



# PROPOSED MANUFACTURING FACILITY

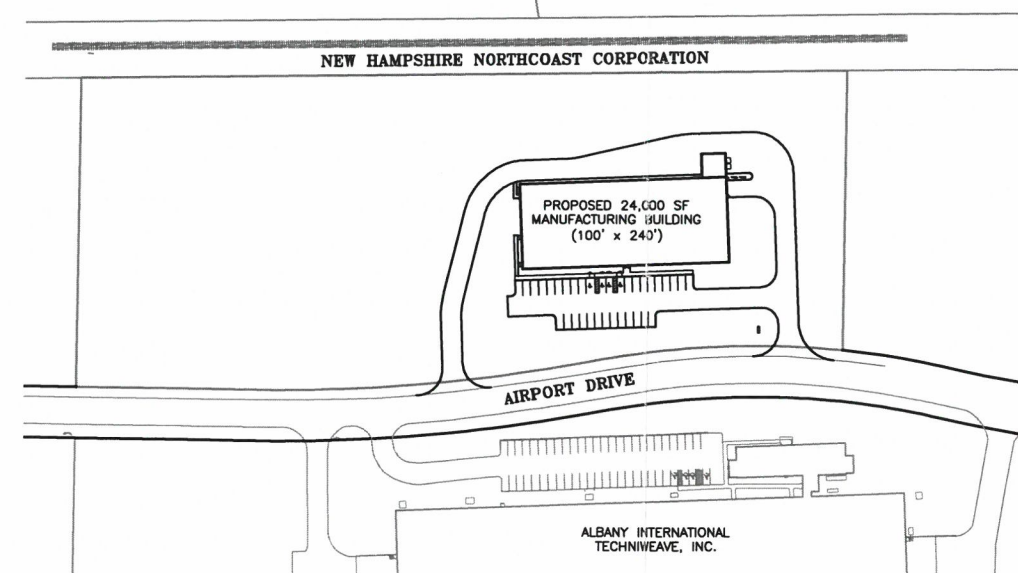
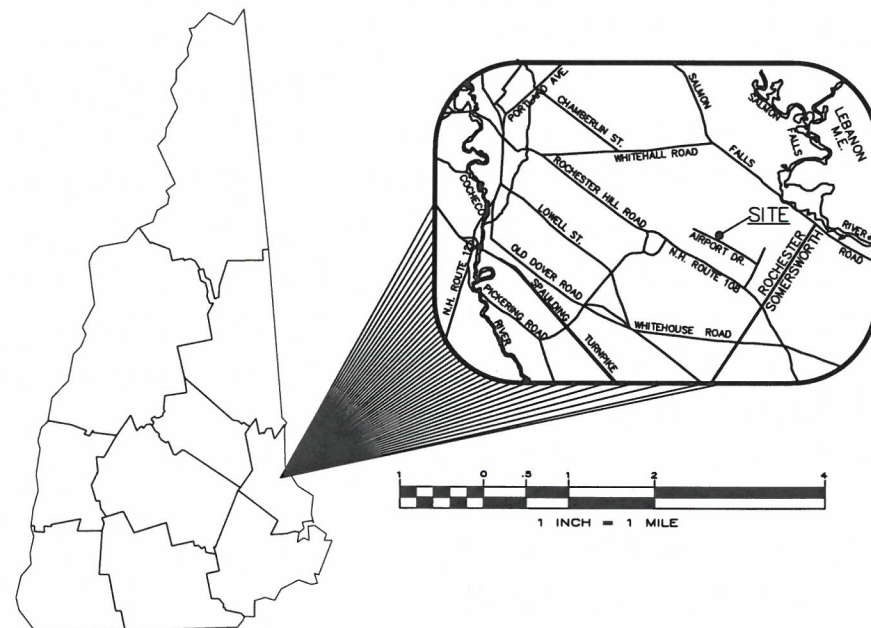
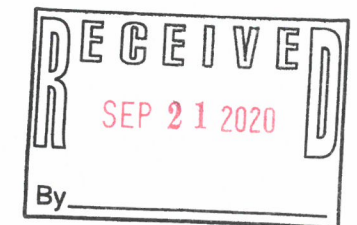
FOR

LDI SOLUTIONS, LLC

145 AIRPORT DRIVE

ROCHESTER, N.H. 03867

AUGUST 2020



OVERALL SITE

1" = 100'



CIVIL ENGINEERS

NORWAY PLAINS ASSOCIATES, INC.  
2 CONTINENTAL BOULEVARD  
ROCHESTER, NEW HAMPSHIRE 03867  
(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.

OWNER OF RECORD

LDI SOLUTIONS, LLC  
3560 LAFAYETTE ROAD  
PORTSMOUTH, NEW HAMPSHIRE 03801  
(603) 436-0077

LANDSCAPING ARCHITECTS

WOODBURN & COMPANY LANDSCAPE ARCHITECTURE, LLC  
103 KENT PLACE  
NEWMARKET, NEW HAMPSHIRE 03857  
(603) 659-5949

APPLICANT

LDI SOLUTIONS, LLC  
3560 LAFAYETTE ROAD  
PORTSMOUTH, NEW HAMPSHIRE 03801  
(603) 436-0077

STATE AND FEDERAL PERMITS:  
STATE OF NEW HAMPSHIRE PERMIT NUMBERS:

NHDES ALTERATION OF TERRAIN:	NOT 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:	02015-1002
NHDOT DRIVEWAY/ENTRANCE PERMIT:	NOT 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: *Shanika Saunders* DATE: 10/5/20

## SHEET INDEX

SHEET	COVER	SCALE
E-1	EXISTING FEATURES PLAN	1" = 40'
C-1	OVERALL SITE PLAN	1" = 60'
C-2	SITE LAYOUT PLAN	1" = 40'
C-3	GRADING AND DRAINAGE PLAN	1" = 40'
C-4	UTILITY PLAN	1" = 40'
C-5	EROSION AND SEDIMENTATION CONTROL PLAN	1" = 40'
C-6	CONSTRUCTION DETAILS	AS SHOWN
C-7	DRAINAGE DETAILS	AS SHOWN
C-8	GRAVEL WETLANDS BASIN DETAILS	AS SHOWN
C-9	TEMPORARY EROSION AND SEDIMENTATION CONTROL DETAILS	AS SHOWN
C-10	PERMANENT EROSION AND SEDIMENTATION CONTROL DETAILS	AS SHOWN
C-11	UTILITY DETAILS	AS SHOWN
C-12	SEWER DETAILS	AS SHOWN
L-1	LANDSCAPING PLAN AND DETAILS	1" = 40'
L-2	LIGHTING PLAN AND DETAILS	1" = 40'

FILE NO. 104  
PLAN NO. C-3013  
DWG NO. 20125\SP-1  
F.B. NO. SDR-TJR



## LEGEND

- PROPERTY LINE  
 --- LIMITS OF JURISDICTIONAL WETLANDS  
 --- EXISTING TREE LINE  
 --- EXISTING RAILROAD TRACKS  
 --- EXISTING CONTOUR LINE  
 --- EXISTING DRAIN LINE  
 --- EXISTING OVERHEAD WIRES  
 --- EXISTING UNDERGROUND ELECTRIC WIRES  
 --- EXISTING UNDERGROUND UTILITY WIRES  
 --- EXISTING WATER LINE  
 --- EXISTING SEWER LINE  
 --- EXISTING SEWER FORCE MAIN  
 --- EXISTING GAS PIPE  
 --- EXISTING UTILITY POLE  
 --- EXISTING CATCH BASIN  
 --- EXISTING SEWER MANHOLE  
 --- EXISTING MONUMENT  
 --- EXISTING HYDRANT  
 --- EXISTING WATER GATE OR SHUT-OFF VALVE  
 --- EXISTING LIGHT POLE  
 --- EXISTING TEST PIT LOCATION & NUMBER  
 --- EXISTING BORING OR LEDGE TESTPIT LOCATION  
 --- EXISTING WETLANDS

TEST PIT DATA  
 Test pits were dug, observed and recorded on 26 August and September 4, 2015 by David J. Allan (CS # 13 and CWS # 16).

TP 1 8/26/15  
 0-3" 10yr3/3 sandy loam, granular, friable  
 3-6" 10yr5/6 sandy loam, granular, friable  
 36-60" 7.5yr 6/2 sandy loam, blocky, firm, redox features  
 60" Ledge refusal  
 Notes: SHWT 36" NRCS Woodbridge Series

TP 2 8/26/15  
 0-4" 10yr3/3 sandy loam, granular, friable  
 4-26" 10yr5/6 sandy loam, granular, friable  
 26-35" 10yr6/2 sandy loam, massive, friable  
 35-72" 10yr6/2 sandy loam, platy, firm, redox features  
 Notes: SHWT 36" NRCS Woodbridge Series

TP 3 8/26/15  
 0-4" 10yr3/3 sandy loam, granular, friable  
 4-24" 7.5yr 6/2 sandy loam, granular, friable  
 24-48" 10yr4/2 sandy loam, blocky, firm, redox features  
 48-60" variable ledge depths  
 Notes: SHWT 36" NRCS Woodbridge Series

TP 4 8/26/15  
 0-3" 10yr3/3 sandy loam, granular, friable  
 3-25" 10yr5/6 sandy loam, granular, friable  
 25-30" 10yr5/6 sandy loam, massive, firm, roots to depth  
 30-72" 10yr6/2 sandy loam, firm, blocky, redox  
 Notes: SHWT 25" NRCS Woodbridge Series

TP 5 8/26/15  
 0-6" 10yr3/3 sandy loam, granular, friable  
 6-36" 10yr5/6 sandy loam, granular, friable  
 36-60" 10yr6/2 sandy loam, blocky, firm, redox features  
 Notes: SHWT 36" NRCS Woodbridge Series

TP 6 8/26/15  
 0-4" 10yr3/3 sandy loam, granular, friable  
 4-38" 10yr5/6 sandy loam, granular, friable  
 38-72" 10yr6/2 sandy loam, blocky, firm, redox features  
 72" Ledge  
 Notes: SHWT 28" NRCS Woodbridge Series with ledge at 36"

TP 7 8/26/15  
 0-4" 10yr3/3 sandy loam, granular, friable  
 4-30" 10yr5/6 sandy loam, granular, friable  
 30-68" 10yr6/2 sandy loam, blocky, firm, redox features  
 Notes: SHWT 30" NRCS Woodbridge Series

TP 8 8/26/15  
 0-4" 10yr3/3 sandy loam, granular, friable  
 4-36" 10yr5/6 sandy loam, granular, friable  
 36-72" 10yr6/2 sandy loam, blocky, firm, redox features  
 Notes: SHWT 30" NRCS Woodbridge Series

TP 9 8/26/15  
 0-3" 10yr3/3 sandy loam, granular, friable  
 3-25" 10yr5/6 sandy loam, granular, friable  
 25-108" 10yr6/2 sandy loam, blocky, firm, redox features  
 Notes: SHWT 25" NRCS Woodbridge Series

TP 10 9/4/15  
 0-3" 10yr3/3 sandy loam, granular, friable  
 3-25" 10yr5/6 sandy loam, granular, friable  
 25-108" 10yr6/2 sandy loam, blocky, firm, redox features  
 Notes: SHWT 25" NRCS Woodbridge Series

TP 11 9/4/15  
 0-3" 10yr3/3 sandy loam, granular, friable  
 3-38" 10yr5/6 sandy loam, granular, friable  
 38-72" 10yr6/2 sandy loam, blocky, firm, redox features  
 Notes: SHWT 28" NRCS Woodbridge Series

DRAINAGE STRUCTURES  
 EXIST. CB #1  
 RIM = 287.5'  
 INV. OUT = 284.3'

EXIST. CB #2  
 RIM = 286.9'  
 INV. IN = 283.5'  
 INV. OUT = 283.3'

EXIST. CB #3  
 RIM = 286.7'  
 INV. IN = 282.6'  
 INV. OUT = 280.4'

EXIST. CB #4  
 RIM = 284.9'  
 INV. IN = 280.6'  
 INV. OUT = 280.4'

EXIST. CB #5  
 RIM = 286.6'  
 INV. IN = 281.8'  
 INV. OUT = 280.7'

EXIST. SMH #1  
 RIM = 290.1'  
 INV. IN = 253.9'(W)  
 INV. IN = 255.2'(S)

EXIST. SMH #2  
 RIM = 288.8'  
 INV. OUT = 281.5'

EXIST. SMH #3  
 RIM = 287.7'  
 INV. OUT = 280.4'

EXIST. SMH #4  
 RIM = 287.4'  
 INV. IN = 277.4'  
 INV. OUT = 276.6'

EXIST. SMH #5  
 RIM = 283.8'  
 INV. IN = 256.3'

EXIST. SMH #6  
 RIM = 285.9'  
 INV. IN = 256.3'

EXIST. SMH #7  
 RIM = 261.7'  
 INV. IN = 255.2'  
 INV. OUT = 255.1'

TAX MAP 241 - LOT 21  
 LINDA SARGENT AND  
 MARTHA J. FOWLER  
 671 SALMON FALLS ROAD  
 ROCHESTER, NH 03867  
 (BOOK 2003 - PAGE 684)

TAX MAP 239 - LOT 26  
 NH NORTHCOAST CORP  
 PO BOX 429  
 OSSIPPEE, NH 03864  
 (BOOK 1706 - PAGE 532)

## NEW HAMPSHIRE NORTHCOAST CORPORATION

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.

REVISIONS:  
 06/17/20 - ADD AIRPORT DRIVE LIGHT POLES

TAX MAP 242 - LOT 5  
 CITY OF ROCHESTER  
 31 WAKEFIELD STREET  
 ROCHESTER, NH 03866  
 (BOOK 3963 - PAGE 25)

- GENERAL SITE PLAN NOTES
- THIS PARCEL IS LOCATED IN THE GRANITE STATE BUSINESS PARK AND IN THE INDUSTRIAL (IND) ZONE.
  - TOTAL PARCEL AREA:  
 MAP 243 - LOT 34: 315,374 SQUARE FEET OR 7.24 ACRES.
  - THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING FEATURES ON THE LOT PRIOR TO THE STRIPPING OF TOP SOIL.
  - ALL EXISTING UTILITIES LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATION PRIOR TO ANY WORK BEING PERFORMED.
  - THESE PLANS SHOW ONLY THOSE FEATURES THAT WERE VISIBLE APPARENT ON THE DATE OF THE SURVEY (08-04-15 TO 08-06-15). THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THESE PLANS, BUT IN EXISTENCE, IS NOT INTENDED OR IMPLIED.
  - DIMENSIONAL REGULATIONS PER ZONING ORDINANCE:  
 GENERAL INDUSTRIAL (G) ZONE:  
 MINIMUM LOT SIZE (WITH WATER AND SEWER) = 20,000 SF  
 MINIMUM LOT FRONTAGE = 100 FEET  
 MINIMUM YARD SETBACKS:  
 FRONT = 25'  
 SIDE = 20'  
 REAR = 25'  
 MAXIMUM LOT COVERAGE = 75%  
 MAXIMUM BUILDING HEIGHT = 35'
  - ORIENTATION: HORIZONTAL AND VERTICAL DATUMS - CITY OF ROCHESTER GIS.
  - SOIL TYPES ARE PER SITE SPECIFIC SOIL SURVEY REPORT BY ROUND POND SOIL SURVEY DATED AUGUST 26, 2015.
  - WOODBRIDGE SERIES SOILS:  
 656 - RIDGEBURY SERIES SOILS.
  - JURISDICTIONAL WETLANDS WERE DELINEATED BY B.H. KEITH ASSOCIATES ON JULY 31, 2015.
  - PARCEL IS NOT LOCATED WITHIN ZONE A (100YR FLOOD) AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAP, COMMUNITY #33017C02160.
  - FOR MORE INFORMATION ABOUT THIS SITE PLAN, CONTACT THE CITY OF PLANNING DEPARTMENT, 33 WAKEFIELD ST., ROCHESTER, NH 03867, (603) 335-1338.
  - THIS PARCEL IS SUBJECT TO A 15 FOOT UTILITY EASEMENT ALONG THE FRONTAGE AND A 30 FOOT UTILITY EASEMENT ALONG THE REAR PROPERTY LINES. IT IS ALSO SUBJECT TO A 15 FOOT UTILITY EASEMENT ALONG THE EASTERN PROPERTY LINE, AS DEPICTED.

## JURISDICTIONAL WETLANDS MAPPING NOTES:

- STATE AND FEDERAL JURISDICTIONAL WETLANDS WERE DELINEATED BY N.H. CERTIFIED WETLAND SCIENTIST, BARRY H. KEITH, ON JULY 31, 2015 AND LOCATED BY NORWAY PLAINS ASSOCIATES, INC. IN AUGUST 2015. WETLAND DELINEATION AND CLASSIFICATIONS WERE CONDUCTED USING METHODS AND IN ACCORDANCE WITH THE FOLLOWING GUIDANCE DOCUMENTS:  
 A. N.H. CODE OF ADMINISTRATIVE RULES (ENR-WT 301.01) WITH THE TECHNIQUES OUTLINED IN THE 1987 "U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y-87-1."  
 B. U.S. ARMY CORPS OF ENGINEERS, 2008, "REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, NORTH CENTRAL AND NORTHEAST REGION, U.S. ARMY CORPS OF ENGINEERS RESEARCH AND DEVELOPMENT CENTER, ENVIRONMENTAL LABORATORY EROD/EL TR-09-18."  
 C. U.S. ARMY CORPS OF ENGINEERS, 2012, "NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST REGION, U.S. ARMY CORPS OF ENGINEERS RESEARCH AND DEVELOPMENT CENTER, ENVIRONMENTAL LABORATORY."  
 D. N.H. CODE OF ADMINISTRATIVE RULES (ENR-WT 301.02) WITH THE U.S. FISH AND WILDLIFE SERVICE MANUAL FWS/OBS-78/31 ENTITLED "CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES," COWARD ET AL., 1979.  
 E. NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE, 2004, 3RD ED., "FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND," NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.  
 F. U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, 2010, "FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0," L.M. VASILAS, G.W. HURT, AND C.V. NOBLE (EDS.), USDA, NRCS, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.
- WETLANDS CLASSIFICATIONS FOUND ON SITE ARE AS FOLLOWS:  
 PEM/SSIE - PALUSTRINE PERSISTENT EMERGENT AND SCRUB-SHURB BROADLEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED; POORLY DRAINED  
 PF01E - PALUSTRINE FORESTED BROADLEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED; POORLY DRAINED  
 R3UBH - RIVERINE UPPER PERENNIAL UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED.

TAX MAP 243, LOT 34  
 OWNER OF RECORD:  
 LDI SOLUTIONS, LLC  
 3560 LAFAYETTE ROAD  
 PORTSMOUTH, NH 03801  
 BOOK 4788 PAGE 885

EXISTING FEATURES PLAN  
 TAX MAP 243, LOT 34  
 145 AIRPORT DRIVE  
 ROCHESTER, NH

PREPARED FOR:  
 LDI SOLUTIONS, LLC  
 SCALE: 1" = 40' AUGUST 2020

GRAPHIC SCALE  
 40 0 20 40 80 160  
 (IN FEET)  
 1 INCH = 40 FT.

FILE NO. 104  
 PLAN NO. C-3013  
 DWG NO. 20125/SP-1  
 F.B. NO. SDR-TJR

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

NORWAY PLAINS ASSOCIATES, INC.

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



LEGEND

- PROPERTY LINE
- JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- PROPOSED BUILDING
- PROPOSED PAVEMENT

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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.



12/28/19 - REVISE GENERAL SITE PLAN NOTE #22.  
08/15/20 - REVISE PLAN TO REMOVE FUTURE PHASES AND DRIVEWAY LOCATION.

TAX MAP 241 - LOT 21  
LINDA SARGENT AND MARTHA J. FOWLER  
871 SALMON FALLS ROAD  
ROCHESTER, NH 03867  
(BOOK 2003 - PAGE 684)

TAX MAP 242 - LOT 5  
CITY OF ROCHESTER  
31 WAKEFIELD STREET  
ROCHESTER, NH 03866  
(BOOK 3963 - PAGE 29)

NEW HAMPSHIRE NORTHCOAST CORPORATION

TAX MAP 238 - LOT 26  
NH NORTHCOAST CORP  
PO BOX 429  
OSSISPEE, NH 03864  
(BOOK 1706 - PAGE 532)

TAX MAP 243 - LOT 33  
CITY OF ROCHESTER  
31 WAKEFIELD STREET  
ROCHESTER, NH 03866  
(BOOK 3963 - PAGE 25)

TAX MAP 243 - LOT 24  
ALBANY ENGINEERED  
COMPOSITES, INC.  
PO BOX 1907  
ALBANY, NY 12201  
(BOOK 3782 - PAGE 530)

TAX MAP 243 - LOT 21  
ALBANY INTERNATIONAL  
TECHNIWEAVE, INC.  
PO BOX 1907  
ALBANY, NY 12201  
(BOOK 3489 - PAGE 527)

TAX MAP 243 - LOT 36  
SPECTEX REALTY LLC  
1 PROGRESS DRIVE  
DOVER, NH 03820  
(BOOK 3440 - PAGE 690)

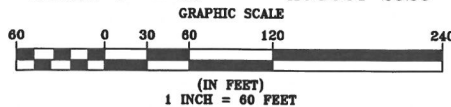
CITY OF ROCHESTER  
MIS COORDINATES  
N 286580.77  
E 1182257.13

- GENERAL SITE PLAN NOTES**
- THIS PARCEL IS LOCATED IN THE GRANITE STATE BUSINESS PARK AND IN THE INDUSTRIAL (IND) ZONE.
  - TOTAL PARCEL AREA:  
MAP 243 - LOT 34: 315,374 SQUARE FEET OR 7.24 ACRES.
  - THE PURPOSE OF THIS PLAN IS TO DEPICT A PROPOSED 24,000 SQUARE FOOT MANUFACTURING BUILDING AND ASSOCIATED PARKING AND LOADING AREAS.
  - ALL EXISTING UTILITIES LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATION PRIOR TO ANY WORK BEING PERFORMED.
  - THESE PLANS SHOW ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF THE SURVEY (08-04-15 TO 08-06-15). THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THESE PLANS, BUT IN EXISTENCE, IS NOT INTENDED OR IMPLIED.
  - DIMENSIONAL REGULATIONS PER ZONING ORDINANCE:  
GENERAL INDUSTRIAL (GI) ZONE:  
MINIMUM LOT SIZE (WITH WATER AND SEWER) = 20,000 SF  
MINIMUM LOT FRONTAGE = 100 FEET  
MINIMUM YARD SETBACKS:  
FRONT = 25'  
SIDE = 20'  
REAR = 25'  
MAXIMUM LOT COVERAGE = 75%  
MAXIMUM BUILDING HEIGHT = 35'  
ORIENTATION: HORIZONTAL AND VERTICAL DATUMS - CITY OF ROCHESTER GIS.
  - SOIL TYPES ARE PER SITE SPECIFIC SOIL SURVEY REPORT BY ROUNDTOWN SOIL SURVEY DATED AUGUST 26, 2015.  
29 - WOODBRIDGE SANDY LOAM, 3 TO 8 PERCENT SLOPES.
  - JURISDICTIONAL WETLANDS WERE DELINEATED BY B.H. KOTH ASSOCIATES ON JULY 31, 2015.
  - PARCEL IS NOT LOCATED WITHIN ZONE A (100YR FLOOD) AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAP, COMMUNITY #33017502160.
  - FOR MORE INFORMATION ABOUT THIS SITE PLAN, CONTACT THE CITY OF ROCHESTER PLANNING DEPARTMENT, 33 WAKEFIELD ST., ROCHESTER, NH 03867, (603) 335-1338.
  - THIS PARCEL IS SUBJECT TO A 15 FOOT UTILITY EASEMENT ALONG THE FRONTAGE AND A 30 FOOT UTILITY EASEMENT ALONG THE REAR PROPERTY LINES. IT IS ALSO SUBJECT TO A 15 FOOT UTILITY EASEMENT ALONG THE EASTERN PROPERTY LINE, AS DEPICTED.
  - PARKING REQUIREMENTS (SITE PLAN REGULATIONS SECTION 10(A))**  
INDUSTRIAL USE:  
3 SPACES PER 1,000 GROSS SQUARE FEET PLUS  
3 SPACES PER 1,000 GROSS SQUARE FEET OF OFFICES OR RETAIL SALES:  
19,390 SF GFA X 1 SPACE / 1,000 SF GFA = 19 SPACES  
PLUS:  
4,810 SF OFFICE SPACE X 3 SPACES / 1,000 SF = 14 SPACES  
TOTAL REQUIRED SPACES = 33 SPACES  
TOTAL PROVIDED SPACES = 38 SPACES (WITH PROVISIONS FOR 5 ADDITIONAL SPACES)
  - ACCESSIBLE PARKING (SITE PLAN REGULATIONS SECTION 10(D)(2))**  
THE SPACES ARE PART OF THE TOTAL ABOVE.  
ACCESSIBLE PARKING SPACES = 26 TO 50 = 2 SPACES  
TOTAL PROVIDED SPACES = 38 SPACES (WITH PROVISIONS FOR 5 ADDITIONAL SPACES)
  - 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.
  - 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 50. 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.
  - ACCESS INTO THE SITE FOR FIRE APPARATUS MUST BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROCESS. THIS IS 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.
  - SNOW SHALL NOT BE PILED IN SUCH A MANNER AS TO BLOCK THE VISIBILITY OF THE VEHICLES ON AIRPORT DRIVE AND ALL EXCESS SNOW SHALL BE REMOVED FROM THE SITE.
  - 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.
  - 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 WIRES 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.
  - 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.
  - 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.
  - 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.
  - THE FOLLOWING PERMITS WILL BE REQUIRED BY THE DEPARTMENT OF PUBLIC WORKS PRIOR TO ISSUANCE OF A BUILDING PERMIT OR A CERTIFICATE OF OCCUPANCY. THE ASSOCIATED FEES SHALL BE WAIVED.  
A. STORMWATER PERMIT;  
B. WATER CONNECTION PERMIT;  
C. WASTEWATER CONNECTION PERMIT;  
D. CURB-CUT PERMIT;  
E. SEWER ASSESSMENT & QUESTIONNAIRE.
  - 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.
  - THE CONTRACTOR MUST SUBMIT A FAA FORM 7460-1 A MINIMUM OF 60-DAYS PRIOR TO THE START OF CONSTRUCTION TO ENSURE THAT IT WILL NOT NEGATIVELY IMPACT FLIGHTS IN AND AROUND SKYHAVEN AIRPORT. THE APPLICATION MUST INCLUDE ANY CRANES THAT MIGHT BE USED.

TAX MAP 243, LOT 34  
OWNER OF RECORD:  
CITY OF ROCHESTER  
31 WAKEFIELD STREET  
ROCHESTER, NH 03867  
BOOK 3963, PAGE 25

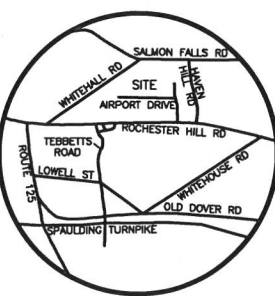
**OVERALL SITE PLAN**  
**TAX MAP 243, LOT 34**  
**145 AIRPORT DRIVE**  
**ROCHESTER, NH**  
PREPARED FOR:  
**LDI SOLUTIONS, LLC**

SCALE: 1" = 60' AUGUST 2020



FINAL APPROVAL BY  
ROCHESTER PLANNING BOARD

CERTIFIED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



FILE NO. 104  
PLAN NO. C-3013  
DWG NO. 20125\SP-1  
P.B. NO. SDR-TJR

LEGEND

PROPERTY LINE	PROPOSED DETECTABLE WARNING PAVERS
JURISDICTIONAL WETLANDS	PROPOSED SIGNS
EXISTING TREE LINE	VERTICAL GRANITE CURB
EXISTING OVERHEAD WIRES	BITUMINOUS CAPE COD BERM CURB
EXISTING HYDRANT	PAVEMENT RADIUS (20')
EXISTING WATER GATE OR SHUT-OFF VALVE	PROPOSED STANDARD PARKING SPACES (9' x 18')
EXISTING UTILITY POLE	PROPOSED VAN ACCESSIBLE PARKING SPACES (11' x 18' WITH 5' x 18' ACCESS ISLE)
EXISTING SEWER MAN HOLE	PROPOSED ACCESSIBLE PARKING SPACES (8' x 18' WITH 5' x 18' ACCESS ISLE)
EXISTING CATCH BASIN	PROPOSED PAVEMENT
EXISTING LIGHT POLES	
PROPOSED BUILDING	
PROPOSED PAVEMENT	
PROPOSED PAVEMENT WITH CURBING	
PROPOSED TREE LINE	
PROPOSED CHAINLINK FENCE	
PROPOSED GUARDRAIL	
PROPOSED BLOCK RETAINING WALL	

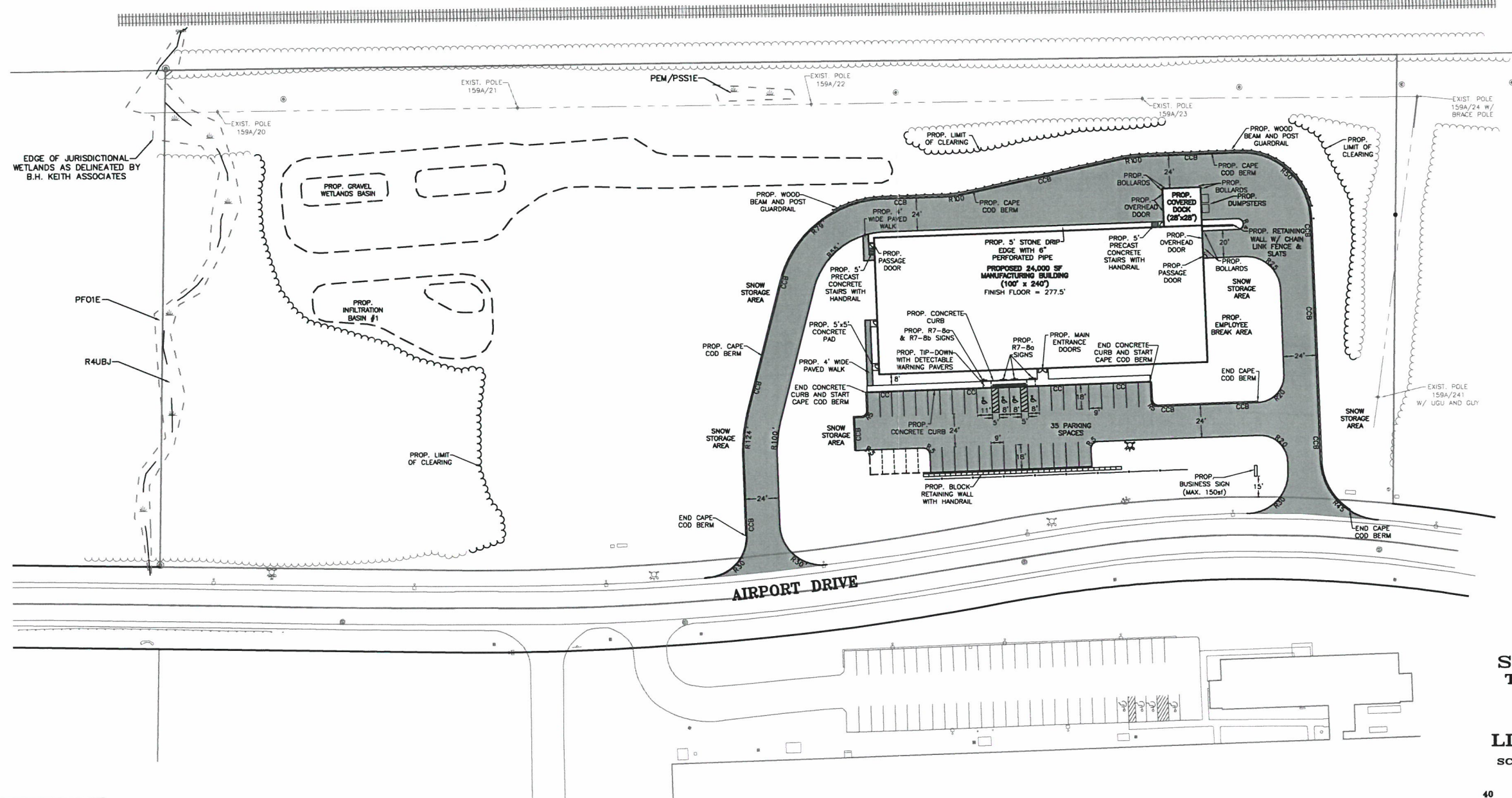


CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN 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.



REVISIONS:  
06/17/20 - REVISE PARKING LOT LAYOUT AND DRIVE ACCESS. REMOVE FUTURE BUILDING PHASE.

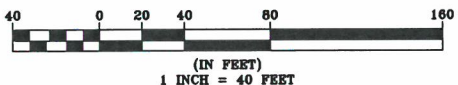
NEW HAMPSHIRE NORTHCOST CORPORATION



- GENERAL CONSTRUCTION NOTES:
1. ALL DETECTABLE WARNING PAVERS SHALL BE CAST IN PLACE ARMOR-TILE TACTILE SYSTEM, YELLOW IN COLOR, OR APPROVED EQUAL.
  2. ALL TIP-DOWNS SHALL HAVE VERTICAL GRANITE CURB (FLUSH) ACROSS THE TRANSITIONS.

**SITE LAYOUT PLAN**  
TAX MAP 243, LOT 34  
145 AIRPORT DRIVE  
ROCHESTER, NH  
PREPARED FOR:  
**LDI SOLUTIONS, LLC**

SCALE: 1" = 40' AUGUST 2020  
GRAPHIC SCALE



FILE NO. 104  
PLAN NO. C-3013  
DWG NO. 20125\SP-1  
F.B. NO. SDR-TJR

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

**NORWAY PLAINS ASSOCIATES, INC.**

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



LEGEND

- PROPERTY LINE
- JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- EXISTING DRAIN LINE
- EXISTING CONTOUR LINE
- EXISTING CATCH BASIN
- EXISTING TEST PIT
- EXISTING SPOT GRADE
- PROPOSED SPOT GRADE
- PROPOSED TREE LINE
- PROPOSED DRAIN LINE
- PROPOSED CONTOUR LINE
- PROPOSED CATCH BASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED FLARED END SECTION (FES)
- CORRUGATED POLYETHYLENE PIPE
- CATCH BASIN
- AREA DRAIN
- TOP OF WALL
- TOP OF CURB
- BASE OF CURB
- PROPOSED OUTLET PROTECTION

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 THIS 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.

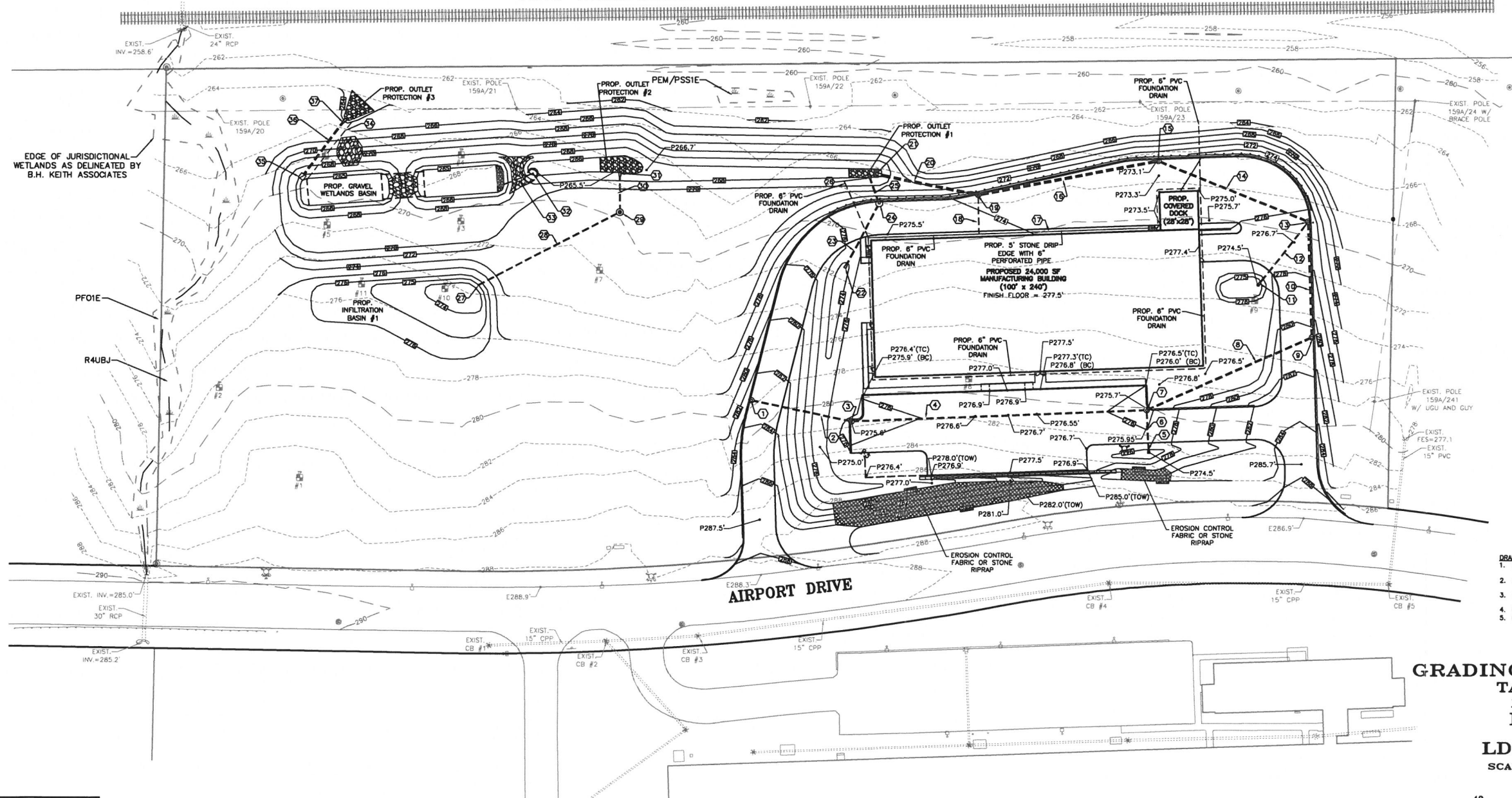


REVISIONS:  
2/27/2020 - UPDATE OUTLET STRUCTURE #3  
06/17/20 - REVISE SITE GRADING, RETAINING WALL, PARKING LOT LAYOUT, DRAINAGE SYSTEM AND DRIVE ACCESS. ADD EROSION CONTROL FABRIC OR RIPRAP SLOPE PROTECTION.

**DRAINAGE STRUCTURES**  
EXIST. CB #1  
RIM = 287.5'  
INV. IN = 284.3'  
INV. OUT = 284.3'  
EXIST. CB #2  
RIM = 286.9'  
INV. IN = 283.5'  
INV. OUT = 283.3'  
EXIST. CB #3  
RIM = 286.7'  
INV. IN = 282.6'  
INV. OUT = 282.4'  
EXIST. CB #4  
RIM = 284.9'  
INV. IN = 280.6'  
INV. OUT = 280.4'  
EXIST. CB #5  
RIM = 286.8'  
INV. IN = 281.8'  
INV. OUT = 280.7'

PROP. FES #1  
INV. = 275.5' (#1)

NEW HAMPSHIRE NORTHCOAST CORPORATION



PROPOSED DRAINAGE STRUCTURES

- |  |   |
|--|---|
| 1. PROP. CB #1<br>RIM = 283.0'<br>INV. IN = 280.0' (#1)<br>SUMP = 277.0'   | 21. PROP. FES #3<br>RIM = 283.5' (#11)<br>INV. = 273.5' (#12)   |
| 2. PROP. CB #2<br>RIM = 275.6'<br>INV. IN = 272.8' (#1)<br>INV. OUT = 272.3' (#2)<br>SUMP = 269.3'                             | 22. PROP. FES #4<br>RIM = 275.2'<br>INV. IN = 272.2' (#12)<br>INV. OUT = 271.0' (#13)*<br>SUMP = 267.0'                           |
| 3. PROP. FES #1<br>INV. = 274.5' (#3)  | 23. PROP. FES #5<br>RIM = 274.5'<br>INV. = 263.5' (#13)   |
| 4. PROP. CB #3<br>RIM = 275.7'<br>INV. IN = 271.2' (#2)<br>INV. IN = 271.5' (#3)<br>INV. OUT = 270.9' (#4)<br>SUMP = 267.8'    | 24. PROP. INFILTRATION BASIN OUTLET #1<br>RIM = 274.5'<br>INV. IN = 271.0' (#14)<br>INV. OUT = 270.9' (#15)<br>SUMP = 267.1'      |
| 5. PROP. CB #4<br>RIM = 280.4'<br>INV. IN = 270.2' (#4)<br>INV. OUT = 270.1' (#5)<br>SUMP = 267.1'                             | 25. PROP. FES #6<br>RIM = 274.5' (#6)<br>INV. = 266.5' (#15)  |
| 6. PROP. FES #2<br>INV. = 274.5' (#6)  | 26. PROP. FOREBAY OUTLET #2<br>RIM = 267.0'<br>INV. OUT = 265.5' (#33)  |
| 7. PROP. CB #5<br>RIM = 276.3'<br>INV. IN = 268.7' (#5)<br>INV. IN = 272.8' (#6)<br>INV. OUT = 269.6' (#7)<br>SUMP = 266.8'    | 27. PROP. GRAVEL WETLANDS OUTLET #3<br>RIM = 268.0'<br>INV. IN = 262.33' (UNDERDRAIN)<br>INV. OUT = 265.0' (#18)<br>SUMP = 261.3' |
| 8. PROP. CB #6<br>RIM = 273.1'<br>INV. IN = 269.0' (#7)<br>INV. OUT = 268.5' (#8)<br>SUMP = 265.5'                             | 28. PROP. FES #7<br>RIM = 273.8'<br>INV. IN = 267.8' (#8)<br>INV. IN = 269.7' (#10)<br>INV. OUT = 267.7' (#11)*<br>SUMP = 263.7'  |
| 9. PROP. CB #7<br>RIM = 273.8'<br>INV. IN = 267.8' (#8)<br>INV. IN = 269.7' (#10)<br>INV. OUT = 267.7' (#11)*<br>SUMP = 263.7' |   |

\* INSTALL OIL & FLOATING DEBRIS TRAP (ELIMINATOR OR APPROVED EQUAL) ON OUTLET PIPE.

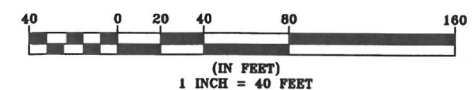
PROPOSED DRAINAGE PIPES

- |   |   |
|---|---|
| 1. PROP. PIPE #1<br>12" CPP<br>L = 72'        | 16. PROP. PIPE #10<br>8" CPP<br>L = 28'   |
| 2. PROP. PIPE #2<br>12" CPP<br>L = 214'       | 17. PROP. PIPE #11<br>24" CPP<br>L = 70'  |
| 3. PROP. PIPE #3<br>12" CPP<br>L = 28'        | 18. PROP. PIPE #12<br>15" CPP<br>L = 48'  |
| 4. PROP. PIPE #4<br>18" CPP<br>L = 130'       | 19. PROP. PIPE #13<br>18" CPP<br>L = 18'  |
| 5. PROP. PIPE #5<br>18" CPP<br>L = 85'        | 20. PROP. PIPE #14<br>12" CPP<br>L = 118' |
| 6. PROP. PIPE #6<br>12" CPP<br>L = 56'        | 21. PROP. PIPE #15<br>12" CPP<br>L = 24'  |
| 7. PROP. PIPE #7<br>18" CPP<br>L = 117'       | 22. PROP. PIPE #16<br>12" CPP<br>L = 24'  |
| 8. PROP. PIPE #8<br>24" CPP<br>L = 132'       | 23. PROP. PIPE #17<br>2" PVC<br>L = 70'   |
| 9. PROP. PIPE #9<br>6" CPP (PERF)<br>L = 212' | 24. PROP. PIPE #18<br>18" CPP<br>L = 70'  |

- DRAINAGE NOTES:**
1. DRAINAGE STRUCTURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEET C-8.
  2. ALL CORRUGATED PLASTIC PIPE (CPP) USED SHALL BE DUAL WALLED HIGH DENSITY POLYETHYLENE.
  3. ALL MATERIALS SHALL BE AS SPECIFIED. ANY CHANGES SHALL BE APPROVED BY THE DESIGN ENGINEER.
  4. PROPOSED ROOF DRAINS SHALL NOT BE TIED INTO PROPOSED FOUNDATION DRAIN.
  5. PROPOSED ROOF DRAINS SHALL HAVE 2" RIGID INSULATION PLACED ON TOP OF THE PIPE WHEN 4 FEET OF COVER CAN NOT BE MAINTAINED.

GRADING AND DRAINAGE PLAN  
TAX MAP 243, LOT 34  
145 AIRPORT DRIVE  
ROCHESTER, NH

PREPARED FOR:  
**LDI SOLUTIONS, LLC**  
SCALE: 1" = 40' AUGUST 2020  
GRAPHIC SCALE



FILE NO. 104  
PLAN NO. C-3013  
DWG NO. 20125/SP-1  
F.B. NO. SDR-TJR

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

NORWAY PLAINS ASSOCIATES, INC.

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

C-3



## LEGEND

---	PROPERTY LINE	-----	PROPOSED DRAIN LINE	
---	JURISDICTIONAL WETLANDS	---	PW	PROPOSED WATER SERVICE
---	EXISTING OVERHEAD WIRES	---	PS	PROPOSED SEWER LINE
---	EXISTING WATER MAIN	---	PG	PROPOSED PROPANE GAS LINE
---	EXISTING GRAVITY SEWER MAIN	---	---	PROPOSED UNDERGROUND UTILITY WIRES
---	EXISTING SEWER FORCE MAIN	---	---	PROPOSED UNDERGROUND ELECTRIC WIRES
---	EXISTING UNDERGROUND ELECTRIC WIRES	---	---	PROPOSED HYDRANT
---	EXISTING UNDERGROUND UTILITY WIRES	---	---	PROPOSED WATER VALVE
---	EXISTING GAS PIPE	---	---	PROPOSED WATER SHUT-OFF VALVE
---	EXISTING DRAIN LINE	---	---	PROPOSED UTILITY POLE
---	EXISTING HYDRANT	---	---	PROPOSED SEWER MANHOLE
---	EXISTING WATER GATE OR SHUT-OFF VALVE	---	---	PROPOSED DRAIN MANHOLE
---	EXISTING UTILITY POLE	---	---	PROPOSED CATCH BASIN
---	EXISTING SEWER MANHOLE	---	T.O.P.	TOP OF PIPE
---	EXISTING CATCH BASIN	---	B.O.P.	BOTTOM OF PIPE
---	EXISTING LIGHT POLES	---	---	---

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps
□	A3	4	Lithonia Lighting	DSX0 LED 400 1000 40K T34 MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINES, TYPE T34 OPTIC, 4000K, @ 1000mA, mounted at 25ft	LED	1
□	A4	2	Lithonia Lighting	DSX0 LED 400 1000 40K T34 MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINES, TYPE T34 OPTIC, 4000K, @ 1000mA, mounted at 25ft	LED	1
□	W2	2	Lithonia Lighting	DSXW1 LED 20C 1000 40K T25 MVOLT	DSXW1 LED WITH (2) 10 LED LIGHT ENGINES, TYPE T25 OPTIC, 4000K, @ 1000mA, mounted at 18ft	LED	1
□	W4	5	Lithonia Lighting	DSXW1 LED 20C 1000 40K T25 MVOLT	DSXW1 LED WITH 2 LIGHT ENGINES, 20 LED's, 1000mA DRIVER, 4000K LED, TYPE FORWARD THROW MEDIUM OPTIC, mounted at 18ft	LED	1

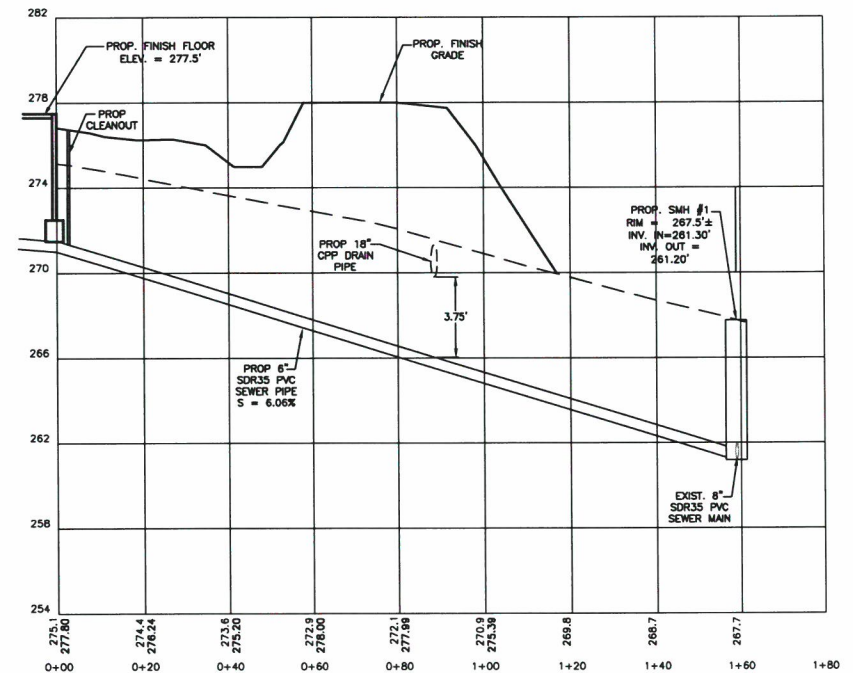
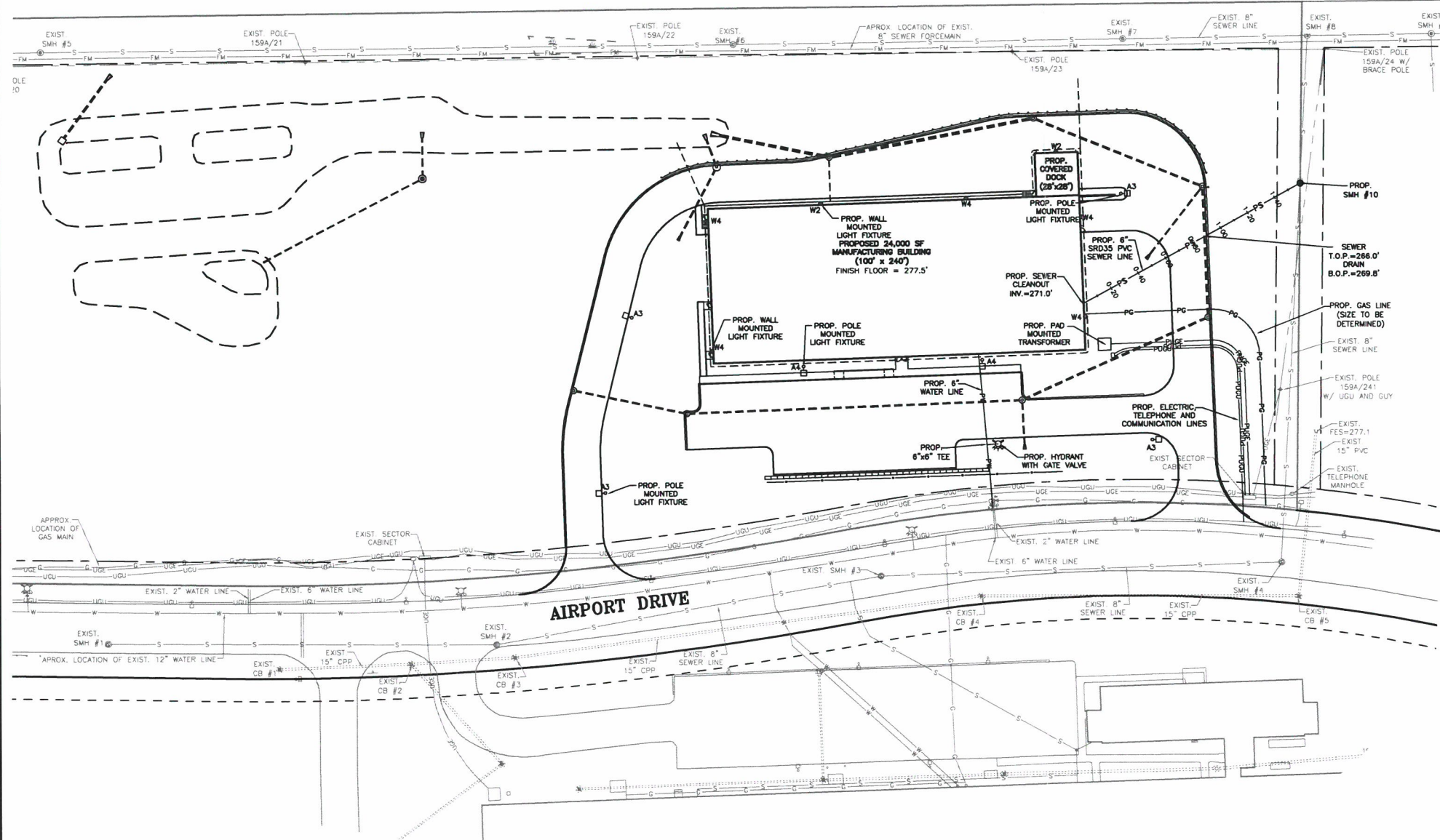


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REVISIONS:  
09/15/15 - REVISE LOCATION OF PROPOSED SMH #10. ADD PROPOSED LIGHTING FIXTURES.  
06/17/20 - REVISE SITE LAYOUT, REMOVE FUTURE BUILDING PHASE AND EXTRA LIGHTING FIXTURES.  
08/21/20 - ADD PROPOSED HYDRANT  
09/02/20 - ADD SEWER PROFILE.

## NEW HAMPSHIRE NORTHCOAST CORPORATION



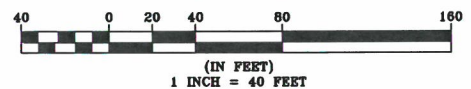
## PROPOSED SEWER PROFILE

SCALE: 1" = 20' (HORZ.)  
1" = 4' (VERT.)

EXISTING SEWER STRUCTURES	PROPOSED SEWER STRUCTURES
EXIST. SMH #1 RM = 290.1'	PROP. SMH #10 RM = 267.8'± INV. IN = 261.3'(S) INV. OUT = 261.2'
EXIST. SMH #2 RM = 288.9'	EXIST. SMH #11 RM = 261.3'(W) INV. IN = 261.2'
EXIST. SMH #3 RM = 287.7'	
EXIST. SMH #4 RM = 287.4'	
EXIST. SMH #5 RM = 285.8'	
EXIST. SMH #6 RM = 282.9'	
EXIST. SMH #7 RM = 281.7'	
EXIST. SMH #8 RM = 281.6'	
EXIST. SMH #9 RM = 259.8'	

UTILITY PLAN  
& SEWER PROFILE  
TAX MAP 243, LOT 34  
145 AIRPORT DRIVE  
ROCHESTER, NH

PREPARED FOR:  
LDI SOLUTIONS, LLC  
SCALE: 1" = 40' AUGUST 2020  
GRAPHIC SCALE



FILE NO. 104  
PLAN NO. C-3013  
DWG NO. 20125\SP-1  
F.B. NO. SDR-TJR

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

NORWAY PLAINS ASSOCIATES, INC.

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

C-4



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 CATCH BASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED FLARED END SECTION (FES)
- PROPOSED TEMPORARY CATCH BASIN FILTERS
- PROPOSED TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED TEMPORARY STONE CHECK DAMS

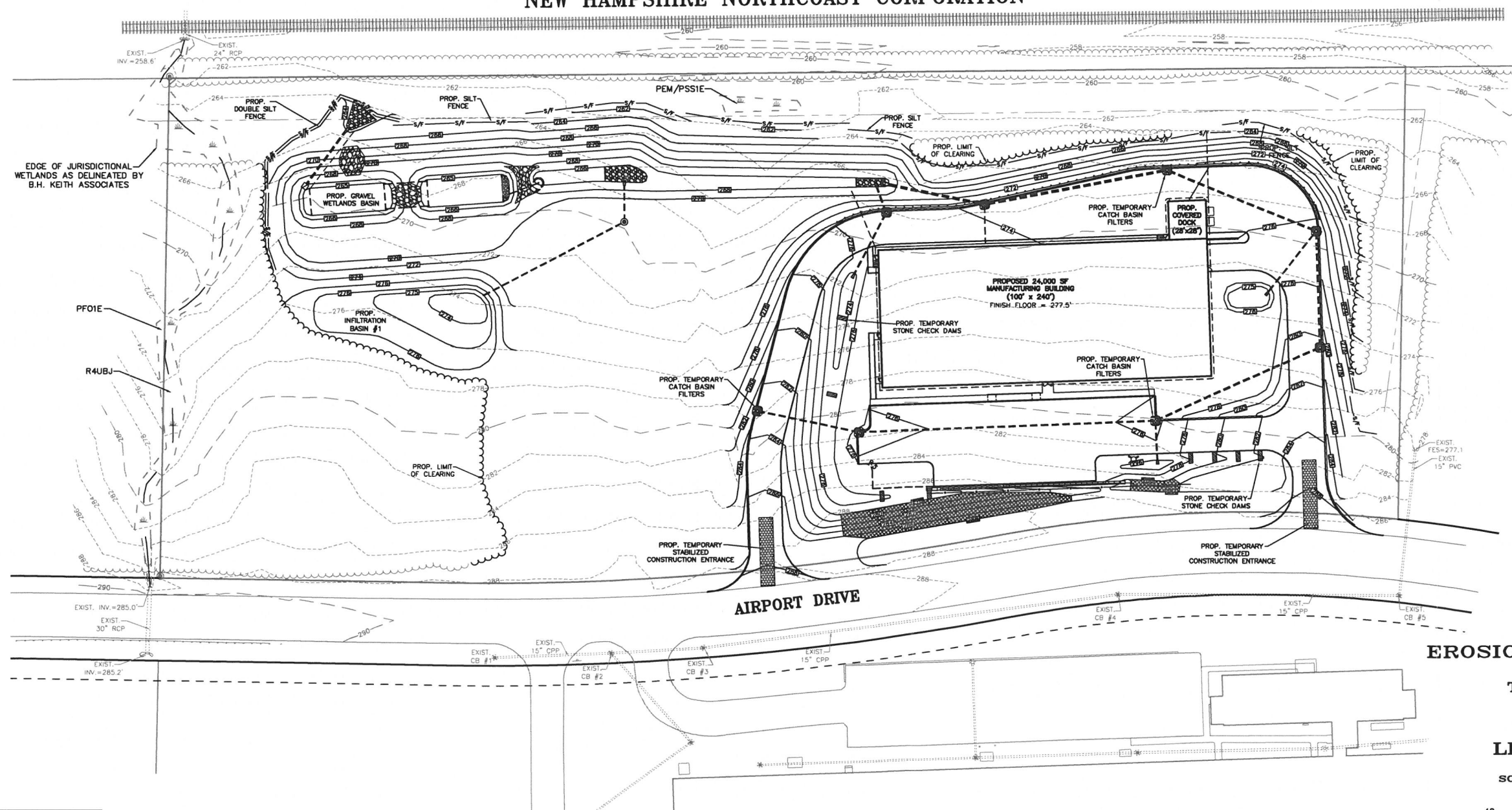


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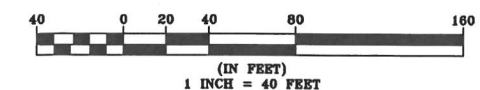
REVISIONS:  
06/17/20 - REVISE SITE GRADING, RETAINING WALL, PARKING LOT LAYOUT, DRAINAGE SYSTEM, EROSION CONTROL MEASURES, AND DRIVE ACCESS.

NEW HAMPSHIRE NORTHCOAST CORPORATION



**EROSION AND SEDIMENTATION  
CONTROL PLAN**  
TAX MAP 243, LOT 34  
145 AIRPORT DRIVE  
ROCHESTER, NH  
PREPARED FOR:  
**LDI SOLUTIONS, LLC**

SCALE: 1" = 40' AUGUST 2020  
GRAPHIC SCALE



FILE NO. 104  
PLAN NO. C-3013  
DWG NO. 20125\SP-1  
F.B. NO. SDR-TJR

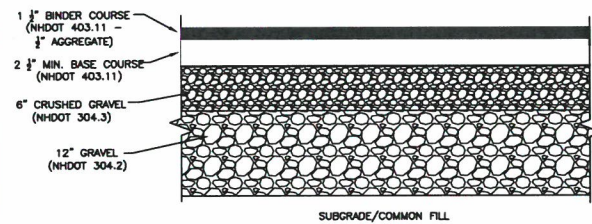
31 Mooney Street, Alton, N.H. 603-875-3948

**NORWAY PLAINS ASSOCIATES, INC.**

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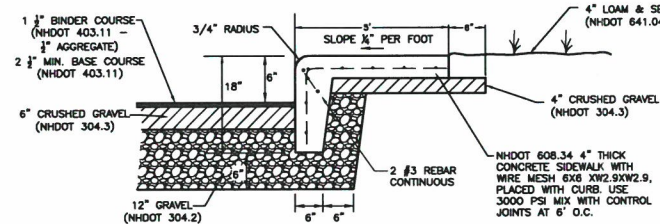
C-5



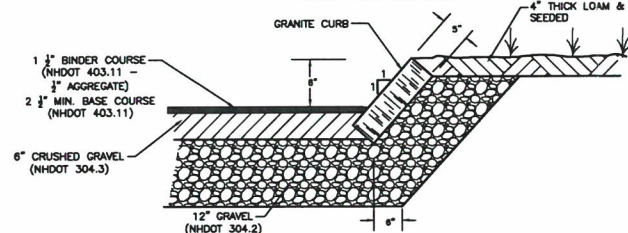
**PARKING LOT CROSS-SECTIONS**

NOT TO SCALE

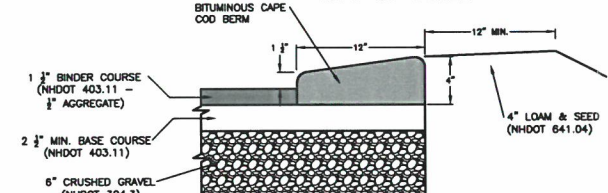
- PAVEMENT NOTES:**
1. PLACE COMMON FILL IN 12 INCH LIFTS, COMPACT COMMON FILL TO 95% MAXIMUM PROCTOR DENSITY.
  2. PLACE GRAVEL IN MAXIMUM 8 INCH LIFTS, COMPACT TO 95% MAXIMUM PROCTOR DENSITY.
  3. PLACE CRUSHED GRAVEL IN MAXIMUM 8 INCH LIFTS, COMPACT TO 95% MAXIMUM PROCTOR DENSITY.
  4. PAVEMENT MUST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

**CONCRETE CURB & SIDEWALK DETAIL**

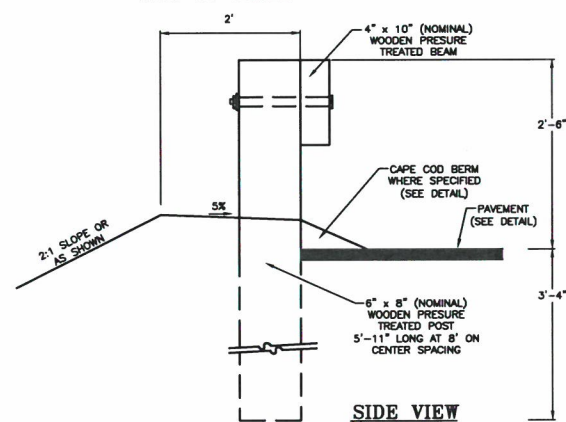
NOT TO SCALE

**GRANITE SLOPE CURB DETAIL**

NOT TO SCALE

**BITUMINOUS CAPE COD BERM DETAIL**

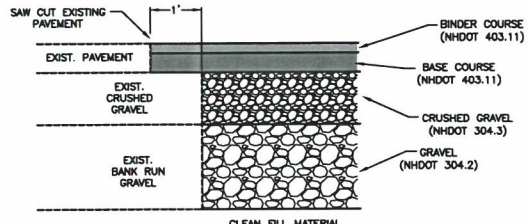
NOT TO SCALE

**CURBING AND GUARD RAIL DETAIL**

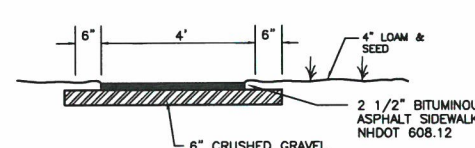
NOT TO SCALE

FILE NO. 104  
PLAN NO. C-3013  
DWG NO. 20125/SP-1  
F.B. NO. SDR-TJR

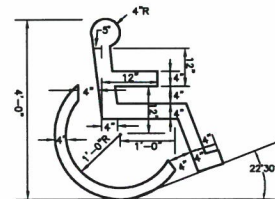
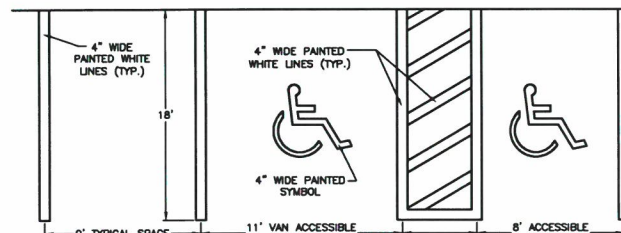
- NOTES:**
1. CONTRACTOR SHALL MAKE SURE POST DO NOT PENETRATE DRAINAGE PIPES OR OTHER UNDERGROUND UTILITY LINES.

**TYPICAL PAVEMENT MATCHING DETAIL**

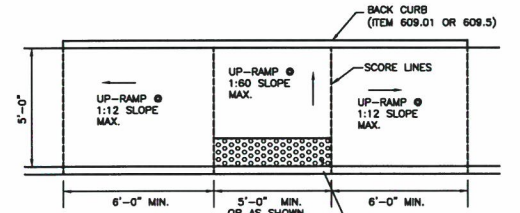
NOT TO SCALE

**PAVED WALKWAY SECTION**

NOT TO SCALE

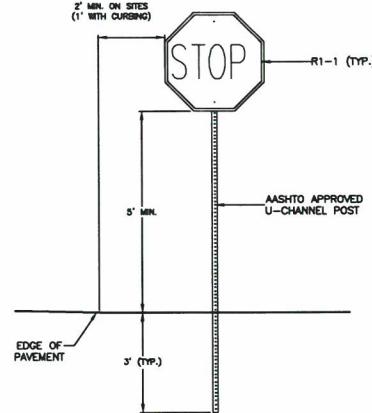
**ACCESSIBLE SYMBOL****STALL STRIPING DETAIL**

NOT TO SCALE

**HANDICAP RAMP DETAIL 'A'**

NOT TO SCALE

- GENERAL SIDEWALK NOTES:**
1. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB IS 12:1. THE MAXIMUM CROSS SLOPE IS 2%.
  2. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
  3. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
  4. DETECTABLE WARNING PAVERS (ITEM 608.54) SHALL BE USED ON CONCRETE RAMPS AS SHOWN. EACH TACTICAL WARNING STRIP PANEL SHALL A TRUNCATED DOME 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.



- NOTES:**
1. SIGN POST SHALL BE ASHTO APPROVED U-CHANNEL OR OTHER PER ASHTO "SPECIFICATIONS FOR STRUCTURAL SUPPORT OF HIGHWAY SIGNS, LUMINAIRES AND SIGNALS", LATEST EDITION.
  2. SIGNS SHALL BE MOUNTED 5 FT FROM GROUND TO BOTTOM EDGE WHERE PARKING AND PARKING LOT MOVEMENTS TAKE PLACE.
  3. SIGNS SHALL BE PLACED SO THAT NEAREST EDGE IS 2 FT. FROM EDGE OF PAVEMENT UNLESS CURBED.

**TYPICAL TRAFFIC SIGN**

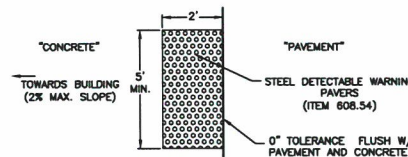
NOT TO SCALE

ITEM NO.	SIGN SIZE		TEXT	NO. SIGNS REQ'D
	HEIGHT	WIDTH		
R1-1	30"	30"	STOP	1
R7-8a	18"	12"	RESERVED PARKING	4
R7-8b	6"	12"	VAN ACCESSIBLE	1

**SIGN SCHEDULE**

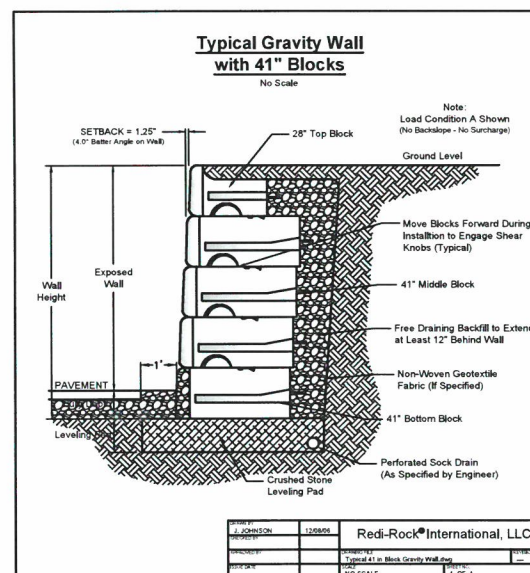
NOT TO SCALE

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

**DETECTABLE WARNING PAVER DETAIL**

NOT TO SCALE

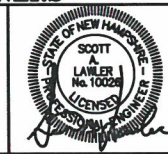
- DETECTABLE WARNING PAVER NOTES:**
1. THE MAXIMUM CROSS OF CONCRETE WALKWAY SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
  2. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
  3. DETECTABLE WARNING PAVERS (ITEM 608.54) SHALL BE USED ON CONCRETE RAMPS AS SHOWN. EACH TACTICAL WARNING STRIP PANEL SHALL A TRUNCATED DOME 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.

**TYPICAL BLOCK RETAINING WALL DETAIL**

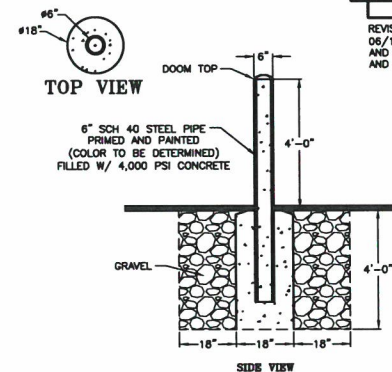
NOT TO SCALE

- NOTES:**
1. DESIGN OF RETAINING WALLS TO BE PROVIDED BY MANUFACTURE AND INSTALLED PER THE MANUFACTURER'S 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.

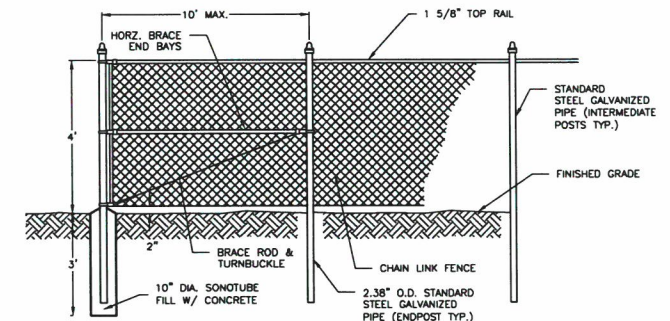
CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN 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.



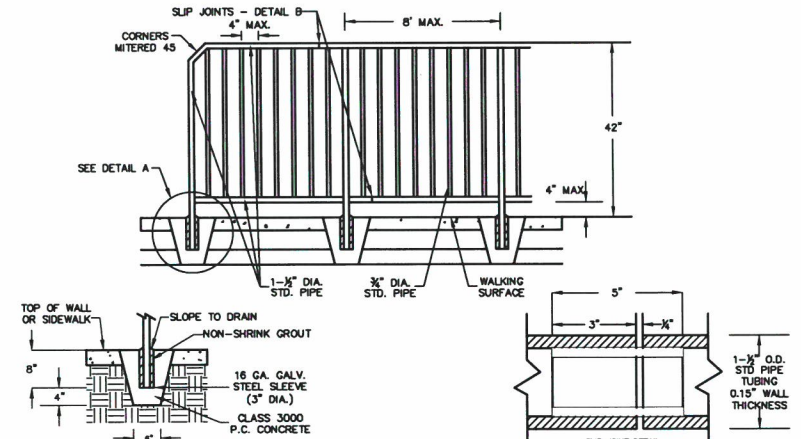
REVISIONS:  
06/17/20 - REVISE SIDEWALK AND CURBING DETAIL AND GUARDRAIL DETAIL. ADD PAVED WALKWAY DETAIL AND GRANITE SLOPE CURB DETAIL.

**STEEL BOLLARD DETAIL**

NOT TO SCALE

**TYPICAL CHAINLINK FENCE**

NOT TO SCALE

**METAL HANDRAIL**

NOT TO SCALE

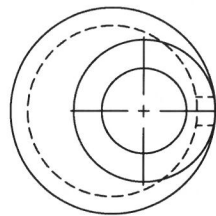
- NOTES:**
1. MATERIAL FOR HANDRAIL SHALL BE ALUMINUM OR GALVANIZED STEEL.
  2. PROVIDE SLIP JOINTS AT EXPANSION JOINTS AND AT EVERY 24 FEET ON CENTER MAXIMUM.
  3. 3/4 INCH SCH 40 (STD PIPE) BALUSTERS SHALL BE INSERTED IN HOLE OF 1-1/2 INCH STD PIPE AND TACK WELDED OPPOSITE TRAFFIC.

CONSTRUCTION DETAILS  
TAX MAP 243, LOT 34  
145 AIRPORT DRIVE  
ROCHESTER, NH  
PREPARED FOR:  
**LDI SOLUTIONS, LLC**

SCALE: AS SHOWN

AUGUST 2020

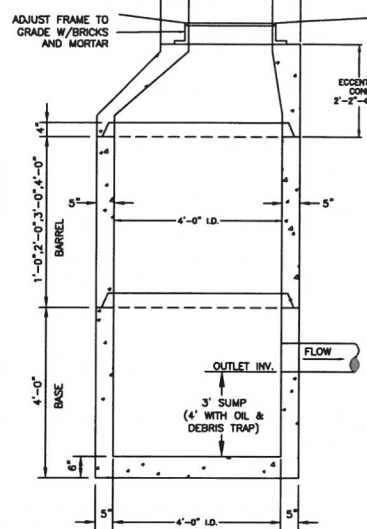




PLAN VIEW

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

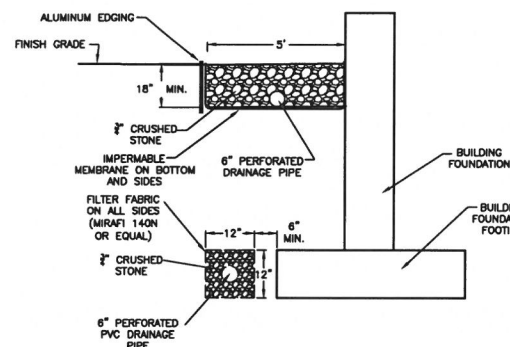
- NOTES:
1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
  2. REINFORCING: SHALL BE PROVIDED FOR H-20 LOADING.
  3. SHIRLAP JOINTS SEALED WITH 1 STRIP OF BUTYL RUBBER SEALANT.
  4. PIPE OPENINGS CAST IN AS REQUIRED.
  5. RISER HEIGHT VARIES 1', 2', 3' OR 4' TO REACH DESIRED DEPTH.
  6. PIPE CONNECTIONS SHALL BE 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

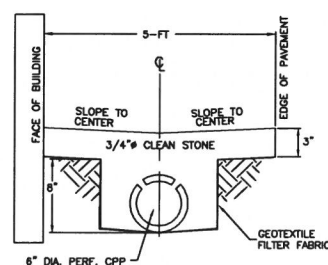
### PRE-CAST REINFORCED CATCH BASIN

NOT TO SCALE



### DRIP EDGE & FOUNDATION DRAIN DETAIL

NOT TO SCALE

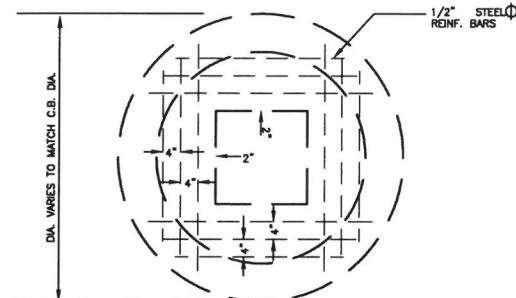


### STONE DRIP EDGE DETAIL

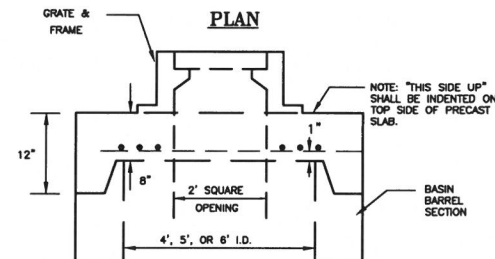
NOT TO SCALE

- NOTES:
1. THE DRIP EDGE SHALL BE 5 FT. WIDE, 3 INCHES THICK, 3/4-INCH DIAMETER SEPTIC STONE.
  2. THE UNDERDRAIN SHALL BE 8 INCH DIAMETER PERFORATED CORRUGATED PLASTIC PIPE (ADS OR EQUAL). THE PERFORATED SIDE FACING UPWARD.
  3. USE CLEAN 3/4-INCH DRAIN STONE FOR THE MATERIAL SURROUNDING THE UNDERDRAIN.
  4. OUTLET TO CATCH BASIN

FILE NO. 104  
PLAN NO. C-3013  
DWG NO. 20125/SP-1  
F.B. NO. SDR-TJR



PLAN

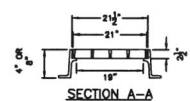


ELEVATION

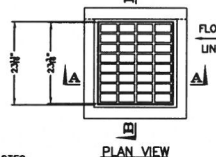
- NOTE:
1. SLAB TO BE PLACED IN LIEU OF TAPERED SECTION WHERE PIPE WOULD OTHERWISE ENTER INTO TAPERED SECTION OF THE STRUCTURE AND WHERE PERMITTED.
  2. SLAB TOP MAY BE CAST WITH MINIMUM OR NO INTERLOCKING CHANNEL. HOWEVER, THE CONTRACTOR MUST ENSURE THE SLAB TOP IS FIRMLY ATTACHED TO THE STRUCTURE.

### REINFORCED CONCRETE SLAB COVER

NOT TO SCALE



SECTION A-A



PLAN VIEW

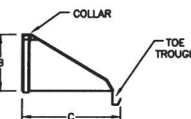
- NOTES:
1. FRAME AND GRATE SHALL BE CAST IRON.
  2. FRAME AVAILABLE IN 4" OR 8" HEIGHTS.
  3. USE 3 FLANGE FRAME IF INSTALLED ADJACENT TO GRANITE CURB.
  4. ALL DIMENSIONS ARE NOMINAL.

### CATCH BASIN TYPE 'B' GRATE DETAIL

NOT TO SCALE



TOP VIEW



SIDE VIEW

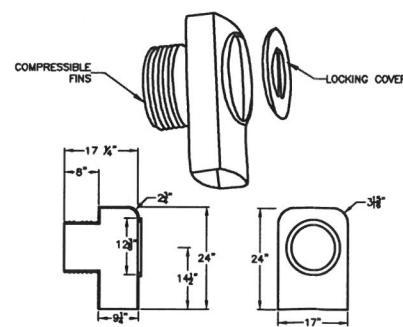


FRONT VIEW

### FLARED END SECTION DETAIL

NOT TO SCALE

PIPE DIAMETERS	A	B	C	D
10" / 12"	42	14.5	33	6
15"	41	19	34	6
18"	49	22	43	6
24"	59.5	28	48	6
30"	88	36	63.5	6
36"	88	43	66.5	6



SIDE VIEW

FRONT VIEW

### ELIMINATOR CATCH BASIN OIL AND DEBRIS TRAP DETAIL

NOT TO SCALE

- NOTES:
1. HOOD SHALL BE "THE ELIMINATOR" OIL & FLOATING DEBRIS TRAP AS MANUFACTURED BY GROUND WATER RESCUE, INC., QUINCY, MA, TEL. 617-773-1128 ON THE WEB @ WWW.KLEANSTREAM.COM
  2. DIMENSIONS ARE FOR 12" DIAMETERS.
  3. UNITS ARE AVAILABLE IN 8", 10", 12", 15" AND 18" DIAMETERS.



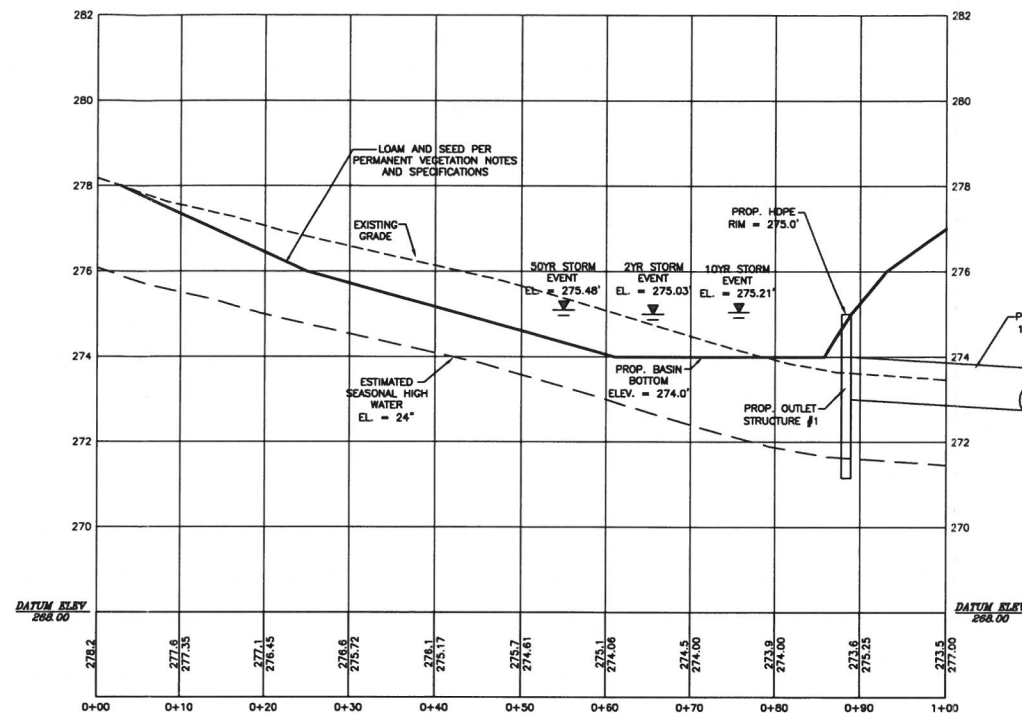
CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN 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.



REVISIONS:  
06/17/20 - ADD STONE DRIP EDGE DETAIL.

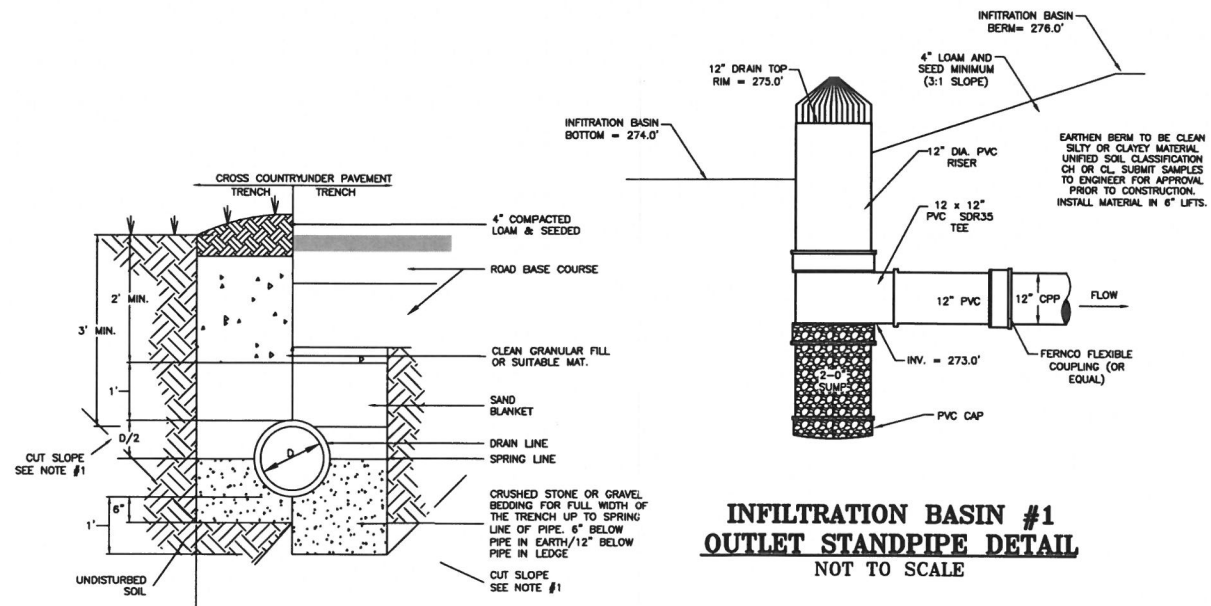
### INFILTRATION BASIN:

- SPECIFICATIONS:
1. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE INFILTRATION BASIN. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION BASIN.
  2. 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.
  3. VEGETATION SHALL BE ESTABLISHED IMMEDIATELY AFTER FINAL GRADING IS COMPLETED.
  4. CONSTRUCT THE INFILTRATION BASIN TO THE GRADES DEPICTED ON THE PLAN AND CROSS-SECTION.
  5. LOAM AND SEED ONLY THE SLOPES OF THE INFILTRATION BASIN AS PRESCRIBED IN THE "PERMANENT VEGETATION" NOTES FOUND ON SHEET C-10. SEED MIXTURE = A
  6. DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
- MAINTENANCE REQUIREMENTS:
1. 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.
  2. INSPECT INFILTRATION SURFACE 8-ANNUALLY ONCE IN THE SPRING PRIOR TO 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 AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION. REPAIR AREA OF REMOVAL AS NECESSARY TO RESTORE INFILTRATION CAPACITY.
  5. PERFORM MAINTENANCE AND REHABILITATION BASED ON INSPECTIONS.
  6. REMOVE DEBRIS (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 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 #1 CROSS SECTION

1" = 10' (HORZ.) & 1" = 2' (VERT.)



### INFILTRATION BASIN #1 OUTLET STANDPIPE DETAIL

NOT TO SCALE

- 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.

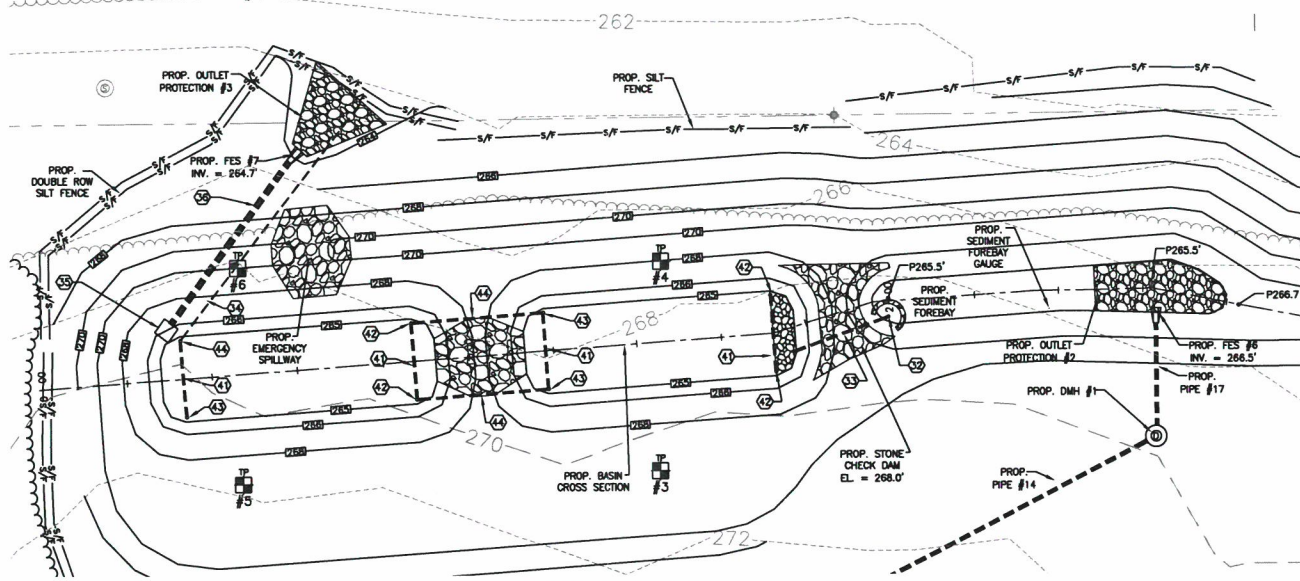
### DRAINAGE PIPE TRENCH INSTALLATION DETAIL

NOT TO SCALE

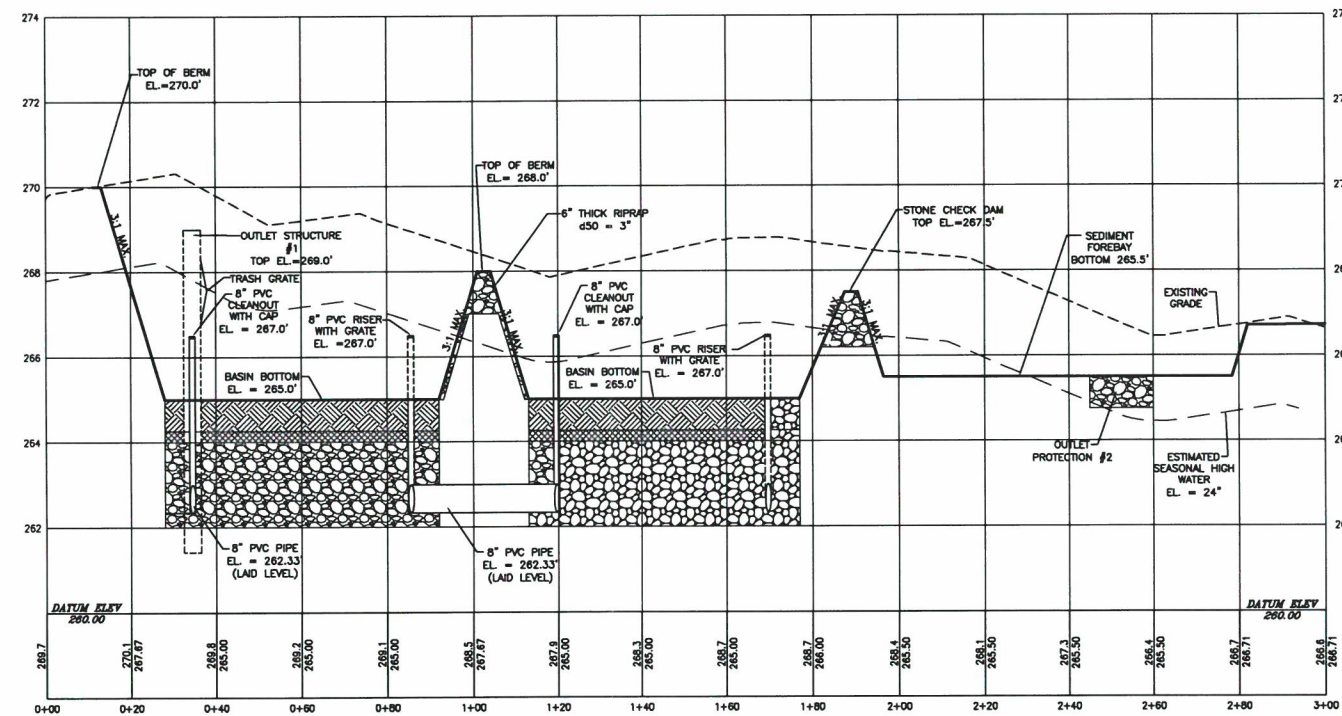
DRAINAGE DETAILS  
TAX MAP 243, LOT 34  
145 AIRPORT DRIVE  
ROCHESTER, NH  
PREPARED FOR:  
LDI SOLUTIONS, LLC

SCALE: AS SHOWN AUGUST 2020



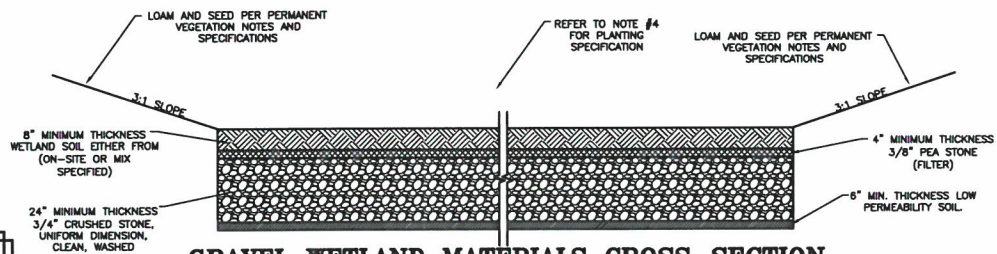


GRAVEL WETLANDS BASIN PLAN  
1" = 20'



GRAVEL WETLANDS BASIN CROSS SECTION  
1" = 20' (HORZ.) & 1" = 2' (VERT.)

LOW PERMEABILITY MATERIAL GRADATION:	
SIEVE SIZE	PERCENT PASSING
#4	95-100
#40	80-90
#100	40-60
#200	25-45

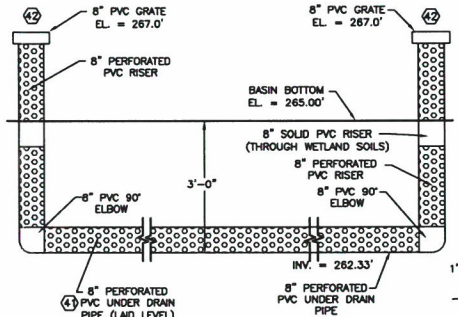


GRAVEL WETLAND MATERIALS CROSS-SECTION  
NOT TO SCALE

PROPOSED GRAVEL WETLAND BASIN DRAINAGE STRUCTURES

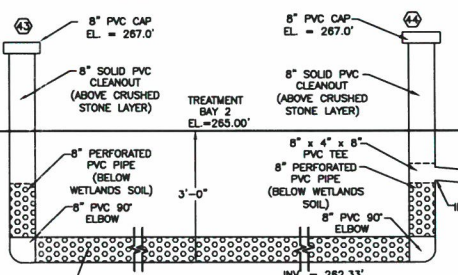
- PROP. FOREBAY OUTLET #2  
RIM = 267.0'  
INV. OUT = 265.5' (#33)
- PROP. PIPE #16  
12" CPP  
L = 24'
- PROP. PIPE #17  
2" PVC  
L = 70'
- PROP. GRAVEL WETLANDS OUTLET  
GRATE = 269.0'  
INV. OUT = 264.0' (#36)  
SUMP = 261.0'
- PROP. PIPE #18  
18" CPP  
L = 70'
- PROP. 8" PERF. PVC UNDER DRAIN  
INV. = 262.33' (LAID LEVEL)
- PROP. 8" PERF. PVC RISER  
GRATE = 266.75'
- PROP. 8" PERF. PVC TO ELEV. 264.33' & SOLID PVC ABOVE  
CAP = 267.0'
- PROP. 8" PVC  
INV. = 262.33' (LAID LEVEL)

SEDIMENT FOREBAY GAUGE DETAIL  
NOT TO SCALE



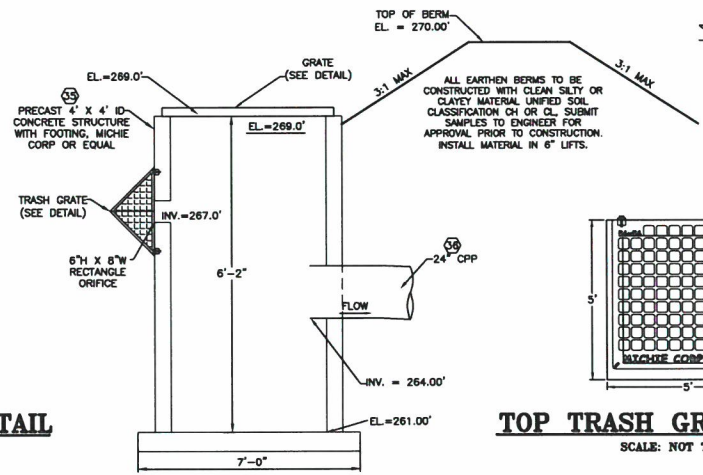
GRAVEL WETLANDS INLET STRUCTURE DETAIL

- NOTES:
- 1. 8" PERFORATED PIPE SHALL BE SUPPLIED WITH 4 ROWS OF 1/2" TO 3/4" DIAMETER HOLES EVERY 3 INCHES.
- 2. PERFORATED PIPES SHALL BE PERFORATED IN ACCORDANCE TO ASTM F-758.



GRAVEL WETLANDS TREATED WATER OUTLET STRUCTURE DETAIL

SCALE: NOT TO SCALE

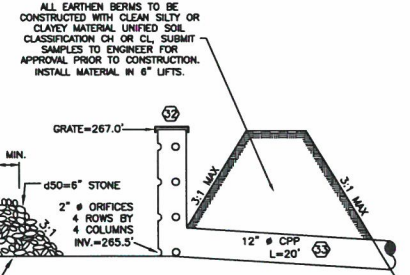


GRAVEL WETLANDS OUTLET STRUCTURE DETAIL

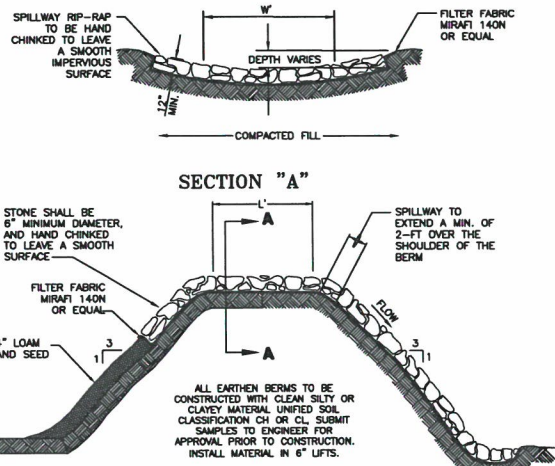
SCALE: NOT TO SCALE

SEDIMENT FOREBAY:

- SPECIFICATIONS:
- 1. CONSTRUCT THE SEDIMENT FOREBAY TO THE GRADES DEPICTED ON THE PLAN AND CROSS-SECTION.
- 2. LOAM AND SEED THE SLOPES AND BOTTOM OF THE SEDIMENT FOREBAY AS PRESCRIBED IN THE "PERMANENT VEGETATION" NOTES FOUND ON SHEET C-10.
- 3. SEED MIXTURE = A.
- 4. MAINTENANCE REQUIREMENTS:
- 1. INSPECT SEDIMENT FOREBAY BI-ANNUALLY, ONCE IN THE SPRING PRIOR TO MAY 15 AND ONCE IN THE FALL PRIOR TO OCTOBER 15.
- 2. 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.
- 3. REMOVE DEBRIS FROM THE OUTLET STRUCTURE OF THE SEDIMENT FOREBAY (E. STONE CHECK DAM) AT LEAST ONCE ANNUALLY.
- 4. 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 = 268.00.



FOREBAY OUTLET STRUCTURE  
NOT TO SCALE



SPILLWAY DETAIL

NOT TO SCALE

GRAVEL WETLAND BASIN DETAILS  
TAX MAP 243, LOT 34  
145 AIRPORT DRIVE  
ROCHESTER, NH

PREPARED FOR:  
LDI SOLUTIONS, LLC

SCALE: AS SHOWN AUGUST 2020

FILE NO. 104  
PLAN NO. C-3013  
DWG NO. 20125\SP-1  
F.B. NO. SDR-TJR

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

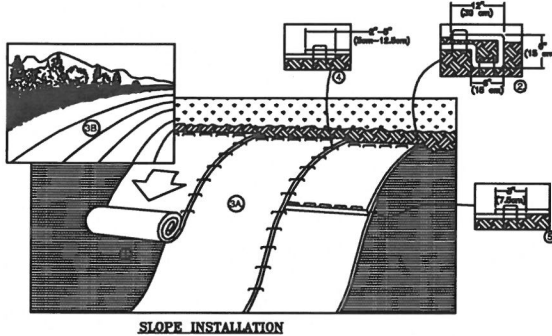
NORWAY PLAINS ASSOCIATES, INC.

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

C-8



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EROSION CONTROL PRODUCTS  
Guaranteed SOLUTIONS  
14640 HIGHWAY 41 NORTH  
DANVILLE, VA 22019  
800-772-2040  
www.nagreen.com



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:**

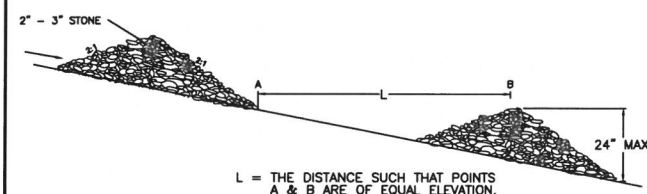
1. MANUFACTURE'S INSTALLATION INSTRUCTIONS:
  - A. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (REC-P's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
  - NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
  - B. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE REC-P's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF REC-P's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE REC-P'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-P's BACK OVER SEED AND COMPACTED SOIL.
  - C. SECURE REC-P's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE REC-P's.
  - D. ROLL THE REC-P's (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. REC-P's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL REC-P'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-P's MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON REC-P's TYPE.
  - F. CONSECUTIVE REC-P's SPUN 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-P's WIDTH.
  - NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE REC-P's.

2. SITE PREPARATION:
  - A. PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.
  - B. GRADE AND SHAPE AREA IF INSTALLATION.
  - C. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATION OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
  - D. PREPARE SEEDING BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
  - E. 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 TEMPORARY APPLICATIONS. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOPS AND OTHER AREAS DISCLOSED DURING INSTALLATION MUST BE RESEED.
  - B. WHEN SEEDING AFTER BLANKET INSTALLATION, SEEDING SHALL BE CONDUCTED ON AREAS STABILIZED AND PRIOR TO FILLING OF THE TRENCHES.

SPACING BETWEEN CHECK DAMS	
SLOPE (FT/100)	LENGTH (FT)
0.020	50
0.030	37
0.040	30
0.050	25
0.060	20
0.080	15
0.100	12
0.120	10
0.150	8

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.

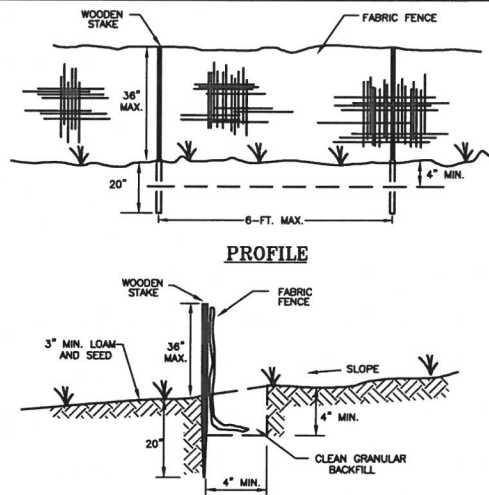
- MAINTENANCE NOTES:**
1. TEMPORARY GRADE STABILIZATION STRUCTURES SHALL BE INSPECTED AFTER EACH STORM AND DAILY DURING PROLONGED STORM EVENTS. ANY DAMAGE TO THE STRUCTURES SHALL BE REPAIRED IMMEDIATELY.
  2. PARTICULAR ATTENTION SHALL BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE.
  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. 104  
PLAN NO. C-3013  
DWG NO. 20125/SP-1  
F.B. NO. SDR-TJR

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



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 REASILY 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 IMPOUNDING 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 DECOMPOSE 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 LENGTH OF SLOPE ABOVE THE FENCE SHALL BE 100 FEET.
4. THE MAXIMUM 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.
  - D. SUPPORT POSTS SHALL BE SIZED AND ANCHORED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS WITH MAXIMUM POST SPACING OF 6 FEET.
  - E. 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.
6. SILT FENCING SHALL NOT BE STAPLED OR NAILED TO TREES.
7. THE FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.
8. 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.
9. 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.
10. 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.
11. 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.
12. A MANUFACTURED SILT FENCE SYSTEM WITH INTEGRAL POSTS MAY BE USED.
13. POST SPACING SHALL NOT EXCEED 8 FEET.
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 WIRING 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 TRENCH, AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
16. 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.
17. SILT FENCES SHALL BE INSTALLED WITH "SMILES" OR "J-HOOKS" TO REDUCE THE DRAINAGE AREA THAT ANY SEGMENT WILL IMPOUND.
18. THE ENDS OF THE FENCE SHALL BE TURNED UPSLOPE.
19. SILT FENCES PLACED AT THE TOE OF A SLOPE SHALL BE SET AT LEAST 6 FEET FROM THE TOE TO ALLOW SPACE FOR SHALLOW PONING AND TO ALLOW FOR MAINTENANCE ACCESS WITHOUT DISTURBING THE SLOPE.
20. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

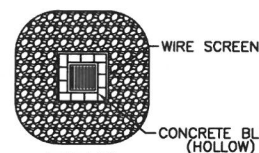
### SILTATION CONTROL FENCE DETAIL

NOT TO SCALE

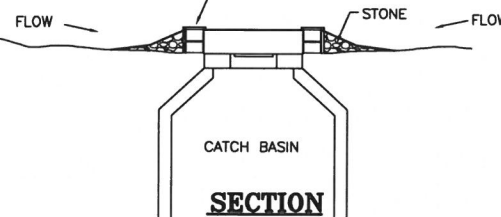
### TEMPORARY VEGETATION SEEDING RECOMMENDATIONS

SPECIES	PER ACRE (BU) (80) 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)



PLAN



SECTION

### BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER

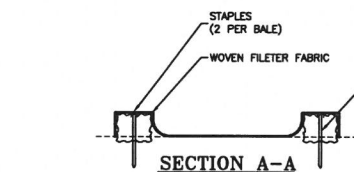
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**CONSTRUCTION SPECIFICATIONS:**

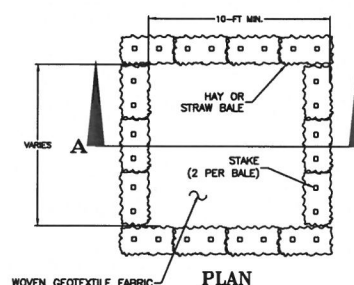
1. PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDE IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, WITH THE ENDS OF ADJACENT BLOCKS ABUTTING. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF 4-INCH, 8-INCH AND 12-INCH WIDE BLOCKS. THE BARRIER OF BLOCKS SHALL BE AT LEAST 12 INCHES HIGH AND NO GREATER THAN 24 INCHES HIGH.
2. WIRE MESH SHALL BE PLACED OVER THE OUTSIDE VERTICAL FACE (WEBBING) OF THE CONCRETE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED.
3. STONE SHALL BE PILED AGAINST THE WIRE TO THE TOP OF THE BLOCK BARRIER, AS SHOWN IN FIGURE 16.7. STONE GRADATION SHALL BE WELL GRADED WITH THE MAXIMUM STONE SIZE OF 8 INCHES AND MINIMUM STONE SIZE OF 1 INCH.
4. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE BLOCKS, CLEANED AND REPLACED.

**MAINTENANCE:**

1. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
2. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.



SECTION A-A



PLAN

**CONSTRUCTION SPECIFICATIONS:**

1. THE DE-WATERING AREA WILL BE CONSTRUCTED BEFORE ANY PUMPING OCCURS AT THE SITE.
2. TEMPORARY DE-WATERING AREA TYPE, ABOVE GRADE, WILL BE CONSTRUCTED AS SHOWN ABOVE, WITH A RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 20-FT.
3. THE DE-WATERING AREA WILL BE LOCATED AS SHOWN OR AS DIRECTED BY THE ENVIRONMENTAL CONSULTANT.
4. GEOTEXTILE LINING WILL BE FREE OF TEARS, OR OTHER DEFECTS THAT COMPROMISE THE DURABILITY OF THE MATERIAL.

**MAINTENANCE NOTES:**

1. THE DE-WATERING AREA(S) WILL BE INSPECTED DAILY TO ENSURE THAT ALL SEDIMENT IS BEING DISCHARGED INTO THE HAYBALE DAM AREA, NO TEARS ARE PRESENT AND TO IDENTIFY WHEN SEDIMENT NEED OF BE REMOVED.
2. THE DE-WATERING AREA(S) WILL BE CLEANED OUT ONCE THE AREA IS FILLED TO 75 PERCENT OF ITS HOLDING CAPACITY.
3. ONCE THE HOLDING CAPACITY HAS BEEN REACHED THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATION.
4. THE GEOTEXTILE LINING WILL BE REPLACED IF TEARS OCCUR DURING REMOVAL OF SEDIMENT FROM THE DE-WATERING AREA.

### DE-WATERING AREA 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.



### TEMPORARY VEGETATION:

**SITE PREPARATION:**

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.

**SEEDBED 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 LIME 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 LIME MAY BE APPLIED AT THE FOLLOWING RATES:

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

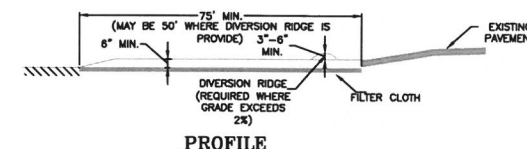
FERTILIZER APPLICATION RATE = 870 LB./ACRE (20 LB./1,000-SF)  
\*LOW PHOSPHATE FERTILIZER (6-0-4) OR EQUIVALENT

**SEEDING:**

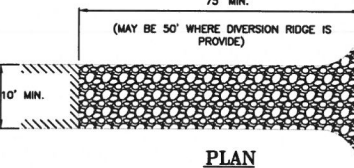
1. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTPACKER TYPE SEEDER OR HYDRO SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
2. TEMPORARY SEEDING 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" PRACTICE DESCRIBED IN THE NISM, 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.



PROFILE



PLAN

### 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 8 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.

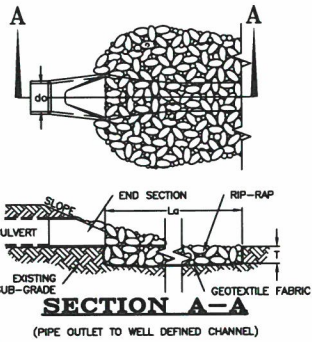
### TEMPORARY EROSION AND SEDIMENTATION CONTROL DETAILS

TAX MAP 243, LOT 34  
145 AIRPORT DRIVE  
ROCHESTER, NH

PREPARED FOR:  
**LDI SOLUTIONS, LLC**

SCALE: AS SHOWN AUGUST 2020

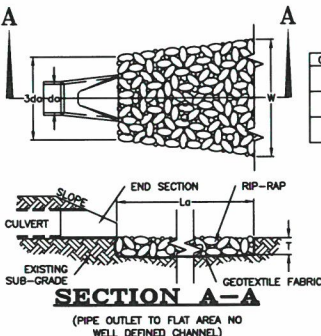




## RIP-RAP GRADATION

d50 = 3"	
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)
100	5 TO 6
85	4 TO 5
50	4 TO 5
15	1 TO 2

d50 = 4"	
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)
100	6 TO 8
85	5 TO 7
50	4 TO 6
15	1 TO 2



## APRON DIMENSION TABLE

OUTLET PROT. #	PIPE OUTLET	W <sub>o</sub>	W	L <sub>o</sub>	T	d50
#1	24" CPP INLET INTO SHALE	0'	8'	19'	12"	4"
#2	18" CPP INLET INTO FOREBAY	3'	6'	9'	9"	3"
#3	12" CPP OUTLET INTO BASIN 2	4.5'	10'	13'	12"	4"

## 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 6" 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 RIP-RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
- 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 NHSM 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 PRACTICE) 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 PERIMETER 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.

FILE NO. 104  
PLAN NO. C-3013  
DWC NO. 20125\SP-1  
F.B. NO. SDR-TJR

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## 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 2 INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE CLOS, 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 LIME 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)  
\*EQUVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

FERTILIZER APPLICATION RATE = 870 LB./ACRE (20 LB./1,000-SF)  
\*LOW PHOSPHATE FERTILIZER (6-0-4) OR EQUIVALENT

## SEEDING:

- INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE OF INOCULANT.
- APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDING MULCH MAY BE LEFT ON SOIL SURFACE.
- WHERE FEASIBLE EXCEPT WHERE EITHER CULTPACKER 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 LATEST DATE OF THE SEED, THE USE OF HARD SEED (UNSCARIFIED) IF SEEDING CANNOT BE COMPLETED WITHIN THE SPECIFIED SEEDING DATES. MULCH ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSM, VOL. 3, AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
- AREAS SEED 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 NHSM, 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 1 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 MOVED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION. MOWING HEIGHT AND FREQUENCY DEPEND OF TYPE OF GRASS COVER.
- BASED ON INSPECTION, AREAS SHALL BE RESEED 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 RESEED, 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 AREAS AND DISPOSAL AREAS	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	20	0.45
		REDTOP	2	0.05
		TOTAL	42	0.95
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	20	0.45
		REDTOP	2	0.05
		TOTAL	42	0.95
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY RECREATION SITES	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	20	0.45
		REDTOP	2	0.05
		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:  
1. NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLES 4-2 AND 4-3  
2. 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:  
a) IN AREAS THAT WILL NOT BE PAVED;  
i) A MINIMUM OF 85% VEGETATIVE COVER HAS BEEN ESTABLISHED;  
ii) A MINIMUM OF 3-INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR A CERTIFIED COMPOST BLANKET HAS BEEN INSTALLED, OR  
iii) EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.  
b) IN AREAS TO BE PAVED:  
i) 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 AREAS OF EXPOSED OR DISTURBED SOIL SHALL BE PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 3 DAYS FOLLOWING FINAL GRADING.
- MAXIMUM AREA OF DISTURBANCE:  
THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE EXCEED 3 ACRES AT ANY ONE TIME BEFORE DISTURBED AREA ARE STABILIZED.
- ONLY DISTURB, CLEAR, OR GRADE AREAS NECESSARY FOR CONSTRUCTION.  
a) FLAG OR OTHERWISE DELINEATE AREAS NOT TO BE DISTURBED.  
b) EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PRESERVE NATURAL VEGETATION.
- ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING 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 BY PROVIDING INADEQUATE 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, VEG./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 VEGETATION ESTABLISHMENT.
- 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, CONDUITS AND OTHER FACILITIES, SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- IN GENERAL, FILLS SHALL BE COMPACTED IN LAYERS RANGING FROM 6 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 OBJECTIONABLE 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 BLADE SMOOTHED. A BULLDOZER MAY RUN UP AND DOWN THE FILL SLOPE SO THE DOZER TREADS (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 NHSM, 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 ARG 3800 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" (NHSM, 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-3 PRIOR TO EARTH MOVING OPERATIONS.
- INSTALL ORANGE SNOW FENCE AROUND THE PERIMETER OF THE INFILTRATION BASINS AND THE FENCE SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OF THE BASIN 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 DRIVEWAY CONNECTION TO AIRPORT DRIVE. MAINTAIN AS DIRECTED BY THE TEMPORARY CONSTRUCTION EXIT DETAIL ON SHEET C-3.
- 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 GRAVEL WETLANDS BASIN AS DEPICTED ON SHEET C-3 AND IN ACCORDANCE WITH THE GRAVEL WETLAND BASIN DETAILS SHOWN ON SHEET C-3.
- 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 SHOWN ON SHEET C-3.
- CONSTRUCT THE GRAVEL WETLANDS BASIN, SEDIMENT FOREBAY AND OUTLET PROTECTION. LOAM SEED AND MULCH THE SIDE SLOPES OF THE BASIN AS DIRECTED IN THE INFILTRATION BASIN DETAILS.
- LIMIT THE SOIL EROSION AND POLLUTION OF THE GRAVEL MATERIALS TO DIRECTING RUNOFF TO THEM.
- PERFORM THE NECESSARY CUTS AND FILLS TO SUBGRADE IN THE BUILDING AND PARKING LOT AREAS.  
a) 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-4. AS EACH STRUCTURE IS COMPLETED INSTALL THE CORRESPONDING INFILTRATION BASIN 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-3.
- ALL CUT AND FILL SLOPES AND LAWN AREAS NOT TO BE PAVED SHALL BE LOADED AND SEED 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 ELEVATIONS.
- INSTALL PAVEMENT SURFACES AS SOON AS POSSIBLE AFTER THE INSTALLATION OF THE GRAVEL BASE AND CRUSHED GRAVEL. IN ORDER TO LIMIT THE SOIL EROSION AND POLLUTION OF THE GRAVEL MATERIALS WITH ORGANIC MATERIALS, IN NO CASE SHALL AREAS TO BE PAVED BE LEFT UNPROTECTED THROUGHOUT THE WINTER MONTHS.
- ALL DISTURBED AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE. IN NO CASE SHALL ANY DISTURBED AREA BE LEFT UN-STABILIZED FOR LONGER THAN 21 DAYS. IF NECESSARY TEMPORARY STABILIZATION MEASURES AS DISCUSSED IN THE "GENERAL CONSTRUCTION PHASING NOTES" AND NHSM, VOL. 3 SHOULD BE EMPLOYED.
- MAINTENANCE AND INSPECTION:  
20. DURING CONSTRUCTION ALL TEMPORARY AND PERMANENT SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES SHOULD BE INSPECTED WEEKLY, AFTER EVERY 1/2 INCH OF RAINFALL AND ANNUALLY.
- EXCESS SEDIMENT SHOULD BE REMOVED FROM TEMPORARY SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES WHEN IT REACHES PRESCRIBED THRESHOLDS DISCUSSED IN THE DETAILS FOR EACH PRACTICE.
- ALL DAMAGED TEMPORARY AND PERMANENT SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES SHOULD BE REPAIRED OR REPLACED IMMEDIATELY UPON NOTICE.
- SEDIMENT SHALL BE DISPOSED OF PROPERLY EITHER ON SITE OR OFF SITE.
- PROJECT COMPLETION AND STABILIZATION:  
24. UPON PROJECT COMPLETION, ONCE THE SITE IS DEEMED STABILIZED (VEGETATION IS GERMINATED), THE TEMPORARY SEDIMENT CONTROL BARRIERS AND EROSION CONTROL PRACTICES SHALL BE REMOVED. ANY DISTURBANCE CREATED DURING REMOVAL SHALL BE REPAIRED IN AN APPROPRIATE MANNER.
- ACCUMULATED SEDIMENT SHALL BE REMOVED FROM ALL ON SITE CATCH BASINS AND THE SEDIMENT FOREBAYS TO THE GRAVEL WETLANDS BASIN.



REVISIONS:  
08/11/20 - REVISE RIPRAP APRON DIMENSION TABLE

## WINTER STABILIZATION &amp; CONSTRUCTION PRACTICES:

## MAINTENANCE REQUIREMENTS:

- MAINTENANCE MEASURES SHALL BE PERFORMED THROUGHOUT CONSTRUCTION, INCLUDING OVER THE WINTER PERIOD. AFTER EACH RAINFALL, SNOWSTORM, OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL CONDUCT INSPECTION OF ALL INSTALLED EROSION CONTROL PRACTICES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUED FUNCTION.
- FOR ANY AREA STABILIZED BY TEMPORARY OR PERMANENT SEEDING PRIOR TO THE ONSET OF THE WINTER SEASON, THE CONTRACTOR SHALL CONDUCT AN INSPECTION IN THE SPRING TO ASCERTAIN THE CONDITION OF THE VEGETATION AND REPAIR ANY DAMAGED AREAS OR BARE SPOTS AND RESEED AS REQUIRED TO ACHIEVE AN ESTABLISHED VEGETATIVE COVER (AT LEAST 85% OF AREA VEGETATED WITH HEALTHY, VIGOROUS GROWTH).

## SPECIFICATIONS:

- THE FOLLOWING STABILIZATION TECHNIQUES SHALL BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 15.
- THE AREA OF EXPOSED, UNSTABILIZED SOIL SHALL BE LIMITED TO 1-ACRE AND SHALL BE PROTECTED AGAINST EROSION BY THE METHODS DISCUSSED IN NHSM, VOL. 3 AND ELSEWHERE IN THIS PLAN SET, PRIOR TO ANY THAW OR SPRING MELT EVENT.
- STABILIZATION AS FOLLOWS SHALL BE COMPLETED WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.  
a) ALL PREVIOUSLY VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDING AND COVERED WITH 3 TO 4 TONS OF STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX (REFER TO NHSM, VOL. 3 FOR SPECIFICATION).
- ALL PREVIOUSLY VEGETATED AREAS OF TYPE OR GRADE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15 SHALL BE SEEDING AND COVERED WITH A PROPERLY INSTALLED EROSION CONTROL BLANKET OR WITH A MINIMUM OF 4 INCHES OF EROSION CONTROL MIX, UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. NOTE THAT COMPOST BLANKETS SHALL NOT EXCEED 2 INCHES IN THICKNESS OR THEY MAY OVERHEAT.
- ALL STONE COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY OCTOBER 15.
- INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX SHALL NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
- ALL MULCH APPLIED DURING WINTER SHALL BE ANCHORED (I.E. BY NETTING, TRACKING, WOOD CELLULOSE FIBER).
- WITHIN 24 HOURS OF STOCKPILING SOIL MATERIALS SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A 4 INCH LAYER OF EROSION CONTROL MIX. MULCH SHALL BE REESTABLISHED PRIOR TO ANY RAIN OR SNOWFALL. NO SOIL STOCKPILE SHALL BE PLACED (EVEN COVERED WITH MULCH) WITHIN 100-FT OF ANY WETLAND OR OTHER WATER RESOURCE AREA.
- FROZEN MATERIAL (I.E. FROST LAYER REMOVED DURING WINTER CONSTRUCTION) SHALL BE STOCKPILED SEPARATELY AND IN A LOCATION AWAY FROM ANY AREA NEEDING PROTECTION. FROZEN MATERIAL STOCKPILES CAN MELT IN SPRING AND BECOME UNWORKABLE AND DIFFICULT TO TRANSPORT DUE TO HIGH SOIL MOISTURE CONTENT.
- INSTALLATION OF EROSION CONTROL BLANKETS SHALL NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH OR ON FROZEN GRADE.
- ALL GRASS-LINED DITCHES AND CHANNELS SHALL BE CONSTRUCTED BY SEPTEMBER 1. ALL DITCHES AND SWALES WHICH DO NOT EXHIBIT 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS AS DETERMINED BY A PROFESSIONAL ENGINEER. IF STONE LINING IS NECESSARY, THE CONTRACTOR MAY NEED TO RE-GRADE THE DITCH AS REQUIRED TO PROVIDE ADEQUATE CROSS-SECTION AFTER ALLOWING FOR PLACEMENT OF THE STONE.
- ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY OCTOBER 15.
- AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION HAS STOPPED FOR THE WINTER SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF SAND AND GRAVEL WITH A GRADATION THAT IS LESS THAN 12% OF THE SAND PORTION, OR MATERIAL PASSING THE NUMBER 4 SIEVE BY WEIGHT PASSES THE NUMBER 200 SIEVE.
- SEDIMENT BARRIERS THAT ARE INSTALLED DURING FROZEN CONDITIONS SHALL CONSIST OF EROSION CONTROL MIX BERM, OR CONTINUOUS CONTAINED BERMS. SILT FENCES AND HAY BALES SHALL NOT BE INSTALLED WHEN FROZEN CONDITIONS PREVENT PROPER EMBEDMENT OF THESE BARRIERS.

## PERMANENT EROSION AND SEDIMENTATION CONTROL DETAILS

TAX MAP 243, LOT 34  
145 AIRPORT DRIVE  
ROCHESTER, NH

PREPARED FOR:  
LDI SOLUTIONS, LLC

SCALE: AS SHOWN AUGUST 2020

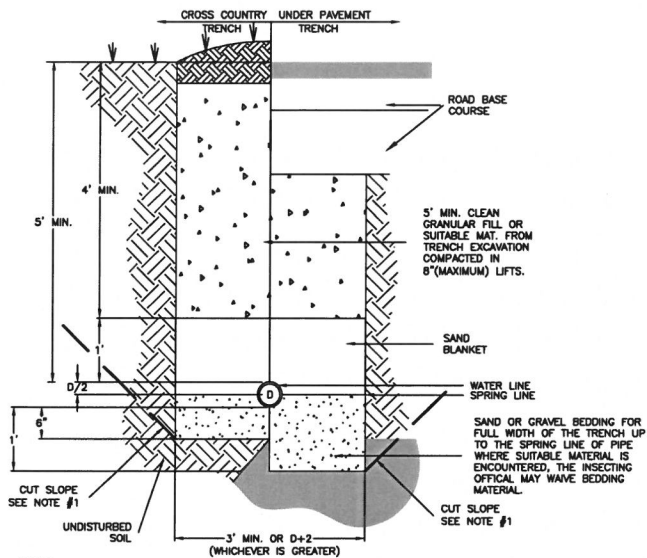
2 Continental Blvd., Rochester, N.H. 603-335-3948

C-10



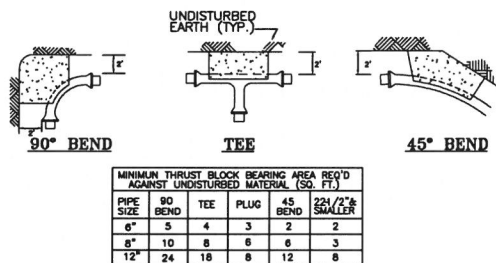


CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN 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.



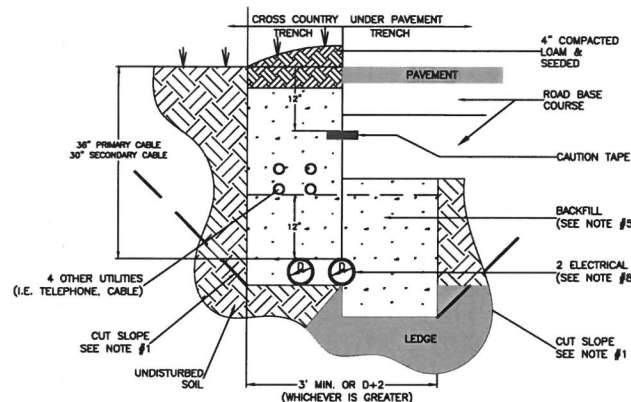
- NOTES:
1. PIPES MAY BE INSTALLED BY EXCAVATING AN OPEN TRENCH WITH SIDE SLOPES OF 1:1 MAXIMUM TO A DEPTH OF 4-FT. INSTALLATIONS DEEPER THAN 4-FT REQUIRE THE USE OF A TRENCH BOX.
  2. PIPE MATERIALS SHALL BE AS SPECIFIED ON THE DESIGN PLAN.
  3. SAND BLANKET MAY BE OMITTED FOR REINFORCED CONCRETE PIPE.

**WATER PIPE TRENCH INSTALLATION DETAIL**  
NOT TO SCALE



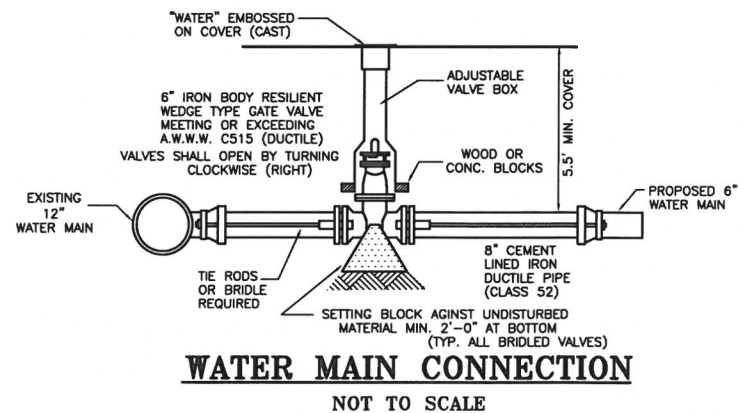
NOTE: SIZE OF THRUST BLOCKS MAY BE INCREASED BY THE ENGINEER TO MEET SOIL CONDITIONS FOUND DURING CONSTRUCTION.

**WATER MAIN THRUST BLOCK DETAILS**  
NOT TO SCALE

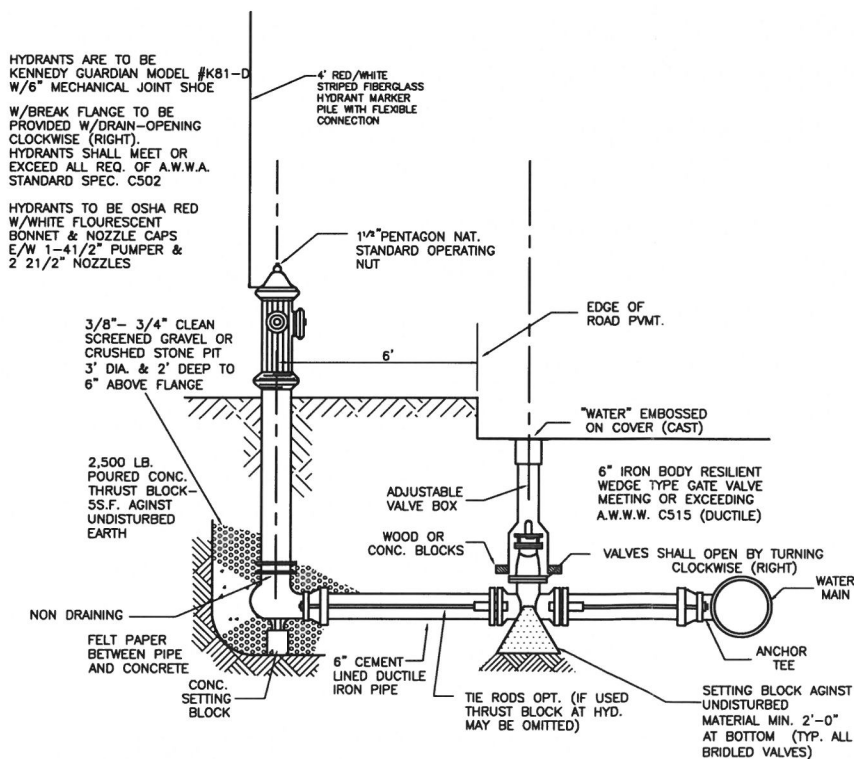


- NOTES:
1. ALL NON-METALLIC CONDUIT AND FITTINGS SHALL BE ELECTRICAL GRADE, SCHEDULE 40 PVC, AND SHALL CONFORM TO THE APPLICABLE SECTIONS OF NSM 122-1980 AND BE UL LISTED. ONLY GRAY-COLORED CONDUIT WILL BE ACCEPTED. ANY PVC CONDUIT NOT HAVING THE PROPER NSM AND UL MARKINGS WILL NOT BE ACCEPTED. ALL STEEL CONDUITS SHALL CONFORM TO ASTM A120 AND BE RIGID GALVANIZED STEEL. ALL PVC JOINTS MUST BE CEMENTED. STEEL FITTINGS SHALL BE SEALED WITH COMPOUND.
  2. ALL 90 DEGREE SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL WITH A MINIMUM RADIUS OF 38 INCHES FOR PRIMARY CABLES AND 24 INCHES FOR SECONDARY CABLES. ALL STEEL SWEEPS WITHIN 18" OF THE SURFACE SHALL BE PROPERLY GROUNDED.
  3. A 10-FOOT HORIZONTAL SECTION OF RIGID GALVANIZED STEEL CONDUIT WILL BE REQUIRED AT EACH SWEEP, UNLESS IN THE OPINION OF THE PSNH DESIGNER, THE SWEEP-PVC JOINT IS NOT SUBJECT TO FAILURE DURING CABLE PULLING.
  4. THE CONDUIT SHALL CROSS PAVED AREAS AT APPROXIMATELY 90 DEGREES.
  5. BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL, OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY PSNH. BACKFILL SHALL BE FREE OF FROZEN LAMPS, ROCKS, DEBRIS, AND RUBBISH. ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE THOROUGHLY COMPACTED IN 8-INCH LAYERS.
  6. A SUITABLE PULL STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE PSNH IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
  7. ROUTING OF THE CONDUIT AND INSPECTION PRIOR TO BACKFILL WILL BE PROVIDED BY PSNH. INSTALLATION OF THE CONDUIT WILL BE DONE BY THE CONTRACTOR. THE PSNH SUPERVISOR MUST BE NOTIFIED 2 BUSINESS DAYS PRIOR TO BACKFILLING THE TRENCH. IN THE EVENT THAT A CABLE CANNOT BE SUCCESSFULLY PULLED THROUGH THE COMPLETED CONDUIT SYSTEM DUE TO A CONSTRUCTION ERROR, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND REPAIR THE INVOLVED CONDUIT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL RESULTING EXPENSES.
  8. NORMAL CONDUIT SIZES FOR PSNH ARE 3-INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4-INCH FOR THREE PHASE SECONDARY, AND 5-INCH FOR THREE PHASE PRIMARY.
  9. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE THE NATIONAL ELECTRIC CODE.
  10. CONDUIT 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.

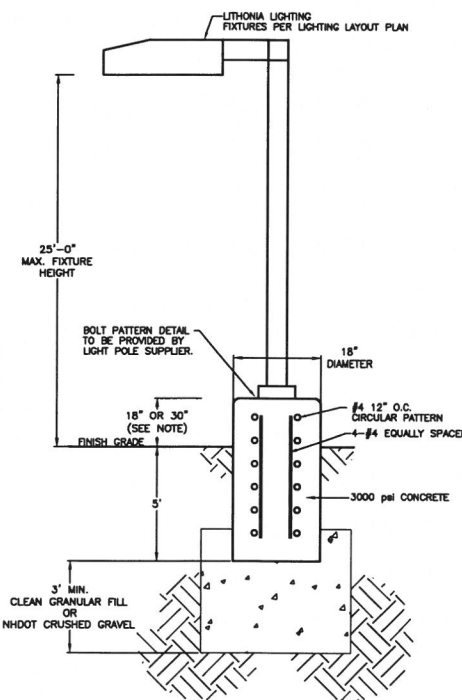
**ELECTRICAL & UNDERGROUND UTILITY TRENCH INSTALLATION DETAIL**  
NOT TO SCALE



**WATER MAIN CONNECTION**  
NOT TO SCALE



**TYPICAL HYDRANT SECTION**  
NOT TO SCALE



**POLE MOUNTED LIGHT DETAIL**  
NOT TO SCALE

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

**UTILITY DETAILS**  
TAX MAP 243, LOTS 34  
145 AIRPORT DRIVE  
ROCHESTER, NH  
PREPARED FOR:  
**LDI SOLUTIONS, LLC**

SCALE: AS SHOWN AUGUST 2020

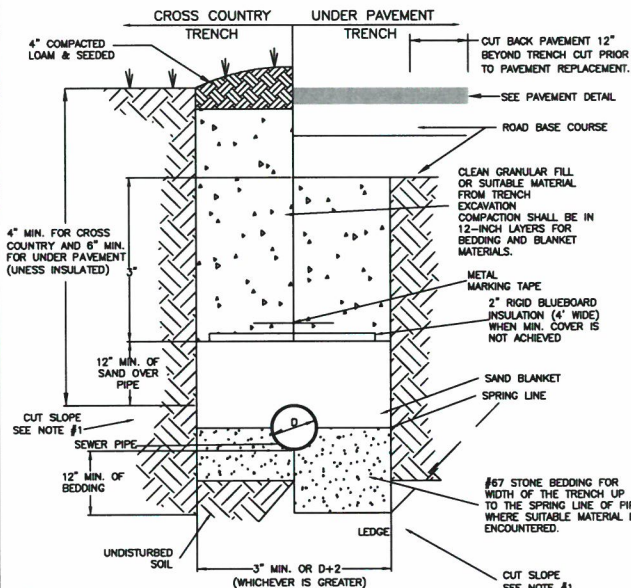
FILE NO. 104  
PLAN NO. C-3013  
DWG NO. 20125(SP-1)  
F.B. NO. SDR-TJR

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





09/02/20 - REVISE BEDDING STONE TO #67 STONE.

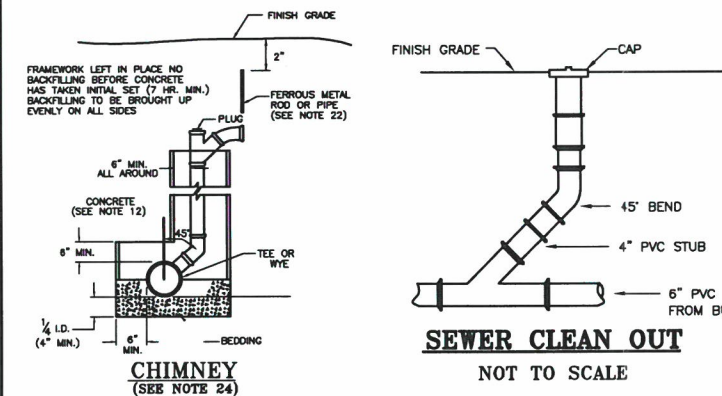


- NOTES:
1. PIPES MAY BE INSTALLED BY EXCAVATING AN OPEN TRENCH WITH SIDE SLOPES OF 1:1 MAXIMUM TO A DEPTH OF 4'-FT. INSTALLATIONS DEEPER THAN 4'-FT REQUIRE THE USE OF A TRENCH BOX.
  2. PIPE MATERIALS SHALL BE AS SPECIFIED ON THE DESIGN PLAN.
  3. SAND BLANKET MAY BE OMITTED FOR REINFORCED CONCRETE PIPE.
  4. 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.
  5. THE PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND FREE FROM ORGANIC MATERIALS, GRADED SUCH THAT 100 PERCENT PASSES A 1/4-INCH SIEVE AND A MAXIMUM OF 15 PERCENT PASSES A #200 SIEVE.
  6. TRENCH BACKFILL MATERIAL IN ROADWAY LOCATIONS SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION, EXCLUDING:

- (1) DEBRIS;
- (2) PIECES OF PAVEMENT;
- (3) ORGANIC MATTER;
- (4) TOP SOIL;
- (5) WET OR SOFT MUCK;
- (6) PEAT OR CLAY;
- (7) EXCAVATED LEDGE MATERIAL;
- (8) ROCKS OVER 6 INCHES IN THE LARGEST DIMENSION; AND
- (9) ANY MATERIAL NOT APPROVED BY THE ENGINEER.

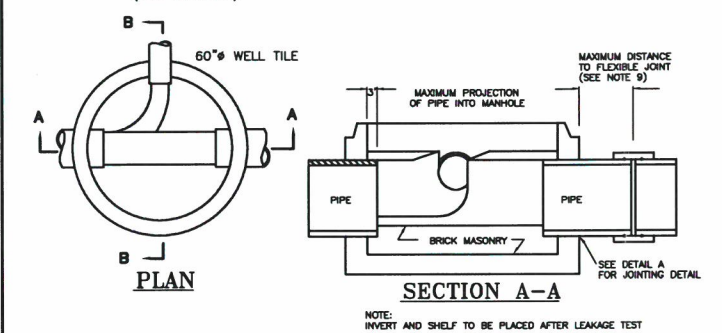
### SEWER PIPE TRENCH INSTALLATION DETAIL

NOT TO SCALE



### SEWER CLEAN OUT

NOT TO SCALE



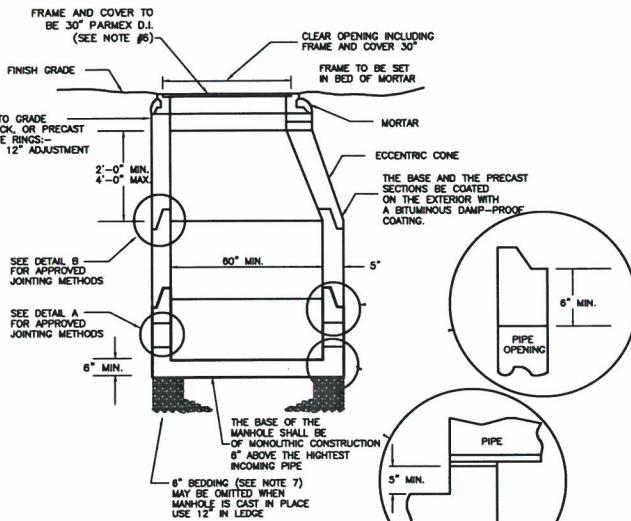
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PLAN NO. C-3013  
DWG NO. 20125\SP-1  
F.B. NO. SDR-TJR

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

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:

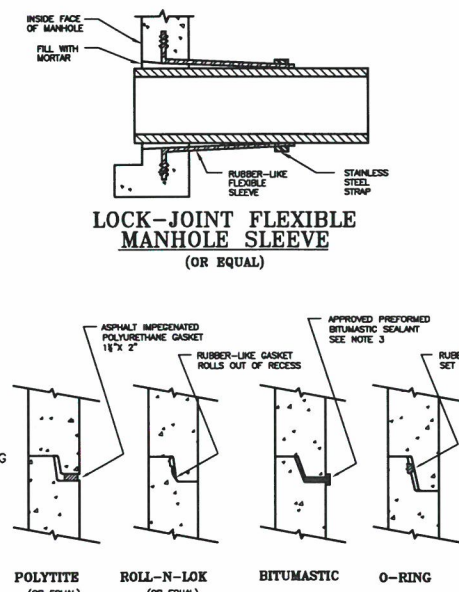
	4.5 PARTS	1.5 PARTS
NONE	4.5 PARTS	1 PART
0.5 PARTS	4.5 PARTS	1 PART

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.



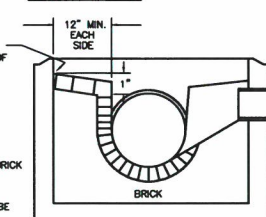
### TYPICAL SECTION

NOT TO SCALE  
REFER TO CHART ON MORTAR REQUIREMENT.



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

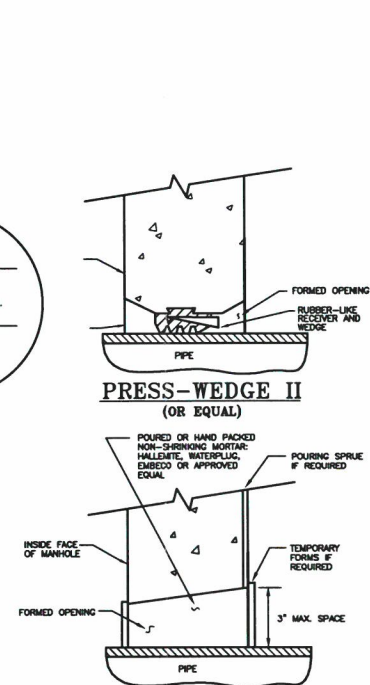
### DETAIL-B



### SECTION B-B

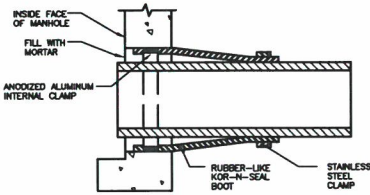
### INVERT DETAILS

NOT TO SCALE



### NON-SHRINKING MORTAR

(OR EQUAL)



### KOR-N-SEAL JOINT SLEEVE

(OR EQUAL)

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

### DETAIL-A

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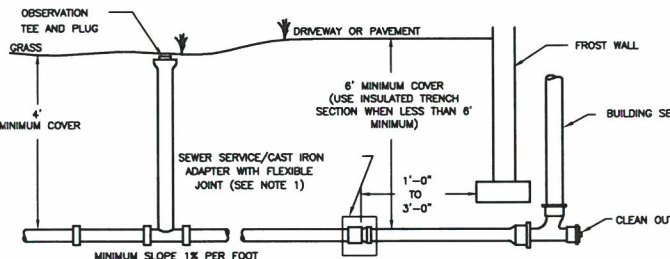
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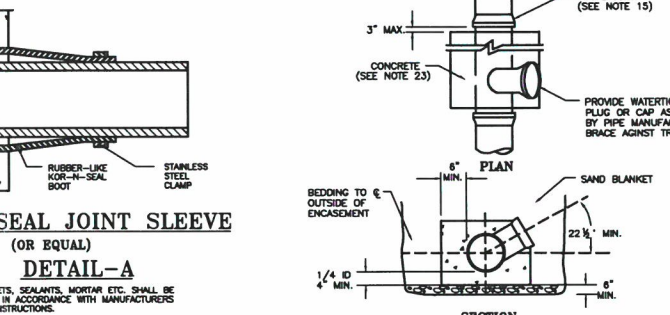
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### TYPICAL BUILDING SEWER SERVICE DETAIL

NOT TO SCALE



### CONCRETE FULL ENCASEMENT

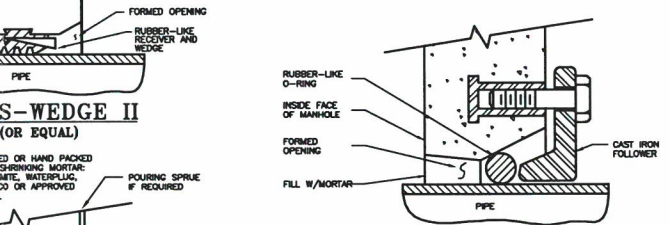


### SECTION



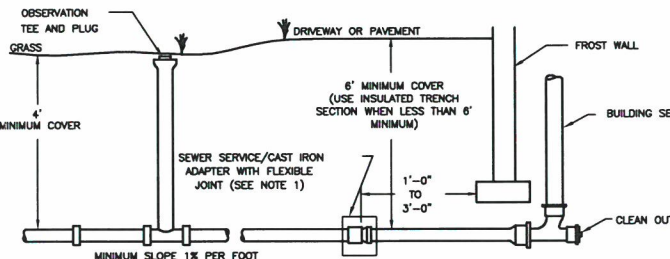
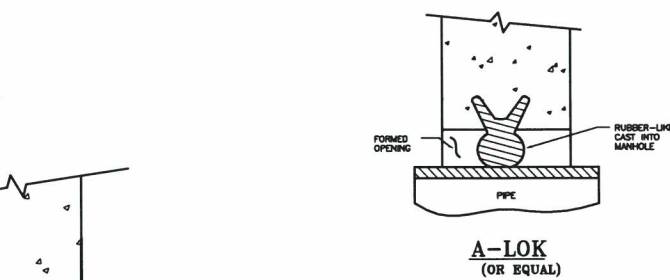
### RES-SEAL

(OR EQUAL)

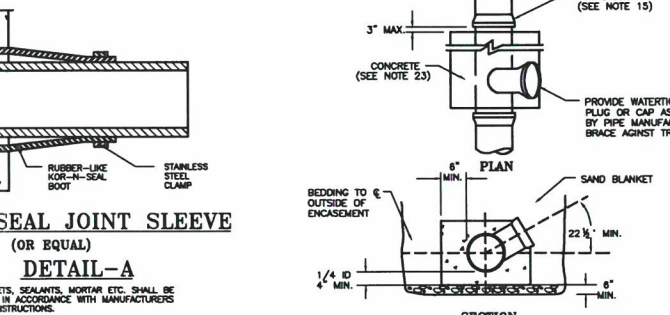


### A-LOK

(OR EQUAL)



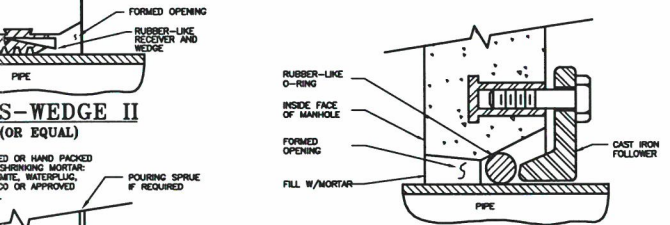
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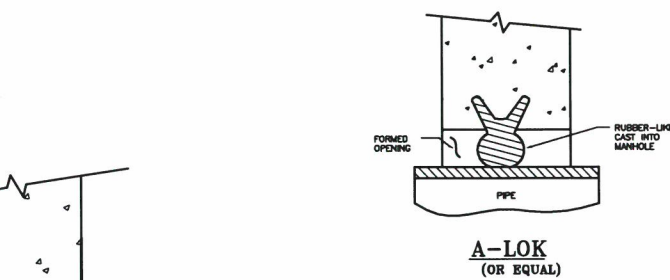
### SECTION



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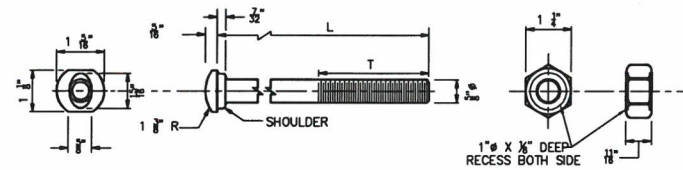
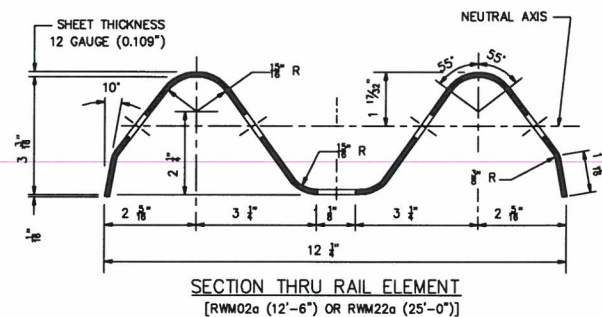
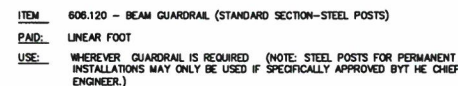


### SECTION

- NOTES:
1. 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 REINFORCEMENT, 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.
  2. BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED CONCRETE.
  3. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM 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.
  4. VACUUM LEAKAGE TESTING (ASTM C1244) 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.
  5. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELVE 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 SHELVE SHALL CONSIST OF BRICK MASONRY. BRICK MASONRY CONFORM WITH ASTM C32. INVERTS AND SHELVES SHALL NOT BE INSTALLED UNTIL AFTER SUCCESSFUL TESTING IS COMPLETED.
  6. 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.
  7. BEDDING: MIN. 6" OF #67 STONE (1 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 20-55% PASSING 3/8 INCH SCREEN 0-10% PASSING #4 SIEVE 0-5% PASSING #6 SIEVE WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE MIN. 3/4" SHALL BE USED.
  8. CONCRETE FOR DROP SUPPORT SHALL CONFORM TO THE REQUIREMENT FOR CLASS A (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
  9. FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:  
RCP & CI PIPE - ALL SIZES - 48"  
AC & VC PIPE - UP THROUGH 12" DIA. - 18" SEE NOTE 9.A  
AC & VC PIPE - LARGER THAN 12" DIA. - 36"  
DI PIPE - NONE REQUIRED  
PVC (ASTM 3034) - UP THROUGH 15" DIA. - NONE REQUIRED  
PVC (ASTM F 798) - LARGER THAN 15" DIA. - 48" TO 60"  
PVC (ASTM F 798) - ALL SIZES - 48" TO 60"  
8. 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.
  10. SHALLOW MANHOLE: 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 JOINT AND CAPABLE OF SUPPORTING H-20 LOADS.
  11. MANHOLE STEPS SHALL NOT BE PROVIDED WITHIN THE MANHOLES AS DIRECTED BY THE CITY OF ROCHESTER.
  12. MINIMUM SIZE PIPE FOR HOUSE SEWER SHALL BE 4 INCHES.
  13. 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. MANUFACTURERS 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 (P/Y) AT 7 1/2" DEFLECTION SHALL BE AS PSI 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-1174 (CLASS 125-B). A SAFETY FACTOR OF 2.5 SHALL BE USED FOR PRESSURE RATING DETERMINATION WITH A STANDARD DIMENSION RATIO (SDR) NO HIGHER THAN 21.
  14. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
  15. JOINTS SHALL BE DEPENDENT UPON A DEPENDENT GASKET FOR WATER TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIAL USED. WHERE OFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
  16. TEES OR WYES: WHERE NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE. FOLLOWING MANUFACTURERS INSTRUCTIONS USING A BOLTED, CLAMPED, OR EPOXY-CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER. THE PRACTICE OF BREAKING AN OPENING WITH A SLIDING HAMMER, STUFFING CLOTH OR OTHER SUCH MATERIAL AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION, AND ANY OTHER SIMILAR CRUDE PRACTICES OR INEPT OR HASTY IMPROVISATIONS WILL NOT BE PERMITTED. THE CONNECTION SHALL BE CEMENT ENCASED AS SHOWN IN THE DETAIL UP TO AND INCLUDING 15" DIAMETER. DOES NOT APPLY TO INSTALLATIONS WHERE TEES & WYES ARE USED.
  17. 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 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 DRY THE TRENCH.
  18. 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 INSERTED JUST UPSTREAM FROM 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.  
B. 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 NOT, 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 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 DUG-UP IF NECESSARY AND RE-LAID SO AS TO ASSURE WATER-TIGHTNESS.
  19. ILLEGAL CONNECTION: NOTHING BUT SANITARY WASTE FLOW FROM THE HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINAGE OR DRAIN PIPES OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, DRAINAGE, OR GROUND WATER, SHALL NOT BE PERMITTED.
  20. 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.
  21. BEDDING: MIN. 3/4" CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33.6 100% 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 #6 SIEVE WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, MIN. 3/4" CRUSHED STONE SHALL BE USED.
  22. 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 AND IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPER.
  23. 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.
  24. 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. 26- ALL SEWER CONSTRUCTION SHALL BE CONSTRUCTED TO NHDES AND THE CITY OF ROCHESTER STANDARDS & SPECIFICATIONS.
  27. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST MANHOLES 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.
  28. 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 AN ELASTOMERIC OR MASTIC-LIKE GASKET.
  29. FOR BITUMASTIC TYPE JOINTS, THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
  30. APPROVED BITUMASTIC SEALANTS: MAN-SEAL, SEAL-NO.2, E.T.
  31. THE CONTRACTOR SHALL NOTIFY DIG-SAFE 1-888-344-7233 PRIOR TO CONSTRUCTION.

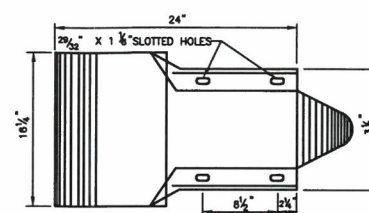
**SANITARY SEWER DETAILS**  
TAX MAP 243, LOT 34  
145 AIRPORT DRIVE  
ROCHESTER, NH  
PREPARED FOR:  
**LDI SOLUTIONS, LLC**  
SCALE: AS SHOWN AUGUST 2020



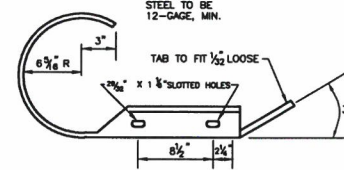


DESIGNATOR	L	T	INTENDED USE
FB001	1 3/4"	FULL LENGTH THREAD	RAIL SPLICE BOLTS
FB002	2"	1 3/4" MIN. THREAD LENGTH	POST BOLT (STEEL POSTS)
FR003	10"	4" MIN. THREAD LENGTH	POST BOLT

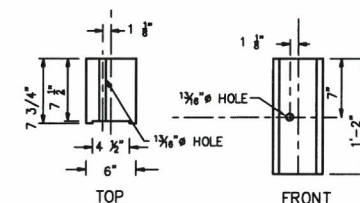
5/8" BUTTON HEAD BOLT AND RECESSED NUT



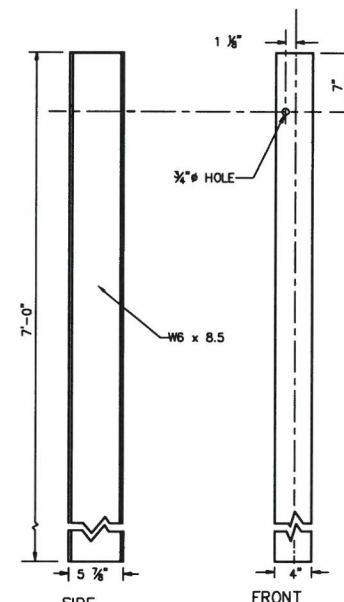
FRONT ELEVATION



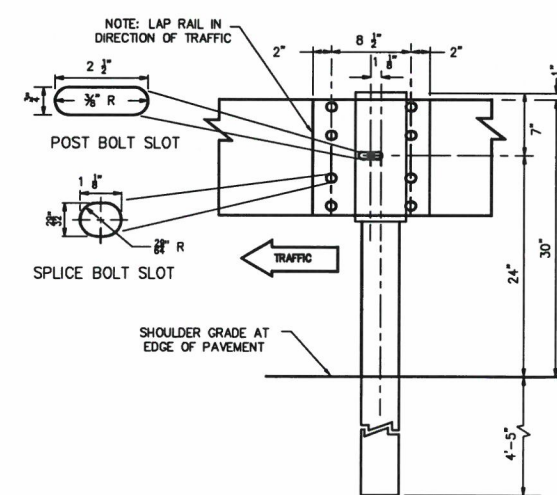
PLAN VIEW



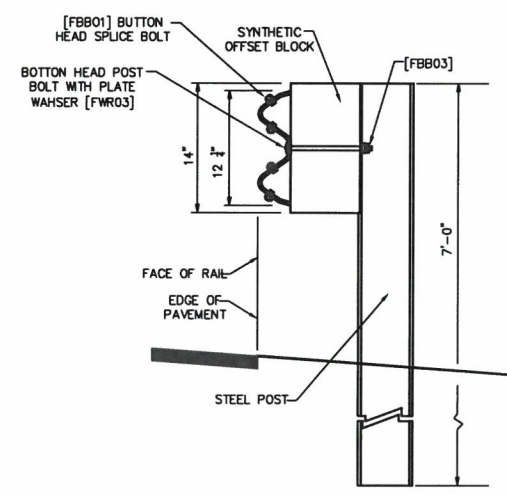
SYNTHETIC OFFSET BLOCK



STRUCTURAL SHAPE STEEL POST



LINE POST ELEVATION  
VIEW AT BEAM SPLICE



TYPICAL SIDE VIEW  
(SHOWN WITH FASTENERS)

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 NOTES

1. 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".
2. DESIGNATIONS PROVIDED IN BRACKETS ( ) REFERENCE "A GUIDE TO STANDARDIZED STANDARD ELEMENTS PALETTE" VERSION, HIGHWAY BARRIER HARDWARE" AASHTO-ASCE-ARTBA JOINT COOPERATIVE COMMITTEE.
3. THE RECTANGULAR PLATE SHAPE [FWRO] IS USED ONLY FOR 37'-6" OF STANDARD SECTION LENGTHS.
4. A TYPICAL UNIT LENGTH IS 30' (SEE STANDARD RAIL RADIUS).
5. USE 12'-6" LENGTH RAIL ELEMENT CURVES AT LESS THAN 300' RAIL RADIUS.
6. WHEN QUADRAIL IS INSTALLED BEHIND CURB, EITHER 8'-0" BEHIND SLOPE CURB OR A CURBED RAMP OR AT THE BACK OF SIDEWALK WITH BARRIER CURB, THE RAIL HEIGHT SHALL BE 5'-0" FROM THE TOP OF THE CURB TO THE TOP OF THE RAIL.
7. POSTS SHORTER THAN THE 7'-0" INDICATED ON THE DETAIL, BUT NOT LESS THAN 6'-0", MAY ONLY BE USED WHEN:
  - a) THE SLOPE BEHIND THE QUADRAIL IS NO STEEPER THAN 4:1
  - b) WHERE THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK OF THE SLOPE IS A MINIMUM OF 7'-0"
  - c) AND THEN ONLY AS APPROVED OR SPECIFICALLY SHOWN ON THE PLANS.
8. 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 FOR INSTALLATION SHALL BE INDICATED AND JUSTIFICATION FOR REDUCING THE EMBEDMENT DEPTH OF THE POSTS AND WILL NOT BE APPROVED AS SUCH.
9. THE FHWA ADMINISTRATION HAS APPROVED THE USE OF OFFSET BLOCKS WITH DIMENSIONS THAT VARY MORE THAN WOULD BE CONSIDERED WITHIN THE NORMAL CATEGORICAL OF NORMAL DIMENSIONS. IN ORDERS TO PROVIDE FOR THE USE OF OFFSET BLOCKS WITH DIMENSIONS OTHER THAN THE NORMAL DIMENSIONS SHOWN ON THE DETAILS, THE FOLLOWING CRITERIA MUST BE MET:
  - a) THE OFFSET BLOCKS BE SHOWN TO BE APPROVED BY THE FHWA ADMINISTRATION AS MEETING THE 10-3' CRITERIA.
  - b) THE BLOCKS BE APPROVED BY THE FHWA ADMINISTRATION THROUGH A 30% TESTING.
  - c) THE FACE OF RAIL MUST REMAIN AT THE EDGE OF PAVEMENT OR AT THE INDICATED OFFSET, PER THE DESIGN PLANS, AND
  - d) THERE MUST NOT BE A DECREASE IN THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK IN THE SLOPE AND IN THE DESIGN PLANS, AN INCREASE IN THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK IN THE SLOPE IS ACCEPTABLE.
10. ALL OTHER REQUIREMENTS OF THE PERTINENT SPECIFICATIONS AND DETAILS REMAIN IN FORCE.

#### REFERENCE NOTE

1. 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 34**  
**145 AIRPORT DRIVE**  
**ROCHESTER, NH**  
**PREPARED FOR:**  
**LDI SOLUTIONS, LLC**

SCALE: AS SHOWN

AUGUST 2020



LEGEND

- PROPERTY LINE
- - - JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- EXISTING OVERHEAD WIRES
- EXISTING LIGHT POLES
- PROPOSED BUILDING
- PROPOSED PAVEMENT
- PROPOSED PAVEMENT WITH CURBING
- PROPOSED TREE LINE
- PROPOSED SIGNS



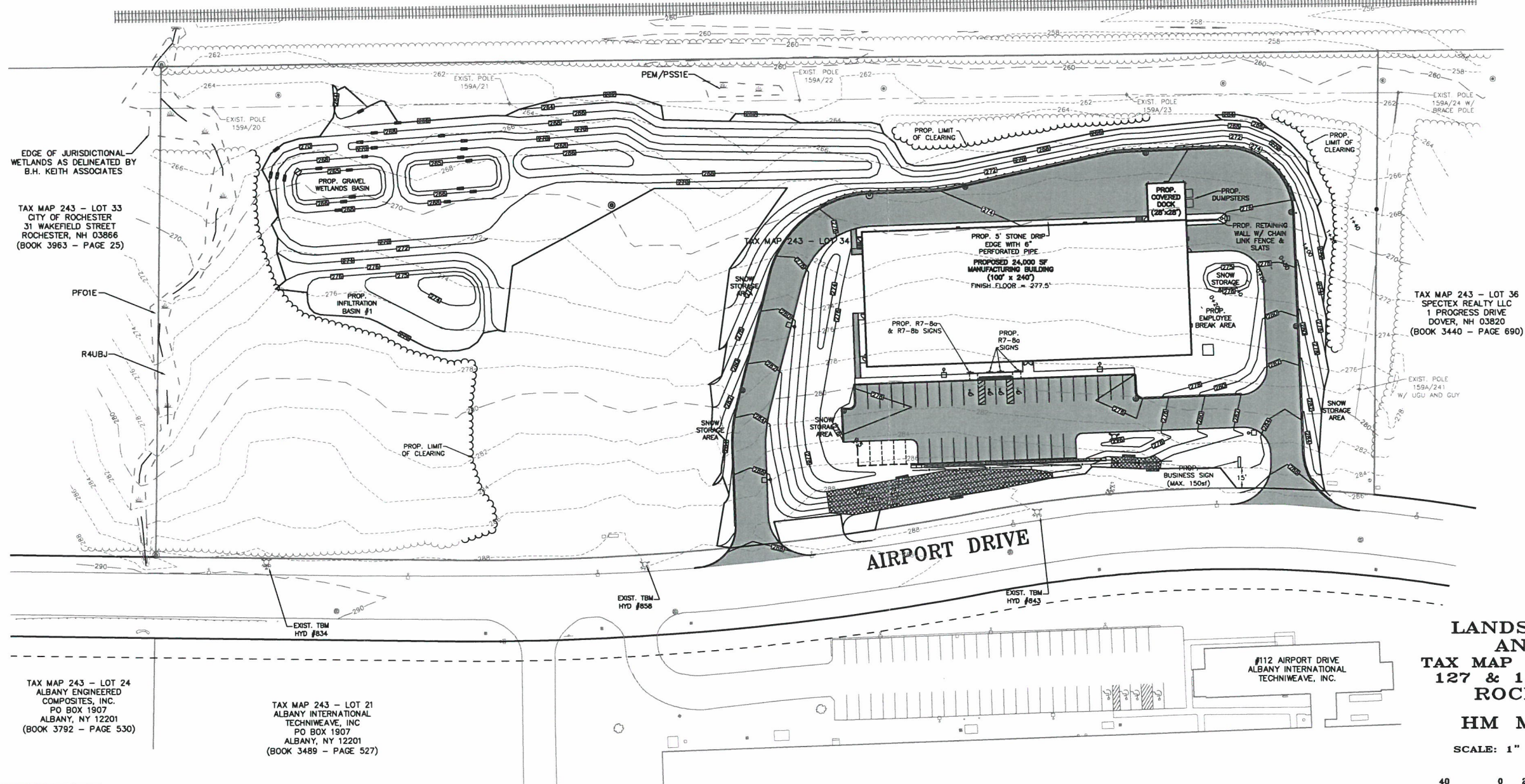
CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN 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.

TAX MAP 239 - LOT 26  
NH NORTHCOAST CORP  
PO BOX 429  
OSSISPEE, NH 03864  
(BOOK 1706 - PAGE 532)

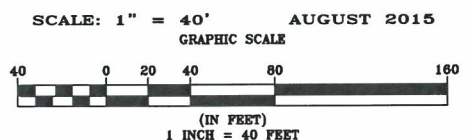
TAX MAP 241 - LOT 21  
LINDA SARGENT AND  
MARTHA J. FOWLER  
671 SALMON FALLS ROAD  
ROCHESTER, NH 03867  
(BOOK 2003 - PAGE 684)

TAX MAP 242 - LOT 5  
CITY OF ROCHESTER  
31 WAKEFIELD STREET  
ROCHESTER, NH 03866  
(BOOK 3963 - PAGE 25)

NEW HAMPSHIRE NORTHCOAST CORPORATION



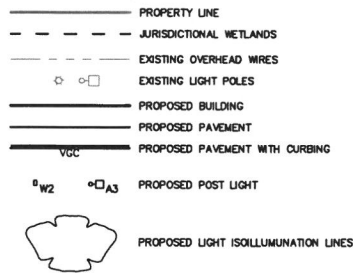
LANDSCAPING PLAN  
AND DETAILS  
TAX MAP 243, LOTS 34 & 35  
127 & 145 AIRPORT DRIVE  
ROCHESTER, NH  
PREPARED FOR:  
HM MACHINE, LLC



FILE NO. 104  
PLAN NO. C-2751  
DWG. NO. 15111/SP-1  
F.B. NO. SDR-TJR



LEGEND



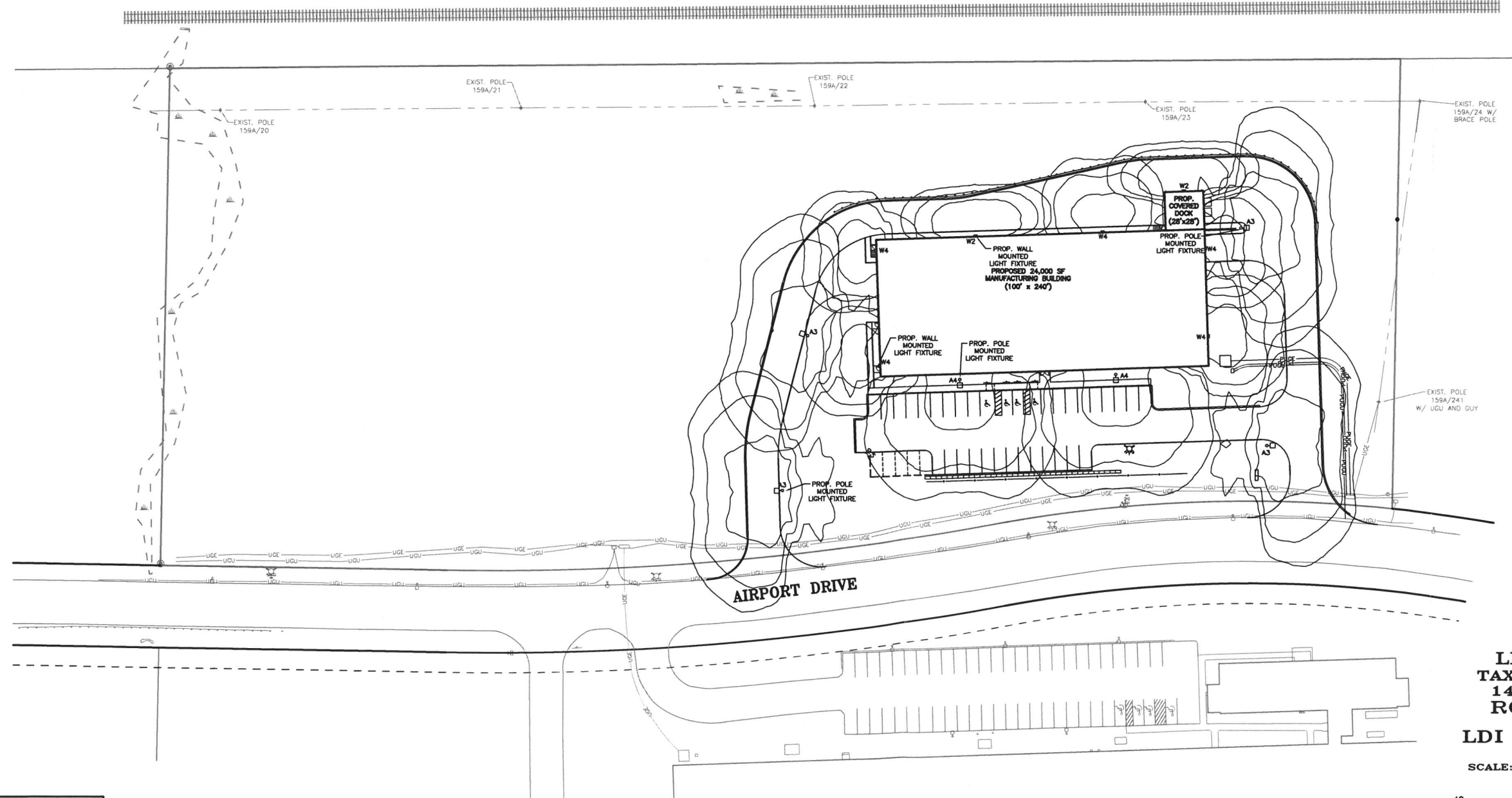
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps
□	A3	4	Lithonia Lighting	DSX0 LED 40C 1000 40K T3M MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINES, TYPE T3M OPTIC, 4000K, @ 1000mA, mounted at 25ft	LED	1
□	A4	2	Lithonia Lighting	DSX0 LED 40C 1000 40K TFTM MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINES, TYPE TFTM OPTIC, 4000K, @ 1000mA, mounted at 25ft	LED	1
□	W2	2	Lithonia Lighting	DSXW1 LED 20C 1000 40K T2S MVOLT	DSXW1 LED WITH (2) 10 LED LIGHT ENGINES, TYPE T2S OPTIC, 4000K, @ 1000mA, mounted at 18ft	LED	1
□	W4	5	Lithonia Lighting	DSXW1 LED 20C 1000 40K TFTM MVOLT	DSXW1 LED WITH 2 LIGHT ENGINES, 20 LED's, 1000mA DRIVER, 4000K LED, TYPE FORWARD THROW MEDIUM OPTIC, mounted at 18ft	LED	1



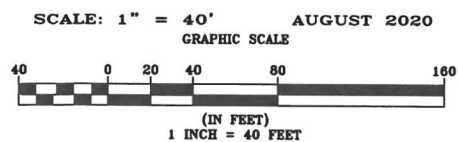
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LIGHTING DESIGN BY:  
**VISIBLE LIGHT, INC.**  
LIGHTING FOR COMMERCIAL AND INDUSTRIAL SITES, AND ROADWAYS  
8 Merrill Industrial Drive Phone: (603) 326-8046  
Hampton, NH 03843E-mail: [planning@visiblelightinc.com](mailto:planning@visiblelightinc.com) (603) 326-8708

NEW HAMPSHIRE NORTHCOAST CORPORATION

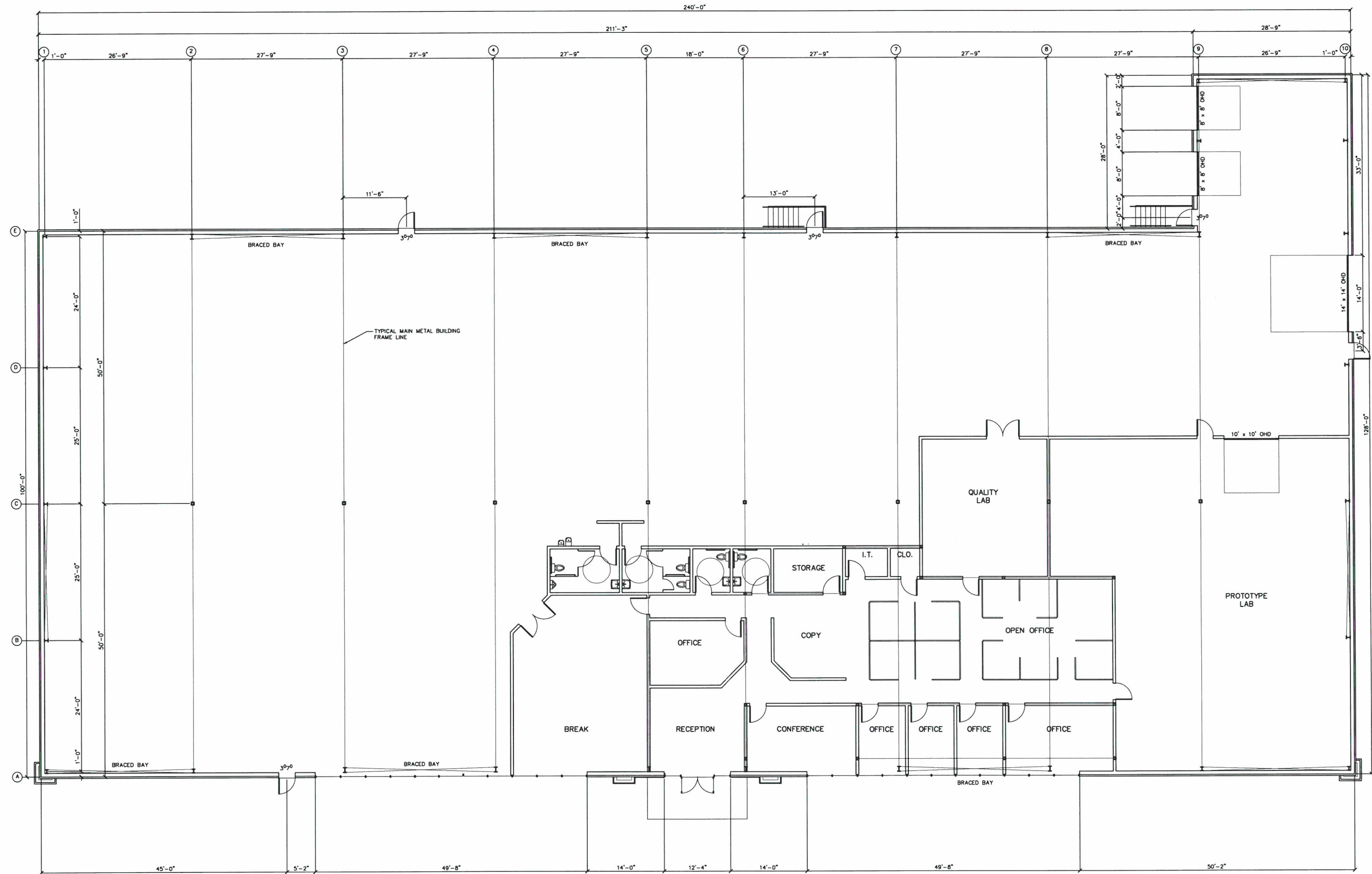


**LIGHTING PLAN**  
**TAX MAP 243, LOT 34**  
**145 AIRPORT DRIVE**  
**ROCHESTER, NH**  
PREPARED FOR:  
**LDI SOLUTIONS, LLC**



FILE NO. 104  
PLAN NO. C-3013  
DWG NO. 20125\SP-1  
F.B. NO. SDR-TJR





**JSN**  
Associates, LLC  
Consulting Structural Engineers  
One Autumn Street  
Portsmouth, NH 03801  
Phone: (603) 433 - 8639  
www.jsneng.com

Client:  
Budel Construction  
Rochester, NH

New Facility for LDI Solutions, LLC  
Rochester, NH


Date: -  
Scale: As Noted  
Design By: RB  
Approved By: -

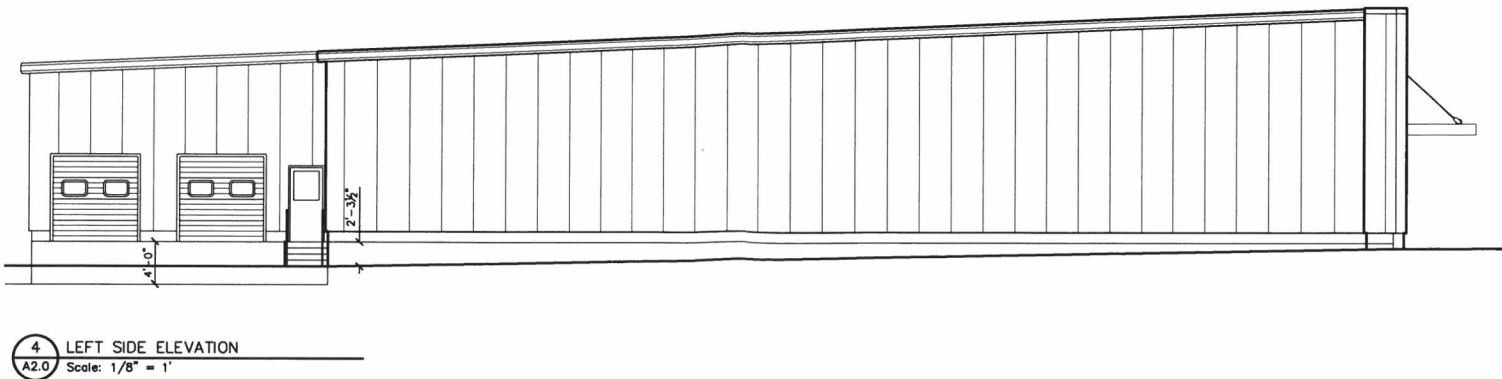
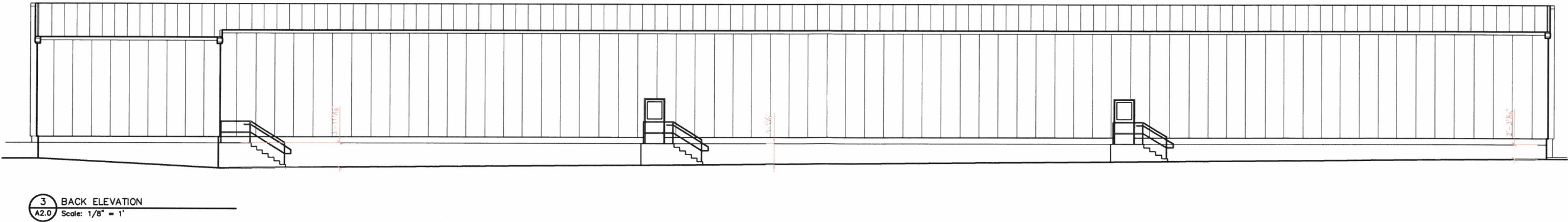
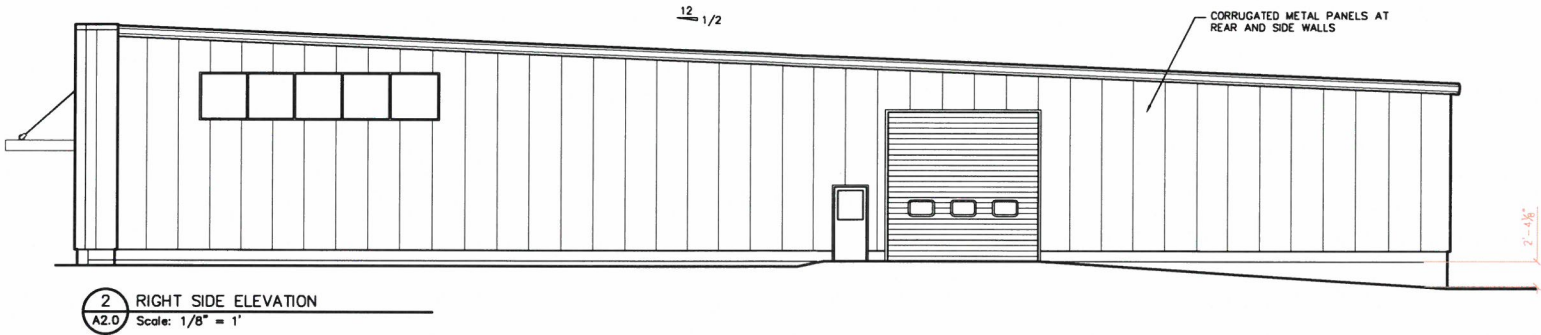
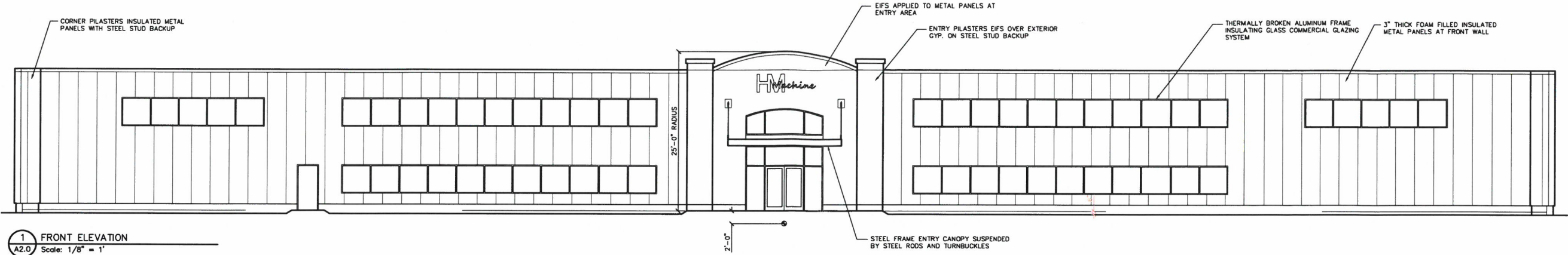
Revisions

First Floor Plan  
**A1.0**  
Project No: 151015

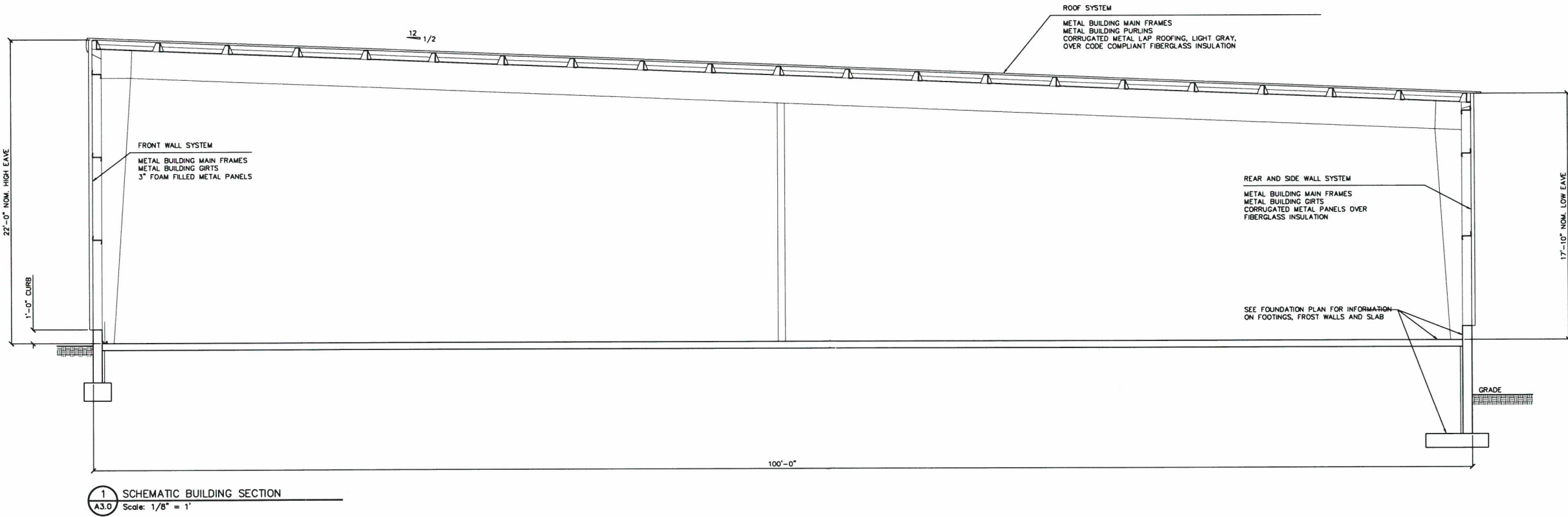
**1** FIRST FLOOR PLAN  
A1.0 Scale: 1/8" = 1'  
NOTE: DIMENSIONS ARE TAKEN FROM FACE OF GIRD AND FOUNDATION. FACE OF INSULATED METAL PANELS IS 3" OUTBOARD OF THAT.



Revisions







**JSN**  
Associates, LLC  
Consulting Structural Engineers  
One Autumn Street  
Portsmouth, NH 03801  
Phone: (603) 433 - 8639  
www.jsneng.com

Client:  
Budel Construction  
Rochester, NH

New Facility for LDI Solutions, LLC  
Rochester, NH

Date:	-
Scale:	As Noted
Design By:	RB
Approved By:	-

Revisions

Schematic  
Section  
**A3.0**  
Project No: 151015