49	22	43	8
30"	59.5	28	48	8
36"	68	36	53.5	8
48"	88	43	66.5	8

- INSTALLATION NOTES:
1. ANTI-SEEP COLLARS SHALL BE MADE PLASTIC IF BEING USED WITH PLASTIC PIPE. ANTI-SEEP COLLARS SHALL BE GALVANIZED SHEET STEEL IF BEING USED WITH CORRUGATED METAL PIPE AND SHALL BE POURED CONCRETE IF BEING USED WITH REINFORCED CONCRETE PIPE.
 2. ANTI-SEEP COLLAR SHALL BE WATERPROOF AND HAVE A WATERPROOF CONNECTION TO THE OUTLET PIPE.
 3. A NUMBER OF ANTI-SEEP COLLARS SHALL BE PLACED ALONG THE PIPE IN A SPACING THAT INCREASES THE PIPE LENGTH BY 15%.

- SOURCES FOR PLASTIC ANTI-SEEP COLLARS FOR USE WITH PLASTIC PIPE:
1. THE FOLLOWING ARE A FEW MANUFACTURERS OF PLASTIC ANTI-SEEP COLLARS. COLLARS FROM THESE MANUFACTURERS MAY BE USED WITH BOTH SMOOTH WALLED AND CORRUGATED OUTSIDE WALLED PIPE.

McRIP MANUFACTURING
16 MESERVE ROAD
DURHAM, NH 03824
PHONE: (603) 868-5176
FAX: (603) 868-2074
E-MAIL: info@trenchdam.com

SCHIEB DRAINAGE PRODUCTS
203 SOUTH MONROE STREET
OREGON, MO 64473
PHONE: (800)-446-2343

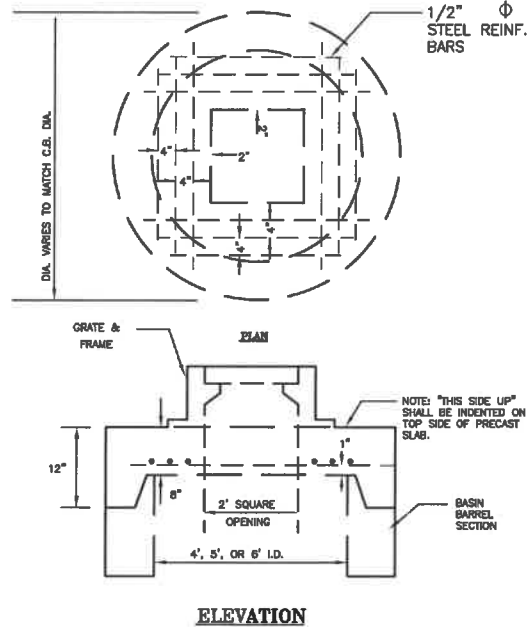
2. IT IS ALSO SUGGESTED THAT LOCAL SUPPLIERS BE CONTACTED TO ENSURE ABOUT SUITABLE ANTI-SEEP COLLAR PRODUCTS. IF A POSSIBLE ALTERNATIVE IS FOUND CONTACT THE DESIGN ENGINEER TO ENSURE ITS APPROPRIATENESS AND TO GET APPROVAL FOR ITS USE.

COLLAR DIMENSION TABLE

D	W	H
12	10"	6"
18	10.25"	6"
24	12"	7.5"
30	12"	7.5"

ANTI-SEEP COLLAR DETAIL

NOT TO SCALE

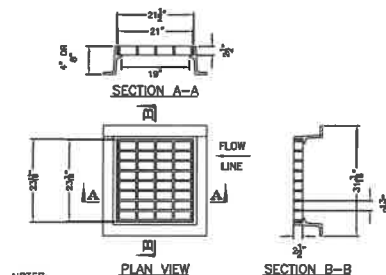


ELEVATION

- NOTE:
1. SLAB TO BE PLACED IN LIEU OF TAPERED SECTION WHERE PIPE WOULD OTHERWISE ENTER INTO TAPERED SECTION OF THE STRUCTURE AND WHERE PERMITTED.
 2. SLAB TOP MAY BE CASTED WITH MINIMUM OR NO INTERLOCKING CHANNEL. HOWEVER, THE CONTRACTOR MUST ENSURE THE SLAB TOP IS FIRMLY ATTACHED TO THE STRUCTURE.

REINFORCED CONCRETE SLAB COVER

NOT TO SCALE

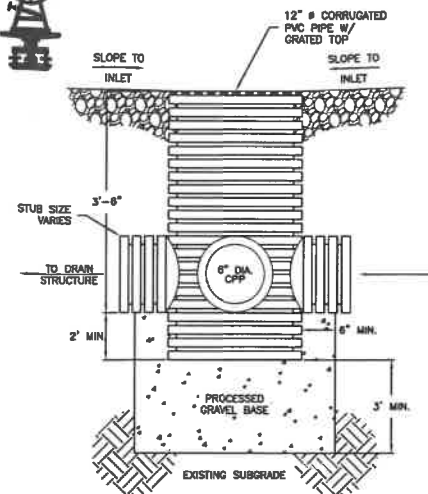


PLAN VIEW

SECTION B-B

CATCH BASIN TYPE 'B' GRATE DETAIL

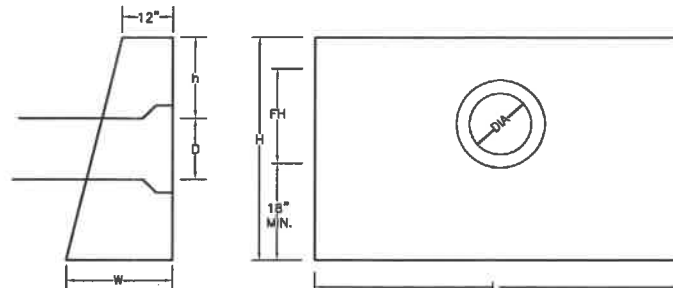
NOT TO SCALE



- NOTES:
1. AREA DRAINS TO BE ADS PIPE TEE & RISER SECTIONS WITH GRATES, OR EQUAL.
 2. AREA DRAINS SHALL BE SET ON 3 FT OF PROCESSED GRAVEL BASE, COMPACTED TO 85% PROCTOR DENSITY.
 3. USE EITHER CLEAN GRANULAR FILL OR NHDOT CRUSHED GRAVEL FOR THE PROCESSED GRAVEL BASE (SEE C6).

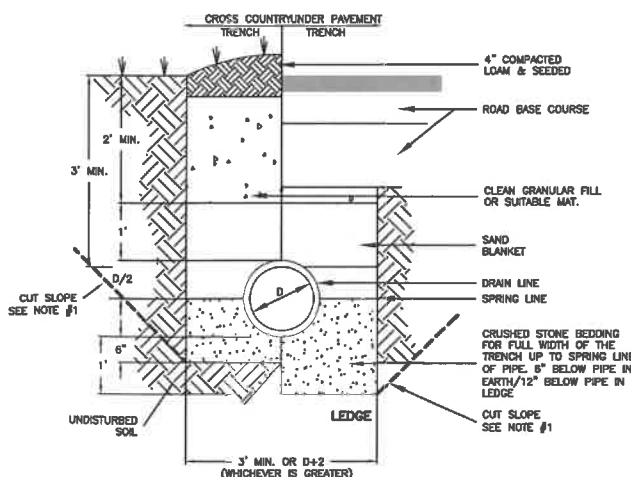
AREA DRAIN DETAIL

NOT TO SCALE



DIA. D	HEADWALL LENGTH L	HEADWALL HEIGHT H	FILL HEIGHT FH	PIPE COVER h	HEADWALL BTM HEIGHT W
12"	4'3"	3'3"	1'1"	1'3"	2'
15"	8'	4'3"	1'7"	1'8"	2'1"
18"	7'	4'6"	1'10"	1'8"	2'2"
24"	9'	5'	2'4"	1'8"	2'3"
30"	11'	5'6"	2'10"	1'8"	2'5"
36"	13'	6'	3'4"	1'8"	2'6"
42"	15'9"	6'9"	4'1"	1'9"	2'9"
48"	17'9"	7'3"	4'7"	1'9"	2'10"

PRE-CAST HEADWALL



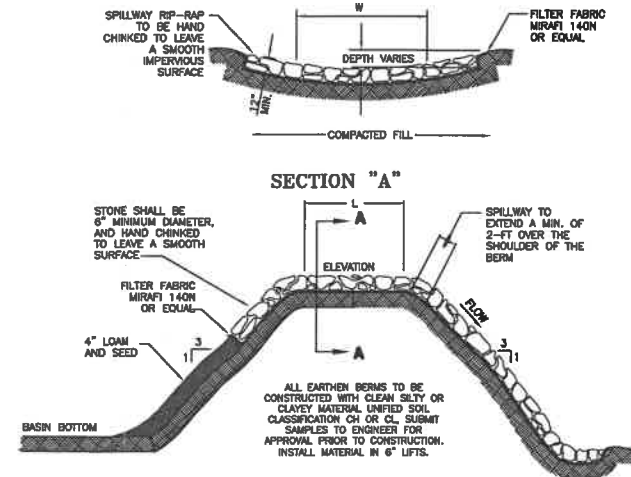
- NOTES:
1. PIPES MAY BE INSTALLED BY EXCAVATING AN OPEN TRENCH WITH SIDE SLOPES OF 1:1 MAXIMUM TO A DEPTH OF 4'-FT. INSTALLATIONS DEEPER THAN 4'-FT REQUIRE THE USE OF A TRENCH BOX.
 2. PIPE MATERIALS SHALL BE AS SPECIFIED ON THE DESIGN PLAN.
 3. SAND BLANKET MAY BE OMITTED FOR REINFORCED CONCRETE PIPE.

DRAINAGE PIPE TRENCH INSTALLATION DETAIL

NOT TO SCALE



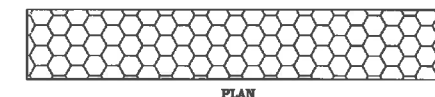
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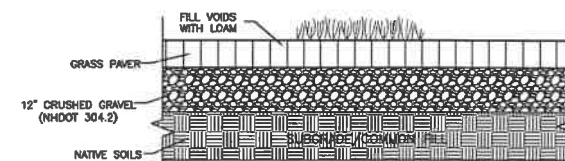
SPILLWAY #	LOCATION	LENGTH	WIDTH	ELEVATION
1	FB 1	11'	17'	331.0'
2	IB 1	11'	8'	331.0'
3	FB 2	17'	17'	309.0'
4	IB 2	11'	8'	311.0'

SPILLWAY DETAIL

NOT TO SCALE



PLAN



CROSS SECTION

PARKING LOT CROSS-SECTIONS

NOT TO SCALE

- NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 2. DO NOT SCALE DRAWING.
 3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY.
 4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

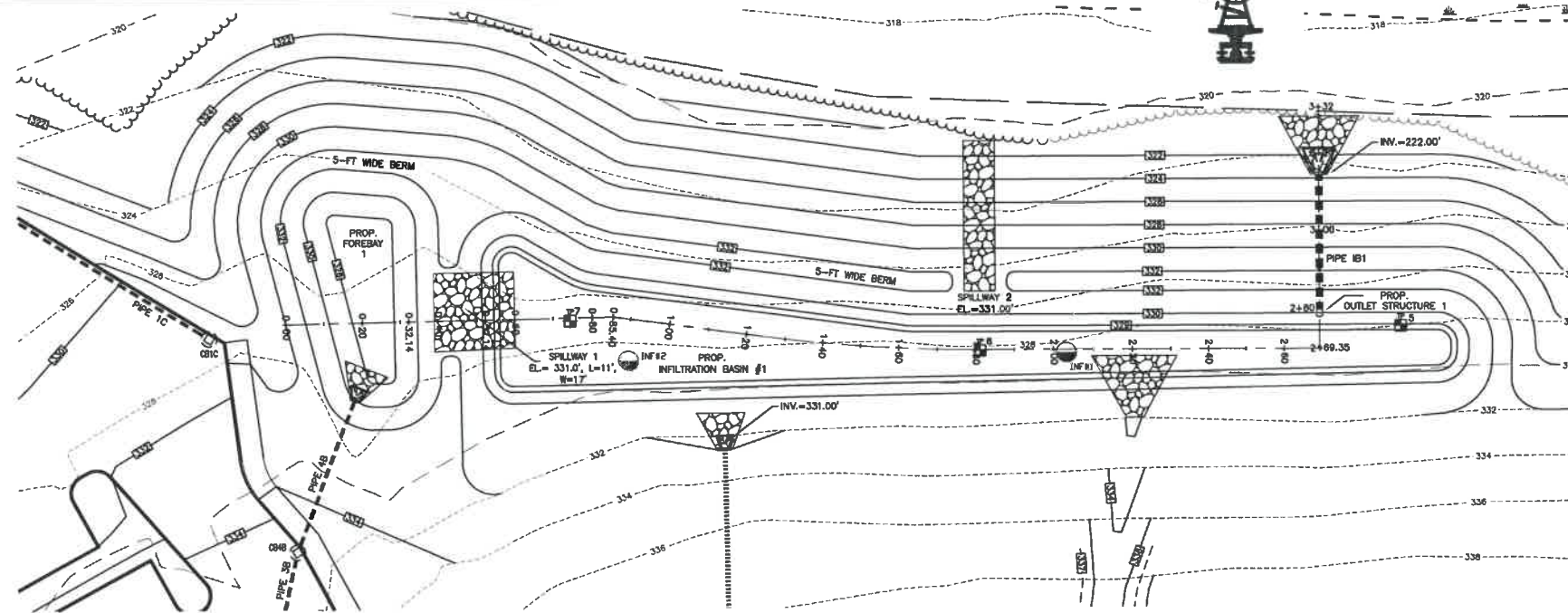
DRAINAGE DETAILS
TAX MAP 243, LOT 39
ROCHESTER HILL ROAD &
HEALTHCARE DRIVE
ROCHESTER, NH

PREPARED FOR:
EASTER SEALS NH, INC.
NOVEMBER 2021

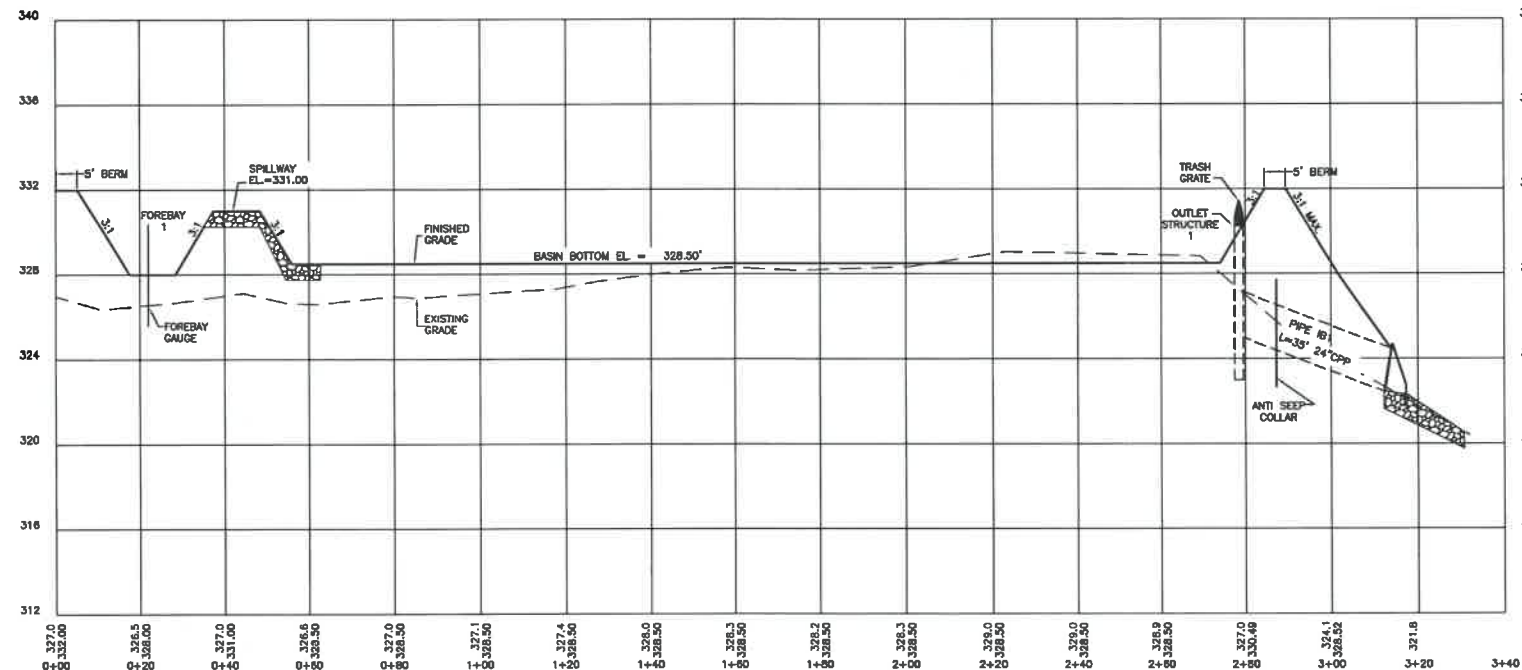
LAND SURVEYORS

CIVIL ENGINEERS

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



INFILTRATION BASIN #1
1" = 20'



INFILTRATION BASIN #1 CROSS SECTION
1" = 20' (HORIZ.) & 1" = 4' (VERT.)

TEST PITS CONDUCTED: MARCH 29, 2021
BY: JOSEPH W. NOEL
NEW HAMPSHIRE CERTIFIED SOIL SCIENTIST #017
PURPOSE: STORMWATER PLANNING & SITE-SPECIFIC SOIL MAPPING

TEST PIT 5

1-0 INCHES PARTIALLY DECOMPOSED GRASSES
0-10 INCHES DARK BROWN (10YR 3/3) FINE SANDY LOAM, FRABLE, GRANULAR
10-33 INCHES YELLOWISH BROWN (10YR 5/6) FINE SANDY LOAM, FRABLE, BLOCKY
33-60 INCHES LIGHT OLIVE BROWN (2.5Y 5/4) SANDY LOAM, FIRM, MASSIVE, COMMON DISTINCT REDOX FEATURES
SEASONAL HIGH WATER TABLE @ 33"
OBSERVED WATER TABLE NONE TO 60"
RESTRICTIVE HORIZON @ 33"
BEDROCK NONE TO 60"

TEST PIT 6

1-0 INCHES PARTIALLY DECOMPOSED GRASSES
0-12 INCHES VERY DARK GRAYISH BROWN (10YR 3/2) SANDY LOAM, FRABLE, GRANULAR
12-27 INCHES DARK YELLOWISH BROWN (10YR 4/6) LOAMY SAND, VERY FRABLE, MASSIVE
27-42 INCHES LIGHT OLIVE BROWN (2.5Y 5/4) LOAMY SAND TO SAND, FRABLE, MASSIVE, COMMON DISTINCT REDOX FEATURES
42-60 INCHES OLIVE GRAY (5Y 5/2) LOAMY VERY FINE SAND, FRABLE TO FIRM, MASSIVE, COMMON PROMINENT REDOX FEATURES
SEASONAL HIGH WATER TABLE @ 27"
OBSERVED WATER TABLE @ 40"
RESTRICTIVE HORIZON @ 42"
BEDROCK NONE TO 60"

TEST PIT 7

1-0 INCHES PARTIALLY DECOMPOSED GRASSES
0-7 INCHES DARK BROWN (10YR 3/3) SANDY LOAM, FRABLE, GRANULAR
7-35 INCHES YELLOWISH BROWN (10YR 5/6) SANDY LOAM, FRABLE, BLOCKY
35-60 INCHES OLIVE (5Y 5/3) SANDY LOAM TO LOAMY SAND, FIRM, MASSIVE, COMMON PROMINENT REDOX FEATURES
SEASONAL HIGH WATER TABLE @ 35"
OBSERVED WATER TABLE NONE TO 60"
RESTRICTIVE HORIZON @ 35"
BEDROCK NONE TO 60"

INFILTRATION TEST CONDUCTED: SEPTEMBER 30, 2021
BY: S.W. COLE ENGINEERING, INC.
TEST TYPE: GUELPH PERMEAMETER

INF #1
Ksat = 1.6 IN/HR
INF #2
Ksat = 1.9 IN/HR

**INFILTRATION BASIN #1
OUTLET STANDPIPE DETAIL**
NOT TO SCALE

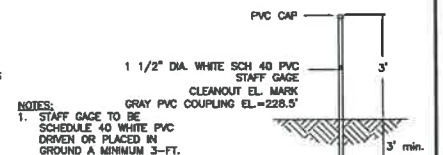
- SPECIFICATIONS:**
- DO NOT DISCHARGE SEDIMENT-LOADED WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE INFILTRATION BASIN.
 - DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION BASIN.
 - AFTER THE BASIN IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHALL BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
 - VEGETATION SHALL BE ESTABLISHED IMMEDIATELY AFTER FINAL GRADING IS COMPLETED.
 - CONSTRUCT THE INFILTRATION BASIN TO THE GRADES DEPICTED ON THE PLAN AND CROSS-SECTION.
 - LOAM AND SEED ONLY THE SLOPES OF THE INFILTRATION BASIN AS PRESCRIBED IN THE "PERMANENT VEGETATION" NOTES FOUND ON SHEET C-12. SEED MIXTURE =
 - DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

- MAINTENANCE REQUIREMENTS:**
- INSPECT PRETREATMENT MEASURES (I.E. SEDIMENT FOREBAY(S), HOODED CATCH BASINS, ETC.) AT LEAST TWICE A YEAR AND AFTER EVERY STORM GREATER THAN 2.5 INCHES OF RAIN OVER A 24-HOUR PERIOD.
 - INSPECT INFILTRATION SURFACE 8-ANNUALLY, ONCE IN THE SPRING PRIOR TO MAY 15 AND ONCE IN THE FALL PRIOR TO OCTOBER 15.
 - INSPECT INFILTRATION SURFACE AFTER ANY RAINFALL EVENT OF 2.5-INCHES OR GREATER IN A 24-HOUR PERIOD.
 - REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION. REPAIR AREA OF REMOVAL AS NECESSARY TO RESTORE INFILTRATION CAPACITY.
 - PERFORM MAINTENANCE AND REHABILITATION BASED ON INSPECTIONS.
 - REMOVE DEBRIS (IF ANY) FROM INFILTRATION BASIN INLET BASED ON INSPECTION.
 - CONDUCT PERIODIC MOWING OF THE INFILTRATION BASIN SLOPES AND EMBANKMENTS (MINIMUM TWICE A YEAR) TO ELIMINATE WOODY GROWTH FROM THE EMBANKMENTS AND BOTTOM. MOWING THE INFILTRATION BASIN EMBANKMENTS WHEN MOWING THE REST OF THE SITE IS RECOMMENDED.
 - IF THE INFILTRATION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL (I.E. PROFESSIONAL ENGINEER, CERTIFIED SOILS SCIENTIST, ETC.) SHALL ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE INFILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE INFILTRATION SURFACE.

INFILTRATION BASIN

- SPECIFICATIONS:**
- CONSTRUCT THE SEDIMENT FOREBAY TO THE GRADES DEPICTED ON THE PLAN AND CROSS-SECTION.
 - LOAM AND SEED THE SLOPES AND BOTTOM OF THE SEDIMENT FOREBAY AS PRESCRIBED IN THE "PERMANENT VEGETATION" NOTES FOUND ON SHEET C-12.

- SEED MIXTURE = A**
- MAINTENANCE REQUIREMENTS:**
- INSPECT SEDIMENT FOREBAY 8-ANNUALLY, ONCE IN THE SPRING PRIOR TO MAY 15 AND ONCE IN THE FALL PRIOR TO OCTOBER 15.
 - CONDUCT PERIODIC MOWING OF THE SEDIMENT FOREBAY SLOPES AND EMBANKMENTS (MINIMUM TWICE A YEAR) TO ELIMINATE WOODY GROWTH FROM THE EMBANKMENTS AND BOTTOM. MOWING THE SEDIMENT FOREBAY EMBANKMENTS WHEN MOWING THE REST OF THE SITE IS RECOMMENDED.
 - REMOVE DEBRIS FROM THE OUTLET STRUCTURE OF THE SEDIMENT FOREBAY (I.E. STONE CHECK DAM) AT LEAST ONCE ANNUALLY.
 - REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION. WHEN SEDIMENT HAS REACHED THE RED MARK ON THE SEDIMENT STAFF GAUGE INSTALLED IN THE FOREBAY, REMOVE SEDIMENT AND DISPOSE OF IT OFF-SITE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS. ELEVATION OF RED CLEANOUT MARK ON STAFF GAUGE = 228.5'



**SEDIMENT FOREBAY
GAUGE DETAIL**
NOT TO SCALE

SEDIMENT FOREBAY

INFILTRATION BASIN 1 DETAIL
CHAMPLIN PLACE
TAX MAP 243, LOT 39
ROCHESTER HILL ROAD &
HEALTHCARE DRIVE
ROCHESTER, NH
PREPARED FOR:
EASTER SEALS NH, INC.
NOVEMBER 2021

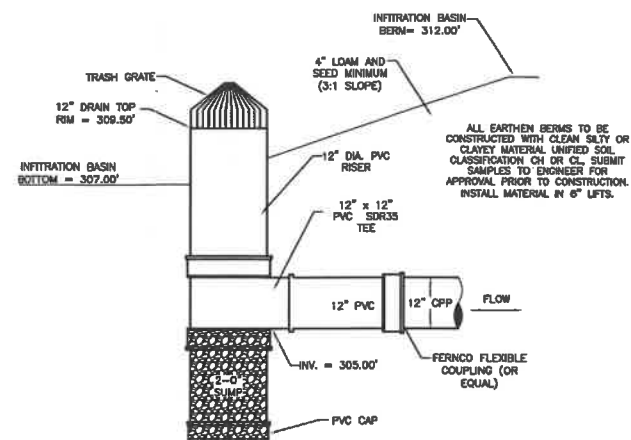
C-9

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

31 Mooney Street, Alton, N.H. 603-875-3948

FILE NO. 154
PLAN NO. C-
DWG. NO. 17233/SP-1
F.B. NO.



SPECIFICATIONS

1. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE INFILTRATION BASIN.
2. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION BASIN.
3. AFTER THE BASIN IS EXCAVED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHALL BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
4. VEGETATION SHALL BE ESTABLISHED IMMEDIATELY AFTER FINAL GRADING IS COMPLETED.
5. CONSTRUCT THE INFILTRATION BASIN TO THE GRADES DEPICTED ON THE PLAN AND CROSS-SECTION.
6. LOADS AND SEED ONLY THE SLOPES OF THE INFILTRATION BASIN AS PRESCRIBED IN THE "PERMANENT VEGETATION" NOTES FOUND ON SEED MIXTURE - A.
7. DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

MAINTENANCE REQUIREMENTS:

1. INSPECT PRETREATMENT MEASURES (E.G. SEDIMENT FOREBAYS), HOODED CATCH BASINS, ETC.) AT LEAST TWICE A YEAR AND AFTER EVERY STORM GREATER THAN 2.5 INCHES OF RAIN OVER A 24-HOUR PERIOD.
2. INSPECT INFILTRATION BASINS AT LEAST TWICE A YEAR, ONCE BEFORE SPRING FROM MAY 15 AND ONCE IN THE FALL PRIOR TO OCTOBER 15.
3. INSPECT INFILTRATION SURFACE AFTER ANY RAINFALL EVENT OF 2.5-INCHES OR GREATER IN A 24-HOUR PERIOD.
4. REMOVE EXCESS OF ACCUMULATED SEDIMENT BASINS AND INFILTRATION SURFACES, REPAIR AREA OF REMOVAL, AS NECESSARY TO RESTORE INFILTRATION CAPACITY.
5. PERFORM MAINTENANCE AND REHABILITATION BASED ON INSPECTIONS.
6. REMOVE DESIRS (IF ANY) FROM INFILTRATION BASIN INLET BASED ON INSPECTION.
7. CONDUCT PERIODIC MOWING OF THE INFILTRATION BASIN SLOPES AND EMBANKMENTS (MINIMUM TWICE A YEAR) TO ELIMINATE WOODY GROWTH FROM THE SLOPES AND EMBANKMENTS AND REDUCE THE INFILTRATION CAPACITY (MINIMUM THE REST OF THE YEAR IS RECOMMENDED).
8. IF THE INFILTRATION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL (E.G. PROFESSIONAL ENGINEER, CERTIFIED SOILS SCIENTIST, ETC.) SHALL ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE THE PLANNED INFILTRATION CAPACITY.
9. MAINTAIN INFILTRATION SURFACES FREE OF OBSTRUCTIONS TO INFILTRATION.

PVC CAP
CH 40 PVC STAFF GAGE
EL. MARK
EL. = 306.5'

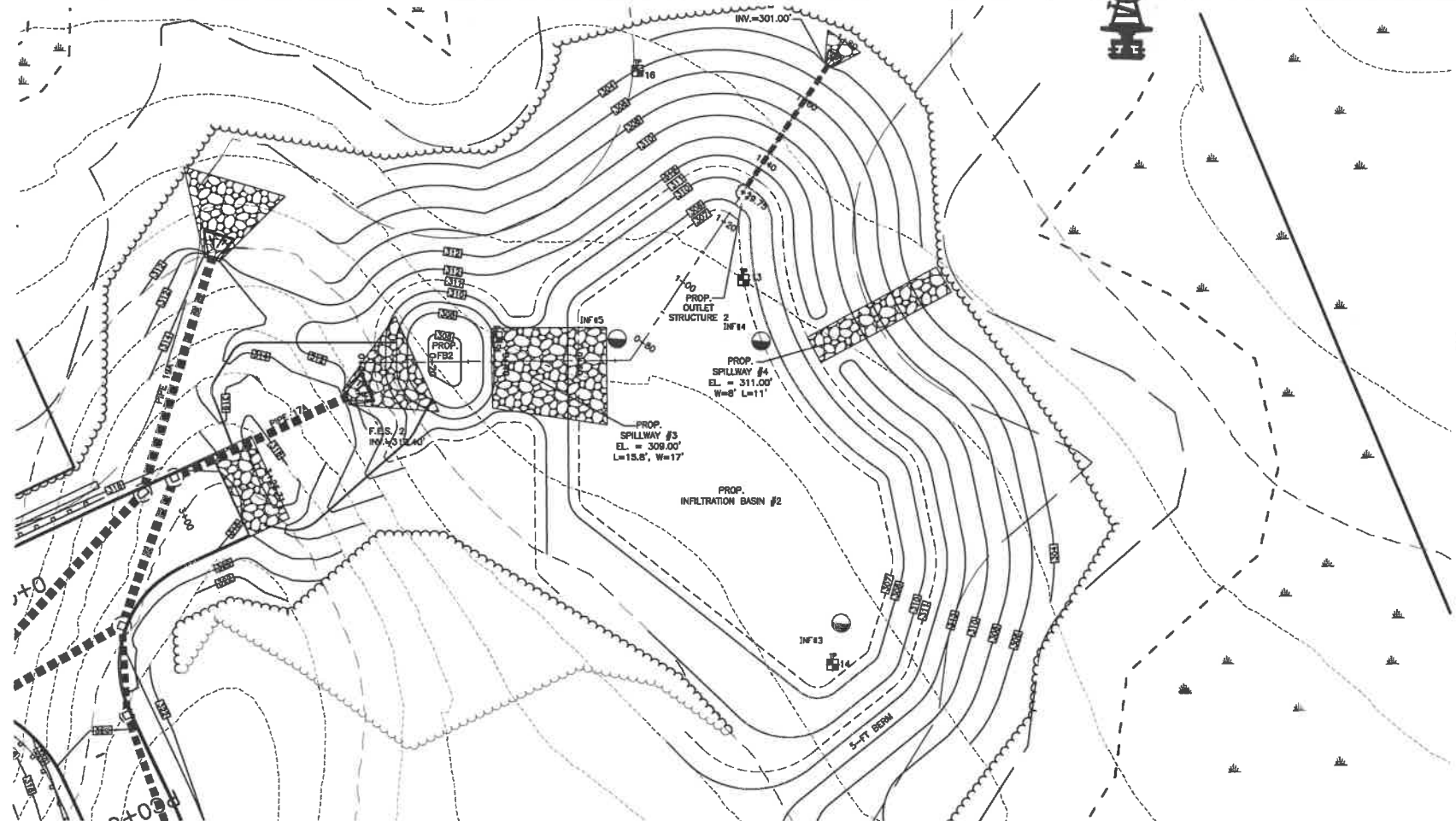
3'

3'

SEDIMENT FOREBAY

EASTER SEALS NH, INC.
PREPARED FOR:
NOVEMBER 2021

C-10



1" = 20'

INFILTRATION TEST CONDUCTED: SEPTEMBER 30, 2021
BY: S.W. COLE ENGINEERING, INC.
TEST TYPE: GUELPH PERMEAMETER

INF β
Kact = 0.7 IN/HR

INF #4
Ksat = 0.4 IN/HR

INF#3
Kept = 0.6 IN/HR

TEST PITS CONDUCTED: MARCH 29, 2021

BY: JOSEPH W. NOEL

NEW HAMPSHIRE CERTIFIED SOIL SCIENTIST #017
PURPOSE: STORMWATER PLANNING & SITE-SPECIFIC SOIL MAPPING

TEST BIT 12

TEST FIN 12

1-0 INCHES PARTIALLY DECOMPOSED ORGANIC MATTER
0-8 INCHES DARK BROWN (10YR 3/3) SANDY LOAM, FRABLE, GRANULAR
5-28 INCHES YELLOWISH BROWN (10YR 5/6) SANDY LOAM, FRABLE, BLOCKY
COMMON DISTINCT LIGHT LIVE BROWN (2.5Y 5/4) SANDY LOAM, FRM, MASSIVE,
COMMON DISTINCT REDOX FEATURES
SEASONAL HIGH WATER TABLE @ 29"
OBSERVED WATER TABLE NONE TO 60"
RESTRICTIVE HORIZON @ 29"
BEDROCK NONE TO 60"

TEST PIT 13

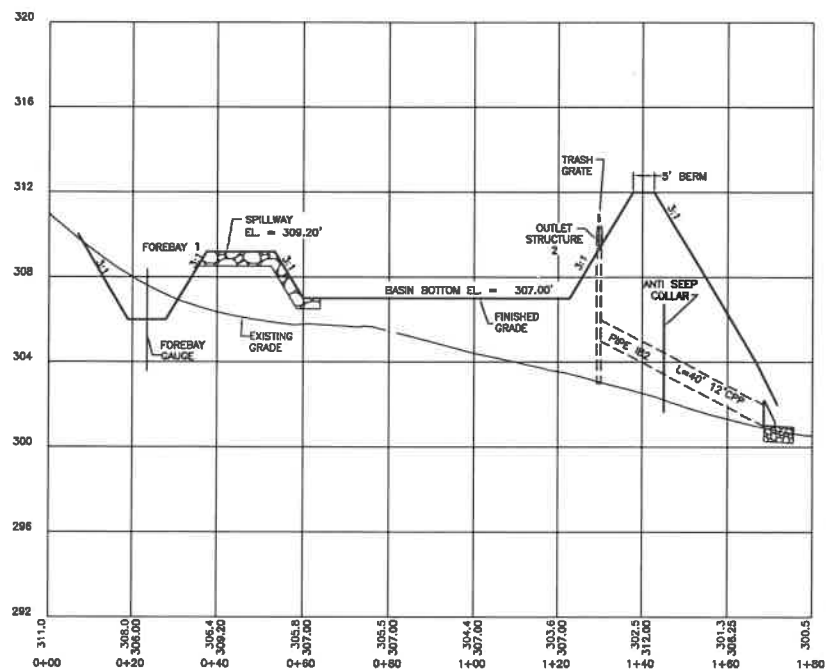
1. **THEORY**

1-5 INCHES PARTIALLY DECOMPOSED ORGANIC MATTER
5-8 INCHES DARK BROWN (10YR 3/3) SANDY LOAM, FRAGILE, GRANULAR
8-18 INCHES DARK YELLOWISH BROWN (10YR 4/6) SANDY LOAM TO LOAMY SAND, FRAGILE, BLOCKY
18-48 INCHES LIGHT LIME BROWN (2.5Y 5/4) FINE SANDY LOAM, FIRM, MASSIVE,
COMMON DISTINCT REDDISH BROWN ROOTS
SEASONAL HIGH WATER TABLE @ 18"
OBSERVED WATER TABLE NONE TO 48"
RESTRICTIVE HORIZON @ 18"
BEDROCK NONE TO 48"

TEST PIT 14

4-2 INCHES

1-6 INCHES PARTIALLY DECOMPOSED ORGANIC MATTER
 0-6 INCHES DARK BROWN (10YR 3/3) SANDY LOAM, FRABLE, GRANULAR
 6-24 INCHES DARK YELLOW BROWN (10YR 4/5) SANDY LOAM, FRABLE, BLOCKY
 24-48 INCHES LIGHT BROWN (2.5Y 5/4) SANDY LOAM WITH SOME LAYERS OF LOAMY SAND
 FIRM, MASSIVE, COARSE DISTINCT REDON FEATURES
 SEASONAL HIGH WATER TABLE @ 24"
 OBSERVED WATER TABLE @ 30"
 RESTRICTIVE HORIZON @ 24"
 BEDROCK NONE TO 60"



INFILTRATION BASIN #2 CROSS SECTION
1" = 20' (HORZ.) & 1" = 4' (VERT.)

FILE NO. 154
PLAN NO. C-
DWG. NO. 17233/SP-1
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

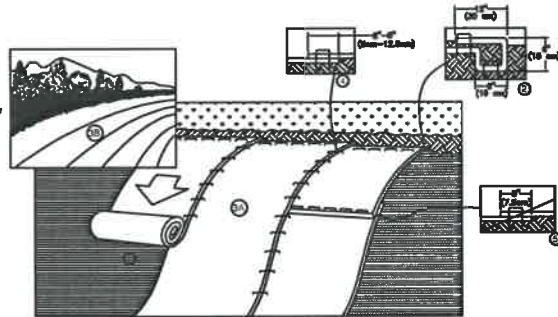
2 Continental Blvd., Rochester, N.H. 603-335-3948

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SLOPE INSTALLATION

MAINTENANCE REQUIREMENTS:

1. ALL BLANKET AND MATS SHALL BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING 1/2 INCH IN A 24-HOUR PERIOD.
2. ANY FAILURE SHALL BE REPAIRED IMMEDIATELY. IF WASHOUT OF THE SLOPE, DISPLACEMENT OF THE MAT, OR DAMAGE TO THE MAT OCCURS, THE AFFECTED SLOPE SHALL BE REPAIRED AND RESEED, AND THE AFFECTED AREA OF MAT SHALL BE RE-INSTALLED.

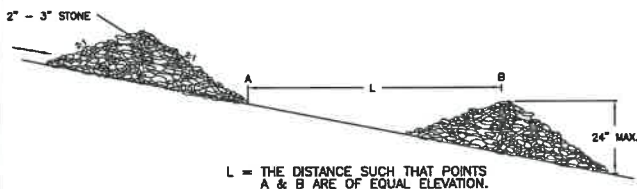
CONSTRUCTION SPECIFICATIONS:

1. MANUFACTURE'S INSTALLATION INSTRUCTIONS:
 - A. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (REC'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 - B. WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
 - C. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE REC'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30CM) OF REC'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE REC'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF REC'S BACK OVER SEED AND COMPACTED SOIL. SECURE REC'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE REC'S.
 - D. ROLL THE REC'S (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. REC'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL REC'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM STAPLES/STAKES SHALL BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
 - E. THE EDGES OF PARALLEL REC'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON REC'S TYPE.
 - F. CONSECUTIVE REC'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE REC'S WIDTH.
2. SITE PREPARATION:
 - A. PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE COMPLETE CONTACT OF THE PROTECTION MATING WITH THE SOIL. GRADE AND SHAPE AREA IF INSTALLATION.
 - B. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
 - C. PREPARE SEEDING BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
 - D. INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.
3. SEEDING:
 - A. SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND REVEGETATION. SEEDING AFTER MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATIONS. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK STAKES AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE RESEED.
 - B. WHEN SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

TEMPORARY EROSION CONTROL BLANKET DETAIL NOT TO SCALE

SPACING BETWEEN CHECK DAMS	
SLOPE (FT/FT)	LENGTH (FT)
0.020	75
0.030	37
0.040	30
0.050	25
0.060	20
0.100	15
0.120	12
0.150	10

DRAINAGE WAY CROSS-SECTION



SPACING BETWEEN STONE CHECK DAMS

CONSTRUCTION SPECIFICATIONS:

1. STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
2. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION, AIR AND WATER POLLUTION WILL BE MINIMIZED.
3. STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.

MAINTENANCE NOTES:

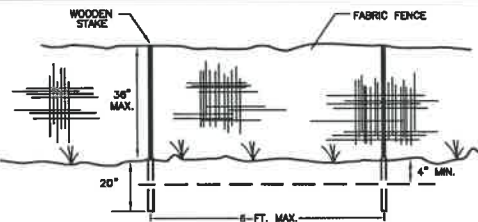
1. TEMPORARY GRADE STABILIZATION STRUCTURES SHALL BE INSPECTED AFTER EACH STORM AND DAILY DURING PROLONGED STORM EVENTS. ANY DAMAGE TO THE STRUCTURES SHALL BE REPAIRED IMMEDIATELY.
2. PARTICULAR ATTENTION SHALL BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE.
3. WHEN REMOVING THE STRUCTURES, THE DISTURBED AREAS SHALL BE BROUGHT UP TO EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEED, AND MULCHED.
4. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT REACHES 1/2 THE ORIGINAL HEIGHT OF THE STRUCTURE.

STONE CHECK DAM INSTALLATION DETAIL

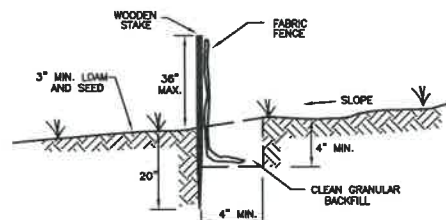
NOT TO SCALE

FILE NO. 102
PLAN NO. C-3154
DWG. NO. 19249 SP-1
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948



PROFILE



CROSS-SECTION

MAINTENANCE REQUIREMENTS:

1. FENCES SHALL BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALLS.
2. SEDIMENT DEPOSITION SHALL BE REMOVED, AT A MINIMUM, WHEN DEPOSITION ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FENCE, AND MOVED TO AN APPROPRIATE LOCATION SO THE SEDIMENT IS NOT READILY TRANSPORTED BACK TOWARD THE SILT FENCE.
3. SILT FENCES SHALL BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPONDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM.
4. SHALL THE FABRIC ON A SILT FENCE BECOME DAMAGED OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEED.
6. IF THERE IS EVIDENCE OF END FLOW ON PROPERLY INSTALLED BARRIERS, EXTEND BARRIERS UPHILL OR CONSIDER REPLACING THEM WITH OTHER MEASURES, SUCH AS TEMPORARY DIVERSIONS AND SEDIMENT TRAPS.
7. SILT FENCES HAVE A USEFUL LIFE OF ONE SEASON. ON LONGER CONSTRUCTION PROJECTS, SILT FENCE SHALL BE REPAIRED PERIODICALLY AS REQUIRED TO MAINTAIN EFFECTIVENESS.

CONSTRUCTION SPECIFICATIONS:

1. FENCES SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY ABOVE THE FENCE. SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.
2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA ABOVE THE FENCE SHALL BE LESS THAN 1 ACRE PER 100 LINEAR FEET OF FENCE.
3. THE MAXIMUM SLOPE ABOVE THE FENCE SHALL BE 100 FEET.
4. THE MAXIMUM LENGTH OF SLOPE ABOVE THE FENCE SHALL BE 2:1.
5. FENCES SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE, AND
 - A. THE ENDS OF THE FENCE SHALL BE FLARED UPSLOPE.
 - B. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 4 INCHES IN DEPTH AND INCHES IN WIDTH IN A TRENCH EXCAVATED INTO THE GROUND, OR IF SITE CONDITIONS INCLUDE FROZEN GROUND, LEDGE, OR THE PRESENCE OF HEAVY ROOTS, THE BASE OF THE FABRIC SHALL BE EMBEDDED WITH A MINIMUM THICKNESS OF 8 INCHES OF 3/4-INCH STONE.
 - C. THE SOIL SHALL BE COMPACTED OVER THE EMBEDDED FABRIC.
6. SUPPORT POSTS SHALL BE SEED AND ANCHORED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS WITH MAXIMUM POST SPACING OF 6 FEET.
7. ADJOINING SECTIONS OF THE FENCE SHALL BE OVERLAPPED BY A MINIMUM OF 6 INCHES (24 INCHES IS PREFERRED), FOLDED AND STAPLED TO A SUPPORT POST. IF METAL POSTS ARE USED, FABRIC SHALL BE WIRE-TIED DIRECTLY TO THE POSTS WITH THREE DIAGONAL TIES.
8. SILT FENCING SHALL NOT BE STAPLED OR NAILED TO TREES.
9. THE FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.
10. THE FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 DEGREES FAHRENHEIT TO 120 DEGREES FAHRENHEIT.
11. POSTS FOR SILT FENCES SHALL BE EITHER 4-INCH DIAMETER WOOD OR 1.33 POUNDS PER LINEAR FOOT STEEL WITH A MINIMUM LENGTH OF 5 FEET. STEEL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE TO THEM. POSTS SHALL BE PLACED ON THE DOWN SLOPE SIDE OF THE FABRIC.
12. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES AS HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.
13. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED.
14. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UP GRADIENT FROM THE BARRIER.
15. THE STANDARD STRENGTH OF FILTER FABRIC SHALL BE STAPLED OR WIRE TO THE POST, AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
16. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
17. SILT FENCE MAY BE INSTALLED BY "SLICING" USING MECHANICAL EQUIPMENT SPECIFICALLY DESIGNED FOR THIS PROCEDURE. THE SLICING METHOD USES AN IMPLEMENT TOWED BEHIND A TRACTOR TO "PLOW" OR SLICE THE SILT FENCE MATERIAL INTO THE SOIL. THE SLICING METHOD MINIMALLY DISRUPTS THE SOIL UPWARD AND SLIGHTLY DISPLACES THE SOIL, MAINTAINING THE SOIL'S PROFILE AND CREATING AN OPTIMAL CONDITION FOR SUBSEQUENT MECHANICAL COMPACTION.
18. SILT FENCES SHALL BE INSTALLED WITH "SMILES" OR "J-HOOKS" TO REDUCE THE DRAINAGE AREA THAT ANY SEGMENT WILL IMPOUND.
19. THE ENDS OF THE FENCE SHALL BE TURNED UPHILL.
20. SILT FENCES PLACED AT THE TOE OF A SLOPE SHALL BE SET AT LEAST 6 FEET FROM THE TOE TO ALLOW SPACE FOR SHALLOW PONDING AND TO ALLOW FOR MAINTENANCE ACCESS WITHOUT DISTURBING THE SLOPE.
21. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

SILTATION CONTROL FENCE DETAIL NOT TO SCALE

TEMPORARY VEGETATION SEEDING RECOMMENDATIONS

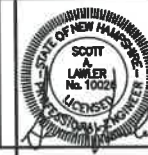
SPECIES	PER ACRE BUSHELS (BU) OR POUNDS (LBS.)	PER 1,000-SF	REMARKS
WINTER RYE	2.5 BU OR 112 LBS.	2.5 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS	2.5 BU OR 80 LBS.	2.0 LBS.	BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15 FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYE GRASS	40 LBS.	1.0 LB.	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15. COVER THE SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYE GRASS	30 LBS.	0.7 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.

SOURCES:

1. NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLE 4-1
2. MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)

CIVIL ENGINEERS

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



TEMPORARY VEGETATION:

SPECIFICATIONS:

1. INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
2. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
3. RUNOFF SHALL BE DIVERTED FROM THE SEEDBED AREA.
4. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHALL INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDING PREPARATION:

1. STONES AND TRASH SHALL BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.
2. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
3. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHALL BE APPLIED DURING THE GROWING SEASON.
4. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. FERTILIZER SHALL BE RESTRICTED TO LIME, WOOD ASH OR LOW PHOSPHATE AND SLOW RELEASE NITROGEN VARIETIES, UNLESS A SOIL TEST WARRANTS OTHERWISE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

LIMESTONE APPLICATION RATE = 3 TONS/ACRE (138 LB./1,000-SF)

*EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

FERTILIZER APPLICATION RATE = 870 LB./ACRE (20 LB./1,000-SF)

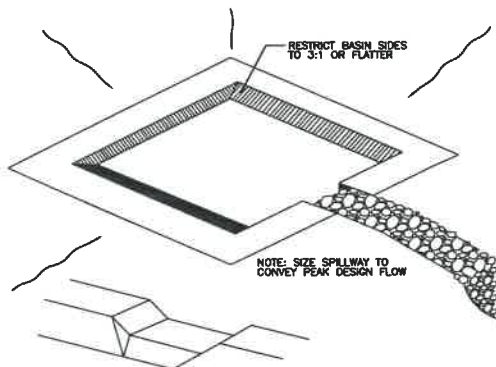
*LOW PHOSPHATE FERTILIZER (0-0-4) OR EQUIVALENT

SEEDING:

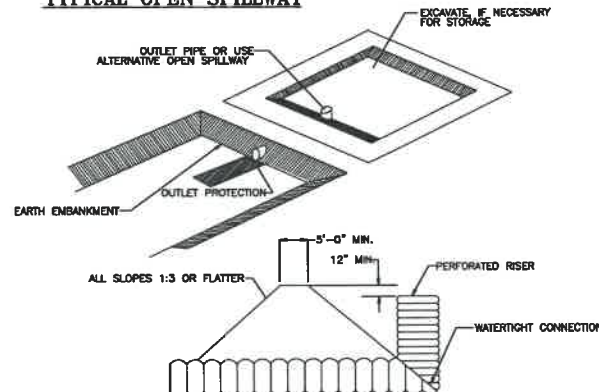
1. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTPACKER TYPE SEEDER OR HYDRO SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
2. TEMPORARY SEED SHALL TYPICALLY OCCUR PRIOR TO SEPTEMBER 15.
3. AREAS SEEDING BETWEEN MAY 15 AND AUGUST 15 SHALL BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE TEMPORARY AND PERMANENT MULCHING PRACTICES DESCRIBED IN THE NHPMA VOL. 3.
4. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHALL BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVER WINTER PROTECTION.

MAINTENANCE REQUIREMENTS:

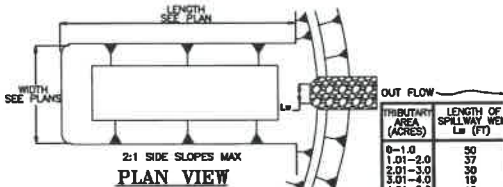
1. TEMPORARY SEEDING SHALL BE INSPECTED WEEKLY AFTER ANY RAINFALL EXCEEDING 1/2 INCH IN 24 HOURS ON ACTIVE CONSTRUCTION SITES. TEMPORARY SEEDING SHALL BE INSPECTED JUST PRIOR TO SEPTEMBER 15, TO ASCERTAIN WHETHER ADDITIONAL SEEDING IS REQUIRED TO PROVIDE STABILIZATION OVER THE WINTER PERIOD.
2. BASED ON INSPECTION, AREAS SHALL BE RESEED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS. IF IT IS TOO LATE IN THE PLANTING SEASON TO APPLY ADDITIONAL SEED, THEN OTHER TEMPORARY STABILIZATION MEASURES SHALL BE IMPLEMENTED.
3. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND AREAS SHALL BE RESEED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.



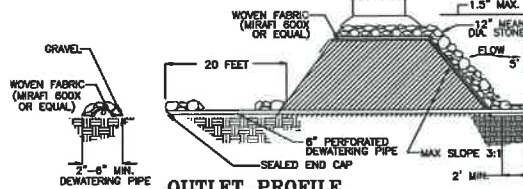
TYPICAL OPEN SPILLWAY



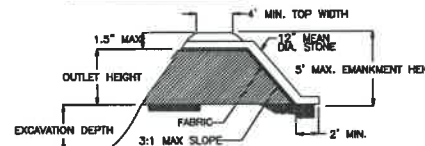
EMBANKMENT SECTION THRU RISER



PLAN VIEW

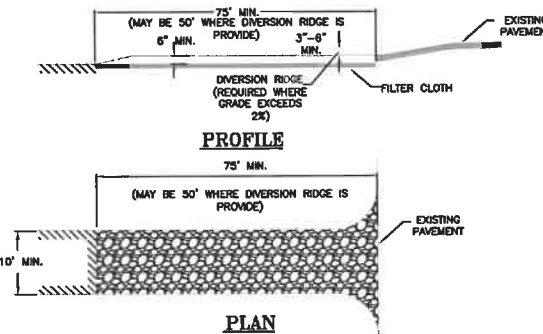


OUTLET PROFILE



ALTERNATE OUTLET PROFILE

SEDIMENT TRAP



TEMPORARY CONSTRUCTION EXIT NOT TO SCALE

MAINTENANCE REQUIREMENTS:

1. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL, REGRADED ON SITE, AND STABILIZED. THE ENTRANCE SHALL THEN BE RECONSTRUCTED.
2. THE CONTRACTOR SHALL SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE TRACKED ONTO THE ADJACENT PAVEMENT OR TRAVELED WAY.
3. WHEN WHEEL WASHING IS REQUIRED, IT SHALL BE CONDUCTED ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT-TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

CONSTRUCTION SPECIFICATIONS:

1. THE MINIMUM STONE USED SHALL BE 3-INCH CRUSHED STONE.
2. THE MINIMUM LENGTH OF THE PAD SHALL BE 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.
3. THE PAD SHALL BE THE FULL WIDTH OF CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER.
4. THE PAD SHALL SLOPE AWAY FROM THE EXISTING ROADWAY.
5. THE PAD SHALL BE AT LEAST 6 INCHES THICK.
6. THE GEOTEXTILE FILTER FABRIC SHALL BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD.
7. THE PAD SHALL BE MAINTAINED OR REPLACED WHEN MUD AND SOIL PARTICLES CLOG THE VOIDS IN THE STONE SUCH THAT MUD AND SOIL PARTICLES ARE TRACKED OFF-SITE.
8. NATURAL DRAINAGE THAT CROSSES THE LOCATION OF THE STONE PAD SHALL BE INTERCEPTED AND PIPED BENEATH THE PAD, AS NECESSARY, WITH SUITABLE OUTLET PROTECTION.

TEMPORARY EROSION AND SEDIMENTATION CONTROL TAX MAP 243, LOT 39 215 ROCHESTER HILL RD ROCHESTER, NH

PREPARED FOR:

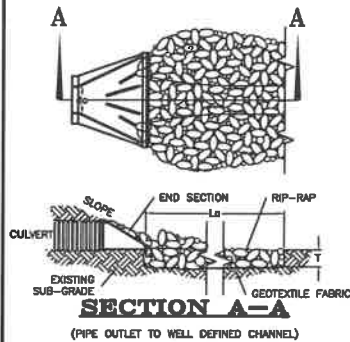
EASTER SEALS NH, INC.

NOVEMBER 2021

C-11



RIP-RAP GRADATION

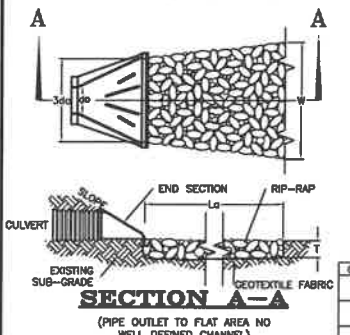


d50 = 3"		
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)	
100	5	8
85	3	5
50	3	3
15	1	2

d50 = 4"		
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)	
100	6	8
85	4	7
50	4	6
15	1	2

d50 = 6"		
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)	
100	8	12
85	7.8	10.8
50	6	9
15	1.8	3

d50 = 9"		
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)	
100	13.5	18
85	11.7	16.2
50	9	13.5
15	2.7	4.5



APRON DIMENSION TABLE

OUTLET PROF. #	PIPE OUTLET	W ₁	W ₂	L ₁	L ₂	T	d50
1	12" CPP	3'	12'	9'	9"	3"	
2	24" CPP	6'	22'	16'	9"	3"	
3	30" CPP	8'	28'	22'	18"	6"	
4	12" CPP	3'	12'	9'	9"	3"	
5	30" CPP	8'	28'	22'	9"	3"	

NOTES:

- ALL PIPE CULVERTS SHALL HAVE END SECTIONS OR HEADWALLS. END SECTION MATERIAL AND MANUFACTURER SHALL MATCH THAT OF THE PIPE CULVERT.
- THE LARGEST RIP-RAP SIZE DETERMINED DURING HYDROLOGIC ANALYSIS HAS BEEN USED FOR ALL OUTLETS FOR ECONOMY AND SIMPLICITY.
- APRON LENGTHS, WIDTHS AND THICKNESSES HAVE BEEN ROUNDED UP TO WHOLE NUMBERS FOR EASE OF CONSTRUCTION.

CONSTRUCTION SPECIFICATIONS:

- PREPARE THE SUB-GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP-RAP TO THE GRADES SHOWN ON THE PLANS.
- MINIMUM 4" SAND/GRAVEL BEDDING OR GEOTEXTILE FABRIC REQUIRED UNDER ALL ROCK RIP-RAP.
- THE ROCK OR GRAVEL USED FOR FILTER OR RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
- GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF 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 (2) PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
- STONE FOR THE APRON 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.
- RIP-RAP SIZE CHOSEN FOR THE WORST CASE OF ALL OUTLETS. ALL RIP-RAP USED FOR PIPE OUTLET PROTECTION WILL HAVE THE SAME GRADATION AND THICKNESS.

MAINTENANCE NOTES:

- OUTLETS SHALL BE INSPECTED AND CLEANED ANNUALLY AND AFTER ANY MAJOR STORM EVENT. ANY EROSION OR DAMAGE TO THE RIP-RAP SHALL BE REPAIRED IMMEDIATELY.
- THE CHANNEL IMMEDIATELY DOWNSTREAM FROM THE OUTLET SHOULD BE CHECKED TO SEE THAT NO EROSION IS OCCURRING.
- THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

PIPE OUTLET PROTECTION DETAIL

DUST CONTROL PRACTICES:

- APPLY DUST CONTROL MEASURES AS NECESSARY TO MAINTAIN CONTROL OF DUST ON SITE.
- WATER APPLICATION:
 - MOISTEN EXPOSED SOIL SURFACES PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.
 - AVOID EXCESSIVE APPLICATION OF WATER THAT WOULD RESULT IN MOBILIZING SEDIMENT AND SUBSEQUENT DEPOSITION IN NATURAL WATERBODIES.
- STONE APPLICATION:
 - COVER SURFACE WITH CRUSHED OR COARSE GRAVEL.
 - IN AREAS NEAR WATERWAYS USE ONLY CHEMICALLY STABILIZED OR WASHED AGGREGATE.
- REFER TO "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" FOR OTHER ALLOWABLE DUST CONTROL PRACTICES (I.E. COMMERCIAL TACKIFIERS OR CHEMICAL TREATMENTS SUCH AS CALCIUM CHLORIDE, ETC.)

STOCKPILE PRACTICES:

- LOCATE STOCKPILES A MINIMUM OF 50-FT. AWAY FROM CONCENTRATED FLOWS OF STORMWATER, DRAINAGE COURSES OR INLETS.
- PROTECT ALL STOCKPILES FROM STORMWATER RUN-ON USING TEMPORARY PERIMETER MEASURES SUCH AS DIVERSIONS, BERMS, SANDBAGS OR OTHER APPROVED PRACTICES.
- STOCKPILES SHALL BE SURROUNDED BY SEDIMENT BARRIERS AS DESCRIBED ON THE PLANS AND IN NHPM VOL. 3, TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILE.
- IMPLEMENT WIND EROSION CONTROL PRACTICES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.
- PLACE BAGGED MATERIALS ON PALLETS OR UNDERCOVER.

PROTECTION OF INACTIVE STOCKPILES:

- INACTIVE SOIL STOCKPILES SHALL BE COVERED WITH ANCHORED TARPS OR PROTECTED WITH SOIL STABILIZATION MEASURES (TEMPORARY SEED AND MULCH OR OTHER TEMPORARY STABILIZATION PRACTICES) AND TEMPORARY PERIMETER SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) AT ALL TIMES.
- INACTIVE STOCKPILES OF CONCRETE RUBBLE, ASPHALT CONCRETE RUBBLE, AGGREGATE MATERIALS, AND SIMILAR MATERIALS SHALL BE PROTECTED WITH TEMPORARY SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) AT ALL TIMES. IF THE MATERIALS ARE A SOURCE OF DUST, THEY SHALL ALSO BE COVERED.

PROTECTION OF ACTIVE STOCKPILES:

- ALL STOCKPILES SHALL BE SURROUNDED WITH TEMPORARY LINEAR SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) PRIOR TO THE ONSET OF PRECIPITATION. PERIMETER BARRIERS SHALL BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIAL FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHALL BE INSPECTED AT THE END OF EACH WORKING DAY.
- WHEN A STORM IS PREDICTED, STOCKPILES SHALL BE PROTECTED WITH AN ANCHORED PROTECTIVE COVERING.

PERMANENT VEGETATION:

SPECIFICATIONS:

SITE PREPARATION:

- INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
- GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
- RUNOFF SHALL BE DIVERTED FROM THE SEEDBED AREA.
- ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHALL INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:

- WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OPERATION SHALL BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM FINE SEEDBED IS PREPARED. ALL BUT CLAY AND SILT SOILS SHALL BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.
- REMOVE FROM THE SURFACE ALL STONES, SNIGLES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE CLODS, LUMPS, TRASH OR OTHER UNSUITABLE MATERIAL.
- INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED; THE AREA MUST BE TILLED AND FIRMED AS ABOVE.
- WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
- IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHALL BE APPLIED DURING THE GROWING SEASON.
- APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. FERTILIZER SHALL BE RESTRICTED TO LIME, WOOD ASH OR LOW PHOSPHATE AND SLOW RELEASE NITROGEN VARIETIES, UNLESS A SOIL TEST WARRANTS OTHERWISE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

LIMESTONE APPLICATION RATE = 3 TONS/ACRE (138 LB./1,000-SF)
*EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

FERTILIZER APPLICATION RATE = 870 LB./ACRE (20 LB./1,000-SF)
*LOW PHOSPHATE FERTILIZER (8-6-4) OR EQUIVALENT

SEEDING:

- INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE OF INOCULANT.
- APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, OUT-DRIPPER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE.
- WHERE UNDESIRABLE PLANTS WHERE EITHER CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHALL BE FIRME FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR LIGHT DRAG.
- SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHALL BE COMPLETED 45 DAYS PRIOR TO FIRST KILLING FROST. WHEN CROWN VETCH IS SEEDING IN LATE SUMMER AT LEAST 35% OF THE SEED SHALL BE HARD SEED (UNCHARITABLE). IF SEEDING CANNOT BE COMPLETED BY THE SPECIFIED SEEDING DATES, MULCH ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHPM, VOL. 3, AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
- AREAS SEEDING BETWEEN MAY 15 AND AUGUST 15 SHALL BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHPM, VOL. 3.
- VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHALL BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVER WINTER PROTECTION.

HYDROSEEDING:

- WHEN HYDROSEEDING (HYDRAULIC APPLICATION), PREPARE THE SEEDBED AS SPECIFIED ABOVE OR BY HAND RAKING TO LOOSEN AND SMOOTH THE SOIL AND REMOVE SURFACE STONES LARGER THAN 2 INCHES IN DIAMETER.
- SLOPES MUST BE NO STEEPER THAN 2:1 (2 FEET HORIZONTALLY BY 1 FOOT VERTICALLY).
- LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF FIBER MULCH ON CRITICAL AREAS IS NOT RECOMMENDED (UNLESS IT IS USED TO HOLD STRAW OR HAY). BETTER PROTECTION IS GAINED BY USING STRAW MULCH AND HOLDING IT WITH ADHESIVE MATERIALS OR 500 POUNDS PER ACRE OF WOOD FIBER MULCH.
- SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

MAINTENANCE REQUIREMENTS:

- PERMANENT SEEDING AREAS SHALL BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTION, MAINTENANCE AND CORRECTIVE ACTIONS SHALL CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
- SEEDING AREAS SHALL BE MONITORED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION. MONITORING HEIGHT AND FREQUENCY DEPEND OF TYPE OF GRASS COVER.
- BASED ON INSPECTION, AREAS SHALL BE RESEEDING TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.
- AT A MINIMUM 85% OF THE SOIL SURFACE SHALL BE COVERED BY VEGETATION.
- IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND AREAS SHALL BE RESEEDING, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

PERMANENT VEGETATION SEEDING RECOMMENDATIONS

USE	MIXTURE	SPECIES	lbs./acre	lbs./1,000-sf
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	2	0.45
		TOTAL	42	0.95
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	2	0.45
		TOTAL	42	0.95
LIGHTLY USED PARKING LOTS, OOD AREAS, UNUSED LANDS, AND LOW INTENSITY RECREATION SITES	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	2	0.45
		TOTAL	42	0.95
PLAY AREAS AND ATHLETIC FIELDS (TOPSOIL ESSENTIAL FOR GOOD TURF)	F	CREeping RED FESCUE	50	1.15
		KENTUCKY BLUEGRASS	50	1.15
		TOTAL	100	2.30

SOURCES:

- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLES 4-2 AND 4-3
- MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)

GENERAL CONSTRUCTION PHASING:

- STABILIZATION:
 - A SITE IS DEEMED STABILIZED WHEN IT IS IN A CONDITION IN WHICH THE SOIL ON SITE WILL NOT EXPERIENCE ACCELERATED OR UNNATURAL EROSION UNDER THE CONDITIONS OF A 10-YEAR STORM EVENT, SUCH AS BUT NOT LIMITED TO:
 - MINIMUM OF 3-INCHES OF NON-EROSIVE COVER HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3-INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR A CERTIFIED COMPOST BLANKET HAS BEEN INSTALLED; OR
 - EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
 - MIN AREAS TO BE PAVED:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED.

- TEMPORARY STABILIZATION:
 - ALL AREAS OF EXPOSED OR DISTURBED SOIL SHALL BE TEMPORARILY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 45 DAYS FROM THE TIME OF INITIAL DISTURBANCE, UNLESS A SHORTER TIME IS SPECIFIED BY LOCAL AUTHORITIES, THE CONSTRUCTION SEQUENCE APPROVED AS PART OF THE ISSUED PERMIT OR AN INDEPENDENT MONITOR.

- PERMANENT STABILIZATION:
 - ALL UNSTABILIZED AREAS OR DISTURBED SOIL SHALL BE PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 3 DAYS FOLLOWING FINAL GRADING.
 - MAXIMUM AREA OF DISTURBANCE:

- ONLY DISTURB, CLEAR, OR GRADE AREAS NECESSARY FOR CONSTRUCTION.
 - FLAT OR OTHERWISE DELIBERATE AREAS NOT TO BE DISTURBED.
 - EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PRESERVE NATURAL VEGETATION.

- ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING LEAVING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED GRADING AND DRAINAGE PLAN DEPICTED ON SHEET C-3.

- ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON SHEET C-3.

- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN THE AMOUNT NECESSARY TO COMPLETE FINISHED GRADING AND BE PROTECTED FROM EROSION.

- STOCKPILES, BORROW AREAS AND SPOILS SHALL BE STABILIZED AS DESCRIBED UNDER "SOIL STOCKPILE PRACTICES".

- SLOPES SHALL NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTIES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLURPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGE.

- AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND/OR OTHER OBJECTIONABLE MATERIALS.

- AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3-INCHES PRIOR TO PLACEMENT OF TOPSOIL. TOPSOIL SHALL BE PLACED WITHOUT SIGNIFICANT COMPACTION TO PROVIDE A LOOSE BEDDING FOR PLACEMENT OF SEED.

- ALL FILLS SHALL BE COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS TO REDUCE EROSION, SLURPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, SITE UTILITIES, CONDUNTS AND OTHER FACILITIES, SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

- IN GENERAL, FILLS SHALL BE COMPACTED IN LAYERS RANGING FROM 8 TO 24 INCHES IN THICKNESS. THE CONTRACTOR SHALL REVIEW THE PROJECT GEOTECHNICAL REPORT AND/OR THE "PROJECT SPECIFIC PHASING NOTES" FOR SPECIFIC GUIDANCE.

- ANY AND ALL FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS (LARGER THAN 3/4 THE DEPTH OF THE LIFT BEING INSTALLED), LOGS, STUMPS, BUILDING DEBRIS, FROZEN MATERIAL AND OTHER OBSTACLES MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS.

- FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE (I.E. CLAY, SILT) MATERIALS ARE SUSCEPTIBLE TO ACCELERATED SETTLEMENT AND POTENTIAL ACCELERATED EROSION. WORK IN AREAS OF THESE MATERIALS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER.

- THE OUTER FACE OF THE FILL SLOPE SHALL BE ALLOWED TO STAY LOOSE, NOT ROLLED OR COMPACTED, OR BULK SMOOTHED. A BULLDOZER MAY RUN UP AND DOWN THE FILL SLOPE SO THE DOZER TRACKS (CLEAT TRACKS) CREATE GROOVES PERPENDICULAR TO THE SLOPE. IF THE SOIL IS NOT TOO MOIST, EXCESSIVE COMPACTION WILL NOT OCCUR. SEE "SURFACE ROUGHENING" IN THE NHPM, VOL.3.

- ROUGHEN THE SURFACE OF ALL SLOPES DURING THE CONSTRUCTION OPERATION TO RETAIN WATER, INCREASE INFILTRATION AND FACILITATE VEGETATION ESTABLISHMENT.

- USE SLOPE BREAKS, SUCH AS DIVERSIONS, BENCHES, OR CONTOUR FURROWS AS APPROPRIATE TO REDUCE THE LENGTH OF CUT-FILL SLOPES TO LIMIT SHEET AND RILL EROSION AND PREVENT GULLY EROSION. ALL BENCHES SHALL BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.

- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE EVALUATED BY A PROFESSIONAL ENGINEER (PREFERABLY THE DESIGN ENGINEER) TO DETERMINE IF THE PROPOSED DESIGN SHALL BE REVISED TO PROPERLY MANAGE THE CONDITION.

- STABILIZE ALL GRADED AREAS (AS ABOVE) WITH VEGETATION, CRUSHED STONE, COMPOST BLANKET, OR OTHER GROUND COVER AS SOON AS GRADING IS COMPLETE OR IF WORK IS INTERRUPTED FOR 21 WORKING DAYS OR MORE. USE MULCH OR OTHER APPROVED METHODS TO STABILIZE AREAS TEMPORARILY WHERE FINAL GRADING MUST BE DELAYED.

- ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

- THE PROJECT SHALL BE CONSTRUCTED TO MEET ALL REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER 800 RELATIVE TO INVASIVE SPECIES.

ABOVE NOTES EXCERPTED, ADAPTED AND REFERENCED FROM "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" (NHPM, VOL. 3)

PROJECT SPECIFIC CONSTRUCTION PHASING:

- REFER TO THE "GENERAL CONSTRUCTION PHASING" NOTES PRIOR TO COMMENCING CONSTRUCTION IN ACCORDANCE WITH THE FOLLOWING PHASING. THE "GENERAL CONSTRUCTION PHASING" NOTES APPLY TO THE OVERALL CONSTRUCTION AND SHALL BE ADHERED TO.

- INSTALL ALL TEMPORARY SEDIMENT CONTROL BARRIERS (I.E. SILT FENCE, EROSION CONTROL MIX BERM, STONE CHECK DAMS, ETC.) AROUND THE OUTER PERIMETER OF THE CONSTRUCTION SITE AS DEPICTED ON SHEET C-4 PRIOR TO EARTH MOVING OPERATIONS.

- INSTALL ORANGE SHED FENCE AROUND THE PERIMETER OF THE INFILTRATION BASINS AND THE FENCE SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OF THE BASINS HAS STARTED.

- CLEAR, GRUB AND STRIP THE SITE. STUMPS, BRUSH AND OTHER ORGANIC WASTE SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.

- INSTALL A TEMPORARY CONSTRUCTION EXIT AT THE LOCATION OF THE PROPOSED HEALTH CARE DRIVE EXTENSION AND THE OLD EASTER SEAS DRIVEWAY. MAINTAIN AS DIRECTED BY THE TEMPORARY CONSTRUCTION EXIT DETAIL.

- STOCKPILE STRIPPED TOPSOIL AND CUT MATERIAL TO BE REUSED ON SITE IN AN APPROPRIATE LOCATION IN ACCORDANCE WITH THE "SOIL STOCKPILES PRACTICES". MAINTAIN THE STOCKPILES AS DIRECTED IN THE "SOIL STOCKPILE PRACTICES".

- PERFORM THE NECESSARY CUTS AND FILLS TO CONSTRUCT THE INFILTRATION BASINS AS DEPICTED ON SHEET C-3 AND IN ACCORDANCE WITH THE INFILTRATION BASIN DETAILS ON SHEET C-9, B, C-10.

- PERFORM THE NECESSARY CUTS AND FILLS TO CONSTRUCT THE INFILTRATION BASIN AS DEPICTED ON SHEET C-3 AND IN ACCORDANCE WITH THE INFILTRATION BASIN DETAILS ON SHEET C-9, B, C-10.

- CONSTRUCT THE INFILTRATION BASIN, SEDIMENT FOREBAY AND OUTLET PROTECTION. LOAM SEED AND MULCH THE SIDE SLOPES OF THE BASIN AS DIRECTED IN THE INFILTRATION BASIN DETAILS.

- ALL DITCHES/SWALES AND BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

- PERFORM THE NECESSARY CUTS AND FILLS TO SUBGRADE IN THE BUILDING AND PARKING LOT AREAS.
 - INSTALL REQUIRED FILLS IN MAXIMUM 8-INCH LIFTS AND COMPACT EACH LIFT TO 95% MAXIMUM PROCTOR DENSITY.

- AS SUBGRADE IS ACHIEVED, INSTALL REMAINING SEDIMENT CONTROL BARRIERS WITHIN THE SITE (I.E. ADDITIONAL SILT FENCE, CHECK DAMS AND SEDIMENT CONTROLS AND CATCH BASINS, ETC.)

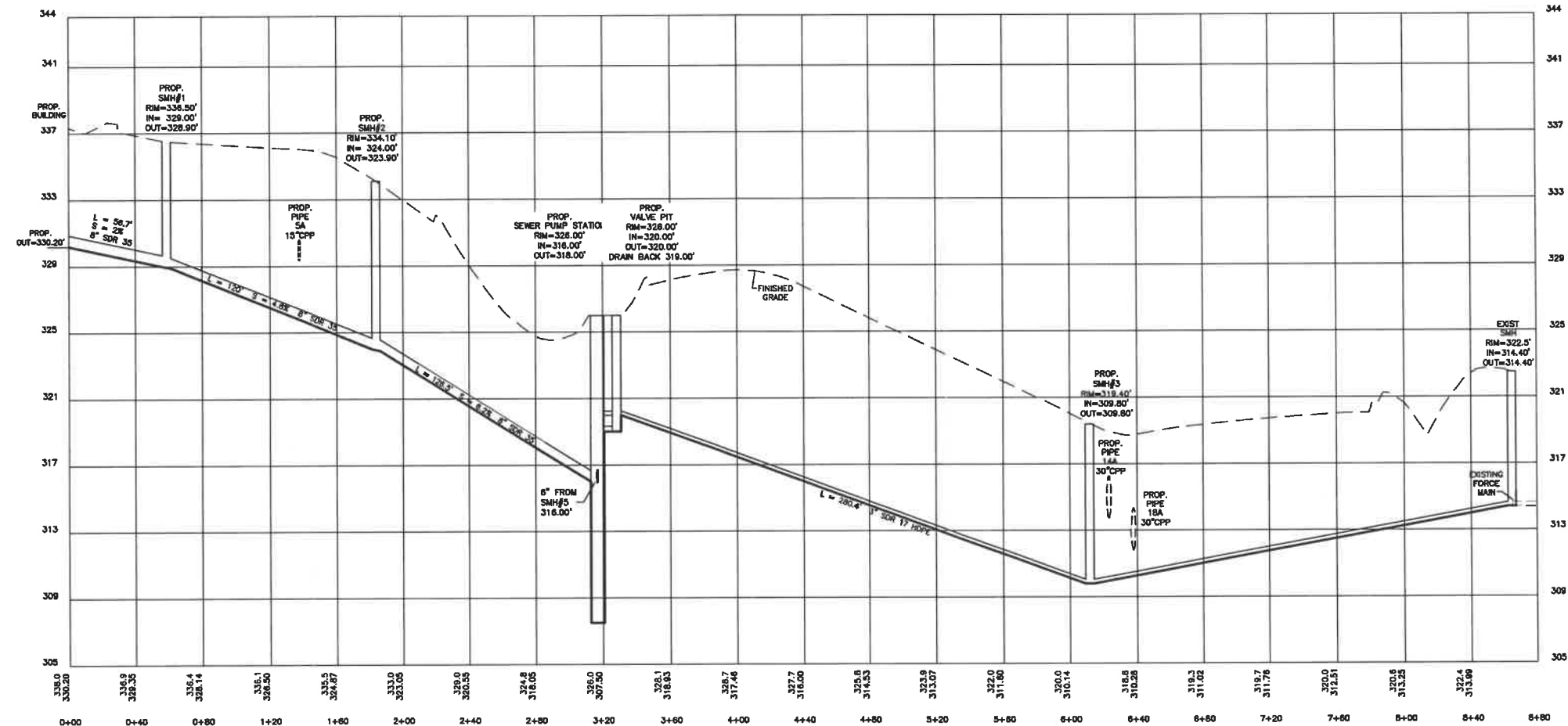
- INSTALL ALL UTILITIES AND CLOSED DRAINAGE SYSTEM COMPONENTS (I.E. PIPE CULVERTS, CATCH BASINS AND REMAINING WATER MAIN) PER THE CORRESPONDING DETAILS AND AS SHOWN ON SHEET C-3 AND C-5, AS EACH STRUCTURE IS COMPLETED INSTALL THE CORRESPONDING SEDIMENT CONTROL MEASURE.

- CONSTRUCT THE INFILTRATION BASINS AND OUTLET PROTECTION. LOAM SEED AND MULCH THE SIDE SLOPES OF THE BASIN AS DIRECTED IN THE INFILTRATION BASIN DETAILS AND TEMPORARY SEDIMENT CONTROL BARRIER DEPICTED ON SHEET C-9 AND C-10.

- ALL CUT AND FILL SLOPES AND LAWN AREAS NOT TO BE PAVED SHALL BE LOADED AND SEDED FOR PERMANENT VEGETATION AND STABILIZATION AS DESCRIBED UNDER THE "PERMANENT VEGETATION PRACTICES" WITHIN 3 DAYS OF ACHIEVING FINAL GRADE.

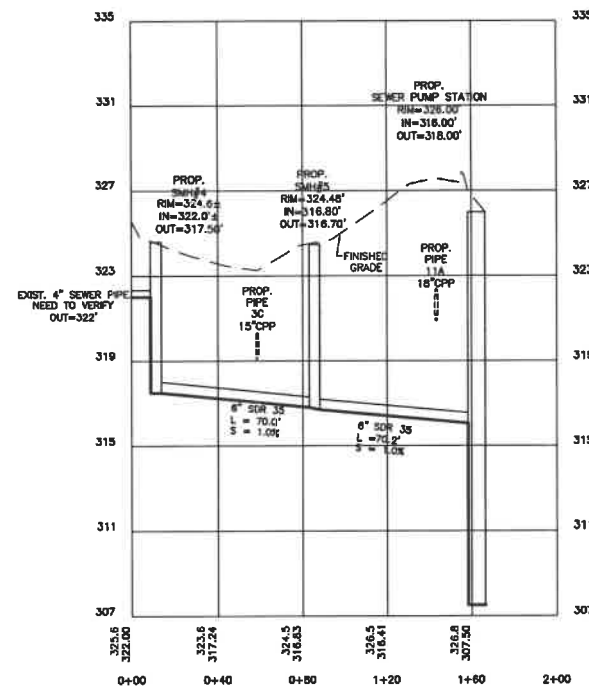
- INSTALL ALL GRAVEL BASE AND CRUSHED GRAVEL MATERIALS FOR THE PARKING AREA AS SPECIFIED IN THE CORRESPONDING DETAILS.

- THE PARKING AREAS SHALL BE STABILIZED (CONSTRUCTED TO GRAVEL BASE COURSE) WITHIN 3 DAYS OF ACHIEVING FINISHED SUBGRADE ELEV



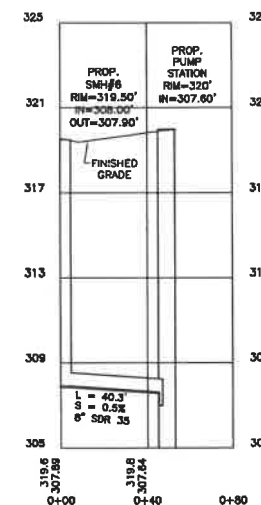
GRAVITY AND PRESSURE SEWER PROFILE

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



GRAVITY SEWER PROFILE

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



GRAVITY SEWER PROFILE

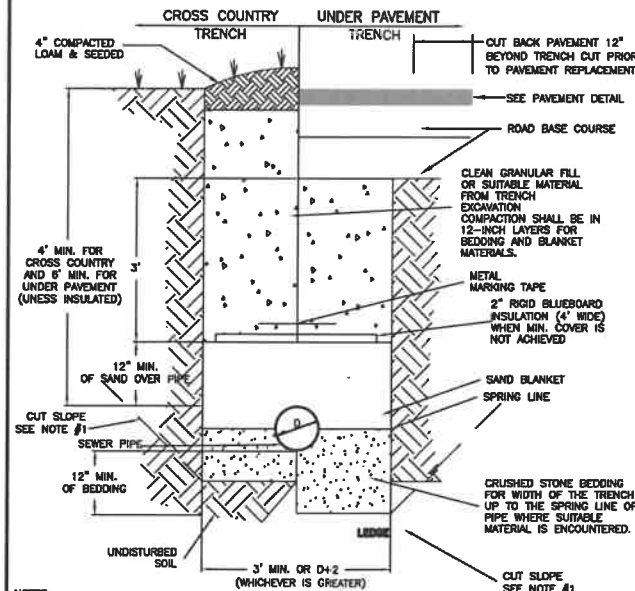
SCALE: 1" = 40' (HORZ.)
1" = 4' (VERT.)

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

SEWER PROFILES
TAX MAP 243, LOT 39
215 ROCHESTER HILL RD
ROCHESTER, NH
PREPARED FOR:
EASTER SEALS NH, INC.

FILE NO. 104
PLAN NO. C-2780
DWG. NO. 15225/SP-1
F.B. NO.

LAND SURVEYORS

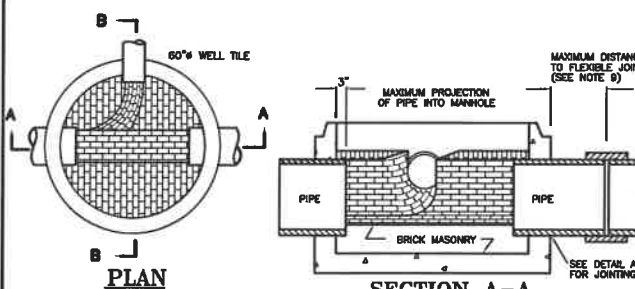


- NOTES:**
- PIPES MAY BE INSTALLED BY EXCAVATING AN OPEN TRENCH WITH SIDE SLOPES OF 1:1 MAXIMUM TO A DEPTH OF 4-FT. INSTALLATIONS DEEPER THAN 4-FT. REQUIRE THE USE OF A TRENCH BOX.
 - PIPE MATERIALS SHALL BE AS SPECIFIED ON THE DESIGN PLAN.
 - SAND BLANKET MAY BE OMITTED FOR REINFORCED CONCRETE PIPE.
 - WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, THE SHEETING SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE AND AT LEAST 3 FEET BELOW FINISHED GRADE.
 - THE PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND FREE FROM ORGANIC MATERIALS, GRADED SUCH THAT 100 PERCENT PASSES A 1/2-INCH SIEVE AND A MAXIMUM OF 15 PERCENT PASSES A #200 SIEVE.
 - TRENCH BACKFILL MATERIAL IN ROADWAY LOCATIONS SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION, EXCLUDING:
 - DEBRIS;
 - PIECES OF PAVEMENT;
 - ORGANIC MATTER;
 - TOP SOIL;
 - WET OR SOFT MUCK;
 - PEAT OR CLAY;
 - EXCAVATED LEDGE MATERIAL;
 - ROCKS OVER 8 INCHES IN THE LARGEST DIMENSION; AND
 - ANY MATERIAL NOT APPROVED BY THE ENGINEER.

SEWER PIPE TRENCH INSTALLATION DETAIL

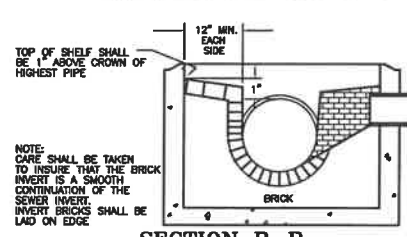
NOT TO SCALE

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



SECTION A-A

NOTE: INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST



SECTION B-B

NOTE: CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE

INVERT DETAILS

NOT TO SCALE

FILE NO. 102
PLAN NO. C-3154
DWG. NO. 19249 SP-1
P.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

- NOTES:**
- IT IS INTENTION OF THE CITY OF ROCHESTER PUBLIC WORKS DEPARTMENT THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAK PROOF QUALITIES CONSIDERED NECESSARY BY THE PUBLIC WORKS DEPARTMENT FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS WITH JOINTS NECESSARY FOR THE INTENDED SERVICE. MANHOLES SHALL BE CONSTRUCTED OF PRECAST CONCRETE OR CAST MONOLITHICALLY IN PLACE WITH OR WITHOUT REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (4-20 LOADS) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE. CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 20 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
 - BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED CONCRETE. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478. ALL PRECAST SECTIONS AND BASES SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER IMPRESSED OR ROBBILLY MARKED ON THE INSIDE WALL.
 - VACUUM LEAKAGE TESTING (ASTM C1544) SHALL BE PERFORMED FOR ALL MANHOLES. LOW-PRESSURE AIR TESTING (ASTM F1417) AND DEFLECTION TESTING USING A 'GO/NO GO' MANHOLE, FOR ALL SANITARY SEWERS, IN ACCORDANCE WITH THE NHDES SEWER REGULATIONS AND THE CITY OF ROCHESTER DEPARTMENT OF PUBLIC WORKS REQUIREMENTS.
 - INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE IN LINES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. BRICK MASONRY CONFORM WITH ASTM C32. INVERTS AND SHELVES SHALL NOT BE INSTALLED UNTIL AFTER SUCCESSFUL TESTING IS COMPLETED.
 - FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) LETTER 'SEWER' FOR SEWERS OR 'DRAIN' FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
 - SEWER MANHOLE FRAME AND COVER: PAMREX 32" D.I. MANHOLE FRAME AND COVER SEWER - E.J. PRESCOTT PRODUCT# 52113-32-S. IMMEDIATELY FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON THE TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN, OR ANIMALS, UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENT TO GRADE.
 - BEDDING: MIN. 6" OF 3/4" CRUSHED STONE (12" IN LEDGE) FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33.8
 - 100% PASSING 1 INCH SCREEN
90-100% PASSING 3/4 INCH SCREEN
20-55% PASSING 3/8 INCH SCREEN
0-10% PASSING #4 SIEVE
0-5% PASSING #8 SIEVE
 - WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE MIN. 3/4" SHALL BE USED.
 - CONCRETE FOR DROP SUPPORT SHALL CONFORM TO THE REQUIREMENTS FOR CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS:
CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS/BAG OF CEMENT
AGGREGATE: 1 1/2" MAX.
 - FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
RCP & CP PIPE - ALL SIZES - 40'
AC & VC PIPE UP THROUGH 18" DIA. - 18" SEE NOTE 8.A.
DI PIPE - NONE REQUIRED
PVC (ASTM 3025) UP THROUGH 18" DIA. - NONE REQUIRED
PVC (ASTM 2779) - LARGER THAN 18" DIA. - 40' TO 60'
PVC (ASTM F 799) - ALL SIZES - 48' TO 60'
8.A. UNDER SEVERE CONDITIONS WHEN DIFFERENTIAL SETTING CANNOT BE CONTROLLED WITHIN NORMAL LIMITS, VARIATIONS IN THE STUB LENGTH MAY BE NECESSARY. OTHER PLASTIC PIPES SHALL BE REVIEWED ON A CASE BY CASE BASIS.
 - SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 8 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING 4-20 LOADS.
 - OMITTED.
 - MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE 4 INCHES.
 - PIPE AND JOINT MATERIALS P.V.C. (POLY VINYL CHLORIDE) PIPE: ALL P.V.C. PIPE AND FITTINGS SHALL CONFORM TO THE MOST RECENT REQUIREMENTS OF ASTM SPECIFICATIONS FOR TYPE PSM POLY VINYL CHLORIDE (P.V.C.) SEWER PIPE AND FITTINGS, DESIGNATION D-3034 AND ASTM SPECIFICATIONS FOR SEWER PIPE JOINTS USING ELASTOMERIC SEALS, DESIGNATION D-3212. MANUFACTURER'S CERTIFICATE OF COMPLIANCE SHALL BE FURNISHED TO THE ENGINEER. PRIOR TO INSTALLATION METHODS OF SHIPPING AND STORAGE ON SITE SHALL BE SUCH AS TO AVOID INJURY TO THE PIPE. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB. MINIMUM 'PIPE STIFFNESS' (F/Y) AT 7 1/2' DEFLECTION SHALL BE: F/Y FOR SIZE WHEN TESTED IN ACCORDANCE WITH ASTM METHODS OF TEST D-2412, 'EXTERNAL LOADING' PROPERTIES OF PLASTIC PIPE BY PARALLEL - PLATE LOADING. ALL P.V.C. PIPE SHALL BE TYPE SDR-35 (A MEASURE OF THICKNESS AND RIGIDITY) AND SHALL HAVE ELASTOMERIC GASKET JOINTS. SOLVENT CEMENT JOINTS SHALL NOT BE ALLOWED. P.V.C. USED FOR FORCE MAINS SHALL CONFORM TO ASTM D-2241 AND D-1784 (CLASS 1254-B). A SAFETY FACTOR OF 2.5 SHALL BE USED FOR PRESSURE RATING. DETERMINATION WITH A STANDARD DIMENSION RATIO (SDR) NO HIGHER THAN 25.
 - DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
 - JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIAL USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
 - TEES OR WYES: WHERE A TEE OR WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE. FOLLOWING MANUFACTURER'S INSTRUCTIONS USING BOLTED, CLAMPED, OR EPDM-CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER. THE PRACTICE OF BREAKING AN OPENING WITH A SLEDGE HAMMER, STUFFING CLOTH OR OTHER SUCH MATERIAL AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION, AND ANY OTHER SIMILAR CRUDE METHODS OR INEPT OR HASTY IMPROVISATIONS SHALL BE PROHIBITED. THE CONNECTION SHALL BE CONCRETE ENCASED AS SHOWN IN THE DETAIL UP TO AND INCLUDING 15" DIAMETER. DOES (NOT APPLY TO INSTALLATIONS WHERE TEE'S & WYES ARE USED).
 - PIPE INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AS SPECIFIED IN NOTE 10. BEDDING AND RE-FILL FOR A DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH THE APPROPRIATE MECHANICAL DEVICES. THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET TO THE HOUSE FOUNDATION AT A GRADE OF NOT LESS THAN 1/8 INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DRY THE TRENCH.
 - TESTING: THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS (PRIOR TO BACKFILLING)
A. AN OBSERVATION TEE SHALL BE INSTALLED AS SHOWN AND, WHEN READY FOR TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.
B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER, TO SIMULATE AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS. IF THE TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEANOUT WITH A FLASHLIGHT.
C. DRY FLUORESCENCE DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED OR IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST DOWNSTREAM MANHOLE. LEAKAGE OBSERVED IN ANY OF THE ABOVE ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE REJECTED AND RE-PAID AS NECESSARY AND RE-PAID SO AS TO ASSURE WATER-TIGHTNESS.
 - ILLEGAL CONNECTION: NOTHING BUT SANITARY WASTE FLOW FROM THE HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS OR SUMP PUMPS OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, DRAINAGE, OR GROUND WATER, SHALL NOT BE PERMITTED.
 - HOUSE AND WATER SERVICE: SHOULD NOT BE LAID IN THE SAME TRENCH AS SEWER SERVICE, BUT WHEN NECESSARY, SHALL BE PLACED ABOVE AND TO THE SIDE OF THE HOUSE SEWER AS SHOWN.
 - BEDDING: MIN. 3/4" CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33.8
 - 100% PASSING 1 INCH SCREEN
90-100% PASSING 3/4 INCH SCREEN
20-55% PASSING 3/8 INCH SCREEN
0-10% PASSING #4 SIEVE
0-5% PASSING #8 SIEVE
 - WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, MIN. 3/4" CRUSHED STONE SHALL BE USED.
 - LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL 'CHIMNEY' DETAIL. TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPEFINDER.
 - CONCRETE: CONCRETE SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI.) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS:
CEMENT: 6.0 BAGS/CY.
WATER: 5.75 GALLONS/BAG OF CEMENT
AGGREGATE: 1 1/2" MAX.
 - CHIMNEYS: IF VERTICAL DROP INTO SEWER IS GREATER THAN 4', A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION. 28" ALL DRAINAGE FRAMES AND GRATES SHALL BE N-20 LOADS.
 - ALL SEWER CONSTRUCTION SHALL BE CONSTRUCTED TO NHDES AND THE CITY OF ROCHESTER STANDARDS & SPECIFICATIONS.
 - HORIZONTAL JOINTS: BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE COMMISSION, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATER TIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET.
 - PIPE TO MANHOLE JOINTS: SHALL BE ONLY AS APPROVED BY THE COMMISSION AND IN GENERAL, WILL DEPEND FOR WATER TIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.
 - FOR BITUMASTIC TYPE JOINTS: THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY APPROVED BITUMASTIC SEALANTS: RAM-NEK KENT SEAL NO.2 EZ.
 - THE CONTRACTOR SHALL NOTIFY DIG-SAFE 1-888-344-7233 PRIOR TO CONSTRUCTION.

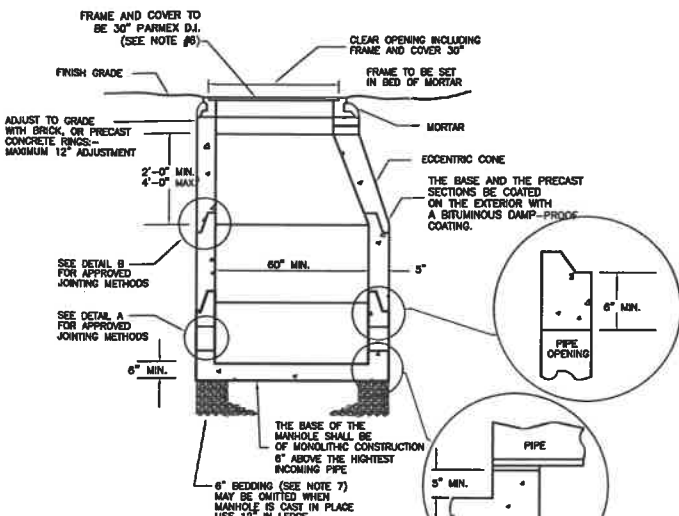
MORTAR USED IN MANHOLE CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING:
MORTAR SHALL BE COMPOSED OF TYPE II PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION.
PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE AS SHOWN BELOW:

HYDRATED LIME	SAND	TYPE II PORTLAND CEMENT
NONE	4.5 PARTS	1.5 PARTS
0.5 PARTS	4.5 PARTS	1.5 PARTS

CEMENT SHALL BE TYPE II PORTLAND CEMENT THAT IS CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO THE ASTM C150/C150M STANDARD IN EFFECT AT THE TIME THE CEMENT WAS MANUFACTURED.
HYDRATED LIME SHALL BE TYPE S THAT IS CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO THE ASTM C207 STANDARD IN EFFECT AT THE TIME THE HYDRATED LIME WAS PROCESSED.
SAND SHALL CONSIST OF INERT NATURAL SAND THAT IS CERTIFIED BY ITS SUPPLIER AS CONFORMING TO THE ASTM C33 STANDARD IN EFFECT AT THE TIME THE SAND IS PROCESSED BY STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES.

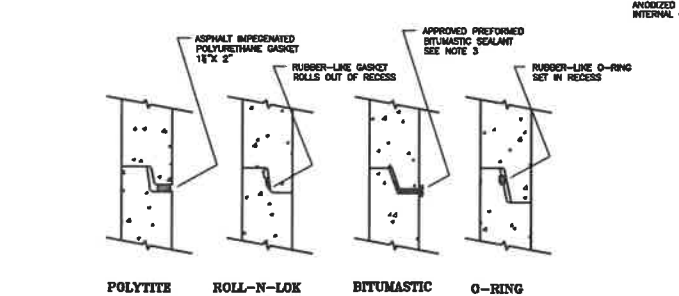
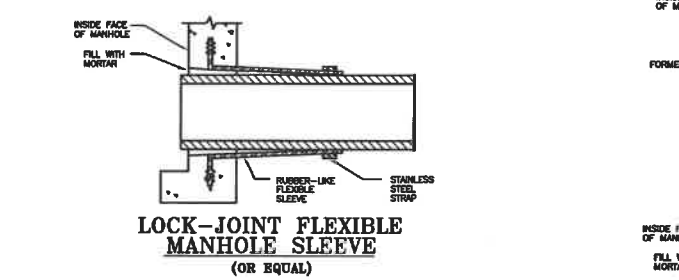


CIVIL ENGINEERS



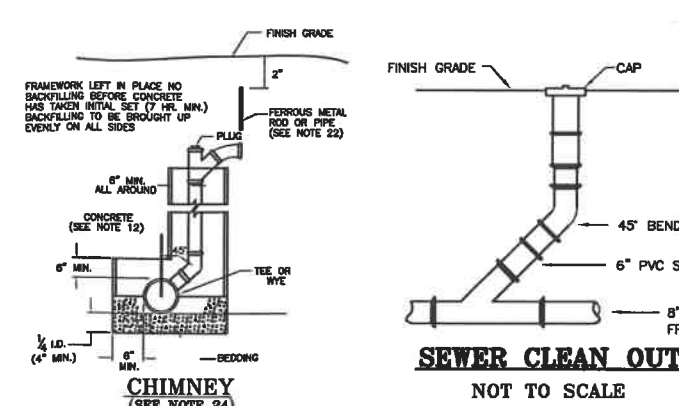
TYPICAL SECTION

NOT TO SCALE



NOTE: ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

DETAIL-B



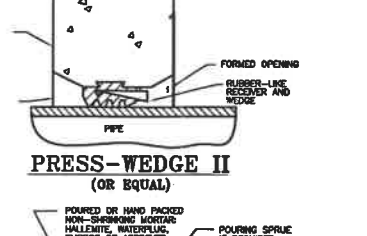
SEWER CLEAN OUT

NOT TO SCALE



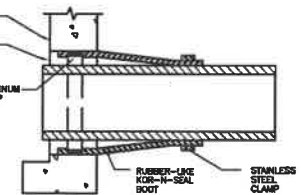
PRESS-WEDGE II

(OR EQUAL)



NON-SHRINKING MORTAR

(OR EQUAL)

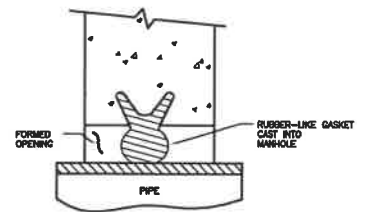


KOR-N-SEAL JOINT SLEEVE

(OR EQUAL)

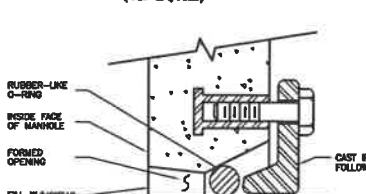
DETAIL-A

NOTE: ALL GASKETS, SEALANTS, MORTAR ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.



A-LOK

(OR EQUAL)

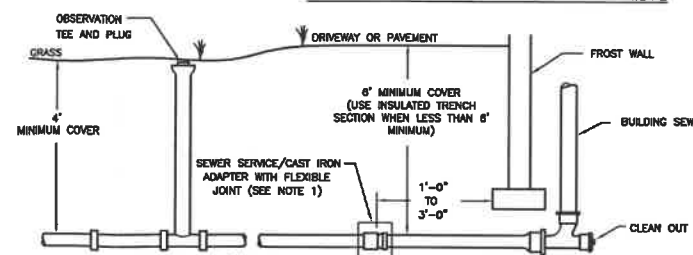


RES-SEAL

(OR EQUAL)



CONCRETE FULL ENCASEMENT



TYPICAL BUILDING SEWER SERVICE DETAIL

NOT TO SCALE

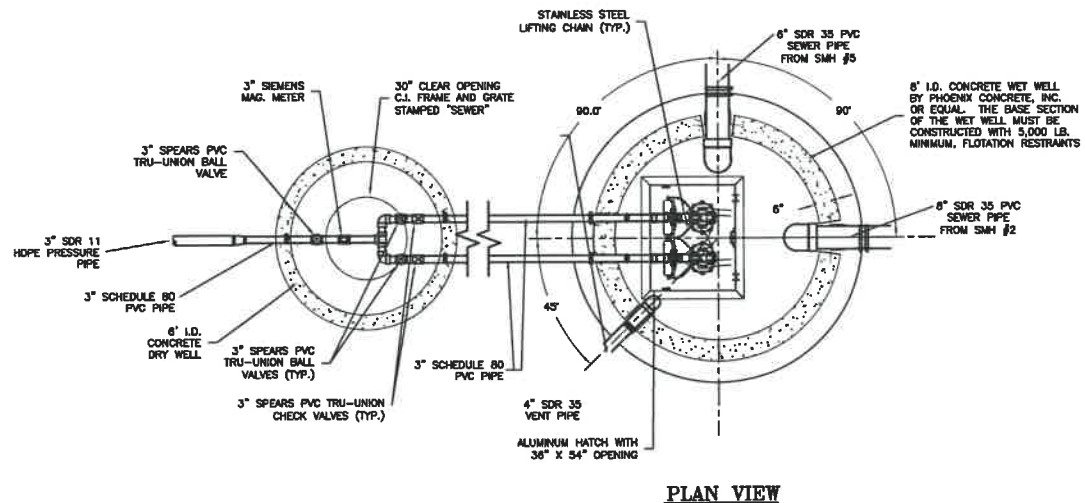
SANITARY SEWER DETAILS
TAX MAP 243, LOT 39
215 ROCHESTER HILL RD
ROCHESTER, NH
PREPARED FOR:
EASTER SEALS NH, INC.
NOVEMBER 2021



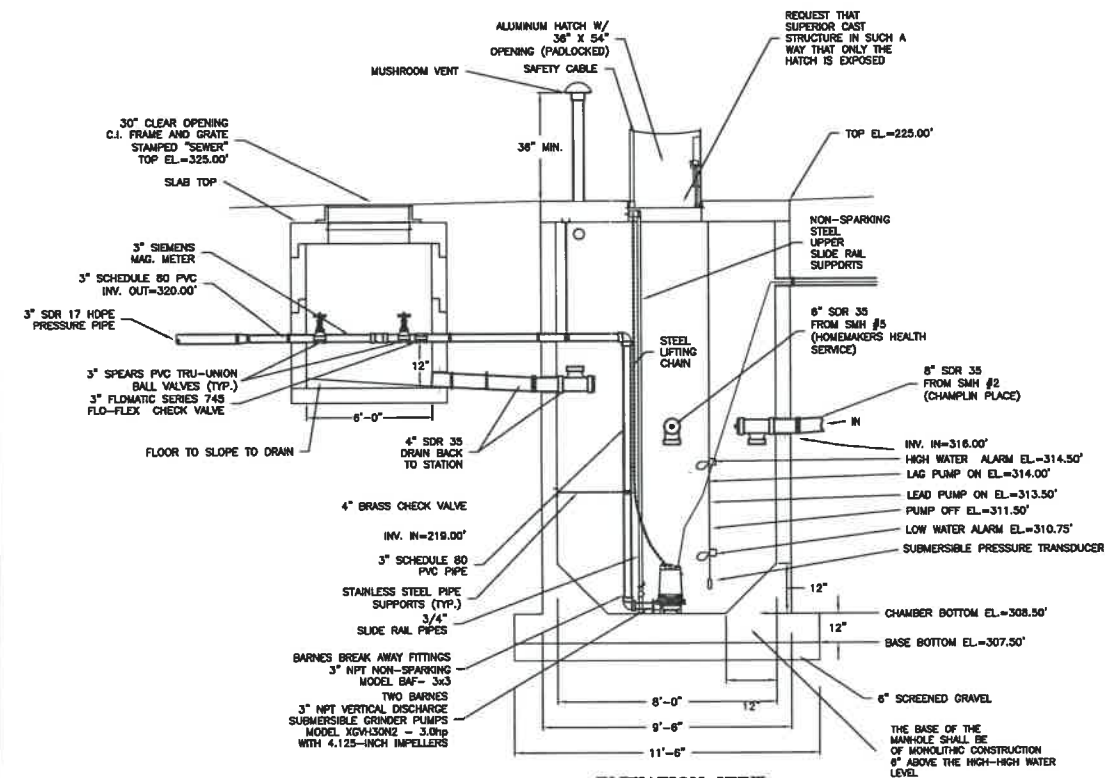
CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PUMP CHAMBER, PUMP, AND CONTROL PANEL TO NORWAY PLAINS, ASSOCIATES, INC. PRIOR TO ORDERING AND DELIVERY. ENGINEER APPROVAL REQUIRED PRIOR TO ORDERING.



PLAN VIEW



ELEVATION VIEW

PUMP STATION DETAIL

NOT TO SCALE

PUMP STATION INSTALLATION NOTES:

1. THE PUMP STATION IS BEING INSTALLED IN AN AREA WITH POTENTIAL SEASONAL HIGH WATER TABLE EFFECTS. THE CONCRETE CHAMBER SHALL HAVE AN INTEGRAL FOOTING RING THAT ADDS SOIL LOAD TO THE STRUCTURE TO FIGHT THE EFFECTS OF BUOYANCY.
2. DURING INITIAL CONSTRUCTION, DEWATERING WILL BE NECESSARY IN THE HOLE FOR THE PUMP STATION. ONCE BACKFILLED, THERE SHOULD BE NO THREAT OF FLOTATION.
3. THE PUMP STATION WET WELL SHALL BE CONSIDERED CLASS I, GROUP D, DIVISION 2 AND THE DRY WELL SHALL BE CONSIDERED CLASS I, GROUP D, UNCLASSIFIED PURSUANT TO THE 2012 NFPA TABLE 4.2 UNLESS OTHERWISE CLASSIFIED BY AUTHORITY HAVING JURISDICTION (AHJ).
4. ALL ELECTRICAL COMPONENTS SHALL MEET ALL REQUIREMENTS OF THE NATIONAL ELECTRICAL CODES.
5. (a) SUBMERSIBLE PUMPS FOR SEWAGE PUMPING STATIONS SHALL CONFORM TO THE NEC REQUIREMENTS ADOPTED BY REFERENCE IN THE STATE BUILDING CODE PURSUANT TO RSA 155-A:1, IV, FOR INSTALLATION IN AREAS CLASSIFIED BY THE NEC AS CLASS I, DIVISION 1.
- (b) ELECTRICAL SYSTEMS AND COMPONENTS, INCLUDING MOTORS, LIGHTS, CABLE, CONDUITS, SWITCH BOXES, AND CONTROL CIRCUITS SHALL BE PROTECTED FROM FLOODING IN ACCORDANCE WITH ENR-VQ 705.01.
- (c) ELECTRICAL SYSTEMS AND COMPONENTS INCLUDING MOTORS, LIGHTS, CABLE, CONDUITS, SWITCH BOXES AND CONTROL CIRCUITS IN ENCLOSED OR PARTIALLY ENCLOSED SPACES WHERE FLAMMABLE MIXTURES OCCASIONALLY MAY BE PRESENT, INCLUDING RAW SEWAGE WET WELLS, SHALL BE CERTIFIED BY THEIR MANUFACTURER AS:
 - (1) COMPLYING WITH THE NEC REQUIREMENTS ADOPTED BY REFERENCE IN THE STATE BUILDING CODE PURSUANT TO RSA 155-A:1, IV, FOR CLASS I, DIVISION 1 LOCATIONS; OR
 - (2) BEING RATED FOR CLASS I DIVISION 2 REQUIREMENTS WHERE MECHANICAL VENTILATION IS PROVIDED IN ACCORDANCE WITH THE NFPA AS ADOPTED BY REFERENCE IN THE STATE FIRE CODE IN SAF-C 6000.
- (d) ALL ELECTRICAL EQUIPMENT AND WORK SHALL COMPLY WITH THE REQUIREMENTS OF NEC AS ADOPTED BY REFERENCE IN THE STATE BUILDING CODE PURSUANT TO RSA 155-A:1, IV, AND NFPA AS ADOPTED BY REFERENCE IN THE STATE FIRE CODE IN SAF-C 6000 IN EFFECT AT THE TIME OF INSTALLATION.
6. OWNERS SHALL SUBMIT PUMP STATION OPERATIONS AND MAINTENANCE MANUAL TO NHDES WASTEWATER ENGINEERING BUREAU WITHIN 60 DAYS FOLLOWING COMPLETION OF PUMP STATION CONSTRUCTION. O&M MANUAL SHALL PROVIDE INFORMATION AND GUIDANCE FOR PUMP STATION OPERATION AND MAINTENANCE TO INCLUDE OWNERS AND OPERATOR CONTACT INFORMATION INCLUDING EMAIL ADDRESSES.

FILE NO. 102
PLAN NO. C-3154
DWG. NO. 19249 SP-1
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

PUMP STATION DESIGN CALCULATIONS:

DAILY FLOW:

EXISTING HOMEMAKERS HEALTH SERVICE BUILDING:
AVERAGED METERED WATER RECORDS FOR MORE THAN 6 CONSECUTIVE MONTHS
WITH A MINIMUM PEAKING FACTOR OF 2 FOR COMMERCIAL LIGHT FLOWS (Enr-Wq. 1008.03(d)).

AVERAGE DAILY FLOW FROM 12/04/2019 TO 06/01/2020: 312 GPD
DESIGN FLOW RATE 312 GPD X 2 = 624 GPD

PROPOSED SENIOR HOUSING BUILDING:
DAILY FLOW BASED ON 77 GALLONS PER DAY PER CAPITA FOR ONE BEDROOM
APARTMENT UNITS: (Enr-Wq. 708.03 Table 3-2) AND ASSUMES MAXIMUM OF 2 PERSONS PER UNIT.
AND
DAILY FLOW BASED ON 150 GALLONS PER DAY PER BEDROOM FOR 2 BEDROOM UNITS: (Enr-Wq. 1008.03 Table 1008-1).

74 ONE BEDROOM UNITS X 77 GPD/CAPITA X 2 PERSON = 11,398 GPD
8 TWO BEDROOMS X 150 GPD/BEDROOM X 2 BEDROOMS = 1,800 GPD
DESIGN FLOW RATE: 13,198 GPD

GRAVITY SEWER LINE:
INFILTRATION: 300 GAL/INCH DIA/MILE/DAY
145 FEET OF 6" DIA. PVC SEWER PIPE
330 FEET OF 8" DIA. PVC SEWER PIPE

INFILTRATION OF GRAVITY LINES = 200 GPD

TOTAL DAILY DESIGN FLOW = 14,020 GPD

WET WELL AND PUMP OPERATION NOTES:

WET WELL INVERTS:

INV. IN = 316.00'
HIGH WATER ALARM = 314.50'
LAG PUMP ON = 314.00'
LEAD PUMP ON = 313.50'
DOSE DEPTH = 2.00 FT.
PUMP OFF = 311.50'
DEPTH OF PUMP = 3.00 FT
SUBMERSION
CHAMBER BOTTOM = 308.50'

PUMP HEAD CALCULATIONS:

STATIC HEAD:
STATIC HEAD = PROPOSED ROCHESTER HILL SEWER INV. IN = 334.40'
PUMP OFF ELEV. = 311.50'
STATIC HEAD = 22.90'

HEAD CREATED BY PIPE AND FITTINGS LOSS:
HEAD FROM PIPE & FITTINGS = 20.50 FT. @ 75 GPM

TOTAL DYNAMIC HEAD:
TOTAL DYNAMIC HEAD = STATIC HEAD + HEAD FROM PIPE/FITTINGS
TOTAL DYNAMIC HEAD = 43.50 FT

PUMP INFORMATION:
PUMP = BARNES 2.5" SOLIDS HANDLING SEWAGE PUMPS
MODEL = XOVH30N2 3.0 HP WITH 4.125" IMPELLERS
PUMP OPERATIONAL = 75 GPM
CAPACITY
RUN TIME = 10.05 MIN.

PUMP STATION NOTES:

1. THE 100-YEAR FLOOD ELEVATION FOR THIS PARCEL IS APPROXIMATELY ELEVATION 199.0'. ALL COMPONENTS WITHIN THE PUMP STATION AND ASSOCIATED CRITICAL ACCESSORIES (CONTROL PANEL, GENERATOR) ARE LOCATED AT LEAST 70 FEET ABOVE THE 100-YEAR FLOOD ELEVATION.
2. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATER-TIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT.
3. PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
(1) ELASTOMERIC, RUBBER SLEEVE WITH WATER-TIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
(2) CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;
(3) ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
(4) NON-SHRINK GROUTED JOINTS WHERE WATER-TIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
4. ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.
5. PRECAST BASES SHALL BE PLACED ON A 6-INCH LAYER OF COMPACTED BEDDING MATERIAL THAT CONFORMS TO THE ASTM C33/C33M NO. 67 STONE STANDARD IN EFFECT WHEN THE STONE IS PROCESSED BY THE MANUFACTURER, AVAILABLE AS NOTED IN APPENDIX D. THE EXCAVATION SHALL BE DEWATERED WHILE PLACING BEDDING MATERIAL AND SETTING THE BASE OR POURING CONCRETE.
6. CONCRETE FOR MANHOLES AND CONCRETE GRADE RINGS SHALL CONFORM TO THE REQUIREMENTS FOR CLASS AA CONCRETE IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION."
7. REINFORCING FOR CONCRETE MANHOLES AND CONCRETE GRADE RINGS SHALL BE STEEL OR STRUCTURAL FIBERS THAT CONFORM TO THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
8. PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO THE ASTM C478 STANDARD IN EFFECT AT THE TIME THE BARREL SECTIONS, CONES, AND BASES ARE MANUFACTURED.
9. WET WELLS SHALL BE TESTED PRIOR TO OPERATION USING EX FILTRATION TESTING METHOD ACI 350.1 METHOD HST-NML IN EFFECT AT THE TIME THE WET WELL IS INSTALLED, AVAILABLE AS NOTED IN APPENDIX D. ANY VISIBLE SIGNS OF LEAKAGE SHALL BE REPAIRED AND RETESTED PRIOR TO OPERATION.
10. THE WET WELL FLOOR SHALL HAVE A MINIMUM SLOPE OF 1 TO 1 TO THE HOPPER BOTTOM.
11. ALARM SIGNAL SHALL BE ACHIEVED IN ANY ONE OF THE FOLLOWING:
1. HIGH WATER FLOAT ALARM;
2. HIGH WATER TRANSDUCER ALARM;
3. PUMP 1 FAIL;
4. PUMP 2 FAIL;
5. PUMP 1 SEAL FAIL;
6. PUMP 2 SEAL FAIL;
7. PANEL TEMP ALARM;
12. LOSS OF POWER (FROM LINE OR GENERATOR);
13. HIGH WATER AND LOW WATER ALARM TRIGGERS SHALL BE SEPARATE DEVICES, INDEPENDENT OF PUMP WET WELL LEVEL CONTROL SYSTEM.
14. FOR THE POWER SOURCE FOR THE ALARM SYSTEM SHALL BE THE MAIN LINE POWER WITH A BACKUP BATTERY SYSTEM, WHICH SHALL BE CONNECTED AUTOMATICALLY SHOULD MAIN POWER FAILURE.
15. BACK-UP POWER SUPPLY FROM ON-SITE GENERATOR;
16. INSTALL A FLOW METER THAT RECORDS CONTINUOUS FLOW AND HAS THE CAPABILITY TO TOTALIZE;
17. INSTALL A WARNING SIGN ON THE ACCESS DOOR STATING THE BELOW:
17. PUMPS AND LEVEL CONTROLS TO BE SUPPLIED WITH A MINIMUM OF SOFT CABLES TO ALLOW FOR NO JUNCTION BOXES FOR PUMP CABLES OR FLOAT CABLES;
18. SUBMERSIBLE TRANSMITTER (LEVEL RAIT OR EQUAL) TO BE USED AS PRIMARY LEVEL CONTROLS WITH KWIK SWITCH 2-FLOAT BACKUP;
19. PANEL TO BE NEMA 4X SS, DEAD FRONT WITH INNER DOOR:
(1) CONTROLLER WILL BE PRINEX LEVEL VIEW (OR EQUAL):
(A) LEVEL VIEW CONTROLLER TO BE MODIFIED FROM STOCK PROGRAMMING TO PROVIDE INPUT AND DISPLAY FROM FLOW METER, WITH 4-20MA GFS AND PULSE FOR TOTALIZATION;
(B) ONE PULSE PER 100 GALLONS PUMPED;
(2) ALL OPERATOR CONTROLS/LIGHTS/SWITCHES TO BE MOUNTED ON INNER DOOR;
(3) PANEL TO HAVE BATTERY BACK-UP FOR LEVEL CONTROLS AND AUXILIARY ALARMS;
(4) PANEL TO HAVE 4-20AM TEMPERATURE SENSOR FEEDING TO LEVEL VIEW CONTROLLER.

WARNING
THIS IS A CONFINED SPACE.
ENTER ONLY WITH
PROPER EQUIPMENT.
FOLLOWING OSHA CONFINED
SPACE ACCESS REGULATIONS.

BACK-UP GENERATOR NOTES:

- A. AN INDEPENDENT ENGINE-GENERATOR TYPE SOURCE OF ELECTRIC POWER SHALL BE PROVIDED FOR ELECTRICALLY-DRIVEN PUMPS. THIS SOURCE SHALL BE AUTOMATICALLY ACTIVATED BY FAILURE OF ANY PHASE OF POWER SUPPLY OR UPON ANY FLUCTUATION IN VOLTAGE, THE AMOUNT OR DURATION OF WHICH WOULD CAUSE DAMAGE TO THE MOTORS. INSTALLATIONS SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE NEC AND THE STATE FIRE CODE IN SAF-C 6000.
- B. THE EMERGENCY POWER GENERATOR SHALL BE PERMANENTLY SECURED IN PLACE, WITH PROVISIONS FOR REMOVAL TO FACILITATE GENERATOR REPAIR OR REPLACEMENT.
- C. PROVISIONS SHALL BE MADE FOR AUTOMATIC AND MANUAL START-UP AND CUT-IN. THE CONTROLS SHALL BE SUCH THAT UPON AUTOMATIC START-UP UNDER EMERGENCY CONDITIONS, SHUT-DOWN SHALL BE ACCOMPLISHED AUTOMATICALLY ON RESTORATION OF UTILITY POWER WITH CONTROLLED SHUT-DOWN OF UNIT. MANUAL SHUT DOWN SHALL ALSO BE PROVIDED. PROVISION SHALL BE MADE TO ALLOW PUMPS TO RUN DOWN BEFORE RE-ENERGIZING ON TRANSFER OF POWER.
- D. THE EMERGENCY POWER GENERATOR SHALL BE SIZED TO SEQUENTIALLY START AND OPERATE ALL PUMPS NEEDED TO HANDLE DESIGN MAXIMUM WASTE FLOWS, PLUS LIGHTING, VENTILATION, CONTROLS, SCREEDING, AND, IF APPLICABLE, GRINDING.
- E. THE EMERGENCY POWER GENERATOR SHALL BE LOCATED ABOVE GRADE WITH VENTILATION OF EXHAUST GASES.
- F. ALL EMERGENCY POWER GENERATION EQUIPMENT SHALL BE PROVIDED WITH INSTRUCTIONS FOR ROUTINE EXERCISING, LOAD TESTING, AND MAINTENANCE.
- G. THE GENERATOR ENGINE CONTROLS SHALL BE EQUIPPED WITH AN AUTOMATIC EXERCISER WHICH CAN BE SET ON ANY SELECTED SCHEDULE TO START THE GENERATOR, RUN THE GENERATOR UNDER NO-LOAD OR LOAD CONDITIONS BY SELECTION, AND SHUT THE GENERATOR OFF WITHOUT ACTUATING THE ALARM SYSTEM.
- H. SUBJECT TO (I), BELOW, THE OWNER SHALL PROVIDE EACH EMERGENCY GENERATOR WITH ENOUGH FUEL FOR THE GENERATOR TO RUN UNDER FULL LOAD OR PEAK STATION FLOW AT LEAST 48 HOURS OR UNDER NORMAL OPERATING CONDITIONS FOR AT LEAST 96 HOURS, WHICHEVER REQUIRES THE GREATER AMOUNT OF FUEL.
- I. FOR SEWAGE PUMPING STATIONS WITH DUPLEX PUMPS, A STANDBY ENGINE DRIVE SYSTEM WHICH AUTOMATICALLY STARTS ON POWER LOSS TO DRIVE ONE PUMP MAY BE FURNISHED AS AN ALTERNATIVE TO A PERMANENT GENERATOR.

SEWER PUMP STATION DETAILS

TAX MAP 243, LOT 39
215 ROCHESTER HILL RD
ROCHESTER, NH

PREPARED FOR:
EASTER SEALS NH, INC.

NOVEMBER 2021

C-15

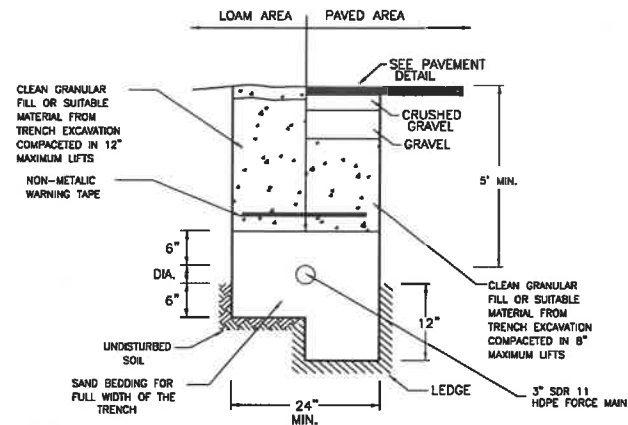
LAND SURVEYORS



CIVIL ENGINEERS



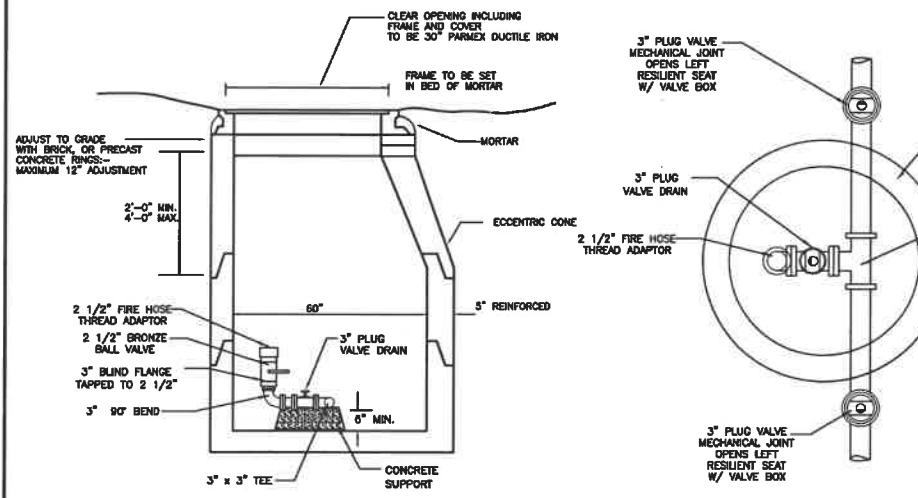
CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



- NOTES:
- PIPES MAY BE INSTALLED BY EXCAVATING AN OPEN TRENCH WITH SIDE SLOPES OF 1:1 MAXIMUM TO A DEPTH OF 4-FT. INSTALLATIONS DEEPER THAN 4-FT REQUIRE THE USE OF A TRENCH BOX.
 - PIPE MATERIALS SHALL BE AS SPECIFIED ON THE DESIGN PLAN.
 - TRENCHES FOR SEWER PIPES WITH SLOPES OVER 0.08 FEET PER FOOT SHALL HAVE IMPERVIOUS TRENCH DAMS CONSTRUCTED EVERY 300 FEET TO PREVENT POTENTIAL DISTURBANCE TO PIPE BEDDING AND BLANKET MATERIALS.
 - WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, THE SHEETING SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE AND AT LEAST 3 FEET BELOW FINISHED GRADE. THE PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND FREE FROM ORGANIC MATERIALS, GRADED SUCH THAT 100 PERCENT PASSES A 1/2-INCH SIEVE AND A MAXIMUM OF 15 PERCENT PASSES A #200 SIEVE.

TRENCH DETAIL FOR SEWER FORCE MAIN

NOT TO SCALE



ELEVATION VIEW

PLAN VIEW

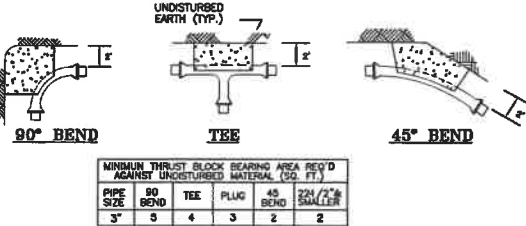
CLEANOUT MANHOLE DETAIL

NOT TO SCALE

MORTAR USED IN MANHOLE CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING: MORTAR SHALL BE COMPOSED OF TYPE I PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LINE ADDITION. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE AS SHOWN BELOW:

HYDRATED LINE	SAND	TYPE I PORTLAND CEMENT
1.0 PARTS	4.5 PARTS	1.5 PARTS
0.5 PARTS	4.5 PARTS	1.5 PARTS

CEMENT SHALL BE TYPE I PORTLAND CEMENT THAT IS CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO THE ASTM C150/C150M STANDARD IN EFFECT AT THE TIME THE CEMENT WAS MANUFACTURED. HYDRATED LINE SHALL BE TYPE S THAT IS CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO THE ASTM C207 STANDARD IN EFFECT AT THE TIME THE HYDRATED LINE WAS PROCESSED. SAND SHALL CONSIST OF INERT NATURAL SAND THAT IS CERTIFIED BY ITS SUPPLIER AS CONFORMING TO THE ASTM C33 STANDARD IN EFFECT AT THE TIME THE SAND IS PROCESSED BY STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES.



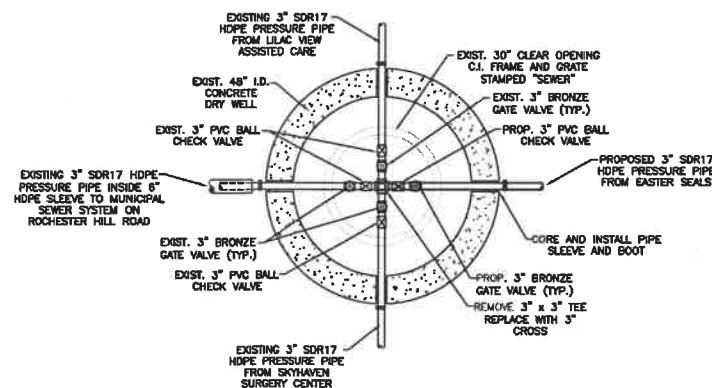
NOTE: SIZE OF THRUST BLOCKS MAY BE INCREASED BY THE ENGINEER TO MEET SOIL CONDITIONS FOUND DURING CONSTRUCTION.

SEWER MAIN THRUST BLOCK DETAILS

NOT TO SCALE

FORCE MAIN JUNCTION MANHOLE DETAIL

NOT TO SCALE



- NOTES:
- THE FLUSHING MANHOLE CONSTRUCTION SHALL MEET ALL DESIGN REQUIREMENTS OF A SANITARY MANHOLES. SEE NOTES THIS SHEET.
 - HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARREL SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATER-TIGHTNESS USING A DOUBLE ROW EFFECT WHEN THE STONE IS PROCESSED BY THE MANUFACTURER. AVAILABLE AS NOTED IN APPENDIX D. THE EXCAVATION SHALL BE Dewatered WHILE PLACING BEDDING MATERIAL AND SETTING THE BASE OR POURING CONCRETE.
 - PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
 - ELASTOMERIC RUBBER SLEEVE WITH WATER-TIGHT JOINTS AT THE MANHOLE OPENING AND
 - CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS
 - ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
 - NON-SHRINK GROUTED JOINTS WHERE WATER-TIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
 - ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.
 - PRECAST BASES SHALL BE PLACED ON A 6-INCH LAYER OF COMPACTED BEDDING MATERIAL THAT CONFORMS TO THE ASTM C33/C33M NO. 67 STONE STANDARD IN EFFECT AT THE TIME THE BASES ARE MANUFACTURED. AVAILABLE AS NOTED IN APPENDIX D. THE EXCAVATION SHALL BE Dewatered WHILE PLACING BEDDING MATERIAL AND SETTING THE BASE OR POURING CONCRETE.
 - CONCRETE FOR MANHOLES AND CONCRETE GRADE RINGS SHALL CONFORM TO THE REQUIREMENT FOR CLASS AA CONCRETE IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
 - REINFORCING FOR CONCRETE MANHOLES AND CONCRETE GRADE RINGS SHALL BE STEEL OR STRUCTURAL FIBERS THAT CONFORM TO THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
 - PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO THE ASTM C478 STANDARD IN EFFECT AT THE TIME THE BARREL SECTIONS, CONES, AND BASES ARE MANUFACTURED.
 - FOR THE POWER SOURCE FOR THE ALARM SYSTEM SHALL BE THE MAIN LINE POWER WITH A BACK UP BATTERY SYSTEM, WHICH SHALL BE CONNECTED AUTOMATICALLY SHOULD MAIN POWER FAILURE.
 - A CONNECTION FOR A PORTABLE GENERATOR HOOK-UP SHALL BE PROVIDED FOR EACH HOUSE LOT.

- NOTES:
- IT IS INTENTION OF THE CITY OF ROCHESTER PUBLIC WORKS DEPARTMENT THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAK PROOF QUALITIES CONSIDERED NECESSARY BY THE PUBLIC WORKS DEPARTMENT FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH OR WITHOUT STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH OR WITHOUT REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
 - BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE OR POURED IN PLACE REINFORCED CONCRETE.
 - PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478. ALL PRECAST SECTIONS AND BASES SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER IMPRESSED OR INDUBLY MARKED ON THE INSIDE WALL.
 - VACUUM LEAKAGE TESTING (ASTM C1244) SHALL BE PERFORMED FOR ALL MANHOLES, LOW-PRESSURE AIR TESTING (ASTM F1417) AND DEFLECTION TESTING USING A 100/NO 00' MANHOLE FOR ALL SANITARY SEWERS, IN ACCORDANCE WITH THE NHDES SEWER REGULATIONS AND THE CITY OF ROCHESTER DEPARTMENT OF PUBLIC WORKS REQUIREMENTS.
 - INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION. THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY, BRICK MASONRY SHALL CONFORM WITH ASTM C32. INVERTS AND SHELVES SHALL NOT BE INSTALLED UNTIL AFTER SUCCESSFUL TESTING IS COMPLETED.
 - FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) LETTER "SEWER" FOR SEWERS OR "DRAIN" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER. SEWER MANHOLE FRAME AND COVER: PAMREX 32" O.D. MANHOLE FRAME AND COVER SEWER - E.J. PRESCOTT PRODUCTS 32113-32-5. IMMEDIATELY FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON THE TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN, OR ANIMALS, UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENT TO GRADE.
 - BEDDING: MIN. 6" OF 3/4" CRUSHED STONE (1/2" IN LEDGE) FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33:
 - 100% PASSING 1 INCH SCREEN
 - 90-100% PASSING 3/4 INCH SCREEN
 - 20-50% PASSING 3/8 INCH SCREEN
 - 0-10% PASSING #4 SIEVE
 - 0-5% PASSING #8 SIEVE
 - WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE MIN. 3/4" SHALL BE USED.
 - CONCRETE FOR DROP SUPPORT SHALL CONFORM TO THE REQUIREMENT FOR CLASS AA CONCRETE (3000 PSI) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS:
 - CEMENT: 6.0 BAGS PER CUBIC YARD
 - WATER: 5.75 GALLONS PER BAG CEMENT
 - MAXIMUM SIZE OF AGGREGATE: 1 INCH
 - FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
 - RCP & CI PIPE - ALL SIZES - 48"
 - AG & VC PIPE - UP THROUGH 12" DIA. - 16" SEE NOTE 8.A.
 - AG & VC PIPE - LARGER THAN 12" DIA. - 36"
 - DI PIPE - NONE REQUIRED
 - PVC (ASTM 3034) - UP THROUGH 18" DIA. - NONE REQUIRED
 - PVC (ASTM F 678) - LARGER THAN 18" DIA. - 48" TO 60"
 - PVC (ASTM F 798) - ALL SIZES - 48" TO 60"
 - UNDER SEVERE CONDITIONS WHEN DIFFERENTIAL SETTING CANNOT BE CONTROLLED WITHIN NORMAL LIMITS, VARIATIONS IN THE SUB LENGTH MAY BE NECESSARY. OTHER PLASTIC FITTINGS SHALL BE REVIEWED ON A CASE BY CASE BASIS.
 - SHALLOW MANHOLES: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.
 - MANHOLE STEPS SHALL NOT BE PROVIDED WITHIN THE MANHOLES AS DIRECTED BY THE CITY OF ROCHESTER.
 - MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE 4 INCHES.
 - PIPE AND JOINT MATERIALS P.V.C. (POLY VINYL CHLORIDE) PIPE ALL P.V.C. PIPE AND FITTINGS SHALL CONFORM TO THE MOST RECENT REQUIREMENTS OF ASTM SPECIFICATIONS FOR TYPE FPM POLY VINYL CHLORIDE (P.V.C.) SEWER PIPE AND FITTINGS, DESIGNATION D-3034 AND ASTM SPECIFICATIONS FOR SEWER PIPE JOINTS USING ELASTOMERIC SEALS, DESIGNATION D-3212. MANUFACTURER'S CERTIFICATE OF COMPLIANCE SHALL BE FURNISHED TO THE ENGINEER, PRIOR TO INSTALLATION METHODS OF SHIPPING AND STORAGE ON SITE SHALL BE SUCH AS TO AVOID INJURY TO THE PIPE. DAMAGED PIPE SHALL BE REJECTED AND SHIPPED FROM THE JOB. MINIMUM PIPE STIFFNESS (EI) AT 7 1/2' DEFLECTION SHALL BE 43 PLS FOR SIZE WHEN TESTED IN ACCORDANCE WITH ASTM METHODS OF TEST D-2412. "EXTERNAL LOADING" PROPERTIES OF PLASTIC PIPE BY PARALLEL - PLATE LOADING. ALL P.V.C. PIPE SHALL BE TYPE SDR-35 (A MEASURE OF THICKNESS AND RIGIDITY) AND SHALL HAVE ELASTOMERIC GASKET JOINTS. SOLVENT JOINTS SHALL NOT BE ALLOWED. P.V.C. USED FOR FORCE MAINS SHALL CONFORM TO ASTM D-2241 AND D-1784. (CLASS 1224-B). A SAFETY FACTOR OF 2.5 SHALL BE USED FOR PRESSURE RATING DETERMINATION WITH A STANDARD DIMENSION RATIO (SDR) NO HIGHER THAN 21.
 - DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
 - JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIAL USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
 - TEES OR WYES: WHERE A TEE OR WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE, FOLLOWING MANUFACTURER'S INSTRUCTIONS USING A BOLTED, CLAMPED, OR EPDM-COATED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAW OPENING IN THE SEWER. THE PRACTICE OF BREAKING AN OPENING WITH SLEDGE HAMMERS, STUFFING CLOTH OR OTHER SUCH MATERIAL AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION, AND ANY OTHER SIMILAR CRUDE PRACTICES OR INERT OR HASTY IMPROVIZATION SHALL NOT BE PERMITTED. THE CONNECTION SHALL BE CONCRETE CHASED AS SHOWN IN THE DETAIL UP TO AND INCLUDING 15" DIAMETER. DOES NOT APPLY TO INSTALLATIONS WHERE TEES & WYES ARE USED.
 - PIPE INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED, AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AS SPECIFIED IN NOTE 10. BEDDING AND RE-FILL FOR A DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH THE APPROPRIATE MECHANICAL DRUMS. THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE HOUSE FOUNDATION AT A GRADE OF NOT LESS THAN 1/8 INCH PER FOOT PIPE. JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO Dewater THE TRENCH.
 - TESTING: THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS (PRIOR TO BACKFILLING):
 - AN OBSERVATION TEST SHALL BE INSTALLED AS SHOWN AND, WHEN READY FOR TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE TEE AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.
 - THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER, TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS OR, IF THE TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEANOUT WITH A FLASHLIGHT.
 - DRY FLUORESCENCE DYE SHALL BE SPRAYED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER, OR IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST DOWNSTREAM MANHOLE. LEAKAGE OBSERVED IN ANY OF THE ABOVE ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUO-UP IF NECESSARY AND RE-LAID SO AS TO ASSURE WATER-TIGHTNESS.
 - ILLEGAL CONNECTION: NOTHING BUT SANITARY WASTE FLOW FROM THE HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS OR SUMP PUMPS OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, DRAINAGE, OR GROUND WATER, SHALL NOT BE PERMITTED.
 - HOUSE AND WATER SERVICE SHOULD NOT BE LAID IN THE SAME TRENCH AS SEWER SERVICE, BUT WHEN NECESSARY, SHALL BE PLACED ABOVE AND TO THE SIDE OF THE HOUSE SEWER AS SHOWN.
 - BEDDING: MIN. 3/4" CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33.8
 - 100% PASSING 1 INCH SCREEN
 - 90-100% PASSING 3/4 INCH SCREEN
 - 20-50% PASSING 3/8 INCH SCREEN
 - 0-10% PASSING #4 SIEVE
 - 0-5% PASSING #8 SIEVE
 - WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, MIN. 3/4" CRUSHED STONE SHALL BE USED.
 - LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHANNEL" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPEFINDER.
 - CONCRETE CONCRETE SHALL CONFORM TO THE REQUIREMENTS FOR CLASS AA CONCRETE (3000 PSI) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS:
 - CEMENT: 6.0 BAGS/C.Y.
 - WATER: 5.75 GALLONS/BAG OF CEMENT
 - AGGREGATE: 1 1/2" MAX.
 - CHIMNEYS: IF VERTICAL DROP INTO SEWER IS GREATER THAN 4', A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION. 25'- ALL DRAINAGE AND SEWER STRUCTURES INCLUDING FRAMES AND GRATES SHALL BE H-20 LOADING. 28'- ALL SEWER CONSTRUCTION SHALL BE CONSTRUCTED TO STANDARDS AND THE CITY OF ROCHESTER STANDARD SPECIFICATIONS.
 - HORIZONTAL JOINTS: BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE COMMISSION, WHICH TYPE SHALL BE DEPENDENT FOR WATER TIGHTNESS UPON AN ELASTOMERIC OR Mastic-Like GASKET.
 - PIPE TO MANHOLE JOINTS: SHALL BE ONLY AS APPROVED BY THE COMMISSION AND IN GENERAL WILL DEPEND FOR WATER TIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.
 - FOR BITUMASTIC SEALANTS: THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY APPROVED BITUMASTIC SEALANTS: RAM-NEK KENT SEAL NO.2 EZ.
 - THE CONTRACTOR SHALL NOTIFY DW-SAFE 1-888-344-7233 PRIOR TO CONSTRUCTION.

SEWER FORCE MAIN
DETAILS
TAX MAP 243, LOT 39
215 ROCHESTER HILL RD
ROCHESTER, NH
PREPARED FOR:
EASTER SEALS NH, INC.

NOVEMBER 2021

C-16

FILE NO. 102
PLAN NO. C-3154
DWC. NO. 19249 SP-1
P.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

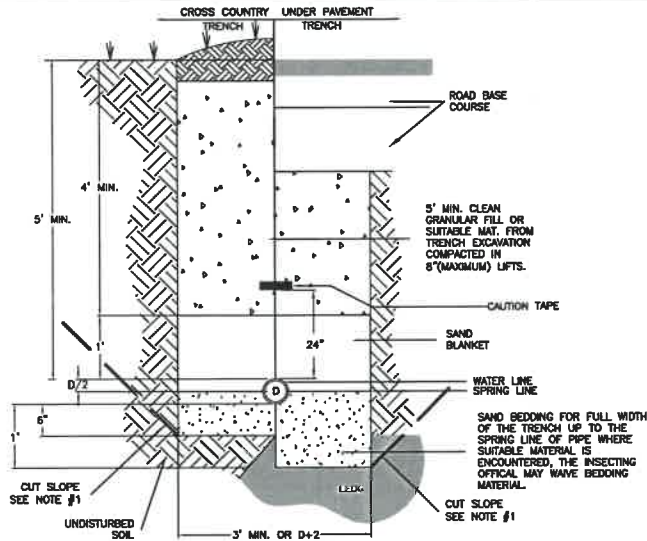


CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



GENERAL UTILITY NOTES

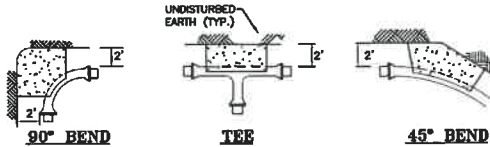
- CONTRACTOR SHALL NOTIFY DIG-SAFE (1-888-344-7233) 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND ELEVATIONS.
- THESE PLANS SHOW ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF THE SURVEY. THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THIS PLAN, BUT IN EXISTENCE IS NOT INTENDED OR IMPLIED.
- ANY UTILITY POLES THAT NEED TO BE RELOCATED SHALL BE COORDINATED WITH EVERSOURCE OR VERIZON, WHOM EVER HAS CONTROL, OVER THEM.
- PROPOSED UTILITIES ARE TO BE UNDERGROUND. COORDINATE LOCATION OF UNDERGROUND UTILITIES AND TRANSFORMER PADS WITH PSNH AND OTHER PERTINENT UTILITY COMPANIES.
- WATER AND SEWER LINES SHALL BE INSTALLED A MINIMUM OF 10'-0" APART HORIZONTALLY.
- WHERE SEWER AND WATER LINES MUST CROSS, SEWER PIPE JOINTS SHALL BE LOCATED A MINIMUM 9'-0" HORIZONTALLY FROM THE WATER LINE AND A VERTICAL SEPARATION OF 18"-0" SHALL BE MAINTAINED.
- SEWER PIPE JOINTS SHALL BE TESTED WITH ZERO LEAKAGE AT 25 POUNDS PER SQUARE INCH FOR GRAVITY SEWER AND AT 1-1/2 TIMES WORKING PRESSURE FOR ALL FORCE MAINS.
- WATERLINE CONSTRUCTION:
 - ALL PROPOSED WATER LINE MATERIAL USED SHALL MEET ROCHESTER WATER DEPARTMENT AND ROCHESTER ENGINEERING DEPARTMENT SPECIFICATIONS. WATER LINES SHALL BE A.W.W.A. C 151, CLASS 52, CEMENT LINED, DUCTILE IRON PIPE.
 - PROPOSED WATER GATE VALVES SHALL BE MANUFACTURED BY KENNEDY OF AMERICAN FLOW CONTROL, RESILIENT SEAT TYPE.
 - ALL WATER LINES SHALL BE BURIED A MINIMUM OF 5'.
 - IF 5' OF COVER IS NOT AVAILABLE WATER LINE SHALL BE INSULATED AS SHOWN IN THE "SHALLOW COVER TRENCH DETAIL FOR INSULATED WATER PIPE".
 - ALL WATER FITTINGS SHALL BE CLASS 52.
 - PROPOSED WATER GATE VALVE SHALL OPEN CLOCKWISE (RIGHT).
- WORK TO CONNECT INTO THE WATER OR SEWER MAINS REQUIRES A PERMIT FROM THE ROCHESTER PUBLIC WORKS DEPARTMENT. CONTRACTORS ARE TO BE PRE-QUALIFIED.



- NOTES:
- PIPES MAY BE INSTALLED BY EXCAVATING AN OPEN TRENCH WITH SIDE SLOPES OF 1:1 MAXIMUM TO A DEPTH OF 4'-0". INSTALLATIONS DEEPER THAN 4'-0" REQUIRE THE USE OF A TRENCH BOX.
 - PIPE MATERIALS SHALL BE AS SPECIFIED ON THE DESIGN PLAN.
 - SAND BLANKET MAY BE OMITTED FOR REINFORCED CONCRETE PIPE.

WATER PIPE TRENCH INSTALLATION DETAIL

NOT TO SCALE



PIPE SIZE	90° BEND	TEE	PLUG	45° BEND	2 1/2" & SMALLER
6"	5	4	3	2	2
8"	10	8	6	6	3
12"	24	18	8	12	8

NOTE: SIZE OF THRUST BLOCKS MAY BE INCREASED BY THE ENGINEER TO MEET SOIL CONDITIONS FOUND DURING CONSTRUCTION.

WATER MAIN THRUST BLOCK DETAILS

NOT TO SCALE

DUCTILE IRON MECHANICAL RETAINED LENGTH (FEET)																				
PIPE DIAMETER (INCHES)	BENDS																DEAD END			
	11 1/4"				22 1/2"				45°				90°							
	50 psi	100 psi	150 psi	200 psi	50 psi	100 psi	150 psi	200 psi	50 psi	100 psi	150 psi	200 psi	50 psi	100 psi	150 psi	200 psi	50 psi	100 psi	150 psi	200 psi
2"	0	0	1	1	0	1	1	1	1	1	2	3	2	4	5	7	4	8	12	17
6"	0	0	1	1	1	1	2	2	1	2	3	4	3	5	8	10	6	12	18	23
8"	0	1	1	1	1	1	2	3	1	3	4	6	3	7	10	13	8	15	23	31
10"	0	1	1	2	1	2	2	3	2	3	5	7	4	8	12	16	9	19	28	37
12"	0	1	1	2	1	2	3	4	2	4	6	8	5	9	14	19	11	22	33	44
	TEE*								REDUCER											
	SAME SIZE				ONE SIZE SMALLER				ONE SIZE SMALLER				TWO SIZE SMALLER							
	50 psi	100 psi	150 psi	200 psi	50 psi	100 psi	150 psi	200 psi	50 psi	100 psi	150 psi	200 psi	50 psi	100 psi	150 psi	200 psi				
2"	1	1	1	1	1	1	1	1	1	3	4	5	—	—	—	—				
6"	1	1	1	4	1	1	1	1	3	6	9	12	4	8	12	16				
8"	1	1	3	11	1	1	1	1	3	6	10	13	6	11	17	22				
10"	1	1	8	17	1	1	1	6	3	6	10	13	6	11	17	23				
12"	1	2	13	24	1	1	4	13	5	11	16	22	6	12	18	23				

* BASED ON A MINIMUM ATTACHED PIPE ALONG RUN (L_r) = 5 FEET

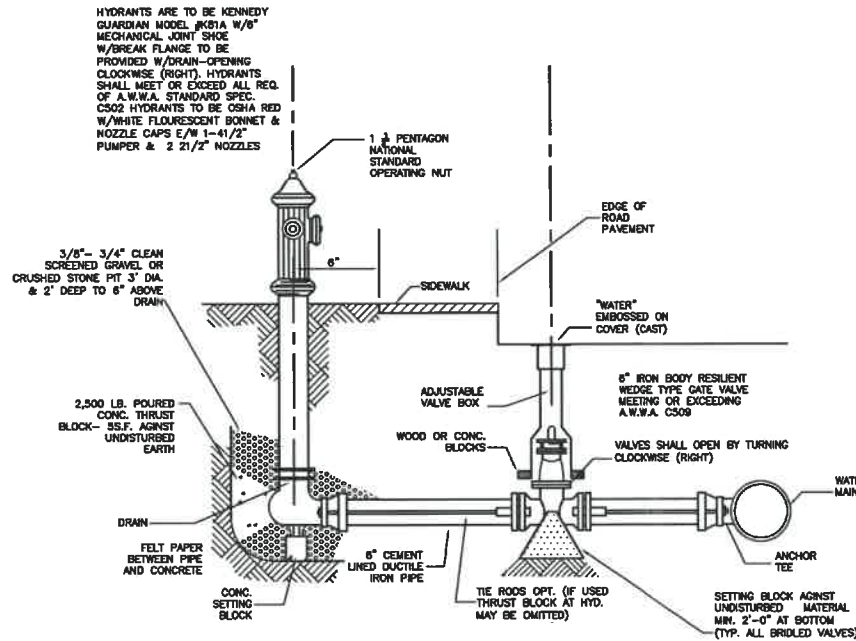
MECHANICAL RESTRAINED LENGTH SCHEDULE

NOT TO SCALE

- NOTES:
- PIPE IS BURIED TO A DEPTH OF 6 FEET WITH A MINIMUM OF 4 INCHES OF COMPACTED GRANULAR MATERIAL UNDER THE PIPE TO THE SPRING LINE OF THE PIPE.
 - THE EXISTING SOIL IS POORLY GRADED GRAVEL AND GRAVEL SAND MIXTURE WITH LITTLE TO NO FINES.
 - ALL CALCULATIONS ARE BASED ON A FACTOR OF SAFETY OF 1.5 TO 1.
 - ALL CALCULATIONS ARE BASED ON THE "RESTRAINED LENGTH CALCULATION PROGRAM" BY EBAA IRON, INC., RELEASE 3.1.

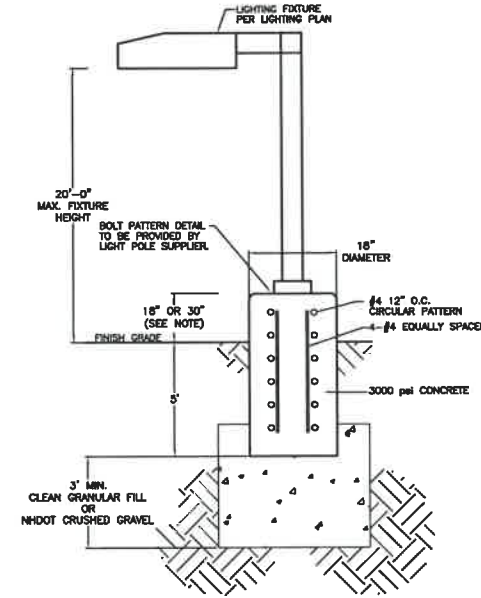
FILE NO. 102
PLAN NO. C-3154
DWG. NO. 19249 SP-1
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948



TYPICAL HYDRANT SECTION

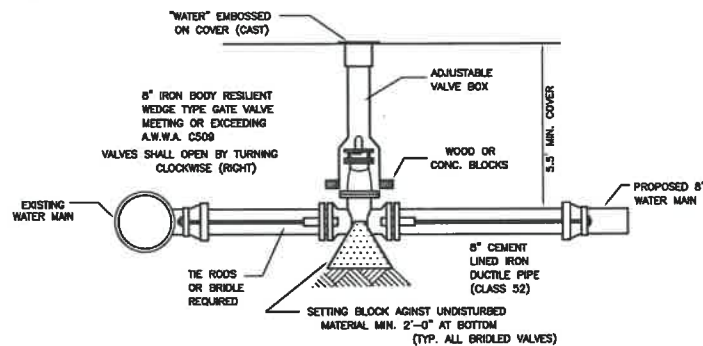
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POLE MOUNTED LIGHT DETAIL

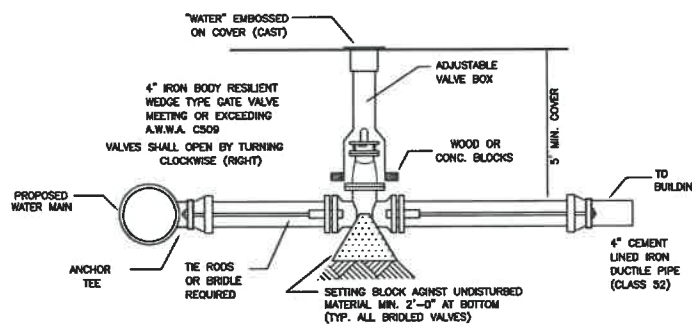
NOT TO SCALE

- NOTE:
- LIGHT POLE BASE SHALL BE 18" ABOVE FINISH GRADE FOR NON VEHICLE IMPACT AREAS AND 30" FOR VEHICLE IMPACT AREAS.
 - THE LIGHT POLE BASES CAN BE PRECAST, WITH COORDINATION WITH THE LIGHTING FIXTURE MANUFACTURE FOR BOLT PATTERN.



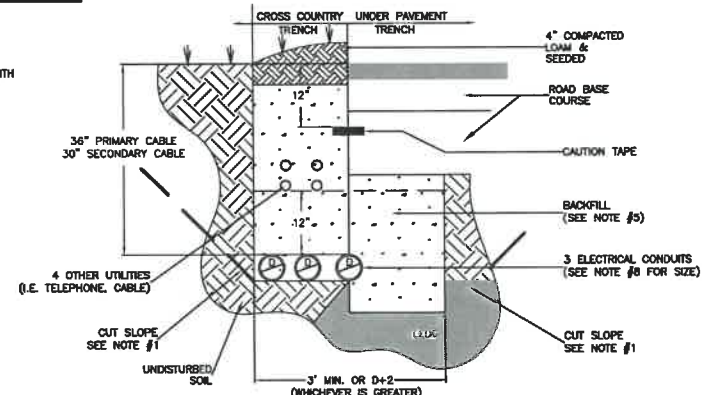
FIRE SERVICE CONNECTION

NOT TO SCALE



DOMESTIC SERVICE CONNECTION

NOT TO SCALE



ELECTRICAL & UNDERGROUND UTILITY TRENCH INSTALLATION DETAIL

NOT TO SCALE

UTILITY DETAILS
TAX MAP 243, LOT 39
215 ROCHESTER HILL RD
ROCHESTER, NH

PREPARED FOR:
EASTER SEALS NH, INC.

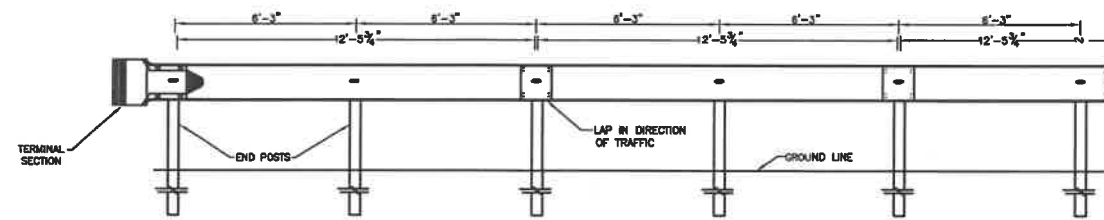
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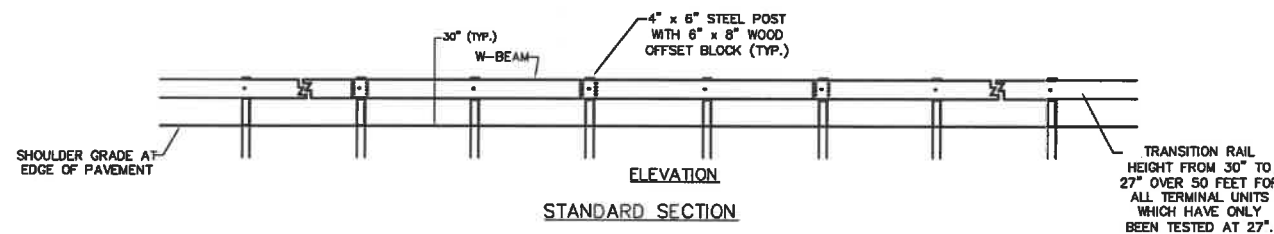
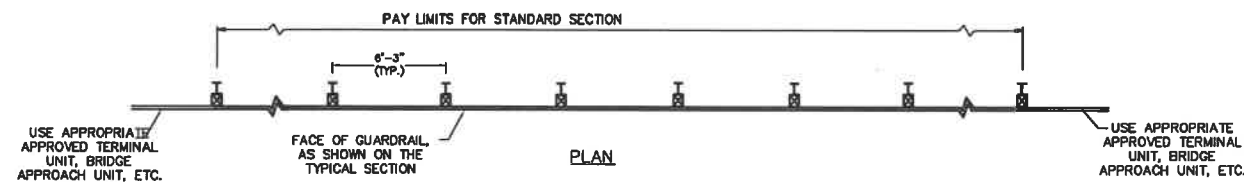
TYPICAL DOMESTIC SERVICE CONNECTION

NOT TO SCALE

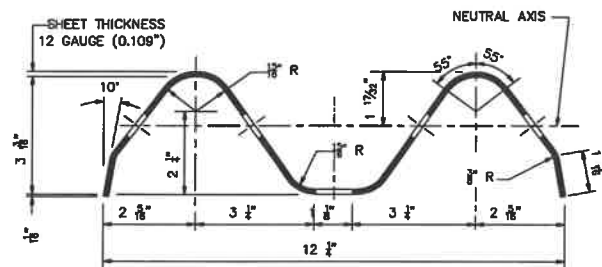
LAND SURVEYORS



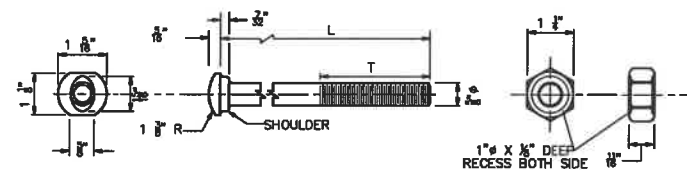
SAMPLE GUARDRAIL INSTALLATION LAYOUT



ITEM 606.120 - BEAM GUARDRAIL (STANDARD SECTION-STEEL POSTS)
 PAID: LINEAR FOOT
 USE: WHEREVER GUARDRAIL IS REQUIRED (NOTE: STEEL POSTS FOR PERMANENT INSTALLATIONS MAY ONLY BE USED IF SPECIFICALLY APPROVED BY THE CHIEF ENGINEER.)

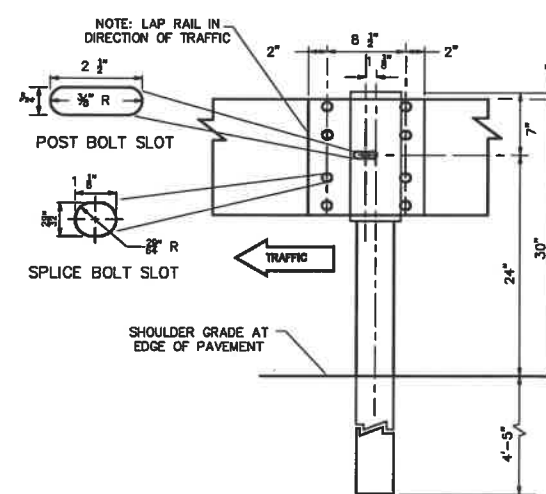


SECTION THRU RAIL ELEMENT
 [RWM02a (12'-6") OR RWM22a (25'-0")]



5/8" BUTTON HEAD BOLT AND RECESSED NUT

DESIGNATOR	L	T	INTENDED USE
FBB01	1 1/2"	FULL LENGTH THREAD	RAIL SPLICE BOLTS
FBB02	2"	1 1/2" MIN. THREAD LENGTH	POST BOLT (STEEL POSTS)
FBB03	10"	4" MIN. THREAD LENGTH	POST BOLT

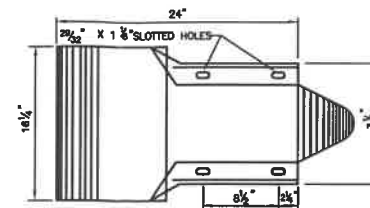


LINE POST ELEVATION
 VIEW AT BEAM SPLICE

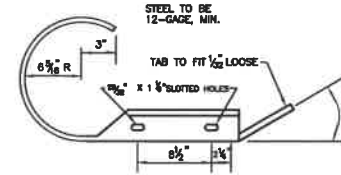


CIVIL ENGINEERS

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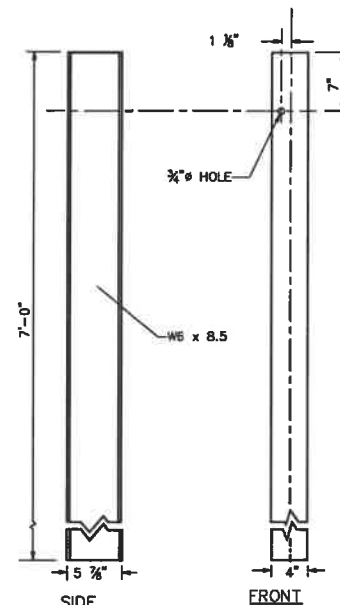


FRONT ELEVATION

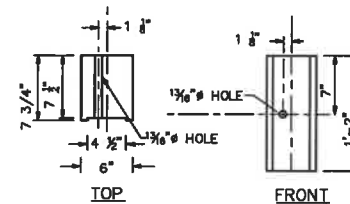


PLAN VIEW

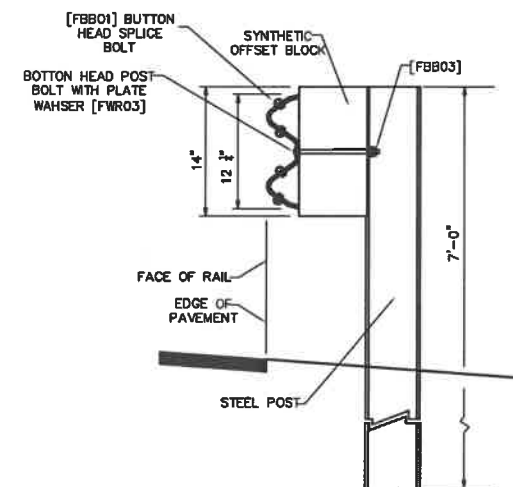
TERMINAL SECTION



STRUCTURAL SHAPE STEEL POST



SYNTHETIC OFFSET BLOCK



TYPICAL SIDE VIEW
 (SHOWN WITH FASTENERS)

GENERAL NOTES

- LENGTH OF NEED IS THE TOTAL LENGTH OF A LONGITUDINAL BARRIER NEEDED TO SHIELD AN AREA OF CONCERN. TO DETERMINE THE LENGTH OF NEED, REFER TO THE "ROADSIDE - LATEST ADOPTED VERSION, DESIGN GUIDE".
- DESIGNATIONS PROVIDED IN BRACKETS [] REFERENCE "A GUIDE TO STANDARDIZED STANDARD ELEMENTS DETAILED IN LATEST ADOPTED VERSION, HIGHWAY BARRIER HARDWARE" AASHTO-AGC-ARBA JOINT COOPERATIVE COMMITTEE.
- THE RECTANGULAR PLATE WASHER [FWR03] IS USED ONLY FOR 37'-8" OF STANDARD SECTION UPSTREAM OF A TERMINAL UNIT TYPE C-2 (SEE STANDARD NO. GR-10).
- USE 12'-6" LENGTH RAIL ELEMENT IN CURVES OF LESS THAN 300' RAIL RADIUS.
- WHEN GUARDRAIL IS INSTALLED BEHIND CURB, EITHER 6'-0" BEHIND SLOPE CURB ON A CURBED RAMP OR AT THE BACK OF SIDEWALK WITH BARRIER CURB, THE RAIL HEIGHT SHALL BE SET FROM THE GRADE AT THE FACE OF RAIL.
- POSTS SHORTER THAN THE 7'-0" INDICATED ON THE DETAIL, BUT NOT LESS THAN 6'-0", MAY ONLY BE USED WHEN:
 - THE SLOPE BEHIND THE GUARDRAIL IS NO STEEPER THAN 4:1
 - WHERE THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK OF THE SLOPE IS A MINIMUM OF 2'-0"
 - AND THEN ONLY AS APPROVED OR SPECIFICALLY SHOWN ON THE PLANS.
- TO INSTALL THE 7'-0" POSTS IN ROCK FILL AREAS AND IN AREAS OF OTHER DIFFICULT SITE CONDITIONS, METHODS SUCH AS AUGURING, EXCAVATING, AND OTHER MORE UNUSUAL METHODS MAY BE REQUIRED FOR INSTALLING POSTS. THOSE CONDITIONS AND THE REQUIREMENT FOR UNUSUAL METHODS OF POST INSTALLATION ARE NOT CONSIDERED JUSTIFICATION FOR REDUCING THE EMBEDMENT DEPTH OF THE POSTS AND WILL NOT BE APPROVED AS SUCH.
- THE FHWA ADMINISTRATION HAS APPROVED THE USE OF OFFSET BLOCKS WITH DIMENSIONS THAT VARY MORE THAN WOULD BE CONSIDERED WITHIN THE NORMAL CONTEXT OF NOMINAL DIMENSIONS. IN ORDER TO PROPOSE THE USE OF ANY OFFSET BLOCKS THAT HAVE OTHER THAN THE NOMINAL DIMENSIONS SHOWN ON THE DETAILS, THE FOLLOWING CRITERIA APPLIES:
 - THE OFFSET BLOCKS BE SHOWN TO BE APPROVED BY THE FHWA ADMINISTRATION AS MEETING THE TL-3 CRITERIA AS DESCRIBED IN THE NCRRP 350 TESTING.
 - THE FACE OF RAIL MUST REMAIN AT THE EDGE OF PAVEMENT OR AT THE INDICATED OFFSET, PER THE DESIGN PLANS, AND
 - THERE MUST NOT BE A DECREASE IN THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK IN THE SLOPE AS SHOWN ON THE DESIGN PLANS. AN INCREASE IN THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK IN THE SLOPE IS ACCEPTABLE.
- ALL OTHER REQUIREMENTS OF THE PERTINENT SPECIFICATIONS AND DETAILS REMAIN IN FORCE.

REFERENCE NOTE

- DETAILS FOR GUARDRAIL SHOWN ON THIS PAGE EXCERPTED FROM AND SPECIFIED TO MATCH NHDOT STANDARD PLANS, STANDARD NO. GR-2 AND GR-10; BEAM GUARDRAIL STANDARD SECTION - STEEL POST & HARDWARE DETAILS.

GUARDRAIL DETAILS
 TAX MAP 243, LOT 39
 ROCHESTER HILL ROAD &
 HEALTHCARE DRIVE
 ROCHESTER, NH

PREPARED FOR:
EASTER SEALS NH, INC.
 NOVEMBER 2021

FILE NO. 102
 PLAN NO. C-3154
 DWC. NO. 19249 SP-1
 P.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

LAND SURVEYORS

CIVIL ENGINEERS

LEGEND

- PROPERTY LINE
- EXISTING LIGHT POLES
- PROPOSED BUILDING
- PROPOSED PAVEMENT
- PROPOSED PAVEMENT WITH CURBING
- PROPOSED LIGHT POLES
- PROPOSED BUILDING LIGHT FIXTURES
- PROPOSED LIGHT FOOTCANDLE
- PROPOSED LIGHT ISOLLLUMINATION LINES

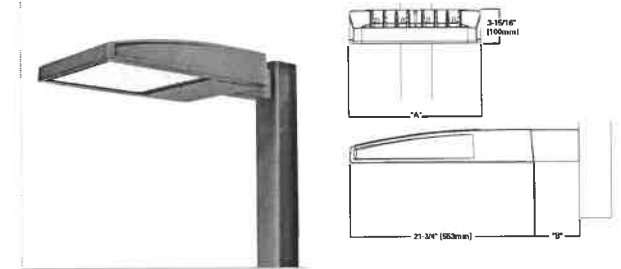
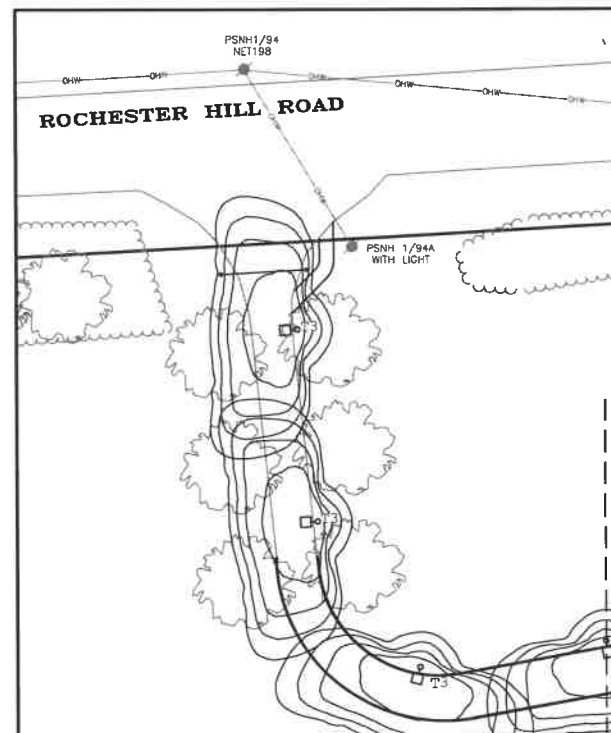
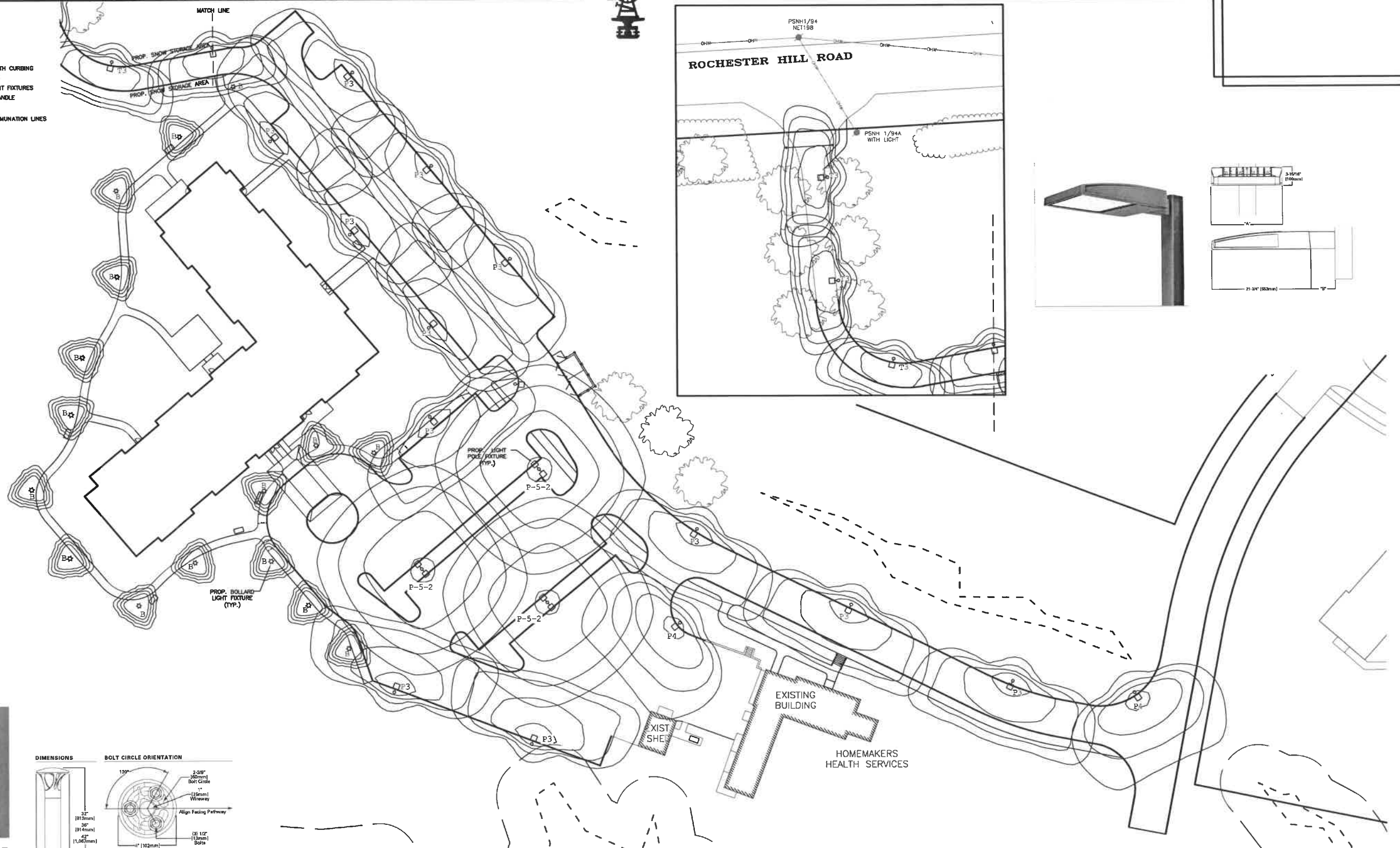
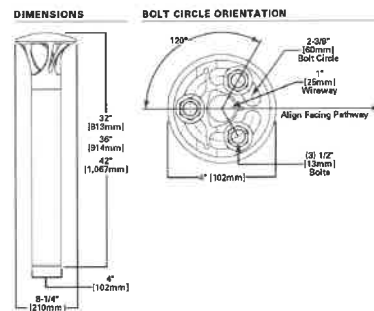


ABB ARBOR BOLLARD

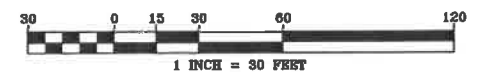
PATHWAY LUMINAIRE



Luminaire Schedule					
Symbol	Qty	Label	Arrangement	Description	
1	1	P1	SINGLE	ARB-B2-LED-42-DL-S	Lum. Watts 32 Total Watts 672
2	1	P2	SINGLE	GLEON-SA1B-740-U-SL3/ SSS4A20SFN1 (20' AFG)	44 748
3	4	P3	SINGLE	GLEON-SA1B-740-U-SL4/ SSS4A20SFN1 (20' AFG)	44 352
4	4	P4	BACK-TO-BACK	GLEON-SA1B-740-U-SWG/ SSS4A20SFN2 (20' AFG)	44 352
5	4	P5	SINGLE	GLEON-SA1A-740-U-SL3/ SSS4A12SFN1 (12' AFG)	34 136

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

LIGHTING PLAN AND DETAILS
TAX MAP 243, LOT 39
215 ROCHESTER HILL RD
ROCHESTER, NH
 PREPARED FOR:
EASTER SEALS NH, INC.
 NOVEMBER 2021



1 INCH = 30 FEET

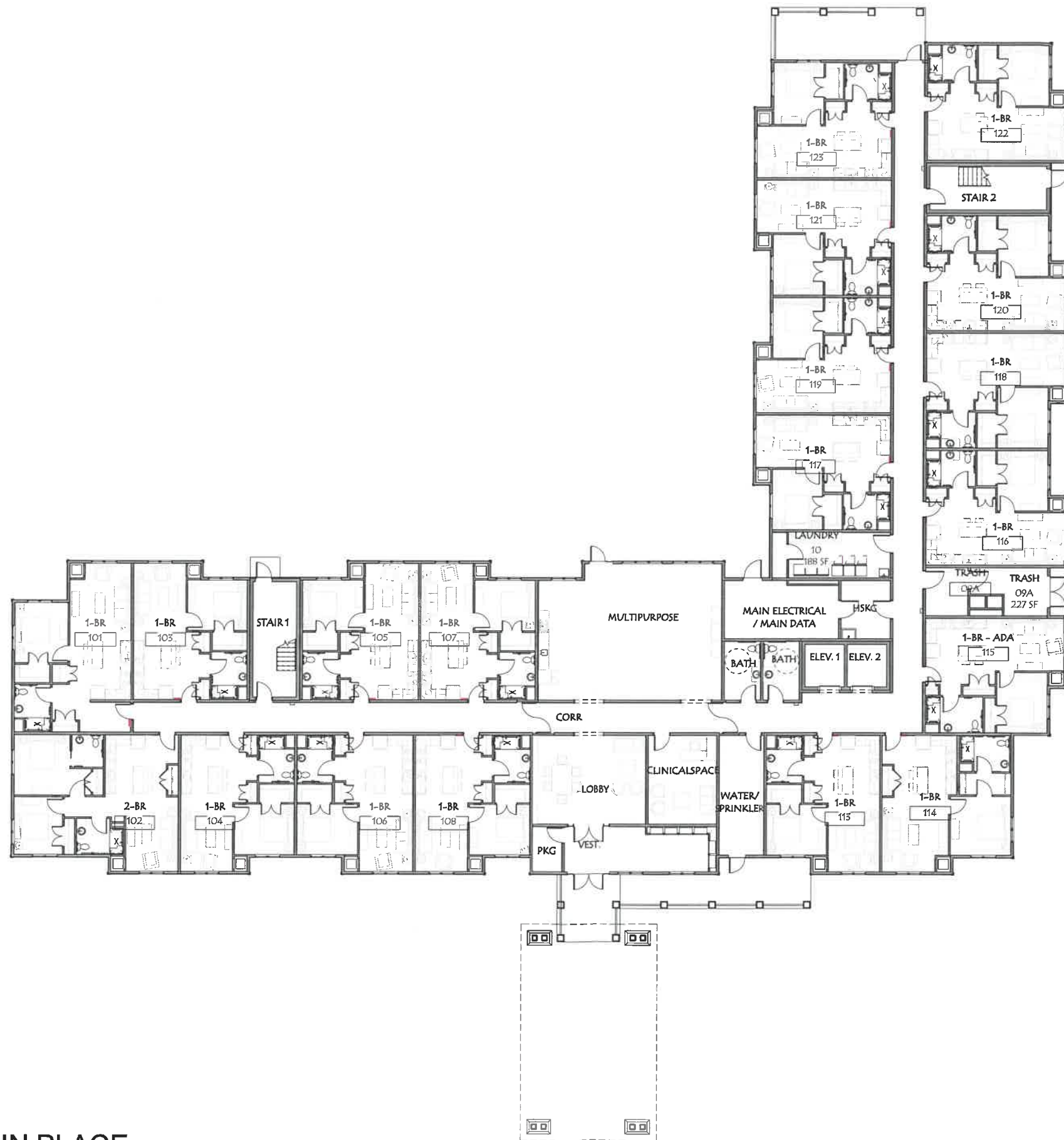
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FILE NO. 102
 PLAN NO. C-3154
 DWG. NO. 19249 SP-1
 F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

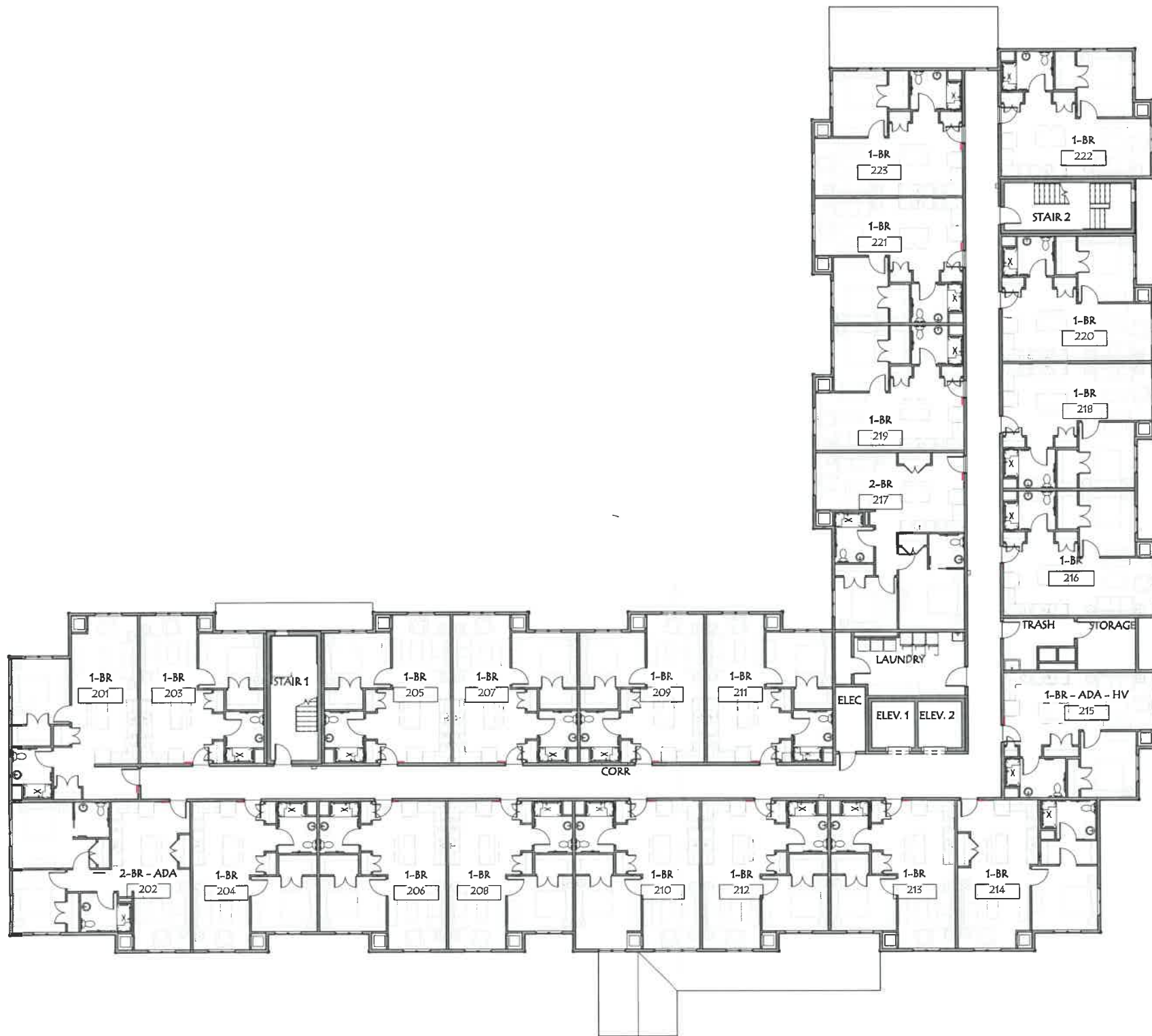


PROJECT 2021006
NO.

EASTERSEALS - CHAMPLIN PLACE

LEVEL 1

11/12/2021



PROJECT 2021006
NO.

EASTERSEALS - CHAMPLIN PLACE

LEVEL 2

11/12/2021



PROJECT 2021006
NO.

EASTERSEALS - CHAMPLIN PLACE

LEVEL 3

11/12/2021

**EASTERSEALS - CHAMPLIN
PLACE**
215 ROCHESTER HILL ROAD, ROCHESTER NH 03867

**NOT FOR
CONSTRUCTION**

Revisions:	Date

Scale:	3/32" = 1'-0"
Drawn By:	Author
Checked By:	Checker
Project No.:	2021006
DESIGN DEVELOPMENT	Date: 11/12/2021

Title:
ELEVATION

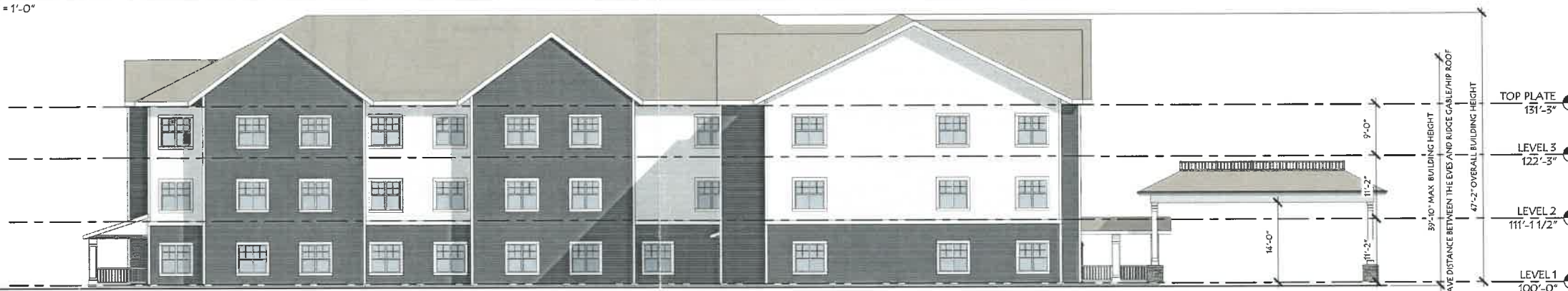
PRES-4

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1 SOUTHERN ELEVATION
SCALE: 3/32" = 1'-0"



2 WESTERN ELEVATION
SCALE: 3/32" = 1'-0"



3 NORTHERN ELEVATION (ROCHESTER HILL ROAD)
SCALE: 3/32" = 1'-0"



4 EASTERN ELEVATION
SCALE: 3/32" = 1'-0"

