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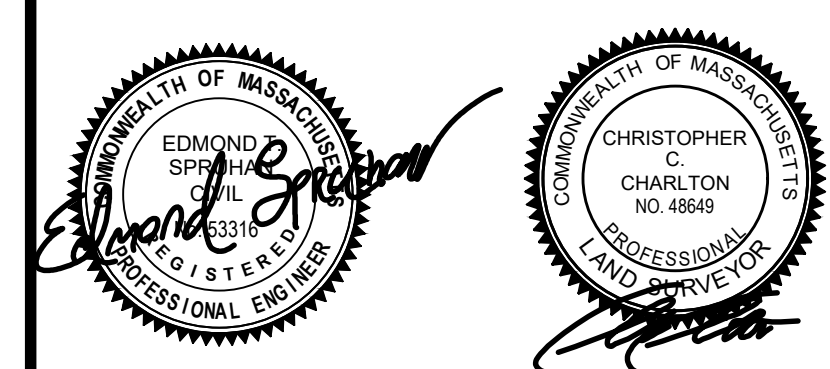
416-418 LANGLEY RD, NEWTON, MASSACHUSETTS.

CIVIL PLANS

REVISION BLOCK

Table with 3 columns: BY, DESCRIPTION, DATE. Contains multiple empty rows for revisions.

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SCALE: 1" = 10' DATE: 8/10/2022 DRAWN BY: G.P. CHECKED BY: E.S. APPROVED BY: E.S.

CIVIL PLAN

- NOTES: 1. INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD SURVEY PERFORMED BY SPRUHAN ENGINEERING, P.C. AS OF 3/19/2021. 2. DEED REFERENCE: BOOK 74706, PAGE 60...

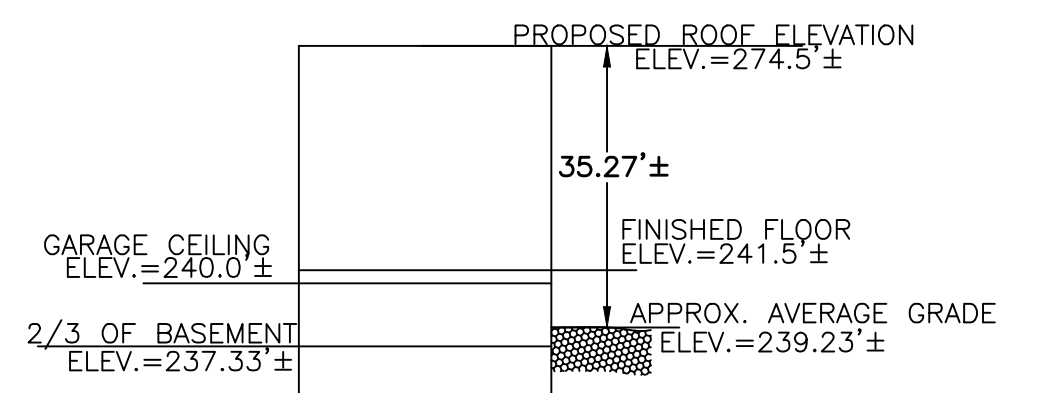
- NOTES: 1. ELEVATIONS REFER TO CITY OF NEWTON DATUM. 2. THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION...

ZONING LEGEND TABLE with columns: ZONING DISTRICT, REQUIRED, EXISTING (FRONT), EXISTING (REAR), PROPOSED. Rows include MIN. AREA, MIN. FRONTAGE, MIN. YARD FRONT, SIDE, REAR, MAX. BLDG. HEIGHT, OPEN SPACE, LOT COVERAGE.

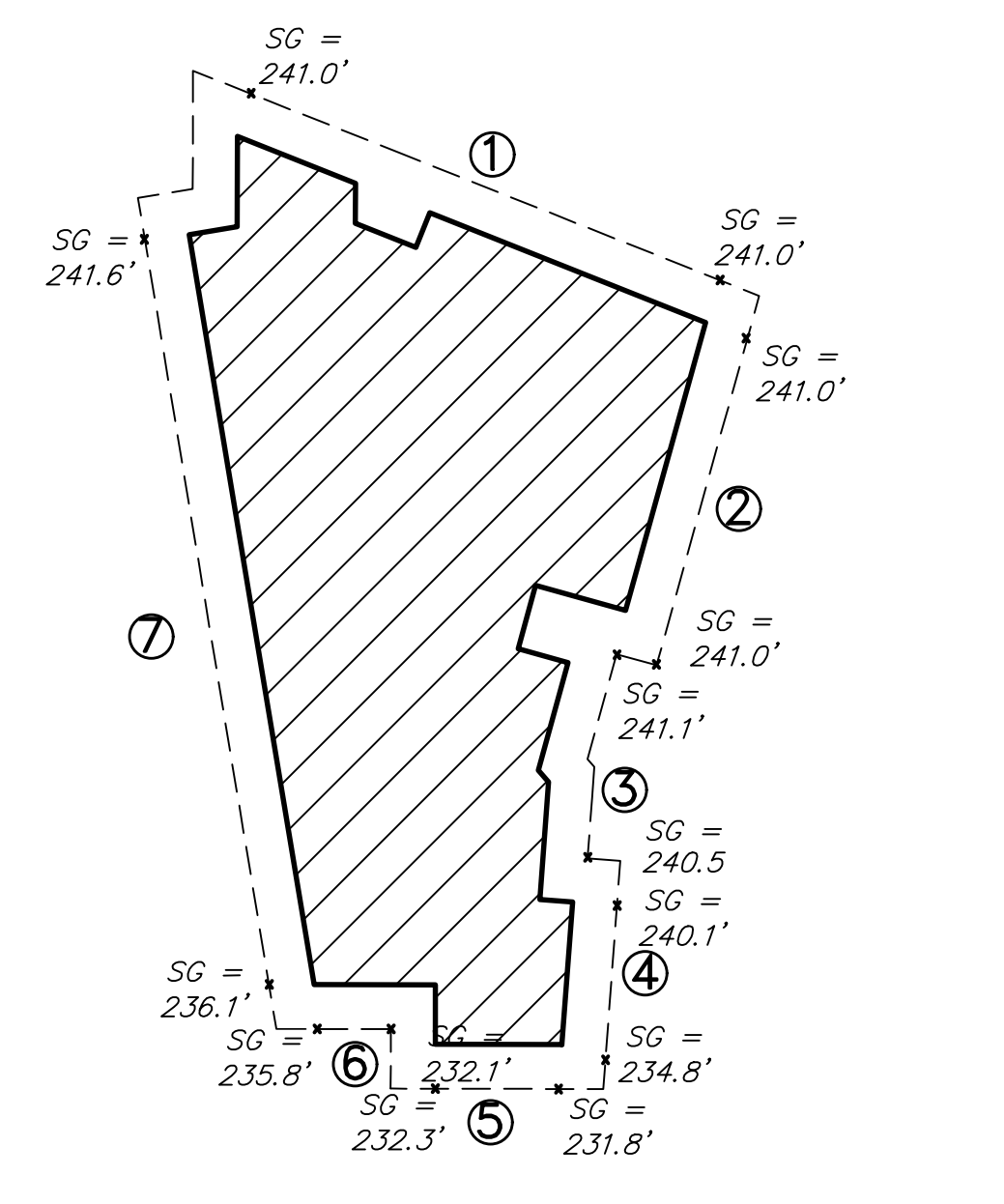
*HALF BUILDING HEIGHT 1ST FLOOR TO ROOF=35.03' H/2=35.03'/2=17.5' **NOT CONFORMING.

EXISTING: HOUSES=1699.4, GARAGE=313.2, DRIVEWAY/WALKWAYS=2,071.8, RET. WALLS/STEPS/LANDING/BULKHEAD= 519.6 TOTAL EXISTING IMPERVIOUS AREA: 4,604 SF

PROPOSED: BUILDING= 5,034.3, DRIVEWAY/WALKWAY =727.8 RET. WALLS= 377.6 TOTAL PROPOSED IMPERVIOUS AREA: 6,139.7 SF



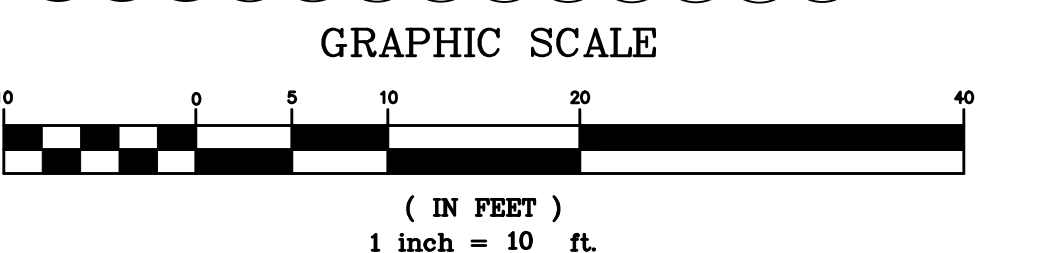
PROPOSED PROFILE NOT TO SCALE



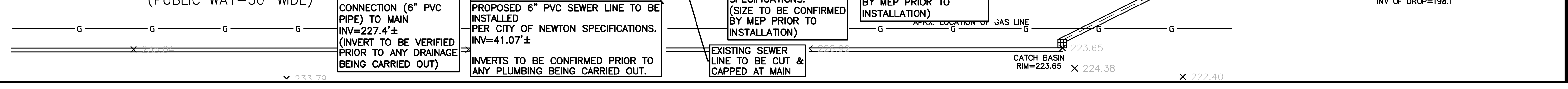
- NOTES: 1. ANY PROPOSED RETAINING WALL SHALL BE DESIGNED BY OTHERS. ANY PROPOSED RETAINING WALL IN SETBACK SHALL NOT EXCEED 4 FEET IN HEIGHT...

PROPOSED GARAGE AVERAGE GRADE PLANE (ALL UNITS IN FEET) table with columns: SEGMENT, LENGTH, POINT 1, POINT 2, MEAN 1 & 2, MEAN x LENGTH.

Existing water and sewer services to building(s) shall cut and capped at the respective mains and completely removed from the main(s) and its entire length and properly backfilled.



LANGLEY ROAD (PUBLIC WAY-50' WIDE)



DEEP OBSERVATION HOLE LOG:

GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED AT 416-418 LANGLEY RD, NEWTON MA. BY SPRUHAN ENGINEERING, P.C.

DATED: 6/23/2021

HOLE NUMBER: TH #1 & #2

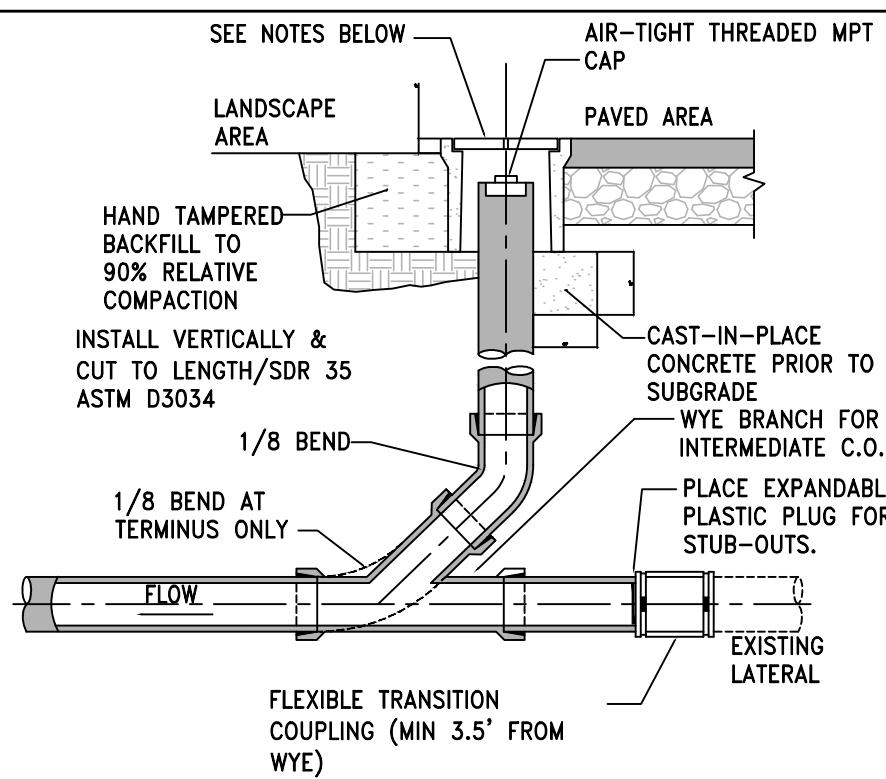
GENERAL SITE CONDITIONS: BUILDINGS, PAVED/GRASS AREAS.

HOLE LOG #1

DEPTH	ELEVATION	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
0" - 18"	241.5' ± - 240.0' ±	-	Fill	-	-	-
18" - 30"	240.0' ± - 239.0' ±	Ap	Loamy Snd	7.5YR 3/2	-	-
30" - 48"	239.0' ± - 237.5' ±	Bw	Loamy Snd	7.5 YR 3/2	-	-
48" - 72"	237.5' ± - 235.5' ±	C1	Loamy Snd	7.5 YR 3/2	-	Fracture ledge below

HOLE LOG #2

DEPTH	ELEVATION	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
0" - 12"	241.0' ± - 240.0' ±	Ap	Loamy Snd	7.5YR 3/2	-	-
12" - 36"	240.0' ± - 238.0' ±	Bw	Loamy Snd	7.5 YR 3/2	-	-
36" - 66"	238.0' ± - 235.5' ±	C1	Loamy Snd	7.5 YR 3/2	-	Ledge below

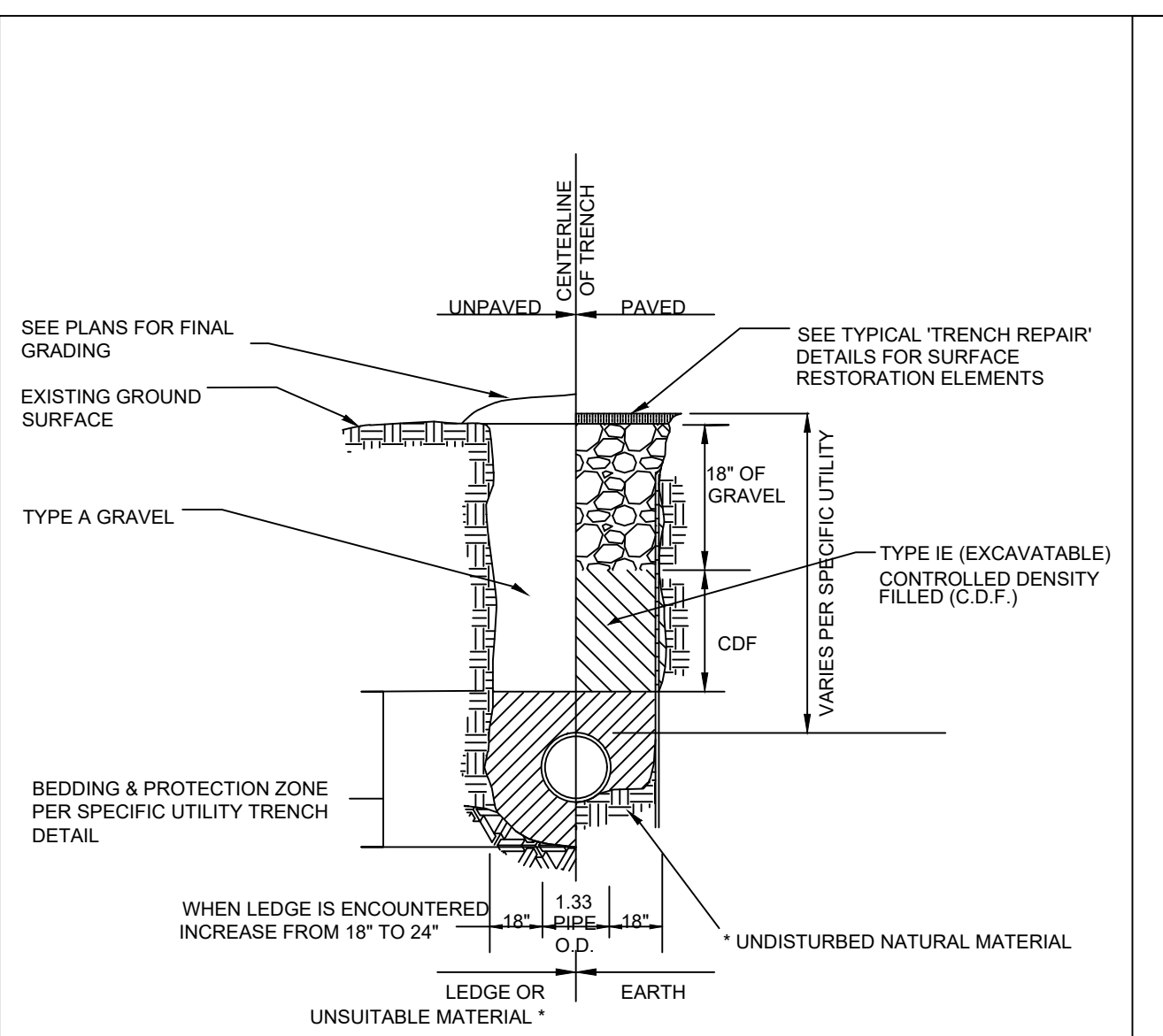


NOTES:

- RECTANGULAR OR CIRCULAR BOXES ARE PERMITTED.
- CONCRETE/FIBERLYTE LIDS ARE ACCEPTABLE IN NON-VEHICULAR AREAS. H-20 CAST IRON TRAFFIC LIDS AND BOXES IN VEHICULAR AREAS.
- ALL CLEANOUT LIDS SHALL BE MARKED WITH AN "S" OR THE WORD "SEWER" FOR SANITARY SEWER CLEANOUTS
- CLEANOUT PIPE SHALL BE THE SAME DIAMETER AS THE CONNECTED SITE PIPE.
- TERMINATE C.O. AT CLOSEST JOINT TO SURFACE WITH TEMPORARY PLUG. AFTER ALL BACKFILL IS COMPLETE AND SUB-GRADE MADE IN AREAS TO BE PAVED, THE FINAL RISER PIPE AND BOX SHALL BE INSTALLED AS SHOWN.

CLEANOUT TO GRADE

N.T.S.



* SUITABILITY OF MATERIAL IS TO BE DETERMINED BY THE CITY OF NEWTON.

NOTE: TRENCHBOX OR SHEETING SHALL MEET OSHA STANDARDS.

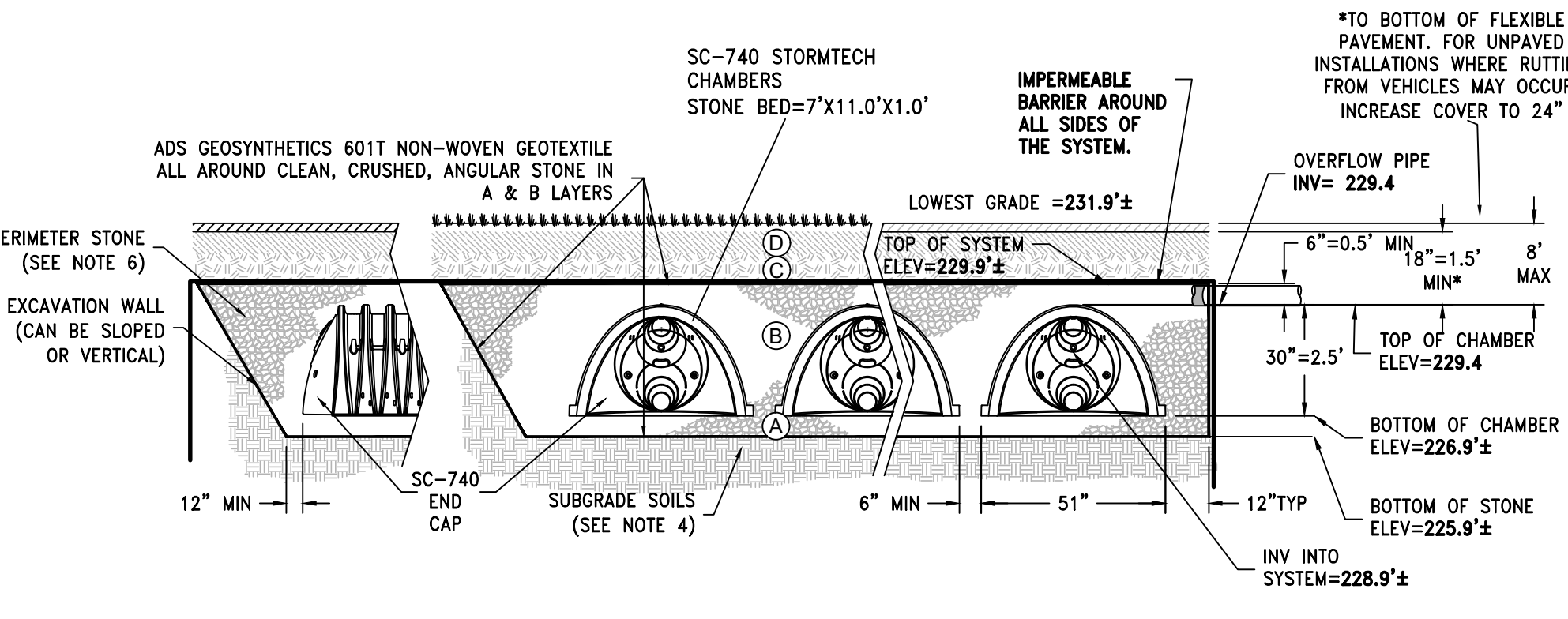
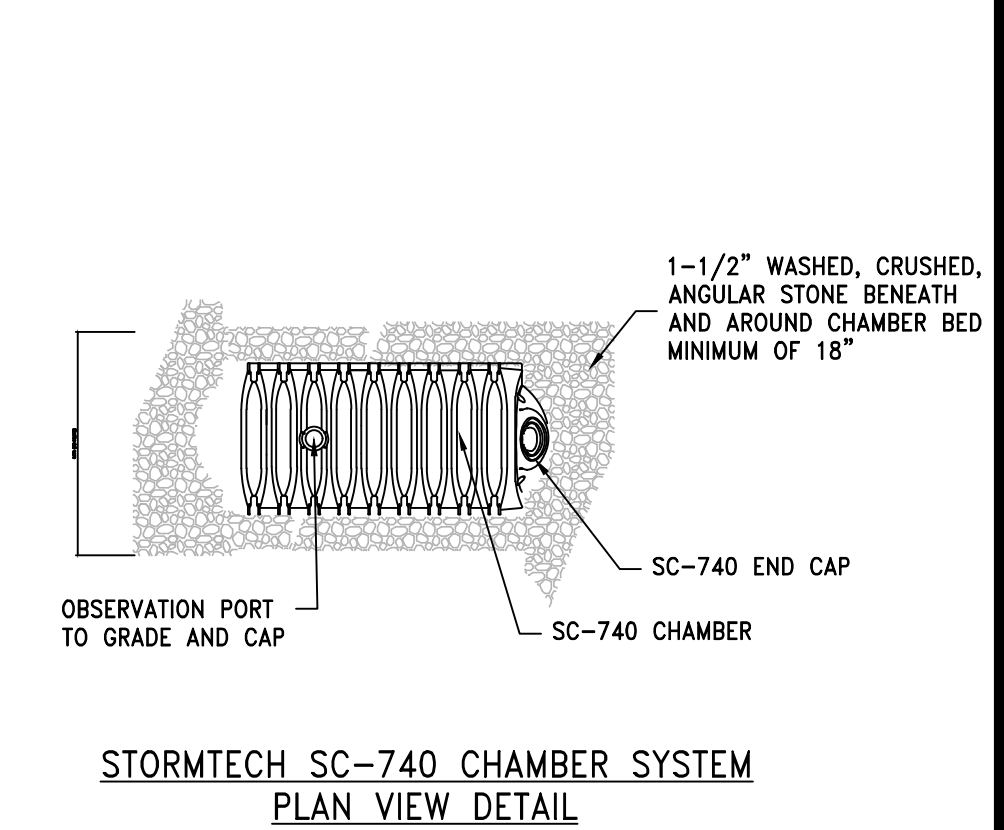
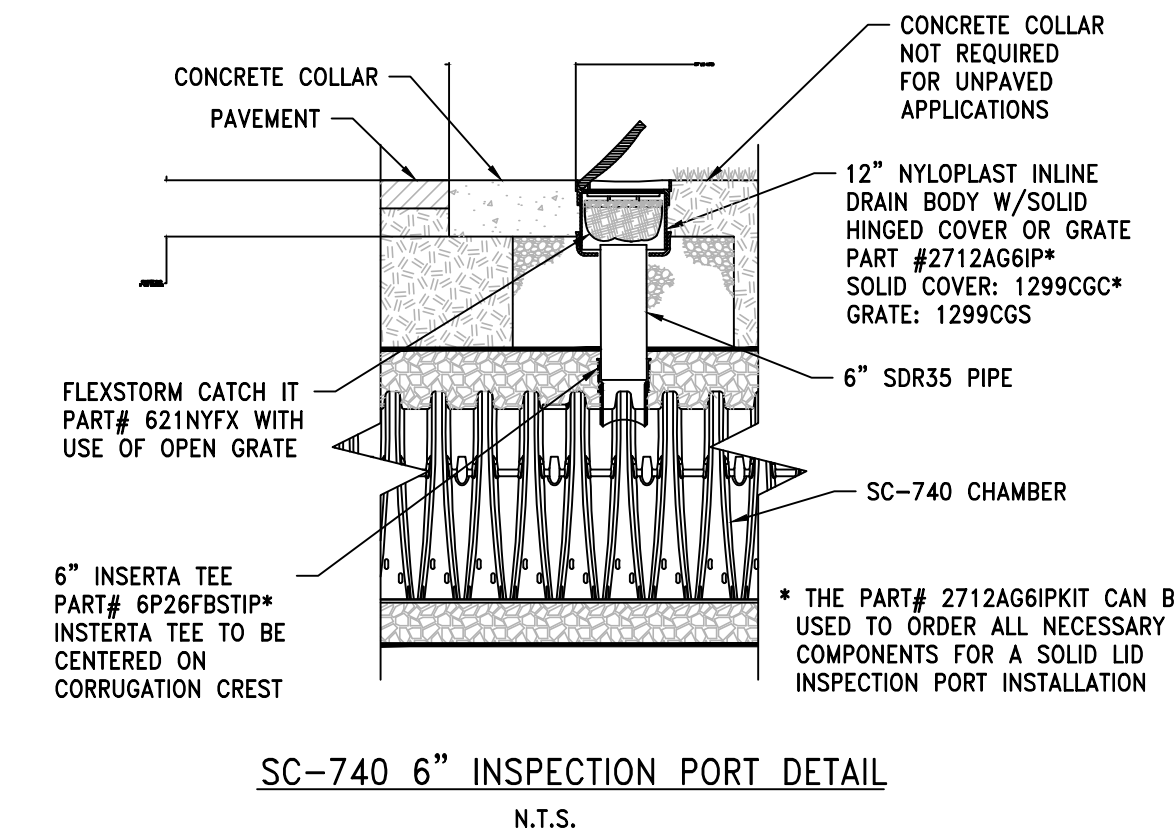
TYPICAL C.D.F. (CONTROL DENSITY FILL) TRENCH SECTION

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 SUBBASE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRICTER MATERIAL AND PREPARATION REQUIREMENTS.
C 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. 95K PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 92% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (54 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 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 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.

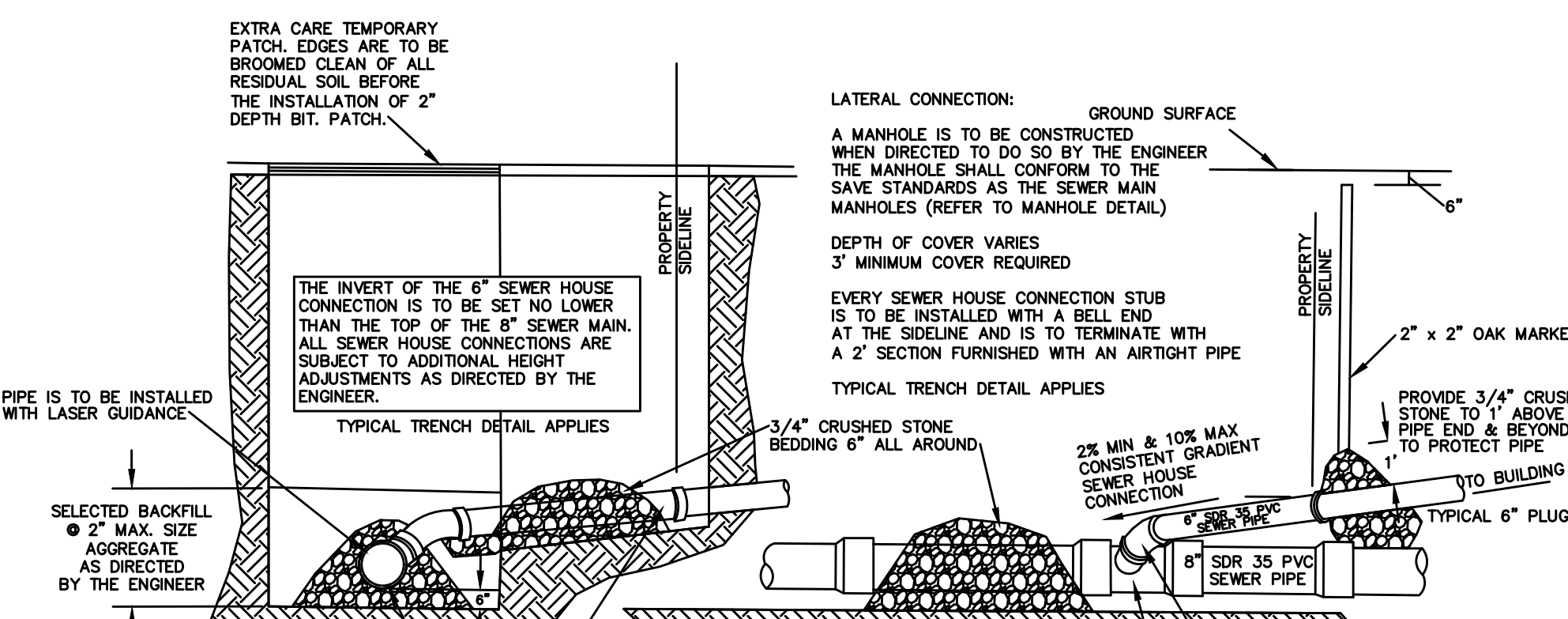
PLEASE NOTE:

- 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".
- 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.
- 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.



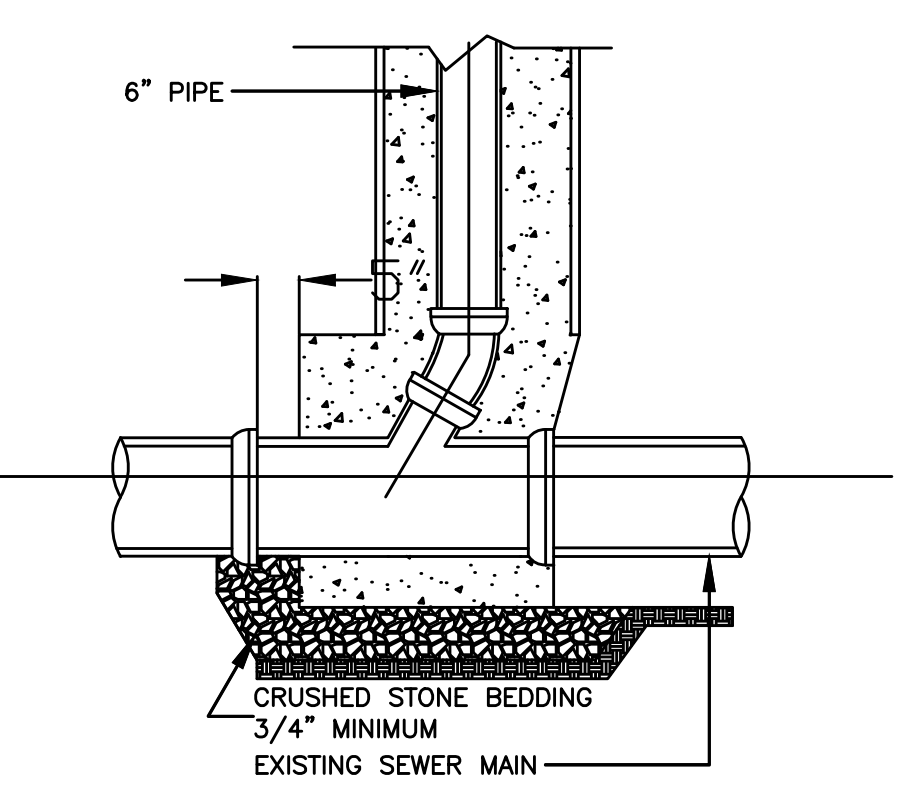
NOTES:

- 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".
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- 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.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- 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.

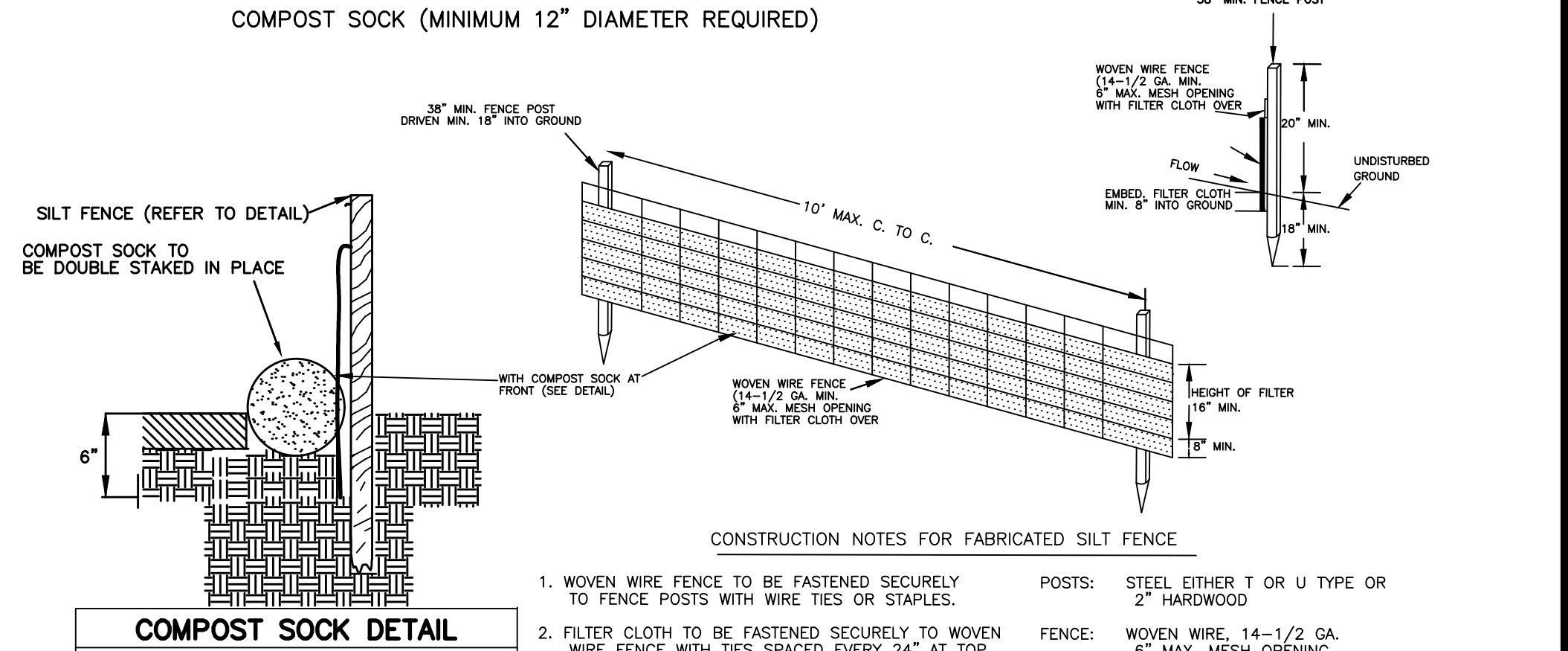


TYPICAL PVC SEWER HOUSE CONNECTION

N.T.S.



TYPICAL SEWER CONFIGURATION



SILT FENCE DETAIL



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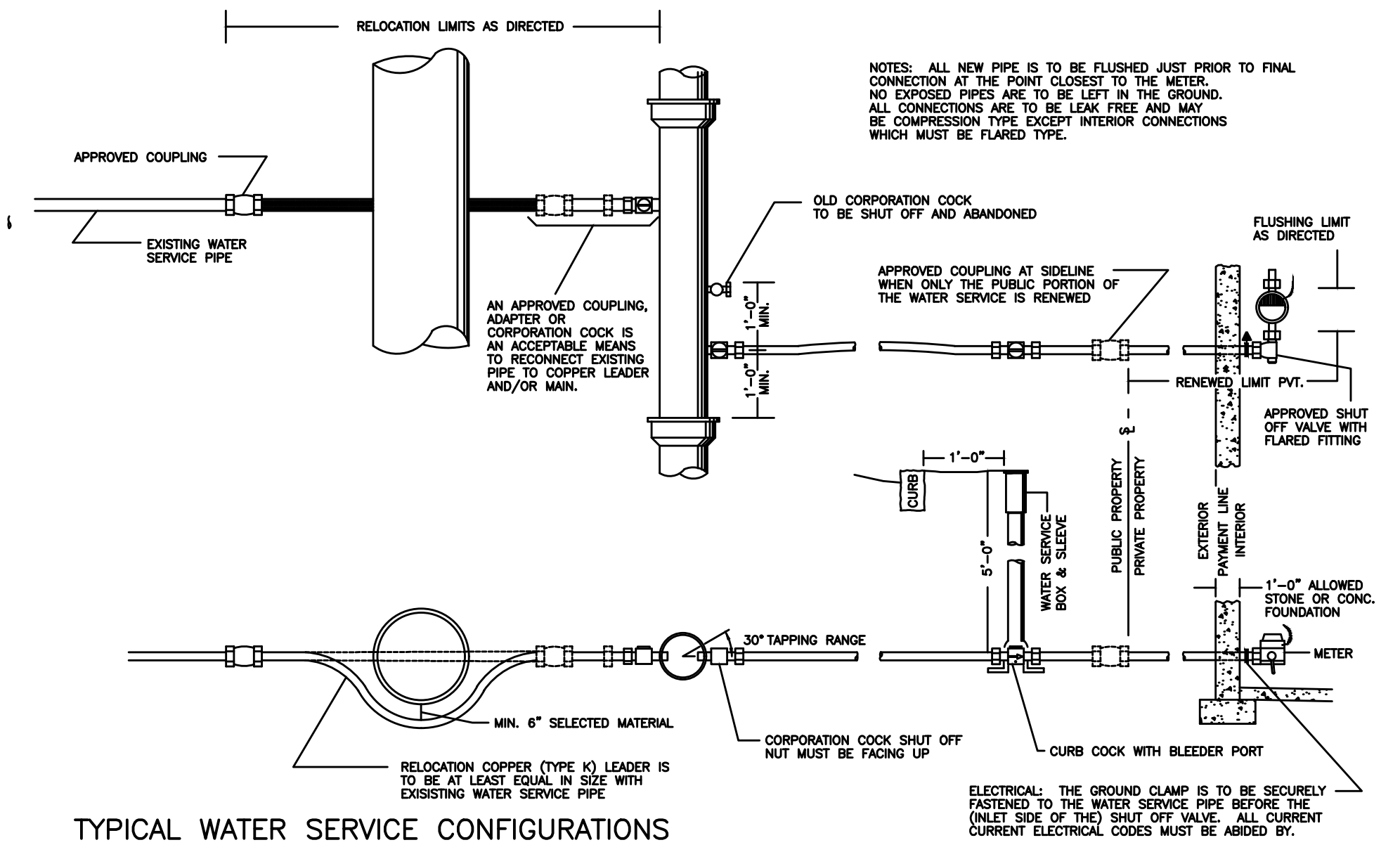
BY	DESCRIPTION	DATE

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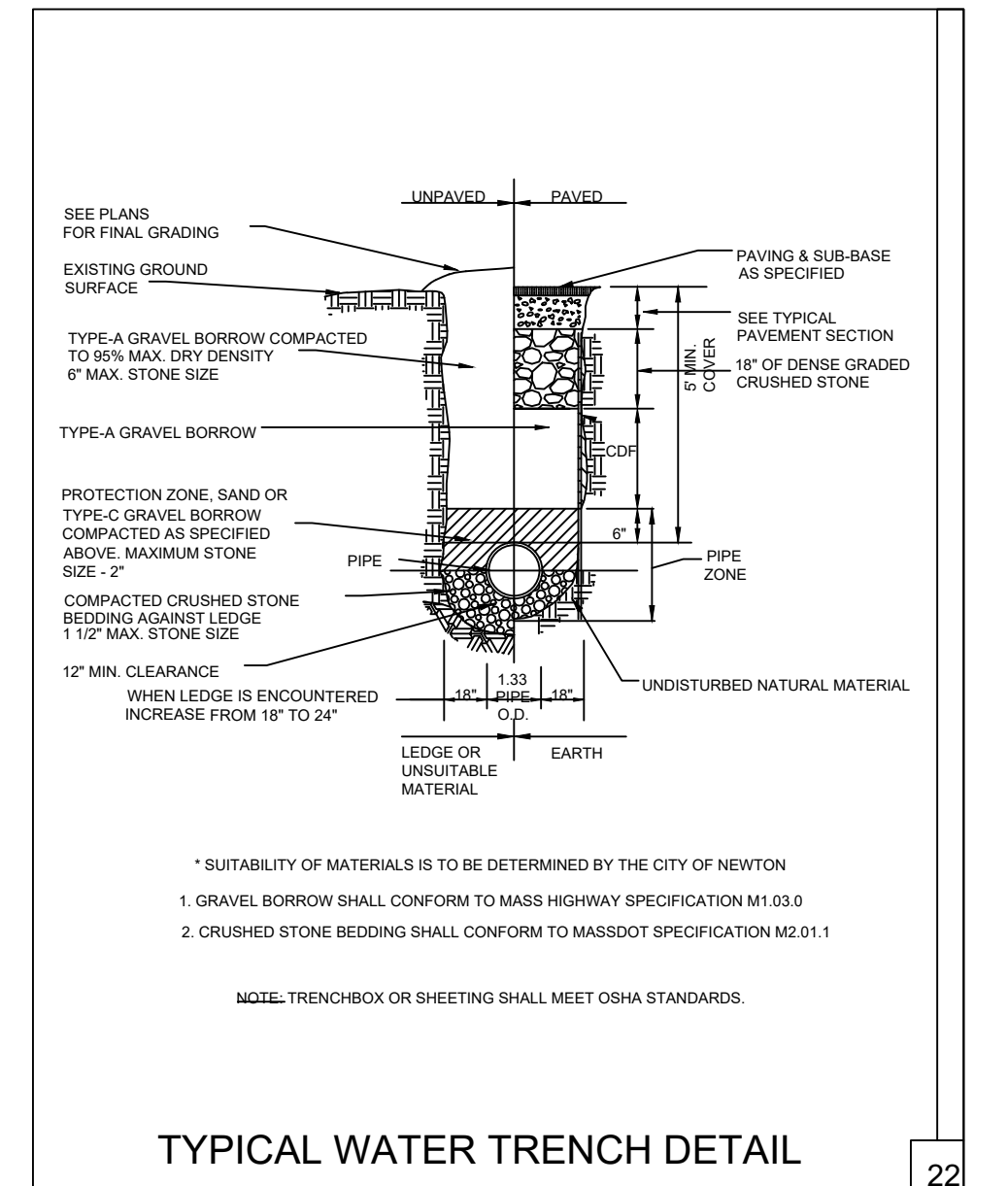


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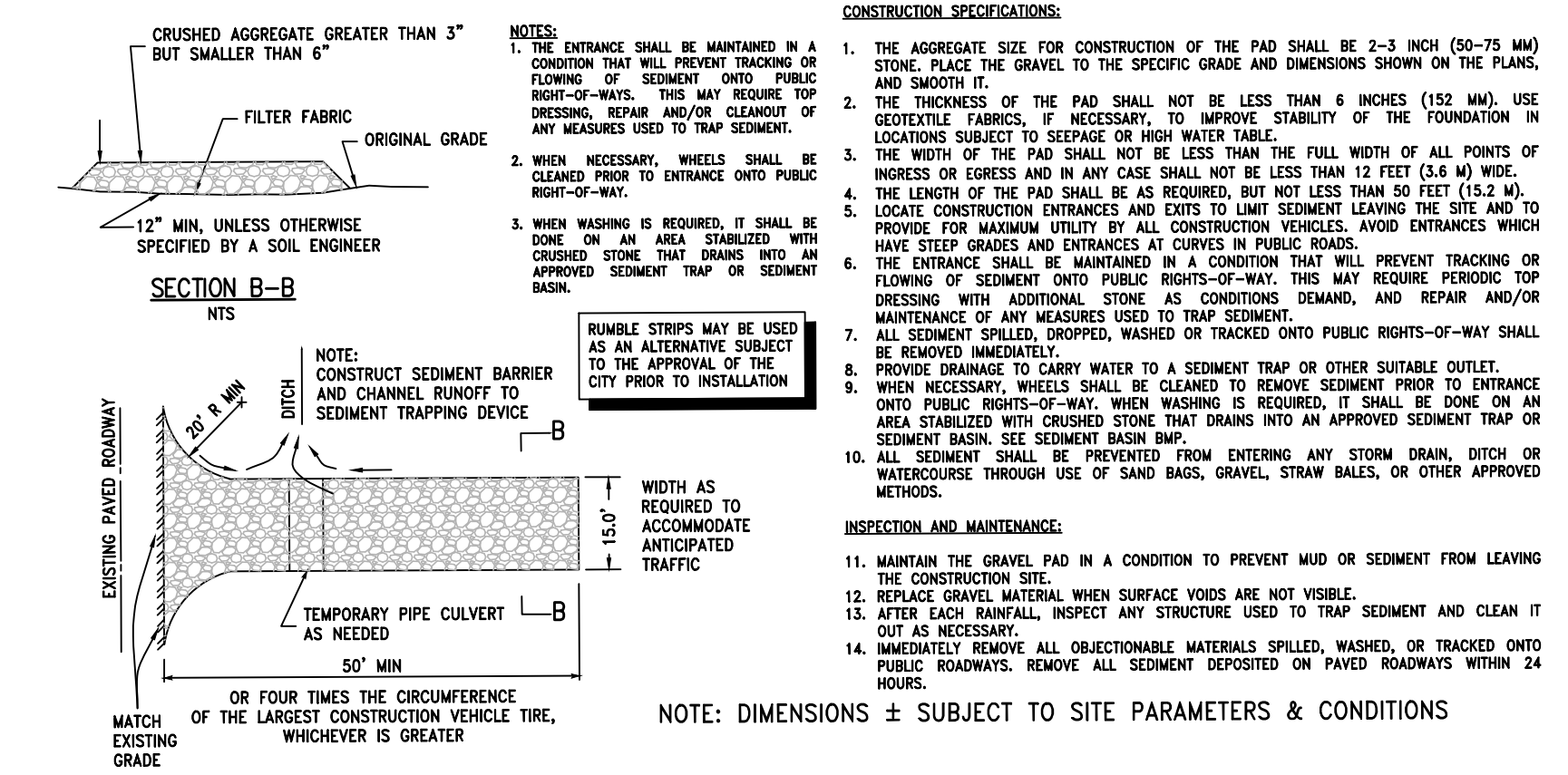
DETAILS



TYPICAL WATER SERVICE CONFIGURATIONS



TYPICAL WATER TRENCH DETAIL



STABILIZED CONSTRUCTION ENTRANCE DETAIL
N.T.S.

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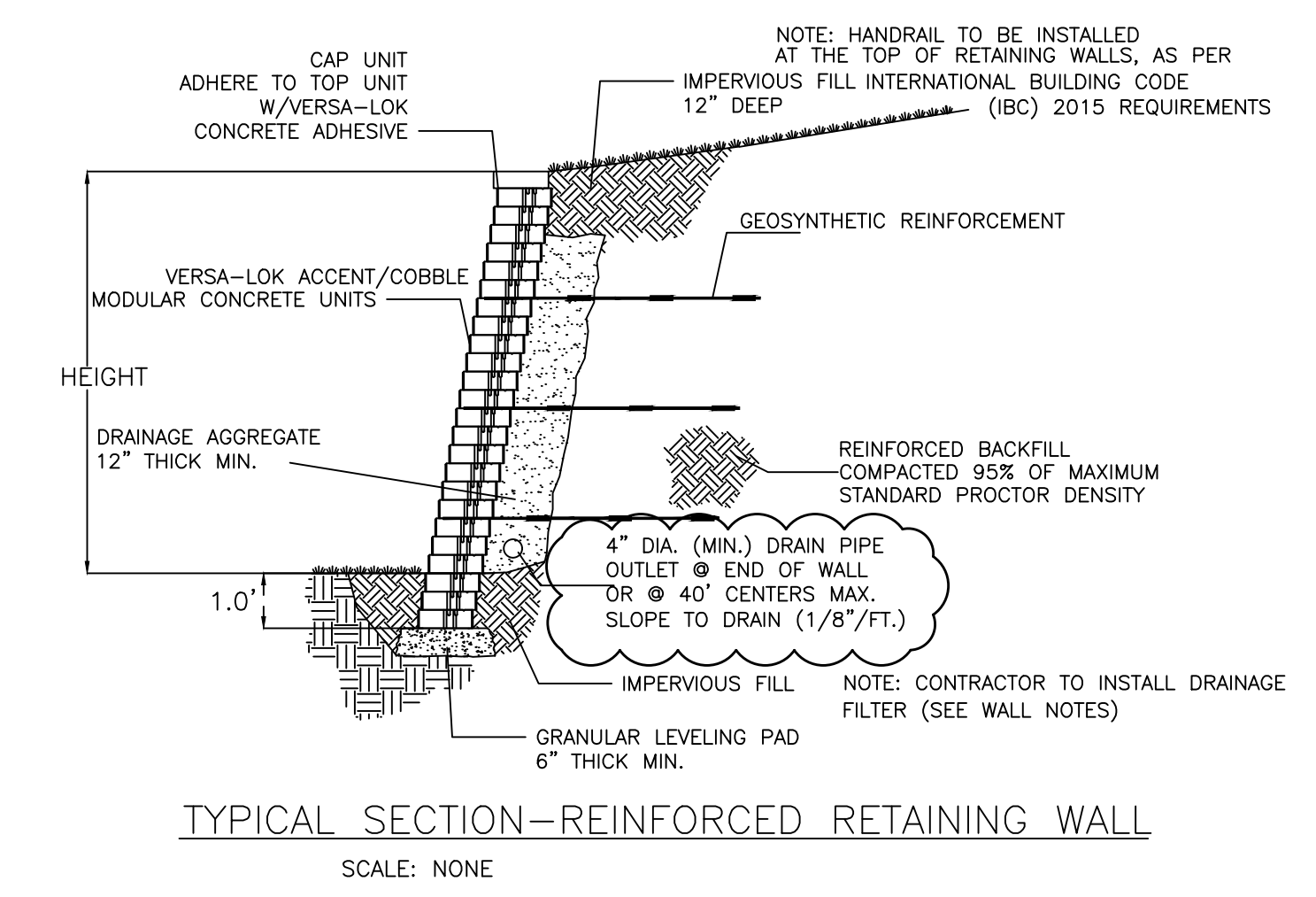
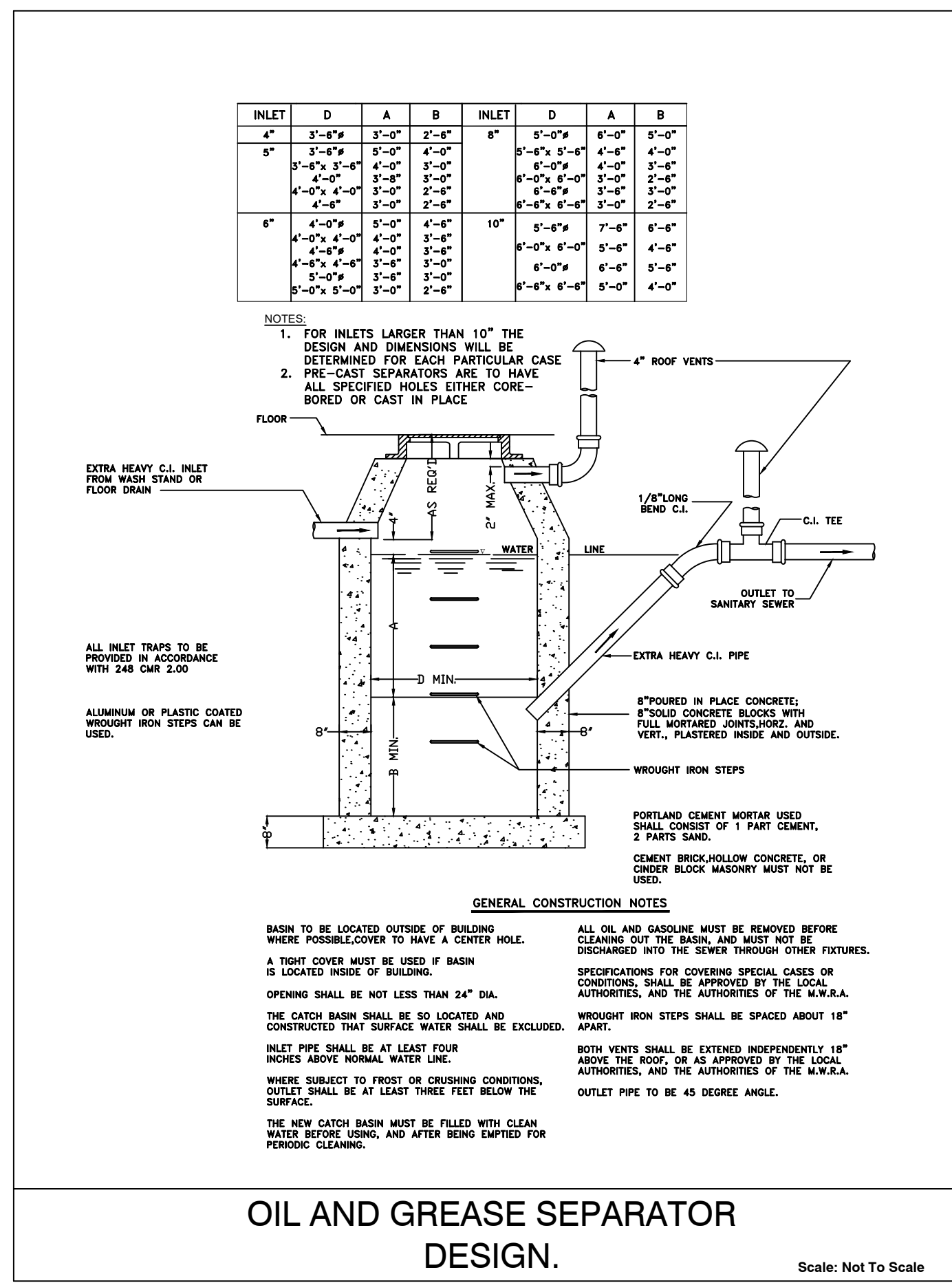
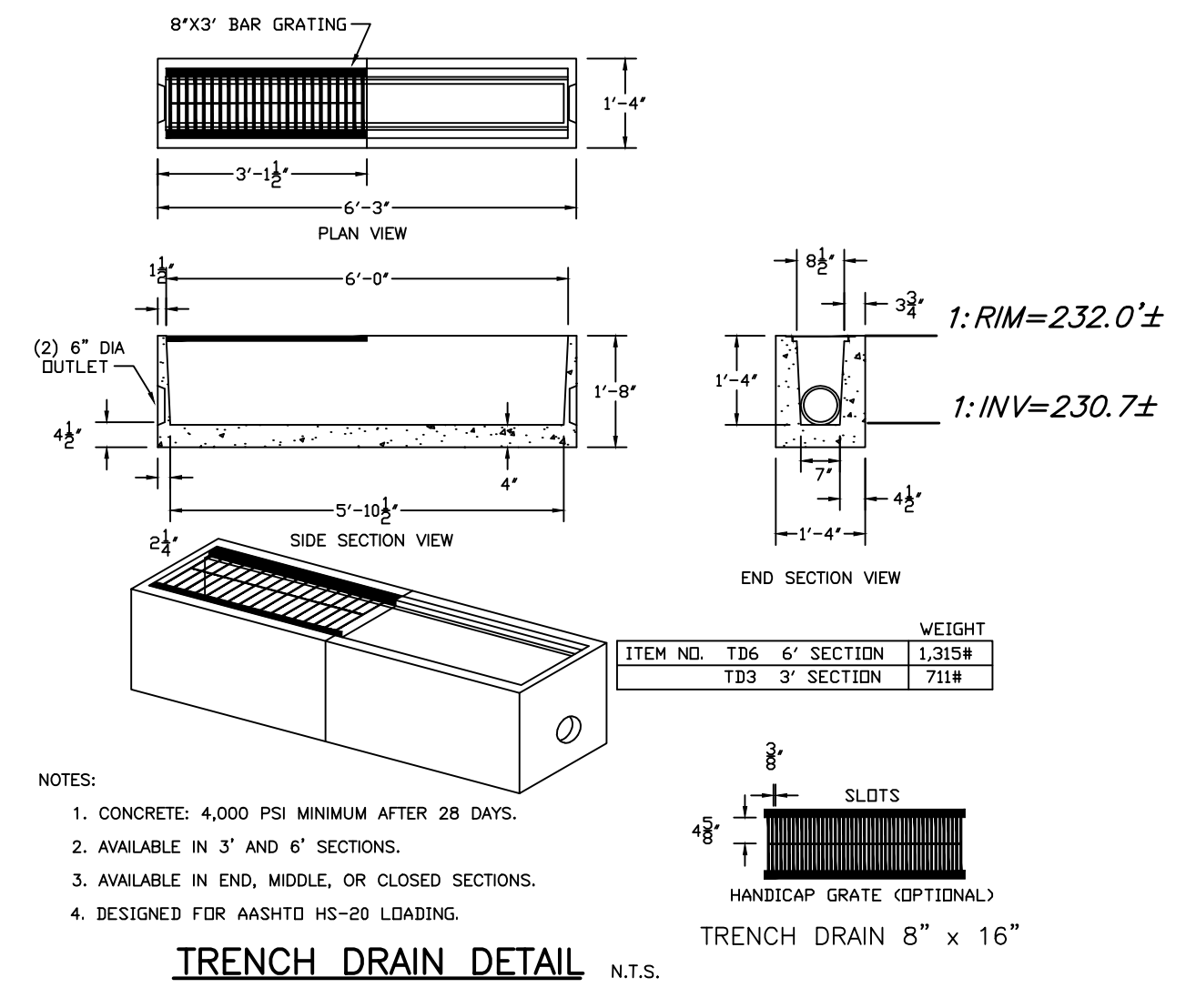
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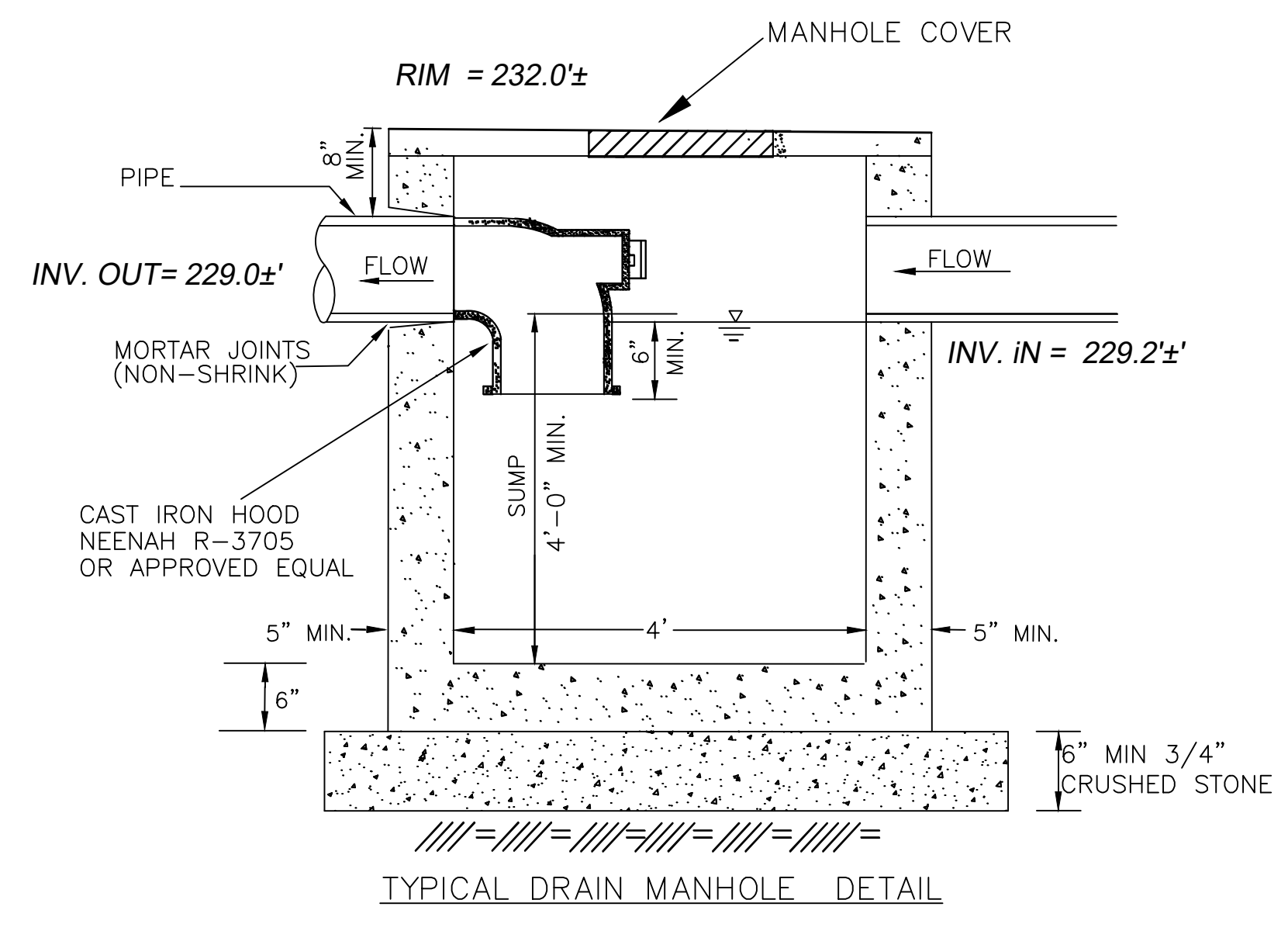
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