

DEEP OBSERVATION HOLE LOG:

GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED AT 27 CROSS ST, NEWTON, MA. BY MATTHEW MUI, SOIL EVALUATOR #14259 REPRESENTING SPRUHAN ENGINEERING, P.C. DATED: 7/16/2022 HOLE NUMBER: TP-1

GENERAL SITE CONDITIONS: BUILDINGS, PAVED/GRASS AREAS.

GRADE AT TEST PIT = 41.0'± ESTIMATED SEASONAL HIGH GROUNDWATER TABLE AT 35.67'±.

	DEEP OBSERVATION HOLE LOG										
	DEEP OBS	ERVATION I	HOLE NUM	BER:	TP-1		GRO	UND ELE	/ATION:		41.0±
Depth Horizon/		Matrix:	Red	oximorphic Feat	Texture				Structure	Structure Consistence	Other
(in)	Layer	Color-Moist	Depth (in)	Color	Percent	(USDA) Gravel	Cobbles & Stones	Olluciule	(Moist)	Other	
0-36	FILL	-	=	-	0.774	-	=	-	=	100	=
36-54	Ар	10 YR ½	-		1944	SILT LOAM	5		ABK	VFR	-
54-64	Bw	10 YR 3/3	-	-	15 13	SILT LOAM	5	10	ABK	VFR	-
64-78+	С	10 YR ⁶ / ₂	64	5 YR 5	35	SAND	=	5	GRAN	LOOSE	1,2
2. V	WEEPING OBSERVED AT APPROX 68" WATER OBSERVED @ BOTTOM OF HOLE										

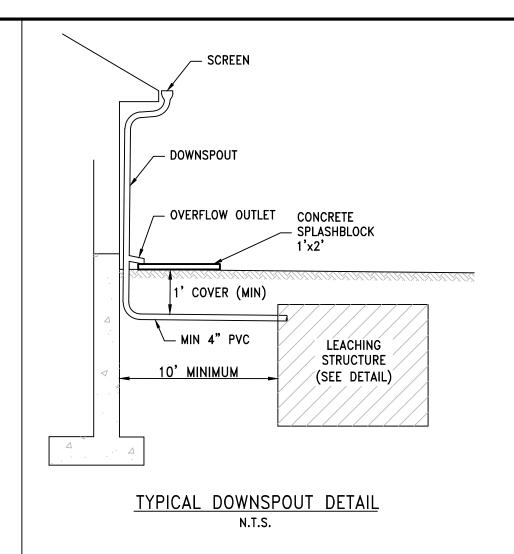
DEEP OBSERVATION HOLE LOG:

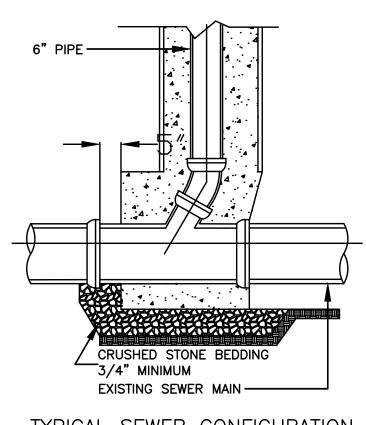
GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED AT 27 CROSS ST, NEWTON, MA. BY MATTHEW MUI, SOIL EVALUATOR #14259 REPRESENTING SPRUHAN ENGINEERING, P.C.

GENERAL SITE CONDITIONS: BUILDINGS, PAVED/GRASS AREAS.

GRADE AT TEST PIT = $43.5'\pm$ ESTIMATED SEASONAL HIGH GROUNDWATER TABLE AT 35.00 ±.

	EEP OBS	ERVATION	HOLE NUME	BER:	TP-2		GRO	OUND ELEV	/ATION:	_	43.5
Depth Horiz	Horizon/	orizon/ Matrix:	Redoximorphic Features		Texture	Coarse Fragments (Percent by Volume)		a	Consistence	2.7	
(in)	Layer	Color-Moist	Depth (in)	Color	Percent	(USDA)	Gravel	Cobbles & Stones	Structure	(Moist)	Other
0-50	FILL	-	-	=	155		=	-	-	=	-
50-60	Ар	10 YR ∯	·			SILT LOAM	5	-	ABK	VFR	-
60-72	Bw	10 YR 3/4		=	4.000	SILT LOAM	5	10	ABK	VFR	 1
72-108+	С	10 YR 6/4	102	5 YR 5/8	20	SAND	-	5	GRAN	LOOSE	-





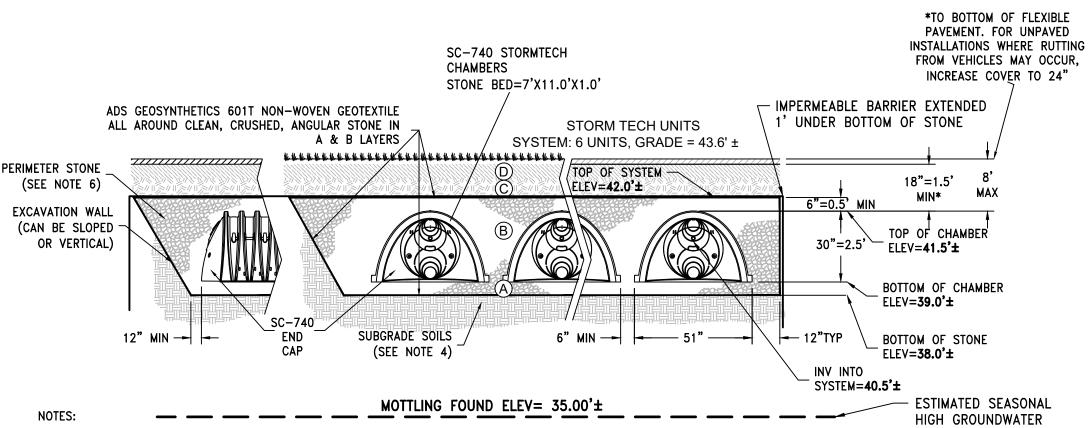
TYPICAL SEWER CONFIGURATION

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

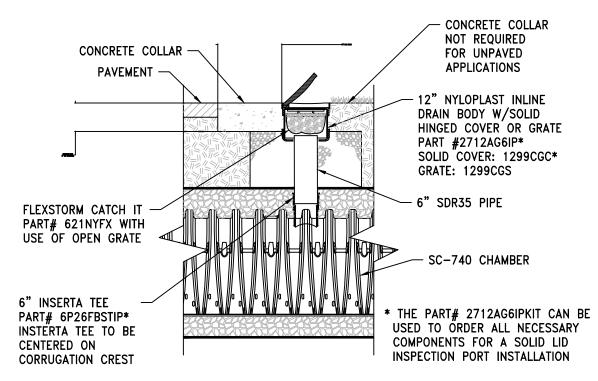
	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
С	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145' A-1, A-2-4, A-3 OR AASHTO M43' 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
В	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. 2 3

PLEASE NOTE:

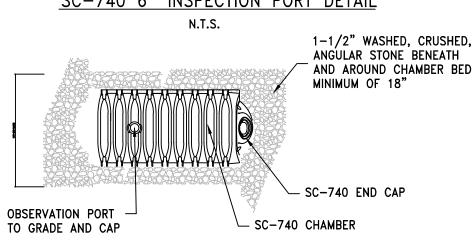
- 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS. CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



- 1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- 4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- 5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- 6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

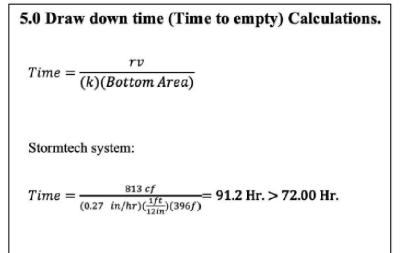


SC-740 6" INSPECTION PORT DETAIL



STORMTECH SC-740 CHAMBER SYSTEM PLAN VIEW DETAIL

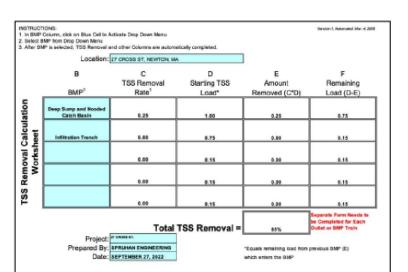
N.T.S.



Crushed stone system:

575.0 cf

 $Time = \frac{575.0 cf}{(0.27 in/hr)(\frac{1ft}{12in})(800 Sf)} = 31.9 \text{ Hr.} < 72.00 \text{ Hr.}$





TOTAL IMPERVIOUS = 4,400.0 SF Design For 2" Rainstorm

Storage Volume Required: $V_R = (2"/12) (4,400 \text{ SF}) = 733 \text{ CF}$

CAPACITY OF PROPOSED STORM TECH SYSTEM

Storage Capacity of single Storm Tech UNIT = 49 CF

Void Ratio =0.4

Total Volume= (6'x 11' x 4'depth (2.5ft for Storm Tech unit) x 6 UNIT) = 1,584 CF

Capacity for 6 UNIT = 294 CF Storage Capacity in Crushed Stone = (Total Volume - Capacity of Units) x Void Ratio =

 $(1,584 - 294) \times 0.4 = 516 \text{ CF}$ Total Storage Provided = Capacity in Crushed Stone + Total Capacity in Units =

516 CF + 294 CF = 810 CF

Since Total Storage Provided (810 CF) > Total Storage Required (733 CF/D) Therefore, utilize 6-Storm-Tech Chamber with 1 ft. of Crushed Stone Beneath to Contain a 2" Storm Event

CRUSHED STONE SYSTEM Design Criteria:

Impervious Roof = 1,435 SF Impervious Pavement = 0 SF Total = 1,435 SFDesign For 2" Rainstorm

Storage Volume Required:

 $V_R = (2"/12) (1,435 \text{ SF}) = 240 \text{ CF}$

CAPACITY OF PROPOSED CRUSHED STONE SYSTEM Volume of trench = $20' \times 40' \times 2.0' = 1,600$ CF

Void Ratio =0.4

Storage volume in stone = (1,600 CF x 0.4) = 640 CF

Total storage volume = 640 CF

Since Total Storage Provided (640 CF) > Total Storage Required (240 CF/D) Therefore, utilize a 20'x40'x2.0' crushed stone system to Contain a 2" Storm Event

TOTAL PROPOSED IMPERVIOUS AREA = 4,399.16 SF STORAGE VOLUMEN REQUIRED (2" STORM) = 733 CF TOTAL STORAGE PROVIDED = 1,450 CF

	PHOSPHORUS LOAD TABLE						
TP=A*L		TP = TOTAL PHO	SPHORUS	5			
Where:							
L	=	Load of a polluta	ant in pou	inds per acre per year.			
Α	=	Total existing im					
A1	=						
A2	=	Total captured in	nperviou	s area (acres).			
TOTAL EXISTING LOAD							
TP EXISTING	=	A*L					
TP EXISTING	=	0.0610 ACRES	Х	2.32 lbs/acre/year			
TP EXISTING	=	0.142	lbs/year				
		TC	TAL PRO	POSED LOAD			
TP PROPOSED	=	A1*L					
TP PROPOSED	=	0.1010 ACRES	X	2.32 lbs/acre/year			
TP PROPOSED	=	0.234	lbs/year				
		TOTAL REI	DUCED LC	OAD (AFTER CAPTURE)			
TP REDUCED	=	A2*L					
TP REDUCED	=	0.0890 ACRES	х	2.32 lbs/acre/year			
TP REDUCED	=	0.206	lbs/year				
TOTAL	. PHC	SPHORUS REDUC	CTION FR	OM POST CONSTRUCTION IMPERVIOUS			
TP RED.	=	0.028	lbs/year				
TP RED.	=		88.13 %				

Storm Event	Runoff	flow rate	Runoff Volume		
	Existing	Proposed	Existing	Proposed	
2-Year	0.72 cfs	0.50 cfs	2,264 cf	1,527 cf	
10-Year	1.27 cfs	0.91 cfs	3,994 cf	2,780 cf	
25-Year	1.59 cfs	1.16 cfs	4,923 cf	3,627 cf	
100-Year	2.91 cfs	2.24 cfs	9,134 cf	7,651 cf	

── INLET 4" PVC PIPE INV=39.0'±		COTG INV=39.0'± \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
ТОР	FILTER CLOTH MIRAFI 140N OR EQUAL ON TOP OF GRAVEL	/4"-1½" DRAIN ROCK
TOP OF SYSTEM — ELEV =39.8'±	LOWEST GRADE ELEV = 40.8'±	
	12" Min	12" MIN.
BOTTOM OF SYSTEM ELEV =37.8'±		
		FILTER CLOTH MIRAFI 140N OR EQUAL ON TOP OF GRAVEL
	MOTTLING FOUND ELEV= 35.67'±	PLAN VIEW
	BOTTOM OF TEST PIT ELEY = 34.5'±	DRAINAGE SYSTEM DETAIL N.T.S.

SECTION A-A VIEW

ESTIMATED SEASONAL HIGH — GROUNDWATER

SECTION DETAIL FOR DRAINAGE SYSTEMS
N.T.S.

N.T.S. DRAINAGE SYSTEM NOTES:

1. ENTIRE SYSTEM SHALL BE ENCASED IN FILTER FABRIC.

2. LOCATION OF SYSTEM PER PLANS.

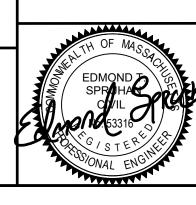
3. DESIGN ENGINEER WILL INSPECT AND CERTIFY IN WRITING THAT ALL DRAINAGE WORK WAS INSTALLED IN ACCORDANCE WITH APPROVED PLANS. CONTRACTOR TO NOTIFY ENGINEER AT LEAST 72 HOURS IN ADVANCE FOR DRAINAGE SYSTEM INSPECTION PRIOR TO BACKFILLING.

		SCALE	1"=10'	
	REVISION BLC	DATE	8/30/2022	
BY	DESCRIPTION	DATE	DRAWN BY	O.G.
OG	FOOTPRINT AND CALC. REVISED	9/27/22	CHECKED BY	P.N.
OG	MITIGATION AREA REVISED	9/27/22	APPROVED BY	E.S.
OG	BOUNDS AND COMPOST SOCK ADDED	10/4/22	SHEET	3
OG	REVISED AS PER CITY COMMENTS	12/12/22	PLAN NO.	3 OF 5
OG	ESHGWT REVISED	12/14/22	CLIENT:	
HMS	REVISED AS PER CITY COMMENTS	01/19/23	SHEET:	
OG	REVISED AS PER CITY COMMENTS	01/27/23	J SHEET.	
OG	REVISED AS PER CITY COMMENTS	06/15/23		
OG	REVISED AS PER CLIENT COMMENTS	07/24/23		

All legal rights including, but not limited to, copyright and design patent rights, in the designs, arrangements and plans shown on this document are the property of Peter Nolan & Associates, LLC, or Spruhan Engineering, P.C. They may not be used or reused in whole or in part, except in connection with this project, without the prior written consent of Spruhan Engineering, P.C.. Written dimensions on these drawings shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on this project, and Spruhan Engineering, P.C., must be notified of any variation from the dimensions and conditions shown by these drawings.

27 CROSS STREET, NEWTON, *MASSACHUSETTS*

DETAILS





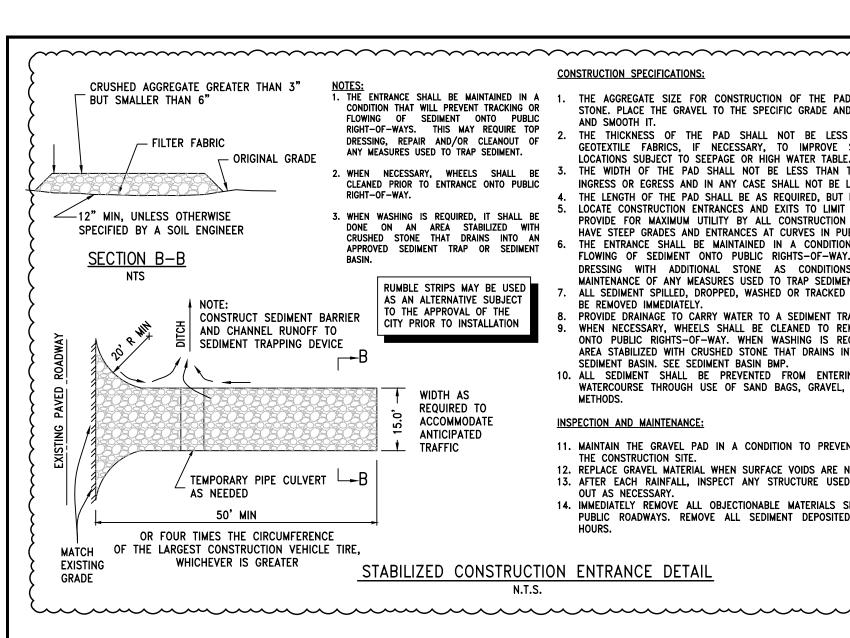
LAND SURVEYORS/CIVIL ENGINEERING CONSULTANTS 697 CAMBRIDGE STREET, (SUIT103), BRIGHTON, MA 02135 Tel:857-891-7478 617-782-1533

Fax:617-2025691

SPRUHAN ENGINEERING, P.C. 80 JEWETT ST, (SUITE 2) NEWTON, MA 02458

Tel: 617-816-0722

 ${\it Email:edmond@spruhaneng.com}$

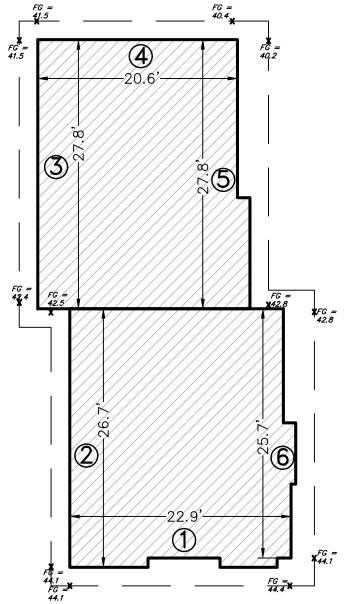


THE AGGREGATE SIZE FOR CONSTRUCTION OF THE PAD SHALL BE 2-3 INCH (50-75 MM) STONE. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, THE THICKNESS OF THE PAD SHALL NOT BE LESS THAN 6 INCHES (152 MM). USE GEOTEXTILE FABRICS, IF NECESSARY, TO IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE. THE WIDTH OF THE PAD SHALL NOT BE LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS AND IN ANY CASE SHALL NOT BE LESS THAN 12 FEET (3.6 M) WIDE. THE LENGTH OF THE PAD SHALL BE AS REQUIRED, BUT NOT LESS THAN 50 FEET (15.2 M). LOCATE CONSTRUCTION ENTRANCES AND EXITS TO LIMIT SEDIMENT LEAVING THE SITE AND TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES. AVOID ENTRANCES WHICH HAVE STEEP GRADES AND ENTRANCES AT CURVES IN PUBLIC ROADS. 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 MAINTENANCE OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR

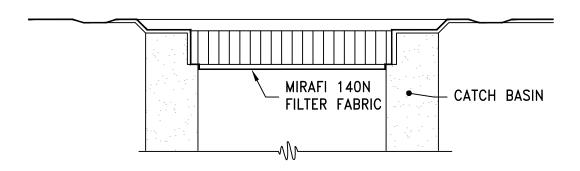
10. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, STRAW BALES, OR OTHER APPROVED

11. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING

12. REPLACE GRAVEL MATERIAL WHEN SURFACE VOIDS ARE NOT VISIBLE.
13. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT 14. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS. REMOVE ALL SEDIMENT DEPOSITED ON PAYED ROADWAYS WITHIN 24



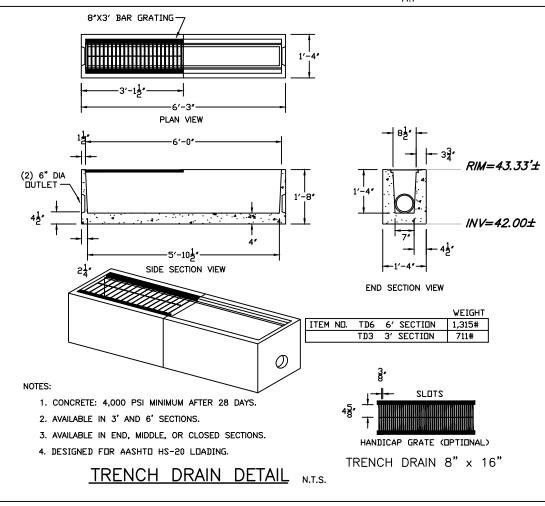
	AVERAGE GRADE PLANE (ALL UNITS IN FEET)						
SEGMENT	LENGTH	POINT 1	POINT 2	MEAN 1 & 2	MEAN x LENGTH		
1	35.70	44.4	44.1	44.25	1,579.73		
2	41.70	44.1	42.5	43.30	1,805.61		
3	43.40	42.4	41.5	41.95	1,820.63		
4	32.20	41.5	40.4	40.95	1,318.59		
5	43.40	40.2	42.8	41.50	1,801.10		
6	40.20	42.8	44.1	43.45	1,746.69		
SUM =	SUM = 236.60						
SUM O	SUM OF MEAN x LENGTH/SUM OF LENGTHS = AVERAGE GRADE PLANE =						

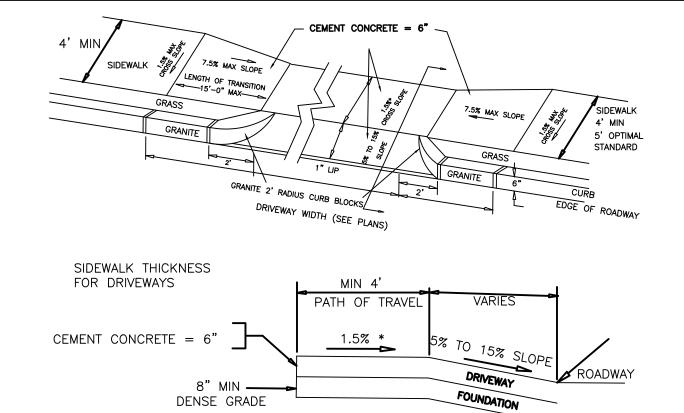


INSPECTION AND MAINTENANCE:

- 1. FILTER FABRIC BARRIERS SHALL BE INSPECTED WEEKLY AFTER EACH SIGNIFICANT STORM - 1 INCH RAINFALL (25.4 MM) IN 24 HOUR PERIOD. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- 2. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES 0.5" MAXIMUM HEIGHT. AT THAT TIME INSPECT THE FILTER MATERIAL FOR TEARS AND CLEAN OR REPLACE AS REQUIRED.
- 3. THE REMOVED SEDIMENT SHALL BE DISTRIBUTED EVENLY ACROSS AREAS ON-SITE, CONFORM WITH THE EXISTING GRADE AND BE REVEGETATED OR OTHERWISE STABILIZED PER EROSION CONTROL NOTES.

CATCH BASIN PROTECTION

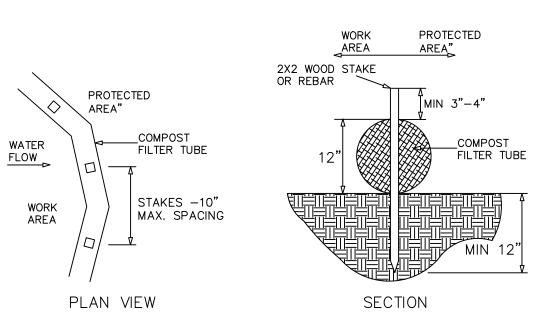




SECTION A-A

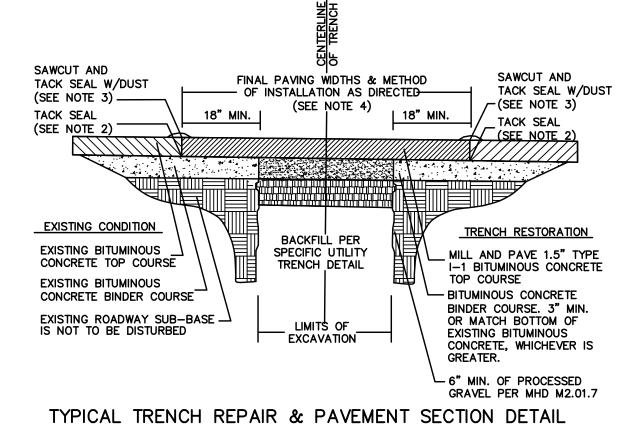
1" LIP

* TOLERANCE FOR CONSTRUCTION +/- 0.5% DRIVEWAY APRON WITH CORNER BLOCKS



COMPOST FILTER TUBE SHOULD BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS AND WHERE SHOWN ON THE PLAN.

- ALL MATERIALS TO MEET SPECIFICATION.
- 2. SILT SOCK COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION
- SILT SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
 COMPOST MATERIAL TO BE DISPERSED ON SITE AS DETERMINED

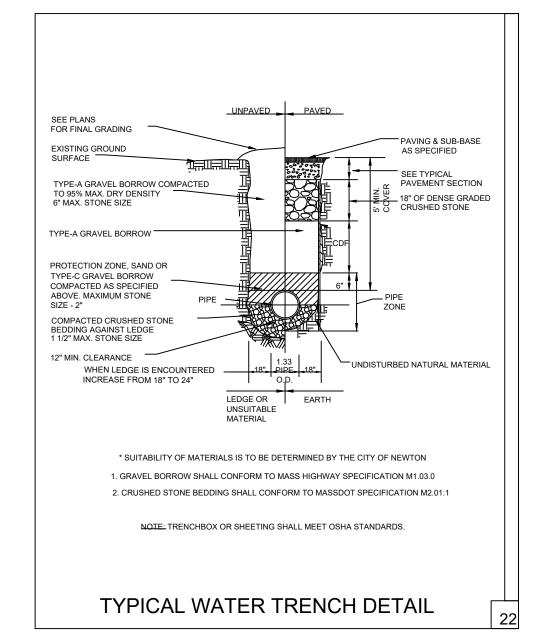


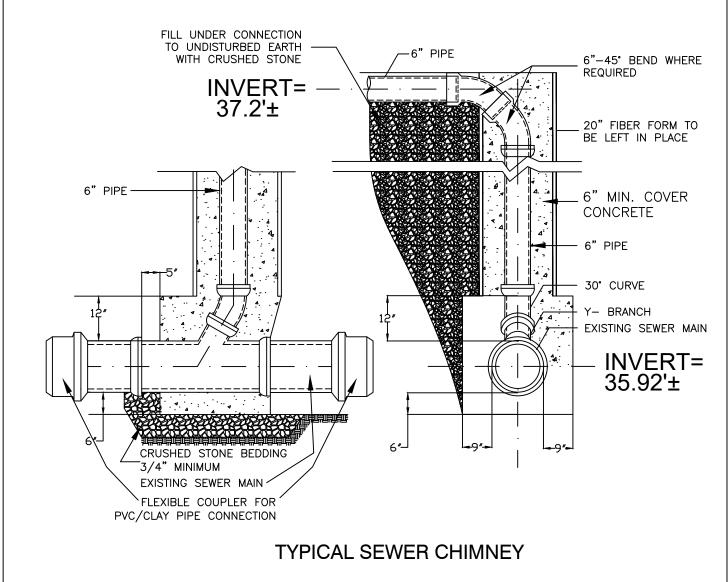
1. ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASSDOT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 2020 AS AMENDED.

- 2. ALL EXPOSED BITUMINOUS CONCRETE IS TO BE TACKED PER MASSDOT PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATIONS.
- 3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH TACK AND STONE DUST. 4. ANY TOP COURSE APPLIED AT A WIDTH OF 6' WIDE OR GREATER IS TO BE PLACED BY MACHINE/BOX SPREADER WHEN & AS DIRECTED BY THE CITY OF NEWTON.

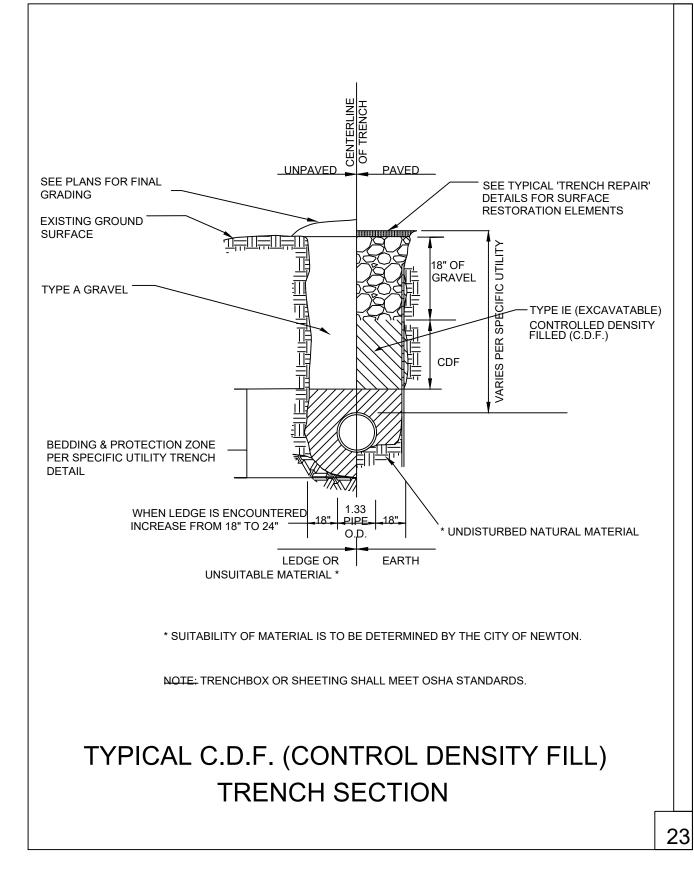
5. SUPER PAVE FOR PAVEMENT

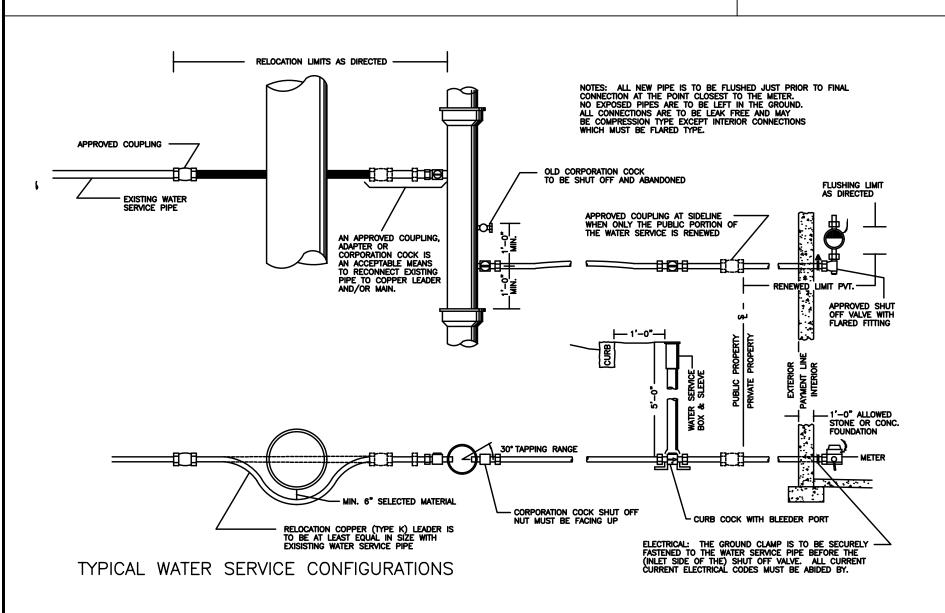
COMPOST SOCK DETAIL

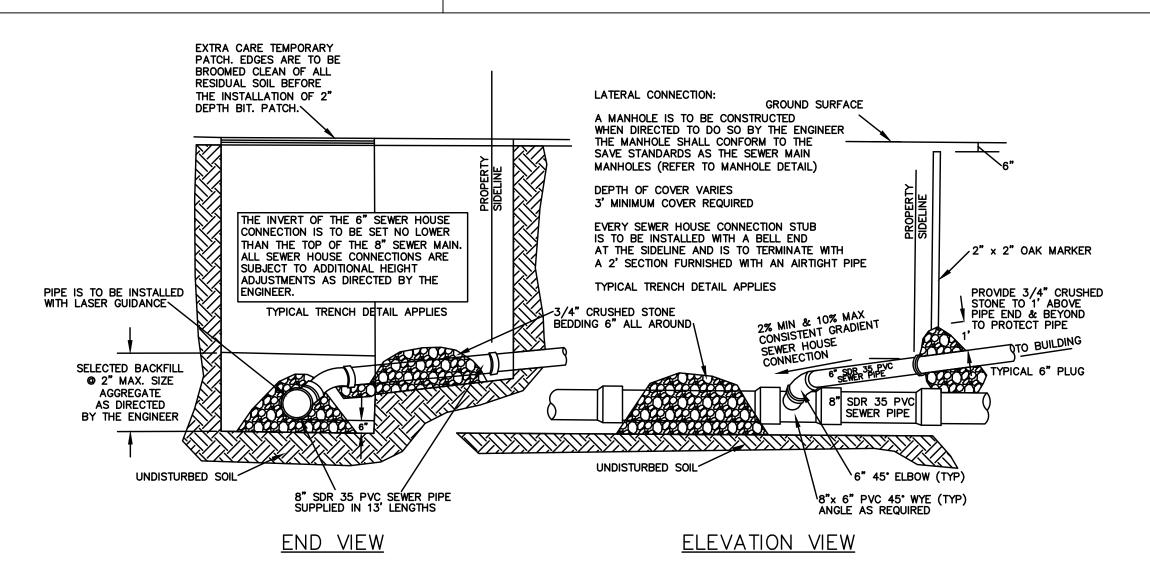




Scale: Not To Scale







TYPICAL PVC SEWER HOUSE CONNECTION

TYPICAL	PVC	SEWER	HOUSE	CONNEC
		N	.T.S.	

			Loone	1,7,40
	DEVICION DI C	SCALE	1"=10'	
	REVISION BLC	DATE	8/30/2022	
BY	DESCRIPTION	DATE	DRAWN BY	O.G.
OG	FOOTPRINT AND CALC. REVISED	9/27/22	CHECKED BY	P.N.
OG	MITIGATION AREA REVISED	9/27/22	APPROVED BY	E.S.
OG	BOUNDS AND COMPOST SOCK ADDED	10/4/22	SHEET	4
OG	REVISED AS PER CITY COMMENTS	12/12/22	PLAN NO.	4 OF 5
OG	ESHGWT REVISED	12/14/22	CLIENT:	
HMS	REVISED AS PER CITY COMMENTS	01/19/23	OUEET	
OG	REVISED AS PER CITY COMMENTS	01/27/23	SHEET:	
OG	REVISED AS PER CITY COMMENTS	06/15/23	│ 	
OG	REVISED AS PER CLIENT COMMENTS	07/24/23		
	1			

All legal rights including, but not limited to, copyright and design patent rights, in the designs, arrangements and plans shown on this document are the property of Peter Nolan & Associates, LLC, or Spruhan Engineering, P.C. They may not be used or reused in whole or in part, except in connection with this project, without the prior written consent of Spruhan Engineering, P.C.. Written dimensions on these drawings shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on this project, and Spruhan Engineering, P.C., must be notified of any variation from the dimensions and conditions shown by these drawings.

27 CROSS STREET, NEWTON, **MASSACHUSETTS**



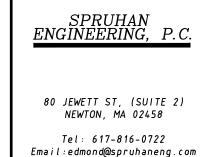
697 CAMBRIDGE STREET,

(SUIT103),

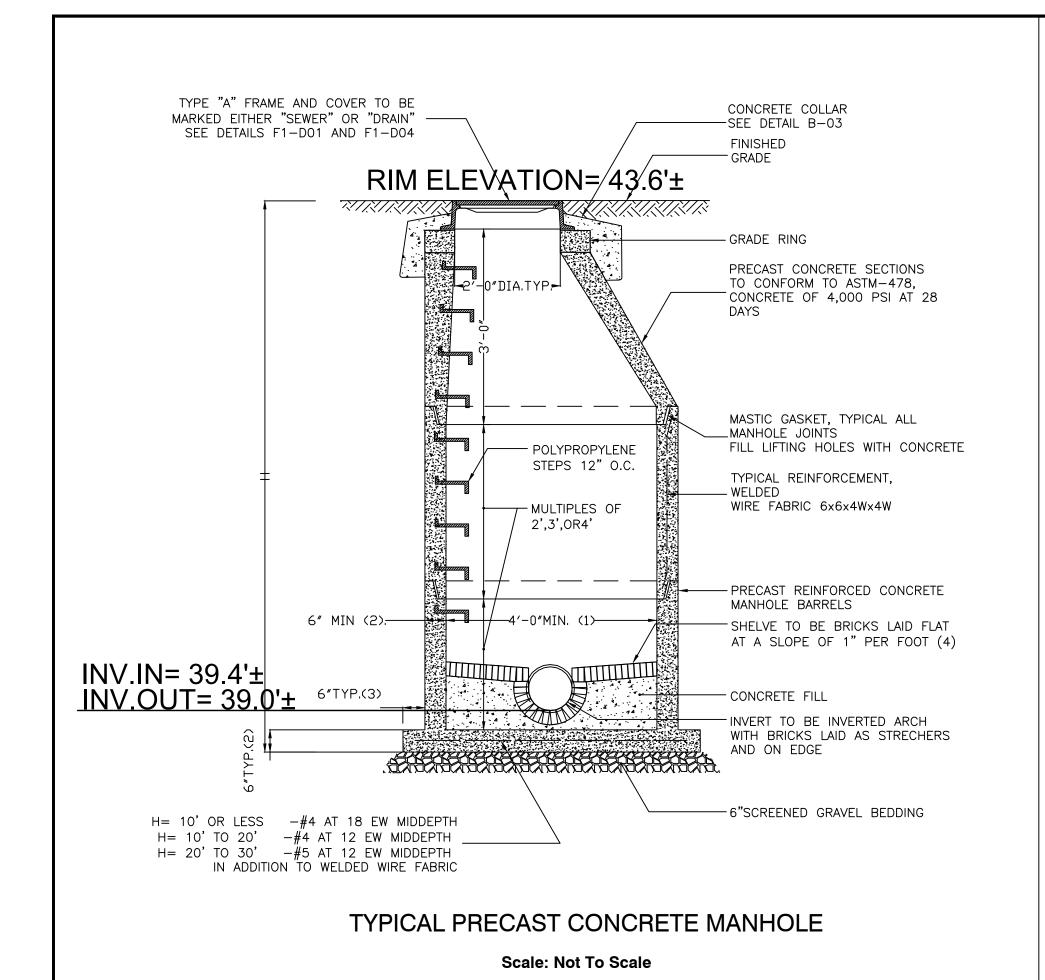
BRIGHTON, MA 02135

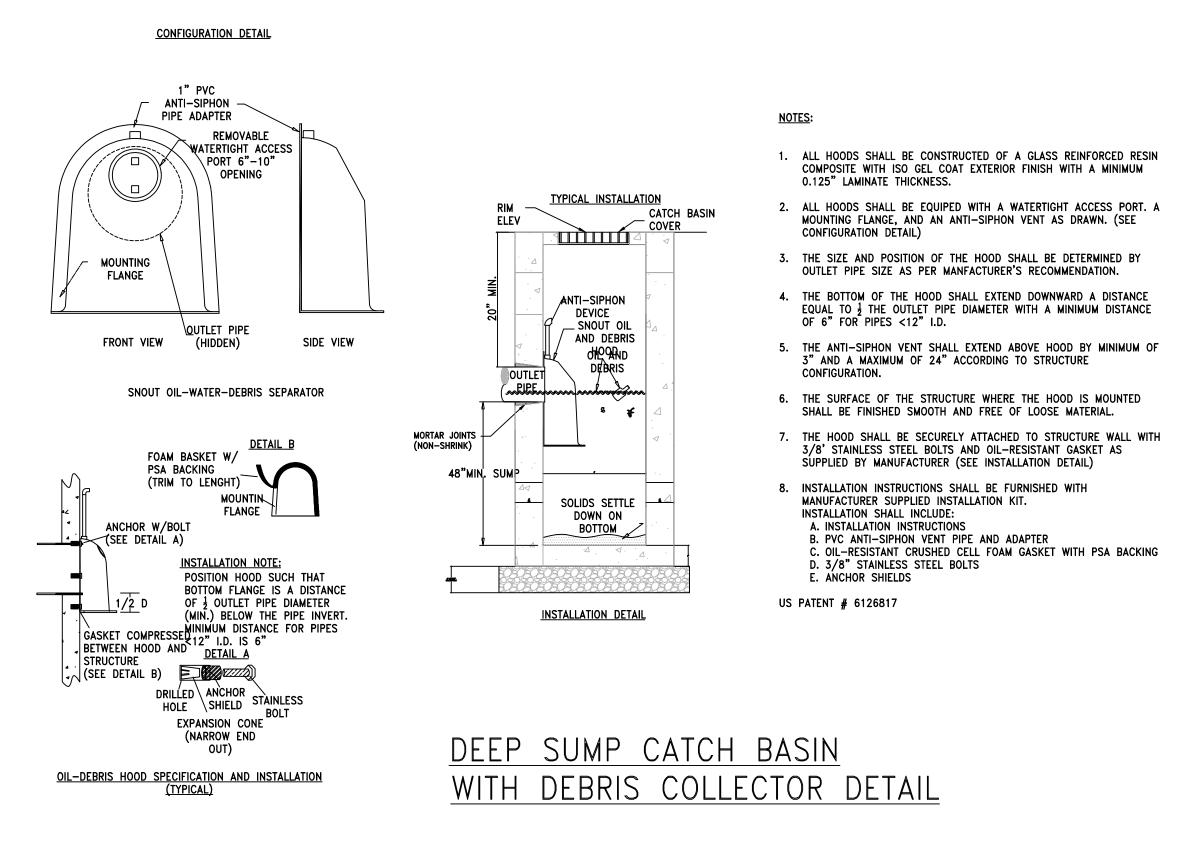
Tel:857-891-7478

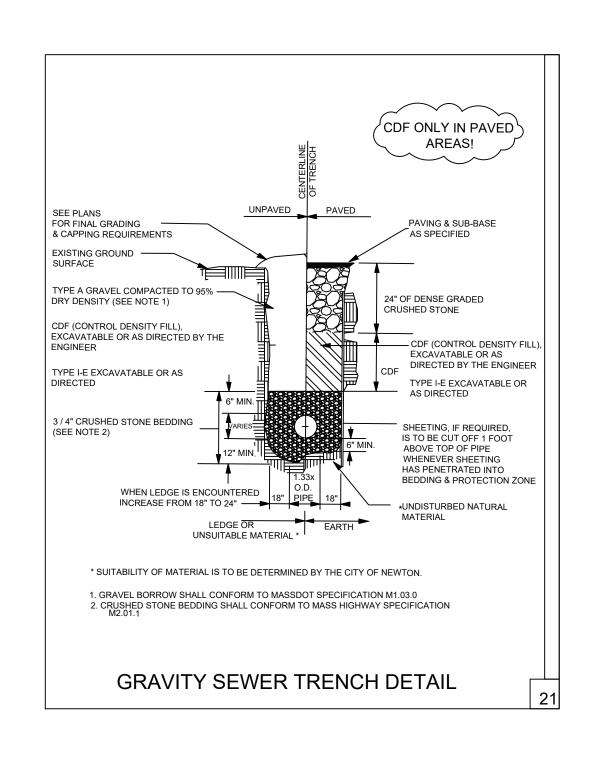
617-782-1533 Fax:617-2025691

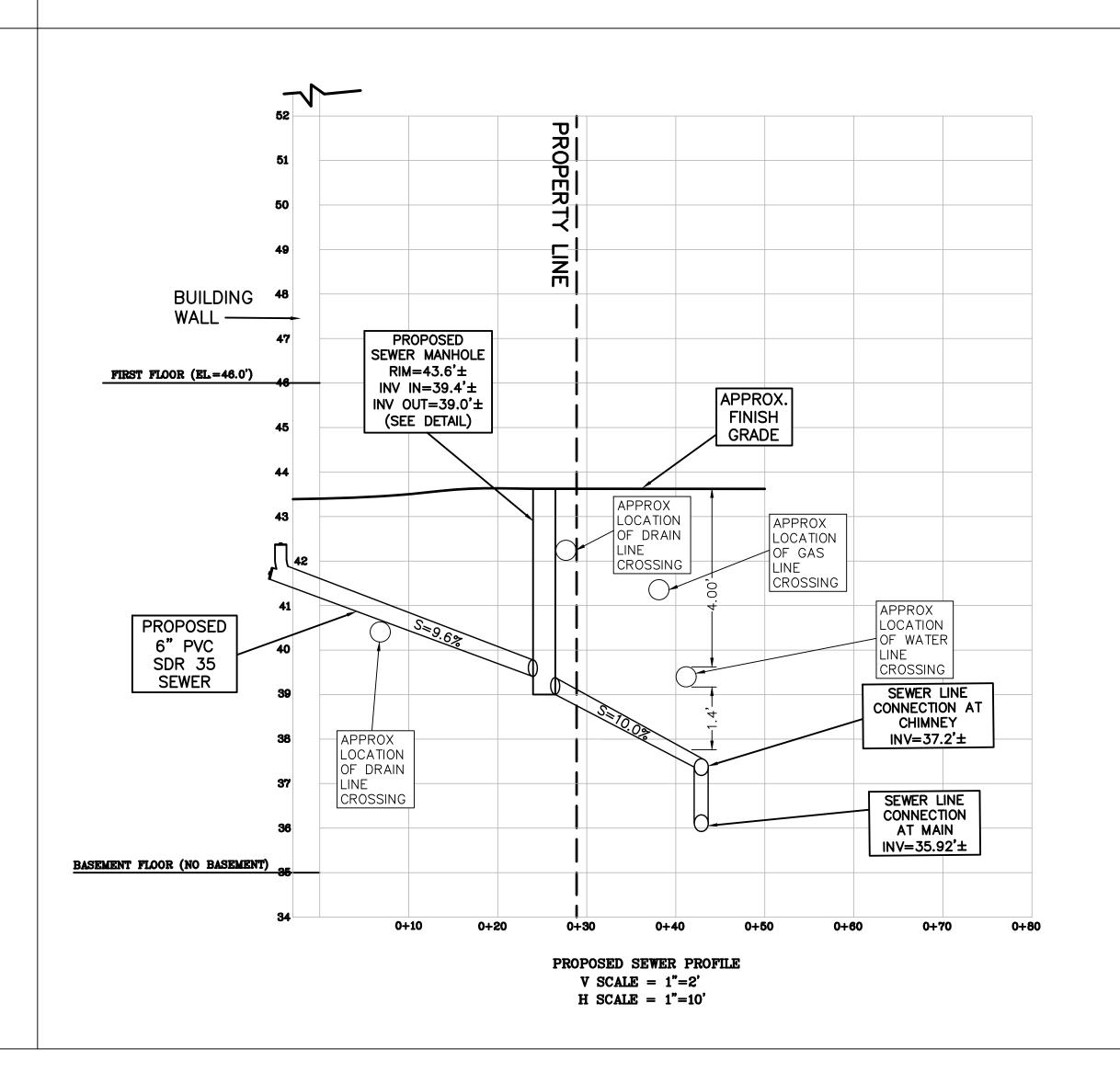


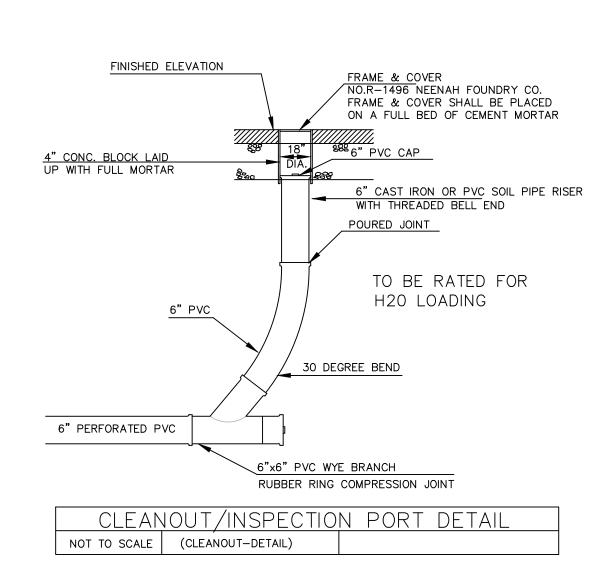
DETAILS











	DE///01011 DI 0	SCALE	1"=10'	
	REVISION BLC	DATE	8/30/2022	
BY	DESCRIPTION	DATE	DRAWN BY	O.G.
OG	FOOTPRINT AND CALC. REVISED	9/27/22	CHECKED BY	P.N.
OG	MITIGATION AREA REVISED	9/27/22	APPROVED BY	E.S.
OG	BOUNDS AND COMPOST SOCK ADDED	10/4/22	SHEET	5
OG	REVISED AS PER CITY COMMENTS	12/12/22	PLAN NO.	5 OF 5
OG	ESHGWT REVISED	12/14/22	CLIENT:	
HMS	REVISED AS PER CITY COMMENTS	01/19/23	SHEET:	
OG	REVISED AS PER CITY COMMENTS	01/27/23	SHEET:	
OG	REVISED AS PER CITY COMMENTS	06/15/23		
OG	REVISED AS PER CLIENT COMMENTS	07/24/23		

All legal rights including, but not limited to, copyright and design patent rights, in the designs, arrangements and plans shown on this document are the property of Peter Nolan & Associates, LLC, or Spruhan Engineering, P.C. They may not be used or reused in whole or in part, except in connection with this project, without the prior written consent of Spruhan Engineering, P.C.. Written dimensions on these drawings shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on this project, and Spruhan Engineering, P.C., must be notified of any variation from the dimensions and conditions shown by these drawings.

27 CROSS STREET, NEWTON, MASSACHUSETTS

DETAILS





Fax:617-2025691

SPRUHAN ENGINEERING, P.C.

LAND SURVEYORS/CIVIL
ENGINEERING CONSULTANTS
697 CAMBRIDGE STREET,
(SUIT103),
BRIGHTON, MA 02135

Tel:857-891-7478
617-782-1533

80 JEWETT ST, (SUITE 2)
NEWTON, MA 02458
Tel: 617-816-0722
Email:edmond@spruhaneng.com