

201 STORAGE, LLC

201 HIGHLAND STREET · ROCHESTER · NEW HAMPSHIRE

RECEIVED
JUN 25 2019
By _____

SITE PLANS
JUNE, 2019

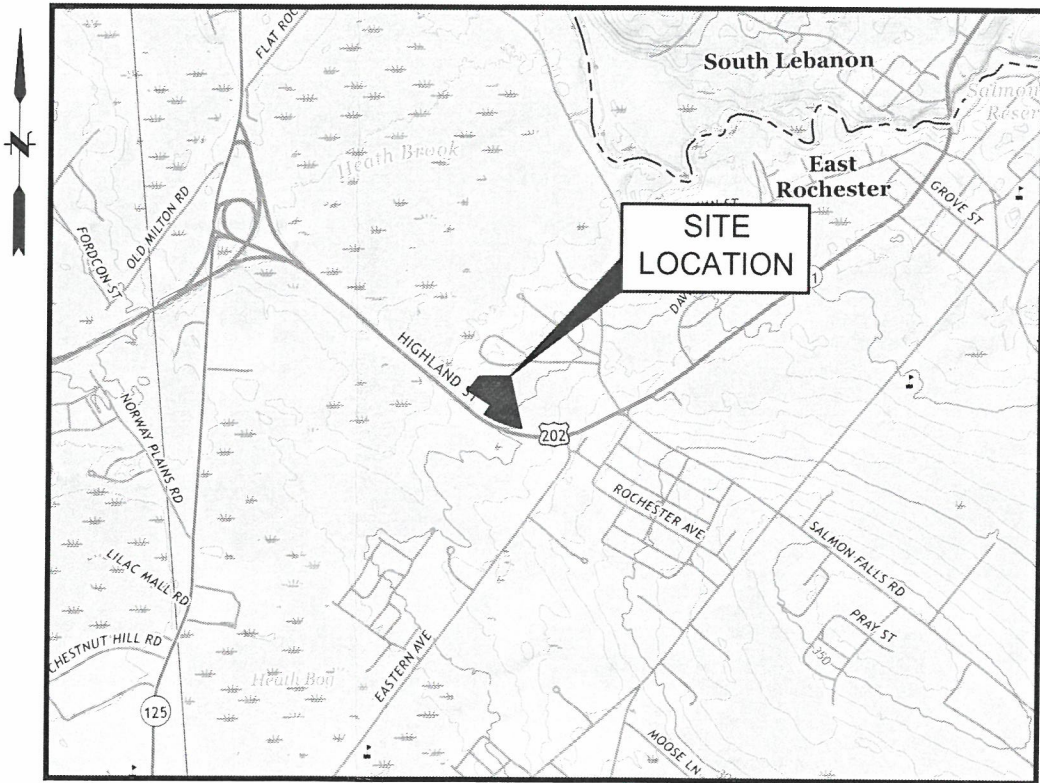
PREPARED FOR
201 STORAGE, LLC
125 OCEAN ROAD
GREENLAND, NH 03840



PREPARED BY
FUSS & O'NEILL
UPPER SQUARE BUSINESS CENTER
5 FLETCHER STREET, SUITE 1
KENNEBUNK, MAINE 04043
207.363.0669
www.fando.com

SHEET INDEX

SHEET No.	SHEET TITLE
GI-001	COVER SHEET
CN-001	LEGEND
C-100	AS-BUILT EXISTING CONDITIONS PLAN
CP-101	SITE PREPARATION PLAN
CS-101	SITE PLAN
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CD-501	POROUS PAVEMENT DETAILS
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	LIGHTING PLAN
A 2.0	ELEVATIONS



LOCATION MAP
SCALE: 1" = 1200'



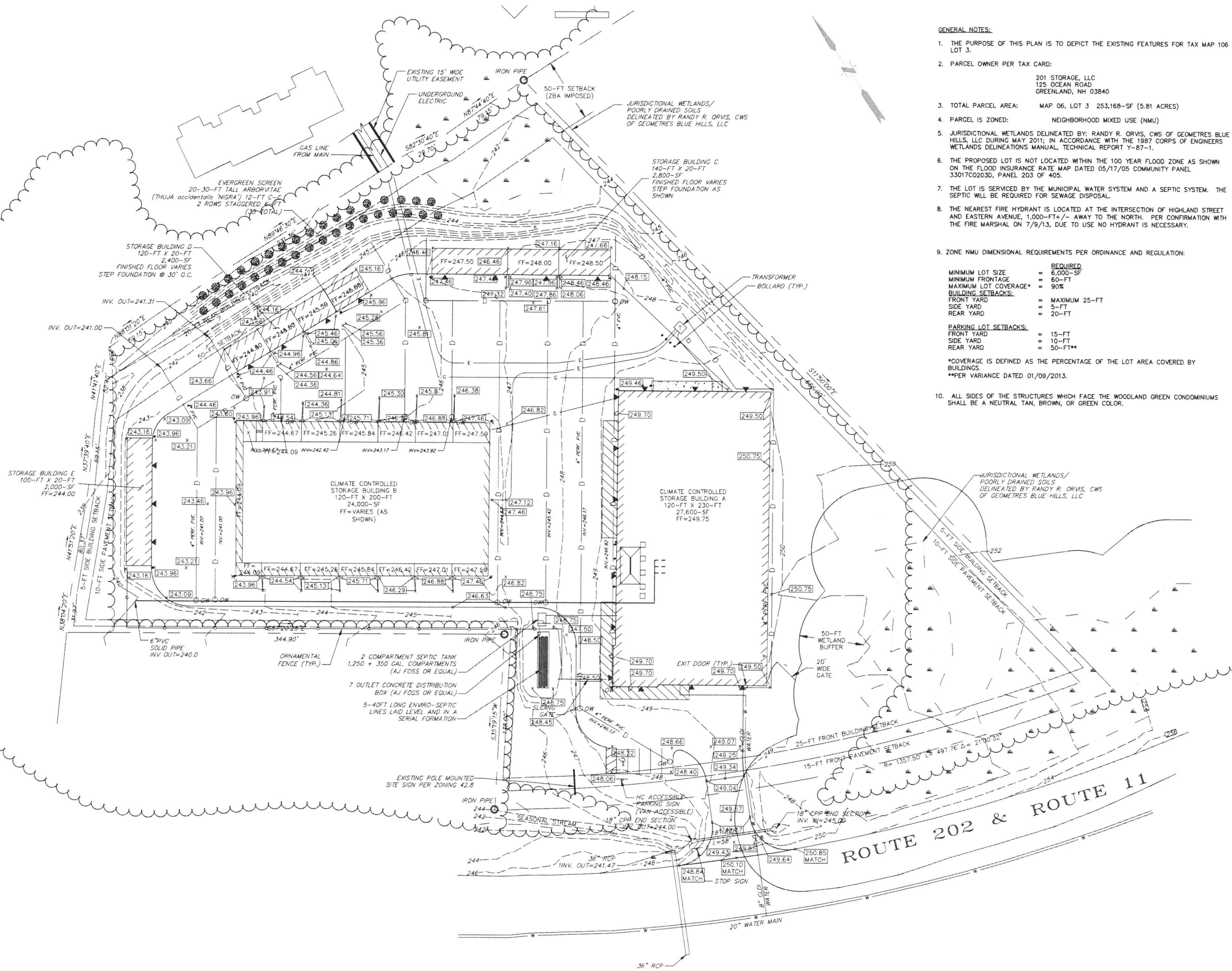
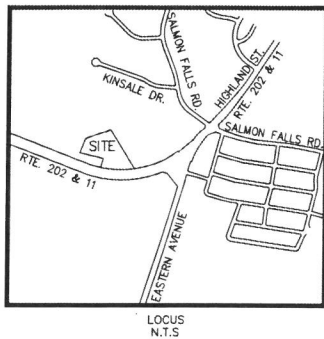
CONTACT DIG SAFE 72 HOURS
PRIOR TO CONSTRUCTION
THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON
THIS PLAN IS APPROXIMATE. GLD CONSULTING ENG.
INC. MAKES NO CLAIM TO THE ACCURACY OR
COMPLETENESS OF UTILITIES SHOWN. 72 HOURS PRIOR
TO ANY EXCAVATION ON SITE, THE CONTRACTOR SHALL
CONTACT DIG-SAFE AT 1-888-DIG-SAFE.



PROJ. No.: 20181369.A10
DATE: JUNE 2019

GI-001

SHEET 1 OF 14



- GENERAL NOTES:**
1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING FEATURES FOR TAX MAP 106 LOT 3.
 2. PARCEL OWNER PER TAX CARD:
201 STORAGE, LLC
125 OCEAN ROAD
GREENLAND, NH 03840
 3. TOTAL PARCEL AREA: MAP 06, LOT 3 253,168-SF (5.81 ACRES)
 4. PARCEL IS ZONED: NEIGHBORHOOD MIXED USE (NNU)
 5. JURISDICTIONAL WETLANDS DELINEATED BY: RANDY R. ORVIS, CWS OF GEOMETRES BLUE HILLS, LLC DURING MAY 2011; IN ACCORDANCE WITH THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATIONS MANUAL, TECHNICAL REPORT Y-87-1.
 6. THE PROPOSED LOT IS NOT LOCATED WITHIN THE 100 YEAR FLOOD ZONE AS SHOWN ON THE FLOOD INSURANCE RATE MAP DATED 05/17/05 COMMUNITY PANEL 33017C0203D, PANEL 203 OF 405.
 7. THE LOT IS SERVICED BY THE MUNICIPAL WATER SYSTEM AND A SEPTIC SYSTEM. THE SEPTIC WILL BE REQUIRED FOR SEWAGE DISPOSAL.
 8. THE NEAREST FIRE HYDRANT IS LOCATED AT THE INTERSECTION OF HIGHLAND STREET AND EASTERN AVENUE, 1,000-FT+/- AWAY TO THE NORTH. PER CONFIRMATION WITH THE FIRE MARSHAL ON 7/9/13, DUE TO USE NO HYDRANT IS NECESSARY.
 9. ZONE NNU DIMENSIONAL REQUIREMENTS PER ORDINANCE AND REGULATION:

MINIMUM LOT SIZE	=	REQUIRED
MINIMUM FRONTAGE	=	6,000-SF
MAXIMUM LOT COVERAGE*	=	90%
BUILDING SETBACKS:		
FRONT YARD	=	MAXIMUM 25-FT
SIDE YARD	=	5-FT
REAR YARD	=	20-FT
PARKING LOT SETBACKS:		
FRONT YARD	=	15-FT
SIDE YARD	=	10-FT
REAR YARD	=	50-FT**

*COVERAGE IS DEFINED AS THE PERCENTAGE OF THE LOT AREA COVERED BY BUILDINGS.
**PER VARIANCE DATED 01/09/2013.
 10. ALL SIDES OF THE STRUCTURES WHICH FACE THE WOODLAND GREEN CONDOMINIUMS SHALL BE A NEUTRAL TAN, BROWN, OR GREEN COLOR.

DESIGNER REVIEWER

DESCRIPTION

DATE

4/23

SCALE: 1" = 40'

HORIZ.: 1" = 40'

VERT.: 1" = 40'

DATUM: NAD83

HORIZ.: NAD83

VERT.: NAVD88

GRAPHIC SCALE

FUSS & O'NEILL

UPPER SQUARE BUSINESS CENTER
5 FLETCHER STREET, SUITE 1
KENNEBUNK, MAINE 04043
207.363.0660
www.fussandoneill.com

201 STORAGE, LLC

AS-BUILT

EXISTING CONDITIONS PLAN

TAX MAP 106 LOT 3

201 HIGHLAND STREET ROCHESTER, NH

PROJ. No.: 20181369.A10

DATE: 06/25/19

CS-100

SHT 3 of 14

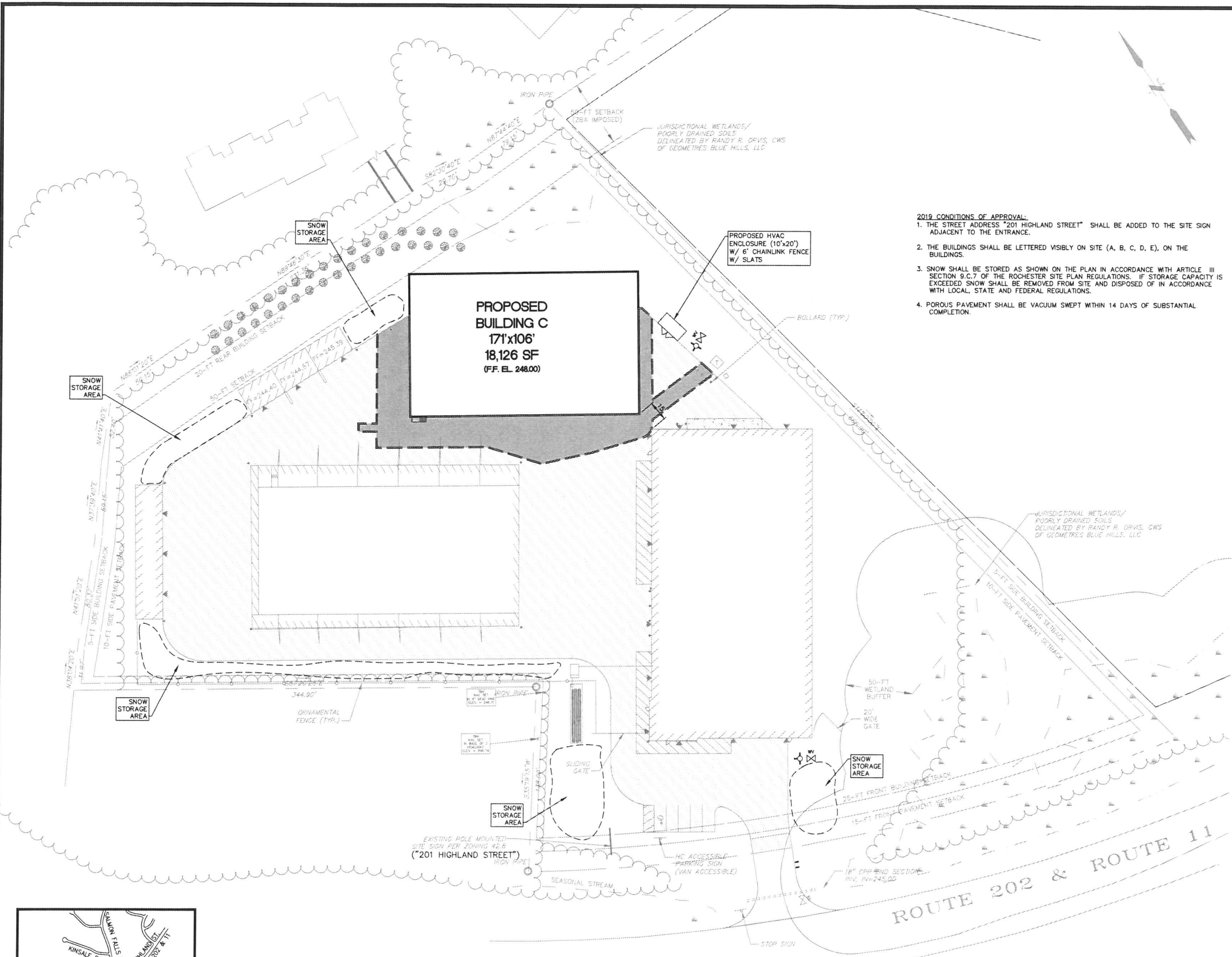
201 HIGHLAND STREET
ROCHESTER, NH

www.fando.com

A circular professional engineer seal for Richard R. Lundborn, No. 10543, State of New Hampshire. The seal features the text "RICHARD R. LUNDBORN No. 10543" in the center, "LICENSED PROFESSIONAL ENGINEER" around the inner border, and "STATE OF NEW HAMPSHIRE" around the outer border.

DESIGNER	REVIEWER
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File Path: F:\P2018\1369A\10\DWG\2018\1369A10_STP01.dwg Layout: CS-101 Plotted: Tue, June 25, 2019 - 2:02 PM User: ddugal
LAYER STATE: Platter: NONE CTB File: FO 2008 MONO.CTB STB



- 2019 CONDITIONS OF APPROVAL:**
1. THE STREET ADDRESS "201 HIGHLAND STREET" SHALL BE ADDED TO THE SITE SIGN ADJACENT TO THE ENTRANCE.
 2. THE BUILDINGS SHALL BE LETTERED VISIBLY ON SITE (A, B, C, D, E), ON THE BUILDINGS.
 3. SNOW SHALL BE STORED AS SHOWN ON THE PLAN IN ACCORDANCE WITH ARTICLE III SECTION 9.C.7 OF THE ROCHESTER SITE PLAN REGULATIONS. IF STORAGE CAPACITY IS EXCEEDED SNOW SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
 4. POROUS PAVEMENT SHALL BE VACUUM SWEEP WITHIN 14 DAYS OF SUBSTANTIAL COMPLETION.

- ORIGINAL CONDITIONS OF APPROVAL NOTES:**
1. FOR MORE INFORMATION REGARDING THIS SITE PLAN, PLEASE CONTACT THE CITY OF ROCHESTER, PLANNING DEPARTMENT, 31 WAKEFIELD STREET, ROCHESTER, NH 03867, TELEPHONE: (603) 335-1338.
 2. THE REAR SETBACK TO BOTH BUILDINGS AND PAVEMENT IS 50-FT PER THE CONDITIONS OF APPROVAL OF THE VARIANCE ALLOWING MINI-STORAGE GRANTED 01/09/13.
 3. THE PROJECT IS PROPOSED TO BE CONSTRUCTED IN 2 PHASES. PHASE 1 IS THE FIRST CLIMATE CONTROLLED BUILDING WITH 5 SMALLER BUILDINGS AND PHASE 2 WILL BE THE FUTURE CLIMATE CONTROLLED BUILDING.
 4. THE 4-FT TALL LANDSCAPE BERM AND THIRTY-FIVE (35) SIX (6) FOOT TALL ARBORVITAE IN TWO (2) STAGGERED ROWS SHALL BE INSTALLED IN PHASE 1 AS DEPICTED ON SHEET C-1 AND C-2.
 5. ALL OUTSIDE CONSTRUCTION ACTIVITY RELATED TO THE DEVELOPMENT OF THIS SITE IS RESTRICTED TO THE HOURS OF 7:00 AM TO 6:00 PM MONDAY THROUGH FRIDAY AND 8:00 AM TO 6:00 PM SATURDAY.
 6. 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 CITY STAFF AS APPROPRIATE TO ADDRESS THIS REQUIREMENT.
 7. 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 330-7162 WITH ANY QUESTIONS ABOUT ACCESS REQUIREMENTS.
 8. THERE IS A 50-FT BUFFER REQUIREMENT FROM WETLANDS UNDER THE CITY OF ROCHESTER ZONING ORDINANCE AS SHOWN ON THIS PLAN. THERE MAY BE NO ENCROACHMENT WITHIN THESE BUFFERS EXCEPT AS PERMITTED UNDER THE ORDINANCE.
 9. THE APPLICANT SHALL, IF APPLICABLE, OBTAIN A STORMWATER MANAGEMENT PERMIT FROM THE PUBLIC WORKS DEPARTMENT AND FOLLOW THE REQUIREMENTS OF 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 THE SOIL HAS BEEN DISTURBED.
 10. AN ORANGE CONSTRUCTION FENCE MUST BE PLACED ALONGSIDE THE WETLAND BUFFER PRIOR TO THE START OF CONSTRUCTION (THIS IS NOT REQUIRED IF THE SILT FENCE IS ORANGE).
 11. IF AN OFFICE IS TO BE BUILT IN THE FUTURE, IT WILL NEED TO BE APPROVED BY THE APPROPRIATE CITY OF ROCHESTER OFFICIALS.
 12. THE CHAIN LINK FENCE SHALL HAVE GREEN SLATS WHERE THE FENCE ABUTS RESIDENTIAL PROPERTIES OR ALONGSIDE THE ENTIRE LENGTH OF FENCING AS APPROVED BY THE PLANNING BOARD.
 13. PRIOR TO EACH PHASE, A PRE-CONSTRUCTION MEETING AGREEMENT IS TO BE SIGNED BY THE PROPERTY OWNER AND A PRE-CONSTRUCTION MEETING IS TO BE HELD.
 14. HOURS OF OPERATION ARE RESTRICTED TO 6:00AM TO 9:00PM WITH OCCASIONAL USE OUTSIDE THOSE HOURS BY APPOINTMENT ONLY.

- GENERAL NOTES:**
1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE PROPOSED LAYOUT FOR TAX MAP 106 LOT 3.
 2. PARCEL OWNER PER TAX CARD:
201 STORAGE, LLC
125 OCEAN ROAD
GREENLAND, NH 03840
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 7. THE LOT IS SERVICED BY THE MUNICIPAL WATER SYSTEM AND A SEPTIC SYSTEM. THE SEPTIC WILL BE REQUIRED FOR SEWAGE DISPOSAL.
 8. FIRE HYDRANTS TO BE INSTALLED AS SHOWN PER REVIEW OF THE FIRE DEPARTMENT.

9. ZONE NMU DIMENSIONAL REQUIREMENTS PER ORDINANCE AND REGULATION:

MINIMUM LOT SIZE	=	REQUIRED
MINIMUM FRONTAGE	=	6,000-SF
MINIMUM LOT COVERAGE*	=	60-FT
MAXIMUM LOT COVERAGE*	=	90%
BUILDING SETBACKS:		
FRONT YARD	=	MAXIMUM 25-FT
SIDE YARD	=	5-FT
REAR YARD	=	20-FT
PARKING LOT SETBACKS:		
FRONT YARD	=	15-FT
SIDE YARD	=	10-FT
REAR YARD	=	50-FT**

*COVERAGE IS DEFINED AS THE PERCENTAGE OF THE LOT AREA COVERED BY BUILDINGS.
**PER VARIANCE DATED 01/09/2013.

PARKING REQUIREMENTS

USE	OFFICE AREA	REQUIRED
OFFICE, PROFESSIONAL	1,200-SF	1 SPACE/250-SF = 4.8 SPACES
TOTAL REQUIRED		5 SPACES
TOTAL PROVIDED		5 SPACES

UTILITIES NOTE

ALL ELECTRIC, GAS, TELEPHONE, WATER, SEWER AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION. THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATION FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE: 1-888-DIG-SAFE (1-888-344-7233)

FINAL APPROVAL BY ROCHESTER PLANNING BOARD

CERTIFIED BY _____ DATE _____

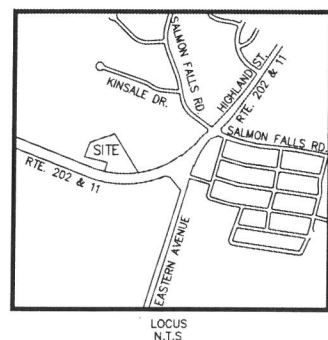
201 STORAGE, LLC
SITE PLAN
TAX MAP 106 LOT 3
201 HIGHLAND STREET ROCHESTER, NH

PROJ. No.: 20181369A10
DATE: 06/25/19
CS-101
SHEET 5 OF 14

SCALE: HORIZ.: 1" = 40'
VERT.: 1" = 40'
DATUM: NAD83
HORIZ.: NAVD88
VERT.: NAVD88
GRAPHIC SCALE

FUSS & O'NEILL
UPPER SQUARE BUSINESS CENTER
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KENNEBUNK, MAINE 04043
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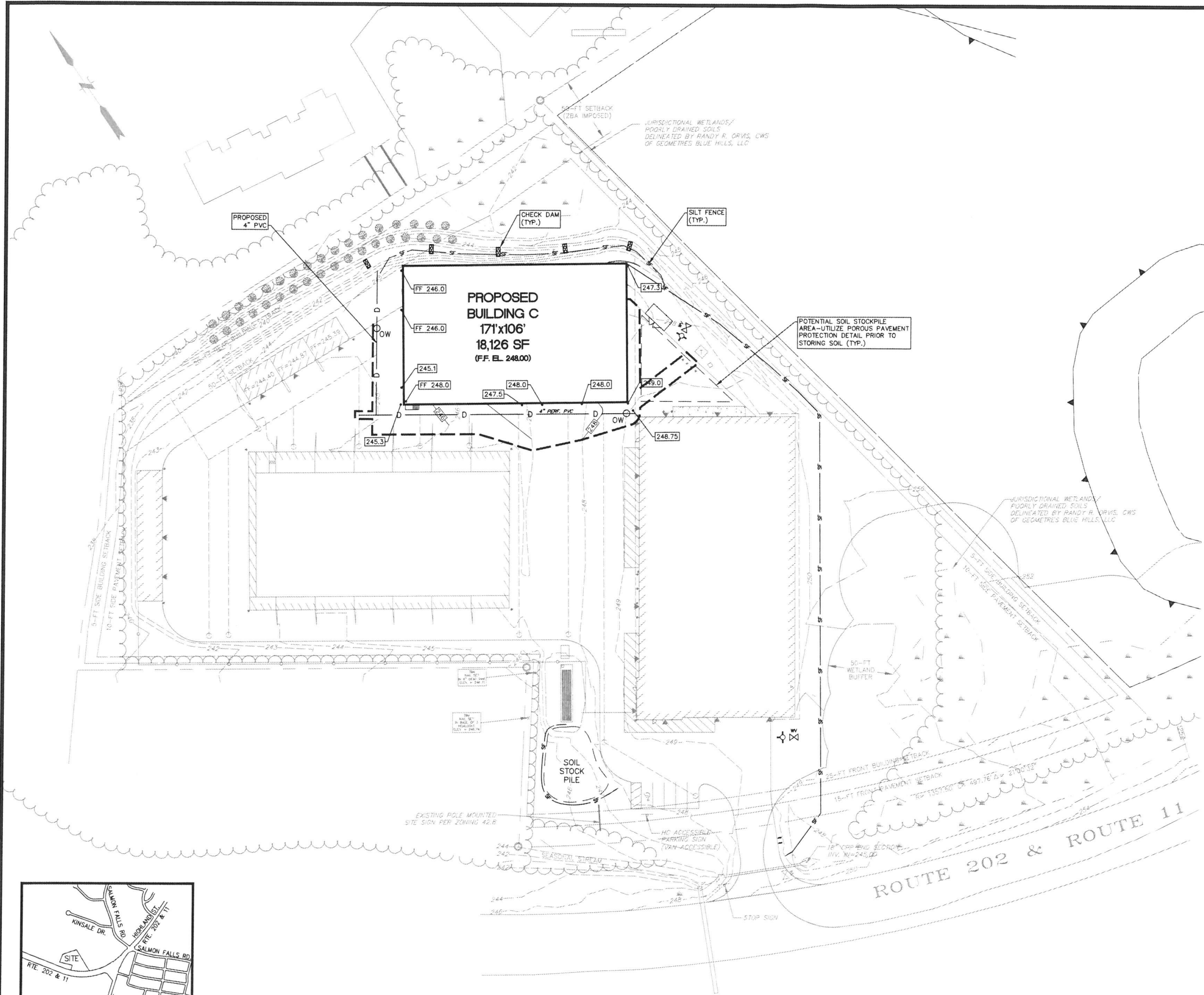
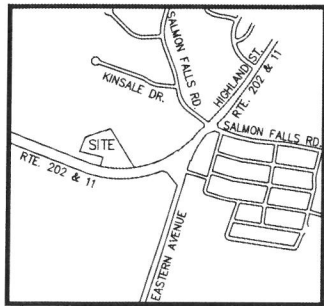
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DATE
DESCRIPTION



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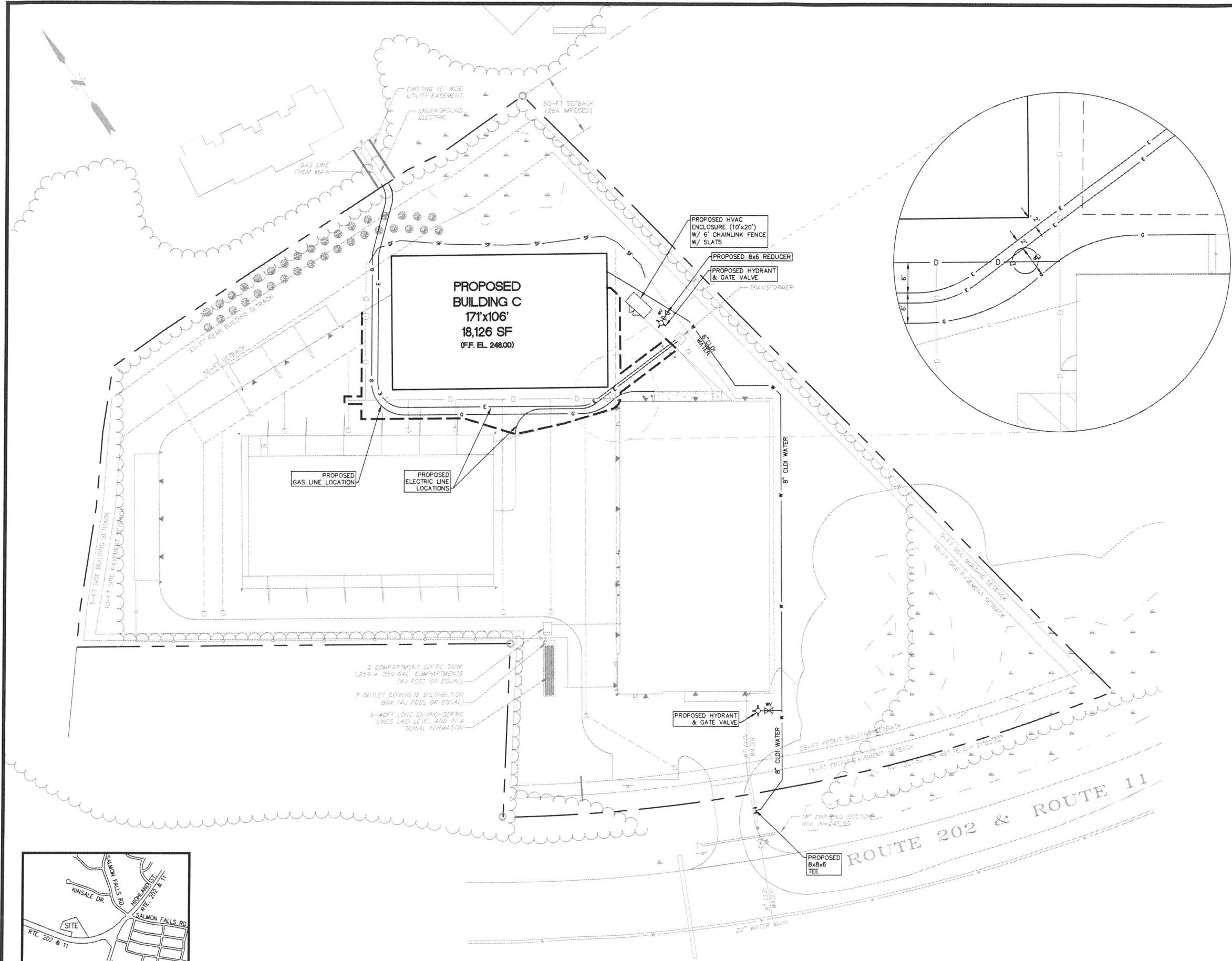
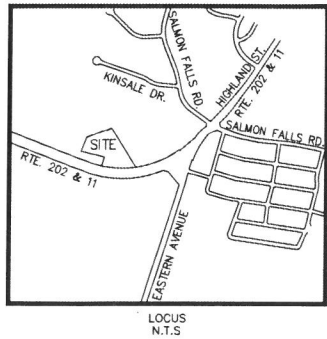
CERTIFIED BY _____ DATE _____

FUSS & O'NEILL
UPPER SQUARE BUSINESS CENTER
5 FLETCHER STREET, SUITE 1
KENNEBUNK, MAINE 04043
207.363.0609
www.fuso.com



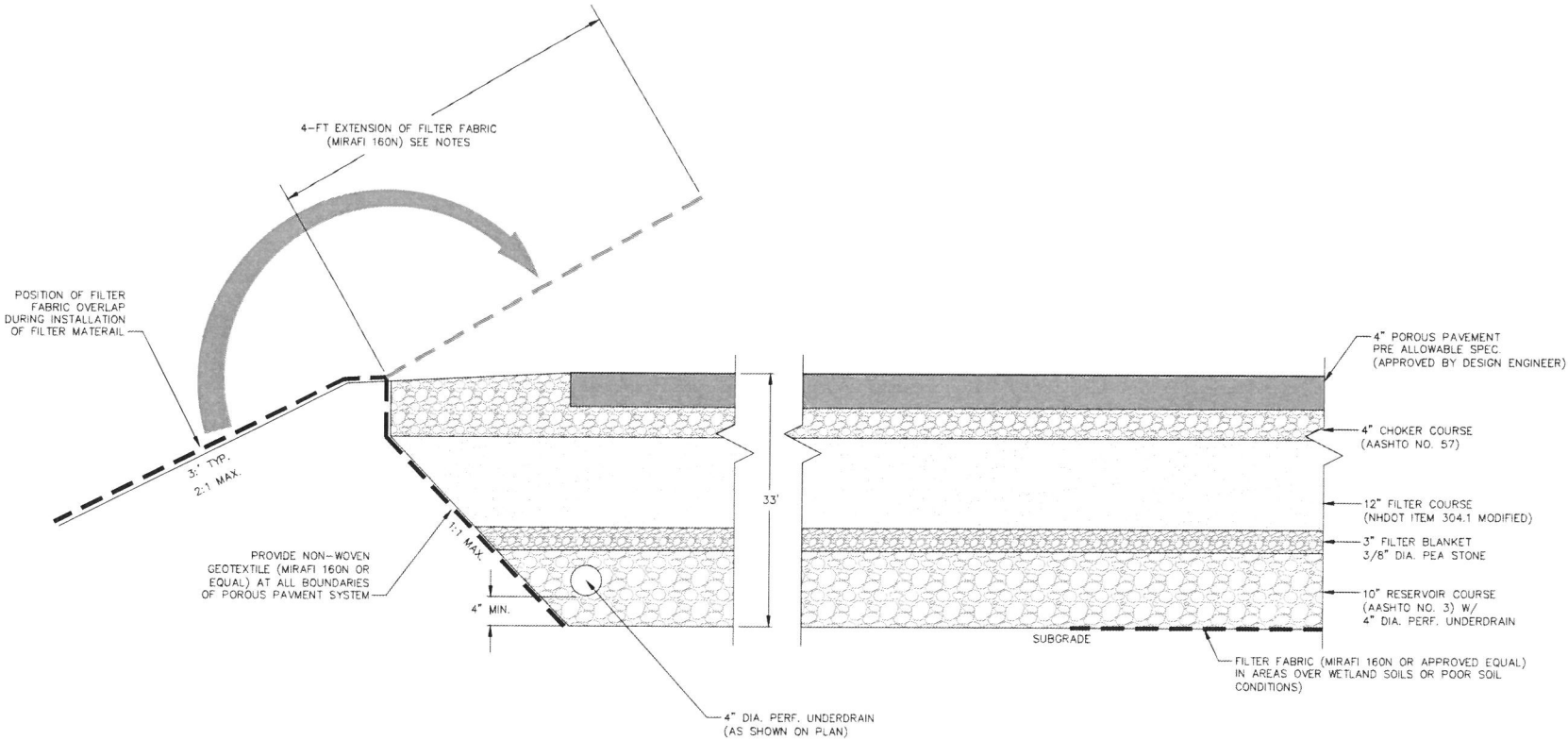
CONTACT DIG SAFE 72 HOURS
PRIOR TO CONSTRUCTION
THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS
PLAN IS APPROXIMATE. OLD CONSULTING ENG. INC. MAKES
NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES
SHOWN. 72 HOURS PRIOR TO ANY EXCAVATION ON SITE, THE
CONTRACTOR SHALL CONTACT DIG-SAFE AT 1-888-DIG-SAFE.

201 STORAGE, LLC		201 HIGHLAND STREET ROCHESTER, NH	
GRADING, DRAINAGE & EROSION CONTROL PLAN		TAX MAP 106 LOT 3	
PROJ. No: 20181369A10		DATE: 06/25/19	
CG-101		SHEET 7 OF 14	
FUSS & O'NEILL		RICHARD R. JUNDORF	
UPPER SQUARE BUSINESS CENTER		KENNESBURN, MAINE 00443	
5 HILLTOP STREET, SUITE 1		207.363AM669	
www.fuss.com		www.fuss.com	
SCALE: HORIZ: 1" = 40'		VERT: 1" = 40'	
DATUM: NAD83		VERT: NAVD83	
HORIZ: 1" = 40'		VERT: 1" = 40'	
GRAPHIC SCALE		DATE	
DESIGNER		REVIEWER	



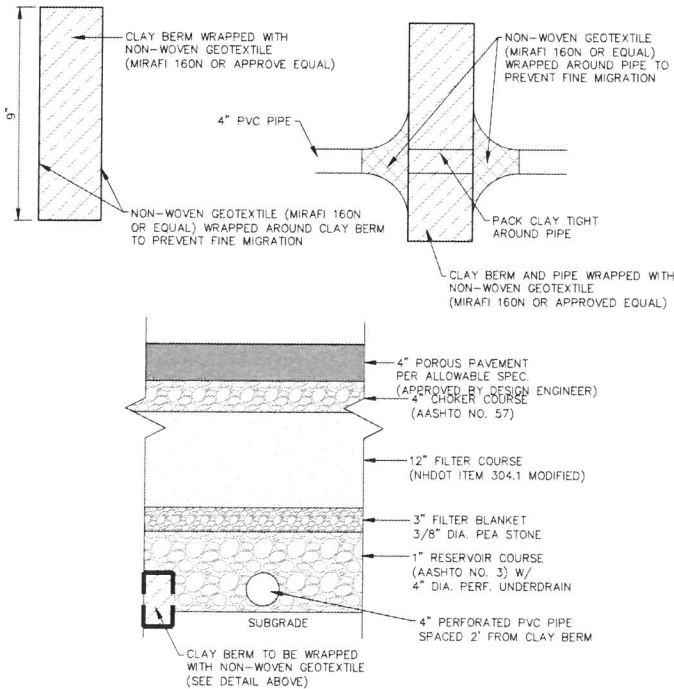
CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION
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201 STORAGE, LLC		UTILITIES PLAN		TAX MAP 106 LOT 3		201 HIGHLAND STREET ROCHESTER, NH	
PROJ. No.: 20181369.A10		DATE: 06/25/19		CU-101		SHEET 8 OF 14	
FUSS & O'NEILL		UPPER SQUARE BUSINESS CENTER 5 HILLTOP STREET, SUITE 1 KENNETH, MAINE 04043 www.fuss.com		SCALE: HORZ.: 1" = 40' VERT.: DATUM: HORZ.: NAD83 VERT.: NAVD83 40 20 0 40 GRAPHIC SCALE		DESIGNER REVIEWER	



POROUS PAVEMENT DRIVEWAY CROSS-SECTION

NOT TO SCALE



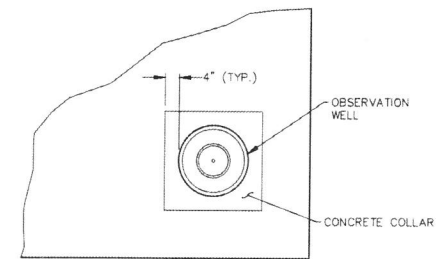
NOTES:
CLAY BERM: TILL, SILTS, CLAY SOIL, OR ANY COMBINATIONS (SILTY CLAY, CLAYEY SILT) CAPABLE OF ACHIEVING A HYDRAULIC CONDUCTIVITY OF 1.0X10⁻⁷ CM/SEC OR LESS. SIEVE ANALYSIS BY WEIGHT:

SIEVE SIZE	PERCENT PASSING
1"	100
1/2"	90-100
NO. 200*	35-100

MOISTURE CONTENT OF THE MATERIAL AFFECTS DENSITY AND HYDRAULIC CONDUCTIVITY. THE MOISTURE CONTENT OF THE MATERIAL AT THE TIME OF PLACEMENT SHALL BE SUFFICIENT TO ACHIEVE SPECIFIED PROPERTIES.

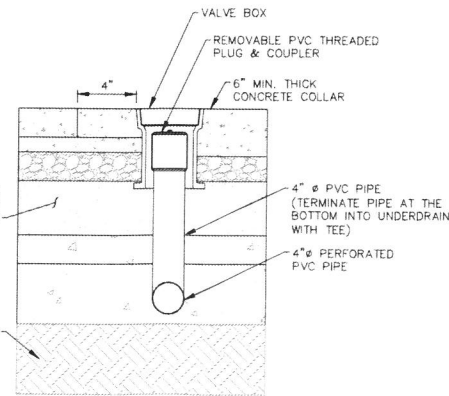
CLAY BERM

NOT TO SCALE



OBSERVATION WELL

NOT TO SCALE



SECTION

POROUS PAVEMENT NOTES:

- THE MOST CURRENT SPECIFICATION FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS FOUND AT THE UNH STORMWATER CENTER WEBSITE: [HTTP://WWW.UNH.EDU/ERC/STEW/PUBS/SPECS/INFO/INF.HTM](http://www.unh.edu/erc/stew/pubs/specs/info/inf.htm) SHALL BE CONSIDERED PART OF THIS DESIGN. DEVIATIONS FROM THAT SPECIFICATION OTHER THAN THOSE PRESENT IN THE DETAILS ON THIS SHEET SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL.
- ALL MATERIAL TO BE INSTALLED SHALL MEET THE SPECIFICATIONS DISCUSSED IN THE UNH STORMWATER SPECIFICATIONS FOUND IN THE ABOVE WEB ADDRESS AND BE FREE OF UNSUITABLE MATERIALS SUCH AS SILT, CLAY, ORGANIC MATERIAL, ROCKS LARGER THAN THE AGGREGATE SPECIFIED IN THE GRADATIONS, ETC.
- ONCE THE AREA FOR THE POROUS PAVEMENT HAS BEEN PREPARED TO SUBGRADE, LINE THE SIDES OF THE EXCAVATION THAT WILL BE EXPOSED TO NATIVE MATERIALS OR MATERIALS USED FOR SLOPE FILL WITH FILTER FABRIC, MIRAFI 160N.
- INSTALL FILTER FABRIC OVER THE AREA OF WETLAND SOILS OR POOR SOIL CONDITIONS ONLY. DO NOT LINE THE REMAINING BOTTOM OF THE POROUS PAVEMENT AREA. SUCH CONDITIONS SHALL BE DETERMINED BY THE CONTRACTOR AND DESIGN ENGINEER.
- INSTALL FILTER FABRIC ON SIDES OF POROUS PAVEMENT AREA AS SHOWN IN THE DETAIL. OVERLAP FILTER FABRIC 16-INCHES WHERE JOINTS ARE NECESSARY.
- FOLD 4-FT OF FABRIC OUT OVER FILL SLOPES DURING CONSTRUCTION OF THE POROUS MEDIA BED TO LIMIT INTRODUCTION OF SEDIMENT AND IMPURITIES TO THE FILTER. ONCE THE FILTER MATERIAL IS PLACED THROUGH THE CHOKER COURSE TOLD THE 4-FT OVERLAP OVER THE FILTER MATERIAL TO PROTECT IT FROM SEDIMENT AND IMPURITIES UNTIL THE PAVEMENT IS PLACED.
- DO NOT PAVE OVER THE FILTER FABRIC.
- FOLD OVERLAP OVER PAVEMENT UNTIL VEGETATION IS ESTABLISHED ON ADJACENT SLOPE AREAS. REMOVE OVERLAPPING FABRIC ONCE VEGETATION IS ESTABLISHED, ELIMINATING THE THREAT OF DIRT AND OTHER MATERIALS MIGRATING ONTO THE PAVEMENT FROM THE LOADED AREAS.

- INSTALL RESERVOIR COURSE MATERIAL (AASHTO NO. 3 OR AASHTO NO. 5) IN AREAS WHERE CALLED FOR IN MAXIMUM 6 INCH LIFTS AND COMPACT TO 95% MAXIMUM PROCTOR DENSITY TO THE DEPTHS SPECIFIED IN THE TYPICAL CROSS SECTIONS.

RESERVOIR COURSE (AASHTO NO. 3) GRADING REQUIREMENTS:

<u>SIEVE DESIGNATION</u>	<u>PERCENTAGE BY WEIGHT</u>
2--1/2 INCH	100%
2 INCH	90--100%
1--1/2 INCH	35--70%
1 INCH	0--15%
1/2 INCH	0--5%

RESERVOIR COURSE (AASHTO NO. 5) GRADING REQUIREMENTS:

<u>SIEVE DESIGNATION:</u>	<u>PERCENTAGE BY WEIGHT</u>
	<u>SQUARE MESH SIEVE</u>
1--1/2 INCH	100%
1 INCH	90--100%
3/4 INCH	20--55%
1/2 INCH	0-10%
3/8 INCH	0-5%

- INSTALL FILTER BLANKET MATERIAL (3/8" PEA STONE, D50 = 3/8") IN AREAS WHERE CALLED FOR IN MAXIMUM 3 INCH LIFTS AND COMPACT TO 95% MAXIMUM PROCTOR DENSITY TO THE DEPTHS SPECIFIED IN THE TYPICAL CROSS SECTIONS.

- INSTALL FILTER COURSE MATERIAL (ITEM 304.1 SAND) IN AREAS WHERE CALLED FOR IN MAXIMUM 4 INCH LIFTS AND COMPACT TO 95% MAXIMUM PROCTOR DENSITY TO THE DEPTHS SPECIFIED IN THE TYPICAL CROSS SECTIONS.

FILTER COURSE (NHDOT ITEM 304.1) GRADING REQUIREMENTS:

<u>SIEVE DESIGNATION:</u>	<u>PERCENTAGE BY WEIGHT</u>
8 INCH	100%
NO. 4	70--100%
NO. 200	0--6%

- INSTALL CHOKER COURSE (AASHTO NO. 57) IN AREAS OF POROUS PAVEMENT AS DEPICTED IN THE CROSS-SECTION. COMPACT TO 95% MAXIMUM PROCTOR DENSITY.

CHOKER COURSE (AASHTO NO. 57) GRADING REQUIREMENTS:

<u>SIEVE DESIGNATION:</u>	<u>PERCENTAGE BY WEIGHT</u>
	<u>SQUARE MESH SIEVE:</u>
1--1/2 INCH	100%
1 INCH	95--100%
1/2 INCH	25--60%
NO. 4	0--10%
NO. 8	0--5%

CHOKER COURSE COMMONLY REFERRED TO AS WASHED 3/4" STONE.

POROUS ASPHALT MIX SPECIFICATION:

- THE MOST CURRENT SPECIFICATION FOR POROUS ASPHALT PRODUCED BY THE UNH STORMWATER CENTER SHALL BE USED FOR THE POROUS PAVEMENT.
- ALTERNATIVE SPECIFICATIONS ARE ACCEPTABLE, MOST NOTABLY A NUMBER OF LOCAL MIX PLANTS PRODUCE POROUS ASPHALT WITH FIBER REINFORCEMENT IN LIEU OF THE LIQUID AGENTS SPECIFIED BY THE STORMWATER CENTER. IN THE EVENT AN ALTERNATIVE SPECIFICATION IS TO BE USED IT SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL.
- ALL POROUS ASPHALT SPECIFICATIONS SHALL MEET THE AIR VOID CONTENT BY CORRELOR (ASTM D6752). AIR VOID SHALL BE BETWEEN 16-19%.

CURRENT UNH POROUS ASPHALT MIX DESIGN CRITERIA:

<u>SIEVE DESIGNATION:</u>	<u>PERCENTAGE BY WEIGHT</u> <u>SQUARE MESH, SIZE:</u>
3/4 INCH	100%
1/2 INCH	85-100%
3/8 INCH	55-75%
NO. 4	10-25%
NO. 8	55-10%
NO. 200	2-4%

ASPHALT CRITERIA:

BINDER CONTENT (AASHTO T164)	6-6.5%
AIR VOID CONTENT BY CORRELOR (ASTM D6752)**	16-20%
AIR VOID CONTENT BY PARAFFIN WAX (AASHTO T275)*	18-22%
DRAINAGE (ASTM D6390)**	<0.3%
RETAINED TENSILE STRENGTH (AASHTO T283)***	>80%

*OTHER METHOD IS ACCEPTABLE

**RELATIONS ON WAX/PAFFIN WAX MAY BE USED TO REDUCE DRAINAGE.

***TSR (RETAINED TENSILE STRENGTH) VALUES FALL BELOW 80% WHEN TESTED BY NAPA 15.13 (WITH A SINGLE FREEZE/THAW CYCLE RATHER THAN 5). THE CONTRACTOR SHALL EMPLOY AN ANTI-STRIP ADDITIVE, SUCH AS HYDRATED LIME (ASTM C977) OR A FATTY AMINE, TO RAISE THE TSR VALUE ABOVE 80%.

- THE DESIGN ENGINEER SHALL BE CONTACTED AND BE PRESENT FOR THE INSTALLATION OF EACH LAYER OF THE POROUS PAVEMENT SECTIONS TO INSURE THAT THE SUB-BASE, BANK RUN GRAVEL, AND CHOKER COURSES ARE NOT OVER COMPACTED.

TRANSFER OF OWNERSHIP:

- IN THE EVENT THE SITE IS SOLD TO ANOTHER PARTY, THAT NEW PARTY SHOULD BE MADE AWARE OF THE POROUS PAVEMENT, ITS PURPOSE AND SPECIAL MAINTENANCE REQUIREMENTS. THIS NOTIFICATION SHOULD BE DONE BOTH IN WRITING WITH THE INCLUSION OF A COPY OF THESE DESIGN MATERIALS AND VERBALLY.
- PLAN SETS AND OTHER INFORMATION ON THIS DESIGN CAN BE ACQUIRED FROM:

FUSS & O'NEILL
SUITE 1 - LOBBY HOUSE
5 FLETCHER STREET
KENNERSHAW, ME 04043
PHONE: 207-363-0868
EMAIL: SLINDORNF@FANDDO.COM

EQUIPMENT NOTES:

HAULING EQUIPMENT:

- THE OPEN GRADED MIX SHALL BE TRANSPORTED IN CLEAN VEHICLES WITH TIGHT, SMOOTH DUMP BEDS THAT HAVE BEEN SPRAYED WITH A NON-PETROLEUM RELEASE AGENT OR SOAP SOLUTION TO PREVENT THE MIX FROM ADHERING TO THE DUMP BODIES.
- MINERAL FILLER, FINE AGGREGATE, SLAG DUST, ETC. SHALL NOT BE USED TO DUST TRUCK BEDS.
- THE OPEN GRADED MIX SHALL BE COVERED DURING TRANSPORT WITH A SUITABLE MATERIAL OF SUCH SIZE SUFFICIENT TO PROTECT THE MIX FROM THE WEATHER AND ALSO TO MINIMIZE COOLING AND PREVENT LUMPING.
- WHEN NECESSARY, TO ENSURE THE DELIVERY OF MATERIAL AT THE SPECIFIED TEMPERATURE, THE TRUCK BODIES SHALL BE INSULATED AND COVERS SHALL BE FASTENED SECURELY.
- LONG HAULS, ESPECIALLY THOSE IN EXCESS OF 25 MILES MAY RESULT IN SEPARATION OF THE MIX AND ITS REJECTION.

PLACING EQUIPMENT:

- THE PAVEMENT SHALL BE A SELF-PROPELLED UNIT WITH AN ACTIVATED SCORER OR STRIPPER OF SUITABLE SIZE CAPABLE OF BEING HEATED IF NECESSARY, AND CAPABLE OF SPREADING AND FINISHING THE MIX WITHOUT DEGRADATION FOR THE WIDTHS AND THICKNESSES REQUIRED.
- IN GENERAL, TRACKED PAVERS HAVE PROVED SUPERIOR FOR POROUS ASPHALT PLACEMENT.
- THE SCORER SHALL BE ADJUSTABLE TO PROVIDE THE DESIRED CROSS-SECTIONAL SHAPE.
- THE FINISHED SURFACE SHALL BE OF UNIFORM TEXTURE AND EVENNESS AND SHALL NOT SHOW ANY INDICATION OF TEARING, SHOWING, OR PULLING OF THE MIX.
- THE MACHINE SHALL, AT ALL TIMES, BE IN GOOD MECHANICAL CONDITION AND OPERATED BY COMPETENT PERSONNEL.
- PAVERS SHALL BE EQUIPPED WITH THE NECESSARY ATTACHMENTS, DESIGNED TO OPERATE ELECTRONICALLY, FOR CONTROLLING THE GRADE OF THE FINISHED SURFACE.
- THE ADJUSTMENTS AND ATTACHMENTS OF THE PAVEMENT SHALL BE CHECKED AND APPROVED BY THE ENGINEER BEFORE PLACEMENT OF ASPHALT MATERIAL.
- PAVERS SHALL BE EQUIPPED WITH A SLOPED PLATE TO PRODUCE A TAPERED EDGE AT LONGITUDINAL JOINTS. THE SLOPED PLATE SHALL BE ATTACHED TO THE PAVEMENT SCORER EXTENSION.
- THE SLOPED PLATE SHALL PRODUCE A TAPERED EDGE HAVING A FACE SLOPE OF 3:1 (HORIZONTAL: VERTICAL). THE PLATE SHALL BE SO CONSTRUCTED AS TO ACCOMMODATE COMPACTED MAT THICKNESS FROM 35 TO 100 MM (1 1/4 TO 4 INCHES). THE BOTTOM OF THE SLOPED PLATE SHALL BE MOUNTED 10 TO 15 MM (3/8 TO 1/2 INCH) ABOVE THE EXISTING PAVEMENT. THE PLATE SHALL BE INTERCHANGEABLE ON EITHER SIDE OF THE SCORER.
- PAVERS SHALL BE EQUIPPED WITH A JOINT HEATER CAPABLE OF HEATING THE LONGITUDINAL EDGE OF THE PREVIOUSLY PLACED MAT TO 14 SURFACE TEMPERATURE OF 95 °C (200 °F), OR HIGHER IF NECESSARY, TO ACHIEVE BONDING OF THE NEWLY PLACED MAT WITH THE PREVIOUSLY PLACED MAT. THIS SHALL BE DONE WITHOUT UNDOING BREAKING OF FRACTURING OF THE AGGREGATE AT THE INTERFACE. THE TEMPERATURE SHALL BE MEASURED IMMEDIATELY BEHIND THE JOINT HEATER.
- THE JOINT HEATER SHALL BE EQUIPPED WITH AUTOMATIC CONTROLS THAT SHUT OFF THE BURNERS WHEN THE PAVEMENT MACHINE STOPS AND RESTARTS THEM WITH THE FORWARD MOVEMENT OF THE PAVEMENT.
- THE JOINT HEATER SHALL HEAT THE ENTIRE AREA OF THE PREVIOUSLY PLACED MAT TO THE REQUIRED TEMPERATURE.
- HEATING SHALL IMMEDIATELY PRECEDE PLACEMENT OF THE ASPHALT MATERIAL.

ROLLING EQUIPMENT:

- ROLLERS SHALL BE IN GOOD MECHANICAL CONDITION, OPERATED BY COMPETENT PERSONNEL, CAPABLE OF REVERSING WITHOUT BACKLASH, AND OPERATED AT SPEEDS SLOW ENOUGH TO AVOID DISPLACEMENT OF THE ASPHALT MIXTURE.
- ROLLERS SHALL BE TWO-AXLE TANDEM ROLLERS WITH A GROSS WEIGHT OF NOT LESS THAN 7 METRIC TONS (8 TONS) AND NOT MORE THAN 10 METRIC TONS (12 TONS) AND SHALL BE CAPABLE OF PROVIDING A MINIMUM COMPACTIVE EFFORT OF 44 kN/M (250 POUNDS PER INCH) OF WIDTH OF THE DRIVE ROLLER. ALL ROLLERS SHALL BE AT LEAST 1 M (42 INCHES) IN DIAMETER.
- ROLLERS SHALL BE EQUIPPED WITH TANKS AND SPRINKLING BARS FOR WETTING THE ROLLS.
- A RUBBER TIRE ROLLER WILL NOT BE REQUIRED ON THE OPEN GRADED ASPHALT FRICTION COURSE SURFACE.

POROUS PAVEMENT PARKING AREA MAINTENANCE:

- THE POROUS PAVEMENT PARKING AREA SHALL BE VACUUM SWEPT WITH A SWEEPER TRUCK THAT HAS A VACUUM CAPABILITY. SWEPT ANNUALLY ONCE IN THE SPRING (THE APRIL 15 - APRIL 30), AND ONCE IN THE FALL (OCTOBER 15 - OCTOBER 30). THIS IS NECESSARY TO INSURE THE PROLONGED FUNCTION OF THE PAVEMENT'S INFILTRATIVE CAPACITY.
- IT IS RECOMMENDED THAT PLOWING BE PERFORMED BY A PLOW VEHICLE WITH A PLOW THAT HAS RUBBER BLADE EDGE. THIS WILL LIMIT THE SCARRING OF THE PAVEMENT. HOWEVER, THIS IS NOT NECESSARY AND IS OPTIONAL.
- SANDING FOR WINTER TRACTION IS PROHIBITED. SALTING WITH NaCl IS PROHIBITED. DE-ICING AGENTS ARE PROHIBITED DUE TO THE PROXIMITY TO THE WETLANDS AND THE USE OF METAL STORAGE BUILDINGS THAT WOULD BE ADVERSELY AFFECTED.
- SNOW SHALL NOT BE STORED ON AREAS OF POROUS PAVEMENT. IT SHALL BE STORED OFF OF THE PAVED AREAS TO MINIMIZE FAILURE DUE TO FREEZING WITHIN THE PAVEMENT.
- REFER TO THE UNHSC WINTER MAINTENANCE FACT SHEET: [HTTP://WWW.UNH.EDU/ERC/STEW/PUBS/SPECS/INFO/WINTER_MAINTENANCE_FACT_SHEET.PDF](http://www.unh.edu/erc/stew/pubs/specs/info/winter_maintenance_fact_sheet.pdf)

- ASPHALT SEAL COATING IS COMPLETELY FORBIDDEN. SURFACE SEAL COATING IRREVERSIBLY CLOSING THE PAVEMENT PORES.
- PLANTED AREAS (INCLUDING LAWNS) ADJACENT TO THE POROUS PAVEMENT SHOULD BE WELL MAINTAINED TO PREVENT SOIL WASHOUT ONTO THE PAVEMENT. ANY OBSERVED BARE SPOTS OR CRODDED AREAS SHOULD BE REPLANTED AND STABILIZED AT ONCE.
- IMMEDIATELY CLEAN ANY SOIL DEPOSITED ON PAVEMENT DIRT GROUND INTO THE PORES OF THE ASPHALT CLOSING IT. THIS IS WHY TRACTOR TAILERS AND HEAVY LOAD FIXED DIFFERENTIAL VEHICLES ARE PROHIBITED AT THE SITE.
- CONSTRUCTION STAGING, SOIL/AGGREGATE STORAGE, ETC. ON UNPROTECTED PAVEMENT SURFACES IS PROHIBITED.

POROUS PAVEMENT REPAIRS:

- POTHOLES/DAMAGED AREAS OF THE POROUS ASPHALT PAVEMENT LESS THAN 50--SQ.FT. IN SIZE CAN BE PATCHED BY ANY MEANS SUITABLE WITH STANDARD HOT MIX ASPHALT OR POROUS ASPHALT (PREFERRED).
- REPAIR OF DAMAGE GREATER THAN 50-SQ.FT. IN AREA REQUIRES THE DESIGN OF A PATCH TYPE DESIGNED BY A QUALIFIED PROFESSIONAL ENGINEER.
- ANY REPAIR OF DRAINAGE STRUCTURES REQUIRED SHOULD BE PERFORMED IMMEDIATELY TO ENSURE PROPER FUNCTIONING OF THE SYSTEM.

DESIGNER REVIEWER

DATE

DESCRIPTION

SCALE: 1"=10'-0"

GRAPHIC SCALE

FUSS & O'NEILL

201 STORAGE, LLC

POROUS PAVEMENT DETAILS

TAX MAP 106 LOT 3

201 HIGHLAND STREET

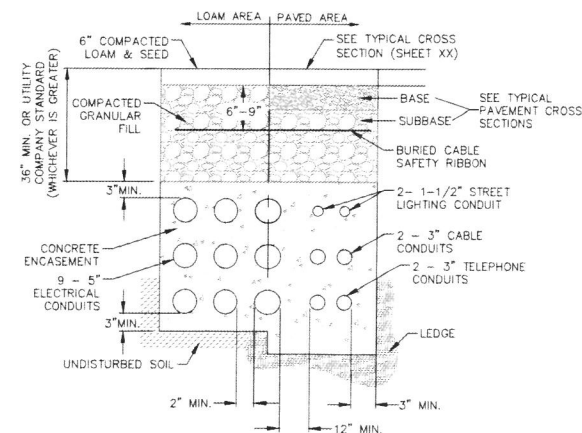
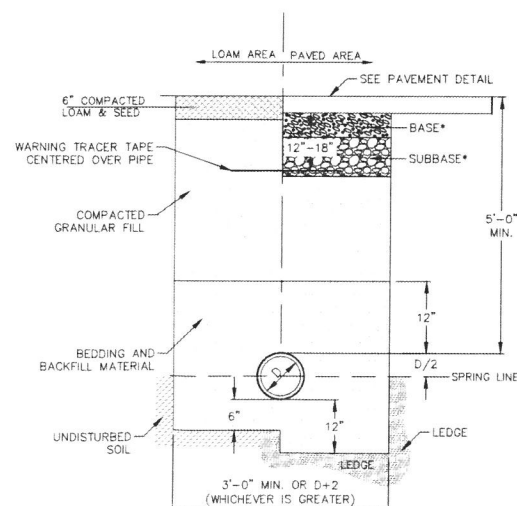
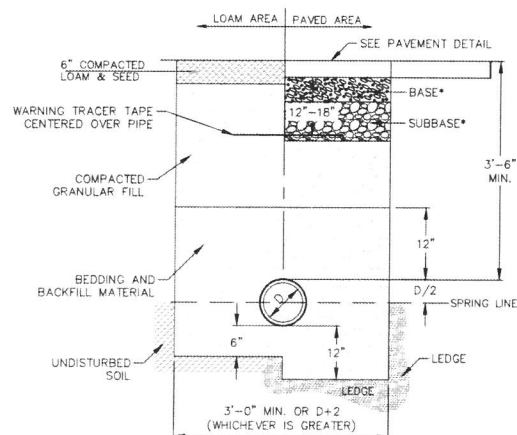
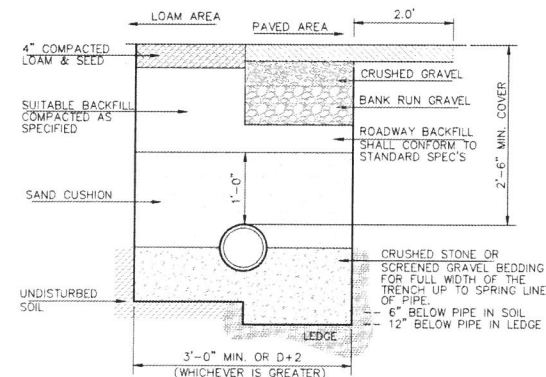
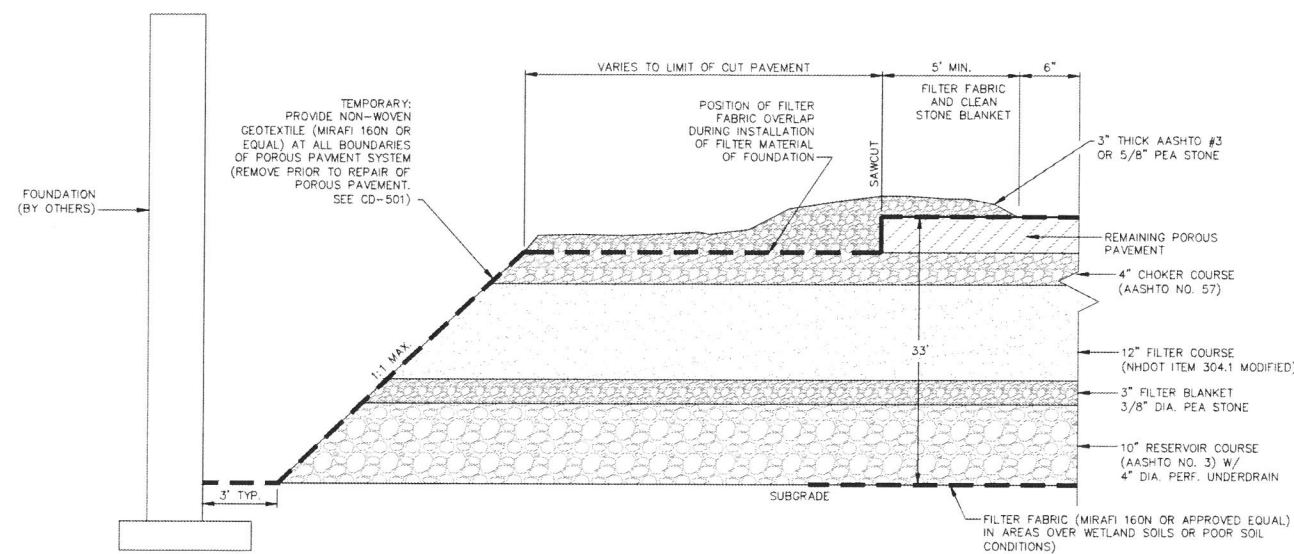
ROCHESTER, NH

PROJ. No.: 20181369-A10

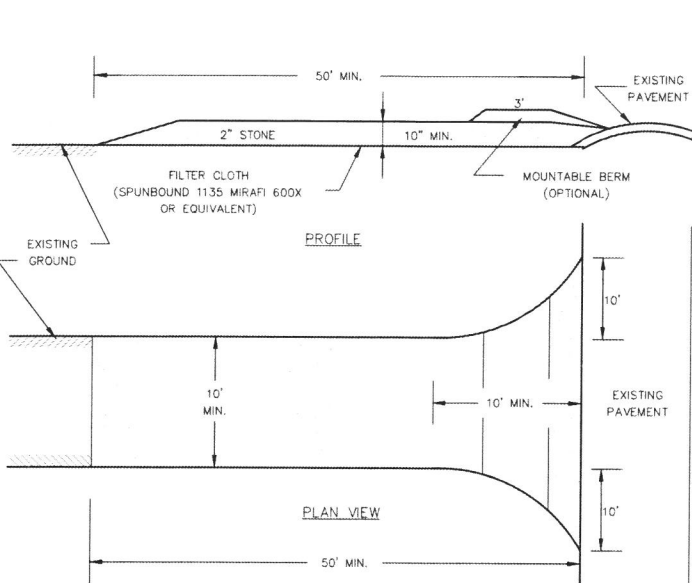
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1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL OR AS SHOWN ON CONDUIT PLAN.
2. DIMENSIONS SHOWN REPRESENTS OWNER'S MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT MAY NOT BE LESS THAN SHOWN.
3. NO CONDUIT SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE ATTACHED TO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY FIND THE CONDUIT TO BE UNFIT FOR SERVICE.
6. 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.
7. ALL 90° SWEEPS MUST BE MADE USING RIGID GALVANIZED STEEL SWEEPS WITH A 35° TO 48° RADIUS.?????



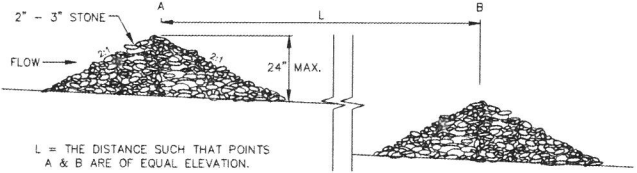
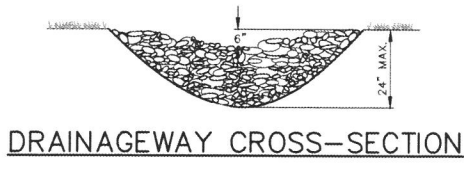
- MAINTENANCE REQUIREMENTS:**
1. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHOULD BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL, REGRADED ON SITE, AND STABILIZED. THE ENTRANCE SHOULD THEN BE RECONSTRUCTED.
 2. THE CONTRACTOR SHOULD SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE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

- CONSTRUCTION SPECIFICATIONS:**
1. THE MINIMUM STONE USED SHOULD BE 3-INCH CRUSHED STONE.
 2. THE MINIMUM LENGTH OF THE PAD SHOULD 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 SHOULD BE THE FULL WIDTH OF CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER.
 4. THE PAD SHOULD SLOPE AWAY FROM THE EXISTING ROADWAY.
 5. THE PAD SHOULD BE AT LEAST 6 INCHES THICK.
 6. THE GEOTEXTILE FILTER FABRIC SHOULD BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD.
 7. THE PAD SHOULD 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 SHOULD BE INTERCEPTED AND PIPED BENEATH THE PAD, AS NECESSARY, WITH SUITABLE OUTLET PROTECTION.

USDA-SCS STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

SPACING BETWEEN CHECK DAMS	
SLOPE (F/T)	LENGTH (F)
0.220	75
0.330	60
0.440	37
0.550	30
0.660	19
0.100	15
0.120	13
0.150	10

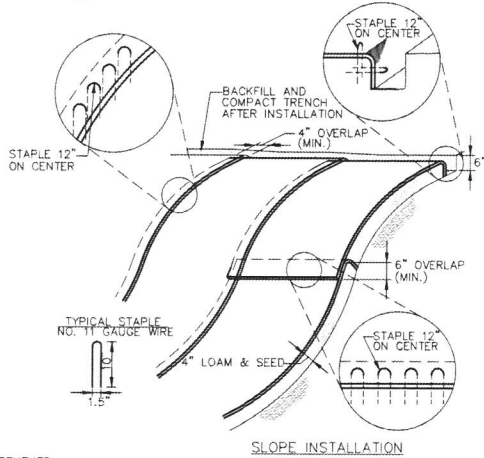


SPACING BETWEEN STONE CHECK DAMS

- 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 SHOULD BE INSPECTED AFTER EACH STORM AND DAILY DURING PROLONGED STORM EVENTS. ANY DAMAGE TO THE STRUCTURES SHALL BE REPAIRED IMMEDIATELY.
 2. PARTICULAR ATTENTION SHOULD 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, SEEDED 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



- MAINTENANCE REQUIREMENTS:**
1. ALL BLANKET AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING 1/2 INCH IN A 24-HOUR PERIOD.
 2. ANY FAILURE SHOULD 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 RESEEDED, 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 (RECP'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 RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'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 RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
 - C. ROLL THE RECP's (A) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'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 SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
 - D. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
 - E. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'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 RECP'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, CLOUDS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
 - D. PREPARE SEEDBED 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 TURF REINFORCEMENT APPLICATIONS. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE RESEED.
 - B. WHEN SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

EROSION CONTROL - BLANKET SLOPE PROTECTION

NOT TO SCALE

PERMANENT VEGETATION:

SPECIFICATIONS:

- 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 SHOULD BE DIVERTED FROM THE SEEDBED AREA.
 4. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHOULD INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:

1. 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 SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY AND SILT SOILS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.
2. REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE CLOUDS, LUMPS, TRASH OR OTHER UNSUITABLE MATERIAL.
3. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE TILLED AND FIRMED AS ABOVE.
4. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
5. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHOULD BE APPLIED DURING THE GROWING SEASON.
6. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

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

*EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

FERTILIZER APPLICATION RATE = 600 LB./ACRE (13.8 LB./1,000-SF)*

*LOW PHOSPHATE FERTILIZER (N-P205-K20) OR EQUIVALENT

7. FERTILIZER SHOULD BE RESTRICTED TO LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 AND 250-FT FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25-FT OF A SURFACE WATER BODY. THESE ARE THE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

SEEDING:

1. INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE OF INOCULANT.
2. 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 INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE.
3. WHERE FEASIBLE EXCEPT WHERE EITHER CULTPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR LIGHT DRAG.
4. SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHOULD BE COMPLETED 45 DAYS PRIOR TO FIRST KILLING FROST. WHEN CROWN VETCH IS SEEDING IN LATE SUMMER AT LEAST 35% OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SPECIFIED SEEDING DATES, MULCH ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSSM, VOL 3. AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
5. AREAS SEEDING BETWEEN MAY 15 AND AUGUST 15 SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSSM, VOL 3.
6. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.

HYDROSEEDING:

1. WHEN HYDROSEEDING (HYDRAULIC APPLICATION), PREPARE THE SEEDBED AS SPECIFIED ABOVE OR BY HAND RAKING TO LOOSEN AND SMOOTH THE SOIL AND REMOVE SURFACE STONES LARGER THAN 2 INCHES IN DIAMETER.
2. SLOPES MUST BE NO STEEPER THAN 2:1 (2 FEET HORIZONTALLY BY 1 FOOT VERTICALLY).
3. 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.
4. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

MAINTENANCE REQUIREMENTS:

1. PERMANENT SEEDED AREAS SHOULD BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTION, MAINTENANCE AND CORRECTIVE ACTIONS SHOULD CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
2. SEEDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION. MOWING HEIGHT AND FREQUENCY DEPEND OF TYPE OF GRASS COVER.
3. BASED ON INSPECTION, AREAS SHOULD BE RESEED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.
4. AT A MINIMUM 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.
5. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD 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 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)

TEMPORARY VEGETATION:

SPECIFICATIONS:

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 SHOULD BE DIVERTED FROM THE SEEDBED AREA.
4. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHOULD INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:

1. STONES AND TRASH SHOULD 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 SHOULD BE APPLIED DURING THE GROWING SEASON.
4. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

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

*EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

FERTILIZER APPLICATION RATE = 600 LB./ACRE (13.8 LB./1,000-SF)*

*LOW PHOSPHATE FERTILIZER (N-P205-K20) OR EQUIVALENT

5. FERTILIZER SHOULD BE RESTRICTED TO LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 AND 250-FT FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25-FT OF A SURFACE WATER BODY. THESE ARE THE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

SEEDING:

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

MAINTENANCE REQUIREMENTS:

1. TEMPORARY SEEDING SHOULD BE INSPECTED WEEKLY AFTER ANY RAINFALL EXCEEDING 1/2 INCH IN 24 HOURS ON ACTIVE CONSTRUCTION SITES. TEMPORARY SEEDING SHOULD 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 SHOULD 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 SHOULD BE IMPLEMENTED.
3. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

TEMPORARY VEGETATION SEEDING RECOMMENDATIONS

SPECIES	PER ACRE BUSHELS (BU) OR POUNDS (LBS.)	PER 1,000-SF	REMARKS
WINTER RYE	2.5 BU OR 112 LBS.	2.5 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS	2.5 BU OR 80 LBS.	2.0 LBS.	BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15 FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYEGRASS	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 RYEGRASS	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)

201 STORAGE, LLC

DETAILS

TAX MAP 106 LOT 3

201 HIGHLAND STREET

ROCHESTER, NH

PROJ. No.: 20161369 A10

DATE: 06/25/19

CD-504

SHT 12 of 14

SCALE: HORIZ: VERT: DATUM: HORIZ: VERT: HORIZ: VERT: 0 10 20 30 40 50 60 70 80 90 100

GRAPHIC SCALE

SEAL OF THE STATE OF NEW HAMPSHIRE

RICHARD R. LUNDGREN

REGISTERED PROFESSIONAL ENGINEER

NO. 10843

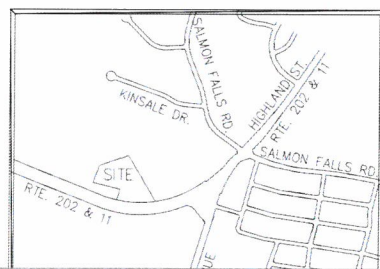
EXPIRATION DATE: 12/31/2021

DESIGNER

REVIEWER

DATE

DESCRIPTION



L01	Bluebird Storage Rochester, NH
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