



FUSS & O'NEILL

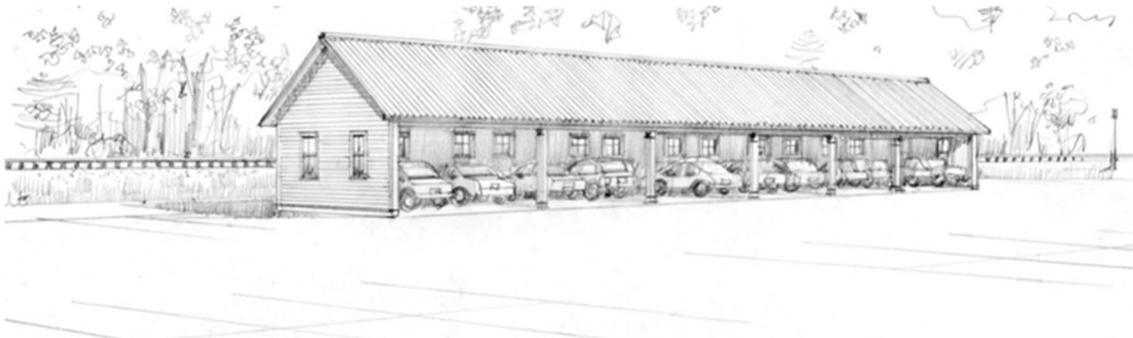
March 10, 2022

Beverly Mesa-Zendt  
Planning Director  
City of Portsmouth  
1 Junkins Ave, 3rd Floor  
Portsmouth, NH 03801

RE: LU 22-07; Cate Street Development, LLC  
Supplemental Carport Submission; West End Yards Development Site  
Site Plan Review Application and Boundary Line Adjustment  
Fuss & O'Neill Reference No. 20180317.B10

Dear Ms. Mesa-Zendt, and Members of the Planning Board:

The following letter is in support of a revised, supplemental, submission of plans depicting a slight layout revision to the covered carport parking along the railroad to the south of the West End Yards Development Site. The Cate Street Development Team has been working with Planning Staff on the Architecture of the Carports and has agreed upon design direction based on a rendering provided by Planning Staff.



Rendering of Carports Provided by Planning Department (above)

Cate Street Development has agreed to 2 carport structures for a total of 50 covered parking spaces. The Carports will be designed to match the Architecture in the above rendering.

The easternmost carport will provide 2 Handicap Accessible Spaces, 1 van accessible and 1 standard accessible space and 23 - 9-ft x 19-ft spaces. The overall dimensions of this structure will be 21-ft x 232-ft.

The western carport will provide 25 9-ft x 19-ft covered spaces. The overall dimensions of this structure will be 21-ft x 226-ft.

5 Fletcher Street  
Suite 1  
Kennebunk, ME  
04043  
t 207.363.0669  
800.286.2469  
f 860.533.5143

[www.fando.com](http://www.fando.com)

California  
Connecticut  
Maine  
Massachusetts  
New Hampshire  
Rhode Island  
Vermont

Ms. Mesa-Zendt  
March 10, 2022  
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The original submission proposed 3 carports built over 52 parking spaces between 2 parking islands. The above described change to 2 carports covering 50 spaces will eliminate 1 parking island. This will require a small update to the landscaping plan which will be done to address the change in island configuration.

These carport revisions are the only change represented in the re-submission material enclosed with this letter.

We hope this letter helps The City Staff and Planning Board in its review of this Site Plan Amendment and Boundary Line Adjustment.

If you have any questions or concerns, please do not hesitate to contact me at (207) 363-0669 x2314 or by email ([rlundborn@fando.com](mailto:rlundborn@fando.com)).

Sincerely,

A handwritten signature in black ink, appearing to read "Rick Lundborn", followed by a long horizontal line extending to the right.

Rick Lundborn, PE  
Senior Project Manager

/BH

c: Cate Street Development, LLC  
August Consulting, PLLC  
Bosen & Associates

# WEST END YARDS

CATE STREET · PORTSMOUTH · NEW HAMPSHIRE

## SITE PLANS

MARCH 9, 2022

**PREPARED FOR**  
**CATE STREET DEVELOPMENT, LLC**  
 11 ELKINS STREET, SUITE 420  
 BOSTON, MA 02127  
 987.490.5278



**PREPARED BY**

**FUSS & O'NEILL**

UPPER SQUARE BUSINESS CENTER  
 5 FLETCHER STREET, SUITE 1  
 KENNEBUNK, MAINE 04043  
 207.363.0669  
 www.fando.com

**PROJECT TEAM**

**DESIGN CONSULTANT**  
 AUGUST CONSULTING, PLLC  
 1 WILLOW LANE  
 RYE, NH. 03870  
 603.475.3658

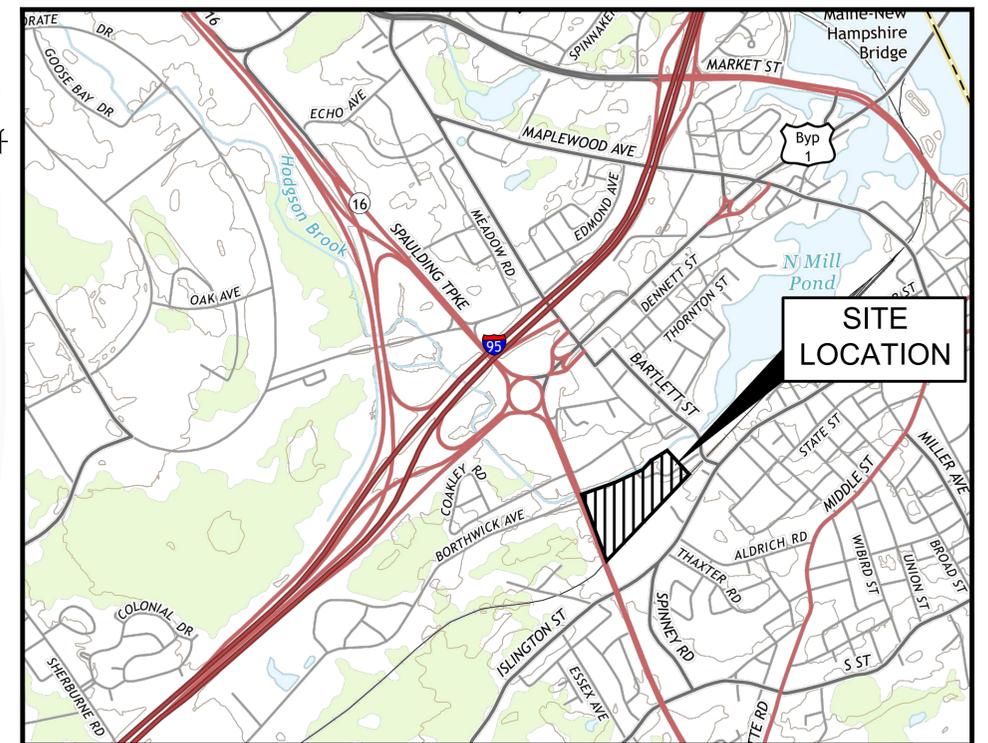
**LANDSCAPE ARCHITECTS**  
 HAWK DESIGNS  
 39 PLEASANT STREET  
 SAGAMORE, MA 02561  
 508.833.8800

**NATURAL RESOURCES CONSULTANT**  
 GOVE ENVIRONMENTAL SERVICES, INC  
 8 CONTINENTAL DRIVE  
 BUILDING 2, SUITE H  
 EXETER, NH. 03833-7507  
 603.778.0644

**LAND SURVEYOR**  
 DOUCET SURVEY, INC  
 102 KENT PLACE  
 NEWMARKET, NH. 03857  
 603.659.6560

**SHEET INDEX**

SHEET No.	SHEET TITLE
GI-001	COVER SHEET
CN-001	GENERAL NOTES
CN-002	LEGEND
CS-001	EXISTING CONDITIONS PLAN
CS-002	DEVELOPMENT STANDARDS SITE PLAN
CS-003	OPEN SPACE PLAN
CS-004	PARKING DISTRIBUTION PLAN
CS-100	SITE OVERVIEW KEY PLAN
CS-101 & CS-102	SITE PLANS
CG-101 & CG-102	GRADING, DRAINAGE, & EROSION CONTROL PLANS
CU-101	UTILITIES PLAN
CD-510 - CD-563	DETAILS
LS-100	LANDSCAPING PLAN
LT-100	LIGHTING PLAN
BL-100	BOUNDARY LINE ADJUSTMENT PLAN



**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.



STATE AND FEDERAL PERMITS REQUIRED:		
PERMIT	REQUIRED / NOT REQUIRED	STATUS / PERMIT NO.
NHDES WETLANDS BUREAU STANDARD DREDGE AND FILL	NOT REQUIRED	2019-00523 (PREVIOUS)
NHDES ALTERATION OF TERRAIN	AMENDMENT REQUIRED	AOT-1719
NHDES SEWER MAIN EXTENSION	NOT REQUIRED	D2019-1109
NHDOT ENTRANCE PERMIT	NOT REQUIRED	
EPA, NPDES CONSTRUCTION GENERAL PERMIT (CGP)	REQUIRED	NHR1000WV

PROJ. No.: 20180317.B10  
 DATE: 02/23/2022

GI-001

SURVEY NOTES

1. FIELD SURVEY PERFORMED BY P.J.S. & J.C.M. DURING NOVEMBER 2016 USING A TRIMBLE S6 TOTAL STATION, A TRIMBLE R8 SURVEY GRADE GPS UNIT, A TRIMBLE TSC3 DATA COLLECTOR AND A SOKKIA B21 AUTO LEVEL, BY L.P.S. & S.N.F. DURING JULY 2018 AND T.M.M. & J.C.M. IN SEPTEMBER & OCTOBER 2018 USING A TRIMBLE S6 TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS. ADDITIONAL FIELD SURVEY PERFORMED BY M.C. DURING NOVEMBER 2016 AND OCTOBER 2018 USING A LEICA HDS SCANNER.
2. THE LIMITS OF JURISDICTIONAL WETLANDS WERE DELINEATED BY MARC JACOBS IN NOVEMBER OF 2016 AND REVIEWED BY GOVE ENVIRONMENTAL SERVICES, INC. DURING APRIL 2018 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y-87-1, JANUARY 1987 AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL; NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0 JANUARY 2012 AND FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, MAY 2017, NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE.
3. FLOOD HAZARD ZONE: "x", PER FIRM MAP #33015C0259E, DATED 5/17/05.
4. VERTICAL DATUM IS BASED ON NGVD29 PER DISK V 28 1942 ELEV. 25.59.
5. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
6. REFERENCE PLANS:  
REFER TO THE PLAN OF LAND AT THE END OF THIS PACKAGE FOR ALL REFERENCE PLANS AND EASEMENTS THAT THE PARCELS ARE SUBJECT TO.

GENERAL

1. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SHOWN ON THE DRAWINGS TO SCALE OR TO THEIR ACTUAL DIMENSION OR LOCATION. COORDINATE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
2. DO NOT RELY SOLELY ON ELECTRONIC VERSIONS OF DRAWINGS, SPECIFICATIONS, AND DATA FILES THAT ARE PROVIDED BY THE ENGINEER. FIELD VERIFY LOCATION OF PROJECT FEATURES.
3. PERFORM NECESSARY CONSTRUCTION NOTIFICATIONS, APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK AS REQUIRED BY THE CONTRACT DOCUMENTS.
4. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDINGS AND ADJACENT SITE ELEMENTS INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
5. PLEASE READ ALL OTHER NOTES ON THIS PAGE. THEY CONTAIN INFORMATION RELATED TO AND ASSOCIATED WITH THIS PROJECT AND DESIGN.
6. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT THE DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE SITE AND EXISTING CONDITIONS SURROUNDING IT AND THEREON. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF HIS INTENTIONS AT LEAST 48 HOURS IN ADVANCE.
8. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE CITY OF PORTSMOUTH SITE PLAN REGULATIONS, CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS, AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ALL CONSTRUCTION DETAILS SHALL BE IN ACCORDANCE WITH THE CITY OF PORTSMOUTH.
9. THE CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, AND STANDARDS.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY FUSS & O'NEILL DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HERE ON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.

WORK RESTRICTIONS

1. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, FIRE HYDRANTS, AND UTILITIES WITHOUT APPROPRIATE PERMITS.
2. WORK IS RESTRICTED TO THE HOURS OF 7AM TO 6PM ON WEEKDAYS AND 7AM TO 6PM ON WEEKENDS.

REGULATORY REQUIREMENTS

1. WITHIN LOCAL RIGHTS-OF-WAY, PERFORM THE WORK IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS.
2. WITHIN STATE RIGHTS-OF-WAY, PERFORM THE WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS AND ISSUED REVISIONS/SUPPLEMENTS.
3. PROVIDE TRAFFIC SIGNAGE AND PAVEMENT MARKINGS IN CONFORMANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
4. BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. PERFORM CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.

5. DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

6. THIS PROJECT DISTURBS MORE THAN ONE ACRE OF LAND AND FALLS WITHIN THE NEW HAMPSHIRE DEP STORMWATER AND DEWATERING WASTEWATER FROM CONSTRUCTION ACTIVITIES GENERAL PERMIT PROCESS. CATE STREET DEVELOPMENT, LLC, HAS SUBMITTED INFORMATION TO THE DEP TO SATISFY THIS GENERAL PERMIT. THE CONTRACTOR MUST HAVE A COPY OF THIS GENERAL PERMIT ON SITE AT ALL TIMES.

EROSION AND SEDIMENT CONTROL

1. INSTALL EROSION CONTROL MEASURES PRIOR TO STARTING ANY WORK ON THE SITE. REFER TO THE EROSION AND SEDIMENT CONTROL DRAWINGS.
2. IMPLEMENT ALL NECESSARY MEASURES REQUIRED TO CONTROL STORMWATER RUNOFF, DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE. PERFORM CORRECTIVE ACTION AS NEEDED FOR EROSION CLEANUP AND REPAIRS TO OFF SITE AREAS, IF ANY, AT NO COST TO OWNER.
3. INSPECT AND MAINTAIN EROSION CONTROL MEASURES PER THE SCHEDULE IN THE EROSION AND SEDIMENT CONTROL DRAWINGS. DISPOSE OF SEDIMENT IN AN UPLAND AREA. DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
4. PERFORM CONSTRUCTION SEQUENCING IN SUCH A MANNER TO CONTROL EROSION AND TO MINIMIZE THE TIME THAT EARTH MATERIALS ARE EXPOSED BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROL MEASURES. CLEAN SEDIMENT AND DEBRIS FROM TEMPORARY MEASURES AND FROM PERMANENT STORM DRAIN AND SANITARY SEWER SYSTEMS.

DEMOLITION

1. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS, UNLESS OTHERWISE NOTED.

CONSTRUCTION LAYOUT

1. PROVIDE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED SITE IMPROVEMENTS. FIELD VERIFY EXISTING PAVEMENT AND GROUND ELEVATIONS AT THE INTERFACE WITH PROPOSED PAVEMENTS AND DRAINAGE STRUCTURES BEFORE START OF CONSTRUCTION.
2. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, FIELD VERIFY PROPOSED UTILITY ROUTES AND IDENTIFY ANY INTERFERENCES OR OBSTRUCTIONS WITH EXISTING UTILITIES OR PUBLIC RIGHTS-OF-WAY.
3. IMMEDIATELY INFORM THE ENGINEER IN WRITING IF EXISTING UTILITY CONDITIONS CONFLICT OR DIFFER FROM THAT INDICATED AND IF THE WORK CANNOT BE COMPLETED AS INDICATED.
4. DIMENSIONS ARE FROM FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS NOTED OTHERWISE.
5. BOUNDS OR MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.

EARTHWORK

1. NOTIFY UTILITY LOCATOR SERVICE AT LEAST 72 HOURS BEFORE STARTING EXCAVATION.  
CALL DIGSAFE: 1-888-DIG-SAFE
2. STOP WORK IN THE VICINITY OF SUSPECTED CONTAMINATED SOIL, GROUNDWATER OR OTHER MEDIA. IMMEDIATELY NOTIFY THE OWNER SO THAT APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN. RESUME WORK IN THE IMMEDIATE VICINITY ONLY UPON DIRECTION BY THE OWNER.
3. WITHIN THE LIMITS OF THE BUILDING FOOTPRINT, PERFORM EARTHWORK OPERATIONS TO SUBGRADE ELEVATIONS. SEE DRAWINGS BY OTHERS FOR WORK ABOVE SUBGRADE.

PAVEMENT

1. AT A MINIMUM, CONSTRUCT ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).

GENERAL SITE RESTORATION

1. PROVIDE 6 INCHES OF TOPSOIL AND SEED TO AREAS DISTURBED DURING CONSTRUCTION AND NOT DESIGNATED TO BE RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) UNLESS OTHERWISE NOTED.
2. REPAIR DAMAGES RESULTING FROM CONSTRUCTION LOADS, AT NO ADDITIONAL COST TO OWNER.
3. RESTORE AREAS DISTURBED BY CONSTRUCTION OPERATIONS TO THEIR ORIGINAL CONDITION OR BETTER, AT NO ADDITIONAL COST TO OWNER.

UTILITIES

1. TERMINATE EXISTING UTILITIES IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. COORDINATE UTILITY SERVICE DISCONNECTS WITH UTILITY REPRESENTATIVES.
2. THE TYPE, SIZE AND LOCATION OF DEPICTED UNDERGROUND UTILITIES ARE APPROXIMATE REPRESENTATIONS OF INFORMATION OBTAINED FROM FIELD LOCATIONS OF VISIBLE FEATURES, EXISTING MAPS AND PLANS OF RECORD, UTILITY MAPPING, AND OTHER SOURCES OF INFORMATION OBTAINED BY THE ENGINEER. ASSUME NO GUARANTEE AS TO THE COMPLETENESS, SERVICEABILITY, EXISTENCE, OR ACCURACY OF UNDERGROUND FACILITIES. FIELD VERIFY THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES.
3. PAY ALL FEES AND COSTS ASSOCIATED WITH UTILITY MODIFICATIONS AND CONNECTIONS, REGARDLESS OF THE ENTITY THAT PERFORMS THE WORK.
4. COORDINATE THE WORK AND WORK SCHEDULE WITH UTILITY COMPANIES. PROVIDE ADEQUATE NOTICE TO UTILITIES TO PREVENT DELAYS IN CONSTRUCTION.
5. INTERIOR DIAMETERS OF STORM DRAIN AND SANITARY SEWER STRUCTURES SHALL BE DETERMINED BY THE PRECAST MANUFACTURER, BASED ON THE INDICATED PIPE SYSTEM LAYOUT AND LOCAL MUNICIPAL STANDARDS.  
  
MINIMUM INTERIOR DIAMETERS:  
0 TO 20 FEET DEEP; 4 FEET.  
20 FEET OR GREATER; 5 FEET.
6. RIM ELEVATIONS FOR MANHOLES, VALVE COVERS, GATE AND PULL BOXES, AND OTHER STRUCTURES ARE APPROXIMATE. SET OR RESET RIM ELEVATIONS AS FOLLOWS:  
  
IN PAVEMENTS AND CONCRETE SURFACES: FLUSH  
IN SURFACES ALONG ACCESSIBLE ROUTES: FLUSH  
IN LANDSCAPE, SEEDED, AND OTHER EARTH SURFACE AREAS:  
1 INCH ABOVE SURROUNDING AREA; TAPER EARTH TO RIM ELEVATION.
7. INSTALL PROPOSED PRIVATE UTILITY SERVICES ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY THE AUTHORITY HAVING JURISDICTION (WATER, SEWER, GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). COORDINATE FINAL DESIGN LOADS AND LOCATIONS WITH OWNER AND ARCHITECT.

PORTSMOUTH UTILITY CONTACT INFORMATION:

WATER/SEWER:  
JIM TOW  
GENERAL FOREMAN  
PORTSMOUTH DEPARTMENT OF PUBLIC WORKS  
680 PEVERLY HILL ROAD  
PORTSMOUTH, NH 03801  
603.766.1426  
JVTOW@CITYOFPORTSMOUTH.COM

ELECTRIC:  
NICKOLAI KOSKO  
FIELD SERVICE REPRESENTATIVE  
EVERSOURCE ENERGY  
74 OLD DOVER ROAD  
ROCHESTER, NH 03867  
603.332.4227 EXT. 5555334  
NICKOLAI.KOSKO@EVERSOURCE.COM

NATURAL GAS:  
DAVID BEAULIEU  
SR. BUSINESS DEVELOPMENT  
REPRESENTATIVE  
UNITIL SERVICE CORP.  
325 WEST ROAD  
PORTSMOUTH, NH 03801  
603.294.5144  
BEAULIEU@UNITIL.COM

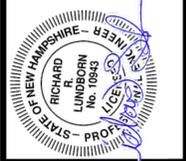
TRAFFIC:  
ERIC EBY  
PARKING AND TRANSPORTATION  
ENGINEER  
DEPARTMENT OF PUBLIC WORKS  
680 PEVERLY HILL ROAD  
PORTSMOUTH, NH 03801  
603.766.1415

CABLE:  
MIKE COLLINS  
COMCAST  
334 CALEF HIGHWAY  
EPPING, NH 03042  
603.679.5695  
MIKECOLLINS@COMCAST.COM

TELEPHONE:  
JOSEPH CONSIDINE  
ENGINEER  
CONSOLIDATED COMMUNICATIONS  
1575 GREENLAND ROAD  
GREENLAND, NH 03840  
603.427.5525  
JOSEPH.CONSIDINE@CONSOLIDATED.COM

ROAD, MATERIALS AND SIGNAL:  
DAVE DEFOSSES  
PROJECT MANAGER  
PORTSMOUTH DEPARTMENT OF PUBLIC WORKS  
680 PEVERLY HILL ROAD  
PORTSMOUTH, NH 03801  
603.766.1411  
DJEFOSSES@CITYOFPORTSMOUTH.COM

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	01/18/2021	TAC WORKSHOP SUBMITTAL	JHART	RRL
2.	02/23/2022	PLANNING BOARD SUBMISSION	MRT	RRL
3.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RRL
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RRL



SCALE:	HORIZ.:	VERT.:	DATUM:	HORIZ.:	VERT.:

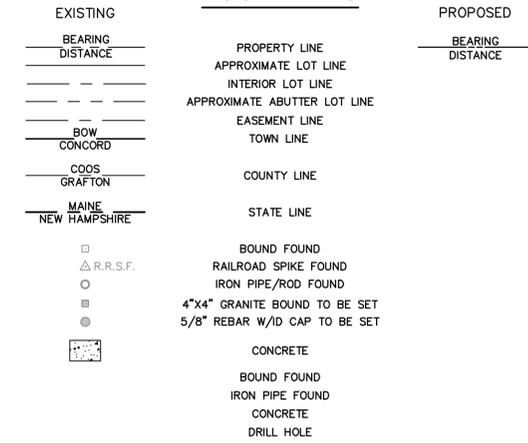
**FUSS & O'NEILL**  
UPPER SQUARE BUSINESS CENTER  
5 FLETCHER STREET, SUITE 1  
KENNEBUNK, MAINE 04043  
207.563.0609  
www.fandoc.com

CATE STREET DEVELOPMENT, LLC  
GENERAL NOTES  
ROUTE 1 BYPASS / HODGDON WAY  
PORTSMOUTH  
NEW HAMPSHIRE

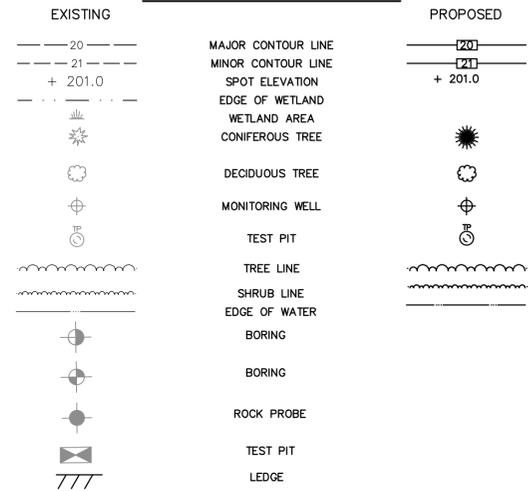
PROJ. No.: 20180317.B10  
DATE: 03/09/2022

CN-001

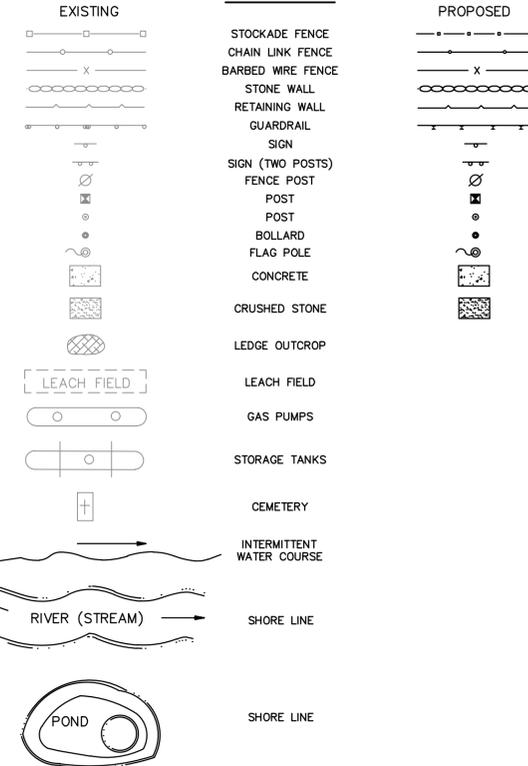
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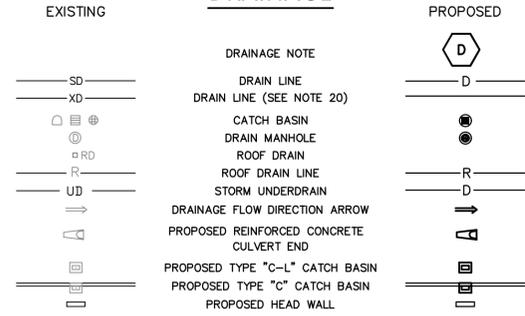
### NATURAL RESOURCES



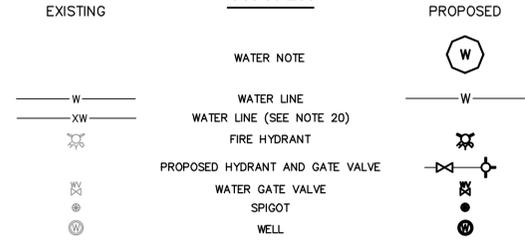
### GENERAL



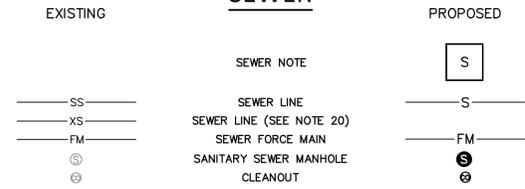
### DRAINAGE



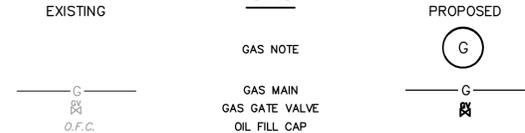
### WATER



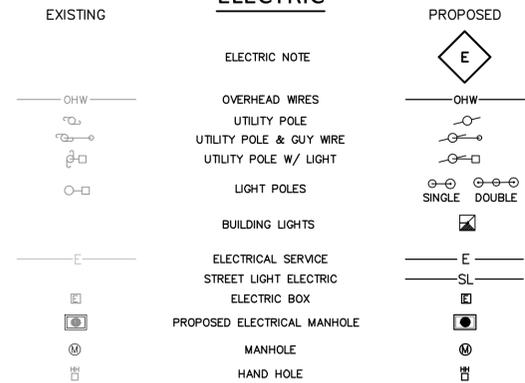
### SEWER



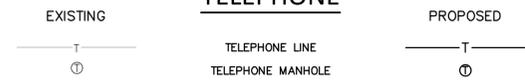
### GAS



### ELECTRIC



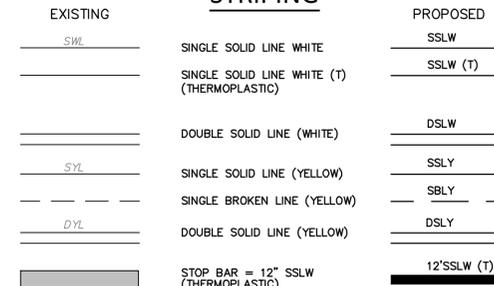
### TELEPHONE



### CATV



### STRIPING



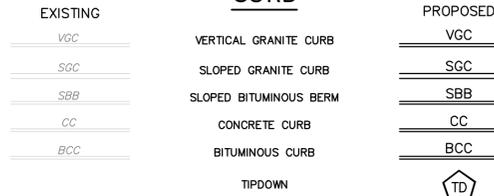
GENERAL PAVEMENT MARKING NOTE:  
 PLACEMENT AND COLOR OF PAVEMENT MARKING LINES, SYMBOLS AND WORDS SHALL CONFORM TO THE (MUTCD) SECTION 632 OF NHDOT STANDARD SPECIFICATION BOOK, CONTRACT SUPPLEMENTAL SPECIFICATIONS, THE STATE OF NEW HAMPSHIRE PAVEMENT MARKING STANDARD DETAIL SHEETS, AND STANDARD PLAN SHEETS.

RETROREFLECTIVE PAINT PAVEMENT MARKING KEY:  
 THE FOLLOWING PAVEMENT MARKINGS SHALL BE RETROREFLECTIVE THERMOPLASTIC UNLESS OTHERWISE NOTIFIED BY THE STATE STANDARD SYMBOLS AND WORDS

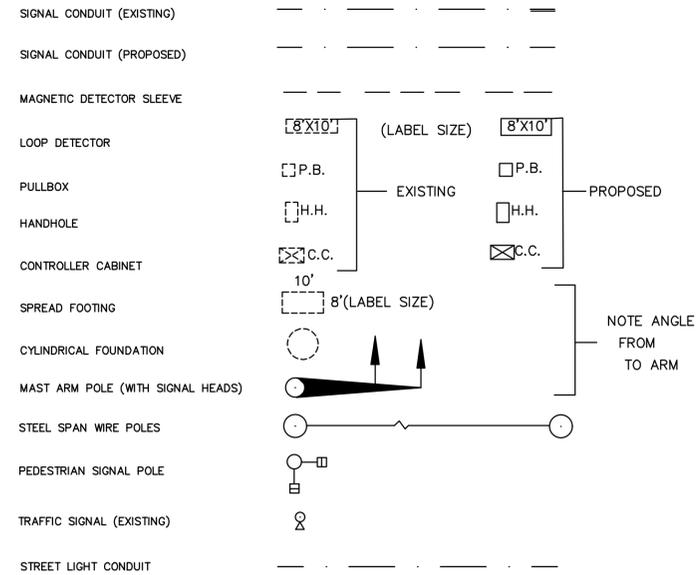
f - WORDS ONLY - WORDS  
 (A) = STOP BARS = 12" SSL (WHITE)(T)



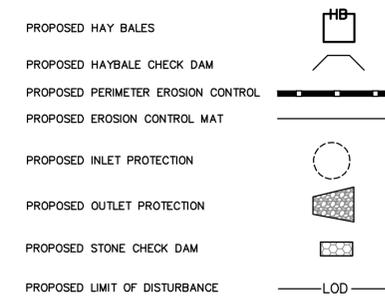
### CURB



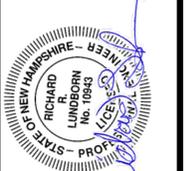
### TRAFFIC UTILITIES



### EROSION CONTROL



No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	JH/ART	RRL
2.	01/18/2022	TAC RESUBMISSION	MRT	RRL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT	RRL
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RRL



SCALE:	HORIZ.:	VERT.:
DATUM:	HORIZ.: NAD83	VERT.: NGVD29

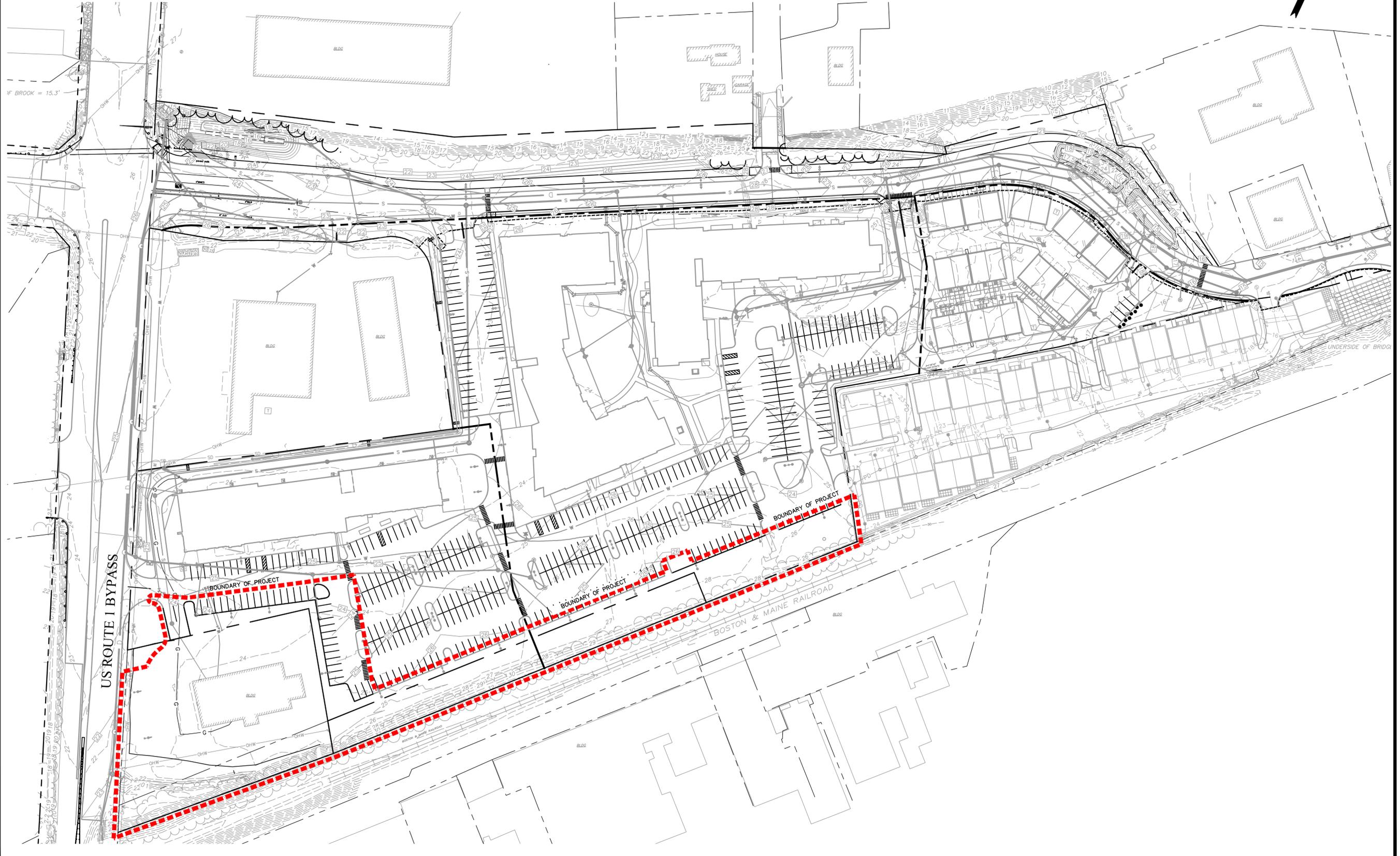
**FUSS & O'NEILL**  
 UPPER SQUARE BUSINESS CENTER  
 5 FLETCHER STREET, SUITE 1  
 KENNEBUNK, MAINE 04043  
 www.fandoo.com

CATE STREET DEVELOPMENT, LLC  
**LEGEND**  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

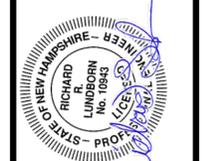
PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

**CN-002**

- XX PARKING COUNT
- TD PROPOSED TIDDOWN RAMP
- VGC PROPOSED VERTICAL GRANITE CURB
- SGC PROPOSED SLOPED GRANITE CURB
- CC PROPOSED CONCRETE CURB
- MGC MOUNTABLE GRANITE CURB
- SSL SINGLE SOLID LINE (WHITE)
- DSL DOUBLE SOLID LINE (YELLOW)
- DETECTABLE WARNING PANEL



<p><b>SCALE:</b> HORIZ.: 1" = 40'          VERT.: 1" = 10'</p> <p><b>DATUM:</b> HORIZ.: NAD83          VERT.: NGVD29</p> <p><b>GRAPHIC SCALE:</b> 0 20 40</p>	<p><b>PROJ. No.:</b> 20180317.B10  <b>DATE:</b> 03/09/2022</p>																				
<p><b>FUSS &amp; O'NEILL</b>          UPPER SQUARE BUSINESS CENTER          5 FLETCHER STREET, SUITE 1          KENNEBUNK, MAINE 04043          207.563.0609          www.fandoo.com</p>																					
<p>CATE STREET DEVELOPMENT, LLC          EXISTING CONDITIONS          ROUTE 1 BYPASS / HODGDON WAY          PORTSMOUTH NEW HAMPSHIRE</p>																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>DESIGNER REVIEWER</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>11/1/2021</td> <td>TAC WORKSHOP SUBMITTAL</td> <td>RRL</td> </tr> <tr> <td>2.</td> <td>01/18/2022</td> <td>TAC RESUBMISSION</td> <td>RRL</td> </tr> <tr> <td>3.</td> <td>02/23/2022</td> <td>PLANNING BOARD SUBMISSION</td> <td>RRL</td> </tr> <tr> <td>4.</td> <td>03/09/2022</td> <td>PLANNING BOARD SUBMISSION</td> <td>RRL</td> </tr> </tbody> </table>		No.	DATE	DESCRIPTION	DESIGNER REVIEWER	1.	11/1/2021	TAC WORKSHOP SUBMITTAL	RRL	2.	01/18/2022	TAC RESUBMISSION	RRL	3.	02/23/2022	PLANNING BOARD SUBMISSION	RRL	4.	03/09/2022	PLANNING BOARD SUBMISSION	RRL
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3.	02/23/2022	PLANNING BOARD SUBMISSION	RRL																		
4.	03/09/2022	PLANNING BOARD SUBMISSION	RRL																		



NH LLS-2  
 PURSUANT TO RSA 676:18 III:  
 I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.  
 I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.  
 \_\_\_\_\_ L.L.S. #  
 \_\_\_\_\_ DATE  
 THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.

THE SOLE PURPOSE OF THIS PLAN IS TO DEPICT THE LOCATION OF EXISTING AND PROPOSED IMPROVEMENTS ON THE SITE. RECORDING OF THIS PLAN WAS A REQUIREMENT OF THE PORTSMOUTH PLANNING BOARD AS PART OF THEIR SITE PLAN APPROVAL DATED \_\_\_\_\_  
 \_\_\_\_\_ L.L.S. #  
 \_\_\_\_\_ DATE  
 THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.  
 \_\_\_\_\_ FOR DOUCET SURVEY  
 \_\_\_\_\_ DATE

**SITE NOTES:**  
 1. **PARCEL AREA:**  
 TAX MAP 165, LOT 2-269,864 SF (6.20 AC.)  
 TAX MAP 72, LOT 1-138,143 SF (3.17 AC.)  
 TAX MAP 172, LOT 2-52,820 SF (1.21 AC.)  
 TAX MAP 163, LOT 34-56,421 SF (1.29 AC.)  
 PROPOSED RIGHT OF WAY-139,755 SF (3.21 AC.) (RCRD D-42151)  
 TOTAL DEVELOPMENT SITE-657,003 SF (15.08 AC.)  
 2. **ZONES:** G1 - GATEWAY NEIGHBORHOOD MIXED USE  
 TC - TRANSPORTATION CORRIDOR  
 3. **DIMENSIONAL REQUIREMENTS, DEVELOPMENT SITE STANDARDS:**  

	REQUIRED	PROPOSED
MIN. DEVELOPMENT AREA	20,000 sq. ft.	657,003 SF
MIN. SITE WIDTH	100 ft.	VARIES > 100 ft.
MIN. LOT DEPTH	100 ft.	VARIES > 100 ft.
MIN. PERIMETER BUFFER	75 ft. FROM RES. DIST., MIXED RES., OR CD4-L1 DIST.	N/A
MAX. DEV. BLOCK	800 ft. LENGTH, 2,200 LINEAR ft.	610 ft.
MIN. FRONTAGE	50 ft.	227 ft.
MAX. BUILDING HEIGHT	45 ft.	45 ft.
25-FT STEP BACK		
MAX. BUILDING COVERAGE	70 %	18.6 %
MIN. OPEN SPACE	20 %	41 %
COMMUNITY SPACE	ALL TYPES	SEE NOTE #6
WETLAND SETBACKS IMPERVIOUS COVER	100 ft.	104 ft. 443,511 sq. ft. (67.5%)

 4. **PARKING CALCULATIONS PER 10.1112.30:**  

RESIDENTIAL A AND B:	UNITS	REQUIREMENT	REQUIRED	PROVIDED
UNITS <500 SQ. FT.	71	0.5 SPACE/UNIT	36	---
UNITS 500-750 SQ. FT.	107	1 SPACE/UNIT	107	---
UNITS >750 SQ. FT.	72	1.3/UNIT	94	---
VISITOR	250	1 SPACE/5 UNITS	50	---
SUB-TOTAL			287	359

 BICYCLE PARKING IS INTERNAL  
 HANDICAP ACCESSIBLE = 8  
**TOWNHOMES:**  

UNITS >750 SQ. FT.	UNITS	REQUIREMENT	REQUIRED	PROVIDED
	23	1.3/UNIT	30	46
VISITOR	23	1/5 UNITS	5	5
SUB-TOTAL			35	51

 (EACH TOWNHOME HAS A 2 CAR GARAGE)  
 BICYCLE PARKING IS INTERNAL  
**COMMERCIAL BUILDING:**  

AREA	REQUIREMENT	REQUIRED	PROVIDED
C-EATING & DRINKING	13,600SF 1/100 SF	136	---
C-RETAIL	5,800 SF 1/300 SF	20	---
C-OFFICE	15,900 SF 1/350 SF	46	---
D-RETAIL	7,832 SF 1/300 SF	27	---
SUB-TOTAL		229	214

 BICYCLE PARKING 1/10 PARKING  
 HANDICAP ACCESSIBLE = 8  
 PER 10.1112.30 DEVELOPMENT SITE TOTAL:  
 REQUIRED 551  
 PROVIDED 624  
 5. **SHARED PARKING CALCULATIONS: COLUMN C WEEKDAY EVENINGS, PER 10.1112.60:**  

RESIDENTIAL A AND B:	REQUIRED	SHARED %	SHARED REQUIRED	PROVIDED
TOWNHOMES	287	100%	287	359
SUB-TOTAL	35	100%	35	51
			322	410

**COMMERCIAL BUILDING:**  

REQUIRED	SHARED %	SHARED REQUIRED	PROVIDED
C-EATING & DRINKING	136	100%	136
C-RETAIL	20	90%	18
C-OFFICE	46	20%	10
D-RETAIL	27	90%	25
SUB-TOTAL			189

 SHARED PARKING; DEVELOPMENT SITE TOTAL:  
 REQUIRED 511  
 PROVIDED 624

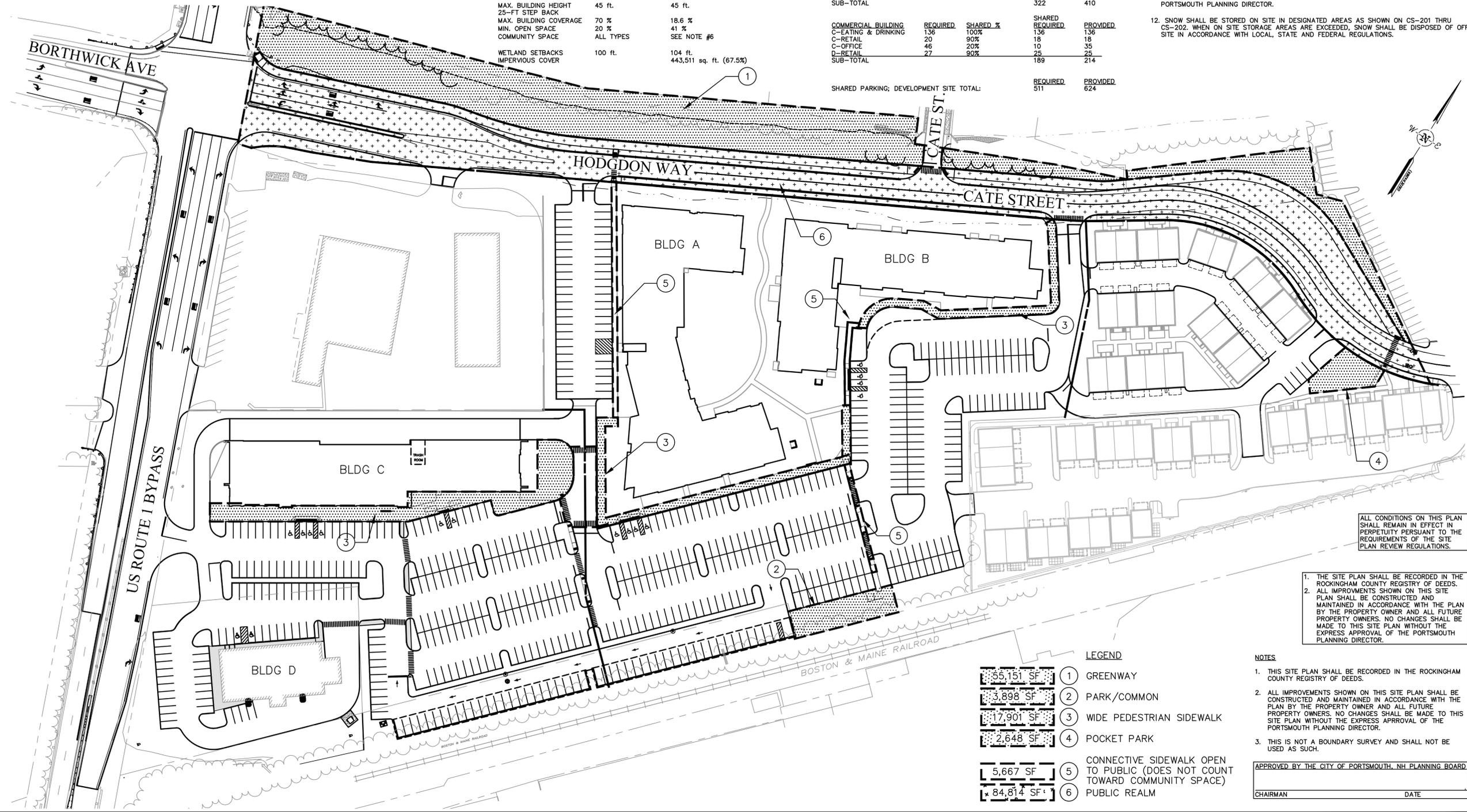
6. **COMMUNITY SPACE CALCULATION:**  

TOTAL DEVELOPMENT SITE	REQUIRED	PROVIDED
	---	657,003 SF
GREENWAY	---	55,151 SF (8.39%)
PARK/COMMON	---	3,898 SF (0.59%)
POCKET PARK	---	2,648 SF (0.40%)
WIDE PEDESTRIAN SIDEWALK	---	17,901 SF (2.72%)
TOTAL	65,700 SF (10%)	79,598 SF (12.12%)

 7. PUBLIC REALM IMPROVEMENTS ARE BEING PROVIDED AS A PART OF THIS PROJECT. A CONNECTOR ROAD CONNECTING ROUTE 1 BYPASS TO BARTLETT STREET AND THE WEST END OF PORTSMOUTH, AS WELL AS A BICYCLE/MULTI-USE TRAIL ALONG HODGDON BROOK ARE BOTH BEING PROVIDED. PUBLIC REALM SPACE CANNOT COUNT TOWARD COMMUNITY SPACE, AS SUCH THE AREA OF THE LAND OCCUPIED BY THE MULTI-USE TRAIL TO THE SIDEWALK ON THE SOUTH SIDE OF THE CONNECTOR ROAD IS EXCLUDED FROM THE CALCULATION IN NOTE #6 COMMUNITY SPACE CALCULATIONS.  
**PUBLIC REALM SPACE:**  

TOTAL DEVELOPMENT SITE	REQUIRED	PROVIDED
	---	657,003 SF
PUBLIC REALM	OPTIONAL	84,814 SF (12.9%)

 8. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE, THE PROPERTY OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.  
 9. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REGULATIONS.  
 10. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.  
 11. ALL IMPROVEMENTS SHOWN ON THE SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.  
 12. SNOW SHALL BE STORED ON SITE IN DESIGNATED AREAS AS SHOWN ON CS-201 THRU CS-202. WHEN ON SITE STORAGE AREAS ARE EXCEEDED, SNOW SHALL BE DISPOSED OF OFF SITE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.



- LEGEND**
- ① GREENWAY (55,151 SF)
  - ② PARK/COMMON (3,898 SF)
  - ③ WIDE PEDESTRIAN SIDEWALK (17,901 SF)
  - ④ POCKET PARK (2,648 SF)
  - ⑤ CONNECTIVE SIDEWALK OPEN TO PUBLIC (DOES NOT COUNT TOWARD COMMUNITY SPACE) (5,667 SF)
  - ⑥ PUBLIC REALM (84,814 SF)

**NOTES**

- THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
- THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SUCH.

APPROVED BY THE CITY OF PORTSMOUTH, NH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	JH.MRT	RL
2.	01/18/2022	TAC RESUBMISSION	JH.MRT	RL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT	RL
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RL

SCALE: HORIZ.: 1"=60'  
 VERT.: 1"=60'  
 DATUM: NAD83  
 HORIZ.: NAVD88  
 VERT.: NAVD88  
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 GRAPHIC SCALE

STATE OF NEW HAMPSHIRE  
 REGISTERED PROFESSIONAL LAND SURVEYOR  
 RICHARD R. LINDORF  
 No. 106  
 EXPIRES 12/31/2023

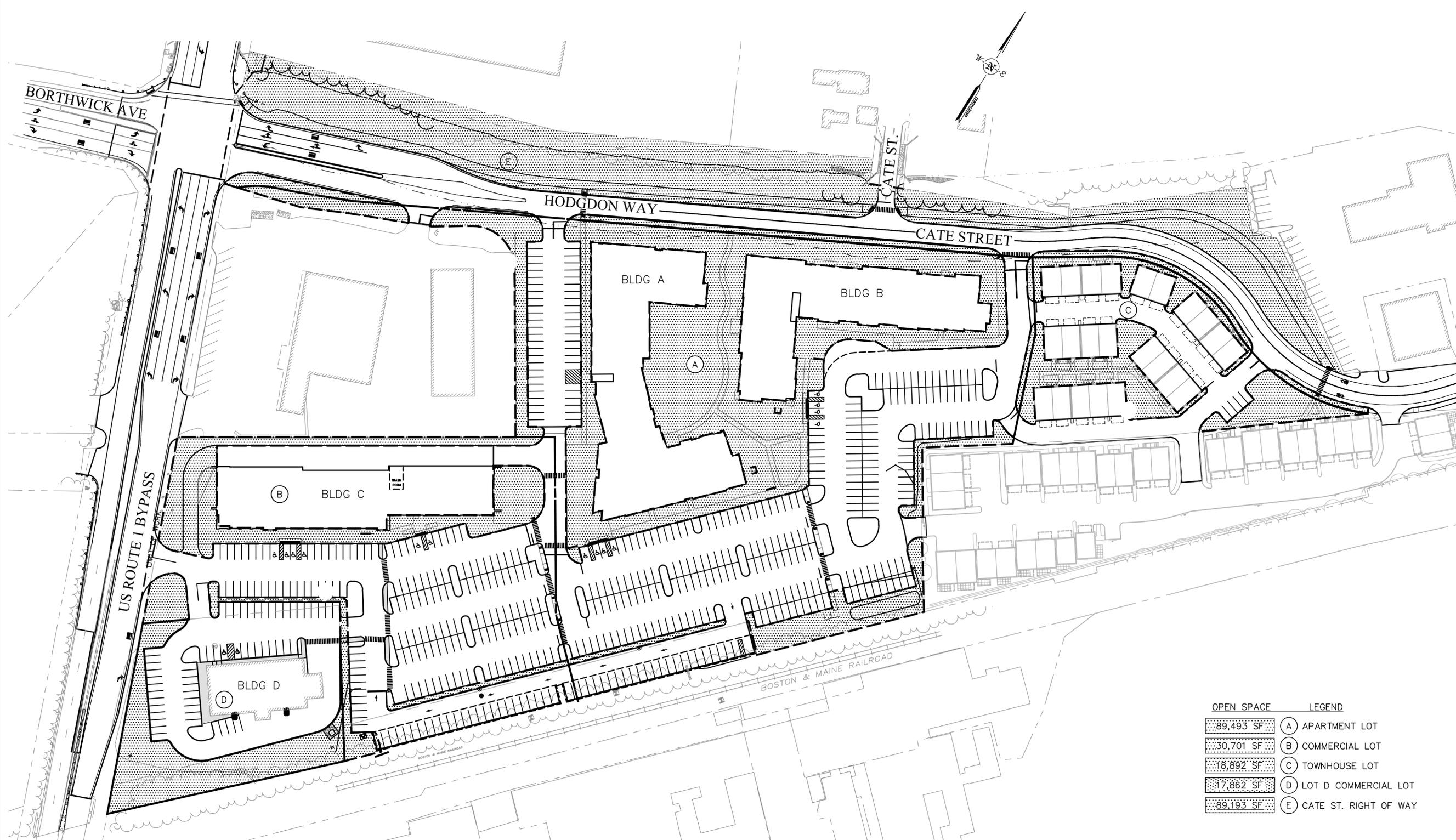
**FUSS & O'NEILL**  
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 207.563.0609  
 www.fandoc.com

CATE STREET DEVELOPMENT, LLC  
 DEVELOPMENT STANDARDS  
 SITE PLAN  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH  
 NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

**CS-002**

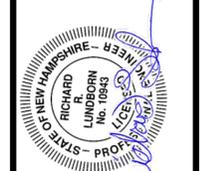
OPEN SPACE CALCULATION:			
	LOT AREA	REQUIRED	PROVIDED
TOTAL DEVELOPMENT SITE			657,003 SF
APARTMENT LOT	269,857 SF	---	89,493 SF (33.2% LOT/13.6% TOTAL)
COMMERCIAL LOT	138,143 SF	---	30,711 SF (22.2% LOT/4.67% TOTAL)
TOWNHOUSE LOT	56,154 SF	---	18,892 SF (33.6% LOT/2.88% TOTAL)
LOT D COMMERCIAL LOT	52,820 SF	---	17,862 SF (33.8% LOT/2.72% TOTAL)
GATE ST ROW	---	---	89,193 SF (13.6% OF TOTAL)
<b>TOTAL</b>	<b>131,400 SF (20%)</b>	<b>246,151 SF (38.6%)</b>	



OPEN SPACE	LEGEND
89,493 SF	(A) APARTMENT LOT
30,701 SF	(B) COMMERCIAL LOT
18,892 SF	(C) TOWNHOUSE LOT
17,862 SF	(D) LOT D COMMERCIAL LOT
89,193 SF	(E) GATE ST. RIGHT OF WAY

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No.	DATE	DESCRIPTION	DESIGNER REVIEWER
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT
2.	01/18/2022	TAC RESUBMISSION	MRT
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	JH/MRT



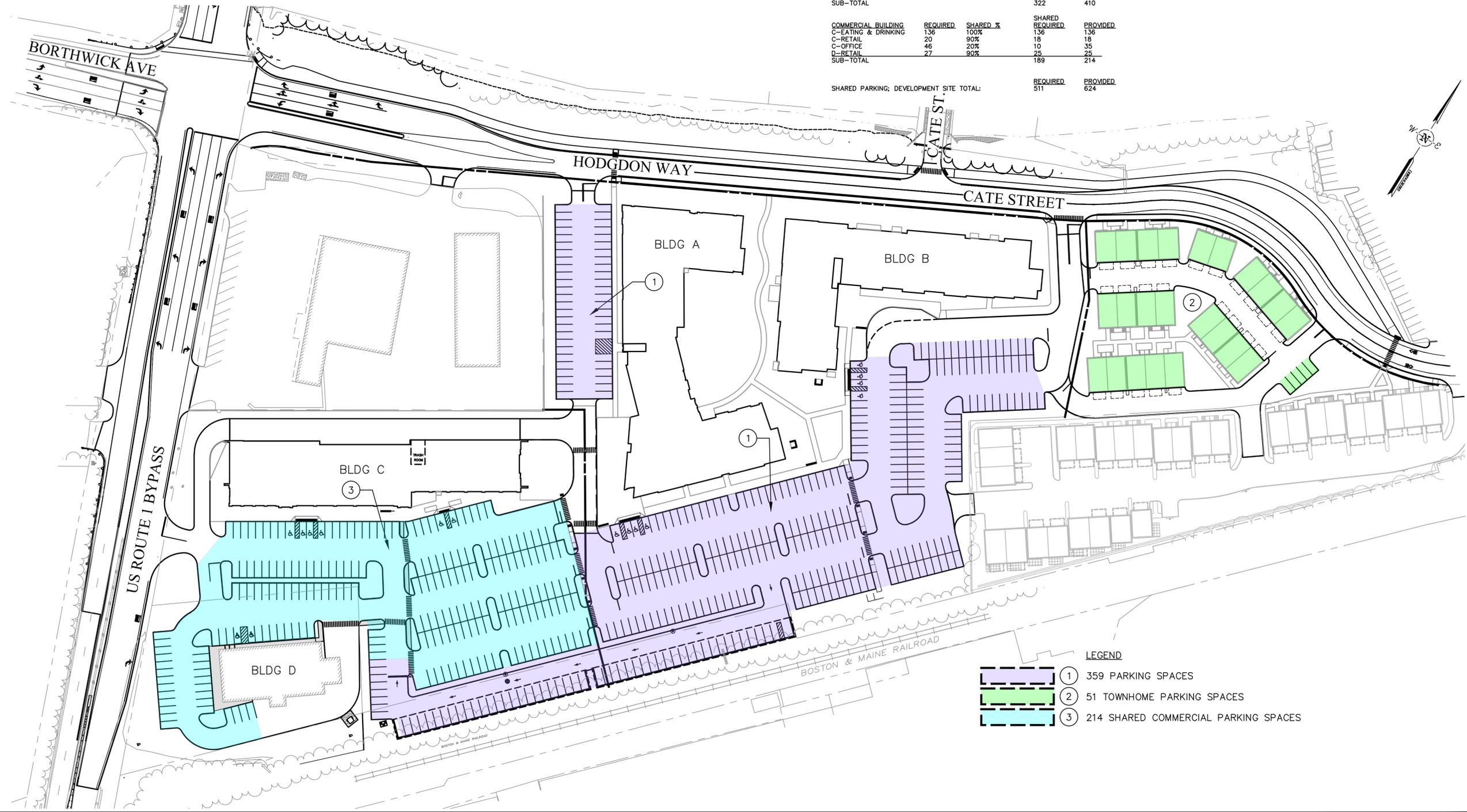
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	VERT.: NAVD88
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**FUSS & O'NEILL**  
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CATE STREET DEVELOPMENT, LLC  
**OPEN SPACE SITE PLAN**  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

**CS-003**



**1. PARKING CALCULATIONS PER 10.1112.30:**

RESIDENTIAL A AND B:	UNITS	REQUIREMENT	REQUIRED	PROVIDED
UNITS <500 SQ. FT.	71	0.5 SPACE/UNIT	36	---
UNITS 500-750 SQ. FT.	107	1 SPACE/UNIT	107	---
UNITS >750 SQ. FT.	72	1.3/UNIT	94	---
VISITOR	250	1 SPACE/5 UNITS	50	---
<b>SUB-TOTAL</b>			<b>287</b>	<b>359</b>

BICYCLE PARKING IS INTERNAL  
HANDICAP ACCESSIBLE = 8

TOWNHOMES:	UNITS	REQUIREMENT	REQUIRED	PROVIDED
UNITS >750 SQ. FT.	23	1.3/UNIT	30	46
VISITOR	23	1/5 UNITS	5	5
<b>SUB-TOTAL</b>			<b>35</b>	<b>51</b>

(EACH TOWNHOME HAS A 2 CAR GARAGE)  
BICYCLE PARKING IS INTERNAL

COMMERCIAL BUILDING	AREA	REQUIREMENT	REQUIRED	PROVIDED
C-EATING & DRINKING	13,600SF	1/100 SF	136	---
C-RETAIL	5,800 SF	1/300 SF	20	---
C-OFFICE	15,900 SF	1/350 SF	46	---
D-RETAIL	7,832 SF	1/300 SF	27	---
<b>SUB-TOTAL</b>			<b>229</b>	<b>214</b>

BICYCLE PARKING 1/10 PARKING  
HANDICAP ACCESSIBLE = 8

PER 10.1112.30 DEVELOPMENT SITE TOTAL: **REQUIRED 551 PROVIDED 624**

**2. SHARED PARKING CALCULATIONS: COLUMN C WEEKDAY EVENINGS, PER 10.1112.60:**

RESIDENTIAL A AND B:	REQUIRED	SHARED %	SHARED REQUIRED	PROVIDED
TOWNHOMES	287	100%	287	359
<b>SUB-TOTAL</b>	<b>35</b>	<b>100%</b>	<b>322</b>	<b>410</b>

COMMERCIAL BUILDING	REQUIRED	SHARED %	SHARED REQUIRED	PROVIDED
C-EATING & DRINKING	136	100%	136	136
C-RETAIL	20	90%	18	18
C-OFFICE	46	20%	10	35
D-RETAIL	27	90%	25	25
<b>SUB-TOTAL</b>	<b>27</b>	<b>90%</b>	<b>189</b>	<b>214</b>

SHARED PARKING; DEVELOPMENT SITE TOTAL: **REQUIRED 511 PROVIDED 624**

**LEGEND**

	1	359 PARKING SPACES
	2	51 TOWNHOME PARKING SPACES
	3	214 SHARED COMMERCIAL PARKING SPACES

No.	DATE	DESCRIPTION	DESIGNER/REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	RRL
2.	01/18/2022	TAC RESUBMISSION	RRL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT

SCALE: HORIZ.: 1"=60'  
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GRAPHIC SCALE

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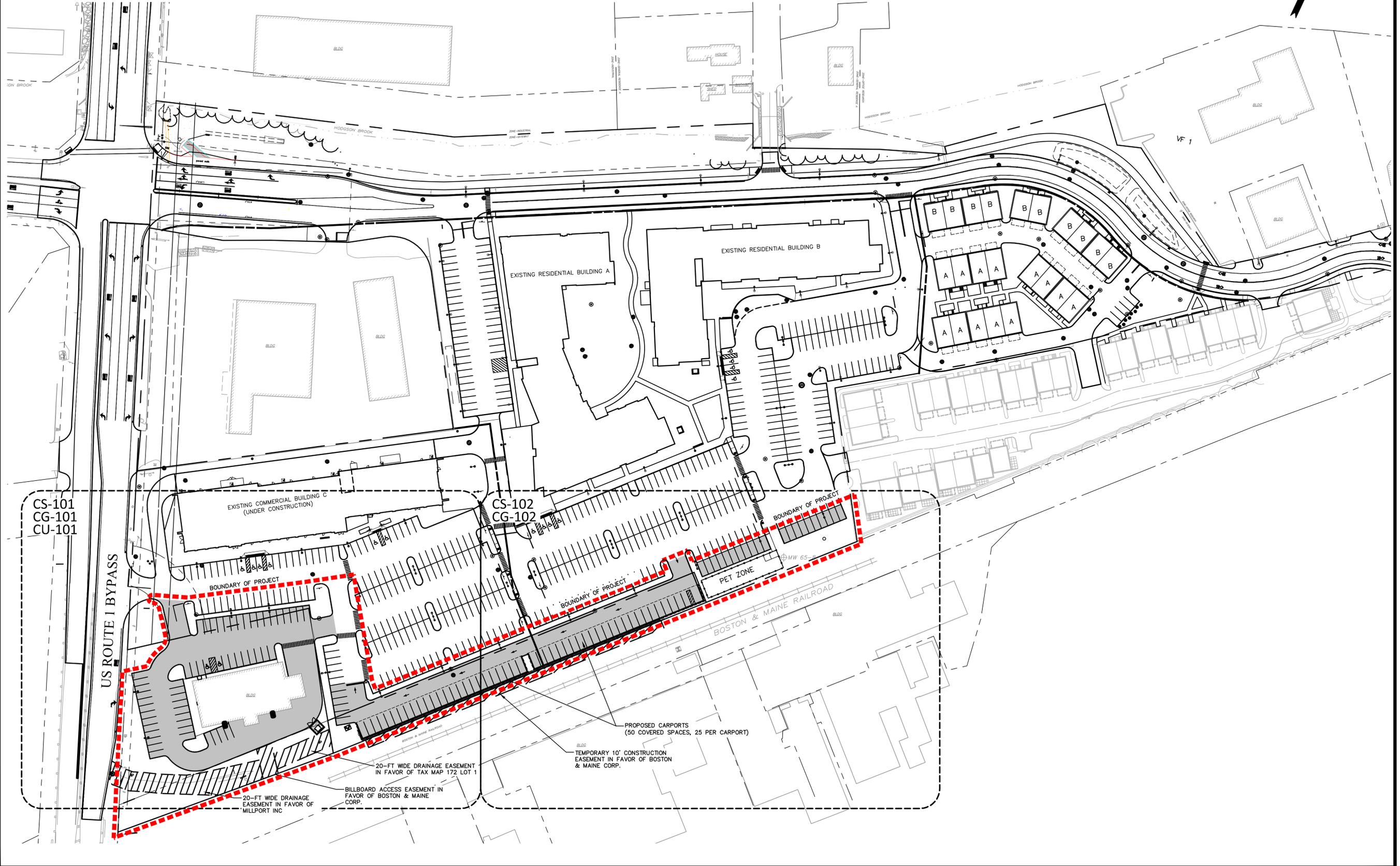
CATE STREET DEVELOPMENT, LLC  
 PARKING DISTRIBUTION PLAN  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

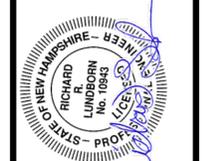
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- XX PARKING COUNT
- TD PROPOSED TIPDOWN RAMP
- VGC PROPOSED VERTICAL GRANITE CURB
- SGC PROPOSED SLOPED GRANITE CURB
- CC PROPOSED CONCRETE CURB
- MGC MOUNTABLE GRANITE CURB
- SSL SINGLE SOLID LINE (WHITE)
- DSL DOUBLE SOLID LINE (YELLOW)
- DETECTABLE WARNING PANEL



No.	DATE	DESCRIPTION	DESIGNER REVIEWER
4.	03/09/2022	PLANNING BOARD SUBMISSION	RRL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT
2.	01/18/2022	TAC RESUBMISSION	MRT
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	JH/MRT



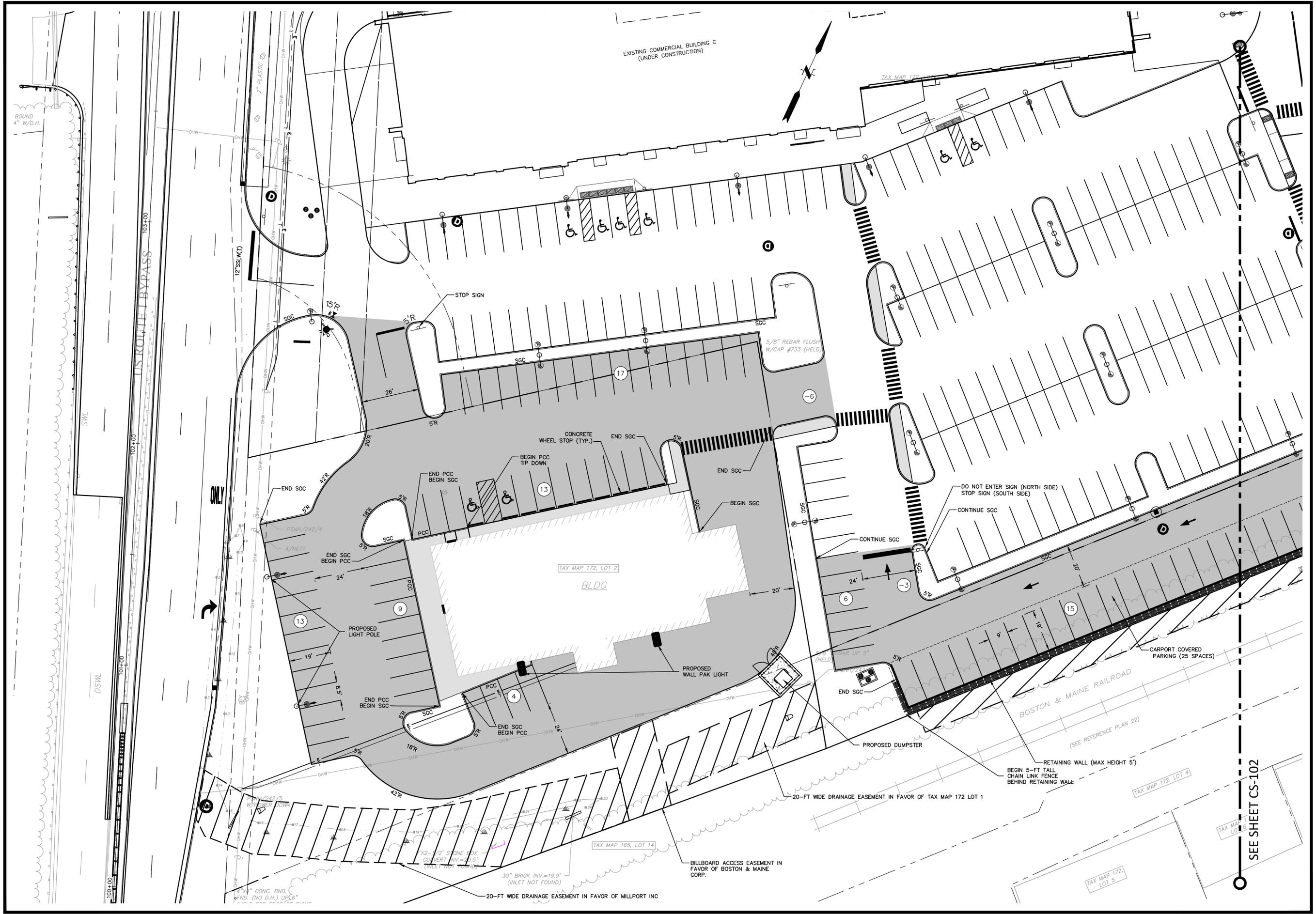
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**FUSS & O'NEILL**  
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 5 FLETCHER STREET, SUITE 1  
 KENNEBUNK, MAINE 04043  
 207.563.0609  
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CATE STREET DEVELOPMENT, LLC  
 SITE PLAN OVERVIEW  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

**CS-100**



**CATE STREET DEVELOPMENT, LLC**  
**SITE PLAN**  
**ROUTE 1 BYPASS / HODGDON WAY**  
 PORTSMOUTH NEW HAMPSHIRE

**FUSS & O'NEILL**  
 UPPER SQUARE BUSINESS CENTER  
 5 FLETCHER STREET, SUITE 1  
 KENNEBUNK, MAINE 04043  
 207.563.0669  
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PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

**CS-101**

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	JH/ART	RL
2.	01/18/2022	TAC RESUBMISSION	MRT	RL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT	RL
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RL

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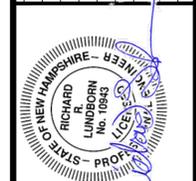
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SEE SHEET CS-101

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	JH/ART	RRL
2.	01/18/2022	TAC RESUBMISSION	MRT	RRL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT	RRL
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RRL

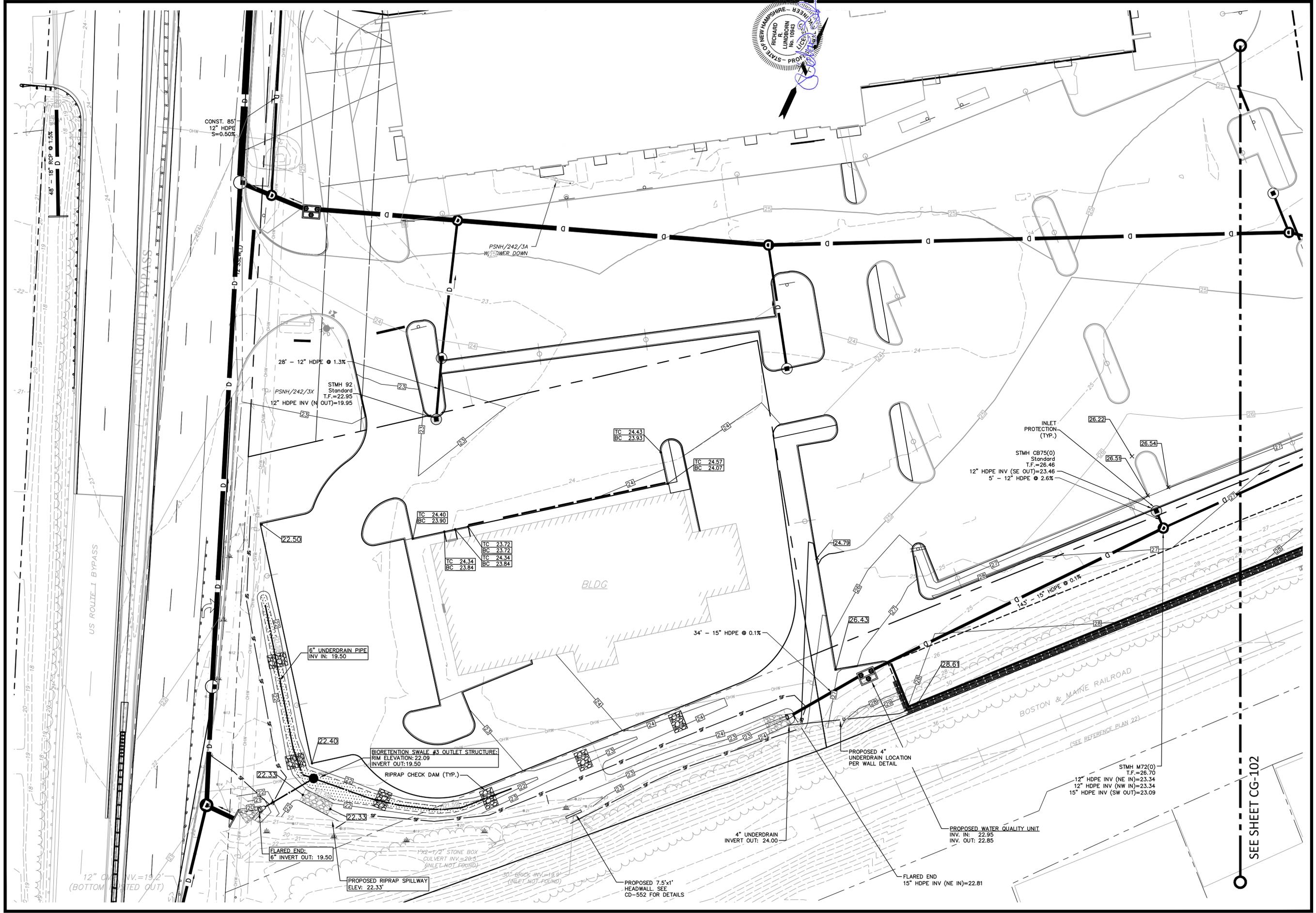


SCALE:	HORIZ.: 1" = 30'
	VERT.: 1" = 10'
DATUM:	HORIZ.: NAD83
	VERT.: NGVD29
GRAPHIC SCALE	

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CATE STREET DEVELOPMENT, LLC  
 SITE PLAN  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022  
**CS-102**



No.	DATE	DESCRIPTION	BY/ART	CHK/ART	DESIGNER REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	MRT	RRL	RRL
2.	01/18/2022	TAC RESUBMISSION	MRT	RRL	RRL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT	RRL	RRL
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RRL	RRL

SCALE: HORIZ.: 1" = 20'  
 VERT.: AS NOTED

DATUM:  
 HORIZ.: NAD83  
 VERT.: NGVD29

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 GRAPHIC SCALE

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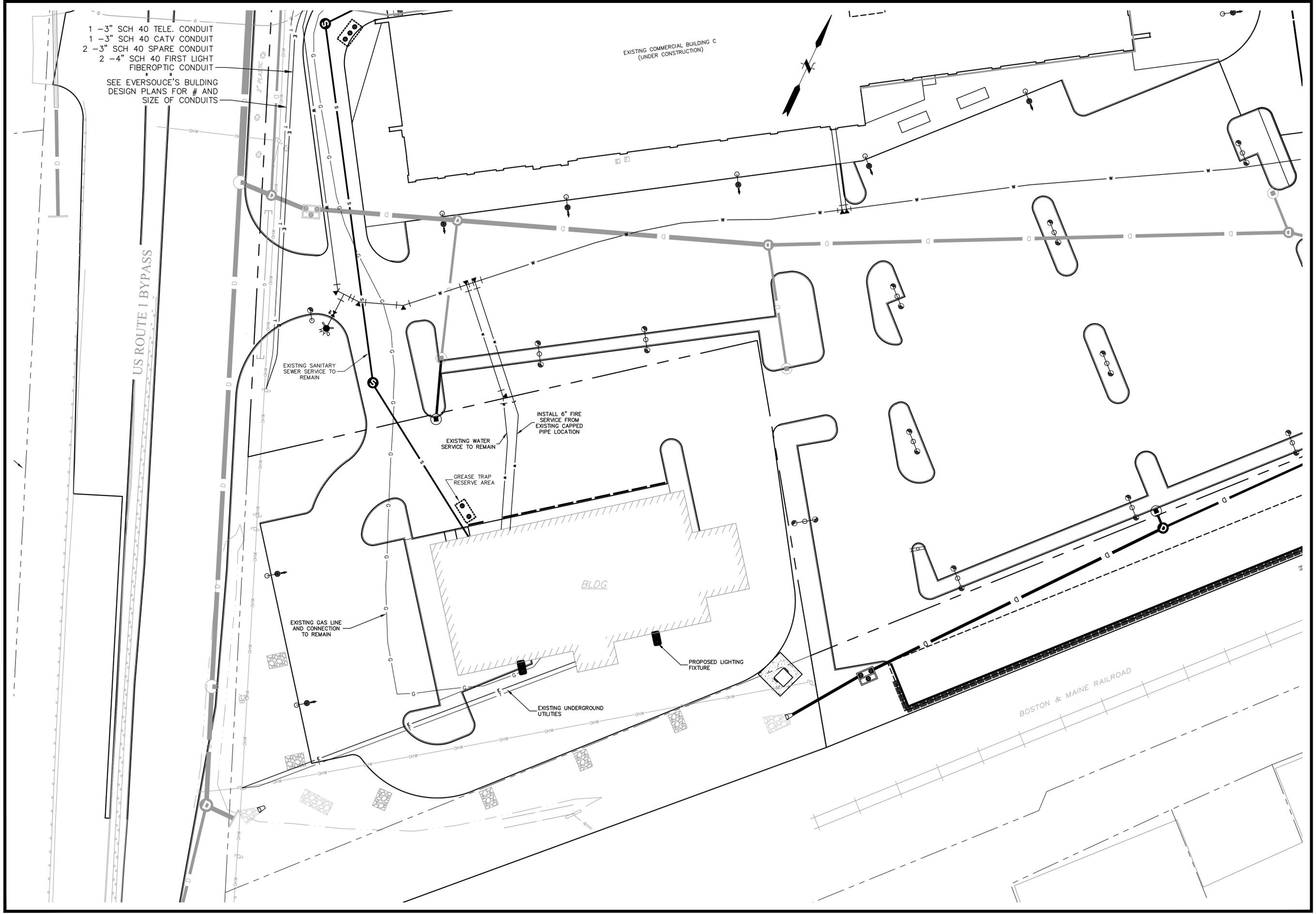
CATE STREET DEVELOPMENT, LLC  
**GRADING, DRAINAGE & EROSION CONTROL PLAN**  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

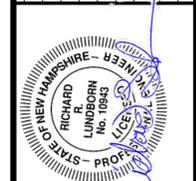
**CG-101**

SEE SHEET CG-102





No.	DATE	DESCRIPTION	DESIGNER REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	RRL
2.	01/18/2022	TAC RESUBMISSION	RRL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT



SCALE: HORIZ.: 1" = 20'  
 VERT.: 1" = 20'

DATUM:  
 HORIZ.: NAD83  
 VERT.: NGVD29

GRAPHIC SCALE

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CATE STREET DEVELOPMENT, LLC  
 UTILITY PLAN  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

**CU-101**

- ALL SECTIONS SHALL BE CONCRETE, CLASS AA (4,000 PSI)
  - CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL
  - THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.
  - RISERS OF 1'-4" MAY BE USED TO REACH THE DESIRED ELEVATION.
  - THE STRUCTURES SHALL BE DESIGNED FOR H=20 LOADING.
  - ADJUSTING THE FRAME TO GRADE MAY BE DONE WITH PRECAST CONCRETE GRADE RINGS OR CLAY BRICKS (2 COURSES MAX.). FRAME TO BE SET IN A FULL BED OF MORTAR.
  - SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
  - PIPE ELEVATIONS SHOWN ON THE PLAN SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
  - PIPE ENDS SHALL PROJECT NO MORE THAN 3-INCHES BEYOND THE INSIDE WALL OF THE STRUCTURE.
  - PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4-INCHES HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING ONE STRIP OF BUTYL RUBBER SEALANT OR APPROVED FLEXIBLE SEALANT.
  - STEPS ARE NOT ALLOWED.
- CATCH BASIN SPECIFIC NOTES:**
- CONE SECTIONS MAY BE CONCENTRIC OR ECCENTRIC FOR CATCH BASINS.
  - "ELIMINATOR" OIL/WATER SEPARATORS SHALL BE INSTALLED TIGHT TO THE INSIDE OF THE CATCH BASIN ON THE OUTLET PIPE.
- DRAIN MANHOLE SPECIFIC NOTES:**
- ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12-INCHES OF INSIDE SURFACE BETWEEN THE HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3-INCHES TO ANY JOINT.

**PRECAST DRAINAGE STRUCTURE NOTES**  
NOT TO SCALE

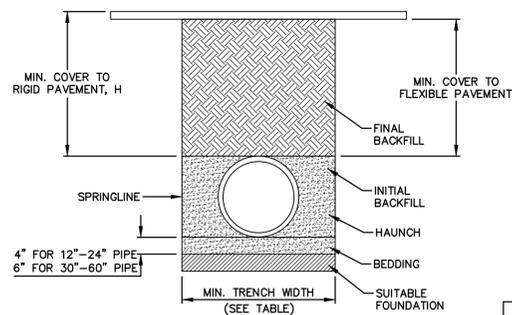


TABLE 1, RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
12"	30"
(300mm)	(762mm)
15"	34"
(375mm)	(864mm)
18"	39"
(450mm)	(991mm)
24"	48"
(600mm)	(1219mm)
30"	56"
(750mm)	(1422mm)
36"	64"
(900mm)	(1626mm)
42"	72"
(1050mm)	(1829mm)
48"	80"
(1200mm)	(2032mm)
60"	96"
(1500mm)	(2438mm)

TABLE 2, MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

PIPE DIAM.	SURFACE LIVE LOAD CONDITION	
	H=25	HEAVY CONSTRUCTION (75T AXLE LOAD)*
12"-48" (300mm-1200mm)	12" (305mm)	12" (305mm)
60" (1500mm)	24" (610mm)	60" (1524mm)

\*VEHICLE IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

TABLE 3, MAXIMUM COVER FOR ADS HP STORM PIPE, FT.

PIPE DIA.	CLASS I		CLASS II		CLASS III		CLASS IV	
	COMPACTED	95%	90%	85%	95%	90%	95%	90%
12"	41"	28"	21"	16"	20"	16"	16"	16"
(305mm)	(12.5m)	(8.5m)	(6.4m)	(4.9m)	(6.4m)	(4.9m)	(4.9m)	(4.9m)
15"	42"	29"	24"	16"	21"	16"	16"	16"
(375mm)	(12.8m)	(8.8m)	(6.4m)	(4.9m)	(6.4m)	(4.9m)	(4.9m)	(4.9m)
18"	44"	30"	24"	16"	22"	17"	16"	16"
(450mm)	(13.4m)	(9.1m)	(6.4m)	(4.9m)	(6.7m)	(5.2m)	(4.9m)	(4.9m)
24"	37"	26"	18"	14"	19"	14"	14"	14"
(600mm)	(11.3m)	(7.9m)	(5.5m)	(4.3m)	(5.8m)	(4.3m)	(4.3m)	(4.3m)
30"	39"	27"	19"	14"	19"	15"	14"	14"
(750mm)	(11.9m)	(8.2m)	(5.8m)	(4.3m)	(5.8m)	(4.6m)	(4.3m)	(4.3m)
36"	28"	20"	14"	10"	22"	11"	10"	10"
(900mm)	(8.5m)	(6.1m)	(4.3m)	(3.0m)	(8.5m)	(3.4m)	(3.0m)	(3.0m)
42"	30"	21"	14"	10"	15"	11"	10"	10"
(1050mm)	(9.1m)	(6.4m)	(4.3m)	(3.0m)	(4.6m)	(3.4m)	(3.0m)	(3.0m)
48"	29"	20"	14"	9"	14"	10"	10"	10"
(1200mm)	(8.8m)	(6.1m)	(4.3m)	(2.7m)	(4.3m)	(3.0m)	(3.0m)	(3.0m)
60"	28"	20"	14"	9"	14"	10"	9"	9"
(1500mm)	(8.6m)	(6.1m)	(4.3m)	(2.7m)	(4.3m)	(3.0m)	(2.7m)	(2.7m)

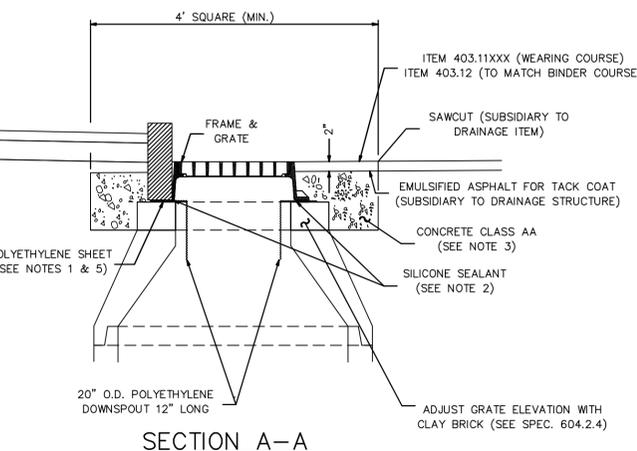
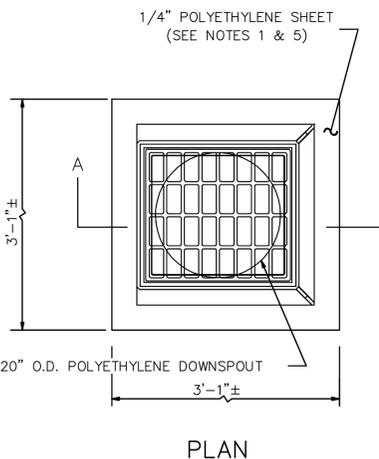
FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS:  
NO HYDROSTATIC PRESSURE  
UNIT WEIGHT OF SOIL (γ) = PCF

- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D3221, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS IV MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND PLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, III OR IV. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" (300mm-600mm) DIAMETER PIPE; 6" (150mm) FOR 30"-60" (750mm-1500mm) DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED.
- INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, III OR IV IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
- MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS: CLASS I OR II MATERIAL COMPACTED TO 90% SPD AND CLASS III COMPACTED TO 95% SPD IS REQUIRED. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT TO TOP OF RIGID PAVEMENT.
- FOR ADDITIONAL INFORMATION SEE TECHNICAL NOTE 2.04.

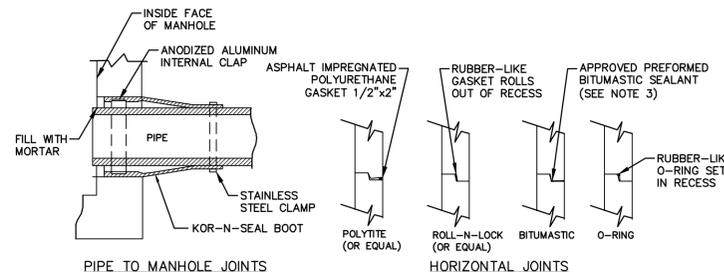
**HP STORM TRENCH INSTALLATION DETAIL**  
NOT TO SCALE

- POLYETHYLENE LINER (ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.
- PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT (SUBSIDIARY TO ITEM 604.0007) BETWEEN FRAME AND POLYETHYLENE SHEET.
- PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF THE GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURES)
- USE ON DRAINAGE STRUCTURES 4" MIN. DIAMETER ONLY.
- TRIM POLYETHYLENE SHEET A MAXIMUM OF 4" OUTSIDE THE FLANGE ON THE FRAME FOR THE CATCH BASIN BEFORE PLACING CONCRETE (EXCEPT AS SHOWN WHEN USED WITH 3-FLANGE FRAME AND CURB).
- THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 6" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.
- PLACED ONLY IN DRAINAGE STRUCTURES IN PAVEMENT.
- SEE NHDOT DR-04, "DI-DB, UNDERDRAIN FLUSHING BASIN AND POLYETHYLENE LINER DETAILS", FOR ADDITIONAL INFORMATION.

**POLYETHYLENE LINER NOTES**  
NOT TO SCALE

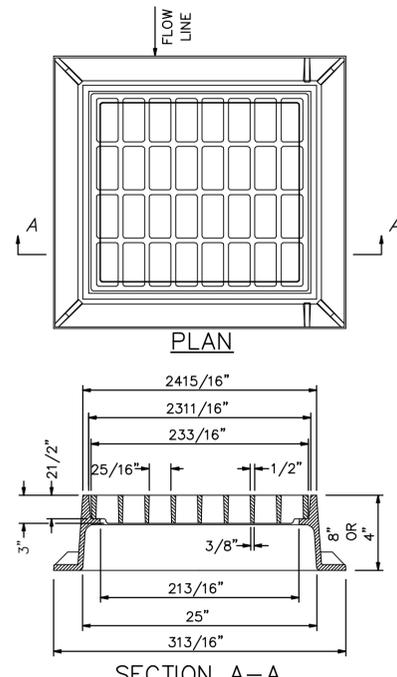


**POLYETHYLENE LINER**  
SCALE: N.T.S.

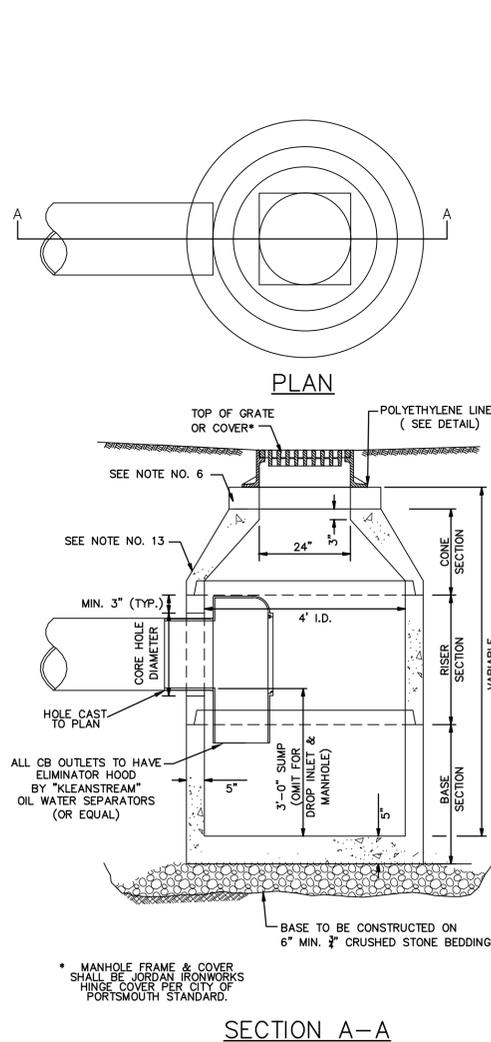


- NOTES
- HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE GASKET.
  - PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.
  - FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
  - ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

**MANHOLE JOINTS**  
NOT TO SCALE

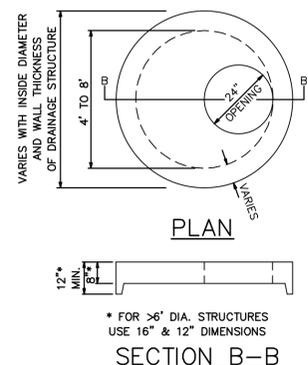


**CATCH BASIN FRAME & GRATE (TYPE B)**  
SCALE: N.T.S.



- NOTES:
- ALL DIMENSIONS ARE NOMINAL.
  - FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
    - THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
    - THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
  - ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
  - LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN THE CENTER OF THE COVER.

**DRAIN MANHOLE FRAME AND COVER**  
NOT TO SCALE



**FLAT SLAB TOP**

**PRECAST CATCH BASIN/DRAINAGE MANHOLE**  
SCALE: N.T.S.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	JH/ART	RL
2.	01/18/2022	TAC RESUBMISSION	MRT	RL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT	RL
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RL

SCALE: HORIZ.: N.T.S. VERT.: N.T.S. DATUM: 0

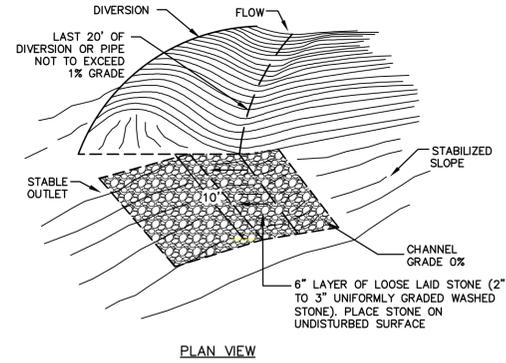
GRAPHIC SCALE

PROF. No.: 20180317.B10  
DATE: 03/09/2022

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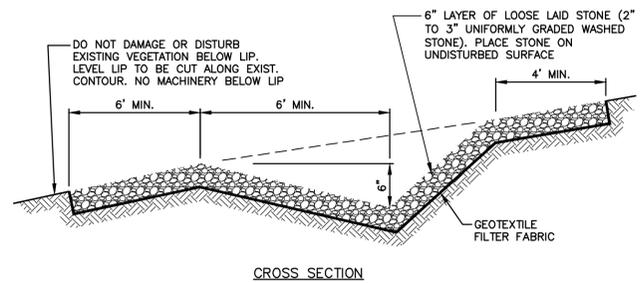
CATE STREET DEVELOPMENT, LLC  
DRAINAGE DETAILS  
ROUTE 1 BYPASS / HODGDON WAY  
PORTSMOUTH  
NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
DATE: 03/09/2022  
**CD-510**



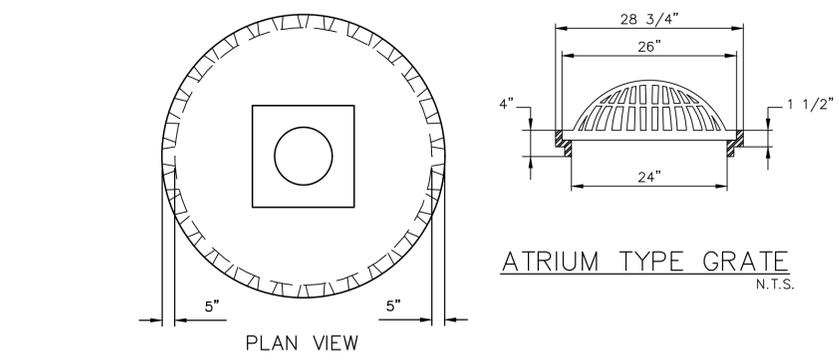
- CONSTRUCTION SPECIFICATIONS**
- SPREADERS SHALL BE INSTALLED WITH LEVEL INSTRUMENT, CONSTRUCT LEVEL UP TO 0% GRADE TO ENSURE UNIFORM SHEET FLOW. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL (NOT FILL).
  - SELECT GEOTEXTILE FABRIC BASED ON UNDISTURBED SOILS (SAND, SILTS, CLAY, ETC.).
  - PLACE 6" LAYER OF UNIFORMLY GRADED STONE 2" TO 3" IN DIAMETER, TAKE TO FORM SMOOTH UNIFORM SURFACE. DO NOT FILL VOIDS IN STONE.
  - THE INLET DITCH SHALL NOT EXCEED A 1% GRADE FOR AT LEAST 20 FEET BEFORE ENTERING THE SPREADER.
  - STORM RUN-OFF CONVERTED TO SHEET FLOW ACROSS OUTLET APRON SHALL FLOW ONTO STABILIZED AREA. RUN-OFF SHALL NOT BE RECONCENTRATED IMMEDIATELY BELOW THE POINT OF DISCHARGE.
  - CONSTRUCTION OF LEVEL LIP SPREADER SHALL BE UPHILL SIDE ONLY. LEVEL LIP AND AREA BELOW SPREADER SHALL BE AT EXISTING GRADE AND UNDISTURBED BY EARTHWORK OR EQUIPMENT.
  - CONSTRUCT SPREADER WITH LIP AT EXISTING ELEVATION AS SPECIFIED.
  - DOWN GRADIENT RECEIVING AREA MUST BE NATURALLY WELL VEGETATED.

- MAINTENANCE NOTES:**
- THE LEVEL SPREADER SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE IF THE LIP HAS BEEN DAMAGED AND TO DETERMINE THAT THE DESIGN CONDITIONS HAVE NOT CHANGED.
  - ANY DETRIMENTAL ACCUMULATION OF SEDIMENTS SHOULD BE REMOVED.
  - IF FILLING HAS TAKEN PLACE ON THE LIP, THEN THE DAMAGE SHOULD BE REPAIRED AND RE-VEGETATED.
  - THE VEGETATION SHOULD BE MOWED OCCASIONALLY TO CONTROL WEEDS AND THE ENCROACHMENT OF WOODY VEGETATION. CLIPPINGS SHOULD BE REMOVED AND DISPOSED OF OUTSIDE THE SPREADER AND AWAY FROM THE OUTLET AREA.

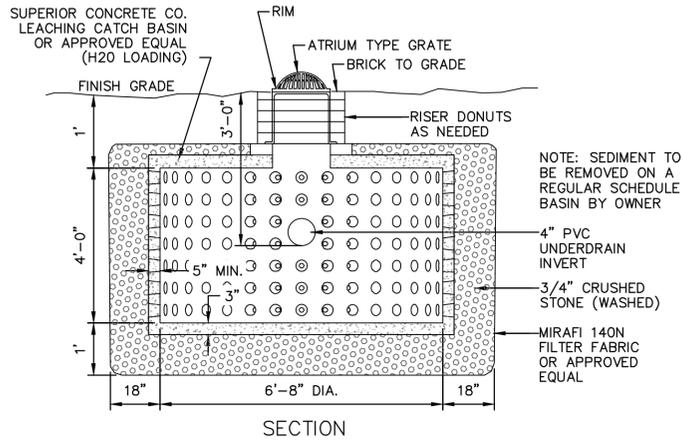


CROSS SECTION

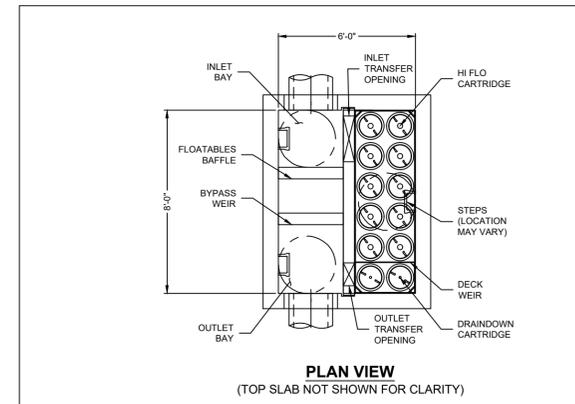
**STONE LINED LEVEL SPREADER**  
NOT TO SCALE



ATRIUM TYPE GRATE  
N.T.S.



SECTION  
LEACHING CATCH BASIN  
N.T.S.



PLAN VIEW  
(TOP SLAB NOT SHOWN FOR CLARITY)

**JELLYFISH DESIGN NOTES**

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.

CARTRIDGE SELECTION	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	6'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	1.96	1.47	0.98	0.54
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00

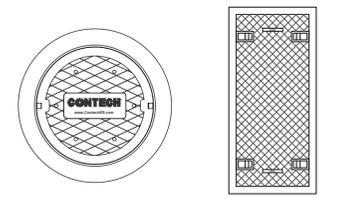
**SITE SPECIFIC DATA REQUIREMENTS**

STRUCTURE ID	WQUR#
WATER QUALITY FLOW RATE (cfs)	0.361
PEAK FLOW RATE (cfs)	2.76
RETURN PERIOD OF PEAK FLOW (yrs)	10
# OF CARTRIDGES REQUIRED (HF / DD)	8/4
CARTRIDGE LENGTH	15"

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	27'±
ANTI-FLOTATION BALLAST	WIDTH HEIGHT
	6" 6"

NOTES/SPECIAL REQUIREMENTS:  
\* PER ENGINEER OF RECORD



FRAME AND COVER  
(DIAMETER VARIES)  
N.T.S.

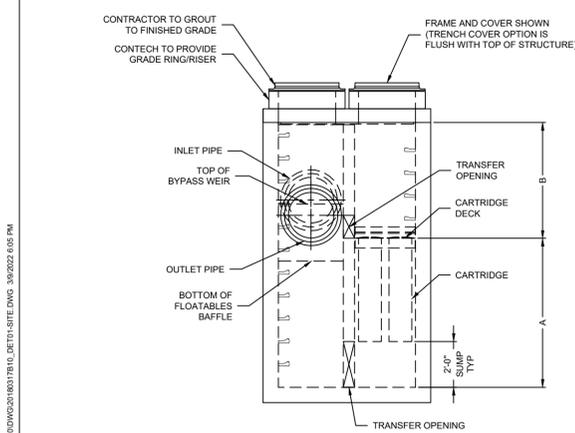
24" TRENCH COVER  
(LENGTH VARIES)  
N.T.S.

- GENERAL NOTES:**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. [www.contechES.com](http://www.contechES.com)
  - JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
  - STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M309 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
  - STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
  - OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
  - THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
  - NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
  - CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
  - CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

**CONTECH**  
ENGINEERED SOLUTIONS LLC  
[www.contechES.com](http://www.contechES.com)  
9025 Centre Points Dr., Suite 400, West Chester, OH 45389  
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0806  
STANDARD DETAIL  
PEAK DIVERSION CONFIGURATION

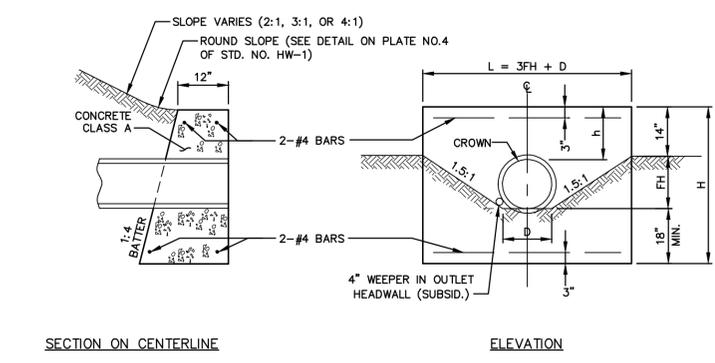


ELEVATION VIEW



- WATER QUALITY UNIT #3 NOTES:**
- WATER QUALITY UNIT #3 SHALL BE A CONTECH JELLY FISH FILTER OR APPROVED EQUAL.
  - WATER QUALITY UNIT #3 CAN HAVE NO MORE THAN A 0.25'-FT DROP BETWEEN INVERT IN AND INVERT OUT.

**WATER QUALITY UNIT 3 (WQUR3) DETAIL**  
NOT TO SCALE



SECTION ON CENTERLINE  
PC-4 SIMILAR TO PC-2.

DIAMETER D INCHES	MASONRY PER FOOT OF WALL CU. YD.	MASONRY PER STANDARD HEADER CU. YD.	STEEL PER STANDARD HEADER LB.	LENGTH OF BARS	EXC. FOR 1' DEPTH CU. YD.	HEADER LENGTH L	HEADER HEIGHT H	FILL HEIGHT FH	"h"	WIDTH AT BOTTOM OF HEADER W
12	0.204	0.80	11	3'-10"	0.911	4'-3"	3'-9"	1'-1"	1'-3"	1'-11"
15	0.240	1.32	16	5-8	1.204	6-0	4-3	1-7	1-6	2-0
18	0.260	1.66	16	5-8	1.375	7-0	4-6	1-10	1-6	2-1
24	0.301	2.41	24	8-8	1.731	9-0	5-0	2-4	1-6	2-3
30	0.344	3.32	29	10-8	2.106	11-0	5-6	2-10	1-6	2-4
36	0.389	4.43	35	12-8	2.500	13-0	6-0	3-4	1-6	2-6
42	0.461	6.28	42	15-2	3.082	15-9	6-9	4-1	1-9	2-8
48	0.512	7.77	47	17-2	3.520	17-9	7-3	4-7	1-9	2-9
54	0.565	9.46	52	19-2	3.977	19-9	7-9	5-1	1-9	2-11
60	0.621	11.42	58	21-2	4.451	21-9	8-3	5-7	1-9	3-0
66	0.689	13.68	63	23-2	4.947	23-9	8-9	6-1	1-9	3-2
72	0.740	15.79	69	25-2"	5.460	25-9"	9-3"	6-7"	1-9"	3-3"

NOTE: STEEL QUANTITIES ARE FOR CONCRETE HEADWALLS ONLY

- NOTES:**
- HEADWALL TO BE EITHER NHDOT PC-2 CAST IN PLACE CONCRETE OR PC-4 RUBBLE MASONRY.
  - REINFORCING STEEL ONLY FOR CAST IN PLACE PC-3 HEADWALL.

**CAST IN PLACE / RUBBLE MASONRY HEADWALL**  
NOT TO SCALE

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 LAYER STATE: PLOTTER: DWG TO PDF PC3 CTB File: FO.STB

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	JH/ART	RRL
2.	01/18/2022	TAC RESUBMISSION	MRT	RRL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT	RRL
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RRL

SCALE: HORIZ.: NTS  
VERT.: NTS

DATUM:

GRAPHIC SCALE

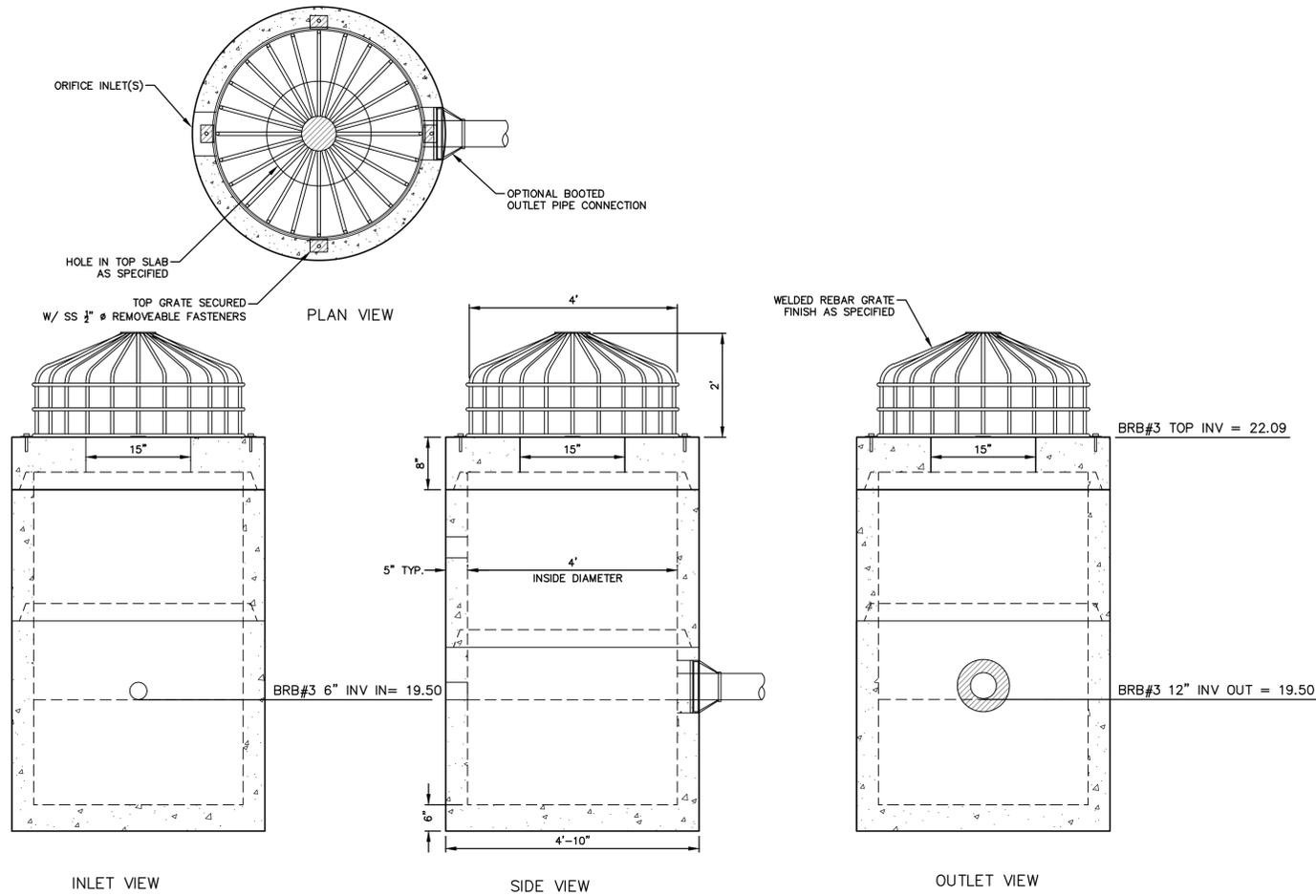
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CATE STREET DEVELOPMENT, LLC  
DRAINAGE DETAILS  
ROUTE 1 BYPASS / HODGDON WAY  
PORTSMOUTH  
NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
DATE: 03/09/2022

**CD-511**

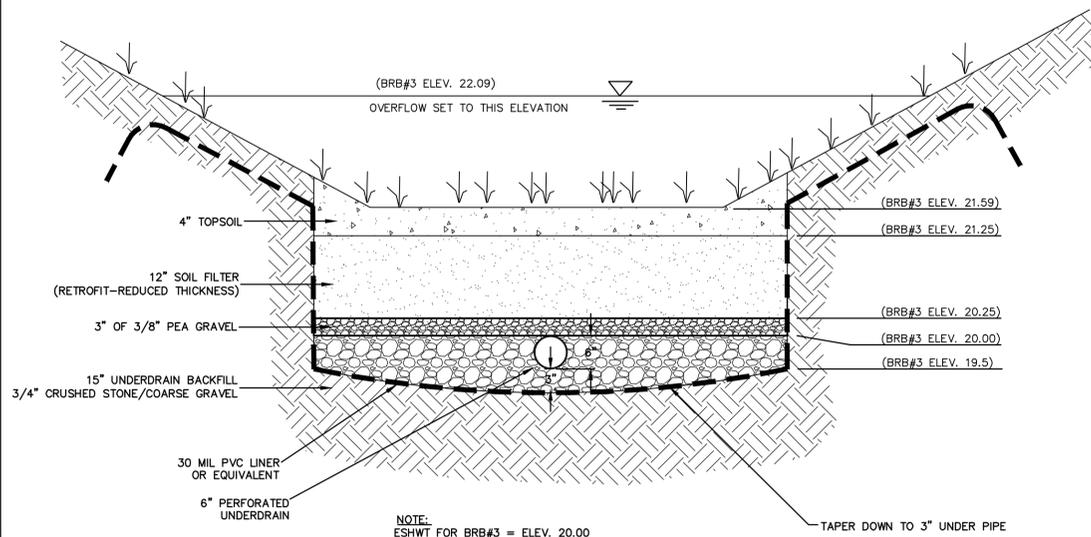
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 PLOTTER: DWG TO PDF PC3 CTB File: FO.STB  
 LAYER STATE: MS VIEW:



- General Notes**
- Steel Reinforcement Conforms to Latest ASTM Specification:  
 ASTM A-615, Grade 60 Black Deformed Bars  
 ASTM A-185 Welded Wire Fabric  
 0.12 Sq. In./Lineal Ft. And 0.12 Sq. In.(Both Ways) Base Bottom
  - Concrete:  $f_c = 4,000$  psi @ 28 Days Minimum, Type III Cement
  - Butyl Rubber Joint Sealant Provided Conforms to ASTM C-990 and Federal Spec SS-S-210A
  - HS-20 Design Loading Conforms to Latest Specifications ASTM C478, AASHTO M199 Precast Reinforced Concrete Manhole Sections
  - One Pour Monolithic Base Section

**OVERFLOW OUTLET CONTROL STRUCTURE (4'Ø) W/PEAKED TOP GRATE**

NOT TO SCALE



**SECTION A-A**  
SCALE: N.T.S.

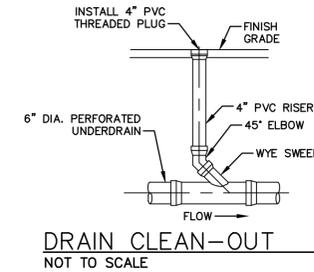
- CONSTRUCTION NOTES:**
- DO NOT PLACE THE BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
  - DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF AND WATER FROM EXCAVATIONS) TO THE BIORETENTION SYSTEM DURING ANY STAGE OF CONSTRUCTION.
  - DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.
  - AN IMPERMEABLE LINER, 30 MIL PVC OR EQUIVALENT, IS REQUIRED. THE LINER MUST SEAMLESSLY EXTEND UP THE SIDES OF THE BASIN AND BE ANCHORED INTO THE SUBGRADE.

- MAINTENANCE NOTES:**
- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EVENT EXCEEDING 2.5 INCHES IN A 24 HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION.
  - PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
  - TRASH AND DEBRIS SHOULD BE REMOVED AT EACH INSPECTION.
  - AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
  - VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING PRUNING, REMOVAL AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.

**BIORETENTION SYSTEM NOTES**  
NOT TO SCALE

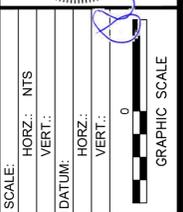
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL	
		SIEVE NO.	PERCENT BY WEIGHT STANDARD SIEVE
FILTER MEDIA OPTION A			
ASTM C-33 CONCRETE SAND	50 TO 55		
LOAMY SAND TOPSOIL, WITH FINES AS INDICATED	20 TO 30	200	15 TO 25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	<5
FILTER MEDIA OPTION B			
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	<5
	70 TO 80	10	85 TO 100
		20	70 TO 100
		50	15 TO 40
LOAMY COARSE SAND		200	8 TO 15

**SOIL FILTER MIXTURES**  
NOT TO SCALE



**DRAIN CLEAN-OUT**  
NOT TO SCALE

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4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RRL



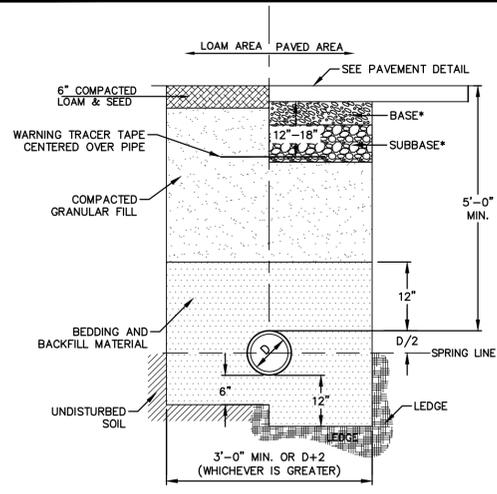
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CATE STREET DEVELOPMENT, LLC  
 BIORETENTION BASIN 3  
 DETAILS  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

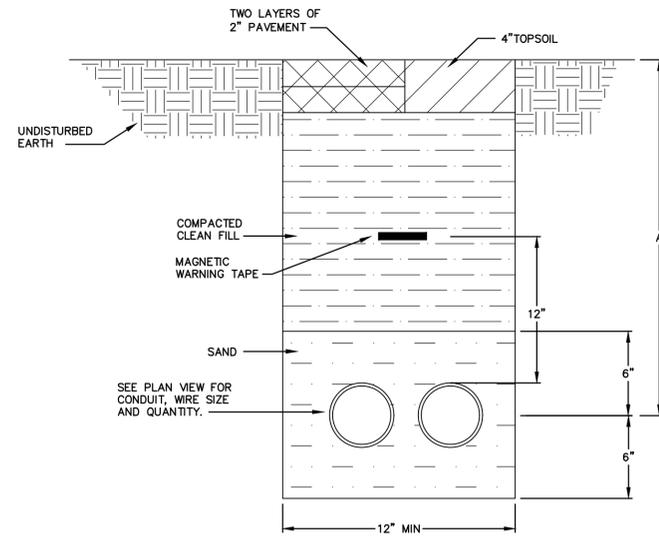
**CD-512**

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**WATER TRENCH SECTION**  
NOT TO SCALE

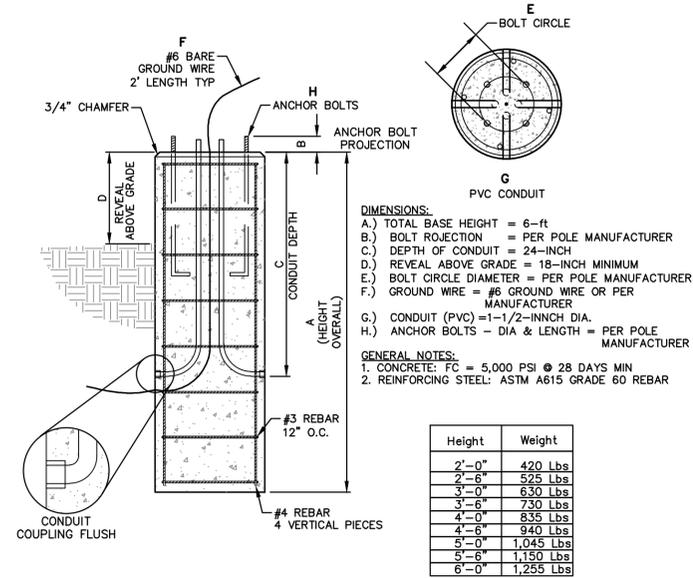
- NOTES:
1. WATER MAINS SHALL BE CONSTRUCTED USING CITY OF PORTSMOUTH STANDARDS.
  2. ANY WATER LINES INSTALLED UNDER GUARD RAIL SHALL BE 3' DEEPER THAN POST DEPTH.



CONDUIT DEPTHS	
SERVICE	DIM "A"
PRIMARY	36"
SECONDARY	24"
SPARE TO UTILITY POLE	36"
TELEPHONE	24"
CABLE TV	24"
SITE LIGHTING	24"

NOTE: WHEN MULTIPLE CONDUITS ARE BURIED TOGETHER THERE SHALL BE A MINIMUM OF 2" CLEARANCE BETWEEN CONDUITS

**BURIED CONDUIT DETAIL**  
SCALE: N.T.S.



- DIMENSIONS:**
- TOTAL BASE HEIGHT = 6-ft
  - BOLT ROJECTION = PER POLE MANUFACTURER
  - DEPTH OF CONDUIT = 24-INCH
  - REVEAL ABOVE GRADE = 18-INCH MINIMUM
  - BOLT CIRCLE DIAMETER = PER POLE MANUFACTURER
  - GROUND WIRE = #6 GROUND WIRE OR PER MANUFACTURER
  - CONDUIT (PVC) = 1-1/2-INCH DIA.
  - ANCHOR BOLTS - DIA & LENGTH = PER POLE MANUFACTURER
- GENERAL NOTES:**
1. CONCRETE: FC = 5,000 PSI @ 28 DAYS MIN
  2. REINFORCING STEEL: ASTM A615 GRADE 60 REBAR

Height	Weight
2'-0"	420 Lbs
2'-6"	525 Lbs
3'-0"	630 Lbs
3'-6"	730 Lbs
4'-0"	835 Lbs
4'-6"	940 Lbs
5'-0"	1,045 Lbs
5'-6"	1,150 Lbs
6'-0"	1,255 Lbs

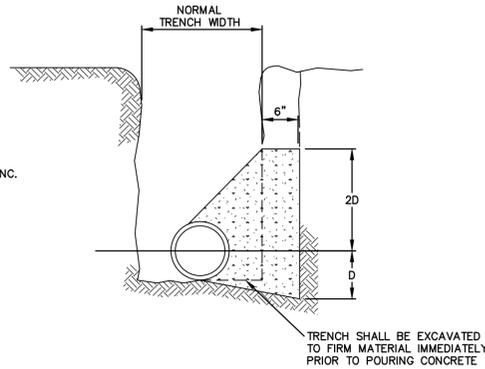
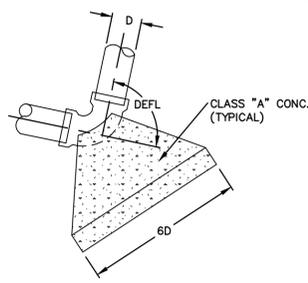
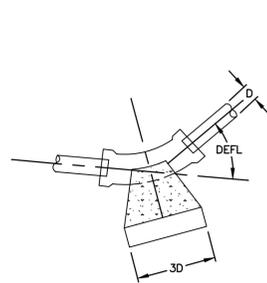
**16" Ø LIGHT POLE BASE**  
NOT TO SCALE

**NOTICE**

FORTY-EIGHT (48) HOURS PRIOR TO ANY SITE WORK THE CONTRACTOR SHALL CALL "DIG SAFE" 1-888-344-7233 AND REQUEST THAT ALL UNDERGROUND UTILITIES BE TRACKED. SITE WORK SHALL NOT PROCEED UNLESS ALL UTILITIES ARE CLEARLY MARKED. IF MARKINGS ARE DISTURBED BEFORE SITE WORK IS PERFORMED CONTRACTOR SHALL TAKE EVERY MEASURE NECESSARY TO MAINTAIN INFORMATION CONCERNING LOCATION OF EXISTING UTILITIES TO ENSURE THAT THE UTILITIES ARE NOT DAMAGED.

PPE DIA. (INCHES)	MINIMUM THRUST BLOCK VOLUME (CUBIC YARDS)
4	0.2
6	0.25
8	0.3
10	0.35
12	0.4
16	0.7

PPE DIA. (INCHES)	MINIMUM THRUST BLOCK VOLUME (CUBIC YARDS)
4	0.25
6	0.3
8	0.5
10	0.7
12	1.0
16	1.6



**CONCRETE THRUST BLOCKS**  
NOT TO SCALE

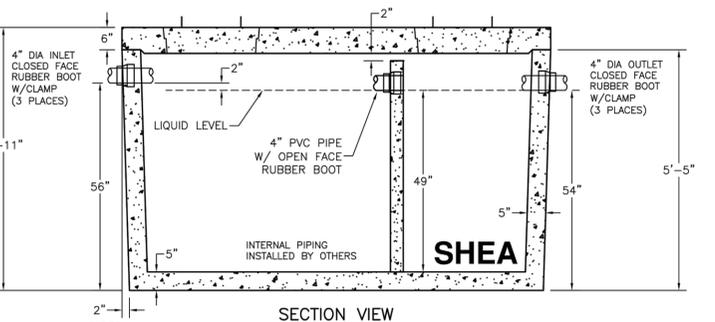
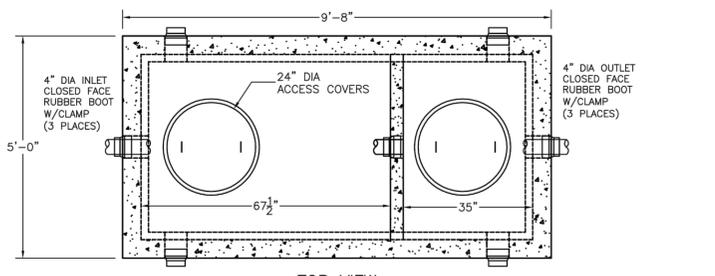
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4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RRL

Professional Engineer Seal for Richard R. Lundborn, License No. 10613, State of New Hampshire. Includes a graphic scale and scale information: SCALE: HORZ.: NTS, VERT.: NTS, DATUM: 0.

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**WATER & UTILITY DETAILS**  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022  
**CD-520**



1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN CONFORMS WITH NHDES STANDARDS.
3. ALL REINFORCEMENT PER ASTM C1227.
4. TEES AND GAS BAFFLE SOLD SEPARATELY.
5. TONGUE & GROOVE JOINT SEALED WITH BUTYL RESIN.
6. DESIGNED FOR H2O LOADING
7. EXTERIOR TO BE COATED

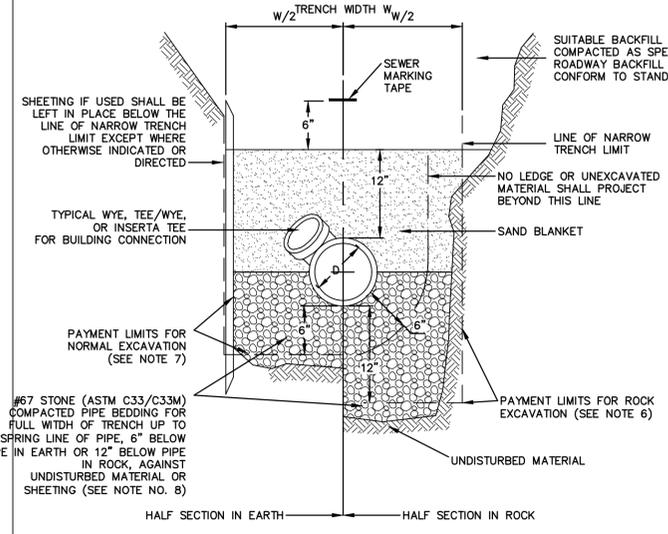
**\*WHEN 6" INLET AND/OR OUTLET ARE REQUIRED CONTRACTOR TO ADJUST PIPE SIZE OUTSIDE OF TANK\***

WEIGHT:  
BOTTOM = 11,250#  
6" TOP = 3,575#

ITEM NO. M1000H H-20 (6" TOP)

**SHEA** *New England's Premier Precaster*  
 800-696-7432 (SHEA) www.sheaconcrete.com  
 773 Solem Street - Wilmington, MA 153 Cranberry Hwy - Rochester, MA  
 87 Haverhill Road - Amesbury, MA 160 Old Turnpike Rd - Nottingham, NH  
 Mail to: PO Box 520 - Wilmington, MA 01887  
 Page: DWG: CITY OF PORTSMOUTH M1000-2 2 COMP PORTSMOUTH NH  
 Date: 08.14.19  
 Drafted: mae  
 Revisions: 1  
 NCPA CERTIFIED PLANT

Specifications subject to change without notice



TYPICAL SEWER TRENCH  
NOT TO SCALE

SANITARY SEWER PIPE TRENCH NOTES

1. DEPTH OF SEWER SHALL BE AS SHOWN ON DRAWINGS.
2. SEWER TRENCHES MAY BE EXCAVATED WIDER THAN TRENCH WIDTH W ABOVE THE "LINE OF NARROW TRENCH LIMIT." AT THE CONTRACTORS EXPENSE.
3. BELOW THE "LINE OF NARROW TRENCH LIMIT" THE TRENCH SHALL NOT BE EXCAVATED BEYOND THE TRENCH WIDTH W.
4. IF EXCAVATION AND BACKFILL BELOW NORMAL DEPTH IS REQUIRED, SHEETING MAY BE ORDERED.
5. SHEETING, IF USED, IN ALL CASES SHALL BE LEFT IN PLACE BELOW A LINE 1'-0" ABOVE THE TOP OF THE SEWER PIPE, UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ENGINEER.
6. ALL ROCK WITHIN 3'-0" HORIZONTALLY OF THE ENDS OF BUILDING CONNECTIONS, BRANCHES AND STUBS, AND DOWN TO A HORIZONTAL PLANE 12" BELOW THE BOTTOMS OF SUCH ITEMS SHALL BE REMOVED.
7. TRENCH WIDTHS AND PAYMENT LIMIT SHALL BE AS FOLLOWS:

NUMBER OF PIPE IN TRENCH	DIAMETER PIPE "D"	TRENCH WIDTH "W"
ONE	12" AND SMALLER	4'-0"
TWO	12" AND SMALLER	7'-0"

8. WHERE CONCRETE ENCASUREMENT IS CALLED FOR BY THE PLANS, OR WHEN DIRECTED BY THE ENGINEER, REPLACE BEDDING AND BACKFILL BELOW THE "LINE OF NARROW TRENCH LIMIT" WITH CLASS "A" CONCRETE.
  9. SEWER MARKING TAPE SHALL BE INSTALLED A MINIMUM OF 18" ABOVE THE SANITARY SEWER, FORCE MAIN AND SERVICE CONNECTION PIPE.
- ENV-WQ 704.11 TRENCH CONSTRUCTION.
- (A) PIPE TRENCH BEDDING MATERIAL FOR EXCAVATION BELOW GRADE SHALL BE SCREENED GRAVEL OR CRUSHED STONE MEETING THE ASTM C33/C33M STONE SIZE NO. 67 STANDARD IN EFFECT WHEN THE STONE IS USED, AVAILABLE AS NOTED IN APPENDIX D OF ENV-WQ 700.
  - (B) SUBJECT TO (C), BELOW, THE PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND FREE FROM ORGANIC MATERIALS, GRADED SUCH THAT 100 PERCENT PASSES A 1/2-INCH SIEVE AND A MAXIMUM OF 15 PERCENT PASSES A #200 SIEVE.
  - (C) IN LIEU OF THE SAND BLANKET SPECIFIED IN (B), ABOVE, A STONE ENVELOPE 6 INCHES THICK COMPLETELY AROUND THE PIPE USING 3/4-INCH STONE MAY BE USED.
  - (D) PIPE BEDDING MATERIAL SHALL EXTEND FROM A HORIZONTAL PLANE THROUGH THE PIPE AXIS TO 6 INCHES BELOW THE BOTTOM OF THE OUTSIDE SURFACE OF THE PIPE.
  - (E) PIPE SAND BLANKET MATERIAL SHALL COVER THE PIPE A MINIMUM OF 12 INCHES ABOVE THE CROWN OF THE OUTSIDE SURFACE.
  - (F) COMPACTION SHALL BE IN 12-INCH LAYERS FOR BEDDING AND BLANKET MATERIALS.
  - (G) BACKFILL MATERIAL SHALL BE COMPACTED IN NO MORE THAN 3-FOOT THICK LAYERS TO THE GROUND SURFACE EXCEPT FOR ROAD CONSTRUCTION WHERE THE FINAL 3 FEET SHALL BE COMPACTED IN NO MORE THAN 12-INCH THICK LAYERS TO THE ROAD BASE SURFACE.
  - (H) 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.
- (I) TRENCH BACKFILL AT CROSS-COUNTRY LOCATIONS SHALL BE AS DESCRIBED IN (H), ABOVE, EXCEPT THAT TOP SOIL, LOAM, MUCK OR PEAT MAY BE USED PROVIDED THE COMPLETED CONSTRUCTION WILL BE STABLE, AND PROVIDED THAT ACCESS TO THE SEWER FOR MAINTENANCE AND RECONSTRUCTION IS PRESERVED.
- (J) BACKFILL SHALL BE MOUNDED 6 INCHES ABOVE ORIGINAL GROUND AT CROSS COUNTRY LOCATIONS.

- (K) BASE COURSE FOR TRENCH REPAIR SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION AS AVAILABLE AT [HTTP://WWW.NH.GOV/DOT/ORG/PROJECTDEVELOPMENT/HIGHWAYDESIGN/SPECIFICATIONS/INDEX.HTM](http://www.nh.gov/dot/org/projectdevelopment/highwaydesign/specifications/index.htm)
- (L) 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 ABOVE FINISHED GRADE.
- (M) TRENCHES FOR SEWER PIPES WITH SLOPES OVER 0.08 FEET PER FOOT, TRENCHES FOR SEWER PIPES BELOW SEASONAL HIGH GROUND WATER LEVEL, AND TRENCHES FOR SEWER PIPES DOWNSTREAM OF AND WITHIN THE HYDRAULIC INFLUENCE OF WATERWAYS OR WETLANDS SHALL HAVE IMPERVIOUS TRENCH DAMS CONSTRUCTED EVERY 300 FEET TO PREVENT POTENTIAL DISTURBANCE TO PIPE BEDDING AND BLANKET MATERIALS.
- (N) PRECAUTIONS SHALL BE TAKEN TO AVOID GROUNDWATER POOLING AT THE SURFACE BY PROVIDING DRAINAGE TO A SUITABLE OUTLET AT CATCH BASINS OR RUN-OFF SWALES.
- (O) FOR TRENCHES FOR SEWER PIPES IN LEDGE, EXCAVATION SHALL EXTEND TO AT LEAST 12 INCHES BELOW THE BOTTOM OF THE SEWER PIPE.
- (P) ALL SEWERS SHALL BE MARKED USING METAL-IMPREGNATED MARKING TAPE OR TRACER WIRE THAT CAN BE LOCATED USING METAL DETECTION EQUIPMENT.

ENV-WQ 704.05 GRAVITY SEWER CONSTRUCTION MATERIALS

(C) PLASTIC GRAVITY SEWER PIPE AND FITTINGS SHALL BE CERTIFIED BY THE MANUFACTURER AS COMPLYING WITH THE STANDARDS LISTED IN TABLE 704-2, BELOW, AS IN EFFECT WHEN THE PIPES WERE MANUFACTURED:

TABLE 704-2 PLASTIC PIPE

ASTM STANDARD	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	POLYVINYL CHLORIDE (PVC), SOLID WALL	8-INCH THROUGH 15-INCH (SDR 35)
F879	PVC, SOLID WALL	18-INCH THROUGH 60-INCH (T-1&T-2)
F794	PVC, PROFILE, DUAL-WALLED CORRUGATED	4-INCH THROUGH 48-INCH
F1760	PVC, RECYCLED, NON-PRESSURE	ALL DIAMETERS

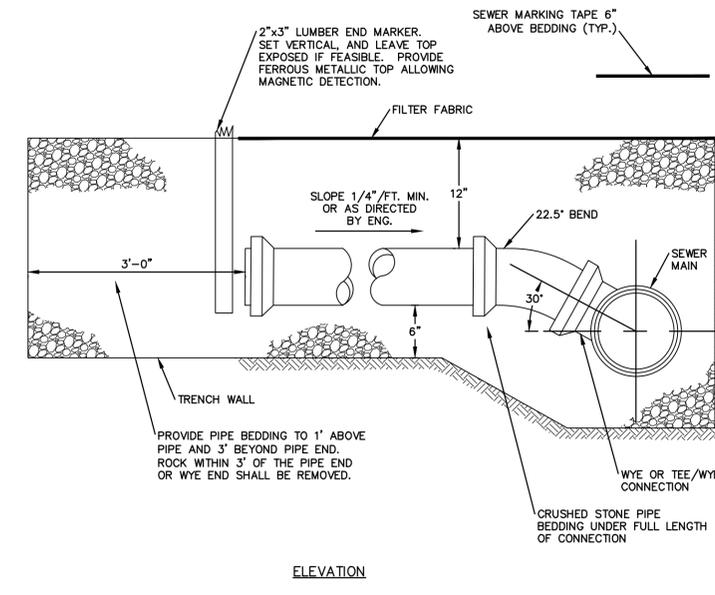
- (D) PLASTIC SEWER PIPE SHALL HAVE A PIPE STIFFNESS RATING OF AT LEAST 46 POUNDS PER SQUARE INCH AT 5 PERCENT PIPE DIAMETER DEFLECTION, AS MEASURED BY THE MANUFACTURER IN ACCORDANCE WITH THE ASTM D2412 STANDARD IN EFFECT WHEN PIPE WAS MANUFACTURED;
- (E) JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL AND CERTIFIED BY THE MANUFACTURER AS CONFORMING TO THE ASTM D3212 STANDARD IN EFFECT WHEN THE JOINT SEALS WERE MANUFACTURED, AND SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE;

ENV-WQ 704.06 GRAVITY SEWER PIPE TESTING

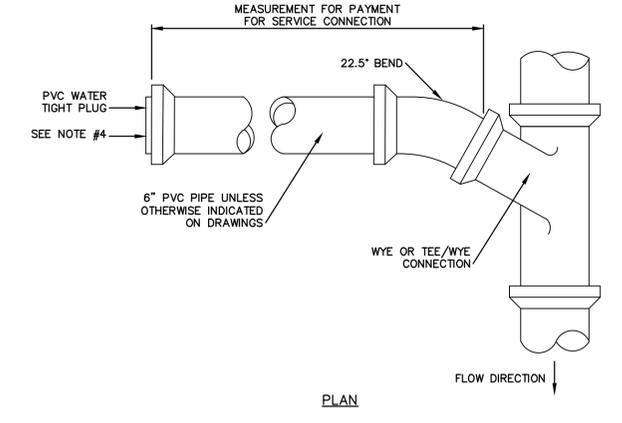
(A) ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.

(B) LOW-PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH THE FOLLOWING TESTING STANDARDS IN EFFECT AT THE TIME THE TEST IS CONDUCTED:

- (1) ASTM F1417 STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR, AVAILABLE AS NOTED IN APPENDIX D OF ENV-WQ 700; OR
- (2) UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE", AVAILABLE AS NOTED IN APPENDIX D OF ENV-WQ 700.
- (C) ALL NEW GRAVITY SEWERS SHALL BE:
  - (1) CLEANED AND VISUALLY INSPECTED USING A LAMP TEST AND BY INTRODUCING WATER TO DETERMINE THAT THERE IS NO STANDING WATER IN THE SEWER; AND
  - (2) TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE.
- (D) ALL PLASTIC SEWER PIPE SHALL BE VISUALLY INSPECTED AND DEFLECTION TESTED NOT LESS THAN 30 DAYS NOR MORE THAN 90 DAYS FOLLOWING INSTALLATION.
- (E) THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5% PERCENT OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR WANDREL WITH A DIAMETER OF AT LEAST 95% OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES.



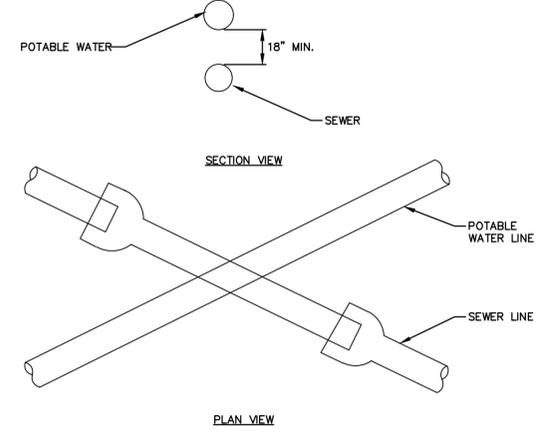
ELEVATION



PLAN

- SERVICE CONNECTION NOTES
1. NO LEDGE OR UNEXCAVATED MATERIAL SHALL PROJECT WITHIN 6" OF THE PIPE IN ANY DIRECTION
  2. EXACT LOCATION AND ELEVATION OF SERVICE CONNECTIONS TO BE DETERMINED AND SET IN THE FIELD DURING CONSTRUCTION
  3. EXACT LOCATION OF WYES/TEES, WHERE DIRECTED TO BE INSTALLED, SHALL BE SET IN THE FIELD DURING CONSTRUCTION
  4. PROVIDE DI TO PVC TRANSITION COUPLING AT END OF DI SERVICE CONNECTION

SANITARY SEWER PIPE TRENCH NOTES  
SCALE: N.T.S.

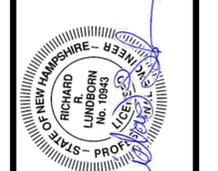


- SEWER AND WATER CROSSING NOTES
1. SEWER JOINTS SHALL BE EQUIDISTANT FROM AND LOCATED AS FAR AS POSSIBLE AWAY FROM THE WATER LINE

CROSSING OF SEWER & POTABLE WATER LINES  
NOT TO SCALE

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No.	DATE	DESCRIPTION	DESIGNER/REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	RL
2.	01/18/2022	TAC RESUBMISSION	MRT
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT



SCALE: HORIZ.: NTS  
 VERT.: NTS  
 DATUM:  
 HORIZ.: NTS  
 VERT.: NTS  
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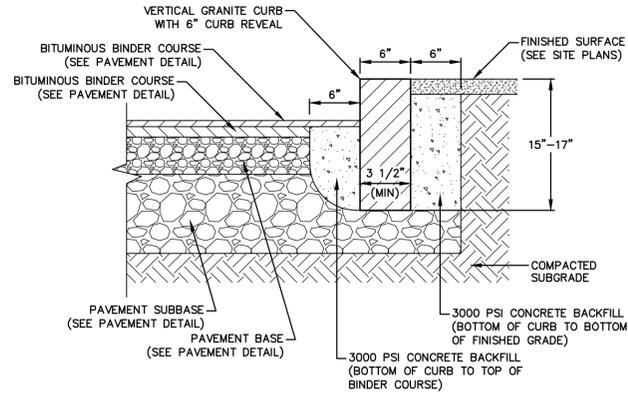
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CATE STREET DEVELOPMENT, LLC  
 SEWER DETAILS  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

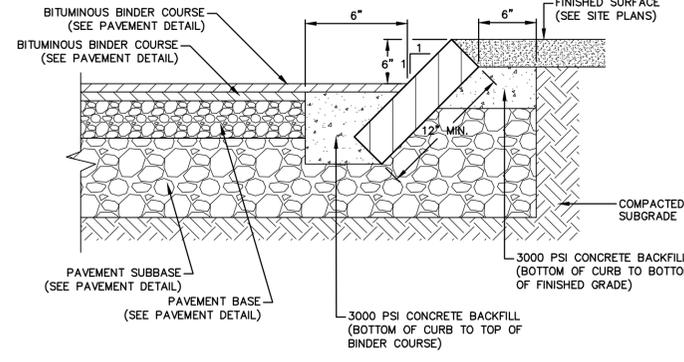
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 DATE: 03/09/2022

CD-530

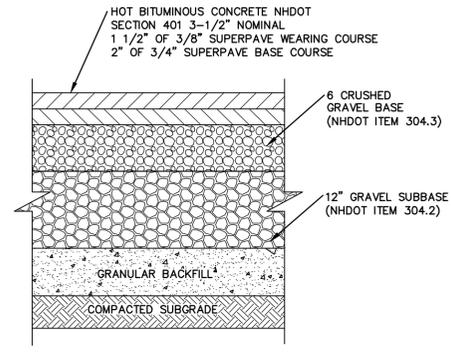
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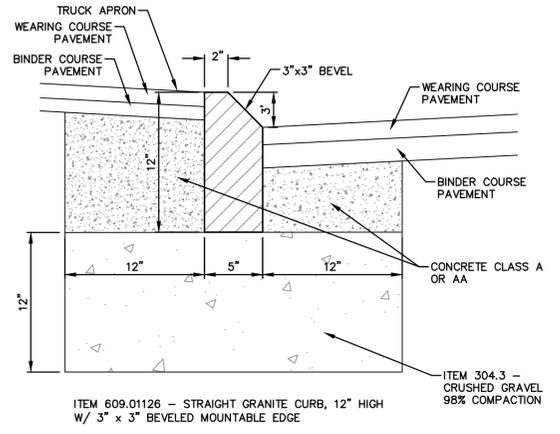
**VERTICAL GRANITE CURB INSTALLED**  
 SCALE: NOT TO SCALE



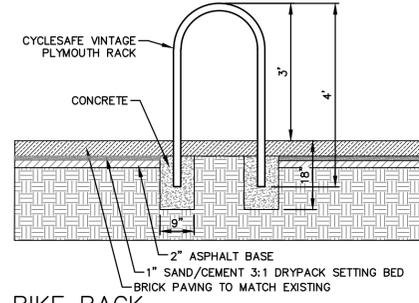
**SLOPED GRANITE CURB INSTALLED**  
 SCALE: NOT TO SCALE



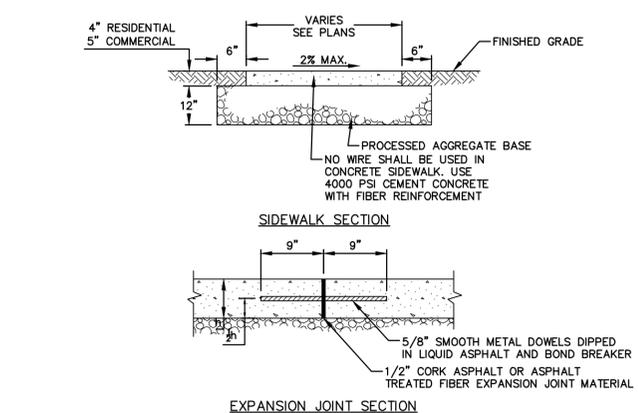
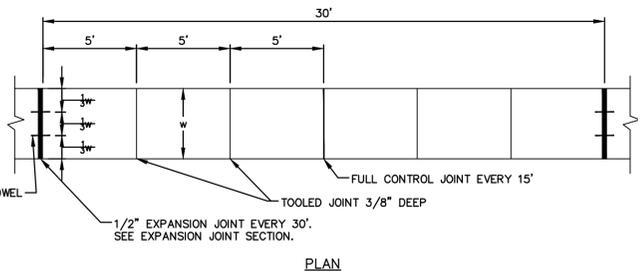
**TYPICAL SITE PAVEMENT SECTION**  
 SCALE: NOT TO SCALE



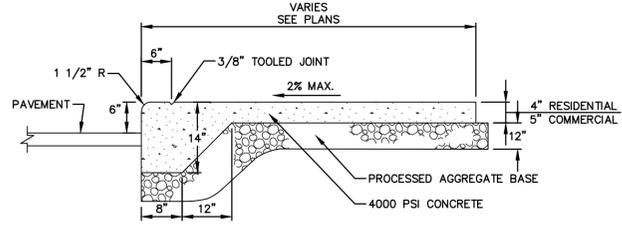
**MOUNTABLE GRANITE CURB INSTALLED**  
 NOT TO SCALE



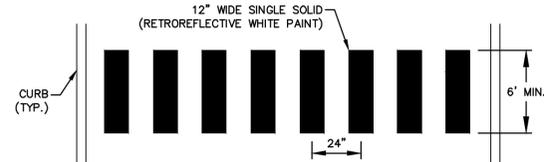
**BIKE RACK**  
 NOT TO SCALE



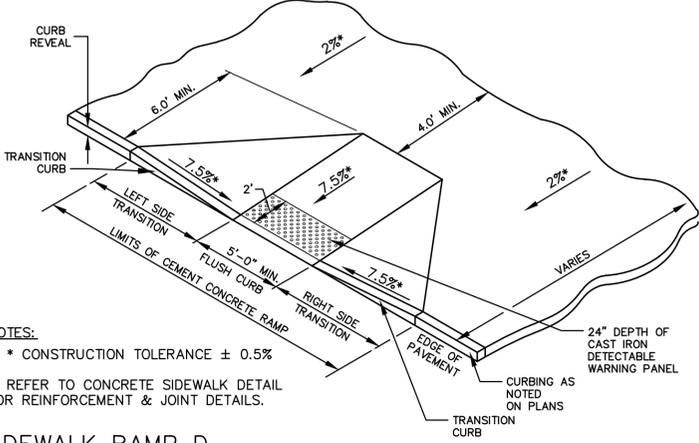
**CONCRETE SIDEWALK**  
 SCALE: NOT TO SCALE



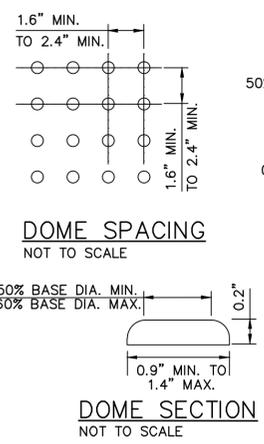
**MONOLITHIC CONCRETE CURB AND WALK**  
 NOT TO SCALE



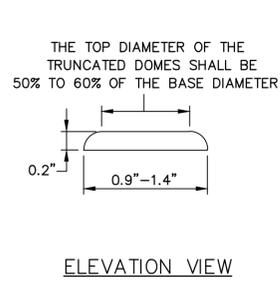
**CROSS-WALK MARKING DETAIL**  
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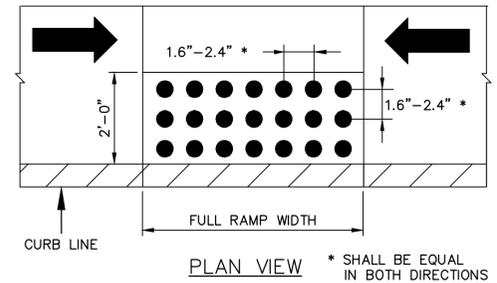
**SIDEWALK RAMP D**  
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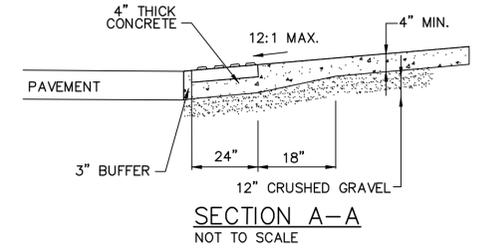
**DOMES SECTION**  
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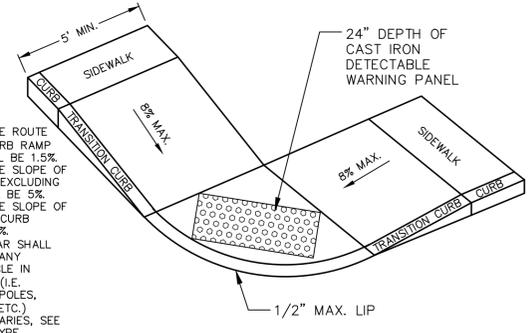
**ELEVATION VIEW**  
 NOT TO SCALE



**DOMES AND DETECTABLE WARNING DETAILS**  
 NOT TO SCALE



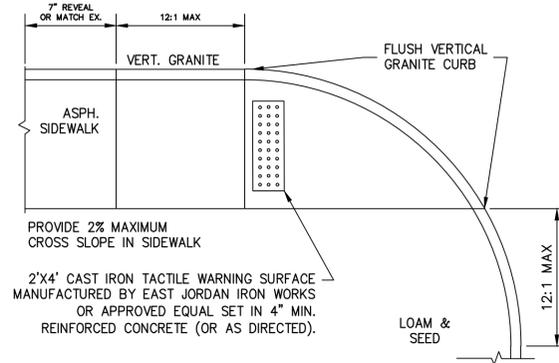
**SECTION A-A**  
 NOT TO SCALE



- NOTES:**
1. MAXIMUM ALLOWABLE ROUTE (SIDEWALK) AND CURB RAMP CROSS SLOPE SHALL BE 1.5%.
  2. MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMP SHALL BE 5%.
  3. MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMP SHALL BE 8%.
  4. MINIMUM OF 4' CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E. HYDRANTS, UTILITY POLES, TREE WELL, SIGNS, ETC.).
  5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
  6. BASE OF RAMP SHALL BE GRADED TO PREVENT POUNDING.
  7. SEE CONCRETE SIDEWALK DETAIL FOR RAMP CONSTRUCTION.

**ACCESSIBLE CURB RAMP-TYPE C**  
 NOT TO SCALE

**NOTE:**  
 INSTALL DETECTABLE WARNING PANEL ON ALL ACCESSIBLE CURB RAMPS.



**END OF SIDEWALK PEDESTRIAN RAMP**  
 NOT TO SCALE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RRL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT	RRL
2.	01/18/2022	TAC RESUBMISSION	MRT	RRL
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	JH/MRT	RRL

SCALE: HORIZ.: NTS  
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 DATUM:  
 HORIZ.:  
 VERT.:  
 GRAPHIC SCALE

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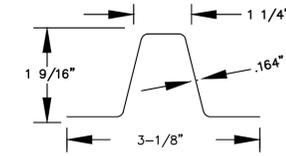
CATE STREET DEVELOPMENT, LLC  
**SITE DETAILS**  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

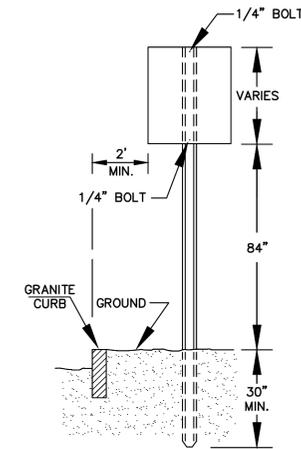
**CD-550**

CP	IDENT#	SIZE OF SIGN		TEXT	TEXT DIMENSIONS			SHIELD SIZE (INCH)	AROW (INCH)	NUMERALS (INCH)	# SIGNS REQ'D	SIGN AREA (SQ. FT.)		POSTS PER SIGN					REMARKS
		WIDTH (INCHES)	HEIGHT (INCHES)		UC	LC	CAPS					NOM AREA	TOTAL AREA	BREAKAWAY	STEEL BEAM	CONCRETE BASE	4" OD ALUMINIUM	U-CHANNEL GALV	
	R1-1	30	30				10C				2	6.25	12.50				14		RED/WHITE
	W8-1	30	30									6.25	6.25				1		BLACK/RED/YELLOW
	R7-8R	12	18								1						4		GREEN/BLUE/WHITE
	R7-8L	12	18								1						4		GREEN/BLUE/WHITE
	R7-8P	18	9								2						0		GREEN/WHITE
	R5-1	30	30								1								
	R6-1	36	12								2								
	INTERNAL DIRECTION SIGN										3								
	FREESTANDING SIGN (PERMIT REQUIRED)										4								

LENGTH: P-12, 12'-0"; P-14, 14'-0"; P-16, 16'-0".  
 WEIGHT PER LINEAR FOOT: 2.50 LBS. (MIN.)  
 HOLES: 3/8" DIA. 1' C-C FULL LENGTH  
 STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070-1080).  
 FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN, BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

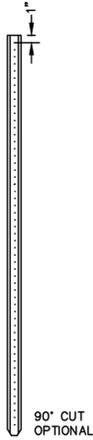


DIMENSIONS SHOWN ARE NOMINAL  
 ALTERNATE SECTIONS MUST BE APPROVED PRIOR TO USE.

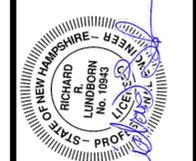


- NOTES
- POSTS SHALL BE PLUMB; ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND PROPERLY REPLACED.
  - POSTS MAY BE SET OF DRIVEN. WHEN POSTS ARE SET, HOLES SHALL BE DUG TO THE PROPER DEPTH; AFTER INSERTING POSTS, THE HOLES SHALL BE BACK FILLED WITH SUITABLE MATERIAL IN LAYERS NOT TO EXCEED A 6" DEPTH, THOROUGHLY COMPACTED.
  - CARE SHALL BE TAKEN TO PRESERVE THE ALIGNMENT OF THE POST. WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED AND AFTER DRIVING THE TOP OF THE POST SHALL HAVE SUBSTANTIALLY THE SAME CROSS-SECTIONAL DIMENSION AS THE BODY OF THE POST; BATTERED HEADS WILL NOT BE ACCEPTED.
  - POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
  - SIGNS SHALL BE ERRECTED IN CONFORMANCE WITH THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
  - WHEN SIGN IS IN PLACE NO PART OF POST SHALL EXTEND ABOVE THE SIGN.

SIGN POST  
 NOT TO SCALE



No.	DATE	DESCRIPTION	REVISION
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	RRL
2.	01/18/2022	TAC RESUBMISSION	RRL
3.	02/23/2022	PLANNING BOARD SUBMISSION	RRL
4.	03/09/2022	PLANNING BOARD SUBMISSION	RRL



SCALE: HORIZ.: NTS  
 VERT.:  
 DATUM:  
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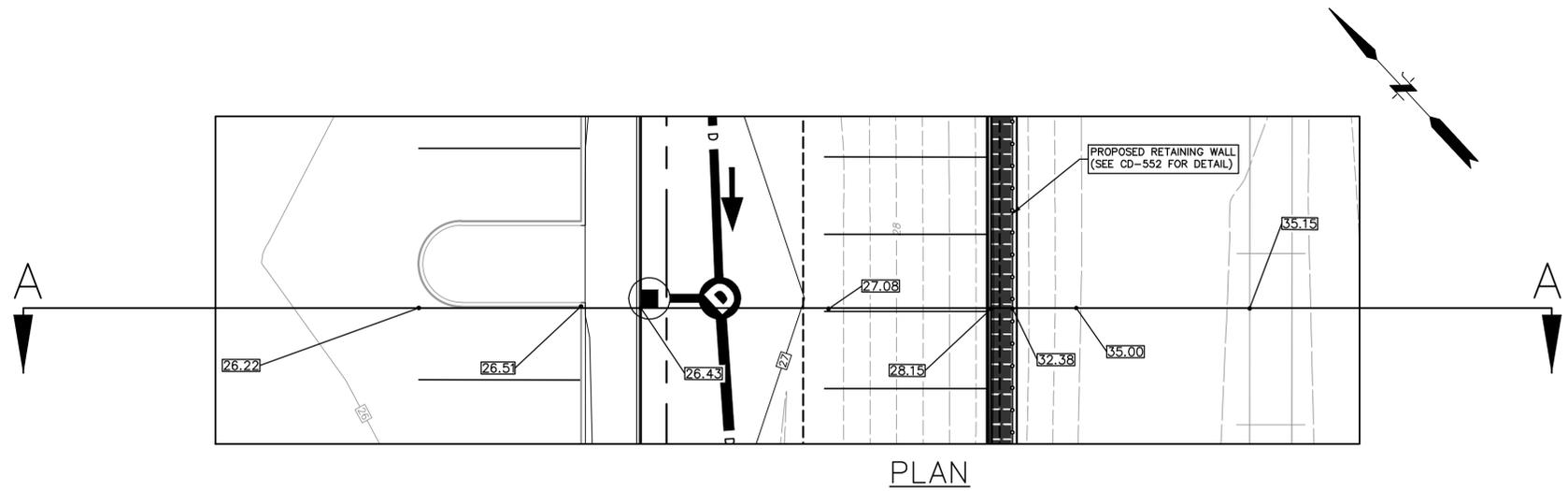
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CATE STREET DEVELOPMENT, LLC  
 SITE DETAILS  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

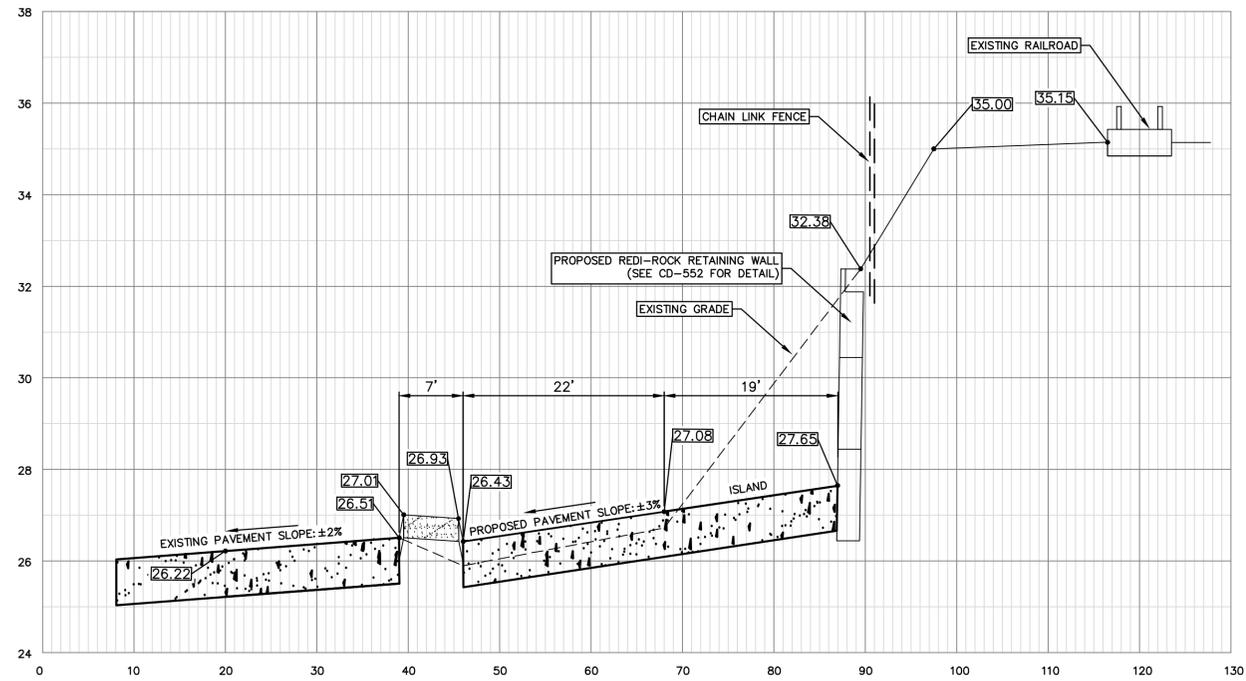
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CD-551





PLAN

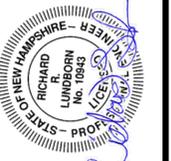


PROFILE

EXPANDED PARKING LOT & RETAINING WALL SECTION

SCALE  
 HORIZONTAL: 1" = 10'  
 VERTICAL: 1" = 2'

No.	DATE	DESCRIPTION	BY	CHK	APP
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	JH/ART		RLL
2.	01/18/2022	TAC RESUBMISSION	MRT		RLL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT		RLL
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT		RLL



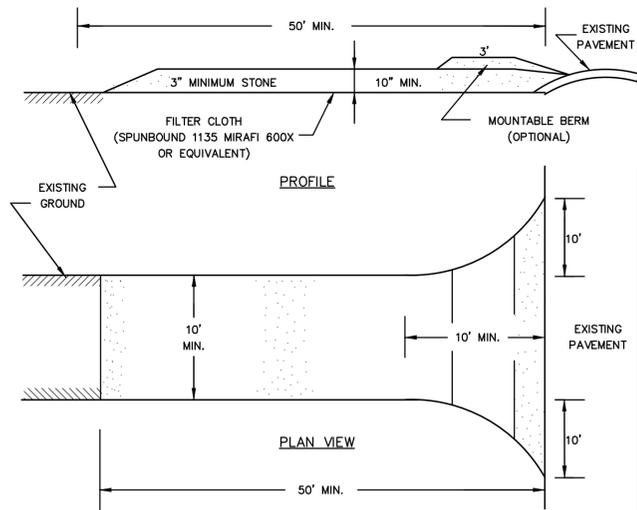
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	VERT.: AS NOTED
DATUM:	HORIZ.: NAD83
	VERT.: NGVD29

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 DETAILS  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

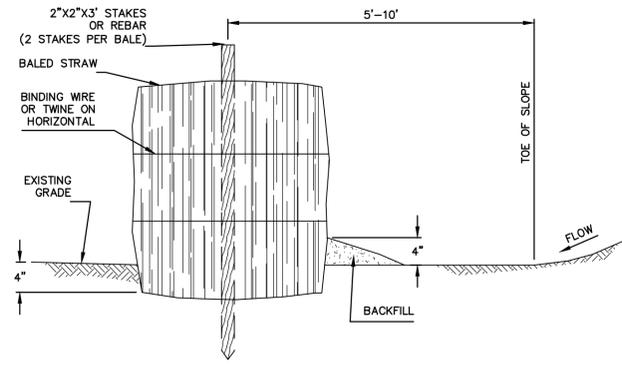
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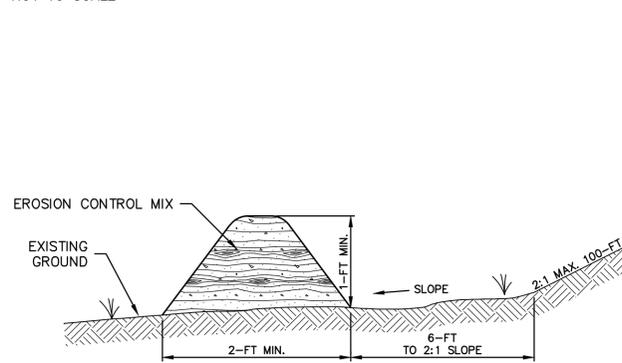
- MAINTENANCE REQUIREMENTS:**
- WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHOULD BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL, REGRADED PER SITE, AND STABILIZED. THE ENTRANCE SHOULD THEN BE RECONSTRUCTED.
  - THE CONTRACTOR SHOULD SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE TRACKED ONTO THE ADJACENT PAVEMENT OR TRAVELED WAY.
  - 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:**
- THE MINIMUM STONE USED SHOULD BE 3-INCH CRUSHED STONE.
  - 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.
  - THE PAD SHOULD BE THE FULL WIDTH OF CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER.
  - THE PAD SHOULD SLOPE AWAY FROM THE EXISTING ROADWAY.
  - THE PAD SHOULD BE AT LEAST 6 INCHES THICK.
  - THE GEOTEXTILE FILTER FABRIC SHOULD BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD.
  - 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.
  - 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



**TOE OF SLOPE STRAW BALE BARRIER**  
 NOT TO SCALE



**EROSION CONTROL MIX BERM CROSS SECTION**  
 NOT TO SCALE

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

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

- EROSION CONTROL MIX SHALL BE A WELL GRADED MIXTURE OF PARTICLE SIZES FREE OF REFUSE, PHYSICAL CONTAMINANTS, MATERIAL TOXIC TO PLANT GROWTH AND MAY NOT CONTAIN ROCKS LESS THAN 4-INCHES IN DIAMETER;
- ORGANIC MATTER = 25-65% DRY WEIGHT BASIS
- PARTICLES PASSING BY WEIGHT:**  

SCREEN:	PASSING BY WEIGHT:
3-INCH	100%
1-INCH	90-100%
3/4-INCH	70-100%
1/4-INCH	30-75%
- THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
- THE MIX SHOULD CONTAIN NO SILTS, CLAYS OR FINE SANDS.
- SOLUBLE SALTS CONTENT < 4.0 mmhos/cm
- pH OF THE MIX SHOULD BE BETWEEN 5.0 AND 8.0
- THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR.
- IT MAY BE NECESSARY TO CUT TALL GRASSES AND WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES IN THE BARRIER THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
- THE BARRIER MUST BE A MINIMUM OF 12-INCHES TALL AS MEASURED ON THE UPHILL SIDE OF THE BARRIER.
- THE BARRIER MUST BE A MINIMUM OF 2-FT WIDE.

- CONTINUOUS CONTAINED BERM (ALTERNATIVE):**
- AN ALTERNATIVE PRODUCT, THE CONTINUOUS CONTAINED BERM (OR "FILTER SOCK") CAN BE AN EFFECTIVE SEDIMENT BARRIER AS IT ADDS CONTAINMENT AND STABILITY TO A BERM OF EROSION CONTROL MIX.
  - IN THE EVENT THAT USE OF CONTINUOUS CONTAINED BERM IS DESIRED, THE PRODUCT SELECTED SHOULD BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER.
  - INSTALLATION OF CONTINUOUS CONTAINED BERMS SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE MANUFACTURER.

**EROSION CONTROL MIX BERM DETAIL**

**WINTER STABILIZATION & CONSTRUCTION PRACTICES:**

- MAINTENANCE REQUIREMENTS:**
- MAINTENANCE MEASURES SHOULD BE PERFORMED THROUGHOUT CONSTRUCTION, INCLUDING OVER THE WINTER PERIOD. AFTER EACH RAINFALL, SNOWSTORM, OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHOULD 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 SHOULD 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 SHOULD BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 15.

- THE AREA OF EXPOSED, UNSTABILIZED SOIL SHOULD BE LIMITED TO 1-ACRE AND SHOULD 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 SHOULD BE COMPLETED WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.
- ALL PROPOSED 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 SHOULD BE SEEDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX (REFER TO NHSM, VOL. 3 FOR SPECIFICATION).
- ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15 SHOULD BE SEEDED 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 SHOULD 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 SHOULD NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
- ALL MULCH APPLIED DURING WINTER SHOULD BE ANCHORED (I.E. BY NETTING, TRACKING, WOOD CELLULOSE FIBER).
- WITHIN 24 HOURS OF STOCKPILING SOIL MATERIALS SHOULD 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 SHOULD BE RE-ESTABLISHED PRIOR TO ANY RAIN OR SNOWFALL. NO SOIL STOCKPILE SHOULD 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) SHOULD BE STOCKPILED SEPARATELY ANYWHERE IN A LOCATION AWAY FROM ANY AREA NEEDING PROTECTION. STOCKPILES CAN MELT IN SPRING AND BECOME UNWORKABLE AND DIFFICULT TO TRANSPORT DUE TO HIGH SOIL MOISTURE CONTENT.
- INSTALLATION OF EROSION CONTROL BLANKETS SHOULD NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH OR ON FROZEN GROUND.
- ALL GRASS-LINED DITCHES AND CHANNELS SHOULD BE CONSTRUCTED BY SEPTEMBER 1. ALL DITCHES AND SWALES WHICH DO NOT EXHIBIT 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15, SHOULD 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 SHOULD 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 SHOULD CONSIST OF EROSION CONTROL MIX BERMS, OR CONTINUOUS CONTAINED BERMS. SILT FENCES AND HAY BALES SHOULD NOT BE INSTALLED WHEN FROZEN CONDITIONS PREVENT PROPER EMBEDMENT OF THESE BARRIERS.

**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.)

**SOIL 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 SHOULD 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 SHOULD 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 SHOULD BE PROTECTED WITH TEMPORARY SEDIMENT PERIMETER BARRIERS (I.E. SILT FENCE, ETC.) AT ALL TIMES. IF THE MATERIALS ARE A SOURCE OF DUST, THEY SHOULD ALSO BE COVERED.

- PROTECTION OF ACTIVE STOCKPILES:**
- ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY LINEAR SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) PRIOR TO THE ONSET OF PRECIPITATION. PERIMETER BARRIERS SHOULD 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 SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
  - WHEN A STORM IS PREDICTED, STOCKPILES SHOULD BE PROTECTED WITH AN ANCHORED PROTECTIVE COVERING.

**INVASIVE SPECIES NOTE:**

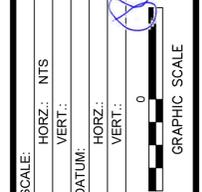
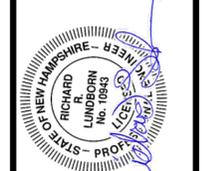
- THE CONTRACTOR SHALL TAKE STEPS TO PREVENT THE SPREAD OF INVASIVE PLANT, INSECT, AND FUNGAL SPECIES BY MEETING THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES. [HTTP://GENECOURT.STATE.NH.US/RULES/STATE\\_AGENCIES/AGR3800.HTML](http://genecourt.state.nh.us/rules/state_agencies/AGR3800.html)

**GENERAL CONSTRUCTION PHASING:**

- PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS. PERIMETER CONTROLS SHALL BE EROSION CONTROL MIX BERMS OR SILT SOCKS.
- PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE (BEFORE ROUGH GRADING THE SITE).
- ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL AREAS ARE STABILIZED.
- ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY 0.5 INCH OF RAIN.
- 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
  - IN AREAS THAT WILL NOT BE PAVED:**
    - A MINIMUM OF 85% VEGETATIVE COVER HAS BEEN ESTABLISHED;
    - A MINIMUM OF 3-INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR A CERTIFIED COMPOST BLANKET HAS BEEN INSTALLED, OR;
    - EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
  - IN AREAS TO BE PAVED:**
    - BASE COURSE GRAVELS HAVE BEEN INSTALLED.
- TEMPORARY STABILIZATION:**  
 ALL AREAS OF EXPOSED OR DISTURBED SOIL SHOULD 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 SHOULD BE PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 3 DAYS FOLLOWING FINAL GRADING.
- MAXIMUM AREA OF DISTURBANCE:**  
 THE AREA OF UNSTABILIZED SOIL SHOULD NOT EXCEED 5 ACRES AT ANY TIME.
- ONLY DISTURB, CLEAR, OR GRADE AREAS NECESSARY FOR CONSTRUCTION.
  - FLAG OR OTHERWISE DELINEATE AREAS NOT TO BE DISTURBED.
  - EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PRESERVE NATURAL VEGETATION.
- ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHOULD BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON GRADING PLANS.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHOULD BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON GRADING PLANS.
- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHOULD 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 SHOULD NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTIES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGE.
- AREAS TO BE FILLED SHOULD BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND/OR OTHER OBJECTIONABLE MATERIALS.
- AREAS SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 3-INCHES PRIOR TO PLACEMENT OF TOPSOIL. TOPSOIL SHOULD BE PLACED WITHOUT SIGNIFICANT COMPACTION TO PROVIDE A LOOSE BEDDING FOR PLACEMENT OF SEED.
- ALL FILLS SHOULD BE COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, SITE UTILITIES, CONDUITS AND OTHER FACILITIES, SHOULD BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- IN GENERAL, FILLS SHOULD BE COMPACTED IN LAYERS RANGING FROM 6 TO 24 INCHES IN THICKNESS. THE CONTRACTOR SHOULD REVIEW THE PROJECT GEOTECHNICAL REPORT AND/OR THE "PROJECT SPECIFIC PHASING NOTES" FOR SPECIFIC GUIDANCE.
- ANY AND ALL FILL MATERIAL SHOULD 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 SHOULD BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER.
- THE OUTER FACE OF THE FILL SLOPE SHOULD 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 SHOULD BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHOULD BE EVALUATED BY A PROFESSIONAL ENGINEER (PREFERABLY THE DESIGN ENGINEER) TO DETERMINE IF THE PROPOSED DESIGN SHOULD 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 SHOULD BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

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)

NO.	DATE	DESCRIPTION	REVISION	DESIGNER/REVIEWER
1.	11/7/2021	TAC WORKSHOP SUBMITTAL	RL	
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3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT	
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	



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 DATE: 03/09/2022

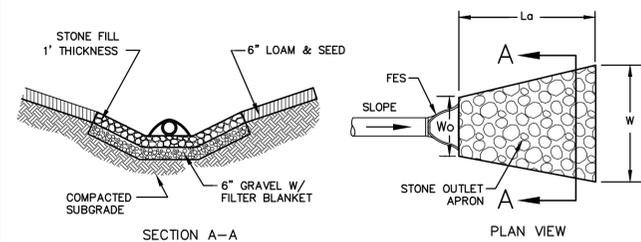
**CD-560**

D10=10"  
RIP-RAP GRADATION

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

APRON DIMENSION TABLE

PIPE OUTLET	W <sub>o</sub>	W	L <sub>a</sub>	T	450
15" SWALE	4'	2'	14'	8"	3"
36" HEADWALL					USE SCOUR POOL
12" BR#1	3.0'	11.5'	8.5'	16"	3"
12" BR#2	3.0'	13.5'	10.5'	16"	3"



STONE: D50 = 3"  
WELL GRADED WITH SUFFICIENT SAND AND GRAVEL TO FILL THE VOIDS

THE HEIGHT OF THE STRUCTURAL LINING ALONG THE CHANNEL SIDES SHALL BEGIN AT THE ELEVATION EQUAL TO THE TOP OF THE CONDUIT AND TAPER DOWN TO THE CHANNEL BOTTOM THROUGH THE LENGTH OF THE APRON.

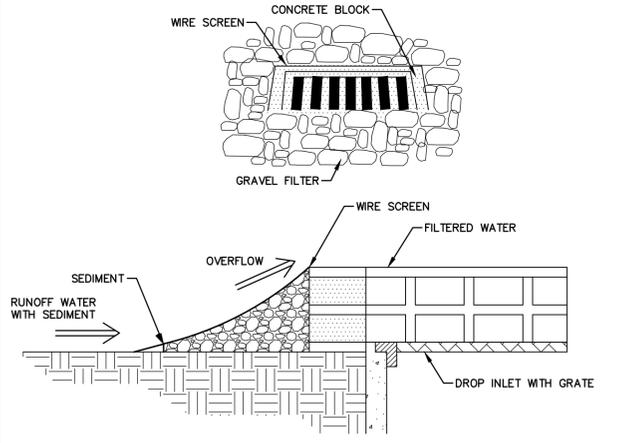
- NOTES:**
- ALL PIPE CULVERTS SHALL HAVE END SECTIONS OR HEADWALLS. END SECTION MATERIAL AND MANUFACTURER SHALL MATCH THAT OF THE PIPE CULVERT.
  - THE LARGEST RIP-RAP SIZE DETERMINED DURING HYDROLOGIC ANALYSIS HAS BEEN USED FOR ALL OUTLETS FOR ECONOMY AND SIMPLICITY.
  - APRON LENGTHS, WIDTHS AND THICKNESSES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

### RIP RAP APRON OUTLET PROTECTION

NOT TO SCALE



### BLOCK AND GRAVEL INLET SEDIMENT FILTER

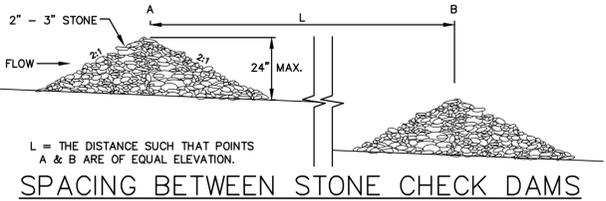
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- CONSTRUCTION SPECIFICATIONS:**
- PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDE IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, WITH THE ENDS OF ADJACENT BLOCKS ABUTTING. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING 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.
  - 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.
  - STONE SHALL BE PAILED AGAINST THE WIRE TO THE TOP OF THE BLOCK BARRIER, AS SHOWN ABOVE. STONE GRADATION SHALL BE WELL GRADED WITH THE MAXIMUM STONE SIZE OF 6 INCHES AND MINIMUM STONE SIZE OF 1 INCH.
  - 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 NOTES:**
- THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
  - 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.
  - STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

### SEDIMENTATION CONTROL AT CATCH BASINS

NOT TO SCALE



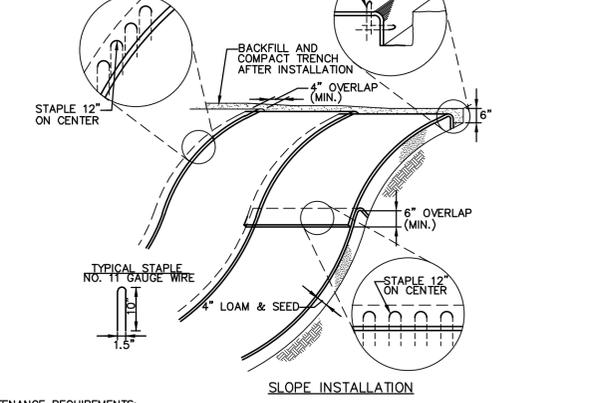
### SPACING BETWEEN STONE CHECK DAMS

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

- MAINTENANCE NOTES:**
- 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.
  - PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE.
  - WHEN REMOVING THE STRUCTURES, THE DISTURBED AREAS SHALL BE BROUGHT UP TO EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED AND MULCHED.
  - 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:**
- 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.
  - 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:**
- MANUFACTURER'S INSTALLATION INSTRUCTIONS:
    - PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-0-SEED DO NOT SEED PREPARED AREA. CELL-0-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
    - 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.
    - 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.
    - THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.
    - CONSECUTIVE RECP's SPICED 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.

- SITE PREPARATION:
  - PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.
  - GRADE AND SHAPE AREA IF INSTALLATION.
  - REMOVE ALL ROCKS, CLOUDS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
  - PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
  - INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.
- SEEDING:
  - 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 RESEEDED.
  - 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:**
- 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 SHOULD BE DIVERTED FROM THE SEEDBED AREA.
  - 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:**
- 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.
  - 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.
  - 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 SHOULD BE APPLIED DURING THE GROWING SEASON.
  - 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

FERTILIZER APPLICATION RATE = 600 LB./ACRE (13.8 LB./1,000-SF)\*  
\*LOW PHOSPHATE FERTILIZER (N-P205-K20) OR EQUIVALENT

- SEEDING:**
- INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE OF INOCULANT.
  - APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE.
  - WHERE FEASIBLE EXCEPT WHERE EITHER CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHOULD BE FIRMED 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 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.
  - 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.
  - 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:**
- WHEN HYDROSEEDING (HYDRAULIC APPLICATION), PREPARE THE SEEDBED AS SPECIFIED ABOVE OR BY HAND RAKING TO LOOSEN AND SMOOTH THE SOIL AND REMOVE SURFACE STONES LARGER THAN 2 INCHES IN DIAMETER.
  - SLOPES MUST BE NO STEEPER THAN 2:1 (2 FEET HORIZONTALLY BY 1 FOOT VERTICALLY).
  - LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF FIBER MULCH ON CRITICAL AREAS IS NOT RECOMMENDED (UNLESS IT IS USED TO HOLD STRAW OR HAY). BETTER PROTECTION IS GAINED BY USING STRAW MULCH AND HOLDING IT WITH ADHESIVE MATERIALS OR 500 POUNDS PER ACRE OF WOOD FIBER MULCH.
  - SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

- MAINTENANCE REQUIREMENTS:**
- PERMANENT 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.
  - SEEDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION. MOWING HEIGHT AND FREQUENCY DEPEND OF TYPE OF GRASS COVER.
  - BASED ON INSPECTION, AREAS SHOULD BE RESEEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.
  - AT A MINIMUM 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.
  - IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEEDED, 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:**
- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLES 4-2 AND 4-3
  - MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)

### TEMPORARY 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 SHOULD BE DIVERTED FROM THE SEEDBED AREA.
  - 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:**
- STONES AND TRASH SHOULD BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.
  - 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 SHOULD BE APPLIED DURING THE GROWING SEASON.
  - 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

- SEEDING:**
- APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTIPACKER 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.
  - TEMPORARY SEED SHOULD TYPICALLY OCCUR PRIOR TO SEPTEMBER 15.
  - 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.
  - 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:**
- 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.
  - BASED ON INSPECTION, AREAS SHOULD BE RESEEDED 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.
  - IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEEDED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

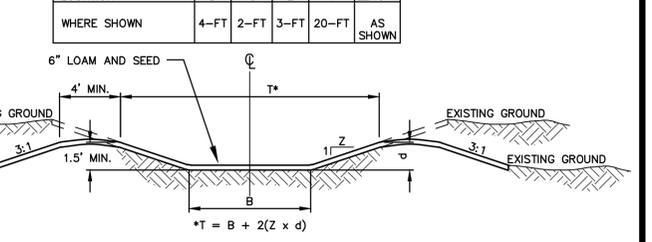
### TEMPORARY VEGETATION SEEDING RECOMMENDATIONS

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:**

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

### SWALE DIMENSION TABLE

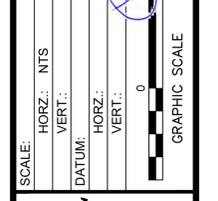
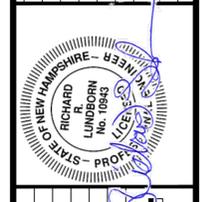


- MAINTENANCE NOTES:**
- THE SWALE(S) SHALL BE MOWED WITH THE REST OF THE SITES LAWN AREAS TO PROMOTE HEALTHY GROWTH AND PREVENT THE ENCROACHMENT OF WEEDS AND WOODY VEGETATION. DO NOT MOW GRASS IN SWALE(S) TOO SHORT. THIS WILL REDUCE THE SWALES FILTERING ABILITY.
  - THE SWALE(S) SHOULD BE FERTILIZED ON AN AS NECESSARY BASIS, TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION COULD RESULT IN THE SWALE(S) BECOMING A SOURCE OF POLLUTION TO THE SURROUNDING WETLAND AREAS.
  - THE SWALE(S) SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND RE-VEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

### VEGETATED SWALE DETAIL

NOT TO SCALE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	RRL	RRL
2.	01/18/2022	TAC RESUBMISSION	MRT	RRL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT	RRL
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT	RRL

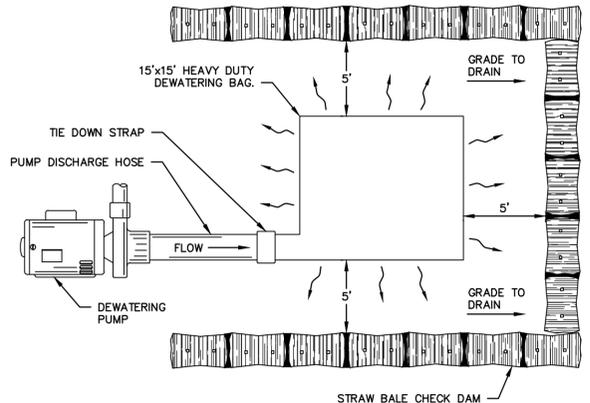


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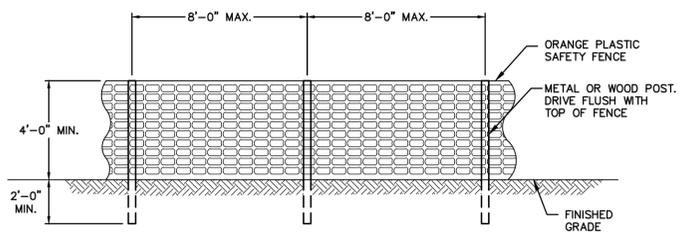
CATE STREET DEVELOPMENT, LLC  
EROSION CONTROL DETAILS  
ROUTE 1 BYPASS / HODGDON WAY  
PORTSMOUTH  
NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
DATE: 03/09/2022  
**CD-561**

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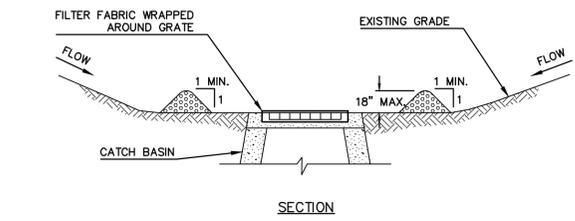
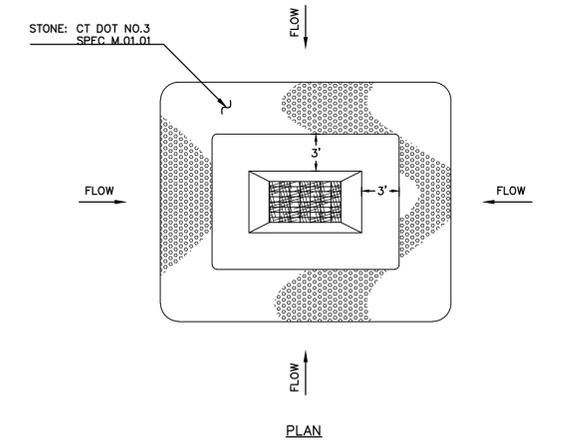


**DEWATERING BAG**  
NOT TO SCALE

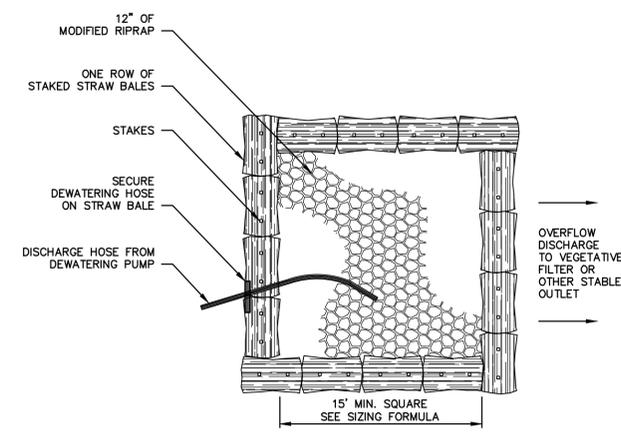


FOR TREE PROTECTION FENCE SHALL BE PLACED AT DRIPLINE OF TREES.

**PROTECTIVE SAFETY FENCE**  
SCALE: N.T.S.

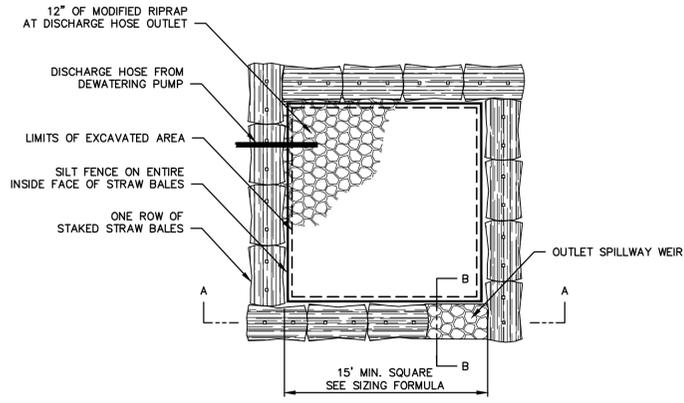


**LOW POINT STONE CHECK DAM**  
NOT TO SCALE



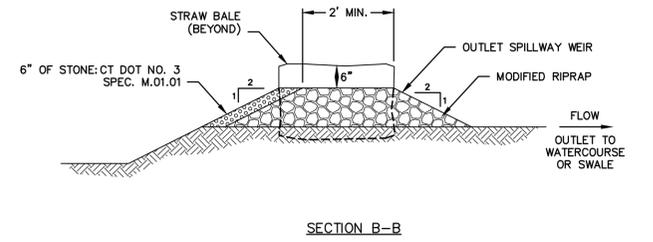
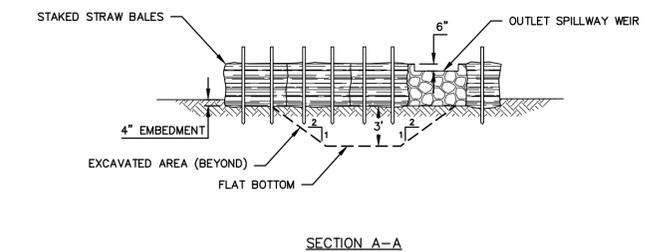
**SIZING FORMULA:**  
CUBIC FT. OF REQUIRED STORAGE = PUMP DISCHARGE RATE (GPM) x 16

**PUMP SETTLING BASIN TYPE I**  
NOT TO SCALE



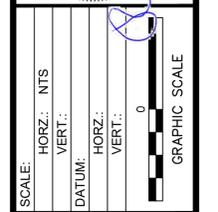
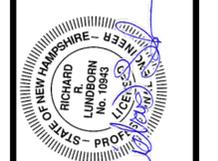
**SIZING FORMULA:**  
CUBIC FT. OF REQUIRED STORAGE = PUMP DISCHARGE RATE (GPM) x 16

**PUMP SETTLING BASIN TYPE II**  
NOT TO SCALE



**PUMP SETTLING BASIN TYPE II**  
NOT TO SCALE

No.	DATE	DESCRIPTION	BY	CHK	APP	DESIGNER REVIEWER
1.	11/1/2021	TAC WORKSHOP SUBMITTAL	JH/ART			RRL
2.	01/18/2022	TAC RESUBMISSION	MRT			RRL
3.	02/23/2022	PLANNING BOARD SUBMISSION	MRT			RRL
4.	03/09/2022	PLANNING BOARD SUBMISSION	MRT			RRL



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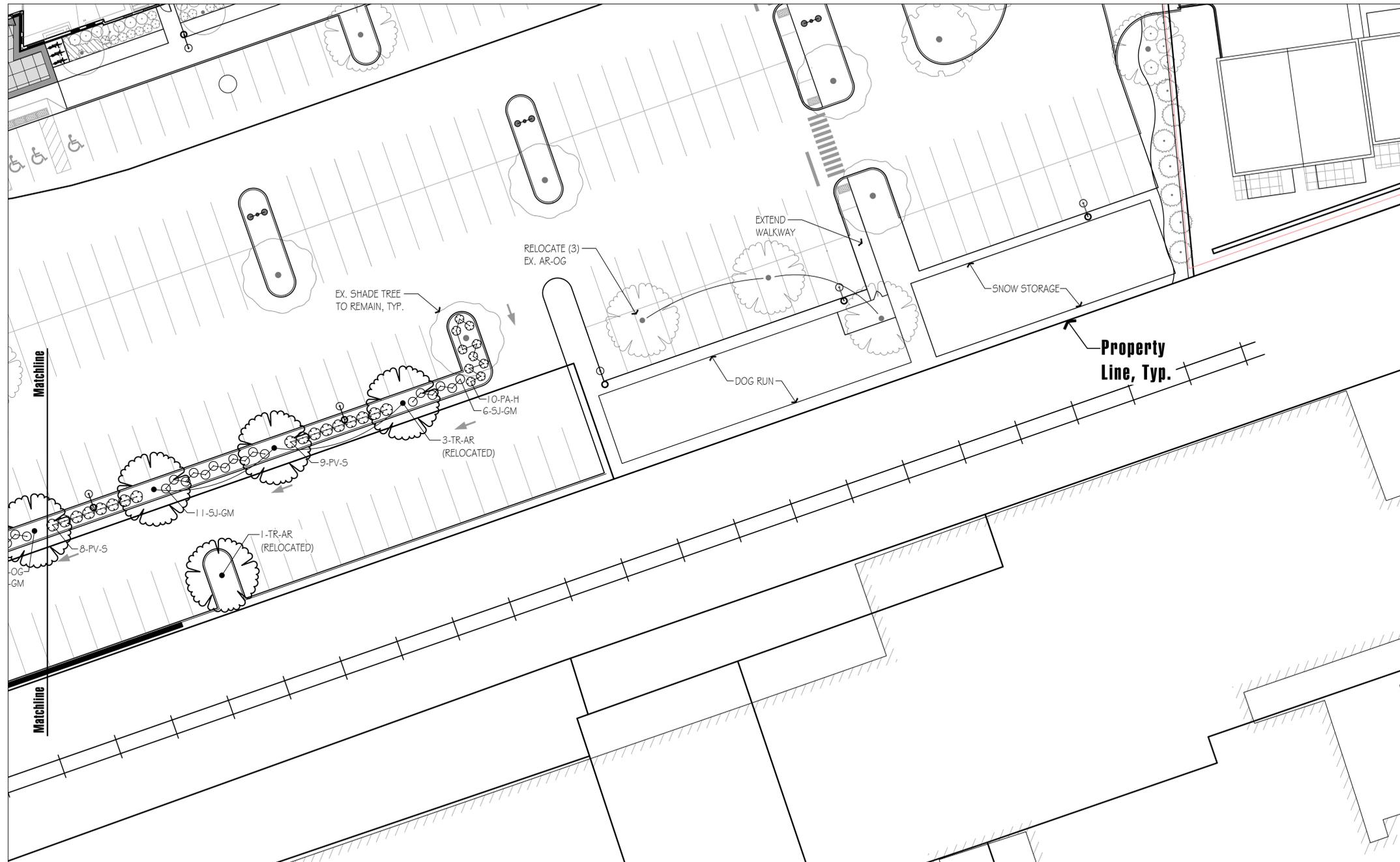
CATE STREET DEVELOPMENT, LLC  
**EROSION CONTROL DETAILS**  
 ROUTE 1 BYPASS / HODGDON WAY  
 PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.B10  
 DATE: 03/09/2022

**CD-562**







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Date: 12/16/21

Revisions:

Num.	Date	Description
1.	1/20/22	Revise per TAC comments

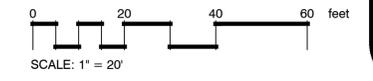
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 Portsmouth, New Hampshire

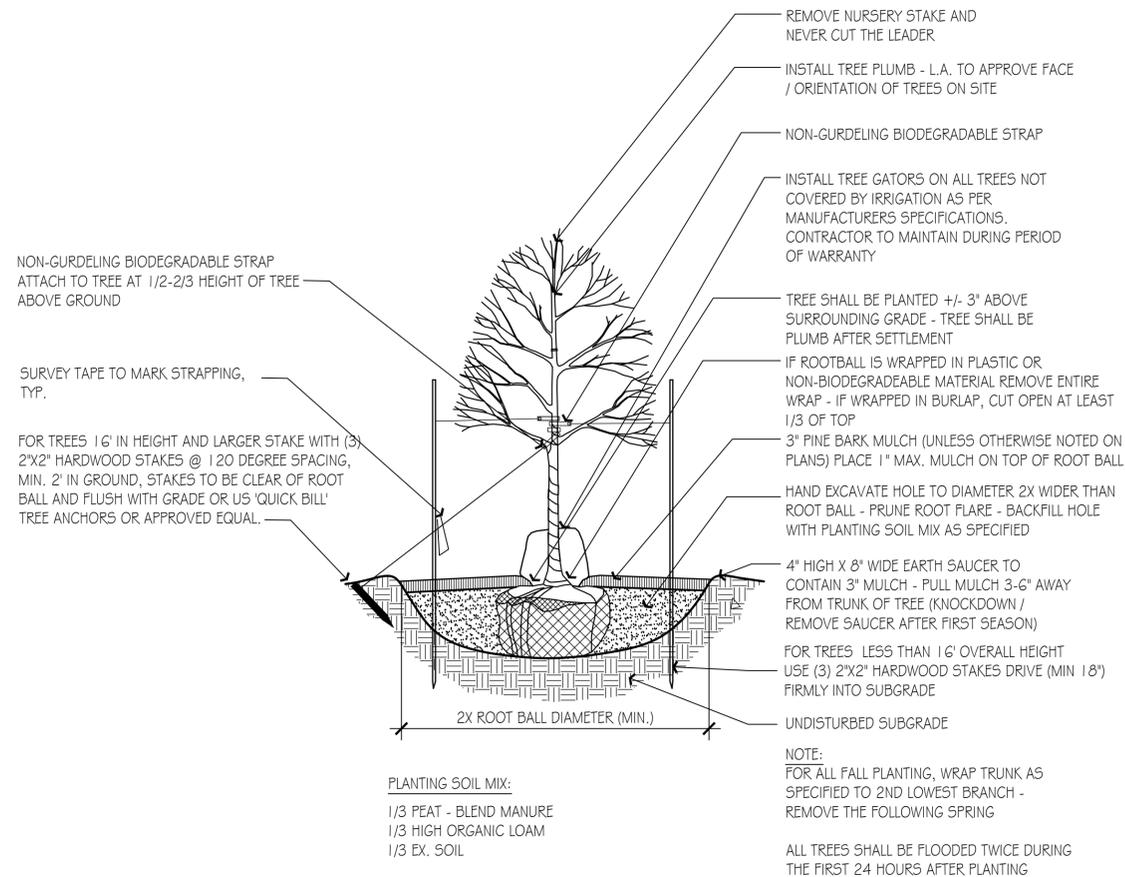
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**Planting  
 Plan**

Scale: 1" = 20'-0"

Sheet: **L2**





PLANT SCHEDULE										
TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	PLANT SIZE	MIN. HT. AT INSTALL	PLANT SIZE AT MATURITY	GROWTH HABIT	SALT TOLERANCE	NOTES
AR-OG	5	Acer rubrum 'October Glory'	October Glory Maple	B & B	3-3.5" CAL.	14' HT.	60' HT.	BROAD / ROUNDED	HIGH	NATIVE CULTIVAR
CC	1	Cercis canadensis	Eastern Redbud	B & B	2-2.5" CAL.	10' HT.	25' HT.	ROUNDED	MEDIUM	NATIVE
PA-B	11	Platanus acerifolia 'Bloodgood'	Bloodgood London Plane Tree	B & B	3-3.5" CAL.	14' HT.	70' HT.	BROAD / ROUNDED	MEDIUM	
TC-G	2	Tilia cordata 'Greenspire'	Greenspire Littleleaf Linden	B & B	3-3.5" CAL.	14' HT.	50' HT.	PYRAMIDAL	MEDIUM	
TR-AR	5	Acer rubrum 'October Glory'	October Glory Maple	Relocated		N/A				
TR-UA-P	1	Ulmus americana 'Princeton'	Princeton Elm	Relocated		N/A				
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	CONT	PLANT SIZE					
IG-S	37	Ilex glabra 'Shamrock'	Inkberry	B & B	18-24" HT.		4'X4'	ROUNDED	HIGH	NATIVE CULTIVAR
IV-RS	8	Ilex verticillata 'Red Sprite'	Red Sprite Winterberry	CONT.	18-24" SPD		4'X4'	ROUNDED	HIGH	NATIVE CULTIVAR
PA-H	90	Pennisetum alopecuroides 'Hameln'	Hameln Fountain Grass	2 GAL			2'X2'	MOUNDED	HIGH	
PF-G	26	Potentilla fruticosa 'Goldfinger'	Goldfinger Potentilla	CONT.	15-18" HT.		3'X3'	ROUNDED	HIGH	NATIVE CULTIVAR
PV-S	58	Panicum virgatum 'Shenandoah'	Switch Grass	3 GAL			4'X3'	NARROW CLUMP	HIGH	NATIVE CULTIVAR
SJ-GM	74	Spiraea japonica 'Goldmound'	Gold Mound Spirea	B & B	18-24" SPD		3'X4'	MOUNDED	HIGH	
TM-G	8	Taxus x media 'Tauntoni'	Taunton Yew	B & B	18-24" SPD		3'X6'	SPREADING	MEDIUM	
VD-BM	8	Viburnum dentatum 'Blue Muffin'	Blue Muffin Viburnum	CONT.	3-3.5" HT.		7'X4'	UPRIGHT	HIGH	NATIVE CULTIVAR

**Hawk Design, Inc.**  
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Land Planning  
Sagamore, MA  
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Date: 12/16/21

Revisions:

Num.	Date	Description
1.	1/20/22	Revise per TAC comments

**Cate Street Development, LLC.**  
Route 1 Bypass / Hodgdon Way  
Portsmouth, New Hampshire

Drawn By: BNL | Checked By: TEM

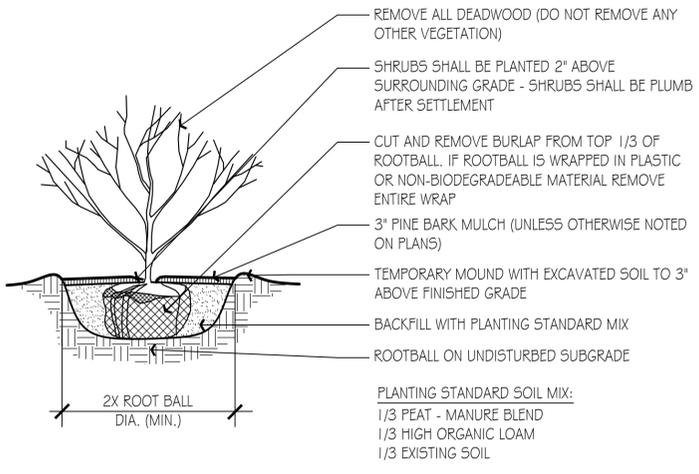
**Plant Schedule and Planting Details**

Scale: N/A

Sheet: **L3**

**1 Deciduous Tree Planting**  
Scale: N.T.S.

**2 Shrub Planting**  
Scale: N.T.S.



811 DigSafe  
MA-ME-NH-VT

0 20 40 60 feet  
SCALE: 1" = 20'

## General Landscape Requirements:

### 1. 1) CONTRACTOR REQUIREMENTS:

A) ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND REGULATIONS, FROM ALL FEDERAL, STATE AND LOCAL AUTHORITIES.

B) THE CONTRACTOR SHALL ARRANGE FOR AND OBTAIN ALL PERMITS AND LICENSES REQUIRED FOR THE COMPLETE WORK SPECIFIED HEREIN AND SHOWN ON ALL THE DRAWINGS. THE CONTRACTOR SHALL PAY FOR ANY FEES NOT WAIVED.

### 1. 2) UTILITIES:

A) LANDSCAPE CONTRACTOR IS REQUIRED TO CONTACT THE RELEVANT UTILITY COMPANIES PRIOR TO DOING ANY EXCAVATION ON THE SITE. IF ANY WORK IS TO BE DONE AROUND UNDERGROUND UTILITIES, THE APPROPRIATE AUTHORITY OF THAT UTILITY MUST BE NOTIFIED OF THE IMPENDING WORK.

B) UTILITIES SHALL BE LOCATED AND MARKED PRIOR TO ANY INSTALLATION. ADJUSTMENTS MAY BE NECESSARY IN THE FIELD TO ACCOMMODATE UTILITY LOCATIONS. REPORT ANY CONFLICTS TO THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

C) THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES DONE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF SATISFACTORY REPAIR OF ALL DAMAGE IN KIND RESULTING FROM THEIR FAILURE TO COMPLY.

1. 3) PROTECTION OF EXISTING WORK: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM ALL WORK IN A MANNER THAT PROTECTS WORK COMPLETED BY OTHERS, SUCH AS CURBS, UTILITIES, STORM DRAINAGE, FENCES, DRIVEWAY APRONS, DRIVES, VEGETATION, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF SATISFACTORY REPAIR OF ALL DAMAGE IN KIND RESULTING FROM THEIR FAILURE TO COMPLY.

1. 4) QUANTITIES: A COMPLETE LIST OF PLANTS INCLUDING A SCHEDULE OF QUANTITIES, SIZES, TYPES, AND NAMES IS INCLUDED IN THIS SET OF DRAWINGS. IN THE EVENT OF DISCREPANCIES BETWEEN QUANTITIES OF PLANT IN THE PLANT LIST AND THE QUANTITIES SHOWN ON THE DRAWINGS, THE PLAN SHALL GOVERN. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF UNLABELED PLANTS IN PLAN FOR CLARIFICATION. THE LANDSCAPE ARCHITECT SHALL BE ALERTED BY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO FINAL BID NEGOTIATION.

1. 5) APPLICABLE PLANT MATERIALS STANDARDS: ALL PLANT MATERIALS ARE TO COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN. PLANTING METHODS WILL BE IN ACCORDANCE WITH SITE-SPECIFIC REQUIREMENTS.

1. 6) PLANT HARDINESS: ALL TREES AND SHRUBS SHALL BE NURSERY GROWN WITHIN A USDA PLANT HARDINESS ZONE, WHICH IS THE SAME AS, OR COLDER THAN, THE ZONE IN WHICH THE PROJECT IS LOCATED.

1. 7) PLANTING SEASONS: PLANTING SHALL ONLY OCCUR DURING SPECIFIED SEASONS. SPRING SEASON SHALL BE FROM MARCH 1 TO JUNE 15. FALL PLANTING SEASON SHALL BE FROM SEPTEMBER 15 THROUGH NOVEMBER 15. NO PLANTING SHALL OCCUR WHEN THE GROUND IS FROZEN.

1. 8) PLANT SUBSTITUTIONS: NO SUBSTITUTIONS OF PRODUCTS, PLANT TYPES OR SIZES SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT. REQUESTS FOR SUBSTITUTION SHALL BE IN WRITING, AND SHALL STATE THE REASON FOR THE SUBSTITUTION REQUEST, THE SUGGESTED ALTERNATIVE AND THE CHANGES IN COST. REQUESTS FOR SUBSTITUTION IN PLANT MATERIALS SHALL STATE THE NAMES OF NURSERIES THAT HAVE BEEN UNABLE TO SUPPLY THE ORIGINALLY SPECIFIED MATERIAL.

1. 9) THE LANDSCAPE ARCHITECT SHALL RESERVE THE RIGHT TO INSPECT ALL PLANT MATERIALS AT THE NURSERY, UPON SITE DELIVERY AND DURING INSTALLATION TO INSURE SPECIFICATIONS AND PROCEDURES ARE ADHERED TO.

1. 10) MINIMUM SIZES: ALL PLANTS 3' OR GREATER IN HEIGHT OR SPREAD SHALL BE BALLED AND BURLAPPED. SIZES SPECIFIED IN THE PLANT LIST ARE MINIMUMS ON WHICH THE PLANTS ARE TO BE JUDGED.

1. 11) DEAD PLANTS: DEAD PLANTS ARE TO BE REMOVED FROM THE SITE IMMEDIATELY, AND REPLACED WITH THE SAME PLANT & SIZE REGARDLESS OF SEASON, WEEKLY FROM THE JOB BY THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN AN UPDATED COMPREHENSIVE LIST OF ALL DEAD MATERIALS REMOVED AND PRESENT A COPY OF THE LIST TO THE OWNER AND LANDSCAPE ARCHITECT AT THE END OF EVERY MONTH DURING THE CONTRACT PERIOD.

1. 12) PLANT MATERIAL REMOVAL: NO EXISTING TREES SHALL BE REMOVED WITHOUT THE WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT EXCEPT WHERE NOTED ON THE PLANS. CONTRACTORS WHO REMOVE EXISTING TREES WITHOUT WRITTEN APPROVAL WILL BE REQUIRED TO MAKE REMEDIES DETERMINED BY THE GOVERNING URBAN FORESTER OR EQUIVALENT AUTHORITY. NO GRUBBING SHALL OCCUR WITHIN EXISTING TREE AREAS UNLESS SPECIFICALLY NOTED ON THE PLANS.

1. 13) ALL DISTURBED AREAS NOT TO RECEIVE PLANT MATERIALS ARE TO BE LOAMED AND SEEDED AND BLENDED INTO EXISTING GRADE AND CONDITIONS. SEE SECTION 4.0.

1. 14) LEDGE BOULDERS: IF DURING SITE EXCAVATION, LEDGE BOULDERS ARE AVAILABLE, THESE ARE TO BE STOCKPILED FOR USE IN EARTH BERMS IF APPLICABLE, WITH HAWK DESIGN, INC. PRIOR TO INSTALLATION. THIS ITEM WILL ONLY APPLY IF SO SPECIFIED ON DRAWINGS. BOULDERS SIZES TO BE STOCKPILED WILL RANGE FROM TWO TO FIVE FEET IN DIAMETER. SEE APPROPRIATE DETAIL FOR INSTALLATION COORDINATION.

1. 15) SLEEVES: LANDSCAPE OR SITE CONTRACTOR SHALL PLACE INDIVIDUAL SLEEVES FOR LIGHTING AND IRRIGATION UNDER ANY PROPOSED WALKWAY OR VEHICULAR ROADWAY PRIOR TO INSTALLATION. COORDINATE SLEEVE LOCATIONS WITH IRRIGATION AND LIGHTING CONTRACTORS PRIOR TO INSTALLATION.

1. 16) DO NOT CLOSE OR OBSTRUCT ANY STREET, SIDEWALK, ALLEY OR PASSAGEWAY WITHOUT PRIOR NOTIFICATION AND PERMISSION. CONDUCT OPERATIONS AS TO INTERFERE AS LITTLE AS POSSIBLE WITH THE USE ORDINARILY MADE OF ROADS, DRIVEWAYS, ALLEYS, SIDEWALKS OR OTHER FACILITIES NEAR ENOUGH TO THE WORK TO BE EFFECTED THEREBY.

## Planting Materials:

2. 1) PLANTING MATERIAL ITEMS IN SECTION 2.0 ARE TO BE INCORPORATED DURING PLANT INSTALLATION UNLESS OTHERWISE DEEMED UNNECESSARY IN ACCORDANCE WITH SOIL TEST RECOMMENDATIONS. SEE SECTION 3.1.

MULCH - MULCH WILL BE DOUBLE-SHREDDED PINE BARK MULCH.  
- TREES AND SHRUBS SHALL RECEIVE AN EVEN 3" MULCH LAYER.  
- GROUNDCOVERS, PERENNIALS AND ANNUALS SHALL RECEIVE AN EVEN 2" MULCH LAYER.

MANURE- TO BE WELL ROTTED, OODRLESS, UNLEACHED COW MANURE, CONTAINING NOT MORE THAN 15% BEDDED MATERIALS SUCH AS STRAW, WOOD CHIPS OR SHAVINGS, AGED NOT LESS THAN TWO YEARS OLD.

HERBICIDE- A PRE-EMERGENCE WEED KILLER IS TO BE USED ON ALL LAWN AND PLANTING AREAS PRIOR TO INSTALLATION AS PER MANUFACTURER'S SPECIFICATIONS. \*HERBICIDES ARE NOT TO BE APPLIED IN RESTRICTED CONSERVATION AREAS.

FERTILIZER- ALL TREES AND SHRUBS TO HAVE SLOW RELEASE PACKET OR PELLET PLACED INTO THE PLANT PIT WITH A MINIMUM ANALYSIS OF 1-0-10-10. ALL GROUNDCOVERS, PERENNIALS AND ANNUALS ARE TO RECEIVE A BROADCAST APPLICATION OF A 1-4-14-14 FERTILIZER AT 3 LB PR 100 SQ. FT. APPLY AS PER MANUFACTURER'S INSTRUCTIONS. \*FERTILIZERS ARE NOT TO BE APPLIED IN RESTRICTED CONSERVATION AREAS.

TOPSOIL- ACCEPTABLE TOPSOIL SHALL BE FERTILE, FRIABLE NATURAL LOAM, UNIFORM IN COMPOSITION, FREE OF STONES, LIMBS, PLANTS AND THEIR ROOTS, DEBRIS AND OTHER EXTRANEOUS MATTER OVER ONE INCH IN DIAMETER. THE SOIL SHALL BE CAPABLE OF SUSTAINED PLANT GROWTH AND HAVE A 5% MINIMUM ORGANIC CONTENT. IN SITUATIONS WHICH REQUIRE A CUSTOM TOPSOIL OR STRUCTURAL SOIL, THE SOIL MIXTURE SPECIFICATION WILL BE PROVIDED BY THE LANDSCAPE ARCHITECT.

SOIL AMENDMENTS: APPLY AS NECESSARY ACCORDING TO SOIL TEST RESULTS, AS PER MANUFACTURES SPECIFICATIONS.

ANTI-DESICCANT- "WILT PRUF" NCF OR EQUAL APPLY AS PER MANUFACTURERS' SPECIFICATIONS.

## Plant Installation:

3. 1) SOIL TESTING: LANDSCAPE CONTRACTOR SHALL PROVIDE A CERTIFIED SOIL ANALYSIS PRIOR TO ANY PLANT INSTALLATION TO DETERMINE ANY NECESSARY AMENDMENTS TO THE EXISTING SOIL CONDITIONS FOR SEEDING AND PLANTING. THE ANALYSIS WILL ALSO BE REQUIRED FOR ESTABLISHING THE FERTILIZER PROGRAM REQUIRED. COORDINATE RESULTS AND PROVIDE WRITTEN RECOMMENDATIONS TO HAWK DESIGN, INC. 15 DAYS PRIOR TO INSTALLATION.

3.2) ALL PLANTS SHALL BE TRANSPORTED TO THE SITE IN COVERED TRUCKS, TARPULIN COVERS SHALL BE UTILIZED TO PREVENT WIND DAMAGE OF LOAD.

3.3) DELIVER PLANT MATERIALS IMMEDIATELY PRIOR TO PLACEMENT. KEEP PLANT MATERIALS MOIST. DO NOT STORE PLANT MATERIAL ON PAVED AREAS. ROOTS OR BALLS SHALL BE PROTECTED FROM THE SUN OR DRYING WINDS. AS REQUIRED BY TEMPERATURE OR WIND CONDITIONS, APPLY ANTI-DESICCANT EMULSION TO PREVENT DRYING OUT OF PLANT MATERIALS.

### 3.4) CONDITIONS FOR PLANT REJECTION:

A) REJECT PLANTS WHEN BALL OF EARTH SURROUNDING ROOTS HAS BEEN CRACKED OR BROKEN PREPARATORY TO OR DURING THE PROCESS OF PLANTING.

B) WHEN BURLAP, STAVES AND ROPES REQUIRED IN CONNECTION WITH TRANSPLANTING HAVE BEEN DISPLACED PRIOR TO ACCEPTANCE.

C) WIND DAMAGED PLANT MATERIAL FROM POOR TARPULIN COVER PROCEDURES ARE SUBJECT TO REJECTION.

3.5) ALL PLANT MATERIAL, WHICH CANNOT BE PLANTED IMMEDIATELY ON DELIVERY, SHALL BE SET ON THE GROUND IN A SHADED LOCATION AND SHALL BE TEMPORARILY PROTECTED WITH SOIL OR OTHER ACCEPTABLE MATERIAL. TEMPORARY WATERING OR IRRIGATION SHALL BE INCORPORATED AND REGULARLY CONDUCTED ON PLANTINGS IN HOLD AREAS.

3.6) IN CASE OF CONFLICTS DURING CONSTRUCTION WITH UTILITIES, ROCK MATERIALS, TREE ROOTS OR OTHER OBSTRUCTIONS FOR THE EXCAVATION OF SHRUB BEDS AND TREE PITS. CONTACT LANDSCAPE ARCHITECT FOR APPROVED ALTERNATE LOCATIONS.

3.7) SOIL PERMEABILITY: TEST DRAINAGE OF PLANTING BEDS AND PITS BY FILLING WITH WATER TWICE IN SUCCESSION. CONDITIONS PERMITTING THE RETENTION OF WATER FOR MORE THAN 24 HOURS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.

### 3.8) SOIL EXCAVATIONS:

A) EXCAVATE TREE PITS AND SHRUB BEDS TO DEPTHS REQUIRED BY PLANTING DETAILS. ALL PITS SHALL BE CIRCULAR IN OUTLINE, EXCEPT FOR BOWL BEDS. SEE APPROPRIATE PLANTING DETAILS.

B) SOIL EXCAVATIONS FOR BALLED & BURLAP AND CONTAINER PLANTINGS MUST BE NO LESS THAN 2X ROOT BALL DIAMETER. SEE PLANTING DETAILS. IF QUESTIONABLE SUBSURFACE SOIL CONDITIONS EXIST SUCH AS POOR DRAINAGE CONDITIONS, RUBBLE OR OBSTRUCTIONS, REPORT TO THE LANDSCAPE ARCHITECT AND CONSTRUCTION MANAGER BEFORE PLANTING.

### 3.9) GRADING:

A) VERIFY GRADES PRIOR TO PLANTING, THE CONTRACTOR SHALL VERIFY THAT CONSTRUCTED GRADES ARE AS INDICATED ON PLANS. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IF ADJUSTMENTS TO PLANT PLACEMENT MAY BE REQUIRED DUE TO FIELD CONDITIONS AND FINAL GRADING.

B) POSITIVE DRAINAGE SHALL BE MAINTAINED AWAY FROM AND AROUND BUILDINGS (REFER TO ENGINEERS GRADING PLANS). REPORT ANY CONFLICTS TO HAWK DESIGN, INC. PRIOR TO INSTALLATION.

C) FINISH GRADE OF PLANTINGS SHALL BE EQUIVALENT TO FORMER EXISTING GRADE OF PLANT IN THE NURSERY.

### 3. 10) BALLED AND BURLAPPED (B&B) MATERIALS:

A) CUT WIRE BASKETS ONCE IN THE PLANT PIT AND PEEL WIRE BACK.

B) TAGS AND TWINE ARE TO BE REMOVED AND BURLAP IS TO BE ROLLED BACK ONE-THIRD ON ALL B&B PLANT MATERIAL. ANY SYNTHETIC BURLAP SHALL BE COMPLETELY REMOVED FROM ANY PLANT MATERIAL

## Plant Installation Cont'd

3. 11) CONTAINER GROWN STOCK: SHALL BE REMOVED FROM CONTAINER BY CUTTING CONTAINER AWAY TO AVOID ROOT DAMAGE TO PLANT ROOT SYSTEM. IF PLANT ROOT IS BOUND, SLICE ROOT BALLS APPROXIMATELY 2" DEEP WITH KNIFE OR SHARP SPADE.

3. 12) DO NOT USE MUDDY OR FROZEN SOIL TO BACKFILL PLANTINGS.

3. 13) WATERING: THOROUGHLY WATER UNTIL SOIL IS SATURATED AROUND ALL TREES AND SHRUBS AFTER PLANTING AND THROUGHOUT THE TIME PERIOD UNTIL FINAL ACCEPTANCE FROM CLIENT. DURING DRY CONDITIONS, WATER AS REQUIRED TO MAINTAIN PLANTS IN A WILT-FREE CONDITION.

3. 14) PRUNING: TREES SHALL BE PRUNED TO BALANCE TOP GROWTH WITH ROOTS AND TO PRESERVE THEIR NATURAL CHARACTER AND TYPICAL GROWTH HABIT. PRUNING SHALL BE RESTRICTED IN GENERAL TO THE SECONDARY BRANCHES AND SUCKER GROWTH. ALL CUTS TO BE FLUSH WITH TRUNK. DO NOT CUT A LEADER. THE LANDSCAPE ARCHITECT WILL REJECT ALL PLANTS DISFIGURED BY POOR PRUNING PRACTICES. ALL PRUNING CUTS SHALL REMAIN UNPAINTED.

3. 15) STAKING AND GUYING: ALL TREES TO BE STAKED AND GUYED WITHIN 48 HOURS OF PLANTING. METHODS AND MATERIALS FOR STAKING AND GUYING ARE ILLUSTRATED IN INDIVIDUAL PLANTING DETAILS. NEATLY FLAG ALL GUY WIRES WITH ROT RESISTANCE YELLOW TREE MARKING RIBBON.

3. 16) STAKE OUT PLANT LOCATIONS: PRIOR TO PLANTING THE CONTRACTOR SHALL LAYOUT THE EXTENT OF THE PLANT BEDS AND PROPOSED LOCATIONS FOR B&B PLANTS FOR REVIEW BY THE OWNER AND LANDSCAPE ARCHITECT.

### 3. 17) PLANTING FIELD ADJUSTMENTS:

A) THE CONTRACTOR IS TO SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD AS NECESSARY TO BE CLEAR OF DRAINAGE SWALES AND UTILITIES.

B) LARGE GROWING PLANTS ARE NOT TO BE PLANTED IN FRONT OF WINDOWS OR UNDER BUILDING OVERHANGS. NOTIFY THE LANDSCAPE ARCHITECT OF DISCREPANCIES IN PLANTING PLAN VS. FIELD CONDITIONS.

C) SHRUBS PLANTED NEAR HVAC UNITS ARE TO BE LOCATED SO THAT SHRUBS AT MATURITY WILL MAINTAIN ONE FOOT (1) AIRSPACE BETWEEN THE UNIT AND THE PLANT. ANY PLANTING SHOWN ADJACENT TO CONDENSER UNITS SHALL BE PLANTED TO SCREEN THE UNITS. SHOULD THE CONDENSER UNITS BE INSTALLED IN LOCATIONS DIFFERENT FROM THOSE SHOWN ON THE PLAN, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE LANDSCAPE ARCHITECT AND INSTALL THE MATERIAL AROUND THE CONDENSERS AND ADJUST THE OTHER PLANTING ACCORDINGLY.

3. 18) PLANT BED EDGES/LINES: GROUPS OF SHRUBS, PERENNIALS AND GROUNDCOVERS SHALL BE PLACED IN A CONTINUOUS MULCH BED WITH SMOOTH CONTINUOUS LINES. ALL MULCHED BED EDGES SHALL BE CURVILINEAR IN SHAPE, FOLLOWING THE CONTOUR OF THE PLANT MASS. TREES LOCATED WITHIN 4 FEET OF PLANT BEDS SHALL SHARE THE SAME MULCH BEDS.

3. 19) A.D.A. - THE AMERICAN WITH DISABILITIES ACT STANDARDS REQUIRE THAT A 7 FOOT VERTICAL CLEARANCE BE MAINTAINED FROM TREE BRANCHES TO FINISHED GRADE WHERE PEDESTRIANS SIDEWALKS AND/OR TRAILS ARE LOCATED. THE CONTRACTOR IS TO ADJUST TREE PLANTINGS IN FIELD TO SLIGHTLY MINIMIZE BRANCH OVERHANG AND COMPLY WITH THE A.D.A. ACT.

3.20) TREE SPACING MINIMUMS: TREES SHALL BE LOCATED A MINIMUM OF 4 FEET FROM RETAINING WALLS AND WALKS WITHIN THE PROJECT. IF A CONFLICT ARISES BETWEEN ACTUAL SIZE OF AREA AND PLANS, THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT FOR RESOLUTION. FAILURE TO MAKE SUCH CONFLICTS KNOWN TO LANDSCAPE ARCHITECT WILL RESULT IN CONTRACTOR'S LIABILITY TO RELOCATE MATERIALS.

## Seeding and Sodding:

4. 1) SEEDING OF LAWN AREAS: GRASS SEED APPLICATION SHALL BE SPREAD AT THE RATE OF 5 LBS. PER 1,000 SQUARE FEET, SEEDING SHALL BE ACCOMPLISHED BY MEANS OF A HYDRO-SEEDING PROCESS.

4.2) WATERING OF SEEDED AREAS: 24 HOURS AFTER HYDRO SEEDING, THE CONTRACTOR SHALL WATER THE SEEDED AREA LIGHTLY AND SUFFICIENTLY TO A DEPTH OF TWO INCHES (2) 2 TIMES A DAY (BETWEEN THE HOURS OF 7 PM AND 7 AM), UNTIL THE SEEDS ARE ESTABLISHED.

4.3) SEEDED AREA PROTECTION: THE CONTRACTOR SHALL ERECT SUITABLE SIGNS AND BARRICADES NOTIFYING THE PUBLIC TO KEEP OFF THE SEEDED AREAS UNTIL WELL ESTABLISHED. ANY TRAFFIC DAMAGE AND VANDALISM THAT MAY OCCUR PRIOR TO FINAL ACCEPTANCE OF THE WORK SHALL BE REPAIRED AND RESEEDED AT THE OWNER'S EXPENSE. ANY DISTURBED OR DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED IN ACCORDANCE WITH THE SPECIFICATIONS AT THE CONTRACTOR'S EXPENSE.

4.4) LAYING OF SOD: A KENTUCKY BLUEGRASS SOD MIX - BY LOCAL SOURCE AS SELECTED BY CONTRACTOR, SHALL BE FRESHLY CUT FROM THE SAME FIELD WITH 1/2 -3/4 INCHES OF SOIL. SOD SHALL BE LAID IMMEDIATELY WITH ANY STORED SOD BEING UNROLLED GRASS SIDE UP AND KEPT WATERED. LAY COURSES TIGHTLY TOGETHER WITHOUT OVERLAPPING WITH THE JOINTS STAGGERED. AFTER SODDING IS COMPLETE, ROLL LIGHTLY. THE CONTRACTOR SHALL WATER THE SODDED AREAS TO A DEPTH OF AT LEAST SIX INCHES AFTER THE SODDING PROCESS. OWNER SHALL THEN BE RESPONSIBLE FOR WATERING. THE FREQUENCY SHALL BE DETERMINED BY RAIN FALL AND WINDS WITH THE UPPER TWO OR THREE INCHES OF SOIL NOT DRYING OUT MARKEDLY.

4.5) SODDED AREA: INSPECTION AND ACCEPTANCE: FOUR WEEKS AFTER CONTRACTOR COMPLETES INSTALLATION, LANDSCAPE ARCHITECT SHALL INSPECT THE LAWN TO DETERMINE THE ACCEPTABILITY OF THE INSTALLATION. SODDED AREAS FAILING TO SHOW ADEQUATE ROOTING INTO THE SUBSOIL, OVERLAPPING, COURSE SEPARATION, UNEVENNESS OF THE SURFACE, UNEVEN COURSE COLOR AND EXCESSIVE BROADLEAF WEED CONTENT SHALL BE REPLACED. THE COST SHALL BE BORNE BY THE CONTRACTOR EXCEPT WHERE VANDALISM OR NEGLIGENCE ON THE PART OF OTHERS NOT UNDER THE CONTRACTOR'S CONTROL HAS RESULTED IN DAMAGE.

4.6) FINAL APPROVAL: SEEDED AND SODDED AREAS WILL RECEIVE FINAL APPROVAL IF COVERAGE IS FULL AND CONSISTENT, FREE OF BARE SPOTS AND WEED FREE. WHEN GRASS IS CUT AT 2" HEIGHT NO SOIL SHOULD BE VISIBLE. SOD AREAS MUST HAVE RECEIVED A MINIMUM OF TWO MOWINGS. AREAS SODDED AFTER NOVEMBER 1ST WILL BE ACCEPTED THE FOLLOWING SPRING - ONE MONTH AFTER THE START OF THE GROWING SEASON, IF THE ABOVE CRITERIA HAS BEEN MET.

## Maintenance:

5. 1) MAINTENANCE DURING INSTALLATION: MAINTENANCE OPERATIONS SHALL BEGIN IMMEDIATELY AFTER EACH PLANT IS PLANTED AND SHALL CONTINUE AS REQUIRED UNTIL FINAL ACCEPTANCE AND THEN FOR THE GUARANTEE PERIOD. PLANTS SHALL BE KEPT IN A HEALTHY, GROWING CONDITION BY WATERING, PRUNING, SPRAYING, WEEDING AND ANY OTHER NECESSARY OPERATIONS OF MAINTENANCE. PLANT SAUCERS AND BEDS SHALL BE KEPT FREE OF WEEDS, GRASS AND OTHER UNDESIRABLE VEGETATION. PLANTS SHALL BE INSPECTED AT LEAST ONCE PER WEEK BY THE CONTRACTOR DURING THE INSTALLATION PERIOD AND ANY NEEDED MAINTENANCE IS TO BE PERFORMED PROMPTLY.

5.2) GRASS AND WEED CONTROL: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MOWING ALL GRASS AROUND LANDSCAPE BEDS AND INDIVIDUAL TREES AND SHRUBS UNTIL FINAL ACCEPTANCE. WEED CONTROL AREAS SHALL INCLUDE ALL LANDSCAPE BEDS AND THE AREA WITHIN 2 FEET OF THE OUTER EDGE OF THE MULCH AREA OR INDIVIDUAL TREE/SHRUBS.

5.3) THE CONTRACTOR SHALL WATER, FERTILIZE, WEED, CULTIVATE, REMULCH, SPRAY TO CONTROL INSECT INFESTATION AND DISEASE AND PERFORM ANY OTHER GOOD HORTICULTURAL PRACTICE NECESSARY TO MAINTAIN THE PLANTS IN A LIVING HEALTHY CONDITION UPON THE TIME FOR TERMINATION OF HIS RESPONSIBILITY FOR CARE AS SET OUT HEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLANTS THROUGHOUT LIFE OF THE CONTRACT.

5.4) ALL PLANTS STOLEN, DAMAGED OR DESTROYED BY FIRE, AUTOMOBILES, VANDALISM OR ANY OTHER CAUSE, WITH THE EXCEPTION OF PLANTS DAMAGED OR DESTROYED BY THE OWNERS MAINTENANCE OPERATIONS, SHALL BE REPLACED BY THE OWNER PRIOR TO THE DATE OF FINAL ACCEPTANCE.

5.5) LANDSCAPE CONTRACTOR SHALL PREPARE MAINTENANCE SPECIFICATIONS AND SCHEDULE ANNUAL CARE OF ALL PLANTED AND LAWN AREAS INCLUDING FERTILIZING, WEEDING, MULCHING, BED EDGING, PRUNING AND PEST PREVENTION AND TREATMENT.

## Plant Material Guarantee:

\*CONTRACTOR SHALL GUARANTEE IN WRITING ALL PLANT MATERIAL AND LANDSCAPE IMPROVEMENTS FOR A PERIOD OF ONE YEAR. THE GUARANTEE IS TO INCLUDE THE FOLLOWING:

6. 1) INSPECTIONS: PERFORM PERIODIC INSPECTIONS DURING GUARANTEE PERIOD WITH RESULTING WRITTEN REPORTS TO OWNER, PROJECT ADMINISTRATOR AND LANDSCAPE ARCHITECT STATING CONDITIONS AND RECOMMEND MAINTENANCE MODIFICATIONS. THE CONTRACTOR MUST CONTACT THE OWNER AND LANDSCAPE ARCHITECT AT LEAST 10 DAYS IN ADVANCE TO SCHEDULE ACCEPTANCE INSPECTION(S).

6.2) REMOVAL AND REPLACEMENT OF PLANTS PROVIDED BY CONTRACTOR TO BE DONE WITHIN THIRTY DAYS OF NOTIFICATION BY OWNER OF THEIR UNSATISFACTORY CONDITION DURING GROWING SEASONS. REPLACEMENT MATERIALS MUST BE EQUAL IN TYPE AND SIZE PER THE PROJECT'S PLANT LIST.

6.3) WHEN REPLACEMENT PLANT SPECIES IS EITHER NOT READILY AVAILABLE OR NO LONGER SUITABLE TO EXISTING SITE CONDITIONS WRITTEN NOTICE RECOMMENDATION OF SUBSTITUTION TO BE PROVIDED TO THE OWNER AND LANDSCAPE ARCHITECT WITHIN FIFTEEN DAYS FOR APPROVAL.

6.4) REMOVAL OF TREES SUPPORTS AND DEAD LIMBS PRIOR TO END OF GUARANTEE INSPECTION PERIOD.

6.5) CONTINUE WITH MAINTENANCE, SEE SECTION 5.0

6.6) GUARANTEE SHALL BEGIN UPON DATE OF FINAL ACCEPTANCE FROM OWNER AND WILL CONTINUE FOR ONE YEAR.

## Site Cleanup:

7. 1) SITE WORK CONDITIONS: EXCESS WASTE MATERIAL SHALL BE REMOVED DAILY WHEN PLANTING IN AN AREA HAS BEEN COMPLETED, THE AREA SHALL BE CLEARED OF ALL DEBRIS, SOIL PILES AND CONTAINERS DAILY. WHERE EXISTING GRASS AREAS HAVE BEEN DAMAGED OR SCARRED DURING PLANTING OPERATIONS, THE CONTRACTOR SHALL RESTORE DISTURBED AREAS TO THEIR ORIGINAL CONDITIONS AT HIS EXPENSE.

7.2) CLEAN PAVED AREAS UTILIZED FOR HAULING OR EQUIPMENT STORAGE AT END OF EACH WORKDAY.

7.3) MAINTAIN VEHICLES AND EQUIPMENT IN CLEAN CONDITION TO PREVENT SOILING OF ROADS, WALKS OR OTHER PAVED OR SURFACED AREAS.

7.4) REMOVE PROTECTIVE BARRIERS AND WARNING SIGNS AT TERMINATION OF LAWN ESTABLISHMENT.

## Irrigation Notes:

8. 1) ALL IRRIGATION SYSTEM COMPONENTS SHALL BE SUPPLIED BY REGIONALLY AUTHORIZED DISTRIBUTORS TO PROVIDE SINGLE SOURCE RESPONSIBILITY FOR WARRANTY SERVICE AND OPERATIONS TO CONFORM TO SPECIFICATIONS IN ALL RESPECTS.

8.2) THE CONTRACTOR IS TO SUBMIT PLANS PREPARED BY A IRRIGATION SPECIALIST TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION.

8.3) ALL LINE VOLTAGE TO CONTROLLER AND ASSOCIATED BREAKER, CONDUIT ETC TO BE PERFORMED BY A LICENSED ELECTRICIAN.

8.4) ALL WIRES FOR RAIN SENSOR TO BE RUN IN SCHEDULE 40 PVC CONDUIT FOR APPLICATIONS IN EXPOSED AREAS UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT.

8.5) SLEEVES TO BE COORDINATED, LOCATED UNDER ALL HARDSCAPE FEATURES SUCH AS WALKS, WALLS AND DRIVEWAYS. THE CONTRACTOR IS TO IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT OF ALL CONFLICT AND DISCREPANCIES.

8.6) CONTRACTOR WILL REVIEW WITH CLIENT ALL IRRIGATION PROCEDURES AND PROCESSES (i.e. TIMERS, ZONES AND ALL OTHER ITEMS INVOLVED W/ THE IRRIGATION SYSTEM) AND PROVIDE NECESSARY DOCUMENTATION FOR OPERATION OF IRRIGATION SYSTEM.

8.7) THE CONTRACTOR IS TO PROVIDE WIRES FOR FUTURE EXPANSION IN 1/6" DIAMETER VALVE BOX AS DIRECTED BY THE LANDSCAPE ARCHITECT OR CLIENT.

8.8) UNLESS INDICATED OTHERWISE, ALL PLANT BEDS ARE TO BE IRRIGATED WITH DRIP IRRIGATION, ALL LAWN AREAS TO BE IRRIGATED WITH SPRAY HEADS. MODELS/TYPES T..B.D. AND VERIFIED BY LANDSCAPE ARCHITECT AND IRRIGATION CONTRACTOR.



**Hawk Design, Inc.**  
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Land Planning  
Sagamore, MA  
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HAWK DESIGN, INC. 2021

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Date: 12/16/21

### Revisions:

Num.	Date	Description
1.	1/20/22	Revise per TAC comments

**Cate Street Development, LLC.**

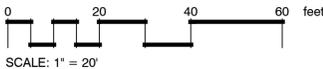
**Route 1 Bypass / Hodgdon Way  
Portsmouth, New Hampshire**

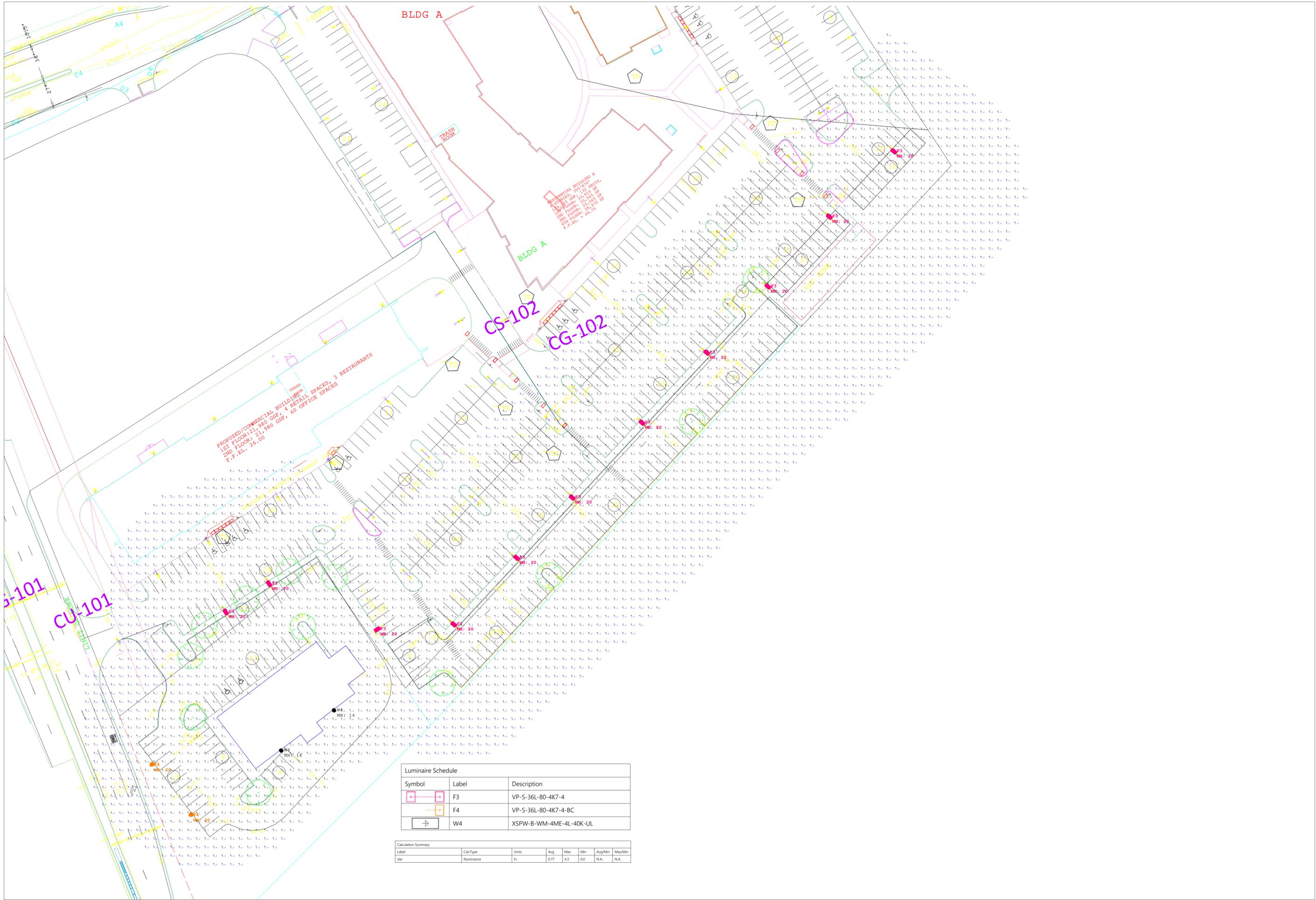
Drawn By: BNL      Checked By: TEM

**Planting  
Notes**

Scale: 1" = 20'-0"

Sheet: **L4**





PROPOSED COMMERCIAL BUILDING  
 1ST FLOOR: 21,980 GSF  
 2ND FLOOR: 21,990 GSF  
 F.F. EL.: 26.00

PROPOSED RESIDENTIAL BUILDING A  
 1ST FLOOR: 13,410 GSF  
 2ND FLOOR: 13,410 GSF  
 F.F. EL.: 26.00

Symbol	Label	Description
	F3	VP-S-36L-80-4K7-4
	F4	VP-S-36L-80-4K7-4-BC
	W4	XSPW-B-WM-4ME-4L-40K-UL

Label	CalcType	Units	Avg	Max	Min	Arg/Min	Max/Min
site	Iluminance	Fc	0.77	4.3	0.0	NA	NA

#	Date	Comments

Drawn By: MC
Checked By: MC
Date: 1/19/2022
Scale:

West End Yards - Site  
 Jan 19, 2022

