CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting
Meeting Location: 1st Floor Conference Room – City Hall, Dover NH
Meeting Date: **Thursday, August 1, 2019**
Meeting Time: **10:30 am**

1. 10:30 AM – 11:15 AM: Site Review with Transfer of Development Rights for Thomas C. Strange, Assessor's Map 24, Lot 75, zoned CBD-Gateway, and located at 96 Portland Avenue. (Applicant received conditional approval from the Planning Board on 02/12/19 to purchase two additional units through TDR. One condition of approval was to have TRC review the plan set for administrative approval prior to issuance of a Building Permit). *(P19-07)

BERRY SURVEYING & ENGINEERING
335 Second Crown Point Road
Barrington, NH 03825
Phone: (603) 332-2863
Fax: (603) 335-4623
www.BerrySurveying.Com

July 9, 2019

City of Dover
Planning Office
Attn: Donna Benton, City Planner
288 Central Ave
Dover, NH 03820

RE: Minor Site Plan & TDR Request
Thomas Strange
96 Portland Ave.
Dover, NH
Tax Map 24, Lot 75

Mrs. Benton,

Enclosed please find the following required material in support of the TDR development off Portland Ave. for discussion at TRC:

- 9 Copies of a narrative
- 9 Copies of the full size plan set
- 2 Full Drainage Analyses
- 1 CD containing the same

Thank you for your time and attention to this matter.

BERRY SURVEYING & ENGINEERING

Christopher R. Berry
Principal, President

BERRY SURVEYING & ENGINEERING
335 Second Crown Point Road
Barrington, NH 03825
Phone: (603) 332-2863
Fax: (603) 335-4623
www.BerrySurveying.Com
crberry@metrocast.net

July 2, 2019

City of Dover
Attention: Assistant City Planner Donna Benton
288 Central Ave
Dover, NH 03820

Re: Minor Site Plan & TDR Request
Thomas Strange
96 Portland Ave.
Dover, NH
Tax Map 24, Lot 75

Dear Mrs. Benton,

On behalf of our client, Thomas Strange, Berry Surveying & Engineering (BS&E) is submitting to the City of Dover TRC a Transfer of Development Rights (TDR) request to purchase two additional units within the Central Business District (CBD) Gateway district.

Background and General Narrative:

The project site is located at 96 Portland Ave. and is 12,219 Sq.Ft., in size. During the spring months of 2018 BS&E surveyed the site and has compiled an existing conditions plan with topographic features generally shown on the site and abutting infrastructure. The site contains a New Englander style duplex. There are two driveway cuts on site, one to each side of the house, with a large back yard that is open and un-vegetated. The existing boundary line to the east and north contain larger trees, while the boundary to the west contains an existing wood fence. The site is serviced by municipal water and sewer.

The Proposal:

The applicant is requesting to purchase two additional units using the TDR so that the site contains a total of 4 units. A basic sketch has been prepared to show how the structure can be placed on the lot, and provide a simple driveway to a small parking area to the rear of the site.

In terms of context to the surrounding are, BS&E has worked with the owner and his building designers to create a duplex that fits the neighborhood from a bulk and space standpoint. It is not uncommon for lots of this size and shape to have accessory barn or garage structures on site, and is permitted by right within the zone. With that in mind, the intent of the building design is to

appear as though it is an accessory structure. A stouter two story building with varying rooflines was designed to better fit with the surroundings, without over powering the area.
The building is was tucked behind the existing structure so that it was not noticeable from the street, and placed against the westerly boundary line behind the abutting barn structure to reduce impact on abutting land owners. The driveway will remain nearly unchanged from the street approach, but extended to the developed area to the rear. There is an emphasis on this design to keep the large vegetation that is along the perimeter boundary lines. In addition to visual benefit, the large over story helps reduce the impacts of impervious surfaces and thermal impacts. Some additional screening is being proposed towards the structure situated along the eastern boundary line with an increase in vegetation towards the rear of the site. An additional tree is being proposed to the western rear of the existing structure to obscure the view of the new building from Portland Ave. up the existing western driveway.

In developing this site in this way, the spirit of the CBD-Gateway is better adhered to. This development increases density within the urban core without sacrificing the visual appeal of Portland Ave. The building coverage is increased by 12% bringing the site closer to compliance with the 50% minimum coverage requirement. In review of the street, areas to the east and west have street trees and a general over story while this stretch of Portland Ave. does not.
One street tree is being proposed as an additional step toward compliance with the spirit of the CBD-Gateway.

We reviewed the abutting land uses and unit development to determine if the addition of the two units were appropriate for the area. The following is a list of abutting properties on the street and the general density found in the area:

- 100 Portland Street contains 4 units on approximately 10,000 Sq.Ft.
- 2 Hancock Street contains 4 units on approximately 8,700 Sq.Ft.
- 94, 98 & 92 Portland Street are lots that contain duplexes
- 101 Portland Street contains 4 units on approximately 12,600 Sq.Ft.
- 103 Portland Street contains 4 units on approximately 11,700 Sq.Ft.
- 109, 111, 115 & 119 Portland Street are all lots that contain 4 units.

It was our assessment of the neighborhood that this area largely contains four units per lot. In review of an aerial photo, it is seen that all of these examples contain large parking areas to the front or sides of the buildings. The intent of applicant is to provide a similar density that the existing neighborhood contains while hiding it from view through the use of good design, placement and vegetation retention.

BERRY SURVEYING & ENGINEERING
335 Second Crown Pt. Rd., Barrington, NH 03825
(603) 332-2863 / (603) 335-4623 FAX
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Low impact storm water design has been considered for the project site with the installation of a stone lined drip edge and small residential rain garden. A brief Erosion and Sediment control plan has been compiled to aid the owner in compliance with local storm water regulations during the construction process, with basic construction details found at the rear of the plan set.

Respectfully Submitted
BERRY SURVEYING & ENGINEERING

Christopher R. Berry
Principal, President

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SHEET 6 ~ EROSION & SEDIMENT CONTROL PLAN
SHEET 7 ~ UTILITY PLAN
SHEET 9 ~ E101–SEDIMENT & EROSION DETAILS
SHEET 10 ~ E102–SEDIMENT & EROSION DETAILS
SHEET 11 ~ C101–CONSTRUCTION DETAILS
SHEET 11 ~ C102–CONSTRUCTION DETAILS
SHEET 12 ~ U101–UTILITY CONSTRUCTION DETAILS

MINOR SITE PLAN
FOR
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24, LOT 75

NOTE:

BERRY SURVEYING & ENGINEERING HAS PREPARED AN INSPECTION & MAINTENANCE MANUAL AS PART OF THIS PROJECTS DOCUMENTATION. ALL USERS ARE BOUND TO THIS DOCUMENT AS PART OF THE APPROVAL OF THE PLANNING BOARD. COPIES OF THE YEARLY INSPECTIONS ARE TO BE DELIVERED TO THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT.

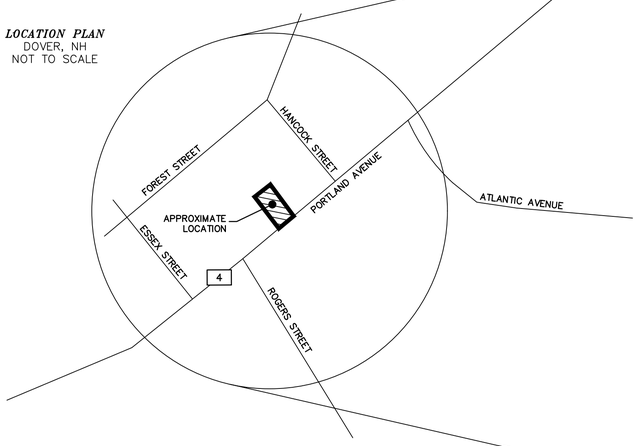
OWNER: THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, NH 03820

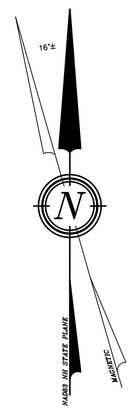
APPLICANT: THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, NH 03820

SURVEYOR OF RECORD: KENNETH A. BERRY, PE, LLS
CPSWQ, CPESC, CESSWI
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332–2863

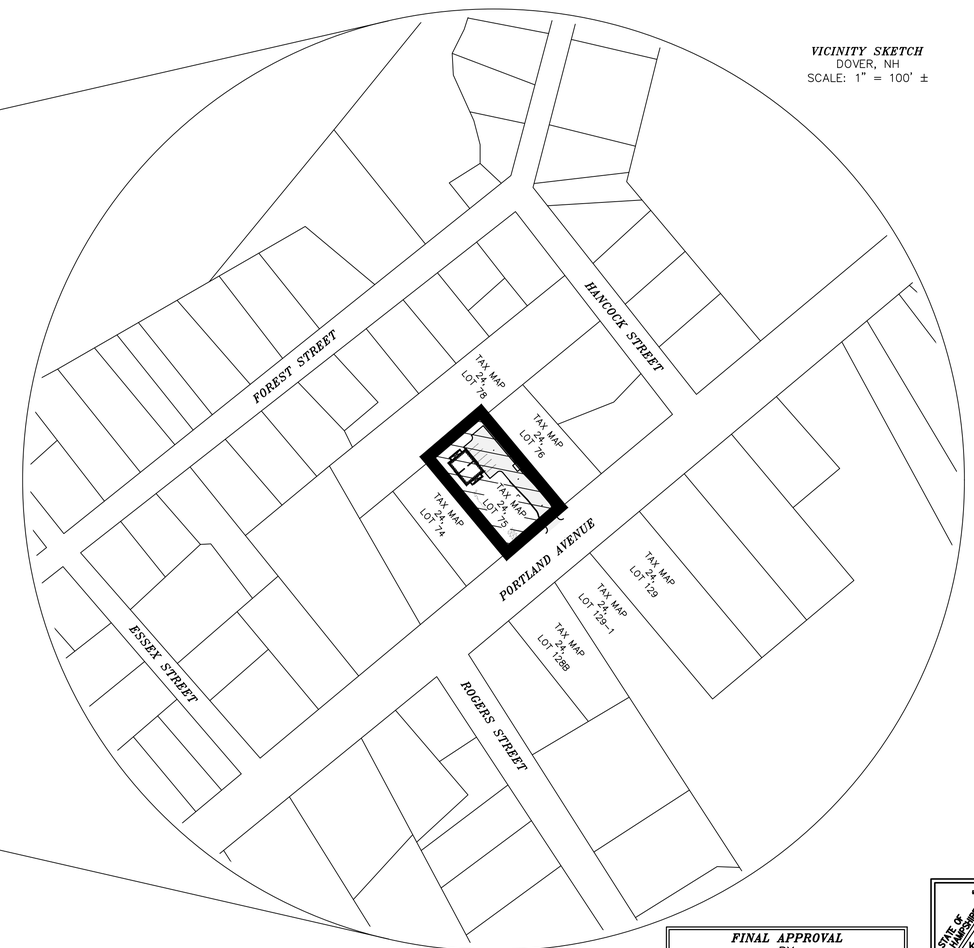
ENGINEER OF RECORD: KENNETH A. BERRY, PE, LLS
CPSWQ, CPESC, CESSWI
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332–2863

LOCATION PLAN
DOVER, NH
NOT TO SCALE





VICINITY SKETCH
DOVER, NH
SCALE: 1" = 100' ±



WHETHER OR NOT OTHERWISE EXPRESSLY RECITED ON THIS SITE PLAN, THE SITE PLAN APPROVAL GRANTED IS CONDITIONED ON FAITHFUL AND DILIGENT ADHERENCE BY THE OWNER/SUBDIVIDER/DEVELOPER OF ALL TERMS, CONDITIONS, PROVISIONS AND SPECIFICATIONS OF THE CITY OF DOVER LAND SITE PLAN REGULATIONS AS AMENDED OR AS MAY LATER BE AMENDED, IN EFFECT ON THE DATE OF APPROVAL, UNLESS OR EXCEPT INSOFAR AS EXPRESSLY WAIVED, IN ANY PARTICULAR, BELOW. NON – ADHERENCE MAY RESULT IN A REVOCATION OF APPROVAL. ANY VARIATION FROM THE APPROVED PLAN WILL REQUIRE A RESUBMISSION FOR SITE PLAN APPROVAL.

GENERAL PLAN SET NOTES:

1.) 11x17" PLANS ARE HALF THE PUBLISHED SCALE.

2.) ALL PLANS ARE CONSIDERED TO BE NOT FOR CONSTRUCTION UNLESS THEY CONTAIN THE APPROVAL STAMP OF THE CITY OF DOVER.

FINAL APPROVAL
BY
DOVER PLANNING BOARD

CERTIFIED BY : _____

DATE : _____

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 805 KENNETH A. BERRY SIGNATURE

REVISION	DATE	DESCRIPTION

SITE PLAN
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : AS SHOWN
DATE : JULY 2, 2019
FILE NO. : DB 2018 – 067

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED
PROFESSIONAL ENGINEER

ABBREVIATION LEGEND:

E.O.P.	EDGE OF PAVEMENT
BITUM.	BITUMINOUS
B.C.C.	BITUMINOUS CONCRETE CURB
V.G.C.	VERTICAL GRANITE CURB
E.S.H.W.T.	ESTIMATE SEASONAL HIGH WATER TABLE
TYP.	TYPICAL
U.G.E.	UNDER GROUND ELECTRIC / UTILITY
U.D.	UNDER DRAIN
C.O.	CLEAN OUT
INV.	INVERT
ELEV.	ELEVATION
C.I.	CAST IRON
ACP	ASBESTOS CLAY PIPE
HDPE	HIGH DENSITY POLYETHYLENE
RECB	ROLLED EROSION CONTROL BLANKET
F.G.	FINISHED GRADE
E.G.	EXISTING GRADE
L.F.	LINEAR FOOT
F.F.	FINISHED FLOOR
FND	FOUND
T.B.R.	TO BE REMOVED
PL	PROPERTY LINE
T.B.M.	TEMPORARY BENCHMARK
CL	CENTER LINE
P.C.	POINT OF CURVATURE
P.T.	POINT OF TANGENCY
P.V.C.	POINT OF VERTICAL CURVE
P.V.I.	POINT OF VERTICAL INTERSECTION
P.V.T.	POINT OF VERTICAL TANGENCY
EX.	EXISTING
PROP.	PROPOSED
STA.	STATION
'/,	FEET / FEET

{ } SSL ( ) ~ {SIZE} SINGLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
{ } DSL ( ) ~ {SIZE} DOUBLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
{ } SSB ( ) ~ {SIZE} SINGLE SOLID W/ BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
{ } SBL ( ) ~ {SIZE} SINGLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
{ } DBL ( ) ~ {SIZE} DOUBLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)

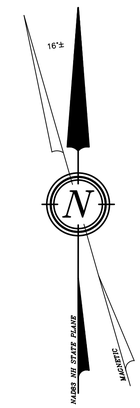
EXISTING LEGEND:

- IRON BOUND/REBAR ~FND~
- IRON PIPE ~FND~
- STEEL STAKE ~FND~
- UTILITY POLE
- GUY WIRE
- GATE VALVE
- SEWER MANHOLE W/STRUCTURE
- DRAIN MANHOLE W/STRUCTURE
- CATCH BASIN W/STRUCTURE
- EXISTING TREE
- WATER LINE
- GAS LINE
- OVERHEAD UTILITIES
- CONTOUR MAJOR
- CONTOUR MINOR
- BUILDING SETBACK LINE
- DRAIN LINE
- SEWER LINE
- FND FOUND
- TYP TYPICAL
- S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS

PROPOSED LEGEND:

- OUTLET STRUCTURE
- FLOW ARROW
- TEMPORARY BENCH MARK (T.B.M.)
- DETAIL SHEET / DETAIL
- CONTOUR MINOR
- CONTOUR MAJOR
- CULVERT W/ FLARED END SECTION (F.E.S.)
- CENTER LINE
- BUILDING SETBACK LINE
- UNDERGROUND UTILITY
- UNDER DRAIN
- GAS LINE
- WATER LINE
- SEWER LINE
- SILT FENCE / EROSION MIX BERM
- FILTREXX 8" – 12" SILT SOXX AS SPECIFIED
- ORANGE CONSTRUCTION PERIMETER FENCE
- SOIL TYPE
- RIP RAP
- RAIN GARDEN
- BERM

GIS SKETCH
DOVER, NH
SCALE: 1" = 200' ±



REVISION	DATE	DESCRIPTION

NEIGHBORHOOD PLAN
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS SHOWN
DATE : JULY 2, 2019
FILE NO. : DB 2018 – 067

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14241
LICENSED
PROFESSIONAL ENGINEER

SHEET 1 OF 12

ABUTTERS WITHIN 200':

N/F SPELLMEYER, JAY C.
90 PORTLAND AVENUE
DOVER, NH 03820
TAX MAP 24, LOT 72
S.C.R.D. BOOK 4341, PAGE 415

N/F BROSSEAU, ERIC
114 CABOT STREET
PORTSMOUTH, NH 03801
TAX MAP 24, LOT 73
S.C.R.D. BOOK 3205, PAGE 443

N/F KOZLOWSKI, KRYSTIAN E.
94 PORTLAND AVENUE
DOVER, NH 03820
TAX MAP 24, LOT 74
S.C.R.D. BOOK 4465, PAGE 74

N/F HENRY, JOSHUA M. & JULIA S.
283 OLD GARRISON ROAD
DOVER, NH 03820
TAX MAP 24, LOT 76
S.C.R.D. BOOK 2905, PAGE 1

N/F MAZ WOODS PROPERTIES LLC
303 OLD GARRISON ROAD
DOVER, NH 03820
TAX MAP 24, LOT 77
S.C.R.D. BOOK, 3780, PAGE 185

ABUTTERS WITHIN 200':

N/F ZELLEM, THEODORE & TERESA M.
56 ROLLINS ROAD
ROLLINSFORD, NH 03869
TAX MAP 24, LOT 77A
S.C.R.D. BOOK 1642, PAGE 751

N/F CITY OF DOVER
288 CENTRAL AVENUE
DOVER NH 03820
TAX MAP 24, LOT 78

N/F RAY THOMAS H & KIMBERLY A.
45 FOREST STREET
DOVER, NH 03820
TAX MAP 24, LOT 79
S.C.R.D. BOOK 3774, PAGE 166

N/F CHAMBERLAIN, ELIZABETH A.
1801 CRYSTAL DRIVE, APT 1104
ARLINGTON, VA 22202
TAX MAP 24, LOT 80
S.C.R.D. BOOK 2843, PAGE 247

N/F BEAUDOIN, MATTHEW J. & EMILY M.
43 1/2 FOREST STREET
DOVER, NH 03820
TAX MAP 24, LOT 81
S.C.R.D. BOOK, 4489, PAGE 129

ABUTTERS WITHIN 200':

N/F ROBERTSON, TODD D.
41 FOREST STREET
DOVER, NH 03820
TAX MAP 24, LOT 82
S.C.R.D. BOOK 4454, PAGE 287

N/F PAOLINI, GARRETT ASHER
195 LONG HILL ROAD
DOVER, NH 03820
TAX MAP 24, LOT 83
S.C.R.D. BOOK 4606, PAGE 809

N/F STERNDALE, CHRISTIAN R.
60 MILL ROAD
DURHAM, NH 03824
TAX MAP 24, LOT 84
S.C.R.D. BOOK 2825, PAGE 703

N/F COOPER, VAUGHN S. & ERIKA ORNS
291 FAIR OAKS STREET
WEXFORD, PA 15090
TAX MAP 24, LOT 85
S.C.R.D. BOOK 3036, PAGE 558

N/F TIRABASSI, ANTHONY V.
29 FOREST STREET
DOVER, NH 03820
TAX MAP 24, LOT 86
S.C.R.D. BOOK, 4049, PAGE 226

ABUTTERS WITHIN 200':

N/F MORSE, MICHAEL & NANCY
25 FOREST STREET
DOVER, NH 03820
TAX MAP 24, LOT 87
S.C.R.D. BOOK 1581, PAGE 48

N/F 99 PORTLAND AVE LLC
13 HOLLY LANE
HAMPTON, NH 03842
TAX MAP 24, LOT 116A
S.C.R.D. BOOK 4440, PAGE 915

N/F ATKINSON GREEN LLC
310 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP 24, LOT 128 & 128B
S.C.R.D. BOOK 2257, PAGE 344

N/F 111–113 PORTLAND AVE LLC
63 LINDEN STREET
EXETER, NH 03833
TAX MAP 24, LOT 129
S.C.R.D. BOOK 4396, PAGE 998

N/F MCBEAU LLC
51 SIXTH STREET
DOVER, NH 03820
TAX MAP 24, LOT 129–1
S.C.R.D. BOOK 2390, PAGE 278

ABUTTERS WITHIN 200':

N/F MCBEAU LLC
51 SIXTH STREET
DOVER, NH 03820
TAX MAP 24, LOT 129–2
S.C.R.D. BOOK 2390, PAGE 278

N/F DONNELLY, MARILYN F. & TIMOTHY
4 FAIRWAY DRIVE
DOVER, NH 03820
TAX MAP 24, LOT 130
S.C.R.D. BOOK 1891, PAGE 439

EXISTING LEGEND:

- IRON BOUND/REBAR ~FND~
- IRON PIPE ~FND~
- STEEL STAKE ~FND~
- UTILITY POLE
- GUY WIRE
- GATE VALVE
- SEWER MANHOLE W/STRUCTURE
- DRAIN MANHOLE W/STRUCTURE
- CATCH BASIN W/STRUCTURE
- EXISTING TREE
- EWL — EXISTING WATER LINE
- OHU — OVER HEAD UTILITIES
- GAS — EXISTING GAS LINE
- 70 — EXISTING CONTOUR MAJOR
- 72 — EXISTING CONTOUR MINOR
- EXISTING BOUNDARY LINE
- BUILDING SETBACK LINE
- EXISTING DRAIN LINE
- EXISTING SEWER LINE
- FND — FOUND
- TYP — TYPICAL
- S.C.R.D. — STRAFFORD COUNTY REGISTRY OF DEEDS

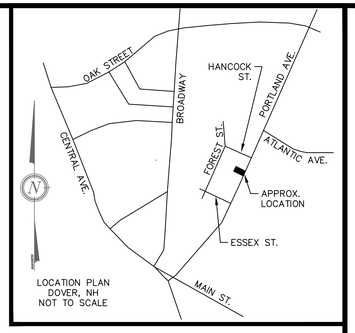
SOILS:

BzB — BUXTON SILT LOAM, 3 TO 8 PERCENT SLOPES

SEE WEBSOIL USDA–NRCS

PLAN REFERENCES:

1. "LOT LINE ADJUSTMENT PLAN PREPARED FOR 109 PORTLAND AVENUE CONDOMINIUMS AND TIMOTHY A. & MARILYN F. DONNELLY, TAX MAP 24, LOT NOS. 129–1 & 130, 109 & 119–121 PORTLAND AVENUE, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE"
   DATED: FEBRUARY 3, 2017
   BY: MCENEANEY SURVEY ASSOCIATES, INC.
   S.C.R.D. PLAN #115–008
2. "CONDOMINIUM SITE PLAN FOR GREENBROOK LLC, 3 & 3A HANCOCK ST, TAX MAP 26, LOT 28B, DOVER, NH"
   DATED: MARCH 16, 2015
   BY: ROSS ENGINEERING
   S.C.R.D. PLAN #109–26
3. "SUBDIVISION OF LAND PREPARED FOR MCBEAU LLC, TAX MAP 24, LOT NO. 129, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE"
   DATED: JUNE 19, 2003
   BY: MCENEANEY SURVEY ASSOCIATES, INC.
   S.C.R.D. PLAN #71–95
4. "PLAN OF LAND, DOVER, NEW HAMPSHIRE, FOR MARTIN F. & PRISCILLA M. SMITH"
   DATED: MAY 14, 1986
   BY: J. W. DURGIN
   FILE #R–330,
   PLAN #R–506
   NOT RECORDED
4. "PLAN OF LOTS, HUGH MCMAHON, PORTLAND AVE. DOVER NEW HAMPSHIRE"
   DATED: JUNE 1973
   BY: G. L. DAVIS & ASSOCIATES
   CITY OF DOVER POCKET #3, FOLDER #4, PLAN #55
5. "PLAN OF LOTS IN DOVER, N.H. OWNED BY J. B. GUPPY"
   DATED: SEPTEMBER 8, 1908
   BY: WILLIAM A. GROVER
   CITY OF DOVER PLAN #25, POCKET #7, FOLDER #4



LOCATION PLAN
DOVER, NH
NOT TO SCALE

NOTES:

1.) OWNER: THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, NH 03820

2.) TAX MAP 24, LOT 75

3.) LOT AREA: 12,251 Sq. Ft., 0.28 Ac.

4.) S.C.R.D. BOOK 4565, PAGE 389

5.) ZONING: CBD – DOWNTOWN GATEWAY SUB–DISTRICT
FRONTAGE ~ N/A
MIN. LOT SIZE ~ N/A
MIN. LOT COVERAGE ~ 50%
FRONTAGE BUILD–OUT ~ 60% MIN.
FRONT PRIMARY BUILD–TO LINE ~ 5.0' MIN.–20.0' MAX.
FRONT SECONDARY BUILD–TO LINE ~ 5.0' MIN.–20.0' MAX.
REAR SETBACK ~ 0'
SIDE SETBACK ~ 5.0'
WETLANDS BUFFER ~ N/A
PRINCIPAL BUILDING HEIGHT: 2 STORY MIN.–4 STORY MAX.

6.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, PART OF THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF.: FEMA COMMUNITY# –330145, MAP# – 33017C0330E, DATED: SEPTEMBER 30, 2015.

7.) VERTICAL DATUM BASED ON USGS NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.

8.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PREFORMED BY BERRY SURVEYING AND ENGINEERING IN THE SPRING OF 2018 WITH AN ERROR OF CLOSURE GREATER THAN 1 IN 10,000.

9.) TOPOGRAPHIC SURVEY PREFORMED IN SPRING OF 2018 UNDER NO SNOW CONDITIONS.

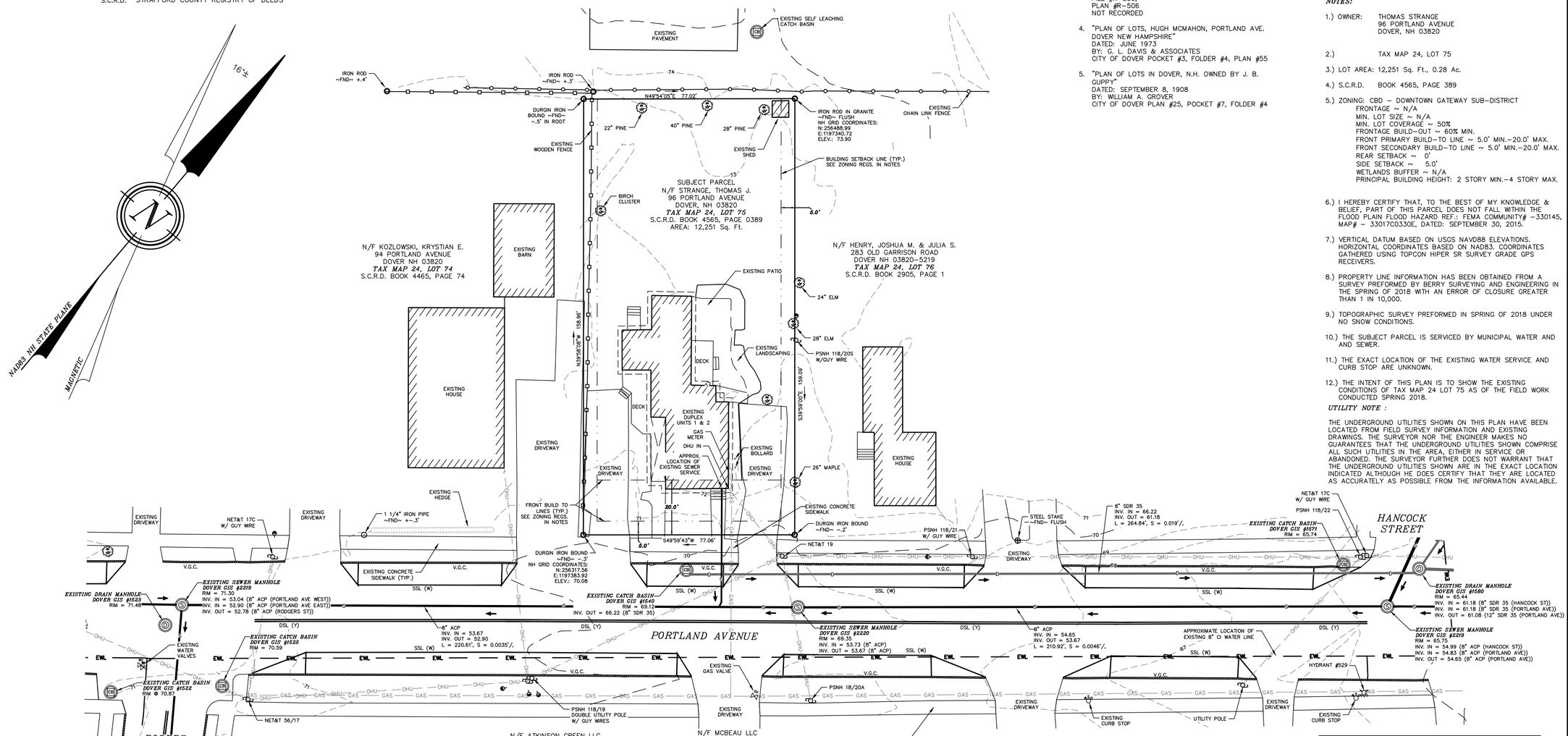
10.) THE SUBJECT PARCEL IS SERVICED BY MUNICIPAL WATER AND AND SEWER.

11.) THE EXACT LOCATION OF THE EXISTING WATER SERVICE AND CURB STOP ARE UNKNOWN.

12.) THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF TAX MAP 24 LOT 75 AS OF THE FIELD WORK CONDUCTED SPRING 2018.

UTILITY NOTE :

THE UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR NOR THE ENGINEER MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

I CERTIFY THAT THIS PLAT EXCEEDS THE MINIMUM REQUIREMENT FOR ACCURACY AND COMPLETENESS OF THE STATE OF N.H. AND OF THE CITY OF DOVER, N.H.– 1:10,000 –

KENNETH A. BERRY LLS 805 DATE

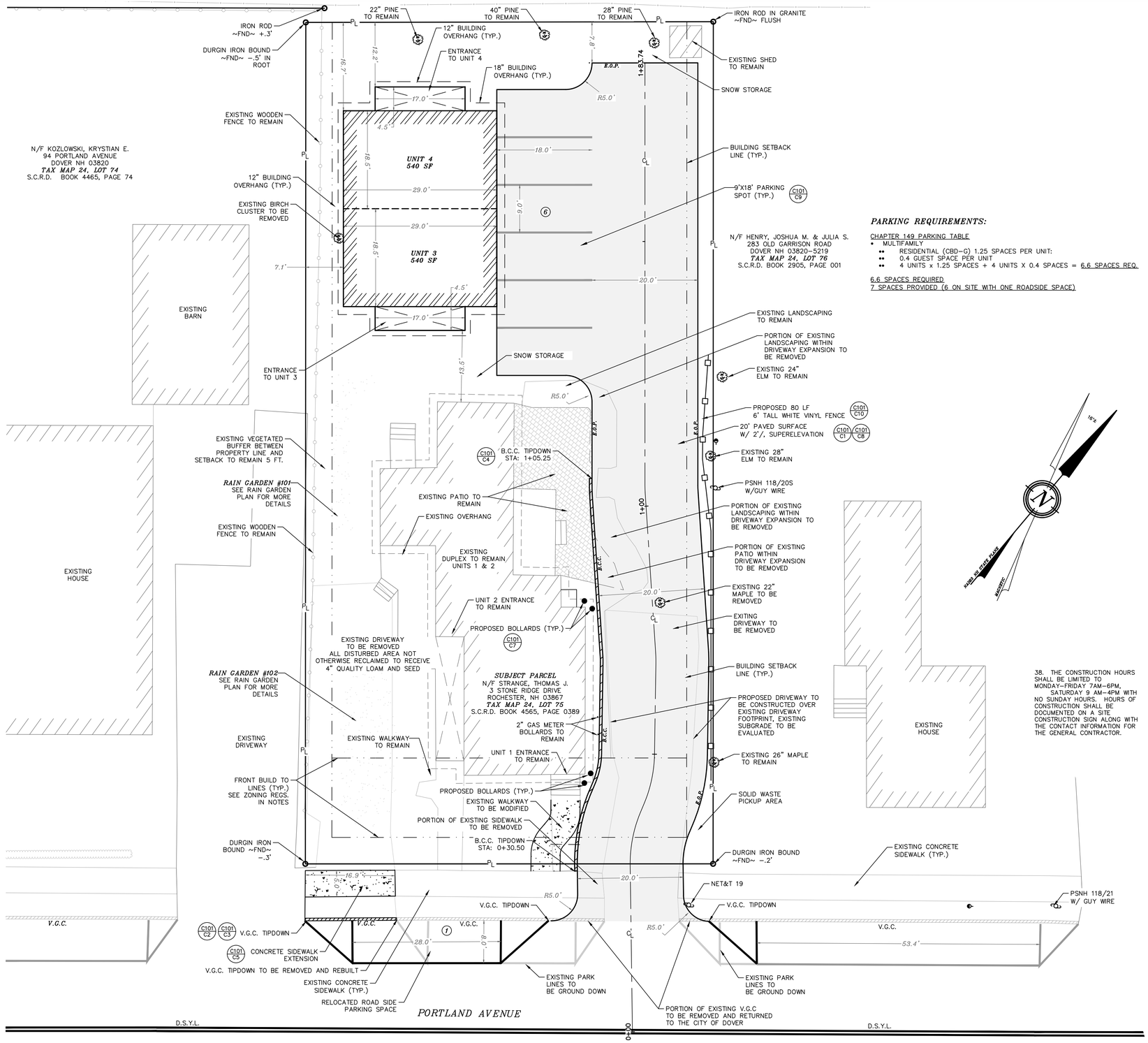
REVISION	DATE	DESCRIPTION

EXISTING CONDITIONS PLAN
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

BERRY & SURVEYING ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : JULY 2, 2019
FILE NO. : DB 2018 – 067

STATE OF NEW HAMPSHIRE
No 805
KENNETH A. BERRY
LICENSED LAND SURVEYOR
SIGNATURE



PARKING REQUIREMENTS:

CHAPTER 149 PARKING TABLE

- MULTIFAMILY
  - RESIDENTIAL (CBD–G) 1.25 SPACES PER UNIT:
  - 0.4 GUEST SPACE PER UNIT
  - 4 UNITS x 1.25 SPACES + 4 UNITS X 0.4 SPACES = 6.6 SPACES REQ.

6.6 SPACES REQUIRED
7 SPACES PROVIDED (6 ON SITE WITH ONE ROADSIDE SPACE)

NOTES:

1. OWNER: THOMAS STRANGE
   96 PORTLAND AVENUE
   DOVER, NH 03820
2. TAX MAP 24, LOT 75
3. LOT AREA: 12,251 Sq.Ft., 0.28 Ac.
4. S.C.R.D. BOOK 4565, PAGE 389
5. ZONING: CBD DOWNTOWN GATEWAY SUB–DISTRICT
   FRONTAGE ~ N/A
   LOT SIZE ~ N/A
   LOT COVERAGE ~ 50% MIN.
   FRONTAGE BUILD–OUT ~ 60% MIN.
   FRONT PRIMARY BUILD–TO LINE ~ 5.0' MIN.–20.0' MAX.
   FRONT SECONDARY BUILD–TO LINE ~ 5.0' MIN.–20.0' MAX.
   REAR SETBACK ~ 0'
   SIDE SETBACK ~ 5.0'
   WETLANDS BUFFER ~ N/A
   PRINCIPAL BUILDING HEIGHT: 2 STORY MIN.–4 STORY MAX
6. I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF.: FEMA COMMUNITY #330145, MAP #33017C0330E, DATED: SEPTEMBER 30, 2015.
7. VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
8. THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN SPRING OF 2018, WITH AN ERROR OF CLOSURE OF 1 PART IN 27,998
9. THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED SITE PLAN ELEMENTS ON TAX MAP 24, LOT 75.
10. THE EXISTING LOT BUILDING COVERAGE IS 2,287 Sq.Ft, 18.7%
11. THE PROPOSED LOT BUILDING COVERAGE IS 3,699 Sq.Ft., 30.2%
12. AS–BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON A REPRODUCIBLE MYLAR MEDIUM AND IN A DIGITAL DXF FORMAT ON DISK TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT. AS–BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E.
13. ALL ON–SITE UTILITIES SHALL BE INSTALLED UNDERGROUND.
14. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
15. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
16. APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
17. ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.
18. THE LIMITS OF CONSTRUCTION DISTURBANCE SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO THE COMMENCEMENT OF SITE WORK.
19. BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING INSPECTOR AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
20. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY: NONE
21. THIS PLAN PROPOSES 8,650 ± SQ. FT. OF DISTURBANCE.
22. CALL DIG SAFE PRIOR TO BEGINNING WORK (1–888–344–7233)
23. ALL CONSTRUCTION SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. CONSTRUCTION SHALL ALSO CONFORM TO THE CITY OF DOVER POLICIES AND PRACTICES.
24. WRITTEN DIMENSION ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR IS TO CONFIRM ALL ELEVATIONS. CONFLICTS WILL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.
25. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.
26. THE PROPOSAL IS TO KEEP THE EXISTING TWO UNIT STRUCTURE AND PURCHASE TWO ADDITIONAL UNITS THROUGH THE USE OF THE CITY OF DOVER TRANSFER OF DEVELOPMENT RIGHTS (TDR), A TWO UNIT BUILDING TO THE REAR OF THE SITE.
27. LIST ANY VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD IF ADJUSTMENT: NONE
28. THE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY–FRIDAY 7AM–6PM, SATURDAY 9AM–4PM WITH NO SUNDAY HOURS. HOURS OF CONSTRUCTION SHALL BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR.
29. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
30. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED. SITE PLANS SHALL SHOW ANY EASEMENTS FOR THESE SERVICES IF REQUIRED.
31. FROM GROUND BREAKING THE SITE SHALL REMAIN ACCESSIBLE YEAR ROUND IN ALL WEATHER CONDITIONS.
32. A PROFESSIONAL EXTERMINATOR IS TO BE CALLED A MINIMUM OF THREE WEEKS AHEAD OF GROUND BREAKING AND PEST CONTROL DEVICES ARE TO BE SET A MINIMUM OF TWO WEEKS BEFORE GROUND BREAKING.
33. SOLID WASTE WILL BE REMOVED FROM THE SITE VIA A SOLID WASTE PICKUP AREA.
34. EXISTING UNITS WILL ACCESS FROM THE SAME LOCATIONS
35. IF REQUIRED, SNOW SHALL BE REMOVED TO AN APPROVED LOCATION.
    PAVEMENT COVERAGE: 4,470 Sq. Ft.
    SNOW STORAGE: 745 Sq. Ft.
    6:1 RATIO PROVIDED
36. LOT 75
    EXISTING BUILDING COVERAGE: 2,287 Sq. Ft. (18.7%)
    EXISTING PAVED IMPERVIOUS AREA: 2,026 Sq. Ft. (16.5%)
    TOTAL EXISTING IMPERVIOUS COVER: 4,313 Sq. Ft. (35.2%)
    PROPOSED BUILDING IMPERVIOUS AREA: 3,699 Sq. Ft. (30.2%)
    PROPOSED PAVED IMPERVIOUS AREA: 4,470 Sq. Ft. (36.5%)
    TOTAL PROPOSED IMPERVIOUS COVER IS 8,169 Sq. Ft. (66.7%)
38. THE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY–FRIDAY 7AM–6PM, SATURDAY 9 AM–4PM WITH NO SUNDAY HOURS. HOURS OF CONSTRUCTION SHALL BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR.

GRAPHIC SCALE

20 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

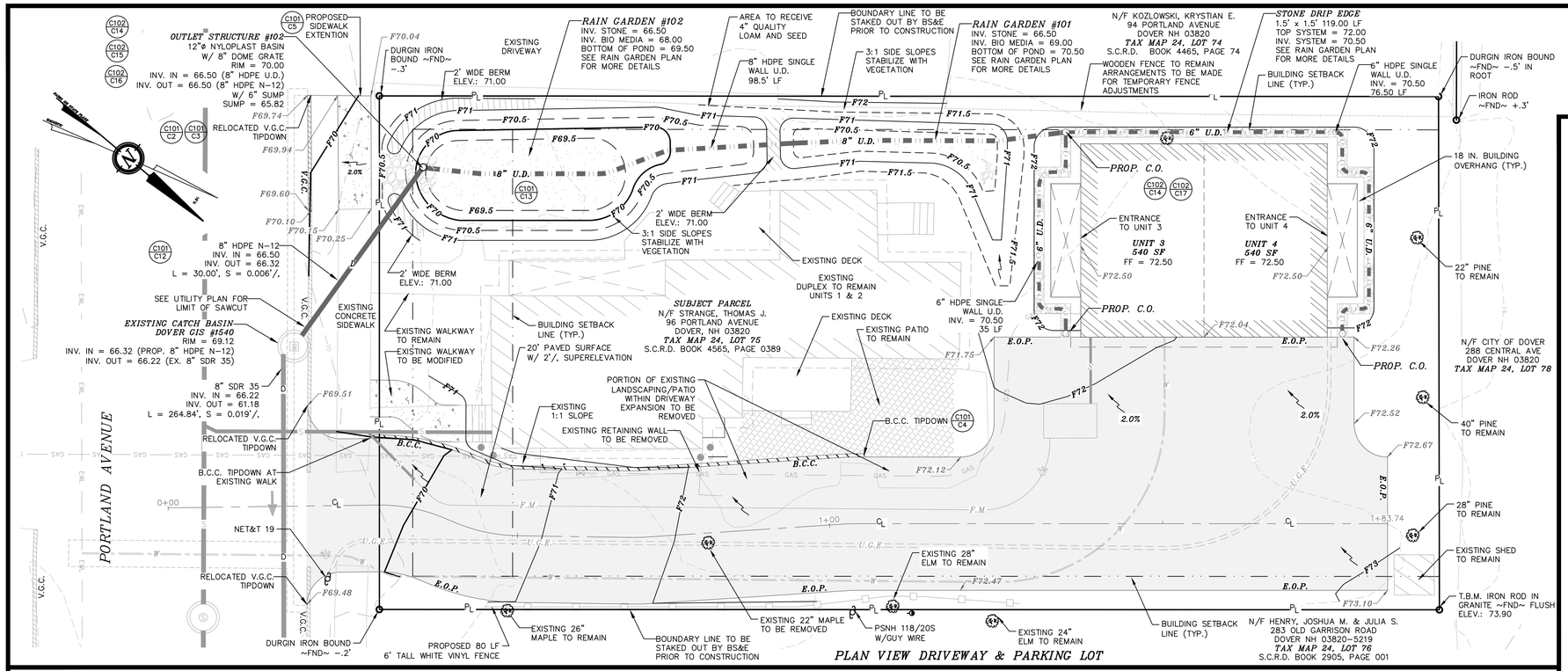
REVISION	DATE	DESCRIPTION

SITE PLAN
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : 1 IN. EQUALS 10 FT.
DATE : JULY 2, 2019
FILE NO. : DB 2018 – 067

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED
PROFESSIONAL ENGINEER



PLAN VIEW DRIVEWAY & PARKING LOT

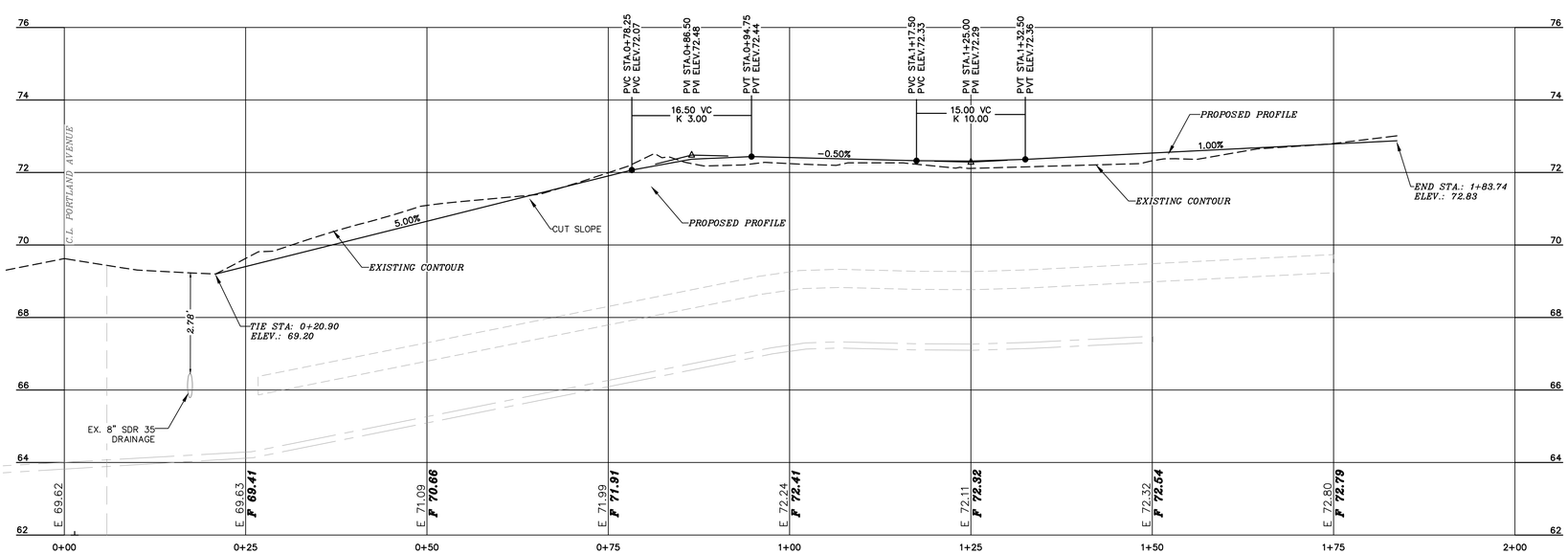
GRAPHIC SCALE

20 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

PROFILE VIEW DRIVEWAY & PARKING LOT

VERTICAL SCALE: 1" = 2'



GRAPHIC SCALE

20 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

NOTES:

1.) THE INTENT OF THIS PLAN SET IS TO DEMONSTRATE THE GRADING AND DRAINAGE DESIGN OF THE SITE AT 96 PORTLAND AVENUE.

2.) OWNER: THOMAS J. STRANGE
96 PORTLAND AVENUE
DOVER, NH 03820

2A.) APPLICANT: THOMAS J. STRANGE
96 PORTLAND AVENUE
DOVER, NH 03820

3.) TAX MAP 24, LOT 75

4.) LOT AREA: 12,251 Sq. Ft., 0.28 Ac.

5.) TITLE REFERENCE FOR THE PROJECT PARCEL IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, (S.C.R.D.) BOOK NO. 4565, PAGE NO. 389

STANDARD CONSTRUCTION NOTES:

1.) EXISTING CONDITIONS INFORMATION IS BASED ON A SURVEY PERFORMED BY BERRY SURVEYING & ENGINEERING AND IS ENCLOSED IN THIS PACKAGE.

2.) THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS DATED 2010. CURRENT STANDARD PLANS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

3.) CONTRACTOR SHALL TAKE SPECIAL CARE IN NOT DISTURBING EXISTING MONUMENTS BOUNDS, AND OR BENCHMARKS WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.

4.) THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE EXACTLY AND TO PRESERVE ANY AND ALL UNDERGROUND UTILITIES CALL "DIG-SAFE" 1-888-DIGSAFE (344-7233) AT LEAST 72 HOURS BEFORE COMMENCING CONSTRUCTION.

5.) WHERE AN EXISTING UNDERGROUND UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.

6.) THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.

7.) AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. CONTRACTOR TO NOTE THERE ARE NO ALLOWANCES FOR IMPACT BEYOND THE LOCUS BOUNDARY LINES.

8.) THE TERM "PROPOSED" (PROP.) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS, OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE & RESET" (R & R).

9.) ALL SYMBOLS, WORDS, TRANSVERSE MARKINGS (STOP BARS, CROSSWALK LINES, AND RAILROAD SYMBOLS), LANE LINES, AND ALL OTHER MARKINGS NOTED WITH {T} SHALL BE THERMOPLASTIC.

10.) THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED OR ARE PENDING FOR THE SUBJECT PROPERTY:
NONE REQUIRED

11.) ALL DISTURBED AREAS NOT DESIGNATED TO BE PAVED SHALL HAVE LOAM PLACED AND SEEDED. THE LOAM SHALL HAVE A MINIMUM DEPTH OF 4 INCHES AND SHALL BE PLACED FLUSH WITH THE TOP OF THE ADJACENT CURB, EDGING, BERM OR PAVEMENT SURFACE.

12.) ALL ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER IS TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY. TEMPORARY BENCHMARKS (T.B.M.) ARE TO BE PROVIDED BY THE DESIGN ENGINEER.

13.) UPON FINAL COMPLETION AND 85% STABILIZATION THE DRAINAGE SYSTEM IS TO BE CLEANED OF ALL DEBRIS TO INCLUDE THE PUMPING OF THE BASIN SUMPS.

14.) ALL UNPAVED AREAS ARE TO RECEIVE 4" QUALITY LOAM AND SEED

15.) ALL TREATMENT SWALE TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS UNLESS OTHERWISE INSTRUCTED BY THE DESIGN ENGINEER DURING CONSTRUCTION.

16.) A LETTER OF CREDIT FOR THE COST OF RE-VEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS, AS MAY BE APPLICABLE.

17.) A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND DOVER CITY STAFF SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.

18.) BUILDING ADDRESSES SHALL BE DETERMINED BY THE BUILDING OFFICIAL.

19.) THIS SITE PLAN PROPOSES 8,650 ± SQ. FT. OF DISTURBANCE. PER ENV-WQ 1503.12 (B) AN ALTERATION OF TERRAIN PERMIT IS NOT REQUIRED.

20.) WRITTEN DIMENSION ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR IS TO CONFIRM ALL ELEVATIONS. CONFLICTS WILL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.

21.) COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH CITY OF DOVER CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.

22.) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

23.) SEE DETAILS CONCERNING SITE LAYOUT, DRAINAGE, UTILITY, AND SEDIMENT AND EROSION CONTROLS.

24.) ARCHITECT TO WORK OUT ALL GRADING AT THRESHOLDS WITH BS&E FOR ADA & BUILDING CODE COMPLIANCE PRIOR TO BUILDING OF PROJECT.

REVISION	DATE	DESCRIPTION

GRADING PLAN & DRIVEWAY PROFILE
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 10 FT.
DATE : JULY 2, 2019
FILE NO. : DB 2018 - 067

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED
PROFESSIONAL ENGINEER

BIORETENTION FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Bioretention 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

3/8" WASHED CRUSHED STONE*

SIEVE SIZE	% PASSING BY WEIGHT
1/2"	100
3/8"	95 – 100
# 4	22 – 55
# 8	0 – 10

* EQUIVALENT TO STANDARD WASHED STONE – SECTION 702 OF NHDOT NHDOT STANDARD SPECIFICATIONS

3/4" WASHED CRUSHED STONE*

SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 – 100
1/2"	15 – 55
# 10	0 –5

* EQUIVALENT TO STANDARD WASHED STONE – SECTION 702 OF NHDOT NHDOT STANDARD SPECIFICATIONS

NOTES

1. WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
2. SOIL BIORETENTION FILTER MEDIA SHALL BE AS SHOWN ABOVE. "BIO MEDIA" MEANS BIORETENTION FILTER MADIA.
3. COMPACTION IS NOT TO OCCUR IN THE RAIN GARDEN AREAS PRIOR TO CONSTRUCTION. SCARIFICATION REQUIRED IN THE EVENT COMPACTION TAKES PLACE.
4. DO NOT PLACE THE BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
5. DO NOT DISCHARGE SEDIMENT–LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
6. 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.

MAINTENANCE REQUIREMENTS

1 SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24–HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.

2 PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.

3 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.

4 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.

DESIGN REFERENCES

1 UNH STORMWATER CENTER
2 NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

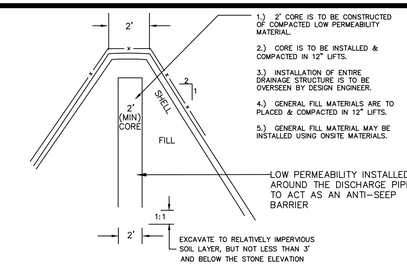
RAIN GARDEN MIX

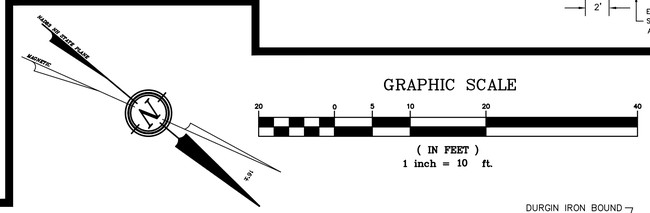
THE GRASS THAT IS PLANTED WITHIN A RAIN GARDEN BIO–FILTRATION SYSTEM WITHIN THE BIO–MEDIA MUST CONSIST OF A COMBINATION OF WARM SEASON GRASS SEED AND COLD SEASON GRASS SEED IN ORDER FOR THE GRASS TO START GROWING FOR STABILIZATION AND CONTINUE GROWING IN THE SANDY WELL–DRAINED ENVIRONMENT. PLANTING SPECIFICATION WILL MEET THE REQUIREMENTS AS OUTLINED IN 'VEGETATION NEW HAMPSHIRE SAND AND GRAVEL PITS' MIX 1 (WARM SEASON GRASSES) (15 LBS/AC) AND INCLUDE ANNUAL AND PERENNIAL RYE GRASS SEED (15 LBS/AC); THE NEW ENGLAND NATIVE WARM SEASON GRASS MIX (23 LBS/AC) BY NEW ENGLAND WETLAND PLANTS, INC.; RAIN GARDEN MIX 180 (15 LBS/AC & 15 LBS/AC OF RYE) / RAIN GARDEN GRASS MIX 180–1 (20 LBS/AC & 10 LBS/AC OF RYE) BY ERNST CONSERVATION SEEDS; OR APPROVED EQUAL.

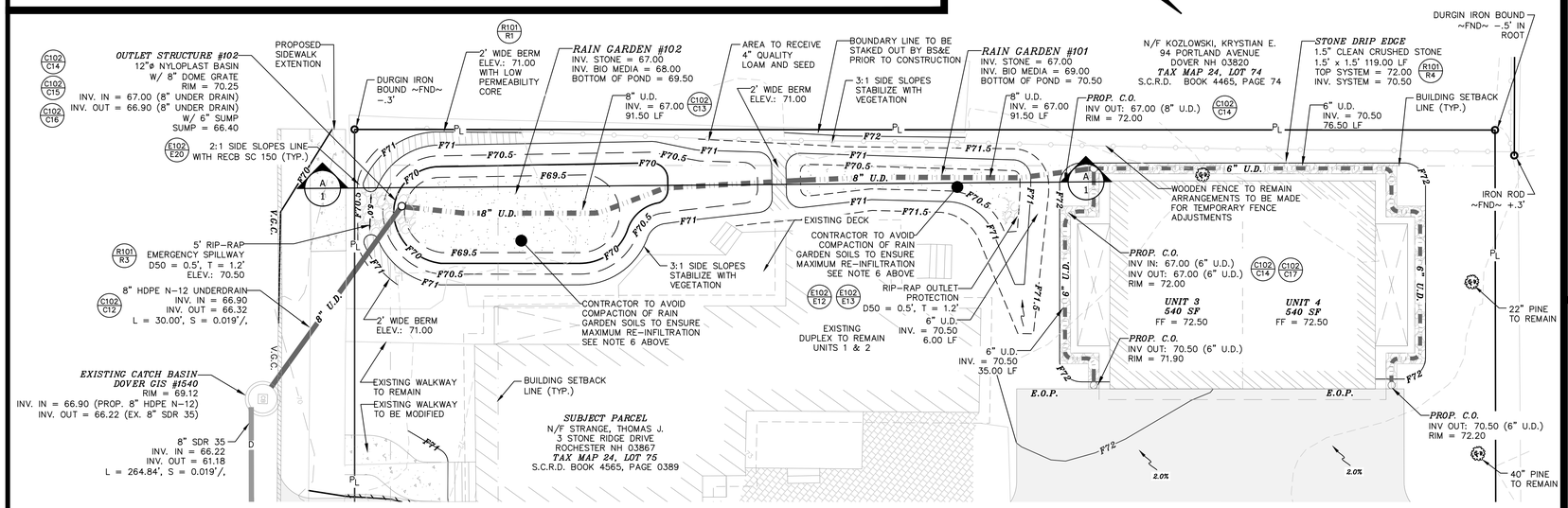
R1

LOW PERMEABILITY MATERIAL GRADATION

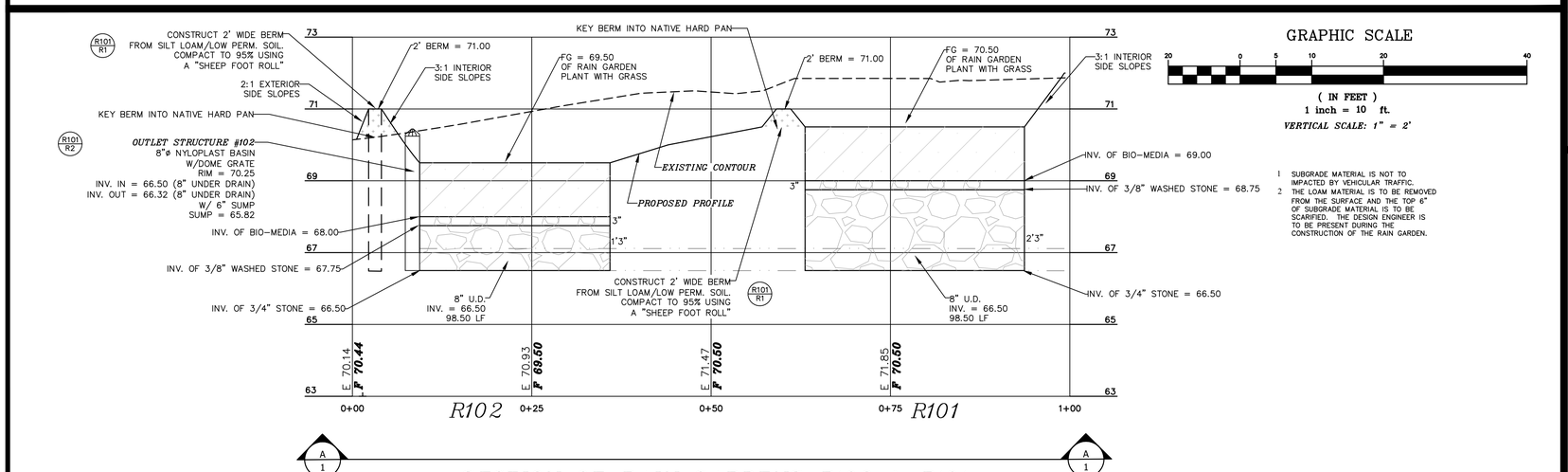
SIEVE SIZE	% PASSING BY WEIGHT
#4	95 – 100
#40	60 – 95
#100	40 – 60
#200	25 – 45







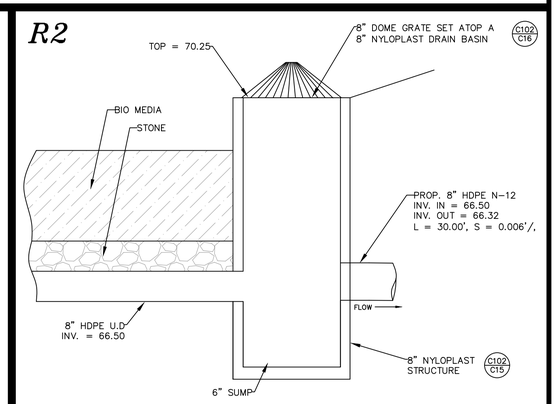
PLAN VIEW RAIN GARDEN #101, #102, & STONE DRIP EDGE



1 SUBGRADE MATERIAL IS NOT TO IMPACTED BY VEHICULAR TRAFFIC.
2 THE LOAM MATERIAL IS TO BE REMOVED FROM THE SURFACE AND THE TOP 6" OF SUBGRADE MATERIAL IS TO BE SCARIFIED. THE DESIGN ENGINEER IS TO BE PRESENT DURING THE CONSTRUCTION OF THE RAIN GARDEN.

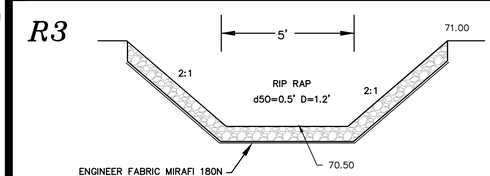
SECTION OF RAIN GARDENS R102 & R101

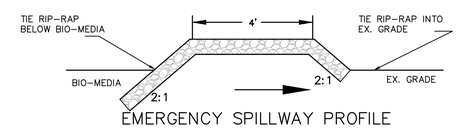
R2



OUTLET STRUCTURE #102
NOT TO SCALE

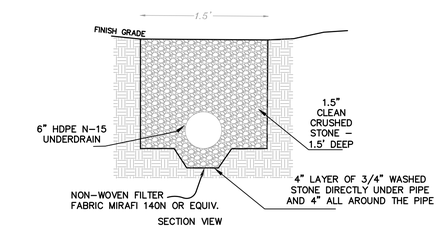
R3





EMERGENCY SPILLWAY PROFILE

R4



SECTION VIEW

INFILTRATION STONE DRIP EDGE DETAIL

R–101

REVISION	DATE	DESCRIPTION

RAIN GARDEN PLAN
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : 1 IN. EQUALS 10 FT.
DATE : JULY 2, 2019
FILE NO. : DB 2018 – 067

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
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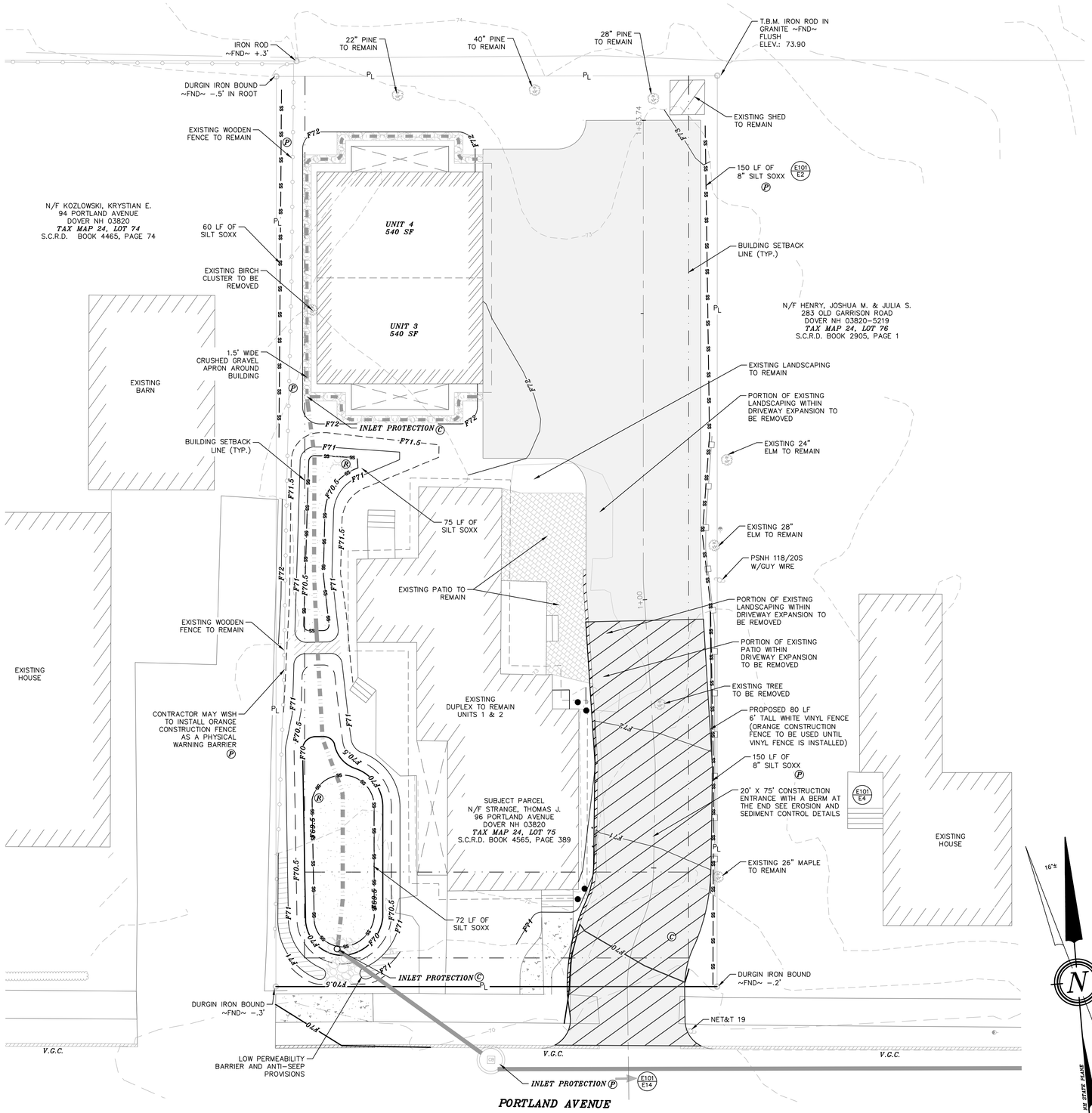


NOTES:

1.) THE INTENT OF THIS PLAN SET IS TO DEMONSTRATE THE EROSION AND SEDIMENT CONTROL DESIGN OF THE SITE AT 96 PORTLAND AVENUE.

2.) OWNER: THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, NH 03820

3.) THE PROJECT PARCEL IS TAX MAP 24, LOT 75

4.) LOT AREA: 12,251 Sq. Ft., 0.28 Ac.

5.) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVE AND BELOW GROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY UTILITY CONFLICTS SHOULD BE REPORTED IMMEDIATELY TO THE DESIGN ENGINEER.

6.) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

7.) ALL ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER IS TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY. TEMPORARY BENCHMARKS (T.B.M.) ARE TO BE PROVIDED BY THE DESIGN ENGINEER.

8.) UPON FINAL COMPLETION AND 85% STABILIZATION, THE DRAINAGE SYSTEM IS TO BE CLEANED OF ALL DEBRIS. SEDIMENT CONTROL PRACTICES REMOVED AND DISPOSED OF PROPERLY, AND ANNUAL MAINTENANCE PREFORMED ON ALL DRAINAGE PRACTICES.

9.) SILT FENCE MAY BE SUBSTITUTED WITH FILTREXX SILT SOXX OR EROSION CONTROL MIX BERM. SILT FENCE IS NOT A SUBSTITUTE FOR FILTREXX SILT SOXX OR APPROVED EQUAL.

10.) PER EPA CGP Z.1.2.2 (INSTALL PERIMETER CONTROL), "YOU MUST INSTALL SEDIMENT CONTROLS ALONG THOSE PERIMETER AREAS OF YOUR SITE THAT WILL RECEIVE STORMWATER FROM EARTH DISTURBING ACTIVITIES." AS A RESULT OF SWPPP INSPECTIONS, THE CONTRACTOR MAY HAVE TO EXPAND PERIMETER CONTROLS TO MEET THIS REQUIREMENT. THE E&SC PLAN IS INITIAL GUIDANCE AS TO THE ANTICIPATED REQUIREMENTS AND IT THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT STORMWATER VIOLATION DO NOT OCCUR.

11.) ONCE THE DRIVEWAY IS PAVED THE CONTRACTOR IS RESPONSIBLE FOR SWEEPING IT TO ENSURE THAT NO SEDIMENT IS BEING TRACKED ONTO PORTLAND AVENUE.

12.) CITY OF DOVER: IN ACCORDANCE WITH SITE PLAN REVIEW REGULATIONS (149-14) THE FOLLOWING STORMWATER MEASURES ARE REQUIRED. THIS SITE DEVELOPMENT QUALIFIES AS A REDEVELOPMENT PROJECT. THE EXISTING IMPERVIOUS AREA IS 85.4% AND PROPOSED IMPERVIOUS AREA IS 96.8%. THE CONTIGUOUS LAND DISTURBANCE IS 13,500 SQUARE FEET.

A.) ALL PROPOSED BMPS WILL CONFORM TO THE NH STORMWATER MANUAL VOLUME 3.
B.) EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL LAND DISTURBANCE AND MUST BE REVIEWED AND APPROVED BY COMMUNITY SERVICE.
C.) TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN CALENDAR DAYS FOR EXPOSED SOILS AREAS THAT ARE WITHIN ONE HUNDRED FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOKL AREAS.
D.) ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL STABILIZATION IS ACCOMPLISHED.
E.) COMMUNITY SERVICES DEPARTMENT OR THEIR DESIGNATED AGENT SHALL HAVE ACCESS TO THE SITE TO COMPLETE ROUTINE INSPECTIONS AND SHALL BE NOTIFIED 24-HOURS PRIOR TO INSTALLATION OF A STORMWATER BMP IN ORDER TO SCHEDULE AN INSPECTION, DURING NORMAL WORKING HOURS.
F.) THE PLANNING BOARD OR COMMUNITY SERVICES MAY REQUIRE THE DESIGN ENGINEER AND/OR AN INDEPENDENT, THIRD-PARTY INSPECTION AND OVERSIGHT OF THE CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES AND EROSION AND SEDIMENT CONTROL AT THEIR DISCRETION. THE OWNER / APPLICANT IS RESPONSIBLE FOR ALL FEES ASSOCIATED WITH INSPECTIONS.
G.) ALL SWPPP INSPECTIONS MUST BE CONDUCTED BY A QUALIFIED PROFESSIONAL SUCH AS A PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORMWATER INSPECTOR (CESSWI), OR A CERTIFIED PROFESSIONAL IN STORMWATER QUALITY (CPSWQ). INSPECTION REPORTS WILL BE SUBMITTED TO THE COMMUNITY SERVICES DEPARTMENT.

13.) CONTRACTOR IS RESPONSIBLE FOR SWEEPING THE PARKING LOT, SIDEWALKS AND ANYTHING DISTURBED, TO ENSURE THAT NO SEDIMENT IS BEING TRACKED ONTO CHESTNUT STREET OR FOURTH STREET.

14.) CONTRACTOR IS RESPONSIBLE FOR CLEANING AND MAINTAINING THE INLET PROTECTION ONCE INSTALLED.

15.) FUGITIVE DUST IS TO BE CONTROLLED THROUGHOUT THE CONSTRUCTION PROCESS IN ACCORDANCE WITH ENV-A 1000.

16.) CONTRACTOR IT TO MEET THE REQUIREMENTS SPECIFIED IN RSA 430:51-57 AND AGR 3800, RELATING TO INVASIVE SPECIES.

17.) CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE WATER QUALITY FROM ANY RUN OFF DURING THE CONSTRUCTION PROCESS, IN ACCORDANCE WITH ENV-WQ 1507, IN ORDER TO PREVENT VIOLATIONS OF THE STORM WATER QUALITY STANDARDS.

SOILS & DEWATERING:

BuB BUXTON SILT LOAM K= .49

SEE SITE SPECIFIC SOILS MAP (SSSM)
SEE WEBSOIL USDA-NRCS
ERODIBILITY FACTOR - K, CPESC MANUAL, ENVIROCERT INTERNATIONAL INC. &
ROCKINGHAM COUNTTY SOIL SURVEY, ROCKWEB SOIL ATTRIBUTES.

CONTRACTOR TO BE AWARE OF THE SOIL PROFILES AND ENSURE THAT PROPER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TAKEN AT ALL TIMES. ANY DEWATERING REQUIREMENTS IN NEW HAMPSHIRE REQUIRE SPECIAL PROVISIONS IN ACCORDANCE WITH THE "CLARIFICATION OF SECTION 9.1.2 (STATE OF NEW HAMPSHIRE CONDITIONS) AND OTHER NH SPECIFIC INFORMATION FOR THE U.S. EPA 2012 NPDES CONSTRUCTION GENERAL PERMIT (CGP)" DATED MAY 3, 2012 INCLUDED IN THE SWPPP.

COVER MANAGEMENT DURING CONSTRUCTION FOR EXPOSED SOIL WILL INCLUDE HAY / STRAW APPLIED AT A RATE OF 2.0 TONS PER ACRE, TEMPORARY SEEDING OF ANNUAL RYE GRASS, AND PERMANENT SEEDING AT THE EARLIES OPPORTUNITY. SEE ADDITIONAL REQUIREMENT FOR STABILIZATION ON THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS, E-101 AND E-102.

THE CONSTRUCTION SCHEDULE WILL BE MANAGED SO THAT ALL STORMWATER STRUCTURES WILL BE BUILT AND STABILIZED PRIOR TO RECEIVING SURFACE WATER RUNOFF. CONTRACTOR TO BE RESPONSIBLE FOR ALL DIVERSIONS DURING CONSTRUCTION AND FOR INTERIM SEDIMENT AND EROSION CONTROL MEASURES.

LEGEND:

- RAIN GARDEN BIO-MEDIA PROTECTION
- PERIMETER CONTROL
- RESIDENTIAL/ROADWAY CONSTRUCTION
- IRON BOUND/REBAR ~FND~
- IRON PIPE ~FND~
- UTILITY POLE
- GUY WIRE
- BENCHMARK
- CONIFEROUS TREE
- SILT FENCE / FILTREXX SILTSOXX
- TREE LINE

GRAPHIC SCALE

20 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

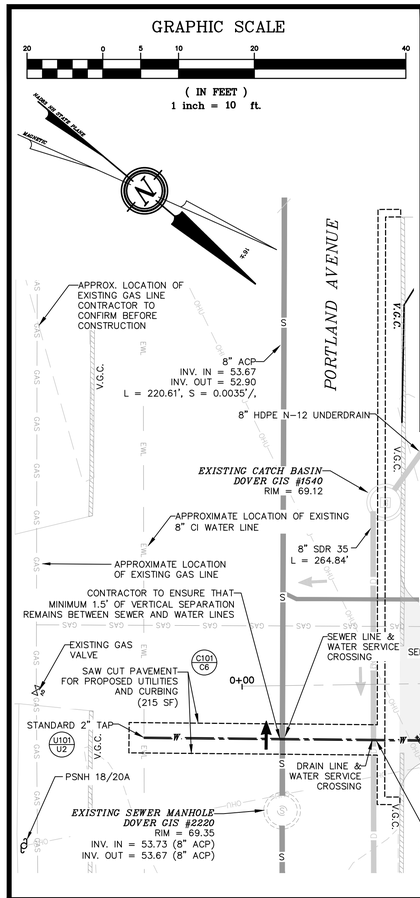
REVISION	DATE	DESCRIPTION

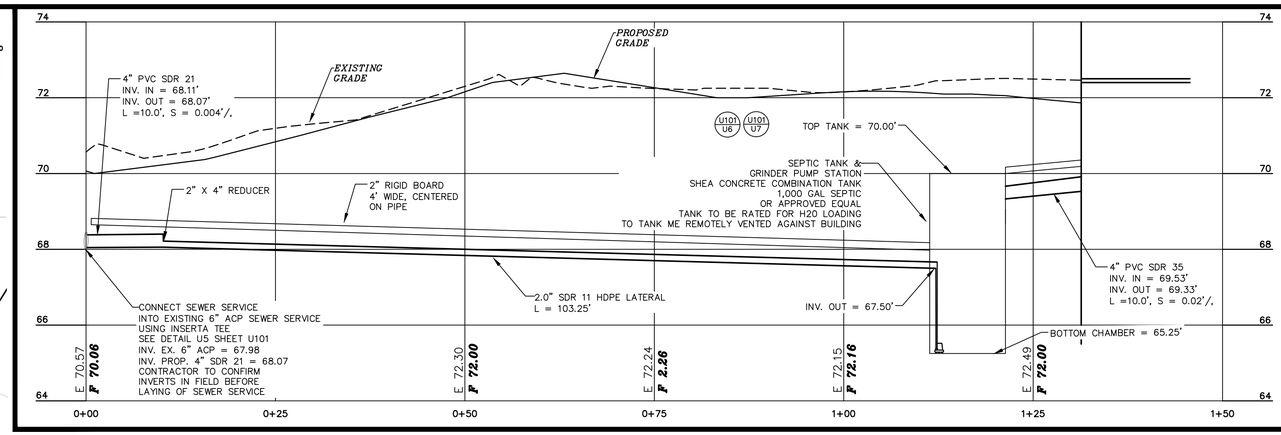
EROSION AND SEDIMENT CONTROL PLAN
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 10 FT.
DATE : JULY 2, 2019
FILE NO. : DB 2018 - 067

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED
PROFESSIONAL ENGINEER

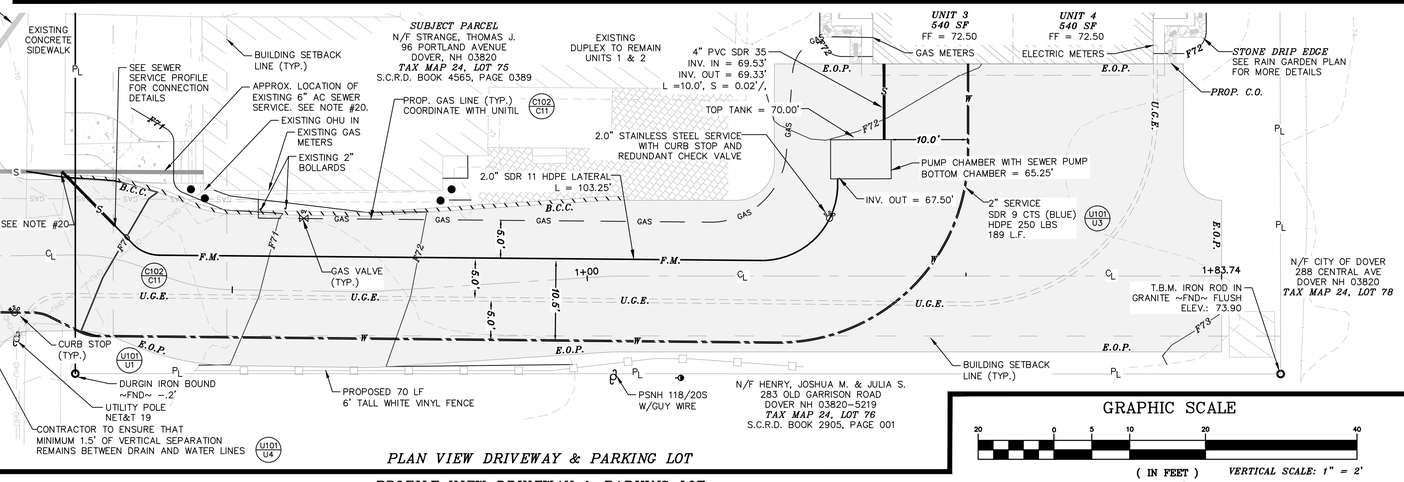




GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.
VERTICAL SCALE: 1" = 2'

PROPOSED SEWER SERVICE PROFILE

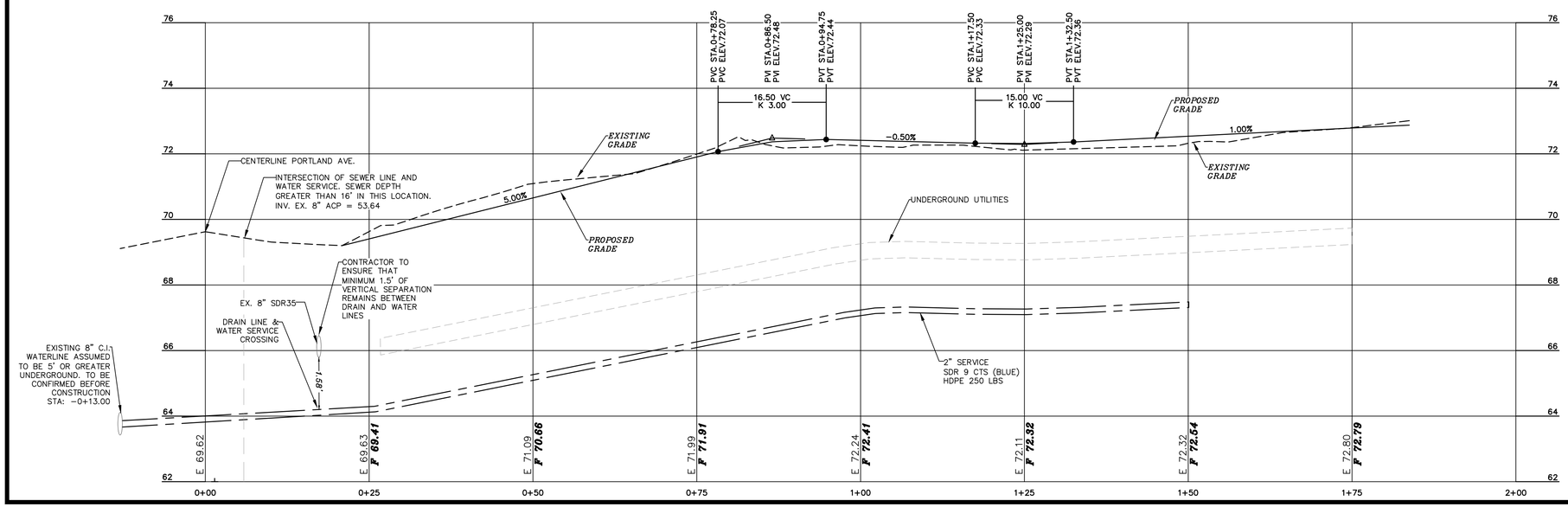


PLAN VIEW DRIVEWAY & PARKING LOT

GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.
VERTICAL SCALE: 1" = 2'

PROFILE VIEW DRIVEWAY & PARKING LOT



NOTES:

1.) THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE THE OVERVIEW PRIVATE UTILITIES WITHIN THE DEVELOPMENT PLAN.

2.) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVE AND BELOW GROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY UTILITY CONFLICTS SHOULD BE REPORTED IMMEDIATELY TO THE DESIGN ENGINEER.

3.) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIGSAFE 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

4.) PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES, TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE, SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL MEETING THE ENGINEERS SPECIFIC RECOMMENDED CRITERIA.

5.) IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER (NOT ALLOWED IN CITY R.O.W.), EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATION. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.

6.) PLACEMENT OF BORROW MATERIALS SHALL BE PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION. VOIDS BETWEEN STONES AND CLUMPS OF MATERIAL SHALL BE FILLED WITH FINE MATERIALS.

7.) FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES AND THE DOVER DPW.

8.) CONTRACTOR TO CONTACT DOVER DPW A MINIMUM OF TWO WEEKS PRIOR TO ANY CONSTRUCTION TO COORDINATE ALL WORK CONCERNING INSTALLATION OF ANY PROPOSED WATER LINE IMPROVEMENTS.

9.) ALL WATER MAIN AND SERVICE INSTALLATIONS SHALL CONFORM TO CITY OF DOVER STANDARDS. ALL HIGHWAY CONSTRUCTION WILL MEET THE CITY OF DOVER STANDARDS.

10.) CONTRACTOR SHALL COORDINATE ALL ELECTRICAL INSTALLATIONS WITH EVERSOURCE AT (800) 662-7764. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL. A 48-HOUR MINIMUM NOTICE IS REQUIRED.

11.) ALL SEWER INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF NHDES & DOVER DPW SEWER DIVISION STANDARDS. ALL PVC SEWER PIPE IS TO CONFORM WITH ENV-WQ 704.05 (c)-(e) AND CONFORM WITH ASTM D3034. PVC JOINT SEALS SHALL CONFORM WITH ASTM D3121.

12.) CONTRACTOR SHALL COORDINATE ALL TELECOMMUNICATIONS INSTALLATIONS WITH FAIRPOINT COMMUNICATIONS AT (603) 427-5525.

13.) CONTRACTOR SHALL COORDINATE ALL CABLE INSTALLATIONS WITH METROCAST.

14.) CONTRACTOR SHALL COORDINATE ALL GAS INSTALLATIONS WITH UNITIL.

15.) ALL WATER SERVICES ARE TO BE WITNESSED WITH A 2"X4" PAINTED BLUE. ALL SEWER SERVICES ARE TO BE WITNESSED WITH A 2"X4" PAINTED YELLOW, IS STUBBED PRIOR TO BUILDING CONSTRUCTION.

16.) CURB BOXES SHOULD BE PLACED IN THE LAWN AREA, OR IF PLACED IN PAVEMENT, A ROAD BOX IS REQUIRED.

17.) SEE EXISTING CONDITIONS PLAN FOR DATUM. VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUS BASED ON NAD83 STATE PLANE COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS.

18.) ALL SEWER INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF NHDES & DOVER DPW SEWER DIVISION STANDARDS. ALL PVC SEWER PIPE IS TO CONFORM WITH ENV-WQ 704.05 (c)-(e) AND CONFORM WITH ASTM D3034. PVC JOINT SEALS SHALL CONFORM WITH ASTM D3121.

19.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.

20.) THE SHOWN LOCATION AND DEPTH OF THE EXISTING SEWER SERVICE ARE BASED FROM CITY OF DOVER DPW RECORDS. THE EXACT LOCATION AND DEPTH TO BE CONFIRMED BEFORE CONSTRUCTION. CONTRACTOR TO CONTACT BS&E AT TIME OF CONSTRUCTION. PUMP FORCE MAIN TO BE DESIGNED AS PART OF THE BUILDING PERMIT PROCESS.

21.) ENTITIES SUCH AS COMPANIES AND MUNICIPALITIES, AND PERSONS ENGAGED IN ASBESTOS ABATEMENT PROJECTS MUST BE LICENSED AND CERTIFIED BY THE DES ASBESTOS CONTROL PROGRAM. AN ENTITY LICENSE IS NOT REQUIRED FOR MINOR AND SMALL-SCALE, SHORT-DURATION ACTIVITIES. HOWEVER, THE INDIVIDUALS INVOLVED MUST STILL HAVE THE APPROPRIATE LEVEL OF CERTIFICATION FOR THE ACTIVITY AND JOB TASK. THE CERTIFICATION IS TO ASSURE THAT PERSONS PERFORMING ASBESTOS WORK ARE SUITABLY QUALIFIED AND HAVE SUFFICIENT KNOWLEDGE AND ABILITY TO PERFORM THEIR JOB TASKS WITHOUT RISK TO THEMSELVES AND OTHERS. ALL ASBESTOS CONTAINING WASTE MATERIALS MUST BE PROPERLY IDENTIFIED, PACKAGED AND DELIVERED TO A LANDFILL LICENSED BY THE DES SOLID WASTE MANAGEMENT PROGRAM FOR DISPOSAL. CALL (603) 271-2925 FOR MORE INFORMATION.

REVISION	DATE	DESCRIPTION

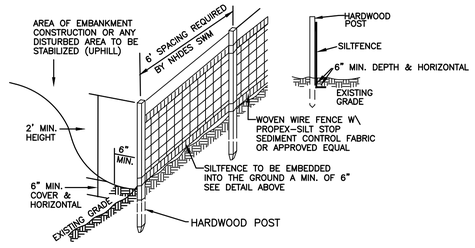
UTILITY PLAN
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 10 FT.
DATE : JULY 2, 2019
FILE NO. : DB 2018 - 067

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED
PROFESSIONAL ENGINEER

E1



SILT FENCE CONSTRUCTION SPECIFICATIONS

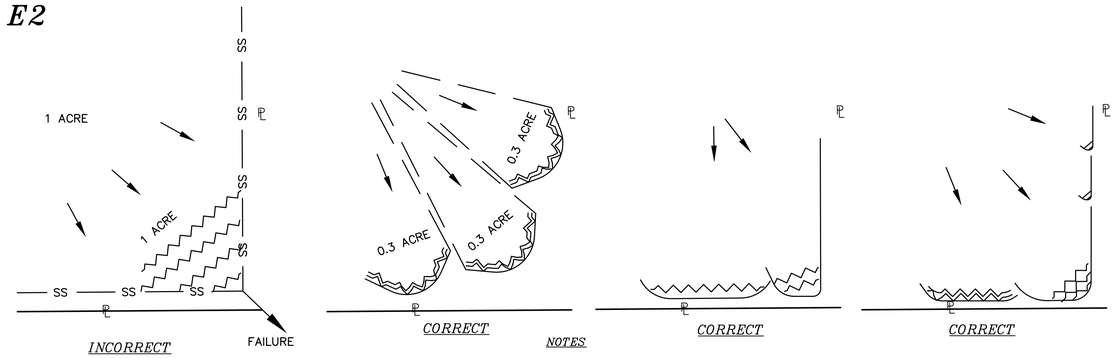
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8" THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF. SEE MAINTENANCE NOTE BELOW, REMOVAL OF SEDIMENT REQUIRED AT A DEPTH OF 6-INCHES.
4. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
5. SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER.
6. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE-VEGETATED.
7. TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, SILT FENCE, PAGE 90.

SILT FENCE MAINTENANCE

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH SIX-INCHES IN DEPTH.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SILT FENCE DETAIL
NOT TO SCALE

E2



NOTES

1. DO NOT LAYOUT SILT SOXX ALONG PROPERTY PERIMETER WITHOUT INSTALLING "J HOOKS" AT HIGH CONCENTRATION AREAS. RUNOFF WILL CONCENTRATE AND CAUSE FAILURES ALONG THE PERIMETER.
2. "J HOOKS" CAN BE USED TO HELP LIMIT THE CONCENTRATION OF RUNOFF AND PROVIDE MORE STABILITY TO THE PERIMETER.
3. SEE HAMPSHIRE STORM WATER MANUAL: VOLUME 3, PAGE 99 FOR FURTHER DETAILS AND SPECIFICATIONS

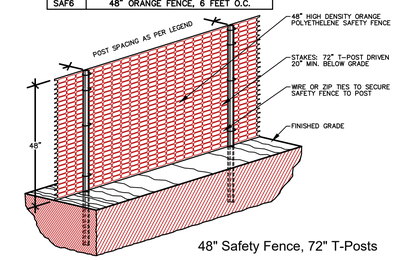
SILT SOXX
NOT TO SCALE

E3

CONSTRUCTION SAFETY FENCE
NOT TO SCALE

LEGEND

SAF12	48" ORANGE FENCE, 12 FEET O.C.
SAF11	48" ORANGE FENCE, 11 FEET O.C..
SAF10	48" ORANGE FENCE, 10 FEET O.C.
SAF9	48" ORANGE FENCE, 9 FEET O.C.
SAF8	48" ORANGE FENCE, 8 FEET O.C..
SAF7	48" ORANGE FENCE, 7 FEET O.C.
SAF6	48" ORANGE FENCE, 6 FEET O.C.

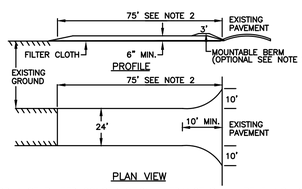


1. ALL SENSITIVE AREAS SHALL BE PROTECTED AS PER PLAN.
2. ALL TREES IN THE CONSTRUCTION AREA NOT SPECIFICALLY DESIGNATED FOR REMOVAL SHALL BE PRESERVED AND PROTECTED WITH HIGH VISIBILITY FENCE AS PER PLAN.
3. WHEN PRACTICABLE, INSTALL HIGH VISIBILITY 3 FEET OUTSIDE OF THE DRIP LINE OF THE TREE.
4. SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE T-POSTS.
5. THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION; ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED.

REVISION	DATE	DESCRIPTION

E4

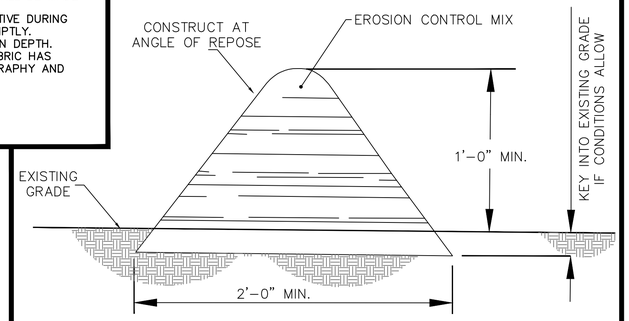
STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
8. TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY CONSTRUCTION EXIT, PAGE 124.

E5

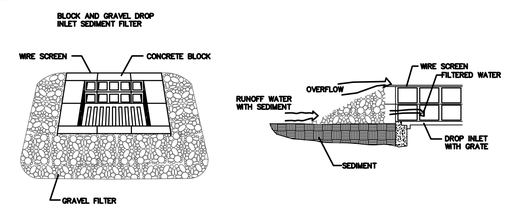
EROSION CONTROL MIX BERM
NOT TO SCALE



EROSION CONTROL MIX BERMS SHALL BE USED ONLY AS FOLLOWS:

1. BERMS SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY ABOVE THE BERM.
2. THE BERMS SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSLY AS POSSIBLE.
3. THE BERMS SHALL BE INSTALLED ON SLOPES LESS THAN 5%.
4. SUBJECT TO (E), BELOW, THE MIX SHALL HAVE AN ORGANIC PORTION BETWEEN 80 AND 100%, DRY WEIGHT BASIS, AND BE FIBROUS AND ELONGATED SUCH AS FROM SHREDDED BARK, STUMP GRINDINGS, COMPOSED BARK, OR EQUIVALENT MANUFACTURED PRODUCTS.
5. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS, OR REPROCESSED WOOD PRODUCTS SHALL NOT BE USED AS ORGANIC MATERIAL.
6. THE MIX SHALL NOT CONTAIN SILTS, CLAY, OR FINE SANDS.
7. THE MIX SHALL HAVE A PARTICLE SIZE BY WEIGHT OF 70 TO 85% PASSING A 6-INCH SCREEN AND A MAXIMUM OF 85% PASSING THE 0.75-INCH SCREEN.
8. THE MIX PH SHALL BE BETWEEN 5.0 AND 8.0.
9. THE BERM SHALL BE AT LEAST 12 INCHES HIGH AND AT LEAST 2 FEET WIDE.
10. TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, EROSION CONTROL MIX BERMS, PAGE 106.

E6



MAINTENANCE

ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAIN STORM AND REPAIRS MADE AS NECESSARY. SEDIMENT SHOULD BE REMOVED FROM TRAPPING DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE HALF THE DEPTH OF THE TRAP. THE SEDIMENT SHOULD BE DISPOSED OF IN A SUITABLE AREA AND PROTECTED FROM EROSION BY EITHER STRUCTURE OR VEGETATIVE MEANS. THE TEMPORARY TRAPS SHOULD BE REMOVED AND THE AREA REPAIRED AS SOON AS THE CONTRIBUTING DRAINAGE AREA TO THE INLET HAS BEEN COMPLETELY STABILIZED.

BLOCK & GRAVEL DROP INLET SEDIMENT FILTER
NOT TO SCALE

TO BE USED IN ALL AREAS WHERE THERE WILL BE NO TRAFFIC.

TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY STORM DRAIN INLET PROTECTION, PAGE 118.

E7

TEMPORARY EROSION CONTROL MEASURES

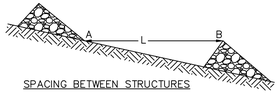
1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA. (SEE SEED SPECIFICATIONS THIS SHEET)
4. ALL DISTURBED AREAS WILL BE RESTABILIZED WITHIN 45 DAYS. AT ANY ONE TIME, NO MORE THAN 5 ACRES, (217,800 Sq. Ft.) WILL BE DISTURBED.
5. SILT FENCES AND PERIMETER BARRIERS SHALL BE INSPECTED PERIODICALLY AND AFTER EVERY RAIN DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
6. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
7. PER THE EPA CGP REQUIREMENTS THERE WILL BE REPORTS OF THE EROSION CONTROL INSPECTIONS IAW SWPPP PREPARED BY BS&E. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OR GREATER RAIN EVENT.
8. DITCHES, SWALES, AND BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
9. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION SYSTEM.
10. DRIVEWAYS AND CUT AND FILL SPLOPES MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINAL GRADE.
11. STABILIZATION MEANS:
    - 11.1. A MINIMUM OF 85% OF VEGETATIVE COVER HAS BEEN ESTABLISHED.
    - 11.2. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED, OR
    - 11.3. EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
12. THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
13. THE NHDES STORMWATER MANUAL, IN THREE VOLUMES, DATED DECEMBER 2008, IS A PART OF THIS PLAN SET AND THE MORE RESTRICTIVE WILL GOVERN. (NH SWM)

EROSION & SEDIMENT CONTROL DETAILS
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

E8

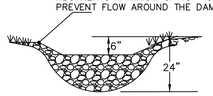
STONE CHECK DAM
NOT TO SCALE

THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION.

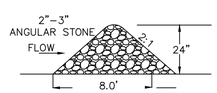


SPACING BETWEEN STRUCTURES

NOTE: KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIUM OF 18" TO PREVENT FLOW AROUND THE DAM.

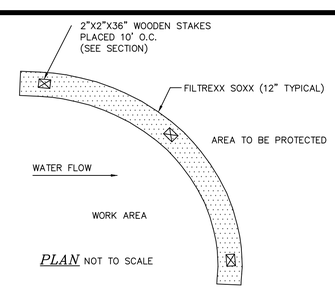


1.) CHECK DAMS SHOULD BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE OR DRAINAGE DITCH.
2.) THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE DAM SHOULD BE LESS THEN ONE ACRE.
3.) THE MAXIMUM HEIGHT OF THE DAM SHOULD BE TWO FEET.
4.) THE CENTER OF THE DAM SHOULD BE AT LEAST SIX INCHES LOWER THAN THE OUTER EDGES.
5.) THE MAXIMUM SPACING IS AS SHOWN ON THE PROJECT SITE PLANS.
6.) CHECK DAMS WILL NOT BE USED IN A FLOWING STREAM.
7.) TEMPORARY CHECK DAMS WILL BE REMOVED ONCE THE SWALE OR DITCH IS DETERMINED STABLE.
8.) TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY CHECK DAMS, PAGE 114.



STONE GRADE STABILIZATION STRUCTURE

E9

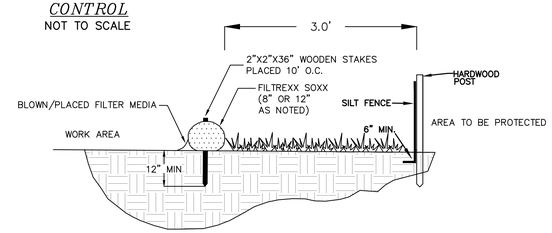


PLAN NOT TO SCALE

NOTES

1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILTER MEDIA FILL TO MEET APPLICATION REQUIRMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.
4. SILTSOXX MAY BE USED IN PLACE OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
5. SILTSOXX COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIRMENTS OF THE SPECIFIC APPLICATION.
6. FILTREXX SOXX IS A REGISTERED TRADEMARK OF FILTREXXIN TERNATIONAL, LLC.
7. SILT FENCE IS NOT A SUBSTITUTION FOR SILT SOXX AND ANY EQUAL SUBSTITUTION TO BE APPROVED.
8. TO BE CONSTRUCTED IAW FILTREXX, SECTION 1:EROSION & SEDIMENT CONTROL (PAGE 323) - CONSTRUCTION ACTIVITIES, SWPPP CUT SHEET: FILTREXX SEDIMENT CONTROL

FILTREXX SEDIMENT CONTROL
NOT TO SCALE



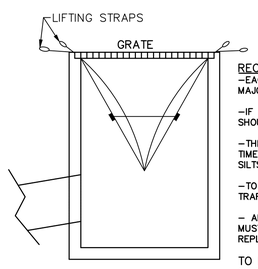
Filtrexx International, LLC
35481 Grafton Eastern Rd | Grafton, Oh 44044
440-926-2607 | fax: 440-926-4021
WWW.FILTREXX.COM
OR APPROVED EQUAL

NOTE: FOR AREAS REQUIRING DOUBLE PERIMETER CONTROL WITHIN 50' OF JURISDICTIONAL WETLANDS AND NOT FOR ALL SILT SOXX APPLICATIONS. THIS DUPLICATION MAY BE SPECIFIED AS 12" SILT SOXX OR ORANGE CONSTRUCTION FENCE AS NOTED.

SECTION NOT TO SCALE

E10

- DOVER DOES NOT ALLOW INLET PROTECTION IN CATCH BASINS WITHIN THE R.O.W. DURING WINTER MONTHS



RECOMMENDED MAINTENANCE SCHEDULE

-EACH SILTSACK SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT, AND MUST BE MAINTAINED.

-IF THERE HAVE BEEN NO MAJOR EVENTS, SILTSACK SHOULD BE INSPECTED EVERY 2-3 WEEKS.

-THE RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF CORD IS COVERED WITH SEDIMENT, THE SILTSACK SHOULD BE EMPTIED.

-TO BE USED IN ALL AREAS WHERE THERE WILL BE TRAFFIC.

- ARE SUBJECT TO DAMAGE BY SNOW PLOWS, AND MUST BE INSPECTED AFTER ANY SNOW EVENT AND REPLACED AS REQUIRED.

TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY STORM DRAIN INLET PROTECTION, PAGE 118.

SILTSACK DETAIL
NOT TO SCALE

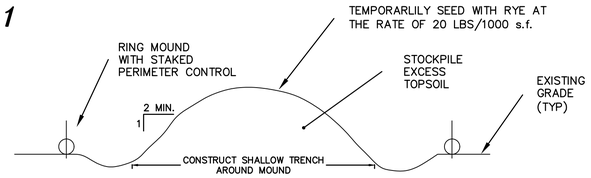
E-101

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE :	AS NOTED
DATE :	JULY 2, 2019
FILE NO. :	DB 2018 - 067

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14242
LICENSED
PROFESSIONAL ENGINEER

E11



TO BE CONSTRUCTED IAW NH SWM #3 4–1 EROSION CONTROL PRACTICES, SOIL STOCKPILE PRACTICES, PAGE 46.

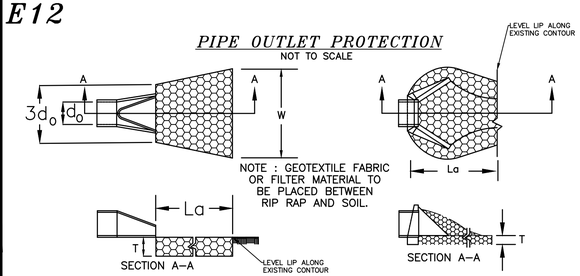
TOPSOIL STOCKPILE MOUND

NOT TO SCALE

E12

PIPE OUTLET PROTECTION

NOT TO SCALE



PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL

PIPE OUTLET TO WELL–DEFINED CHANNEL

PIPE OUTLET PROTECTION CONSTRUCTION SPECIFICATIONS

1. THE SUB GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS. SPECIFIED GRADATION.
2. THE ROCK OR GRAVEL USED FOR FILTER OF RIP RAP SHALL CONFORM TO NHDOT SECTION 583.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
5. TO BE CONSTRUCTED IAW NH SWM #2 4–6 CONVEYANCE PRACTICES, 6. OUTLET PROTECTION, PAGE 172.

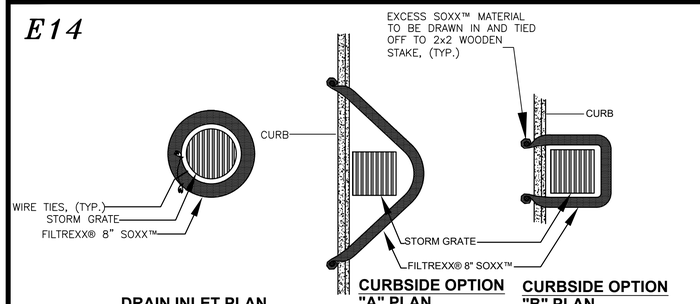
E13

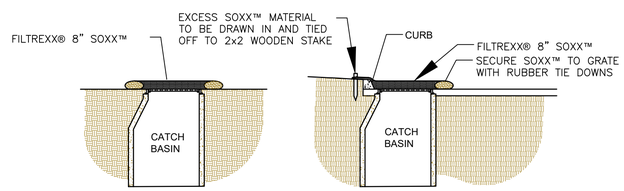
TABLE 7–24––RECOMMENDED RIP RAP GRADATION RANGES

d50 SIZE= 0.5 FEET 6 INCHES

% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE	SIZE OF STONE (INCHES) FROM	TO
100%	9	12
85%	8	11
50%	6	9
15%	2	3

E14





NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTREXX INLET PROTECTION

NOT TO SCALE

E15

NOTE: Temporary seed mix for stabilization of turf shall be winter rye or oats at a rate of 2.5 lbs. per 1000 s.f. and shall be placed prior to OCT. 15, if permanent seeding not yet complete.

NOTE: THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

SEEDING GUIDE

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	FAIR	GOOD	EXCELLENT
	E	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	FAIR	GOOD	GOOD	EXCELLENT
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	F	FAIR	EXCELLENT	EXCELLENT	2/
	G	FAIR	EXCELLENT	EXCELLENT	2/

GRAVEL PIT, SEE NH–PM–24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE 7–36.
2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

RECOMMENDED *

SEEDING RATES

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR		
FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	24	0.55
CREEPING RED FESCUE	24	0.55
BIRDS FOOT TREFOIL	REMOVED	REMOVED
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREEPING RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

SEEDING SPECIFICATIONS

1. GRADING AND SHAPING
   A. SLOPES SHALL NOT BE STEEPER THAN 2:1;3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
2. SEEDBED PREPARATION
   A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
   B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEED BED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. ESTABLISHING A STAND
   A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE,
   THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
   AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100LBS. PER 1,000 SQ.FT.
   NITROGEN(N), 50LBS. PER ACRE OR 1.1LBS. PER 1,000 SQ.FT.
   PHOSPHATE(P2O5), 100LBS. PER ACRE OR 2.2LBS. PER 1,000 SQ.FT.
   POTASH(K2O), 100LBS. PER ACRE OR 2.2LBS. PER 1,000 SQ.FT.
   (NOTE: THIS IS THE EQUIVALENT OF 500LBS. PER ACRE OF 10–20–20 FERTILIZER OR 1,000LBS. PER ACRE OF 5–10–10.)
   B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
   C. REFER TO TABLE(G–E1 THIS SHEET) FOR APPROPRIATE SEED MIXTURES AND TABLE(H–E1 THIS SHEET) FOR RATES OF SEEDING. ALL LEGUMES (CROWNVETCH, BIRDSFOOT TREFOIL, AND FLATPEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT.
   D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.

CONSERVATION MIX	POUNDS PER ACRE	POUNDS PER 1,000 S.F.
TALL FESCUE (24%)	15	0.35
CREEPING RED FESCUE (24%)	15	0.35
ANNUAL RYEGRASS (8.5%)	5	0.12
PERENNIAL RYEGRASS (8.5%)	5	0.12
KENTUCKY BLUEGRASS (24%)	15	0.35
WHITE CLOVER (11%)	7	0.16

4. MULCH
   A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
   B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90LBS PER 1000 S.F.
5. MAINTENANCE TO ESTABLISH A STAND
   A. PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
   B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIAL STAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
   C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.
6. TO BE CONSTRUCTED IAW NH SWM #3 4–1 EROSION CONTROL PRACTICES, PERMANENT VEGETATION, PAGE 60.

RAIN GARDEN MIX

THE GRASS THAT IS PLANTED WITHIN A RAIN GARDEN BIO–FILTRATION SYSTEM WITHIN THE BIO–MEDIA MUST CONSIST OF A COMBINATION OF WARM SEASON GRASS SEED AND COLD SEASON GRASS SEED IN ORDER FOR THE GRASS TO START GROWING FOR STABILIZATION AND CONTINUE GROWING IN THE SANDY WELL–DRAINED ENVIRONMENT. PLANTING SPECIFICATION WILL MEET THE REQUIREMENTS AS OUTLINED IN 'VEGETATION NEW HAMPSHIRE SAND AND GRAVEL PITS' MIX 1 (WARM SEASON GRASSES) (15 LBS/AC) AND INCLUDE ANNUAL AND PERENNIAL RYE GRASS SEED (15 LBS/AC); THE NEW ENGLAND NATIVE WARM SEASON GRASS MIX (23 LBS/AC) BY NEW ENGLAND WETLAND PLANTS, INC.; RAIN GARDEN MIX 180 (15 LBS/AC & 15 LBS/AC OF RYE) / RAIN GARDEN GRASS MIX 180–1 (20 LBS/AC & 10 LBS/AC OF RYE) BY ERNST CONSERVATION SEEDS; OR APPROVED EQUAL.

E16

CONSTRUCTION SEQUENCE:

1.) CUT AND REMOVE TREES IN CONSTRUCTION AREA ONLY AS REQUIRED, RELOCATE ANY PROJECT T.B.M.

2.) CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT SEDIMENT EROSION AND DETENTION CONTROL FACILITIES AS SPECIFIED. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL LAND DISTURBANCE AND MUST BE REVIEWED AND APPROVED BY THE COMMUNITY SERVICES DEPARTMENT.

3.) EROSION, SEDIMENT AND DETENTION CONTROL FACILITY SHALL BE INSTALLED & STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.TEMPORARY DIVERSIONS MAY BE REQUIRED. POST CONSTRUCTION STORM WATER MANAGEMENT PRACTICES MUST BE INITIATED AND STABILIZED EARLY IN THE PROCESS.

4.) CLEAR, CUT AND DISPOSE OF DEBRIS IN APPROVED FACILITY

5.) CONSTRUCT TEMPORARY CULVERTS AS REQUIRED, OR DIRECTED

6.) CONSTRUCT ROADWAYS FOR ACCESS TO DESIRED CONSTRUCTION AREAS. ALL ROADS SHALL BE STABILIZED IMMEDIATELY

7.) START BUILDING CONSTRUCTION

8.) INSTALL PIPE AND CONSTRUCTION ASSOCIATED APPURTENANCES AS REQUIRED OR DIRECTED. INSTALL RAIN GARDENS. ALL DISTURBED AREAS SHALL STABILIZED IMMEDIATELY AFTER GRADING.

9.) BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEEDED OR MULCHED AS REQUIRED, OR DIRECTED. NO AREA IS ALLOWED TO BE DISTURBED FOR A LENGTH OF TIME THAT EXCEEDS 60 DAYS BEFORE BEING STABILIZED. DAILY, OR AS REQUIRED. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADES. ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADES.

10.) CONSTRUCT TEMPORARY BERMS, DRAINS DITCHES, SILT FENCES, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED.

11.) INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. ALL SWPPP INSPECTIONS MUST BE CONDUCTED BY A QUALIFIED PROFESSIONAL SUCH AS A PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORM WATER INSPECTOR (CESSWI), OR A CERTIFIED PROFESSIONAL IN STORM WATER QUALITY (CPSWQ). INSPECTION REPORTS SHALL BE SUBMITTED TO THE COMMUNITY SERVICES DEPARTMENT.

12.) COMPLETE PERMANENT SEEDING AND LANDSCAPING.

13.) REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETE.

14.) SMOOTH AND REVEGETATE ALL DISTURBED AREAS.

15.) FINISH PAVING ALL ROADWAYS.

NOTE: CITY OF DOVER'S "CONSTRUCTION GUIDELINES, PERMITS, RULES AND REGULATIONS" ARE A PART OF THIS PLAN SET AND THE MORE RESTRICTIVE WILL GOVERN. (D–CGPRR)

E17 DEFINITION OF STABLE:

PER ENV–WQ 1500 ALTERATION OF TERRAIN

1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
2. A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED..
3. A MINIMUM OF 3 INCHES OF NON–EROSIVE MATERIAL SUCH AS STONE OR RIP–RAP HAS BEEN INSTALLED.
4. OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

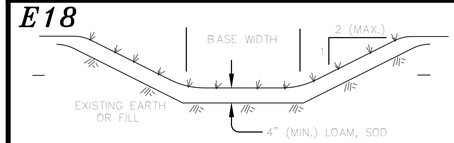
ADDITION STABILIZATION NOTES:

5. HAY MULCH OR OTHER APPROVED METHODS SHALL BE USED TO CONTROL EROSION OF NEWLY GRADED AREAS. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS AFTER THEIR CONSTRUCTION.
6. DISTURBED SOIL AREAS SHALL BE EITHER TEMPORARILY OR PERMANENTLY STABILIZED. IN AREAS WHERE FINAL GRADING HAS NOT OCCURRED, TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN (7) CALENDAR DAYS FOR EXPOSED SOIL AREAS THAT ARE WITHIN ONE HUNDRED (100) FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE (3) CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.

E18

GRASS TREATMENT SWALE

NOT TO SCALE

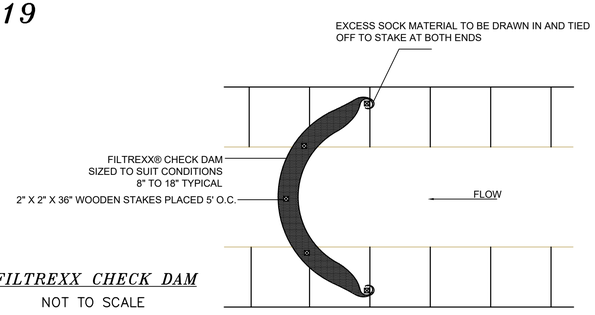


INSPECT ANNUALLY FOR EROSION, SEDIMENT ACCUMULATIONS, VEGETATION LOSS, & INVASIVE SPECIES. REPAIR AS NECESSARY.

MOW GRASS ANNUALLY TO A DEPTH OF 4".

TO BE CONSTRUCTED IAW NH SWM #2 CHAPTER 4, #5 TREATMENT SWALES, PAGE 123.

E19

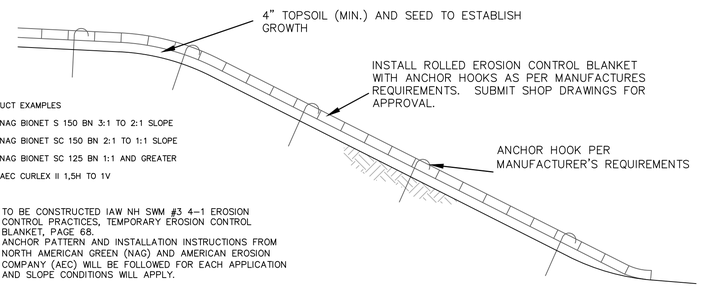


FILTREXX CHECK DAM

NOT TO SCALE

NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. CHECK DAM SHOULD BE USED IN AREAS THAT DRAIN 1 ACRE OR LESS.
3. SEDIMENT SHOULD BE REMOVED FROM BEHIND CHECK DAM ONCE THE ACCUMULATED HEIGHT HAS REACHED ½ THE HEIGHT OF THE CHECK DAM.
4. CHECK DAM CAN BE DIRECT SEEDED AT THE TIME OF INSTALLATION.
5. CONTRACTOR IS REQUIRED TO BE A FILTREXX CERTIFIED™ INSTALLER.

E20



PRODUCT EXAMPLES

1.) NAG BIONET S 150 BN 3:1 TO 2:1 SLOPE
2.) NAG BIONET SC 150 BN 2:1 TO 1:1 SLOPE
3.) NAG BIONET SC 125 BN 1:1 AND GREATER
4.) AEC CURLEX II 1,5H TO 1V

1. TO BE CONSTRUCTED IAW NH SWM #3 4–1 EROSION CONTROL PRACTICES, TEMPORARY EROSION CONTROL BLANKET, PAGE 68.
2. ANCHOR PATTERN AND INSTALLATION INSTRUCTIONS FROM NORTH AMERICAN GREEN (NAG) AND AMERICAN EROSION COMPANY (AEC) WILL BE FOLLOWED FOR EACH APPLICATION AND SLOPE CONDITIONS WILL APPLY.

ROLLED EROSION CONTROL BLANKET (RECB) SLOPE STABILIZATION DETAIL

NOT TO SCALE

E21

WINTER STABILIZATION NOTES

1. ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3–4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" (EXCELSIOR'S CURLEX II OR EQUAL). ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3–4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.

2. ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.

3. PRIOR TO NOV. 15TH ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15–25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.

4. AFTER OCTOBER 15TH, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEEDED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3–4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.

E–102

REVISION	DATE	DESCRIPTION

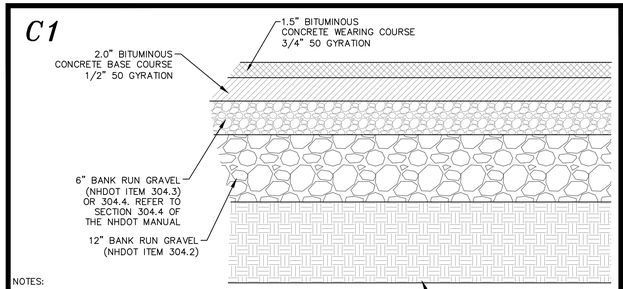
EROSION & SEDIMENT CONTROL DETAILS
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : AS NOTED
DATE : JULY 2, 2019
FILE NO. : DB 2018 – 067

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED PROFESSIONAL ENGINEER

C1



NOTES:

1.) BITUMINOUS MATERIALS SHALL CONFORM TO NHDOT SPECIFICATION SUBSECTION 401.3.6.

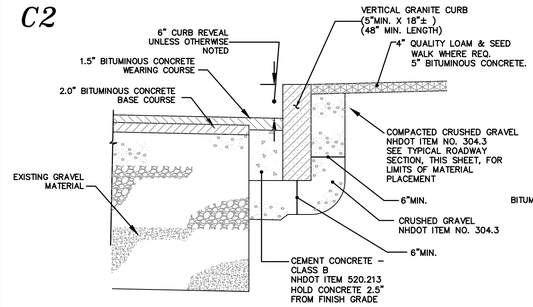
2.) PAVEMENT BASE COURSE AGGEGATE SHALL CONFORM TO NHDOT SPECIFICATION SECTION 304, ITEM 304.3 AND COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY.

3.) PAVEMENT SUBBASE COURSE AGGREGATE AND AGGREGATE FOR SUBGRADE REPAIR AREAS SHALL BE SUITABLE FOR USE AS STRUCTURAL FILL AND BE PROOFROLLED AND COMPABED TO 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY. FOR NEW CONSTRUCTION AREAS ONLY. IN EXISTING PAVEMENT AREAS THE CONTRACTOR IS TO ENSURE THE BASE MATERIAL IS SUITABLE TO THE OWNER FOR RE-PAVING

BITUMINOUS CONCRETE PAVEMENT SECTION

NOT TO SCALE

C2

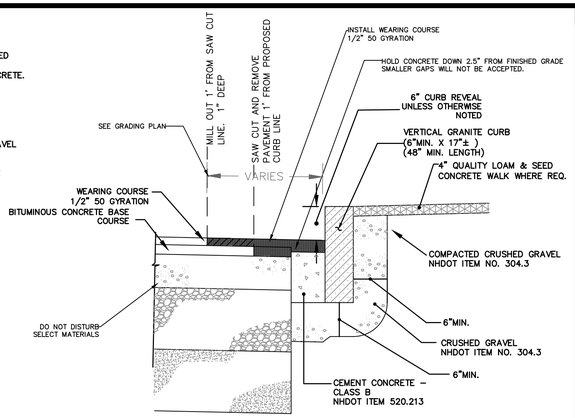


GENERAL NOTE:

1.) TO BE USED IN PLACE OF THE CONCRETE WALK AND INTEGRATED CURB AT THE OWNERS DISCRETION

VERTICAL GRANITE CURB DETAIL ON SITE

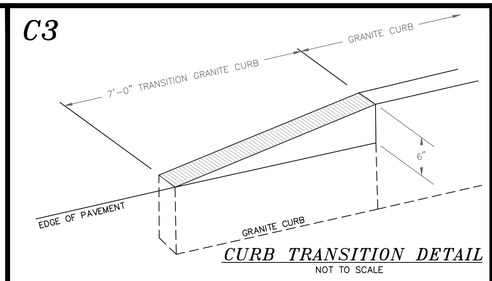
NOT TO SCALE



VERTICAL GRANITE CURB DETAIL OFF SITE

NOT TO SCALE

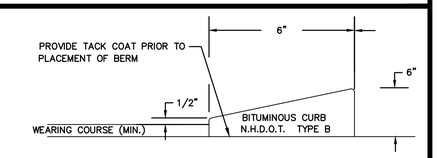
C3



CURB TRANSITION DETAIL

NOT TO SCALE

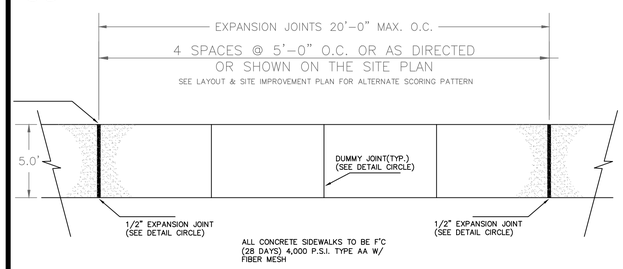
C4



MODIFIED CAPE COD BERM

NOT TO SCALE

C5



NOTES:

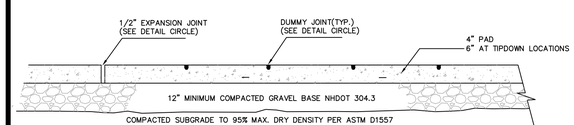
1.) PROVIDE EXPANSION JOINT MATERIAL WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER PLUS SEALANT FLUSH WITH ADJACENT CONCRETE SURFACE.

2.) SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.

3.) PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB RAMP INCLUDING FLARED SIDE RAMPS.

4.) CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK PITCH.

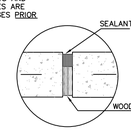
5.) WHENEVER POSSIBLE, CONSTRUCT THE TRANSITION SLOPE FROM THE CURB RAMP AND FLARE SIDES TO ADJOINING SURFACES WITH A GRADUAL CURVE RATHER THAN AN ABRUPT ANGLE.



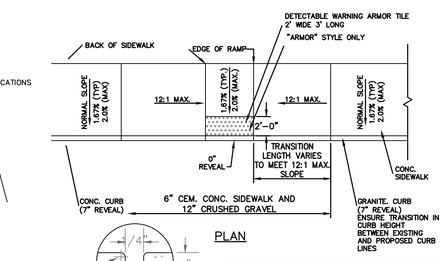
REVISE AS NECESSARY TO MEET JOB AND LOCAL JURISDICTION REQUIREMENTS AND GEOTECHNICAL REPORT REQUIREMENTS. THE MINIMUM REQUIRED THICKNESSES ARE SHOWN IN THE DETAIL. ADVISE DESIGN ENGINEER OF ALL PROPOSED CHANGES PRIOR TO INSTALLATION.

CONCRETE SIDEWALK

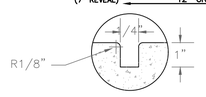
NOT TO SCALE



EXPANSION JOINT DETAIL (N.T.S.)



PLAN

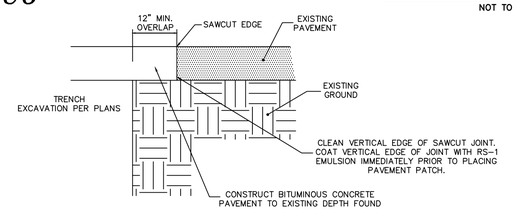


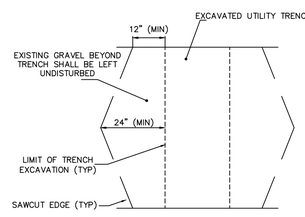
DUMMY JOINT DETAIL (N.T.S.)

C6

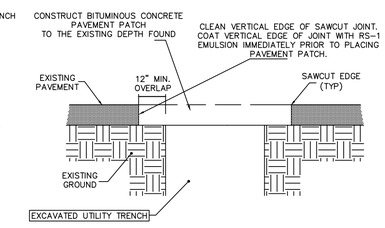
TYPICAL TRENCH PATCH

NOT TO SCALE





PLAN

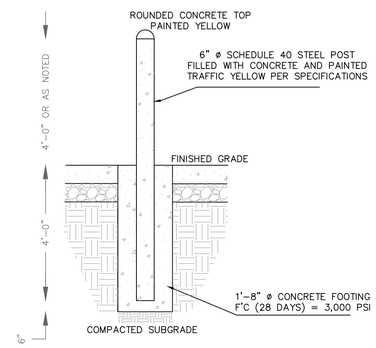


SECTION

NOTES

1. MACHINE CUT EXISTING PAVEMENT.
2. ALL TEMPORARY, DAMAGED, OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
3. DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

C7



BOLLARD DETAIL

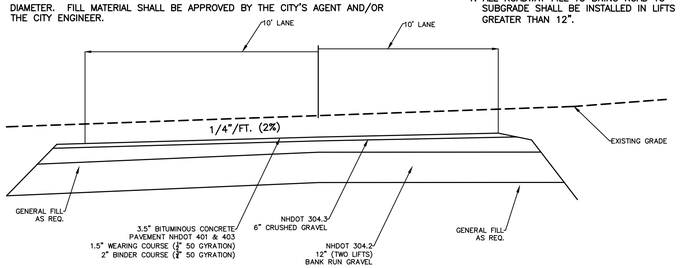
NOT TO SCALE

C8

COMPACTED SUBGRADE – CONTRACTOR SHALL SCARIFY SUBGRADE TO A DEPTH OF 30 INCHES BELOW F-GRADE. ALL STONES GREATER THAN 6" IN DIAMETER SHALL BE REMOVED FROM THE SCARIFIED LAYER. ANY IMPORTED FILL SHALL BE FREE OF ORGANICS AND FROST AND SHALL HAVE NO ROCKS LARGER THAN 6" IN DIAMETER. FILL MATERIAL SHALL BE APPROVED BY THE CITY'S AGENT AND/OR THE CITY ENGINEER.

CROSS SECTION NOTES

1. ALL ROADWAY FILL TO BRING ROAD TO SUBGRADE SHALL BE INSTALLED IN LIFTS NO GREATER THAN 12".



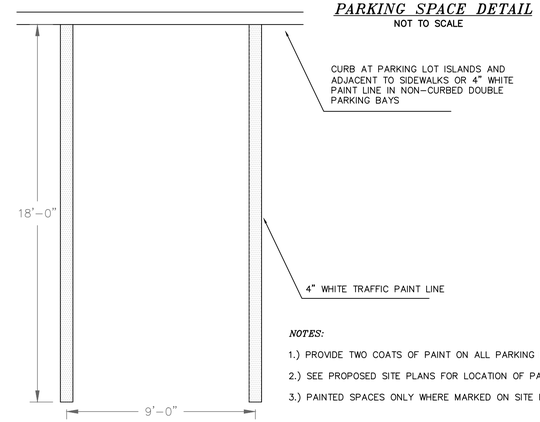
TYPICAL ROADWAY SECTION

NOT TO SCALE

C9

PARKING SPACE DETAIL

NOT TO SCALE



NOTES:

1.) PROVIDE TWO COATS OF PAINT ON ALL PARKING LINES.

2.) SEE PROPOSED SITE PLANS FOR LOCATION OF PARKING SPACES.

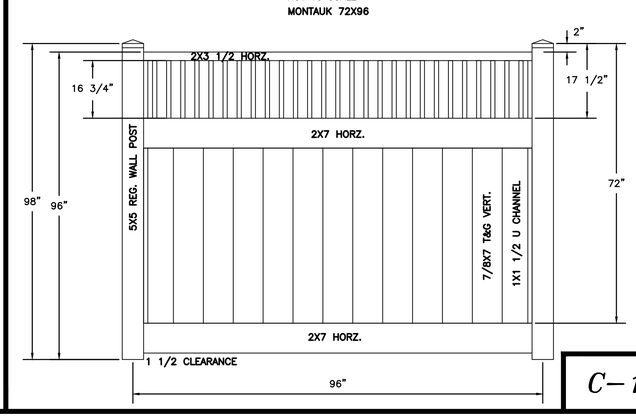
3.) PAINTED SPACES ONLY WHERE MARKED ON SITE PLAN

C10

WHITE VINYL FENCE DETAIL

NOT TO SCALE

MONTAUK 72X96



C-101

REVISION	DATE	DESCRIPTION

CONSTRUCTION DETAILS
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

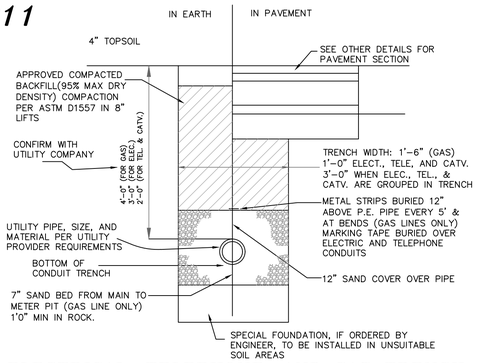
BERRY & SURVEYING ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS NOTED
DATE : JULY 2, 2019
FILE NO. : DB 2018 – 067

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED
PROFESSIONAL ENGINEER

SHEET 10 OF 12

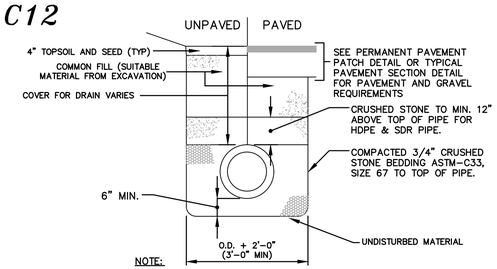
C11



ELECTRICAL, TELEPHONE, AND GAS TRENCH

NOT TO SCALE

C12



NOTE:

PLASTIC DRAIN PIPE (HDPE) SHALL BE ADS N-12 (CORRUGATED EXTERIOR/SMOOTH INTERIOR) OR EQUAL MEETING AASHTO M-252 AND H-20 LOADING.

DI DRAIN PIPE SHALL BE CL. 52.

RC DRAIN PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.

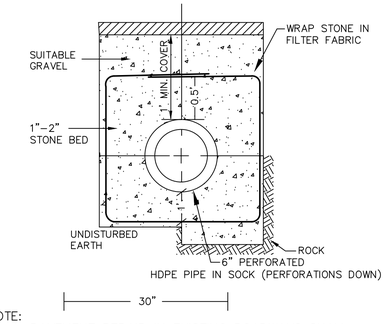
TYPICAL DRAIN AND SEWER PIPE TRENCH

NOT TO SCALE

C13

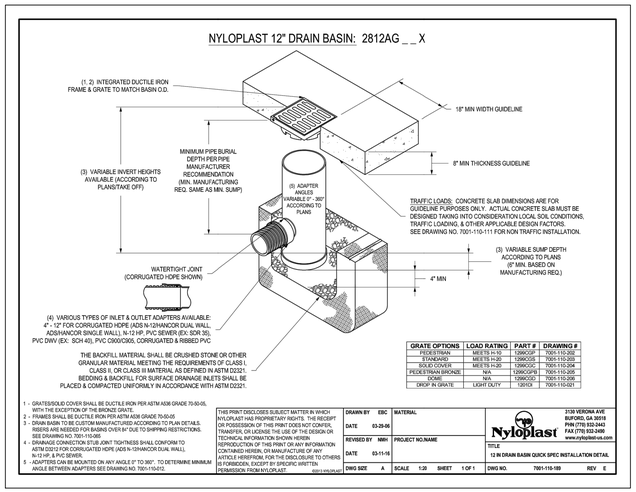
UNDERDRAIN TRENCH DETAIL

NOT TO SCALE



NOTE:
1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.

C14



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	12WCGP	7001-110-202
STANDARD	MEETS H-20	12WCGS	7001-110-203
SOLID COVER	MEETS H-20	12WCGC	7001-110-204
PEDESTRIAN BRONZE	N/A	12WCGPB	7001-110-205
DOME	N/A	12WCGD	7001-110-206
DROP IN GRATE	LIGHT DUTY	12DIG	7001-110-021

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DRAWN BY EBC | DATE 03-25-10 | REVISED BY NMH | DATE 03-11-16 | MATERIAL | PROJECT NO.NAME | DWG SIZE A | SCALE 1:40 | SHEET 1 OF 1

Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

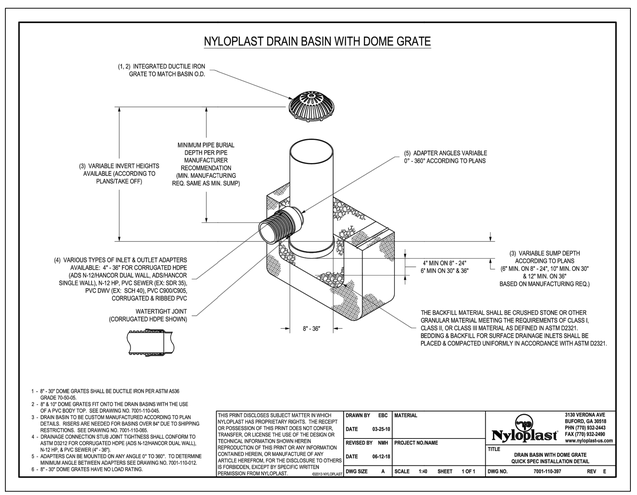
TITLE: 12 IN DRAIN BASIN WITH DOME GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-097 REV E

12" NYLOPLAST DRAIN BASIN

NOT TO SCALE

C15



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 8" & 10" DOME GRATES FIT ONTO THE DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (EX: SDR 35).
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DRAWN BY EBC | DATE 03-25-10 | REVISED BY NMH | DATE 06-12-18 | MATERIAL | PROJECT NO.NAME | DWG SIZE A | SCALE 1:40 | SHEET 1 OF 1

Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

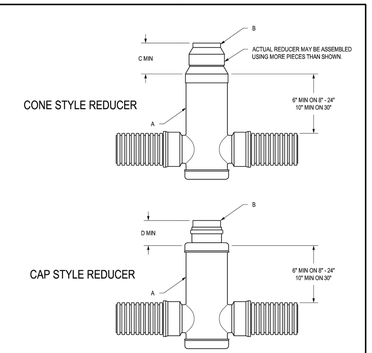
TITLE: DRAIN BASIN WITH DOME GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-037 REV E

8" NYLOPLAST DOME GRATE

NOT TO SCALE

C16



A	B	C	D
10"	8"	6.00	9.00
12"	8"	12.00	9.00
12"	10"	6.00	10.00
15"	8"	18.50	9.00
15"	10"	12.50	10.00
15"	12"	6.50	
18"	8"	25.50	9.00
18"	10"	19.50	10.00
18"	12"	13.50	11.50
18"	15"	7.00	
24"	8"	36.50	9.00
24"	10"	30.50	10.00
24"	12"	24.50	11.00
24"	15"	18.00	12.00
24"	18"	11.00	
30"	8"	46.50	9.00
30"	10"	40.50	10.00
30"	12"	34.50	11.50
30"	15"	28.00	12.00
30"	18"	21.00	14.50
30"	24"	13.50	

NOTE: DIMENSIONS ARE FOR REFERENCE ONLY. ACTUAL DIMENSIONS MAY VARY

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DRAWN BY CJA | DATE 2-6-03 | REVISED BY JJC | DATE 7-19-13 | MATERIAL | PROJECT NO.NAME | DWG SIZE A | SCALE 1:25 | SHEET 1 OF 1

Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

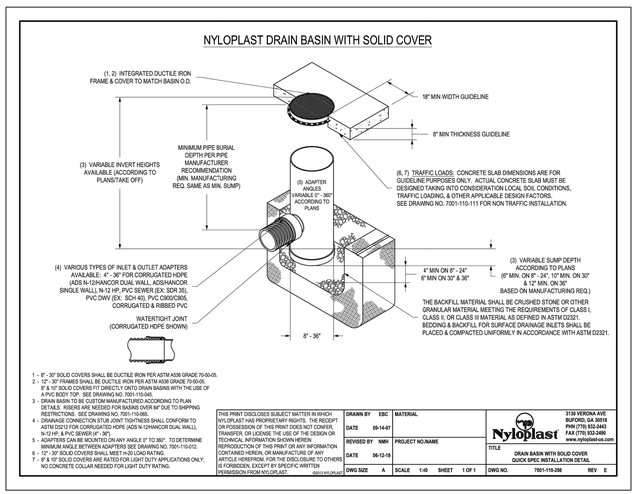
TITLE: DRAIN BASIN WITH REDUCER OPTIONS

DWG NO. 7001-110-104 REV E

DRAIN BASIN REDUCER

NOT TO SCALE

C17



1 - 8" - 30" SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. 8" & 10" SOLID COVERS FIT DIRECTLY ONTO DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 30" SOLID COVERS SHALL MEET H-20 LOAD RATING.
7 - 8" & 10" SOLID COVERS ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

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DRAWN BY EBC | DATE 09-14-07 | REVISED BY NMH | DATE 06-12-18 | MATERIAL | PROJECT NO.NAME | DWG SIZE A | SCALE 1:40 | SHEET 1 OF 1

Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

TITLE: DRAIN BASIN WITH SOLID COVER QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-298 REV E

12" NYLOPLAST SOLID COVER

NOT TO SCALE

C-102

REVISION	DATE	DESCRIPTION

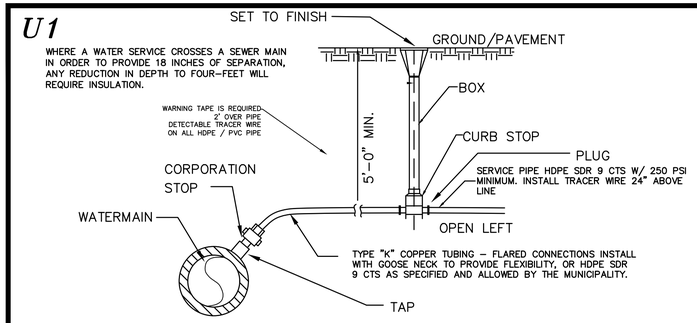
CONSTRUCTION DETAILS
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS NOTED
DATE : JULY 2, 2019
FILE NO. : DB 2018 – 067

STATE OF NEW HAMPSHIRE — KENNETH A. BERRY — No. 14243 — LICENSED PROFESSIONAL ENGINEER

U1

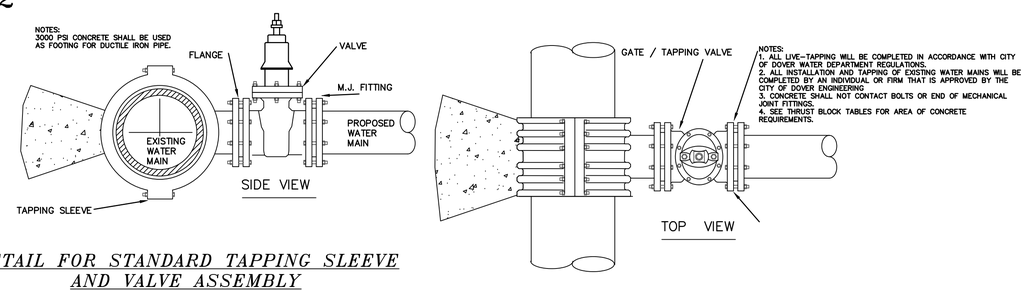


TYPICAL WATER SERVICE CONNECTION

NOT TO SCALE

THE END OF THE INSTALLED WATER SERVICE TO BE MARKED BY A 2X4. (SUBDIVISION ONLY)

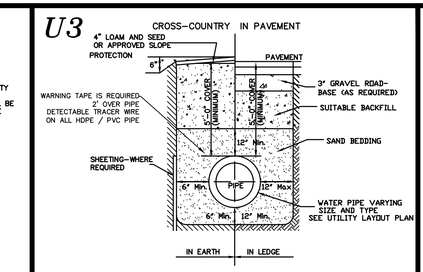
U2



DETAIL FOR STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

NOT TO SCALE

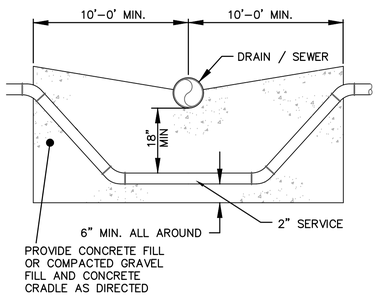
U3



TYPICAL TRENCH DETAIL FOR WATER SYSTEM

NOT TO SCALE

U4



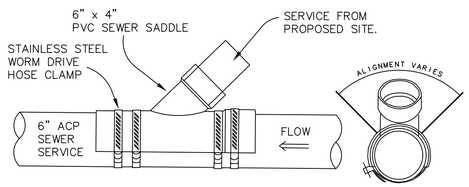
WATER MAIN INSTALLATION – BELOW DRAIN / SEWER

NOT TO SCALE

U5

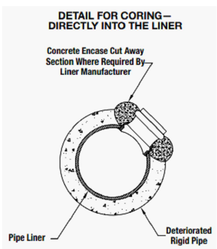
HOLE SAW SIZING CHART

INSERTA TEE Size	Hole Saw Size
2" (51 mm)	2⅝" (67 mm)
3" (75 mm)	3¾" (95 mm)
4" (100 mm)	4½" (114 mm)
6" (150 mm)	6½" (165 mm)
8" (200 mm)	8¾" (222 mm)
10" (250 mm)	10⅞" (276 mm)
12" (300 mm)	12⅞" (327 mm)
15" (375 mm)	15 11/16" (402 mm)
18" (450 mm)	19¾" (503 mm)
21" (525 mm)	22 9/16" (573 mm)
24" (600 mm)	25¼" (643 mm)
27" (675 mm)	28½" (724 mm)
30" (750 mm)	32 13/32" (826 mm)



SEWER SADDLE DETAIL

NOT TO SCALE



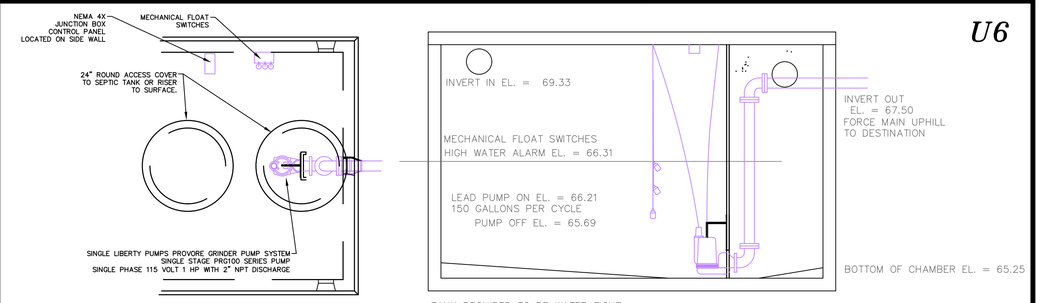
SPECIFICATIONS

Rubber Sleeve	ASTM F477
Band	301 SS
Screw	305 SS
Housing	301 SS
Gasket	ASTM F477

INSERTA TEE DETAIL

NOT TO SCALE

U6

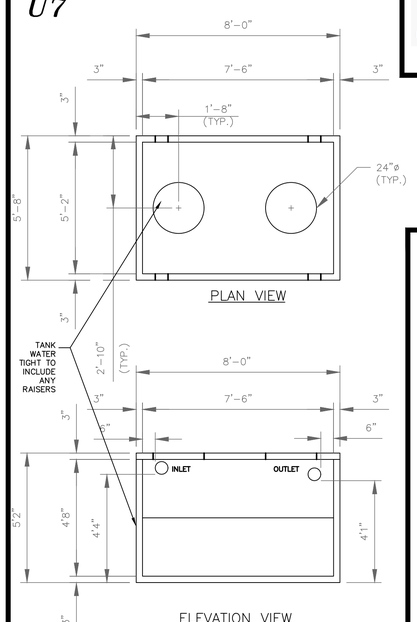


NOTES:

1. AT THE TIME OF CONSTRUCTION BASED ON THE PROPOSED HOUSE FINISH FLOOR ELEVATION AND PROPOSED SEWER EFFLUENT FOUNDATION INVERT, AN INDIVIDUAL DESIGN WILL BE COMPLETED BY A PROFESSIONAL ENGINEER AND SUBMITTED TO THE CITY ENGINEER, DPW, COMMUNITY SERVICES.
2. EACH LOT WILL BE EQUIPPED WITH A 1000-GALLON HOLDING TANK AND A LIBERTY PUMP OMNIVOR GRINDER PUMP LSG200 SERIES OR APPROVED EQUAL.
3. THE BOTTOM OF THE PUMP CHAMBER WILL BE SLOPED AT A 1% SLOPE IN ALL DIRECTIONS CREATING A SUMP AROUND THE BASE OF THE PUMP. THE LIFT STATION WILL BE EQUIPPED WITH A GR20 GUIDE RAIL BASE AND RAIL SYSTEM AND LIFT CHAIN. THE PUMP DISCHARGE WILL BE EQUIPPED WITH A CHECK VALVE AND A GATE VALVE BETWEEN THE PUMP AND THE TANK WALL, IN THAT ORDER. THE DISCHARGE WILL LEAVE THE TANK AT A POINT FOUR-FEET BELOW GRADE, INSULATED OR SIX-FEET IF UNDER PAVEMENT, AND THE FORCE MAIN WILL BE DESIGNED UP-HILL TO THE INTERSECTION OF THE COMMON FORCE MAIN.

PUMP & CONTROL CONFIGURATION

U7



NOTES:

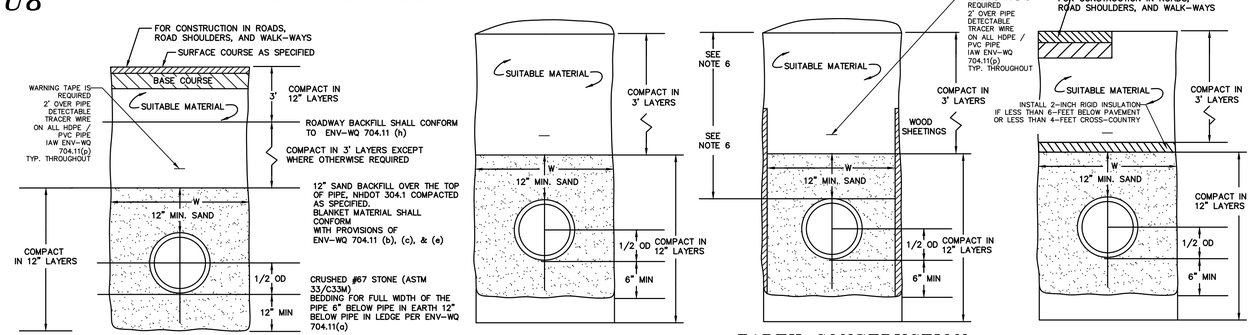
1. THE BOTTOM OF THE PUMP CHAMBER WILL BE SLOPED AT A 1% SLOPE IN ALL DIRECTIONS CREATING A SUMP AROUND THE BASE OF THE PUMP. THE CONCRETE IS TO BE WATER TIGHT.
2. THE CONCRETE WILL BE 4,000 PSI MINIMUM AFTER 28 DAYS, ALL REINFORCEMENT PER ASTM C1227, WITH SEALED JOINTS. IF LOCATED UNDER A PAVED AREA, THE PUMP TANK MUST BE MANUFACTURED TO H-20 LOADING. ANTI-FLOATATION CALCULATIONS MUST BE COMPLETED AND SUBMITTED TO THE CITY ENGINEER AT THE TIME OF DESIGN, ASSUMING AN EMPTY TANK.

1,000 GALLON PUMP TANK

NOT TO SCALE

U8

SEE ALSO TYPICAL SEWER AND DRAINAGE TRENCH DETAIL, SHEET C-101, DETAIL C8



LEDGE CONSTRUCTION

NOT TO SCALE

EARTH CONSTRUCTION

NOT TO SCALE

EARTH CONSTRUCTION WITH SHEETING

NOT TO SCALE

TRENCH INSULATION

NOT TO SCALE

REVISION	DATE	DESCRIPTION

UTILITY DETAILS
LAND OF
THOMAS STRANGE
96 PORTLAND AVENUE
DOVER, N.H.
TAX MAP 24 LOT 75

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS NOTED
DATE : JULY 2, 2019
FILE NO. : DB 2018 – 067

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED
PROFESSIONAL ENGINEER

U–101