

**General Notes**

1. THE GENERAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE HORIZONTAL AND VERTICAL CONTROL OF ALL SYSTEM COMPONENTS.
2. THIS PLAN IS TO SHOW THE DESIGN OF THE SUBSURFACE DISPOSAL THIS PLAN IS TO SHOW THE DESIGN OF THE SUBSURFACE DISPOSAL SYSTEM ONLY. THE SYSTEM IS DESIGNED FOR FLOWS ESTIMATED UNDER DESIGN CONDITIONS.
3. THE SYSTEM IS DESIGNED ONLY TO ACCOMMODATE SANITARY SEWAGE ASSOCIATED WITH NORMAL DOMESTIC USAGE AND CONSISTING OF WATER-CARRIED PUTRESCIBLE WASTE.
4. THIS SYSTEM IS NOT DESIGNED FOR GARBAGE GRINDERS.
5. THE SYSTEM SHALL BE VENTED THROUGH THE BUILDING PLUMBING AS REQUIRED BY BUILDING CODE.
6. PROPERTY LINES AND BUILDING LOCATIONS ARE GRAPHIC ONLY. PROPERTY LINES NOT HAVING BEEN VERIFIED, NO REPRESENTATION OR CERTIFICATION AS TO THE ACCURACY OF THOSE SHOWN IS IMPLIED OR INTENDED.
7. APPLICABLE ZONING REGULATIONS SHALL BE CONFIRMED BY THE OWNER PRIOR TO CONSTRUCTION.
8. THE PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF SURVEY AND THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC., IS NOT INTENDED OR IMPLIED.
9. THE INSTALLER OF THE SYSTEM MUST BE LICENSED BY THE LOCAL BOARD OF HEALTH.
10. THERE ARE NO EXISTING WELLS WITHIN 150' FEET OF THE PROPOSED SEWAGE DISPOSAL SYSTEM OR WITHIN 50' OF THE SEPTIC TANK.
11. DISPOSAL SYSTEM AREA IS TO BE RAKED (SCARIFIED) BEFORE DISPOSAL SYSTEM AREA IS TO BE RAKED (SCARIFIED) BEFORE INSTALLATION OF STONE. ALL STONES EXCEEDING 2-INCHES IN DIAMETER, ALL LOAM OR FOREIGN MATERIAL ENCOUNTERED DURING EXCAVATION SHALL BE REMOVED FROM THE LEACHING AREA BED SURFACE.
12. FINISHED SURFACE OF THE LEACHING AREA SHALL BE GRADED TO ASSURE WATER RUN-OFF.
13. ALL DISTURBED AREAS SHALL BE LOOMED, SEEDED, AND MAINTAINED TO PREVENT EROSION.
14. THE SEPTIC TANK SHOULD BE PERIODICALLY INSPECTED AND MAINTAINED AND SHOULD BE PUMPED WHEN SLUDGE IN THE BOTTOM EXCEEDS 1/4 OF DEPTH.
15. ALTERNATE MANUFACTURERS FOR CONCRETE STRUCTURES AND EQUIPMENT SHOWN ON THESE PLANS MAY BE USED UPON THE WRITTEN APPROVAL OF THE DESIGN ENGINEER. ALTERNATE MANUFACTURERS SHALL NOT BE USED IF THE USE OF THE EQUIPMENT REQUIRES DESIGN CHANGES.
16. IF ANY PART OF THE DESIGN IS TO BE ALTERED IN ANY WAY, THE DESIGN ENGINEER, AS WELL AS THE APPROVING AUTHORITIES SHALL BE NOTIFIED IN WRITING PRIOR TO CONSTRUCTION.
17. ALL WORK SHALL COMPLY WITH THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION - STATE SANITARY CODE TITLE 5 AND ANY BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
18. THE LOCAL BOARD OF HEALTH WILL CONDUCT PERIODIC INSPECTIONS AS NEEDED.
19. A RESIDENT INSPECTOR FROM MF ENGINEERING SHALL BE ON SITE TO: (a) INSPECT THE INSTALLATION OF ALL CONCRETE STRUCTURES PRIOR TO BEING BACKFILLED, (b) INSPECT THE BOTTOM OF THE LEACH BED AT THE TIME IT IS SCARIFIED, AND (c) INSPECT THE LEACH BED AREA PRIOR TO BEING BACKFILLED. THE DESIGN ENGINEER AND THE LOCAL BOARD OF HEALTH SHALL BE GIVEN AT LEAST 48 HOURS NOTICE BY THE GENERAL CONTRACTOR PRIOR TO COMMENCEMENT OF THE ABOVE CONSTRUCTION OPERATIONS. THE DESIGN ENGINEER SHALL SUBMIT AN AS-BUILT SKETCH OF THE SYSTEM TO THE BOARD OF HEALTH WITHIN 2 WEEKS OF COMPLETION.
20. THESE PLANS AND SPECIFICATIONS ARE INTENDED TO ENCOMPASS THE PROPOSED WORK. SHOULD ANY OMISSIONS, ERRORS, OR DISCREPANCIES OCCUR, THE ENGINEER MUST BE NOTIFIED IMMEDIATELY AND THESE PLANS AND SPECIFICATIONS SHALL BE SUBJECT TO CORRECTION AND INTERPRETATION BY THE DESIGN ENGINEER, THEREBY DEFINING AND FULFILLING THE INTENT OF THE DESIGN.
21. THERE ARE NO SURFACE WATER SUPPLIES OR TRIBUTARIES TO RESERVOIRS WITHIN 100' OF THE PROPOSED LEACHING AREA AND OF THE PROPOSED SEPTIC TANK.
22. THERE ARE NO EXISTING OR PROPOSED CATCH BASINS, SUBSURFACE DRAINS, INCLUDING FOUNDATION DRAINS OR DRYWALLS WITHIN 25' OF THE 25' OF THE OF THE PROPOSED LEACHING AREA AND SEPTIC TANK.
23. ALL CONNECTIONS AND JOINTS SHALL BE MECHANICALLY SOUND AND TIGHT.
24. EFFLUENT DISTRIBUTION LINE OUTLET ORIFICES SHALL BE EVENLY SPACED ALONG TWO ROWS RUNNING THE LENGTH OF THE LINE, ON EACH SIDE, MIDWAY BETWEEN THE INVERT AND CENTERLINE WHICH SEPARATES THE UPPER AND LOWER HALVES OF THE PIPE. FOR GRAVITY DISTRIBUTION, ORIFICES SHALL BE NO SMALLER THAN 3/8-INCH AND NO LARGER THAN 5/8-INCH DIAMETER.
25. EFFLUENT DISTRIBUTION LINES SHALL HAVE A SLOPE OF 0.005 FEET PER FOOT AND SHALL HAVE ENDS CAPPED OR CONNECTED TOGETHER BY UNPERFORATED PIPE OF THE SAME MATERIAL SPECIFICATIONS.
26. DISTRIBUTION LINES CONNECTING THE DISTRIBUTION BOX OR PUMP CHAMBER TO THE SOIL ABSORPTION SYSTEM SHALL BE UNPERFORATED WITH WATER TIGHT CONNECTIONS AND JOINTS.
27. DISTRIBUTION LINES EXCEEDING 50-FEET IN LENGTH SHALL BE CONNECTED AND VENTING PROVIDED IN ACCORDANCE WITH 310 CMR 15.241.
28. THE 15' DISTANCE FOR BREAKOUT IS MEASURED HORIZONTALLY FROM THE TOP OF STONE. \*SEE PLAN & PROFILE.
29. BOTTOM AND SIDEWALL AREA TO BE SCARIFIED TO A DEPTH OF 1-INCH PRIOR TO PLACEMENT OF STONE.
30. THE CONTRACTOR IS RESPONSIBLE FOR ALL PLUMBING FOR THE PROPOSED DWELLING AND IS TO ASSURE THAT ALL INTERIOR PLUMBING IS PROPERLY CONNECTED TO THE PROPOSED SEPTIC TANK. IN CASES OF REPAIRS, CONTRACTOR SHALL CONFIRM THAT ALL INTERIOR PLUMBING WILL BE ABLE TO FLOW TO THE PROPOSED SEPTIC TANK PRIOR TO CONSTRUCTION. AT A MINIMUM, THE CONTRACTOR SHALL USE A DYE TEST OR CAMERA TO CONFIRM EXISTING PLUMBING. CONTRACTOR SHALL REPORT ANY DISCREPANCY TO THE LOCAL BOARD OF HEALTH AND DESIGN ENGINEER PRIOR TO CONSTRUCTION.
31. WETLANDS: FLAGGED BY RIMMER ENVIRONMENTAL CONSULTING INC. AND APPROVED BY THE BOXFORD CONSERVATION COMMISSION.

# NOTICE OF INTENT (NOI) SENA RESIDENCE 146 GEORGETOWN ROAD BOXFORD, MA



**SHEET NO.**

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- C-101
- C-102
- C-103
- C-104
- C-105
- C-106
- C-501-502

**SHEET TITLE**

- COVER SHEET
- EXISTING CONDITIONS AND EROSION CONTROL PLAN
- GRADING AND DRAINAGE PLAN
- SEPTIC SYSTEM DESIGN AND CALCULATIONS
- SEPTIC SYSTEM PROFILES AND DETAILS
- EXISTING LANDSCAPE PLAN
- PROPOSED LANDSCAPE PLAN
- CONSTRUCTION DETAILS

**SYSTEM AS-BUILT REQUIREMENTS**

CONTRACTOR SHALL COORDINATE WITH THE DESIGN ENGINEER AND AT A MINIMUM MAKE THE FOLLOWING SYSTEM COMPONENTS OPEN & ACCESSIBLE FOR HORIZONTAL AND VERTICAL LOCATION FOR AS-BUILT PLANS:

ALL PIPES LEACHING FIELD, TRENCHES AND OR GALLERIES D-BOX SEPTIC TANK VENTS PUMP CHAMBER, ELECTRICAL HAND-HOLE IMPERVIOUS BARRIER (40 MIL HDPE POLYVINYL CHLORIDE FLEXIBLE MEMBRANE) - IF APPLICABLE. INVERT AT BUILDING ANY OTHER APPLICABLE SYSTEM COMPONENTS

AS-BUILT NOTES: WHEN AN IMPERVIOUS BARRIER (40 MIL HDPE POLYVINYL CHLORIDE FLEXIBLE MEMBRANE) IS INSTALLED CONTRACTOR SHALL LEAVE TOP EXPOSED FOR HORIZONTAL AND VERTICAL LOCATION. WHEN PRESSURE DOSING, CONTRACTOR SHALL HAVE ALL ELECTRICAL CONNECTIONS INCLUDING ALARM COMPLETED PRIOR TO AS-BUILT. PUMPS SHALL BE TESTED AND PUMP DRAW DOWN CONFIRMED. WHERE APPLICABLE, THE SQUIRT HEIGHT SHALL BE MEASURED AND RECORDED.

**Material Notes**

1. LEACH BEDDING A. CLEAN DOUBLE WASHED STONE SHALL BE FREE OF IRONS, FINES, DUST AND ORGANIC MATTER AS LAID. DOUBLE WASHED STONE SHALL CONFORM TO AASHO T-11-70. B. BOTTOM STONE IN LEACH SYSTEM SHALL BE 3/4" TO 1 1/2" DOUBLE WASHED STONE AS INDICATED IN NOTE 'A' ABOVE. C. TOP STONE IN LEACH SYSTEM SHALL BE 1/8" TO 3/8" DOUBLE WASHED STONE AS INDICATED IN NOTE 'A' ABOVE.

2. CONCRETE STRUCTURES: CONCRETE STRUCTURES SHALL BE 4000 PSI AT 28 DAYS WITH A 6" x 6" x 10" GAUGE STEEL WIRE MESH. USE HYDRAULIC COMPOUND CONNECTIONS TO PROVIDE WATER TIGHTNESS AT SEPTIC TANK AND DISTRIBUTION BOX INLET & OUTLETS. SEPTIC TANK CONSTRUCTION JOINTS SHALL BE SEALED WITH ASPHALT CEMENTS.

3. PIPE MATERIALS: PIPE MATERIALS: DISTRIBUTION LINES FOR LEACHING TRENCHES SHALL BE CONSTRUCTED OF POLYVINYL CHLORIDE (PVC) PLASTIC (ASTM 26655), SCHEDULE 40 NSF. FORCEMAIN LINES SHALL BE INSTALLED TO GUARD AGAINST FREEZING.

4. SYSTEM FILL: SYSTEM FILL: FILL MATERIAL FOR SYSTEMS CONSTRUCTED IN FILL SHALL CONSIST OF ON-SITE OR IMPORTED SOIL MATERIAL. THE FILL SHALL BE COMPRISED OF CLEAN GRANULAR SAND, FREE FROM ORGANIC MATTER AND DELETERIOUS SUBSTANCES. MIXTURES AND DIFFERENT CLASSES OF SOIL SHALL NOT BE USED. THE FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN 2 INCHES. A SIEVE ANALYSIS, USING A #4 SIEVE, SHALL BE PERFORMED ON A REPRESENTATIVE SAMPLE OF THE FILL. UP TO 45% BY WEIGHT OF THE FILL SAMPLE MAY BE RETAINED ON THE #4 SIEVE. SIEVE ANALYSIS ALSO SHALL BE PERFORMED ON THE FRACTION OF THE FILL SAMPLE PASSING THE #4 SIEVE, SUCH ANALYSES MUST DEMONSTRATE THAT THE MATERIAL MEETS EACH OF THE FOLLOWING SPECIFICATIONS.

SIEVE SIZE PARTICLE SIZE	PASS SIEVE EFFECTIVE	
#4	4.75 MM	100%
#50	0.50 MM	10%-100%
#100	0.15 MM	0%-20%
#200	0.075 MM	0%-5%

PRIOR TO PLACEMENT OF THE FILL, WHICH SHALL BE STOCKPILED AT THE EDGE OF THE EXCAVATION AND FILLED IN GRADUALLY, THE BOTTOM SURFACE OF THE EXCAVATION SHALL BE SCARIFIED AND RELATIVELY DRY. FILL SHALL NOT BE PLACED DURING RAIN OR SHOW STORMS. IF THE WATER TABLE ELEVATION IS ABOVE THE ELEVATION OF THE BOTTOM OF THE EXCAVATION, THE EXCAVATION SHALL BE DEWATERED AS NECESSARY.

**SUBSURFACE DISPOSAL SYSTEM & MAINTENANCE**

A SEPTIC SYSTEM IS USED TO DISPOSE AND TREAT HOUSEHOLD SEWAGE. IT CONSISTS OF A RECTANGULAR WATER TIGHT BOX (THE SEPTIC TANK) AND A LEACHING AREA. WASTE WATER FROM THE HOUSE FLOWS DIRECTLY INTO THE SEPTIC TANK. THERE THE LARGER SOLIDS SETTLE TO THE BOTTOM, FORMING A LAYER OF SLUDGE. THE LIGHTER PARTICLES RISE TO THE SURFACE, FORMING A LAYER OF SCUM. BACTERIA IN THE TANK WORK TO DECOMPOSE THE SOLIDS IN THESE LAYERS. IN SPITE OF THIS DECOMPOSITION, REGULAR REMOVAL OF THE SLUDGE LAYER IS NECESSARY, EVEN UNDER NORMAL CONDITIONS, AS IT WILL EVENTUALLY BUILD UP TO THE POINT WHERE SLUDGE OVERFLOWS THROUGH THE OUTLET PIPE AND INTO THE LEACHING AREA. THIS MAY BLOCK THE ENTIRE LEACHING AREA, THUS CAUSING SYSTEM FAILURE. THEREFORE, A REGULAR SEPTIC TANK PUMPING SCHEDULE IS RECOMMENDED TO AVOID LEACHING AREA PROBLEMS. CONTACT THE LOCAL BOARD OF HEALTH FOR RECOMMENDED PUMPING SCHEDULE. THE LIQUID PORTION OF THE SEWAGE FLOWS FROM THE SEPTIC TANK TO THE LEACHING SYSTEM, WHICH CONSISTS OF A SERIES OF PERFORATED PIPES OR A PRECAST PIT PLACED IN TRENCHES OR BEDS OF WASHED STONE. THIS SYSTEM DISTRIBUTES THE LIQUID SEWAGE INTO THE SURROUNDING SOIL, WHERE IT IS FILTERED AND TREATED.

1. IN ACCORDANCE WITH CHAPTER 82 SECTION 40 IN ACCORDANCE WITH CHAPTER 82 SECTION 40 INCLUDING AMENDMENTS, THE CONTRACTOR SHALL NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO EXCAVATION WORK AND CALL DIG-SAFE AT 1-800-DIG-SAFE PRIOR TO COMMENCING WORK.

2. THE LOCATION OF EXISTING UNDERGROUND UTILITIES THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES. 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 CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATIONS, 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.

4. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.



No.	Date	Description
5	10/06/21	COMMISSION COMMENTS
4	09/27/21	COMMISSION COMMENTS
3	08/17/21	STORMWATER MANAGEMENT
2	07/16/21	SEPTIC TANK AND WELLS LINES
1	06/11/21	NOI SUBMITTAL

Prepared for:  
CLAUDIO SENA  
146 GEORGETOWN ROAD  
BOXFORD, MA, 01921

Property of:  
MF ENGINEERING  
142 FISHER STREET  
WESTBOROUGH, MA 01581

Prepared By:

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Carlos E. Ferreira P.E. #41.423  
Date: \_\_\_\_\_

Project Title  
**NOTICE OF INTENT**  
SENA RESIDENCE

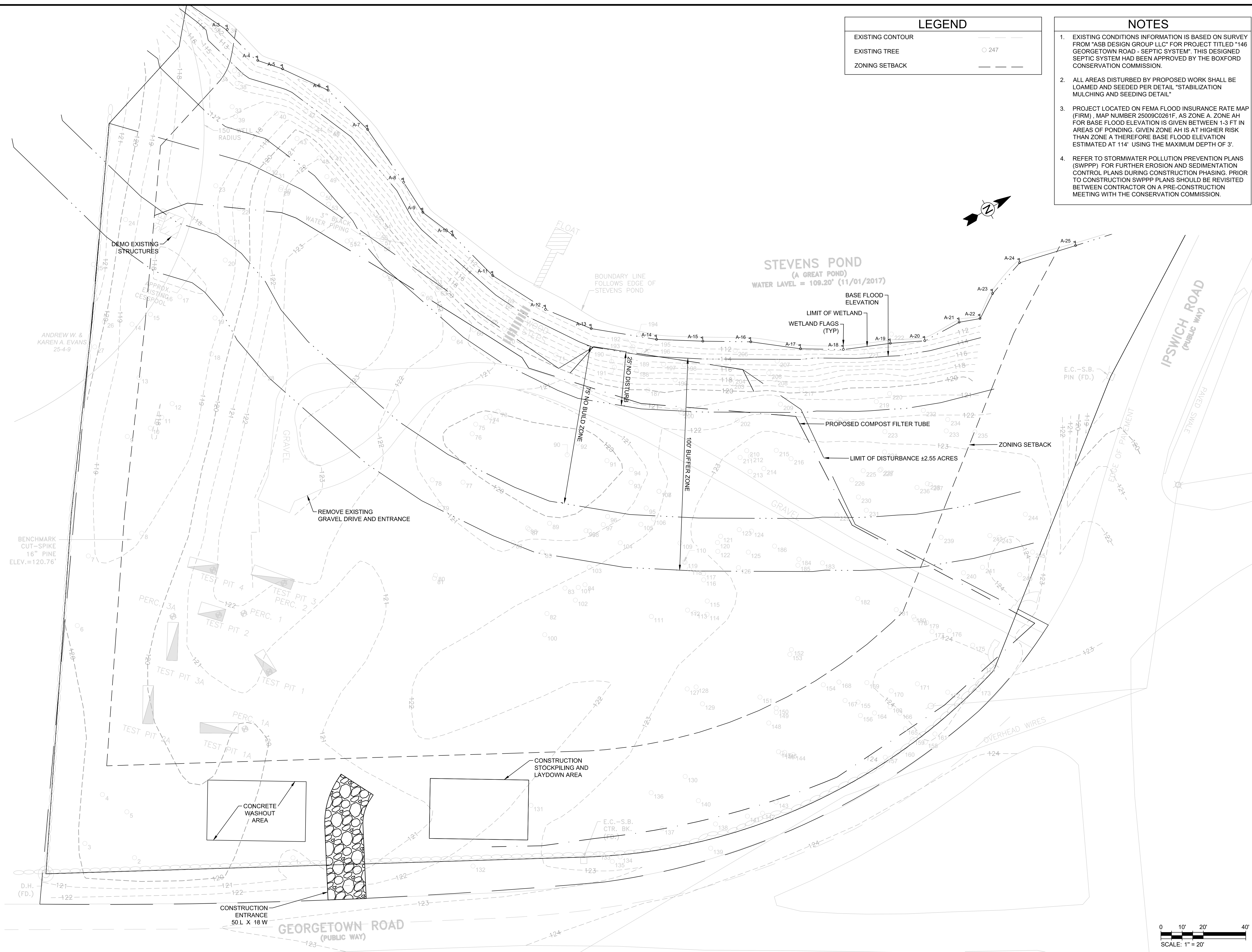
Sheet Title  
**COVER SHEET**

SCALE	1"=20'
DRAWN	CMS
CHECKED	CEF
FILE NAME	146 GEORGETOWN
PROJECT	146 GEORGETOWN ROAD
ISSUE DATE	05/21/21
JOB NO.	146-0521



LEGEND	
EXISTING CONTOUR	---
EXISTING TREE	○ 247
ZONING SETBACK	---

- NOTES**
- EXISTING CONDITIONS INFORMATION IS BASED ON SURVEY FROM "ASB DESIGN GROUP LLC" FOR PROJECT TITLED "146 GEORGETOWN ROAD - SEPTIC SYSTEM". THIS DESIGNED SEPTIC SYSTEM HAD BEEN APPROVED BY THE BOXFORD CONSERVATION COMMISSION.
  - ALL AREAS DISTURBED BY PROPOSED WORK SHALL BE LOAMED AND SEEDED PER DETAIL "STABILIZATION MULCHING AND SEEDING DETAIL"
  - PROJECT LOCATED ON FEMA FLOOD INSURANCE RATE MAP (FIRM), MAP NUMBER 2509C0261F. AS ZONE A, ZONE AH FOR BASE FLOOD ELEVATION IS GIVEN BETWEEN 1-3 FT IN AREAS OF PONDING. GIVEN ZONE AH IS AT HIGHER RISK THAN ZONE A THEREFORE BASE FLOOD ELEVATION ESTIMATED AT 114' USING THE MAXIMUM DEPTH OF 3'.
  - REFER TO STORMWATER POLLUTION PREVENTION PLANS (SWPPP) FOR FURTHER EROSION AND SEDIMENTATION CONTROL PLANS DURING CONSTRUCTION PHASING. PRIOR TO CONSTRUCTION SWPPP PLANS SHOULD BE REVISITED BETWEEN CONTRACTOR ON A PRE-CONSTRUCTION MEETING WITH THE CONSERVATION COMMISSION.



*Carlos Ferreira*

No.	Date	Description
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3	08/17/21	STORMWATER MANAGEMENT
2	07/15/21	EXISTING TREES AND WETLAND LINE
1	06/11/21	NOI SUBMITTAL

Prepared for:  
**CLAUDIO SENA**  
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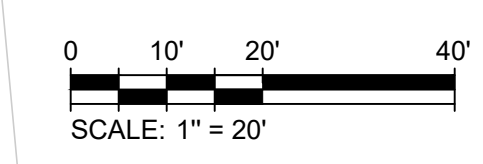
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 Date: \_\_\_\_\_

Project Title:  
**NOTICE OF INTENT**  
 SENA RESIDENCE

Sheet Title:  
**EXISTING CONDITIONS**  
**AND EROSION CONTROL**

SCALE	1"=20'
DRAWN	CMS
CHECKED	CEF
FILE NAME	146 GEORGETOWN
PROJECT	146 GEORGETOWN RD
ISSUE DATE	05/21/2021
JOB NO.	146-0521

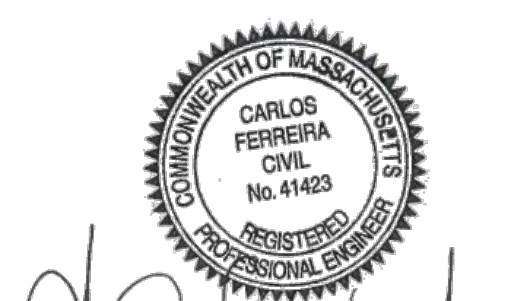
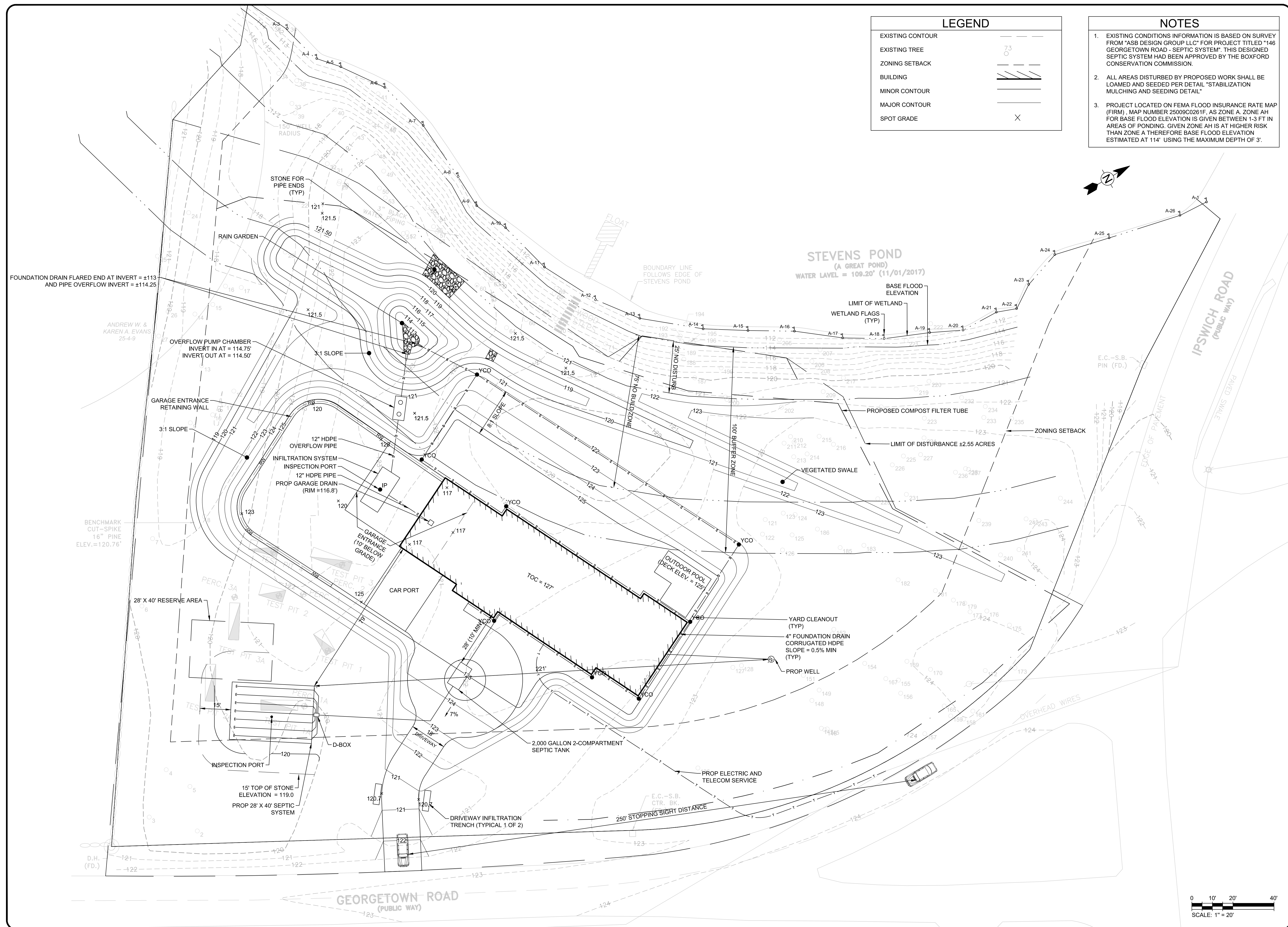


**SHEET C-101**



LEGEND	
EXISTING CONTOUR	---
EXISTING TREE	○
ZONING SETBACK	---
BUILDING	▨
MINOR CONTOUR	---
MAJOR CONTOUR	---
SPOT GRADE	X

- NOTES**
- EXISTING CONDITIONS INFORMATION IS BASED ON SURVEY FROM "ASB DESIGN GROUP LLC" FOR PROJECT TITLED "146 GEORGETOWN ROAD - SEPTIC SYSTEM". THIS DESIGNED SEPTIC SYSTEM HAD BEEN APPROVED BY THE BOXFORD CONSERVATION COMMISSION.
  - ALL AREAS DISTURBED BY PROPOSED WORK SHALL BE LOAMED AND SEEDED PER DETAIL "STABILIZATION MULCHING AND SEEDING DETAIL"
  - PROJECT LOCATED ON FEMA FLOOD INSURANCE RATE MAP (FIRM), MAP NUMBER 25009C0261F. AS ZONE A, ZONE AH FOR BASE FLOOD ELEVATION IS GIVEN BETWEEN 1-3 FT IN AREAS OF PONDING. GIVEN ZONE AH IS AT HIGHER RISK THAN ZONE A THEREFORE BASE FLOOD ELEVATION ESTIMATED AT 114' USING THE MAXIMUM DEPTH OF 3'.



*Carlos Ferreira*

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4	09/27/21	COMMISSION COMMENTS
3	08/17/21	STORMWATER MANAGEMENT
2	07/15/21	EXISTING TREES AND WETLAND LINE
1	06/11/21	NOI SUBMITTAL

Prepared for:  
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 146 GEORGETOWN ROAD  
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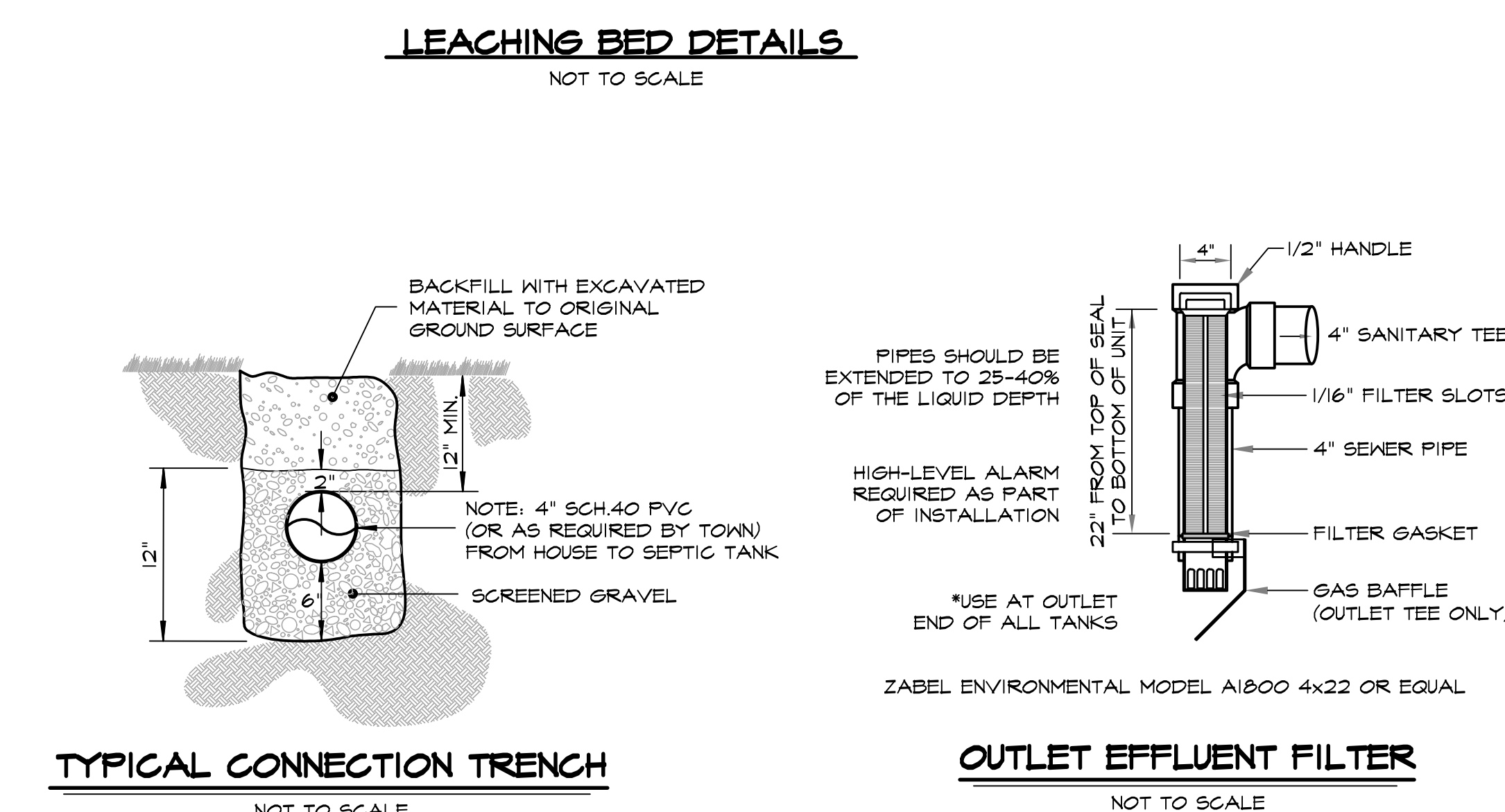
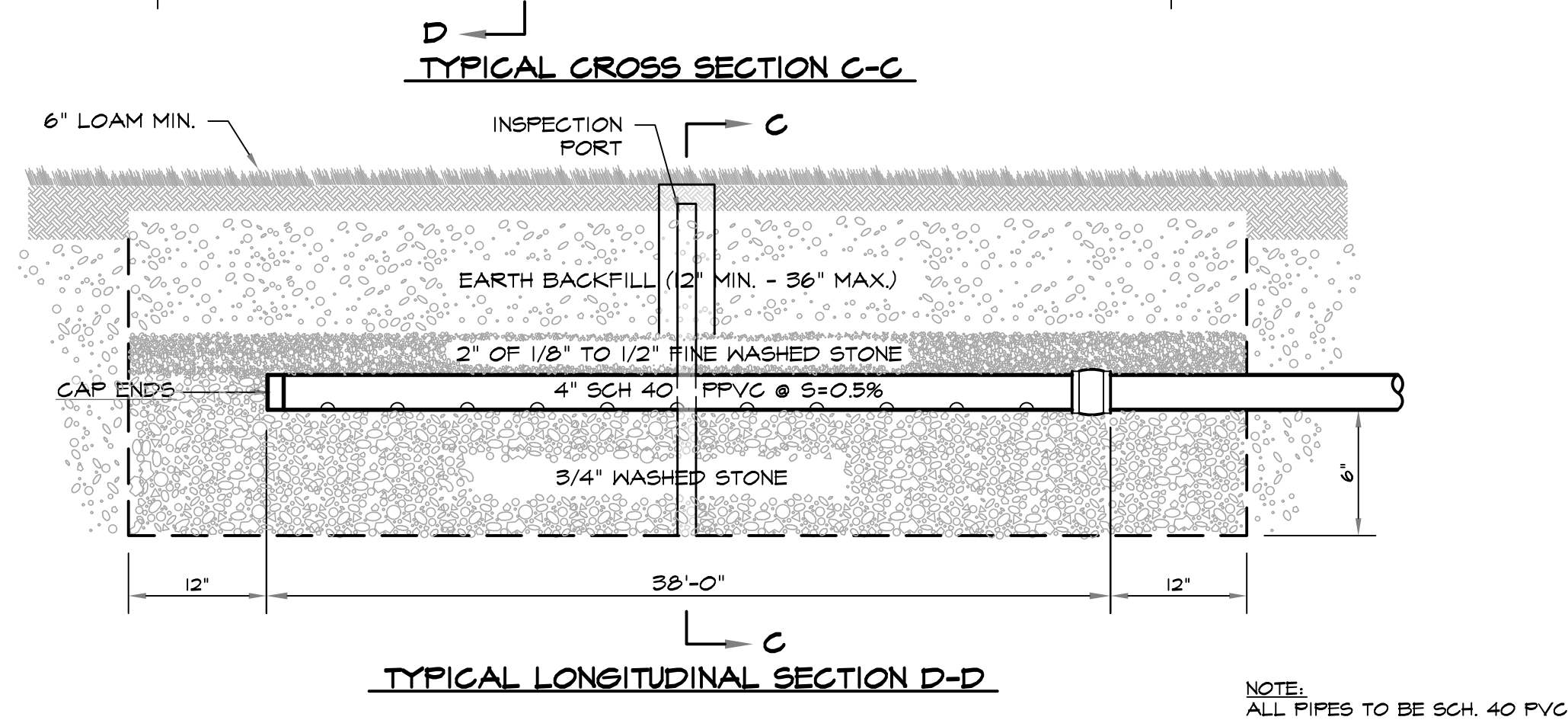
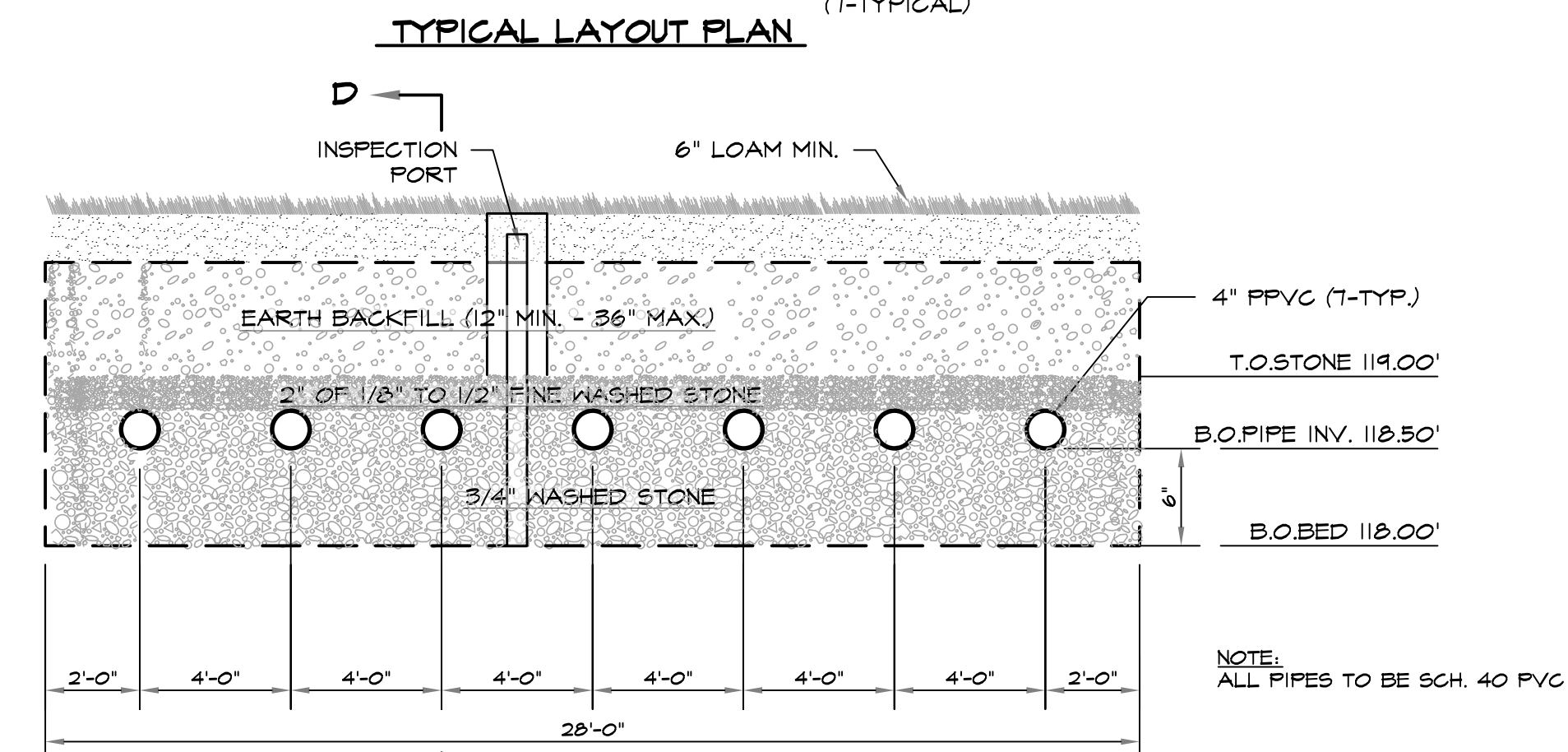
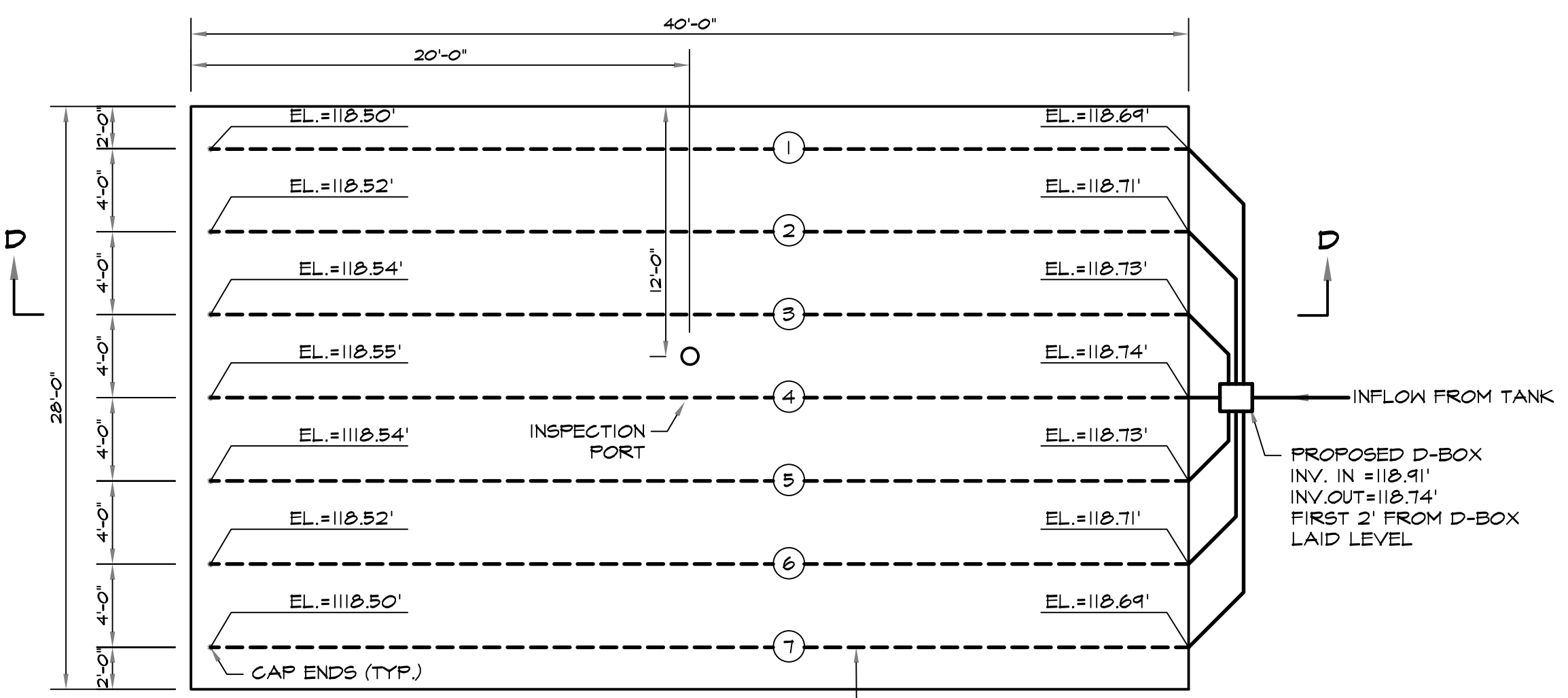
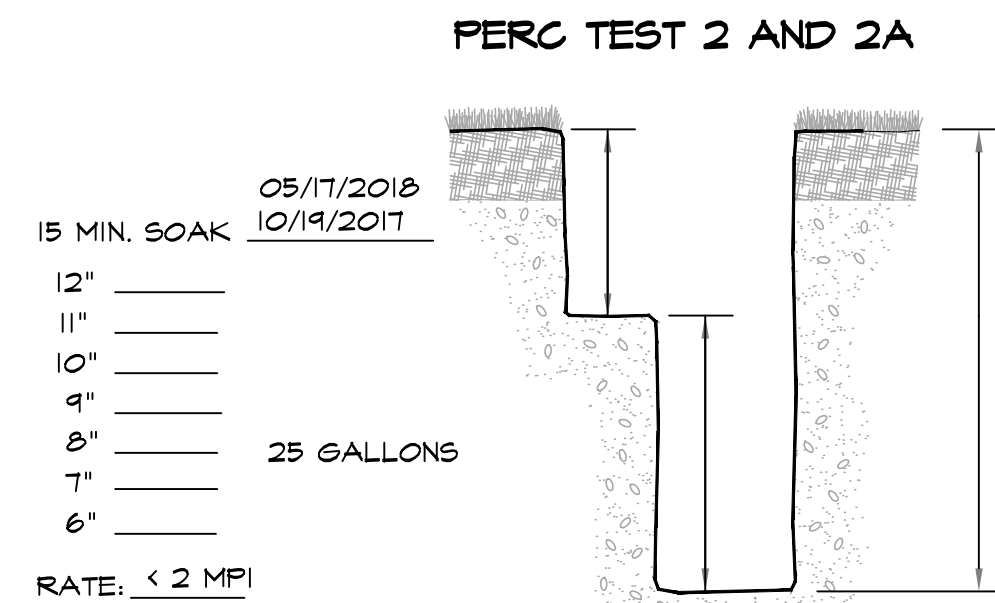
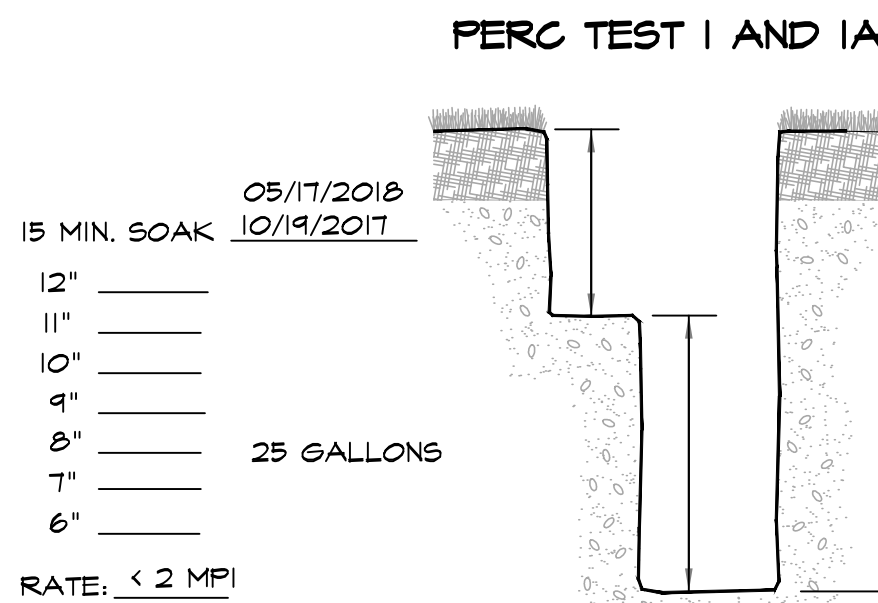
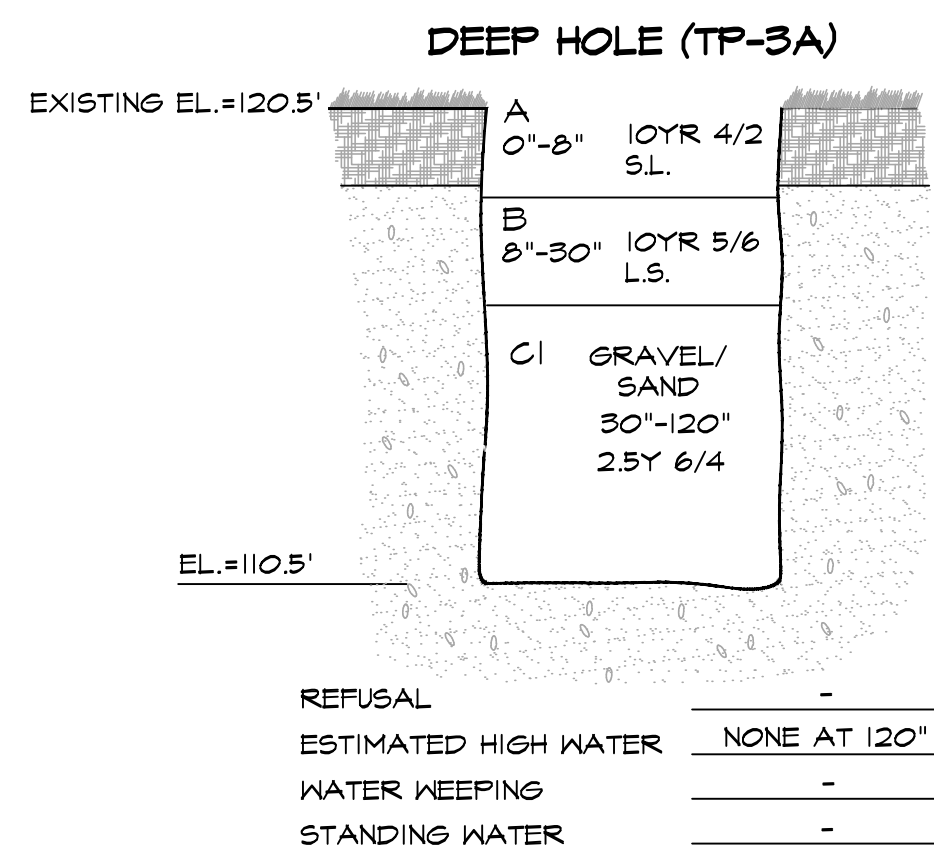
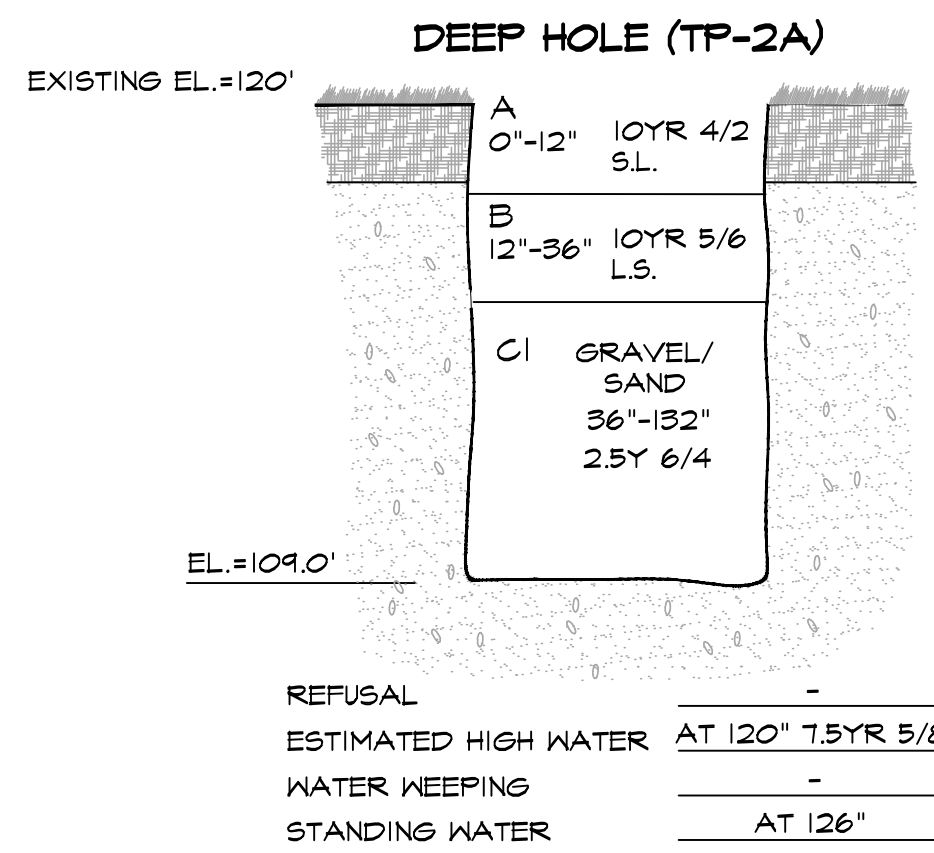
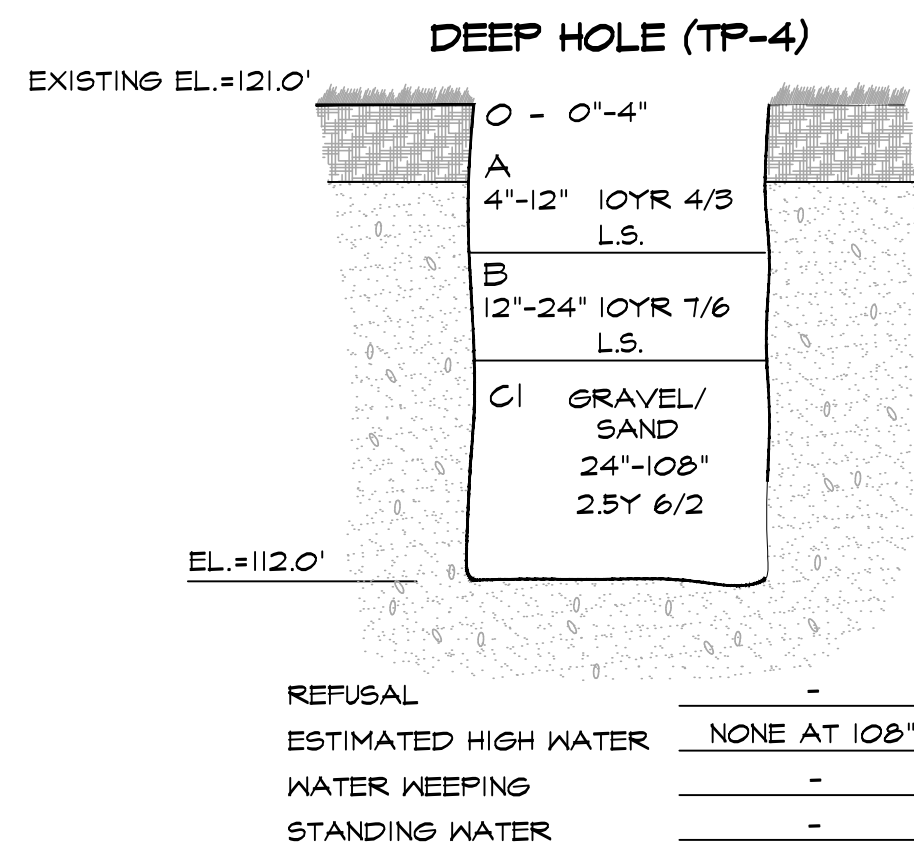
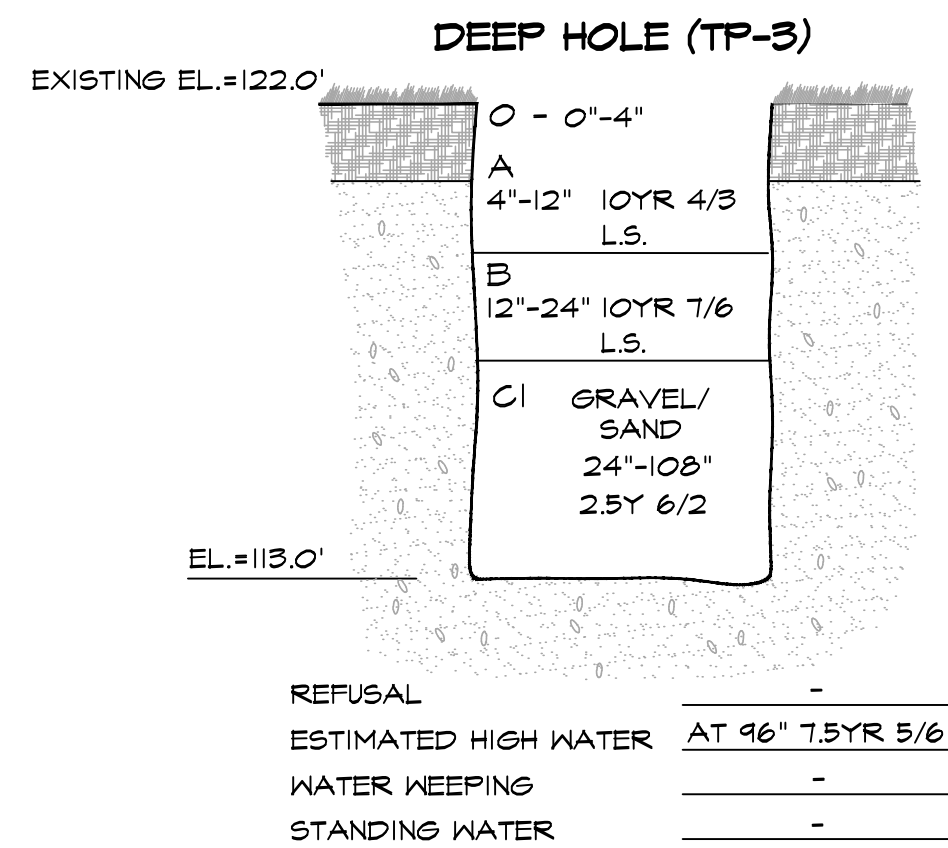
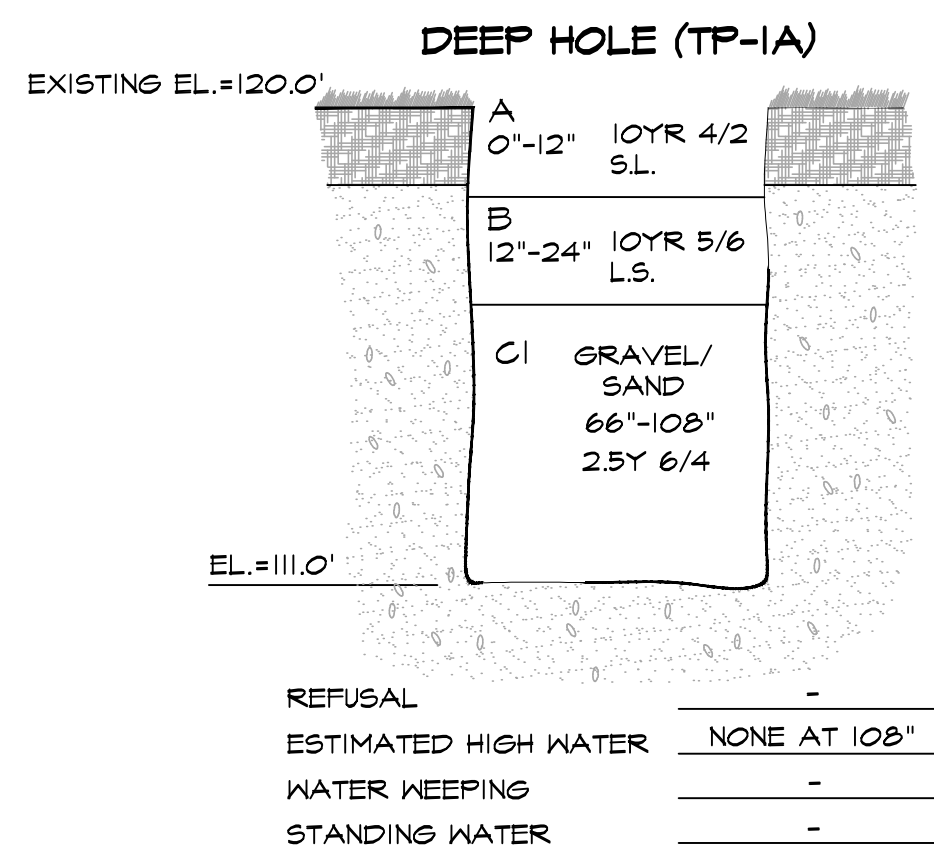
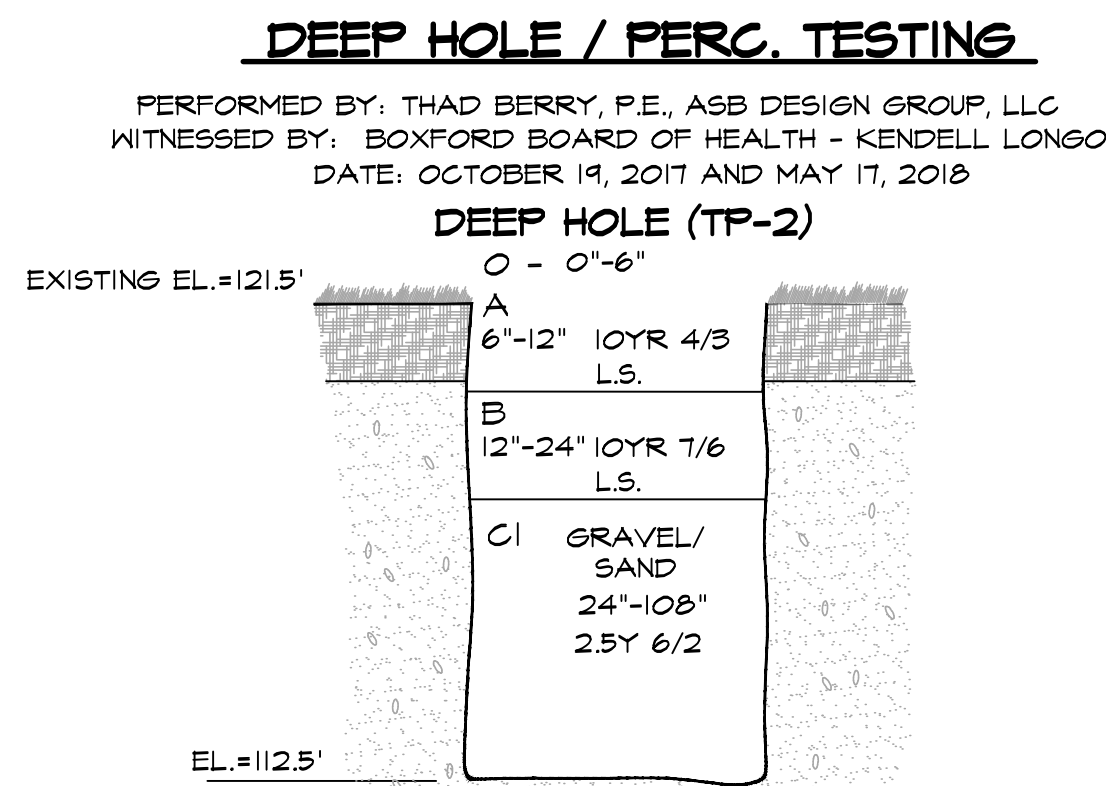
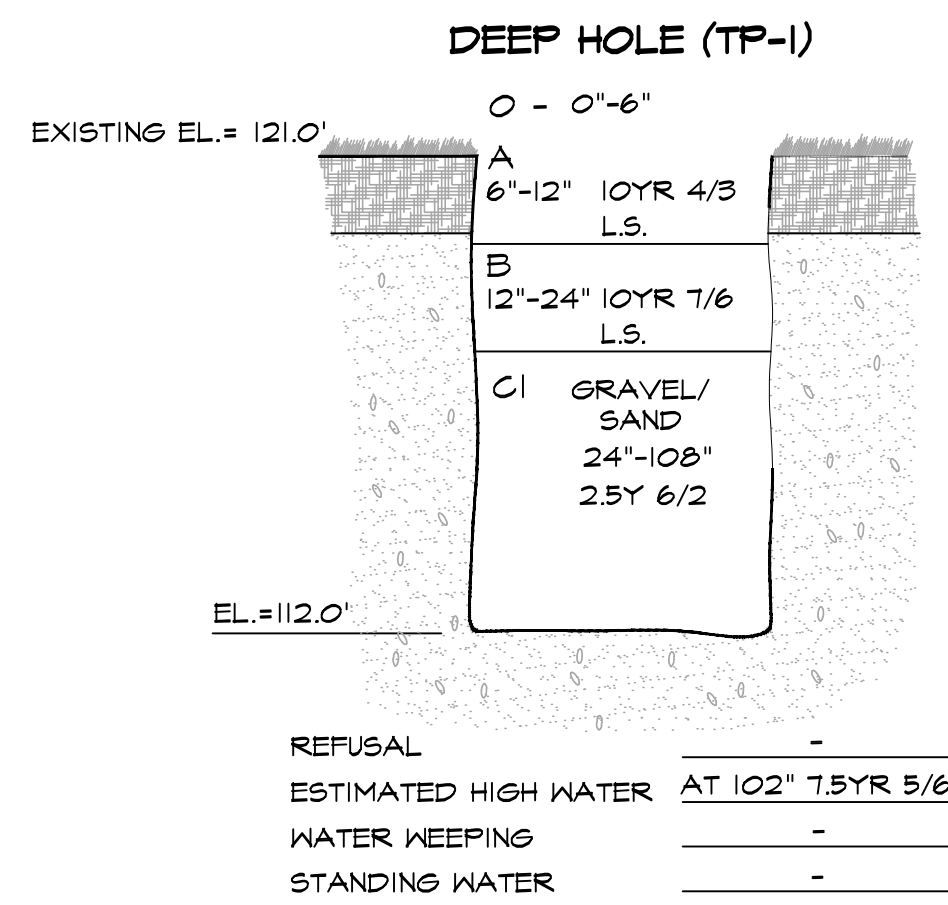
Project Title  
**NOTICE OF INTENT**  
 SENA RESIDENCE

Sheet Title  
**SITE PLAN**

SCALE	1" = 20'
DRAWN	CEF
CHECKED	CEF
FILE NAME	146 GEORGETOWN
PROJECT	146 GEORGETOWN RD
ISSUE DATE	05/21/2021
JOB NO.	146-0521

**SHEET C-102**





### SOIL DATA

SOIL CLASS:

X CLASS I: SANDS, LOAMY SANDS

CLASS II: SANDY LOAMS, LOAM

CLASS III: SILTY LOAMS

CLASS IV: CLAYS, SILTY CLAY, LOAM

SOIL UNSUITABLE FOR SUBSURFACE DISPOSAL SYSTEM.

PERC. RATE: < 2 MIN/IN DESIGN RATE: USE 10 MIN/IN

### CALCULATIONS

PERC. RATE (MIN./INCH)	CLASS I	CLASS II	CLASS III	CLASS IV
5	0.74(3.0)	0.60(2.5)	-	-
6	0.70(2.9)	0.60(2.5)	-	-
7	0.68(2.8)	0.60(2.5)	-	-
8	0.66(2.7)	0.60(2.5)	-	-
10	-	0.60(2.5)	-	-
15	-	0.56(2.3)	0.37(1.5)	-
20	-	0.53(2.2)	0.34(1.4)	-
25	-	0.40(1.6)	0.33(1.3)	-
30	-	0.33(1.3)	0.24(1.2)	-

### LEACHING AREA SIZING

NO. OF BEDROOMS	5
GALLONS PER DAY/BEDROOM	110
BASE DESIGN FLOW	550 GPD
ADD GARBAGE DISPOSAL	825 GPD
PERCOLATION RATE	5 MIN/IN
CLASS I SOIL	0.74 G/D/SF
* TOTAL AREA REQUIRED	1,115 S.F.
* LEACHING AREA PROVIDED	1,120 S.F.
RESERVE AREA PROVIDED	1,120 S.F.

### SEPTIC TANK SIZING

200% DESIGN FLOW

TOTAL DESIGN FLOW	825 GPD
200% x 825 GALS/DAY = 1,650 GPD (MIN. REQUIRED)	
* SEPTIC TANK USED	2000 GAL
	2-COMPARTMENT

### DESIGN ELEVATIONS

(ALSO SEE PROFILE, CROSS-SECTIONS & PLANS)

	BED
EXISTING DESIGN ELEVATION	120.5'
S.H.A.L.T (NONE @ 4')	111.50'
BOTTOM OF BED (+6.5' MIN.)	118.00'
BOTTOM OF PIPE (MIN. +0.5')	118.50' (PIPES 1&7)
TOP OF STONE (+0.5')	119.00'
D-BOX OUT	118.74'
D-BOX IN (+0.17')	118.91'
SEPTIC TANK OUT	119.83'
SEPTIC TANK IN (+0.25')	119.88'
INV AT HOUSE	120.92'
TOP OF FOUNDATION	125.00'

### SIZING CALCULATIONS

- DESIGN FLOW: 5 BEDROOMS X 110 GAL/BEDROOM = 550 GPD

- ADD GARBAGE DISPOSAL: 825 GPD

- LEACHING AREA REQUIRED: 825 GPD / 0.74 GPD/SF = 1,115 SF

- SYSTEM AREA PROVIDED: 28' WIDE X 40' LONG = 1,120 SF

- RESERVE AREA PROVIDED: 28' WIDE X 40' LONG = 1,120 SF

NOTE: CONTRACTOR SHALL EXCAVATE AND CONFIRM INVERT AT BUILDING. CONTRACTOR SHALL REPORT ANY DISCREPANCY TO THE BOARD OF HEALTH AND THE DESIGN ENGINEER. CONTRACTOR SHALL UPON APPROVAL MAKE ALL NECESSARY FIELD ADJUSTMENTS THAT MAY BE REQUIRED.

NOTE: THIS SHEET WAS DESIGNED BY ASB DESIGN GROUP LLC AND PREVIOUSLY APPROVED BY BOXFORD BOARD OF HEALTH DATED 7/2/18.



DATE:

No.	Date	Description
1	06/11/21	NOI SUBMITTAL

Prepared for:  
 CLAUDIO SENA  
 146 GEORGETOWN ROAD  
 BOXFORD, MA, 01921

Property of:  
 142 FISHER STREET LLC  
 142 FISHER STREET  
 WESTBOROUGH, MA 01581

Prepared By:  
**M F**  
**ENGINEERING & DESIGNS**  
 Structural Engineering / Building Design  
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 CARLOS FERREIRA PROFESSIONAL ENGINEER

PHONE: 508-331-7261 SITE: WWW.MF-ENG.COM  
 EMAIL: CARLOS.FERREIRA@MF-ENG.COM

Carlos E. Ferreira P.E. #41.423  
 Date:

Project Title:  
**NOTICE OF INTENT**  
 SENA RESIDENCE

Sheet Title:  
**SEPTIC SYSTEM**  
**DESIGN AND**  
**CALCULATIONS**

SCALE	1"=20'
DRAWN	CMS
CHECKED	CEF
FILE NAME	146 GEORGETOWN
PROJECT	146 GEORGETOWN RD
ISSUE DATE	05/21/2021
JOB NO.	146-0521

SHEET C-103



NOTE: THIS SHEET WAS DESIGNED BY ASB DESIGN GROUP LLC AND PREVIOUSLY APPROVED BY BOXFORD BOARD OF HEALTH DATED 7/2/18.



*Carlos E. Ferreira*

No.	Date	Description
1	06/11/21	NOI SUBMITTAL

Prepared for:  
**CLAUDIO SENA**  
 146 GEORGETOWN ROAD  
 BOXFORD, MA, 01921

Property of:  
**142 FISHER STREET LLC**  
 142 FISHER STREET  
 WESTBOROUGH, MA 01581

Prepared By:

**ENGINEERING & DESIGNS**  
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Carlos E. Ferreira P.E. #41.423  
 Date: \_\_\_\_\_

Project Title  
**NOTICE OF INTENT**  
 SENA RESIDENCE

Sheet Title  
**SEPTIC SYSTEM**  
**PROFILES AND**  
**DETAILS**

SCALE	1" = 20'
DRAWN	CMS
CHECKED	CEF
FILE NAME	146 GEORGETOWN
PROJECT	146 GEORGETOWN RD
ISSUE DATE	05/21/2021
JOB NO.	146-0521

**SHEET C-104**

**GENERAL NOTES**

- CONTRACTOR SHALL INSTALL EROSION CONTROL SOCK PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL STOCKPILE ALL LOAM AND SURROUND AREA WITH EROSION CONTROL SOCK.

**LOAM & SEEDING NOTES**

- LOADING, SEEDING AND FERTILIZING**
- IF REQUIRED THE CONTRACTOR SHALL FURNISH ALL TOPSOIL OR ADDITIONAL TOPSOIL NEEDED TO COMPLETE THE JOB. IF THE EXISTING TOPSOIL IS SUFFICIENT TO COMPLETE THE JOB, ANY EXCESS TOPSOIL WILL REMAIN ON SITE. AN AREA WILL BE PROVIDED ON SITE FOR FINAL STORAGE.
  - THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED ON THE DESIGNATED AREAS AND IT SHALL BE A MINIMUM DEPTH OF SIX INCHES AFTER FIRING. SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SEEDING.
  - AFTER LOAM HAS BEEN PLACED, LIME AND FERTILIZER SHALL BE UNIFORMLY MIXED INTO THE TOP FOUR INCHES OF SOIL BY DISCING, HARROWING OR USING OTHER APPROVED METHODS.
  - ANY UNDULATIONS OR IRREGULARITIES IN THE SURFACE RESULTING FROM FERTILIZING, LIMING, SURFACE ROUGHENING OR OTHER CAUSES SHALL BE LEVELED PRIOR TO SEEDING. FLOODED, WASHED-OUT OR OTHERWISE DAMAGED AREAS SHALL BE RECONSTRUCTED AND ALL GRADES RE-ESTABLISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE DRAWINGS AND/ OR OTHER APPLICABLE SPECIFICATIONS.
  - PRIOR TO SEEDING THE SURFACE SHALL BE CLEARED OF ALL TRASH, DEBRIS AND STONES LARGER THAN ONE AND ONE-HALF INCHES IN DIAMETER, AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING OR MAINTENANCE OPERATIONS.
  - BROADCAST SEED AND MULCH. PLACE STRAW AND ANCHOR IT TO TOPSOIL. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDLINGS WITH ADEQUATE WATER FOR PLANT GROWTH. (1/2"-1" EVERY 3-4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED.

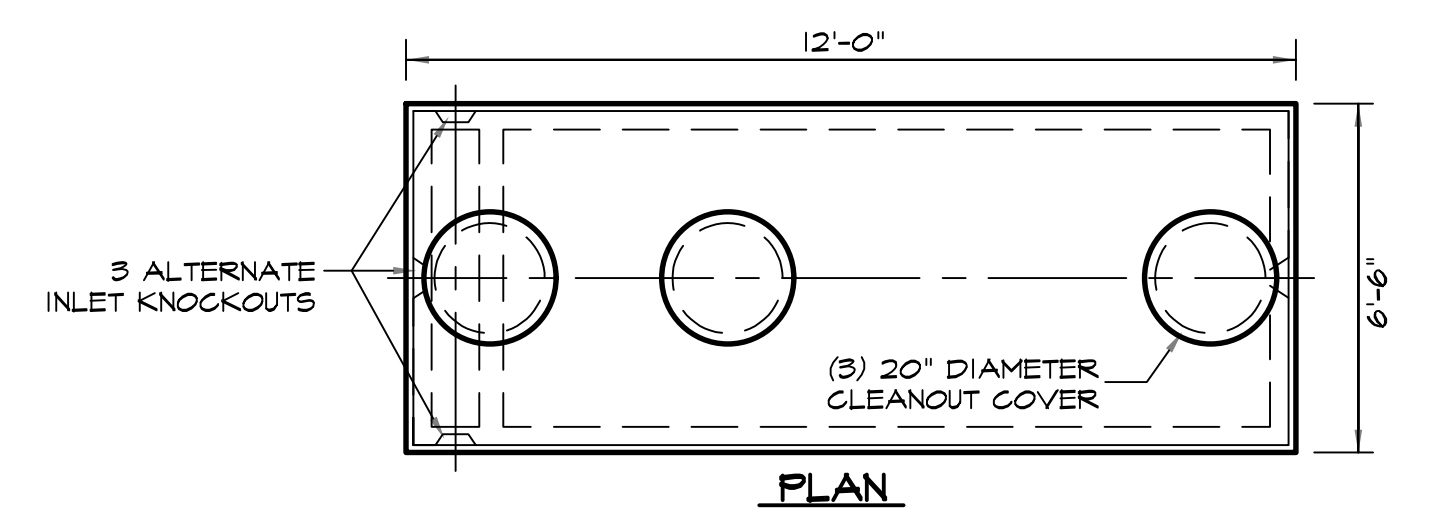
**REPAIRS AND MAINTENANCE**

INSPECT ALL SEEDED AREAS FOR FAILURES AND MAKE NECESSARY REPAIRS, REPLACEMENTS AND RESEEDINGS WITHIN THE PLANTING SEASON.

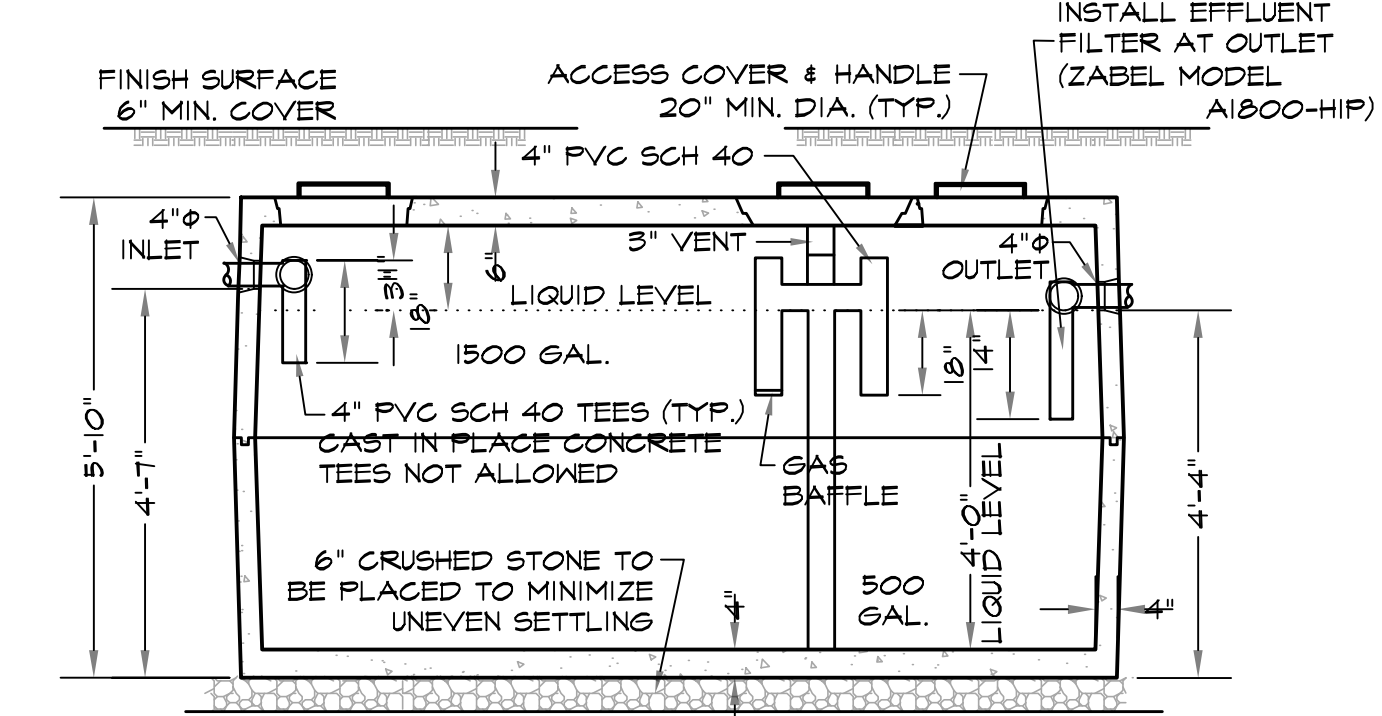
- ONCE THE VEGETATION IS ESTABLISHED, THE SITE SHALL HAVE 95% GROUND COVER TO BE CONSIDERED ADEQUATELY STABILIZED.
- IF THE STAND PROVIDES LESS THAN 40% GROUND COVERAGE, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER, SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS.
- IF THE STAND PROVIDES BETWEEN 40% AND 94% GROUND COVER AGE, OVERSEEDING AND FERTILIZING USING HALF OF THE RATES ORIGINALLY APPLIED MAY BE NECESSARY.

**SURFACE PREPARATION**

- STRIP AND STOCKPILE ALL EXISTING LOAM FROM PROPOSED WORK AREAS. PROTECT LOAM FROM EROSION. ALL LOAM WILL REMAIN ON SITE UNLESS THE OWNER APPROVES OFF SITE REMOVAL.
- SET FIELD GRADES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. PROVIDE PROPER SURVEY CONTROL AND MAINTAIN THROUGHOUT CONSTRUCTION. PROVIDE ENGINEER WITH COPIES OF ALL SURVEY NOTES AND LOCATIONS OF BOTH VERTICAL AND HORIZONTAL CONTROL.
- BRING BASE MATERIAL TO FINISH GRADE. PROVIDE ENGINEER WITH AS-BUILT DRAWINGS SHOWING FINISH ELEVATIONS AND CONTOURS PRIOR TO PLACEMENT OF LOAM.
- SOIL TESTS SHALL BE MADE TO DETERMINE THE EXACT REQUIREMENTS FOR BOTH LIME AND FERTILIZER. SOIL TESTS SHALL BE CONDUCTED BY A STATE LABORATORY OR RECOGNIZED COMMERCIAL LABORATORY. PROVIDE ENGINEER WITH COPY OF TEST RESULTS AND RECOMMENDATIONS FOR LIMING AND FERTILIZING.
- AFTER THE AREAS TO BE TOPSOILED HAVE BEEN APPROVED BY THE OWNER OR ENGINEER, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENEED BY ROUGHENING TO THE DEPTH OF AT LEAST TWO INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBSOIL AND TO INCORPORATE THE LIME.
- ACCEPTANCE SHALL BE GIVEN BY THE OWNER OR ENGINEER UPON SATISFACTORY COMPLETION OF EACH SECTION OR AREA AS INDICATED ON THE DRAWINGS OR AS OTHERWISE SPECIFIED BEFORE PLACEMENT OF TOPSOIL.



**PLAN**



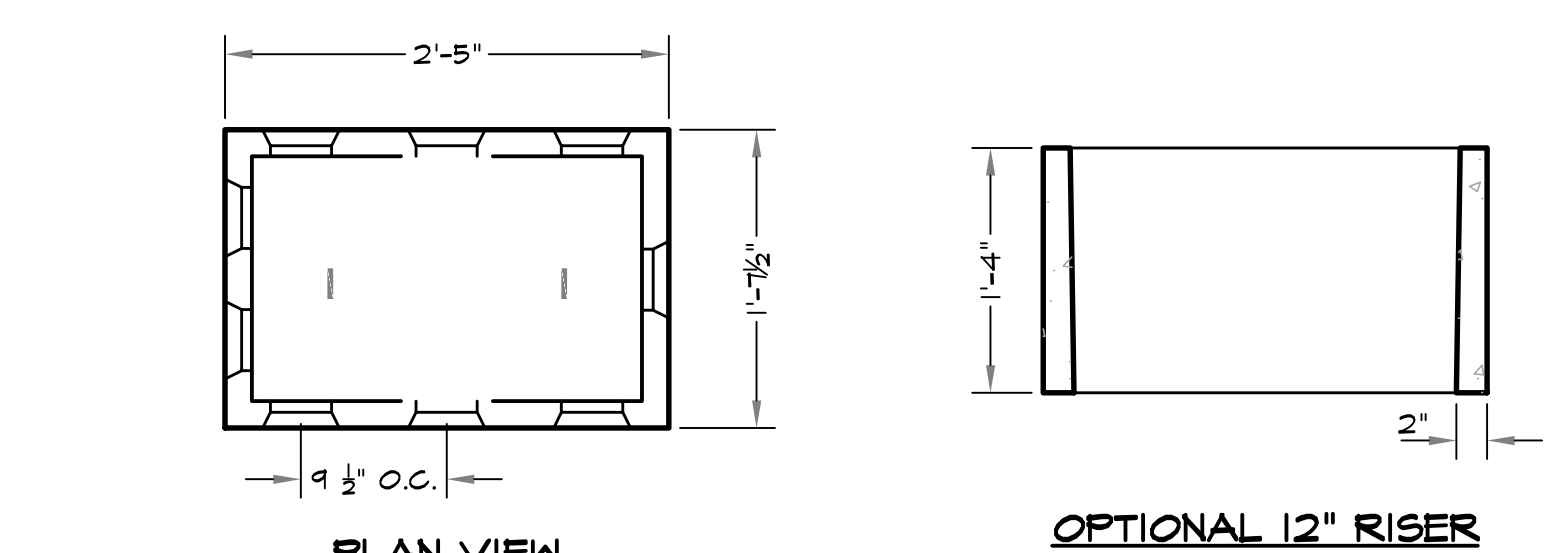
**SECTION**

**NOTES:**

- PROVIDE A MINIMUM 2,000 GALLON MONOLITHIC TANK.
- CONCRETE MINIMUM STRENGTH: 4,000 PSI AFTER 28 DAYS.
- ALL JOINTS SHALL BE SEALED WITH 1/2" BUTYL RUBBER OR EQUAL.
- INSTALL LEVEL AND TRUE ON A LEVEL BASE THAT HAS BEEN MECHANICALLY COMPACTED.
- USE SHEA CONCRETE MODEL TK-COMBO H-20' OR EQUAL.

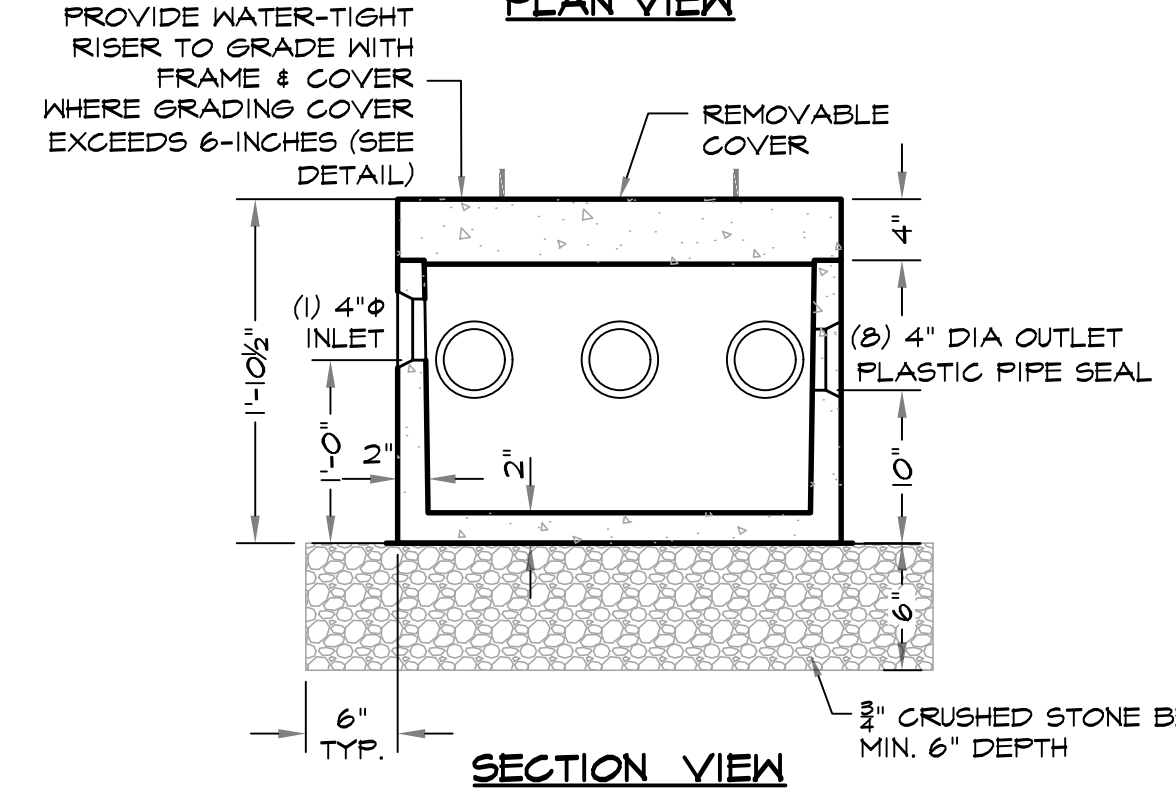
**SEPTIC TANK**  
**2-COMPARTMENT 2,000 GALLON TANK**

NOT TO SCALE



**PLAN VIEW**

**OPTIONAL 12" RISER**



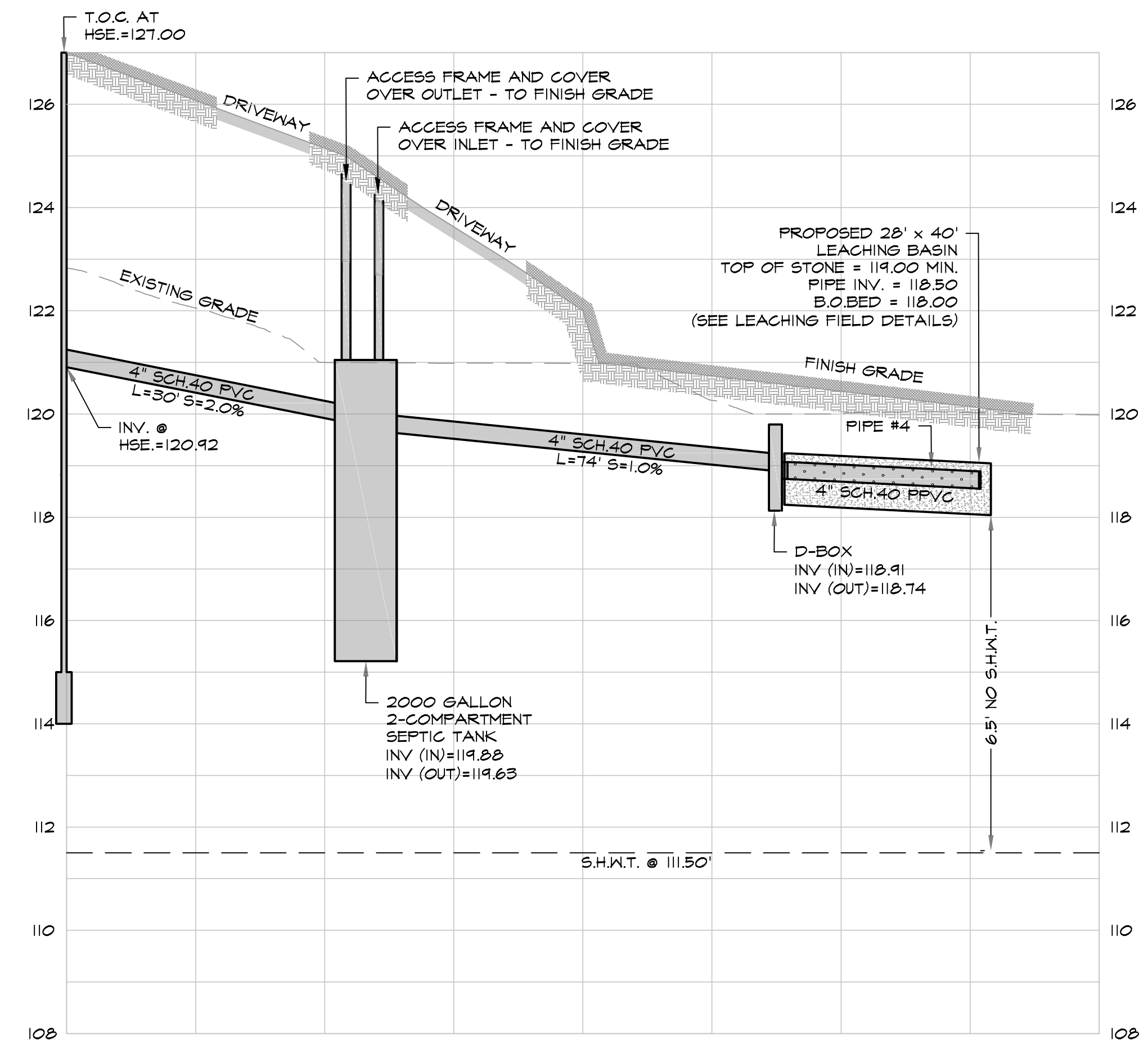
**SECTION VIEW**

**8-OUTLET DISTRIBUTION BOX (H-20)**

NOT TO SCALE

**D-BOX NOTES:**

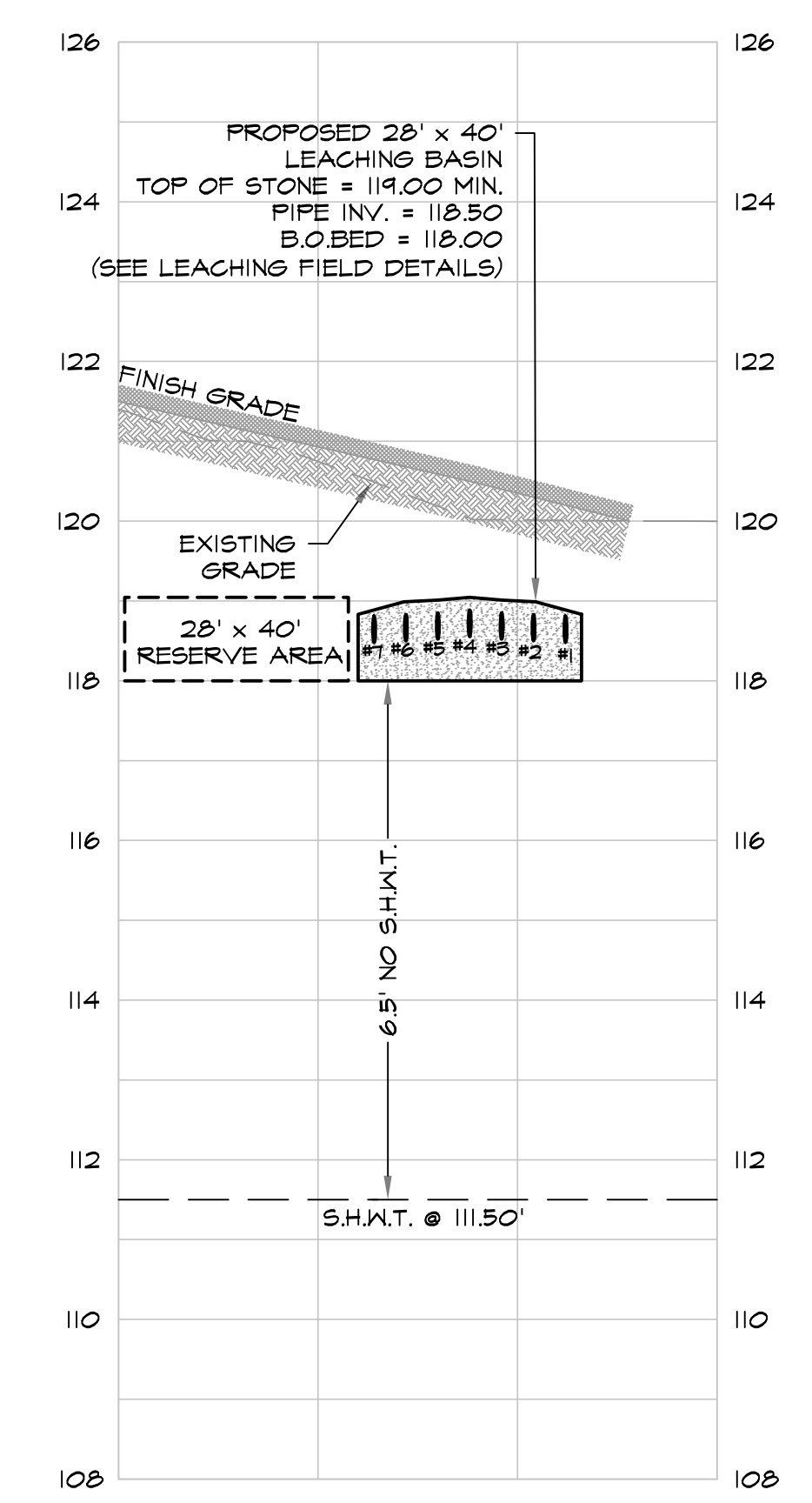
- CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
- REINFORCEMENT SHALL BE ASTM A-165 GRADE 60, A-185 OR A-497 WITH A MINIMUM COVER OF 1-INCH.
- THE D-BOX SHALL BE SET LEVEL ON A SOLID BASE. FLOW EQUALIZERS SHALL BE INSTALLED AT EACH OUTLETS AFTER THE DISTRIBUTION BOX IS SET LEVEL.



**SYSTEM PROFILE A-A ALONG PIPE 4**

SCALE: 1" = 20' HORIZONTAL  
 1" = 2' VERTICAL

NOTE:  
 ALL PIPES TO BE SCH. 40 PVC



**SYSTEM CROSS SECTION B-B**

SCALE: 1" = 20' HORIZONTAL  
 1" = 2' VERTICAL

NOTE:  
 ALL PIPES TO BE SCH. 40 PVC



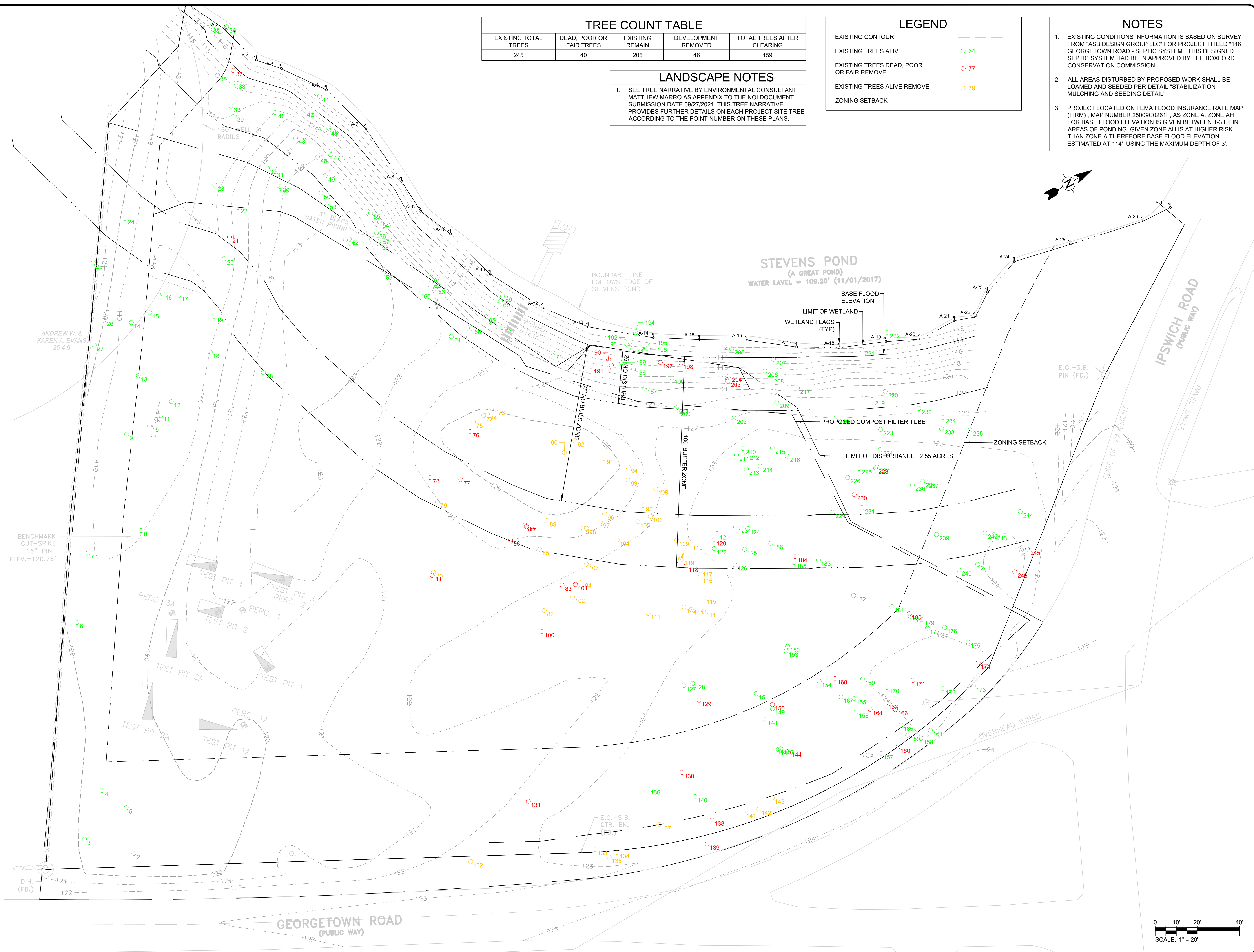
TREE COUNT TABLE				
EXISTING TOTAL TREES	DEAD, POOR OR FAIR TREES	EXISTING REMAIN	DEVELOPMENT REMOVED	TOTAL TREES AFTER CLEARING
245	40	205	46	159

**LANDSCAPE NOTES**

1. SEE TREE NARRATIVE BY ENVIRONMENTAL CONSULTANT MATTHEW MARRO AS APPENDIX TO THE NOI DOCUMENT SUBMISSION DATE 09/27/2021. THIS TREE NARRATIVE PROVIDES FURTHER DETAILS ON EACH PROJECT SITE TREE ACCORDING TO THE POINT NUMBER ON THESE PLANS.

LEGEND	
EXISTING CONTOUR	---
EXISTING TREES ALIVE	○ 64
EXISTING TREES DEAD, POOR OR FAIR REMOVE	○ 77
EXISTING TREES ALIVE REMOVE	○ 79
ZONING SETBACK	---

- NOTES**
- EXISTING CONDITIONS INFORMATION IS BASED ON SURVEY FROM "ASB DESIGN GROUP LLC" FOR PROJECT TITLED "146 GEORGETOWN ROAD - SEPTIC SYSTEM". THIS DESIGNED SEPTIC SYSTEM HAD BEEN APPROVED BY THE BOXFORD CONSERVATION COMMISSION.
  - ALL AREAS DISTURBED BY PROPOSED WORK SHALL BE LOAMED AND SEEDED PER DETAIL "STABILIZATION MULCHING AND SEEDING DETAIL"
  - PROJECT LOCATED ON FEMA FLOOD INSURANCE RATE MAP (FIRM), MAP NUMBER 25009C0261F. AS ZONE A, ZONE AH FOR BASE FLOOD ELEVATION IS GIVEN BETWEEN 1-3 FT IN AREAS OF PONDING. GIVEN ZONE AH IS AT HIGHER RISK THAN ZONE A THEREFORE BASE FLOOD ELEVATION ESTIMATED AT 114' USING THE MAXIMUM DEPTH OF 3'.



No.	Date	Description
4	09/27/21	COMMISSION COMMENTS
2	07/15/21	EXISTING TREES AND WETLAND LINE
1	06/11/21	NOI SUBMITTAL

Prepared for:  
**CLAUDIO SENA**  
 146 GEORGETOWN ROAD  
 BOXFORD, MA, 01921

Property of:  
**142 FISHER STREET LLC**  
 142 FISHER STREET  
 WESTBOROUGH, MA 01581

Prepared By:

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Carlos E. Ferreira P.E. #41.423  
 Date: \_\_\_\_\_

Project Title  
**NOTICE OF INTENT**  
 SENA RESIDENCE

Sheet Title  
**LANDSCAPE PLAN**  
 EXISTING

SCALE	1" = 20'
DRAWN	CEF
CHECKED	CEF
FILE NAME	146 GEORGETOWN
PROJECT	146 GEORGETOWN RD
ISSUE DATE	05/21/2021
JOB NO.	146-0521

**SHEET C-105**



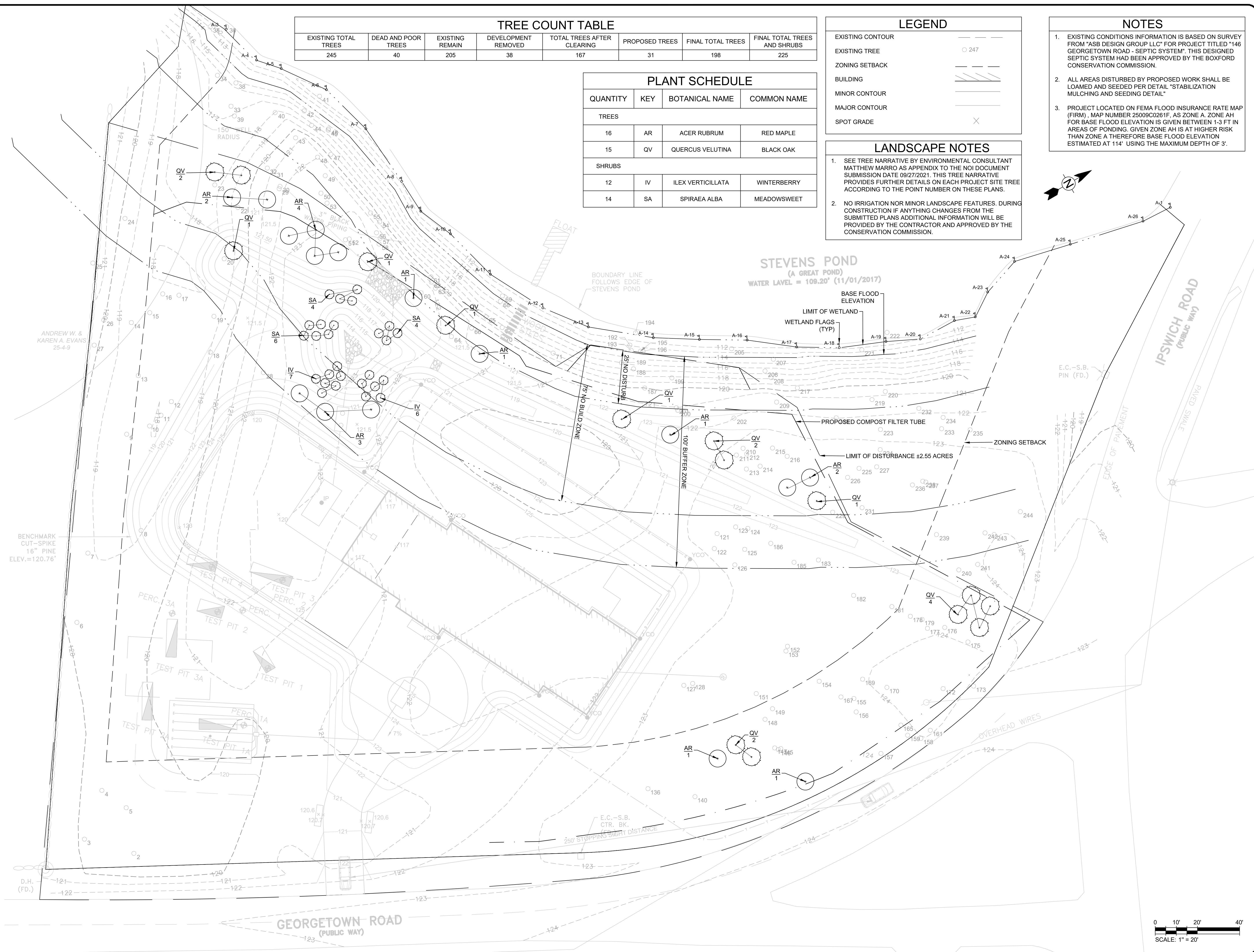
TREE COUNT TABLE							
EXISTING TOTAL TREES	DEAD AND POOR TREES	EXISTING REMAIN	DEVELOPMENT REMOVED	TOTAL TREES AFTER CLEARING	PROPOSED TREES	FINAL TOTAL TREES	FINAL TOTAL TREES AND SHRUBS
245	40	205	38	167	31	198	225

PLANT SCHEDULE			
QUANTITY	KEY	BOTANICAL NAME	COMMON NAME
<b>TREES</b>			
16	AR	ACER RUBRUM	RED MAPLE
15	QV	QUERCUS VELUTINA	BLACK OAK
<b>SHRUBS</b>			
12	IV	ILEX VERTICILLATA	WINTERBERRY
14	SA	SPIRAEA ALBA	MEADOWSWEET

LEGEND	
EXISTING CONTOUR	---
EXISTING TREE	○ 247
ZONING SETBACK	---
BUILDING	▭
MINOR CONTOUR	---
MAJOR CONTOUR	---
SPOT GRADE	X

- NOTES**
- EXISTING CONDITIONS INFORMATION IS BASED ON SURVEY FROM "ASB DESIGN GROUP LLC" FOR PROJECT TITLED "146 GEORGETOWN ROAD - SEPTIC SYSTEM". THIS DESIGNED SEPTIC SYSTEM HAD BEEN APPROVED BY THE BOXFORD CONSERVATION COMMISSION.
  - ALL AREAS DISTURBED BY PROPOSED WORK SHALL BE LOAMED AND SEEDED PER DETAIL "STABILIZATION MULCHING AND SEEDING DETAIL"
  - PROJECT LOCATED ON FEMA FLOOD INSURANCE RATE MAP (FIRM), MAP NUMBER 25009C0261F. AS ZONE A, ZONE AH FOR BASE FLOOD ELEVATION IS GIVEN BETWEEN 1-3 FT IN AREAS OF PONDING. GIVEN ZONE AH IS AT HIGHER RISK THAN ZONE A THEREFORE BASE FLOOD ELEVATION ESTIMATED AT 114' USING THE MAXIMUM DEPTH OF 3'.

- LANDSCAPE NOTES**
- SEE TREE NARRATIVE BY ENVIRONMENTAL CONSULTANT MATTHEW MARRO AS APPENDIX TO THE NOI DOCUMENT SUBMISSION DATE 09/27/2021. THIS TREE NARRATIVE PROVIDES FURTHER DETAILS ON EACH PROJECT SITE TREE ACCORDING TO THE POINT NUMBER ON THESE PLANS.
  - NO IRRIGATION NOR MINOR LANDSCAPE FEATURES DURING CONSTRUCTION IF ANYTHING CHANGES FROM THE SUBMITTED PLANS ADDITIONAL INFORMATION WILL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE CONSERVATION COMMISSION.



No.	Date	Description
4	09/27/21	COMMISSION COMMENTS
2	07/15/21	EXISTING TREES AND WETLAND LINE
1	06/11/21	NOI SUBMITTAL

Prepared for:  
**CLAUDIO SENA**  
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 BOXFORD, MA, 01921

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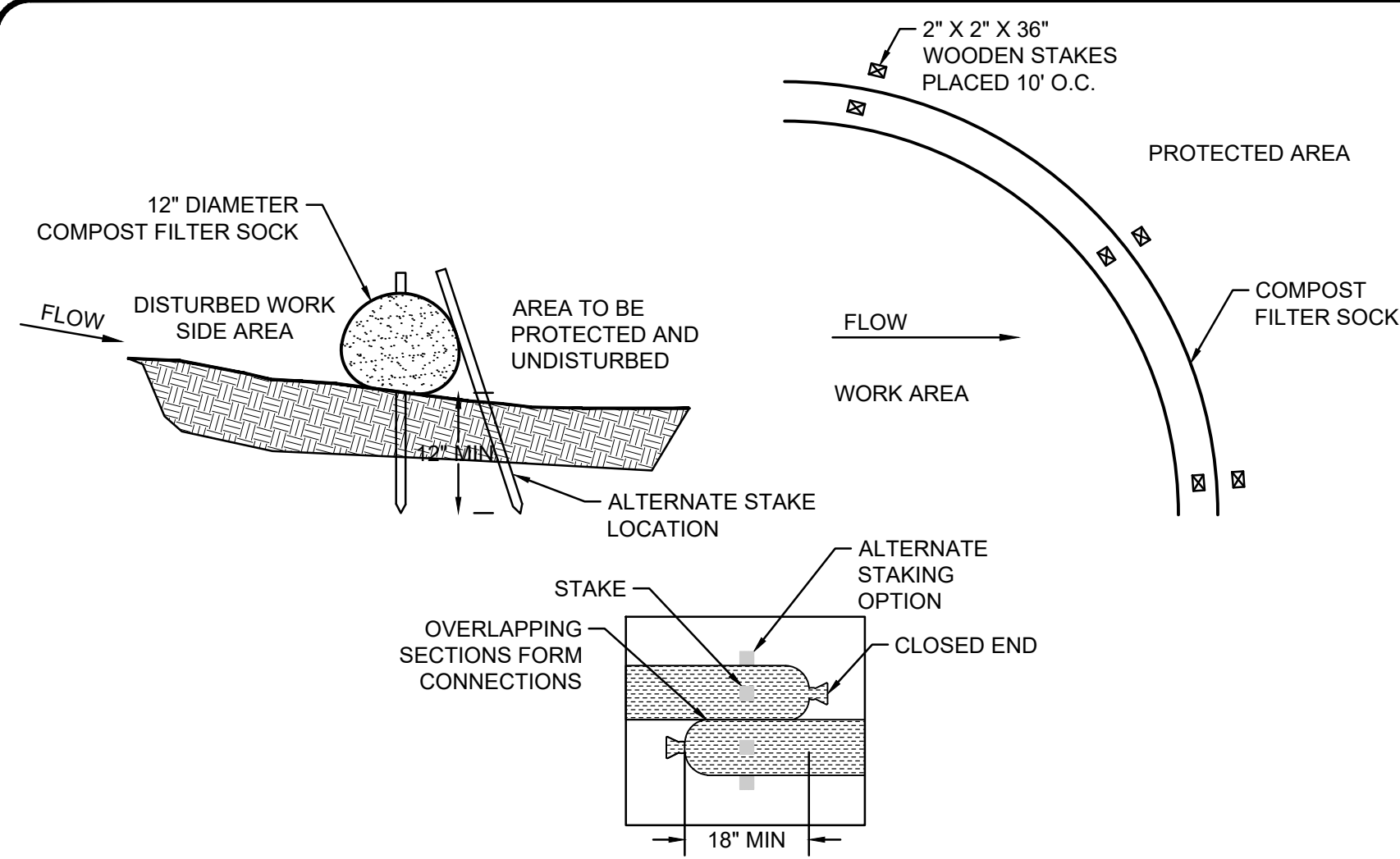
Project Title:  
**NOTICE OF INTENT**  
 SENA RESIDENCE

Sheet Title:  
**LANDSCAPE PLAN**  
 PROPOSED

SCALE	1" = 20'
DRAWN	CEF
CHECKED	CEF
FILE NAME	146 GEORGETOWN
PROJECT	146 GEORGETOWN RD
ISSUE DATE	05/21/2021
JOB NO.	146-0521

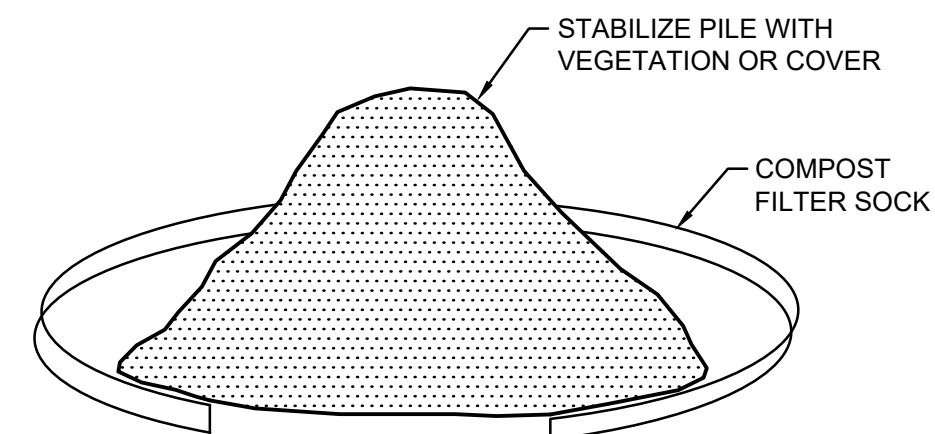
**SHEET C-106**





- NOTES:**
1. PREFABRICATED COMPOST SOCK SHALL BE FILTREXX SOXX OR APPROVED EQUAL.
  2. MATERIAL FOR SOCKS SHALL CONSIST OF SANITIZED MATURE COMPOST, FREE OF VIABLE WEED SEEDS AND FOREIGN DEBRIS SUCH AS GLASS AND PLASTIC. COMPOST SHALL BE IN SHREDDED OR GRANULAR FORM AND FREE FROM HARD LUMPS. IN ADDITION, NO KILN-DRIED WOOD OR CONSTRUCTION DEBRIS SHALL BE ALLOWED. CONTRACTOR SHALL REFER TO MASSDOT SPECIFICATIONS M1.06.0 FOR MATERIAL SPECIFICATIONS.
  3. SOCK SHALL CONSIST OF JUTE MESH OR OTHER APPROVED BIODEGRADABLE MATERIAL.

**COMPOST FILTER TUBE**  
NOT TO SCALE



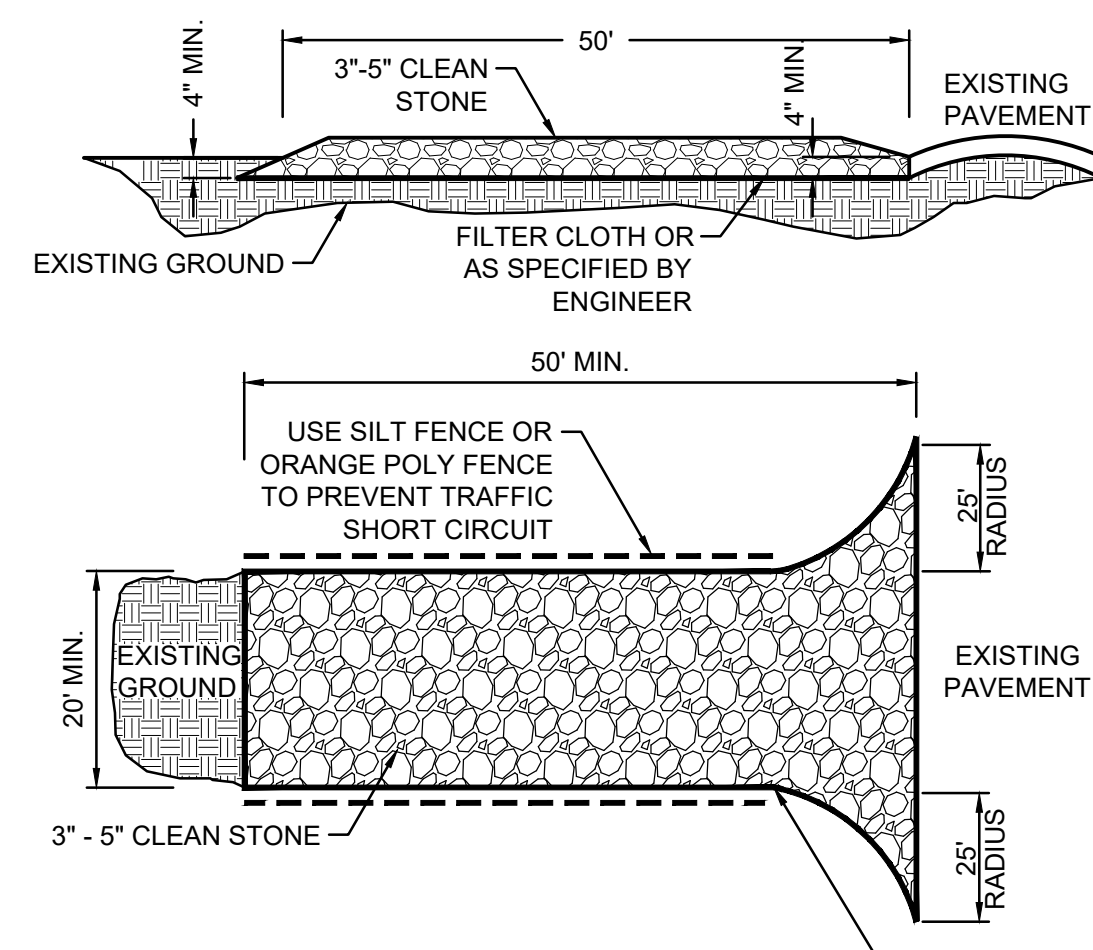
NOTE: STOCKPILES MUST BE PHYSICALLY SEPARATED FROM OTHER STORMWATER CONTROLS.

NOTE: STOCKPILES MUST BE PHYSICALLY SEPARATED FROM OTHER STORMWATER CONTROLS.

**SOIL STOCKPILES:** FOR ANY STOCKPILED OR LAND CLEARING DEBRIS COMPOSED, IN WHOLE OR IN PART, OF SEDIMENT OR SOIL, THE FOLLOWING MEASURES MUST BE FOLLOWED:

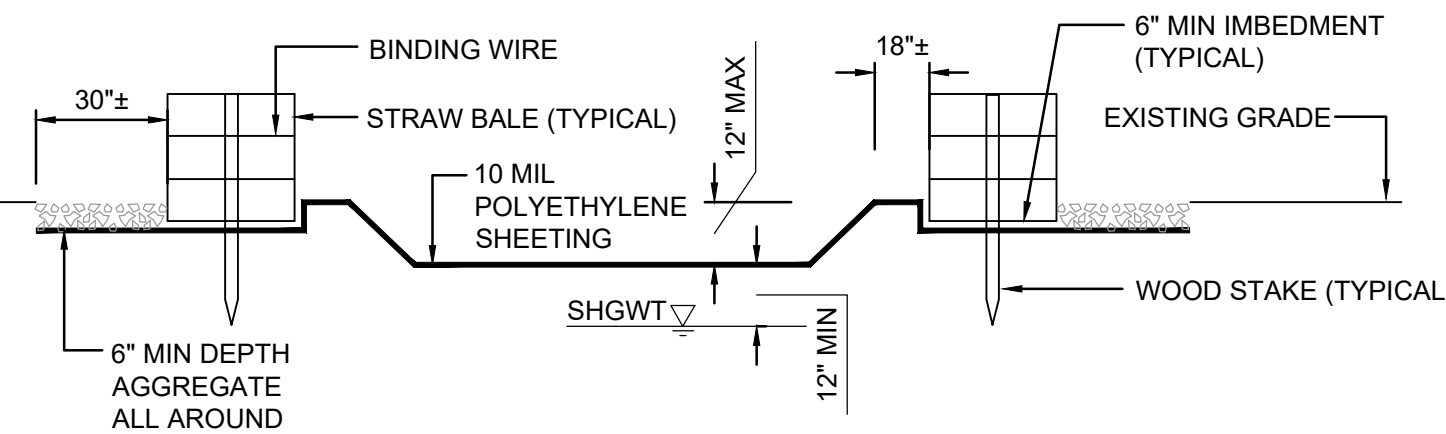
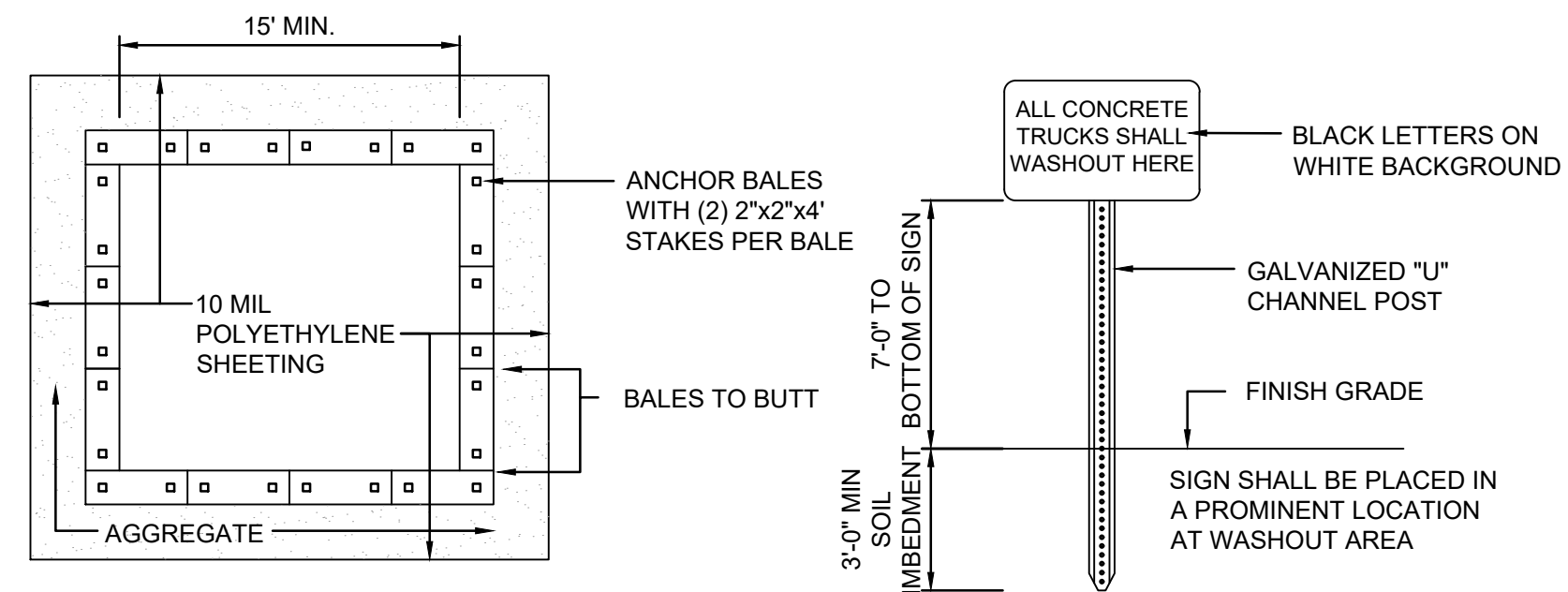
- LOCATE THE PILES OUTSIDE OF ANY NATURAL BUFFERS AND PHYSICALLY SEPARATED FROM OTHER STORMWATER CONTROLS.
- PROTECT FROM CONTACT WITH STORMWATER (INCLUDING RUN-ON) USING A TEMPORARY PERIMETER SEDIMENT BARRIER.
- PROVIDE COVER OR APPROPRIATE TEMPORARY STABILIZATION TO AVOID DIRECT CONTACT WITH PRECIPITATION OR TO MINIMIZE SEDIMENT DISCHARGE.
- DO NOT HOSE DOWN OR SWEEP SOIL OR SEDIMENT ACCUMULATED ON PAVEMENT OR OTHER IMPERVIOUS SURFACES INTO ANY STORMWATER CONVEYANCE (UNLESS CONNECTED TO A SEDIMENT BASIN, SEDIMENT TRAP, OR SIMILARLY EFFECTIVE CONTROL), STORM DRAIN INLET, OR SURFACE WATER.

**SOIL STOCKPILING CONTROL**  
NOT TO SCALE



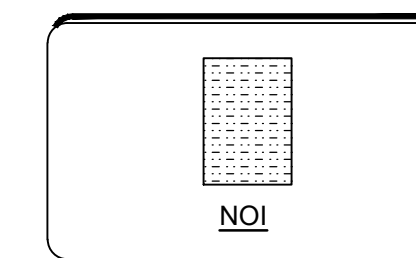
- NOTES:**
1. STONE - USE COARSE AGGREGATE (3"-5" STONE).
  2. LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
  3. THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
  4. WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
- PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC RIGHT-OF-WAY

**STABILIZED CONSTRUCTION ENTRANCE**  
NOT TO SCALE



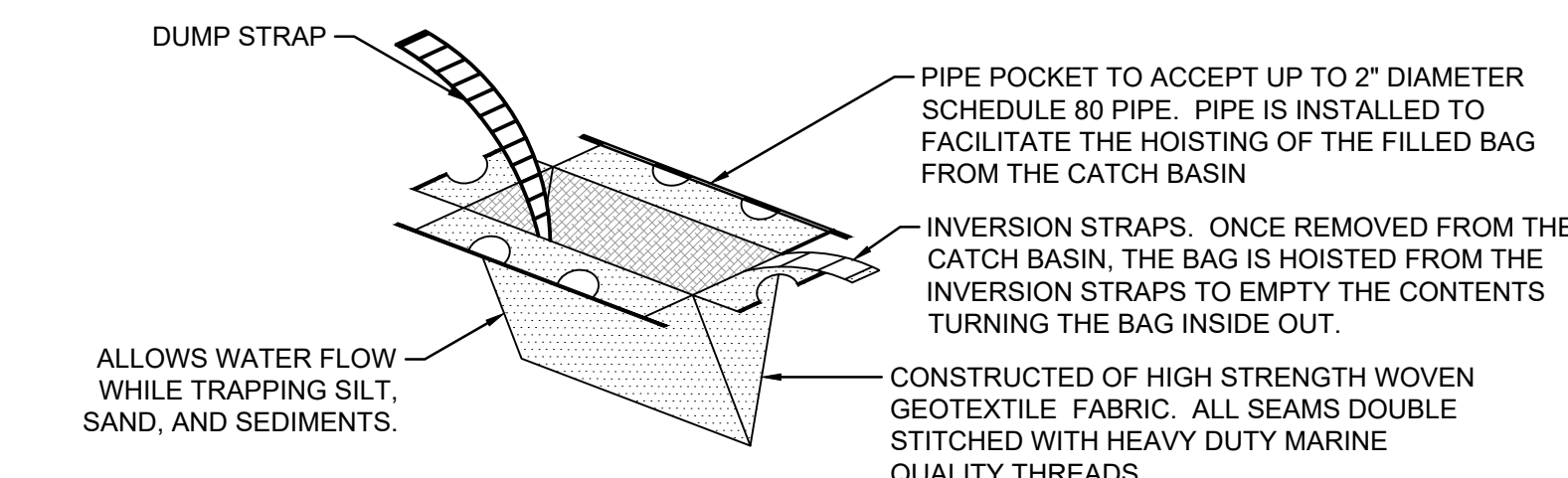
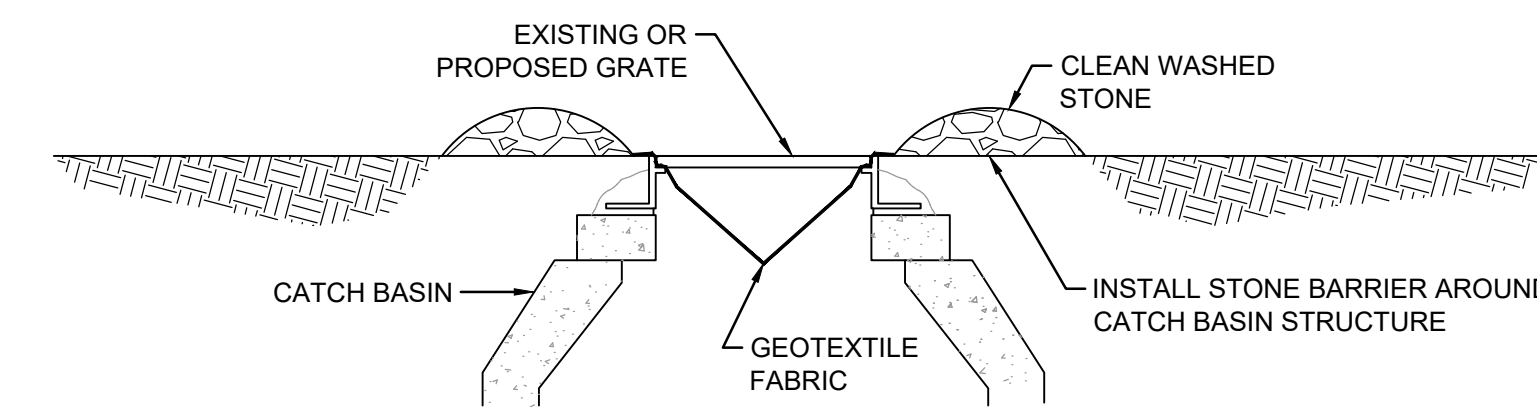
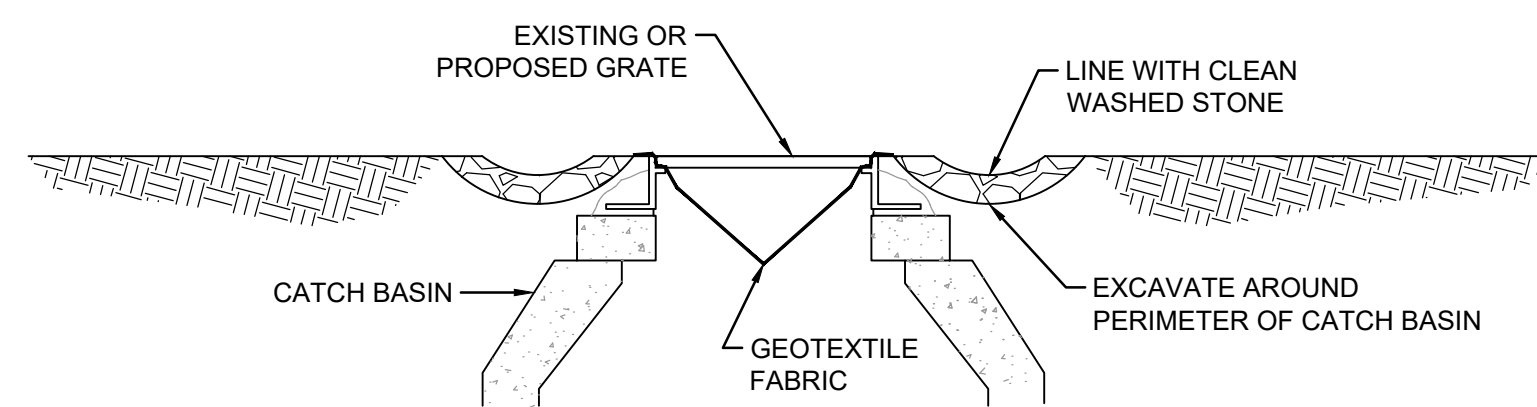
- NOTES:**
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
  2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
  3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
  4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
  5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
  6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

**CONCRETE WASHOUT AREA**  
NOT TO SCALE



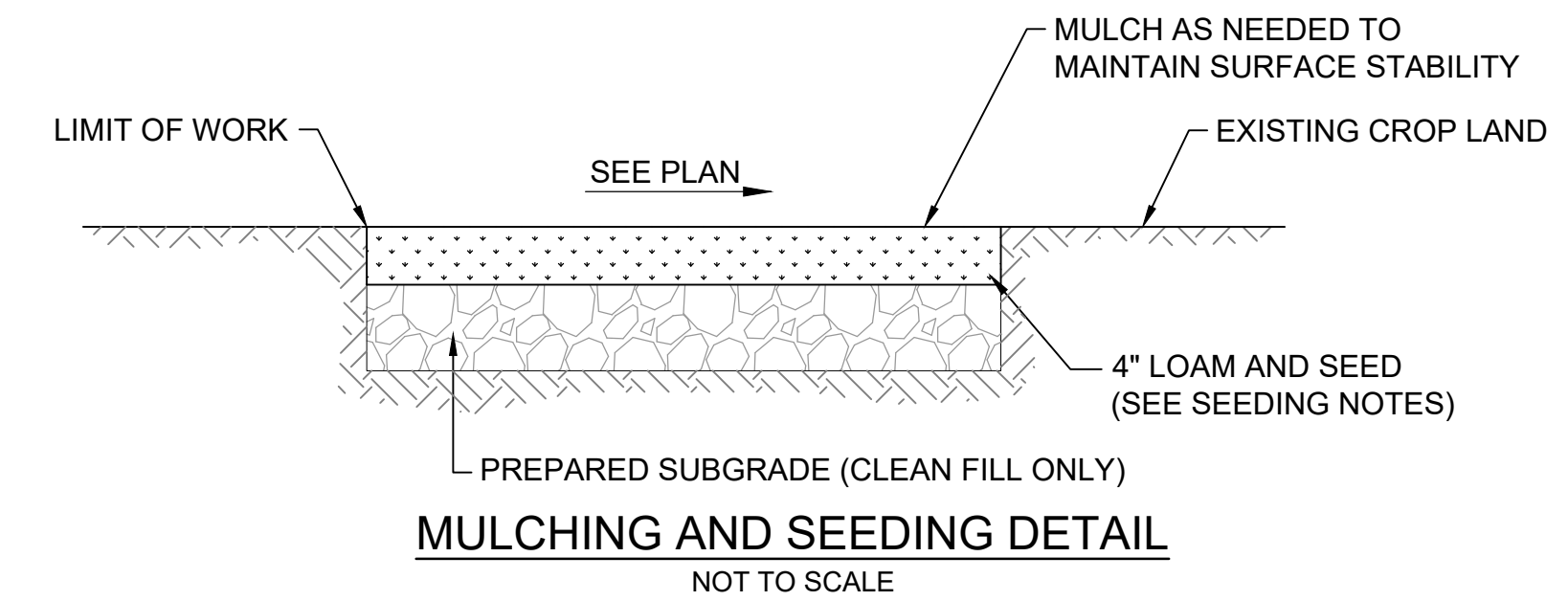
- NOTES:**
1. CONSTRUCTION SITE NOTICE SHALL BE POSTED.
  2. POSTING IS TO BE AT JOB SITE ENTRANCE WHERE IT WILL BE VISIBLE AND LEGIBLE FROM THE PUBLIC WAY.
  3. POSTING IS REQUIRED FROM THE DAY CONSTRUCTION ACTIVITIES START UNTIL THE NOTICE OF TERMINATION (NOT) IS FILED.

**JOB SITE PERMIT POSTING DETAIL**  
NOT TO SCALE



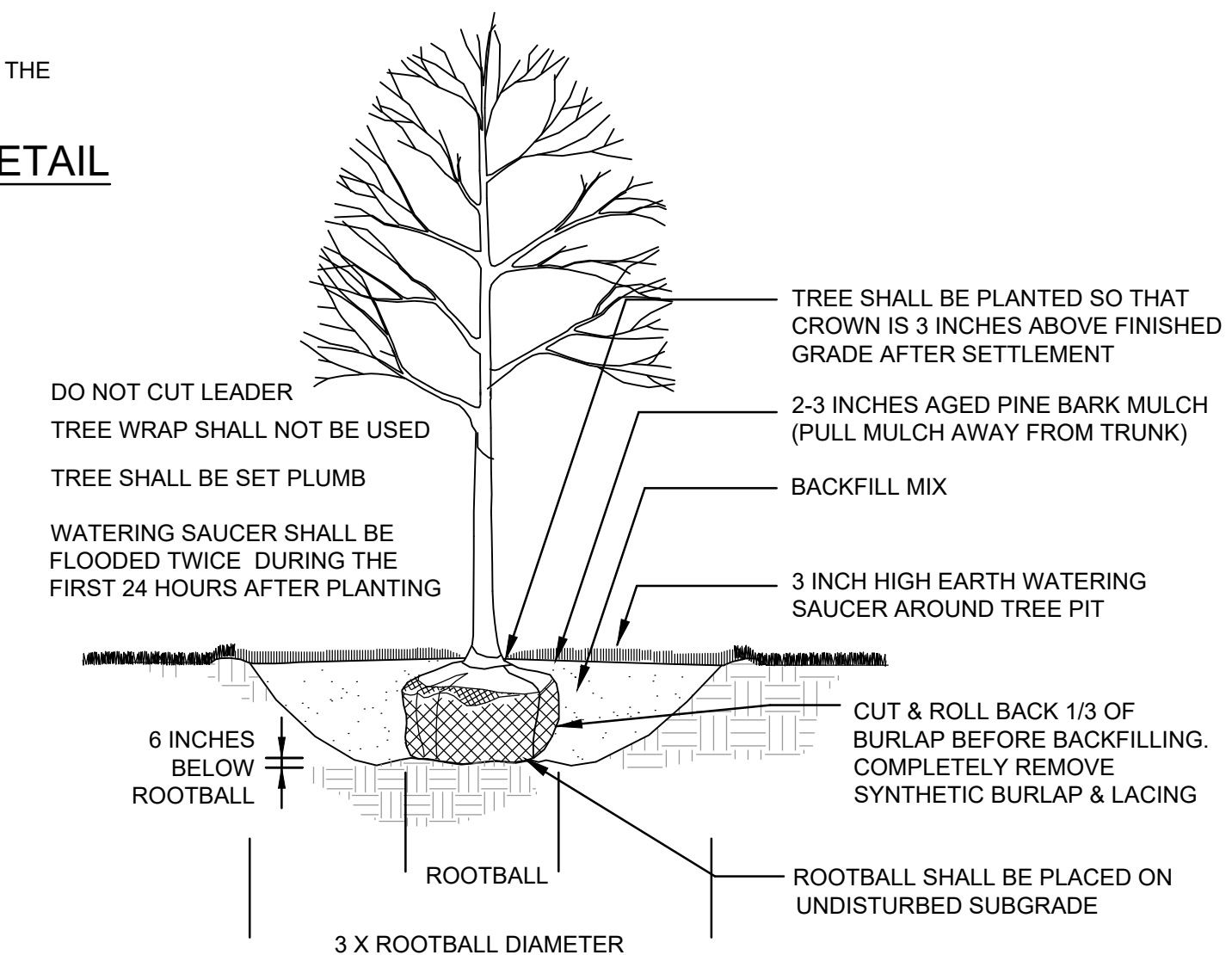
**GEOTEXTILE FABRIC INLET PROTECTION**  
NOT TO SCALE

SEEDING NOTES			
SPECIES	LBS/1000 S.F.	LBS/ACRE	RECOMMENDED SEEDING DATES
ANNUAL RYEGRASS	1	40	APRIL 1 TO JUNE 1 AUG 1 TO SEPT 15
FOXTAIL MILLET	0.7	30	MAY 1 TO JUNE 30
OATS	2	80	APRIL 1 TO JULY 1 AUG 15 TO SEPT 15
WINTER RYE	3	120	AUG 15 TO OCT 15

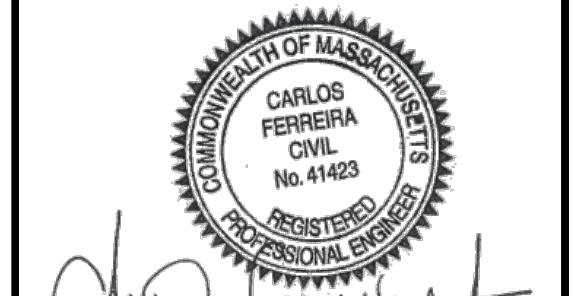


**MULCH APPLICATION RATES:**  
HAY OR STRAW MULCH SHALL BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS. APPLICATION RATE MUST BE 2 BALES (70-90 LBS) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS PER ACRE. NO BARE SPOTS SHOWING AND SHALL ONLY BE APPLIED TO SLOPES 3:1 OR FLATTER. ANCHORING METHODS INCLUDING NETTING WITH JUTE, WOOD FIBER OR PLASTIC, OR APPLY MULCH AND TRACK SURFACE UP AND DOWN THE SLOPE SO CLEAT MARKS ARE PARALLEL TO THE CONTOURS. FOR OVERWINTER APPLICATION, THE RATE SHALL BE 150 LBS PER 1,000 SQUARE FEET OR 3 TONS/ACRE. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW; SNOW MUST BE REMOVED DOWN TO A ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION.

**STABILIZATION MULCHING AND SEEDING**



**TREE PLANTING**  
NOT TO SCALE



Signature of Carlos Ferreira

No.	Date	Description
1	06/11/21	NOI SUBMITTAL

Prepared for:  
**CLAUDIO SENA**  
146 GEORGETOWN ROAD  
BOXFORD, MA, 01921

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PHONE: 508-331-7261 SITE: WWW.MF-ENG.COM  
EMAIL: CARLOS.FERREIRA@MF-ENG.COM

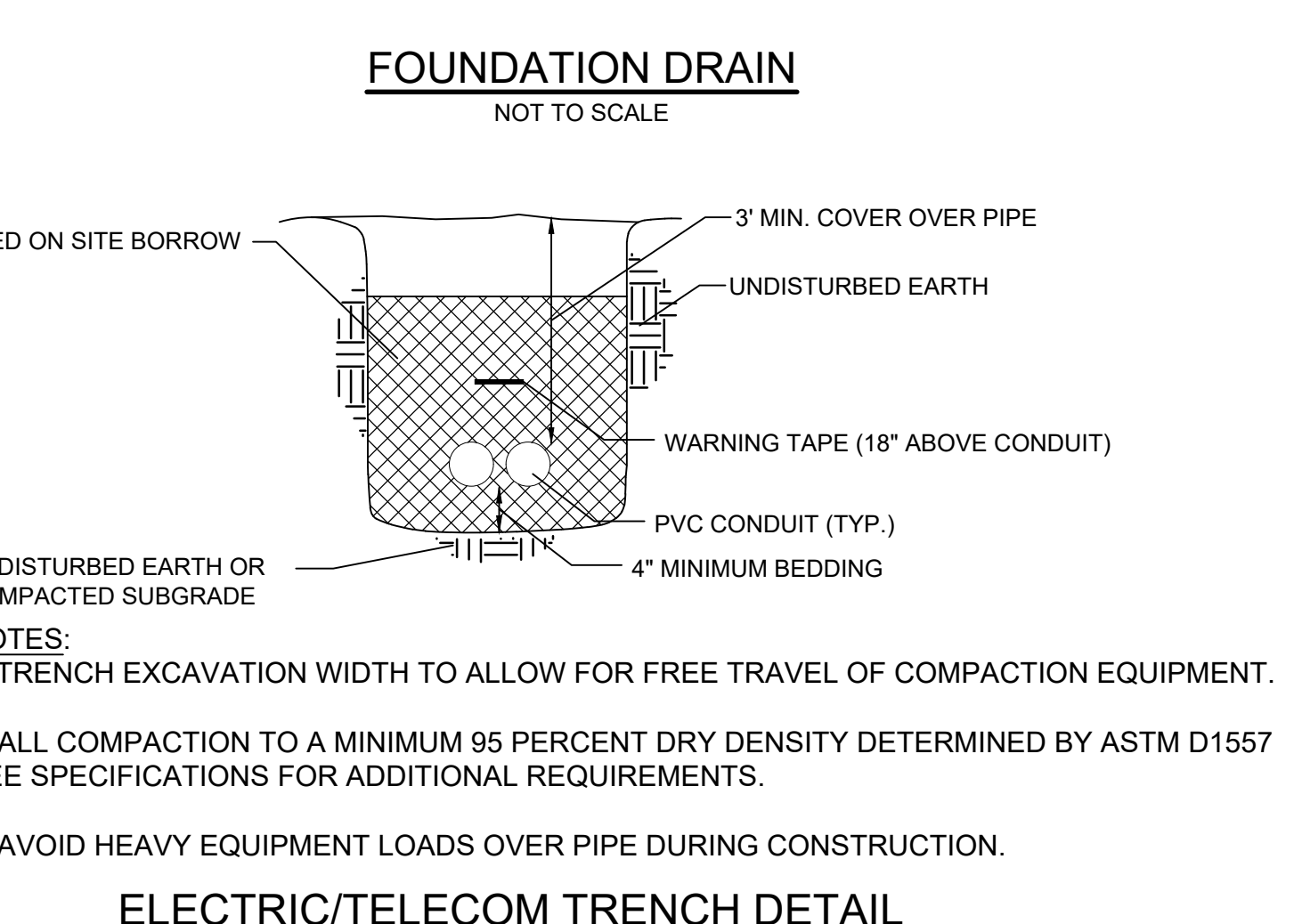
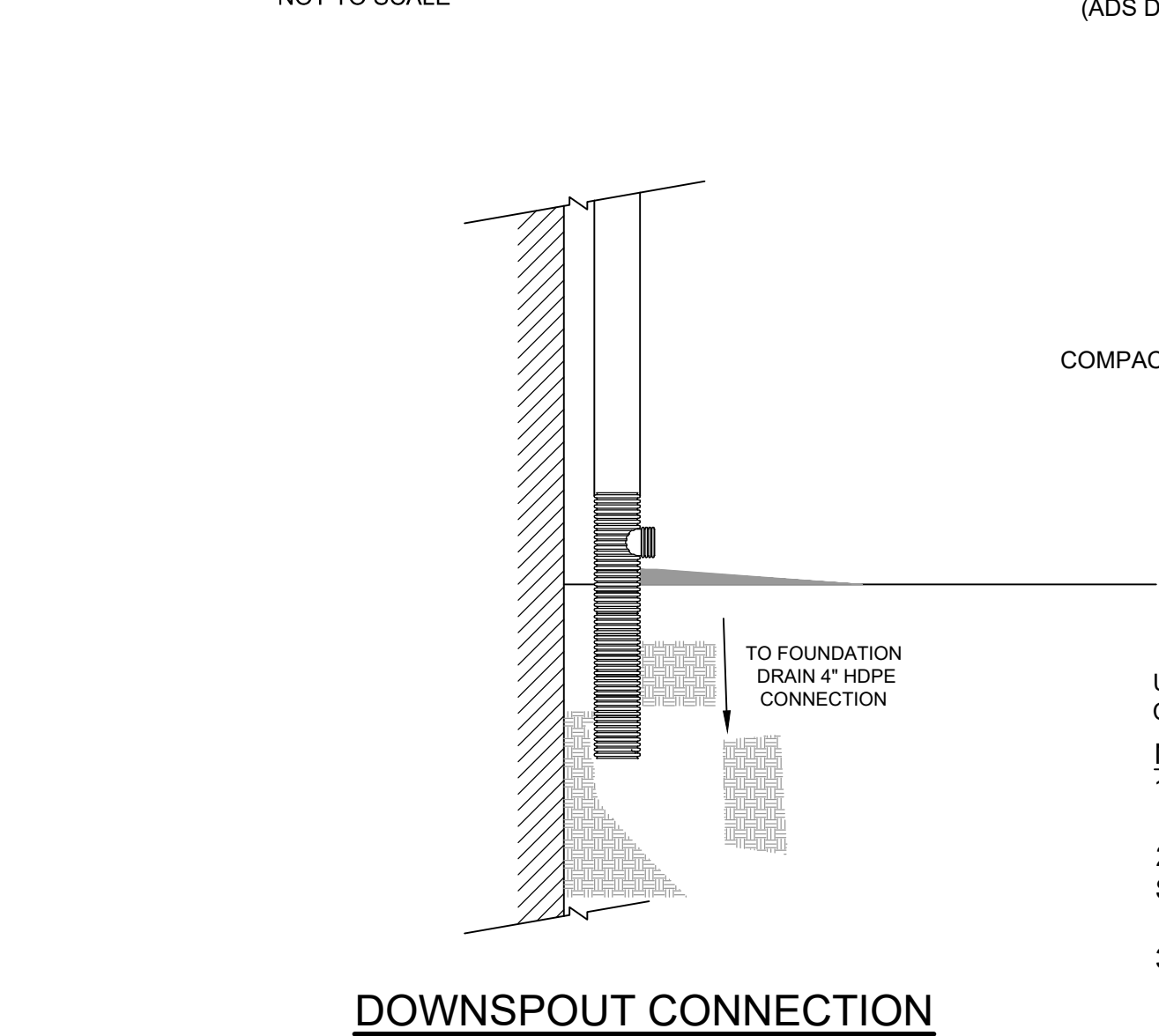
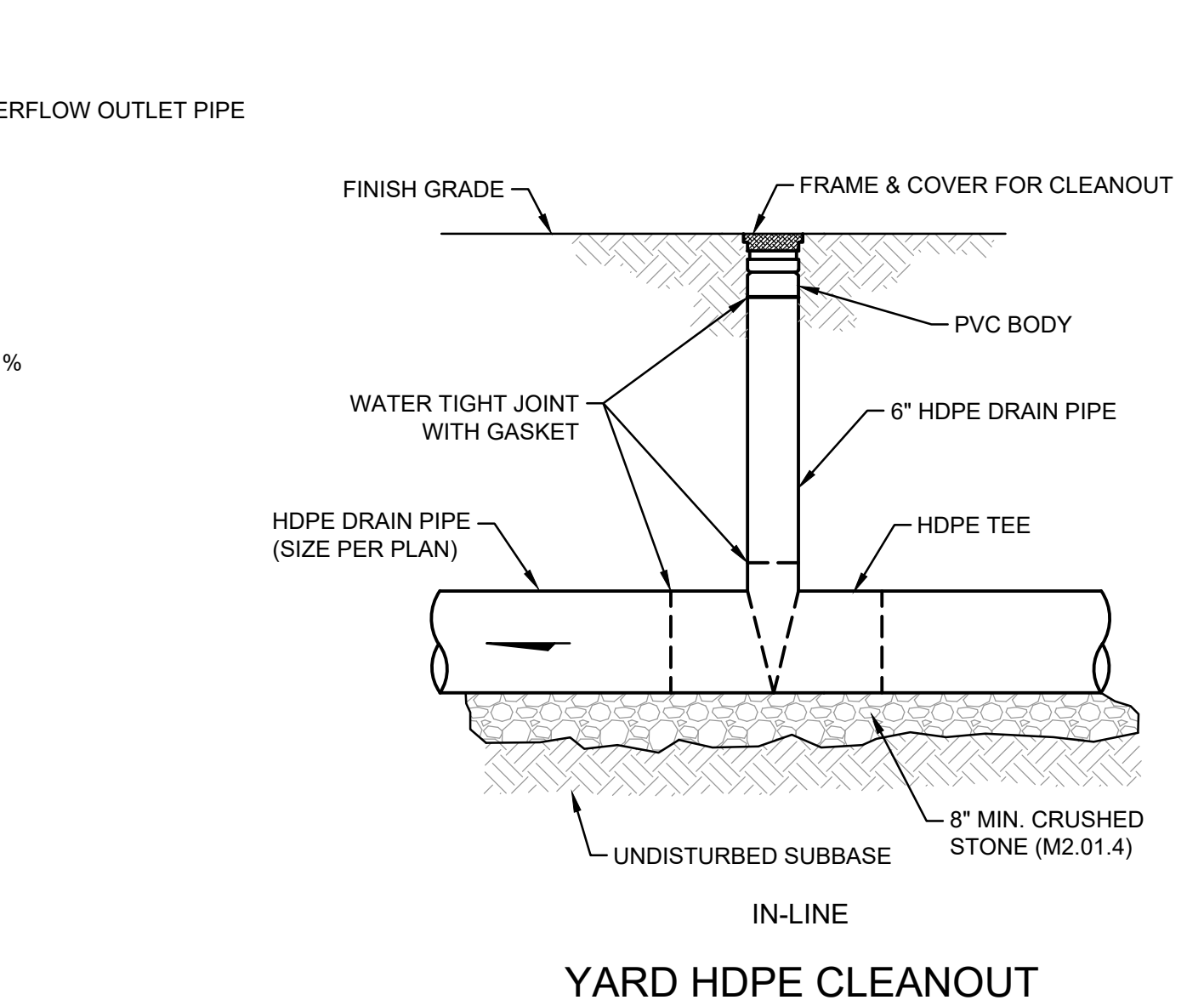
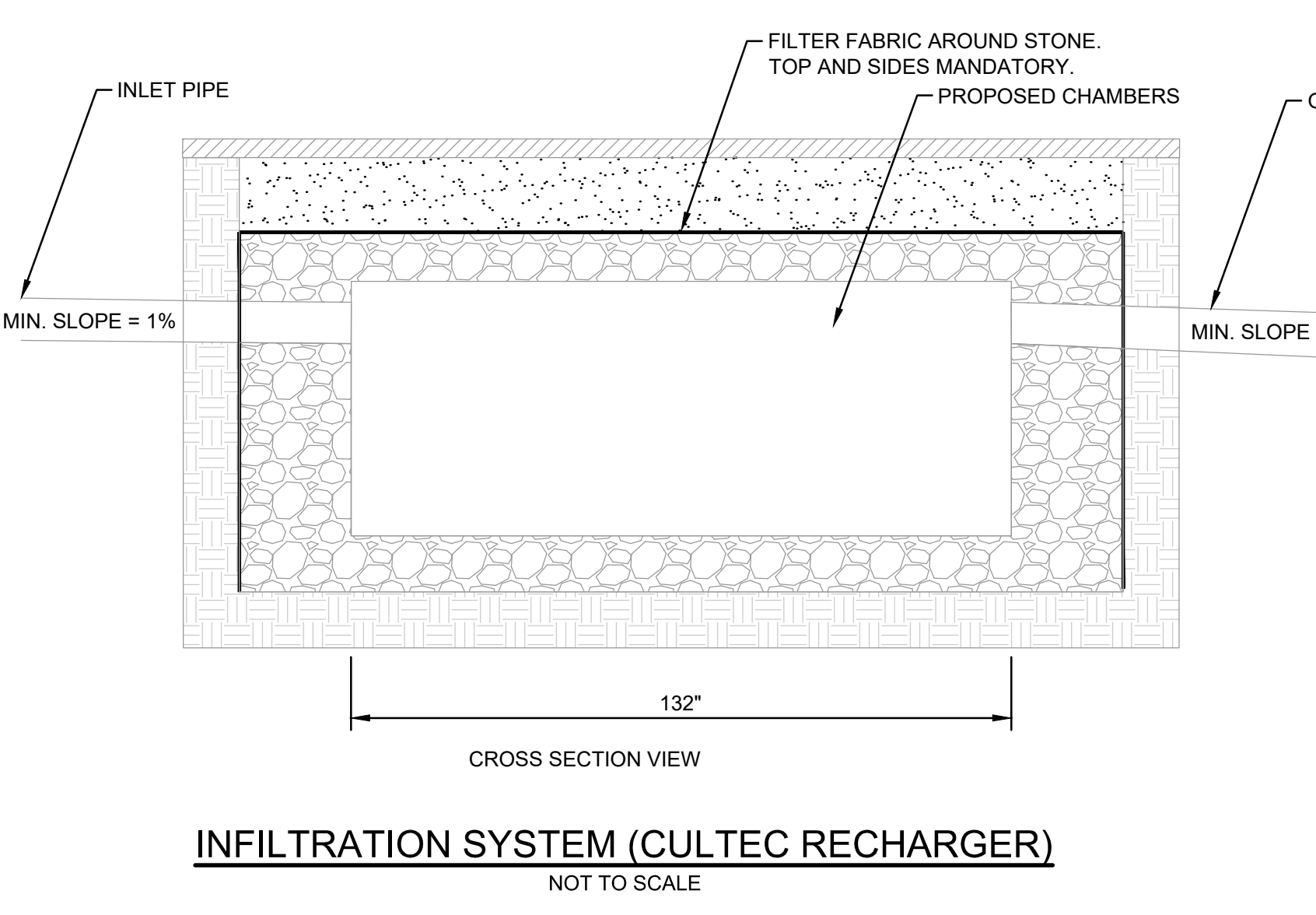
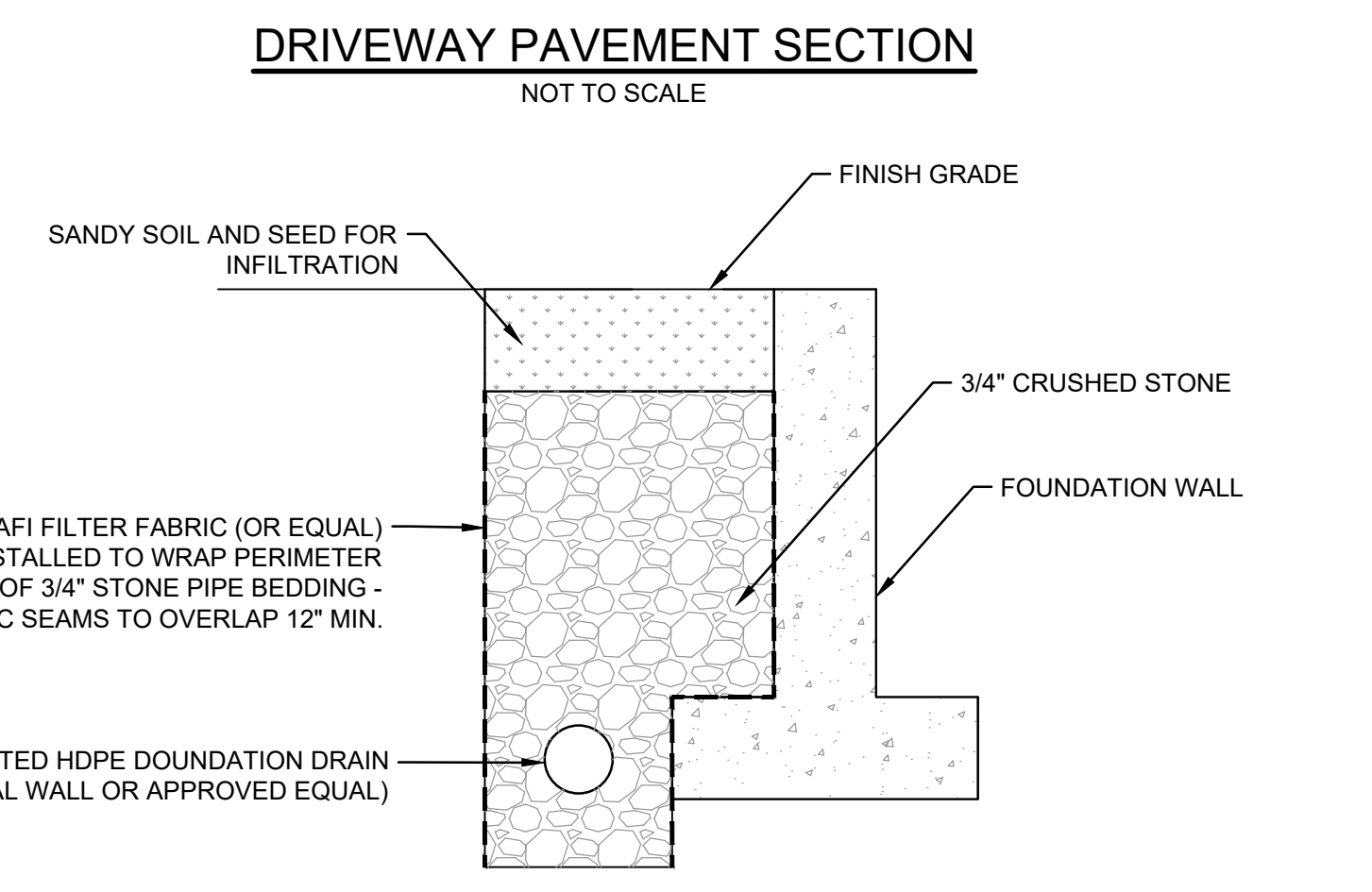
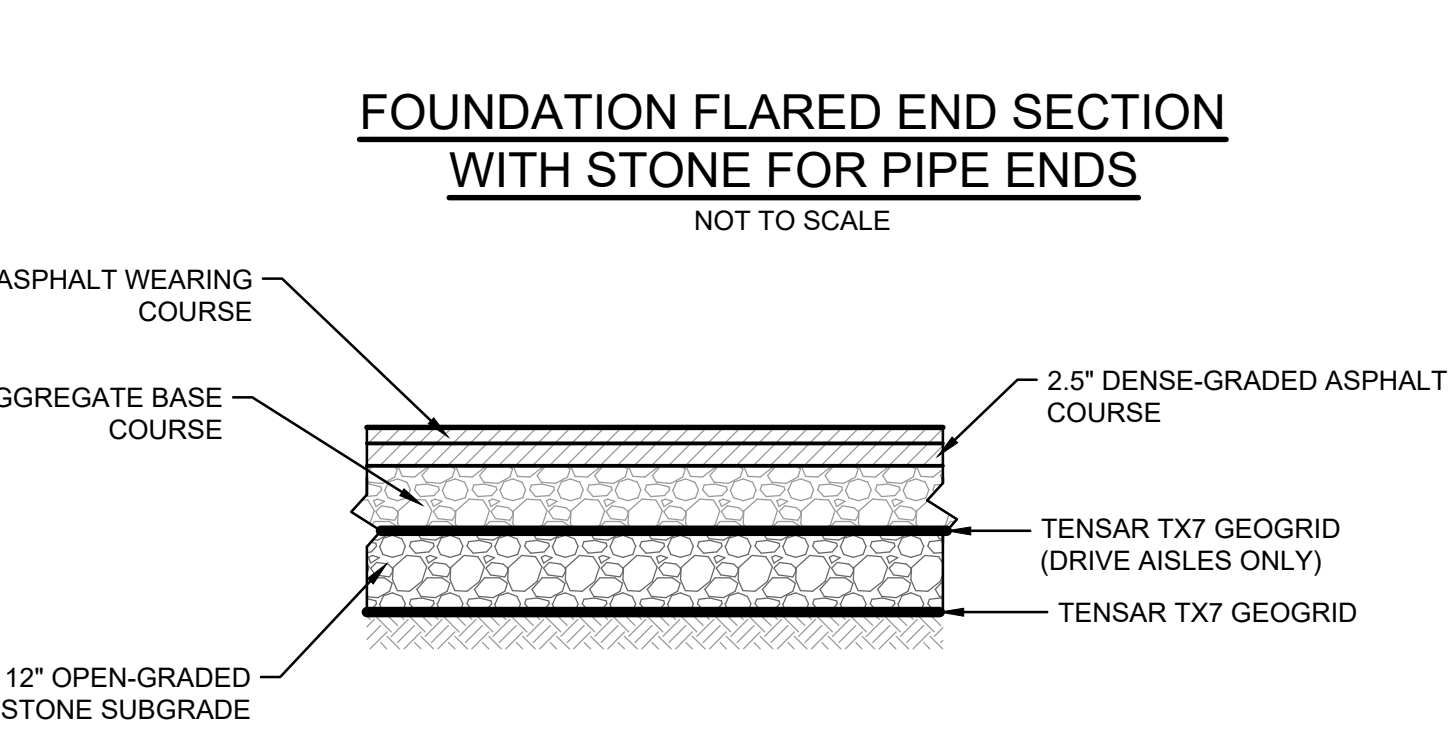
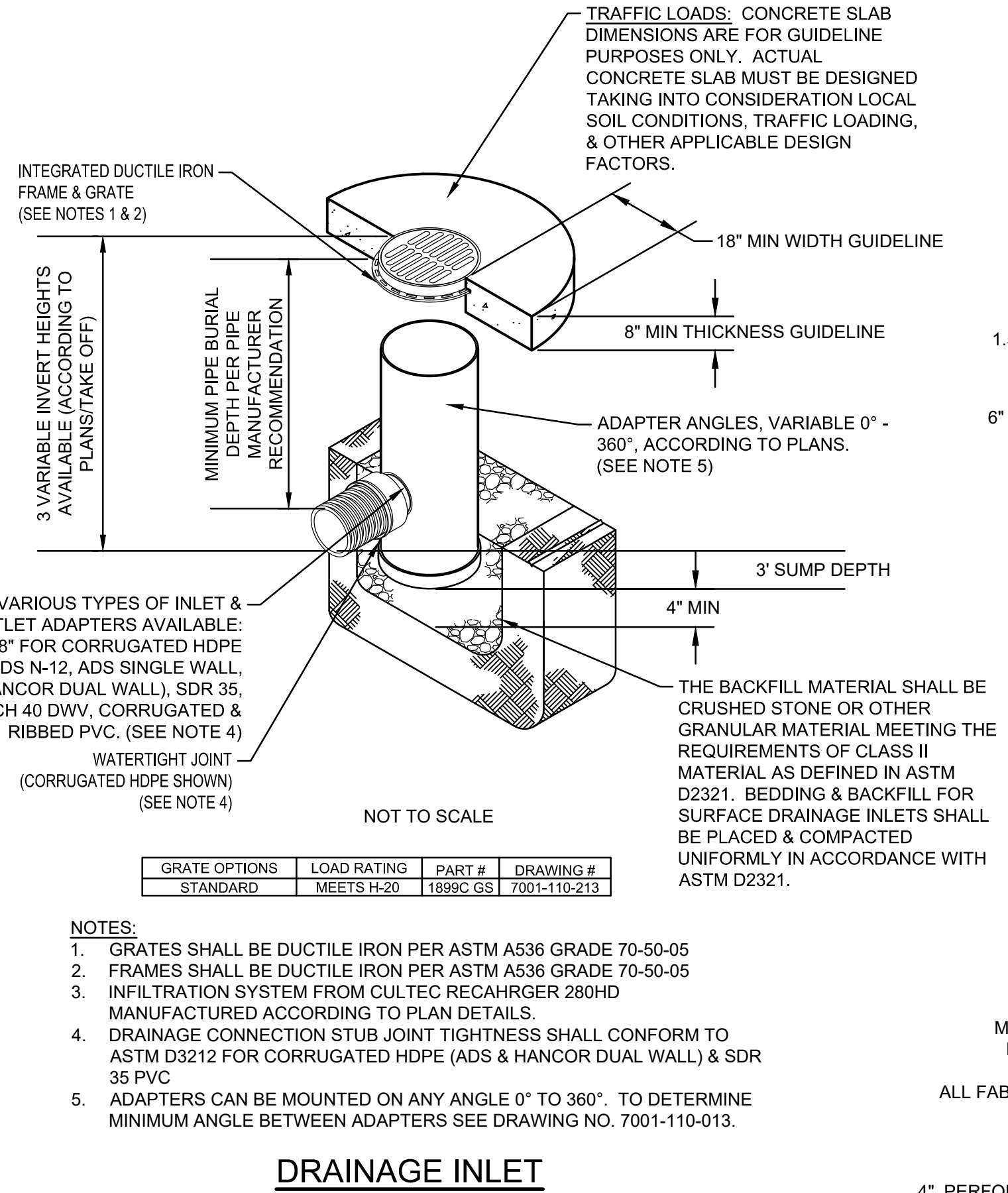
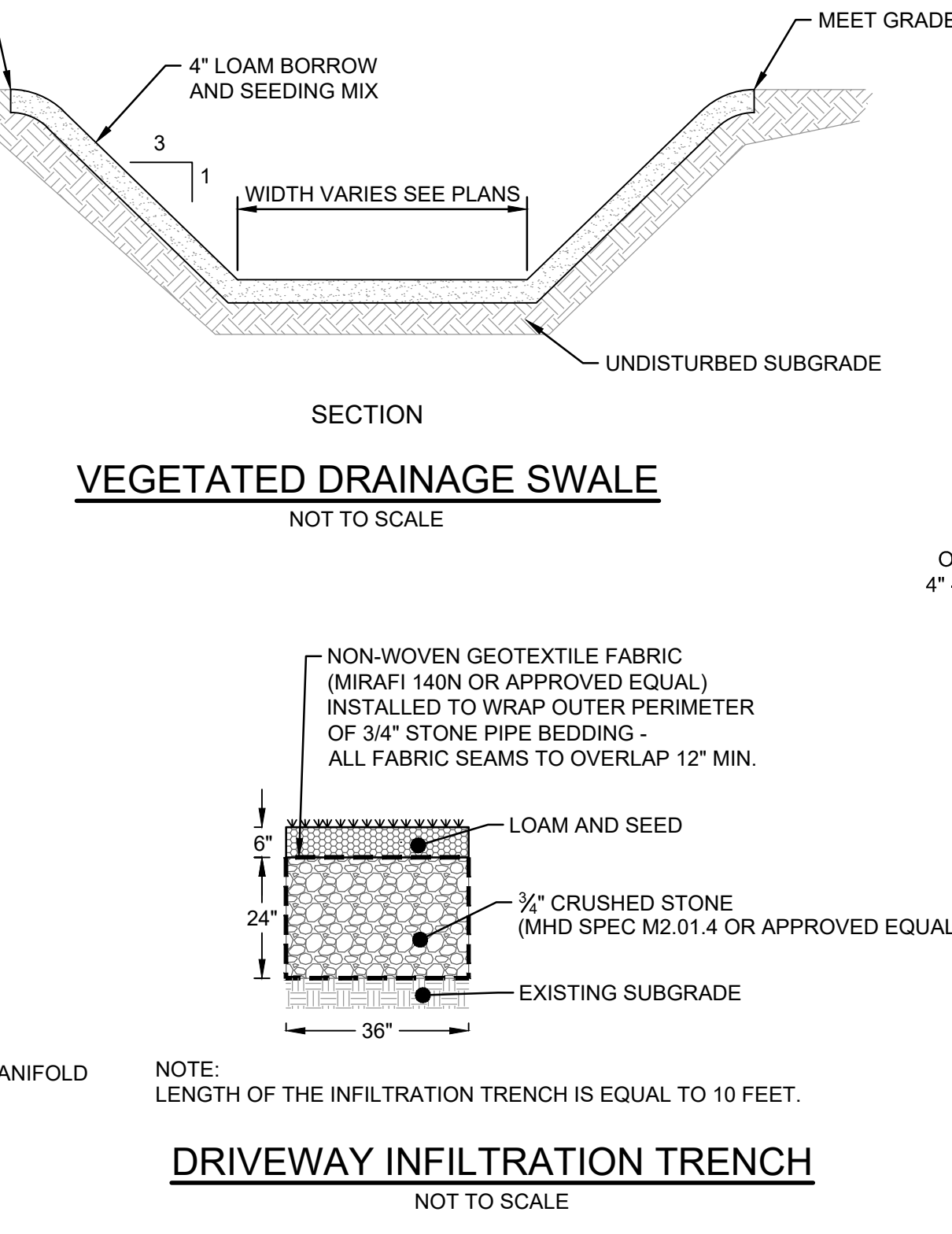
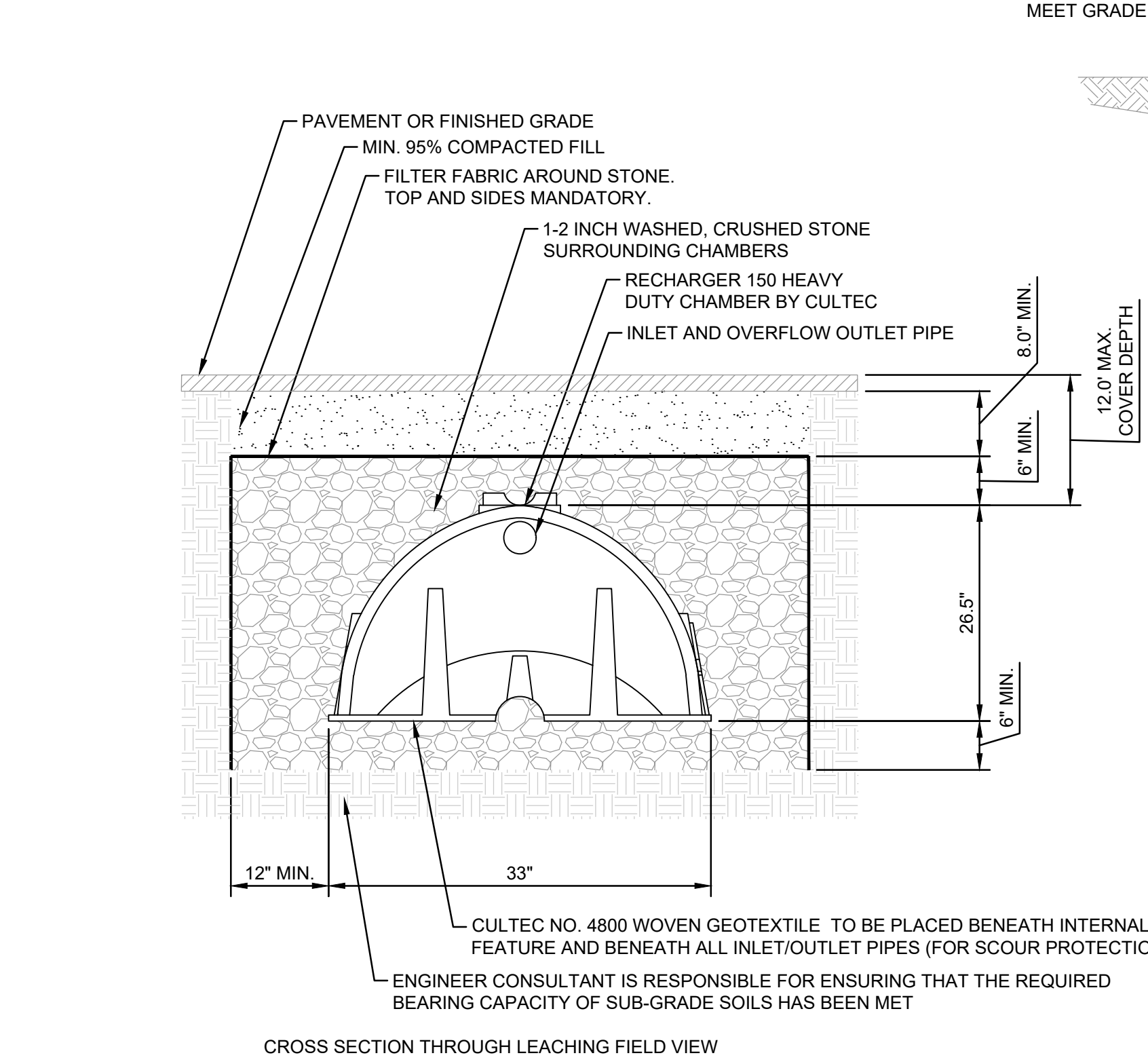
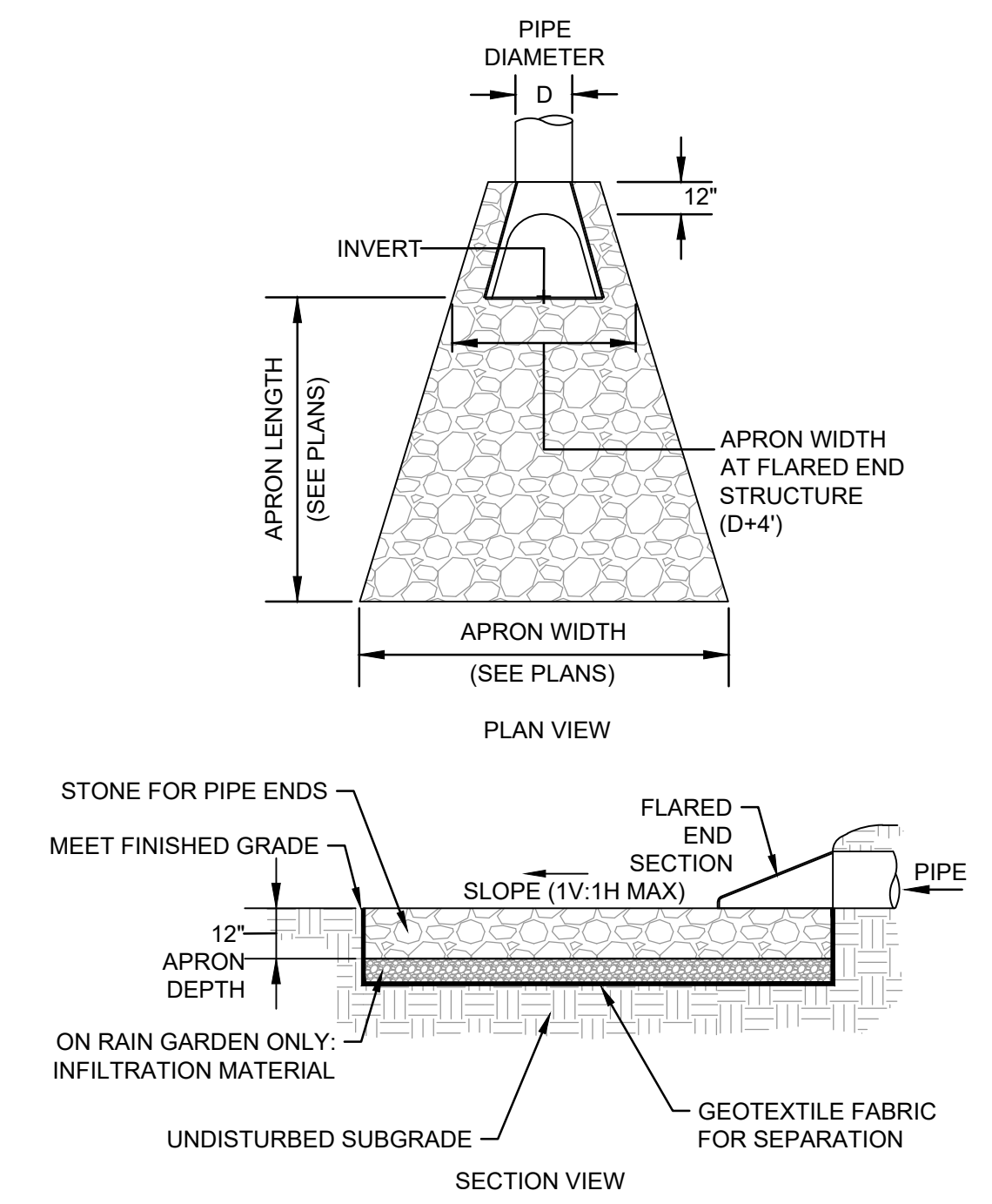
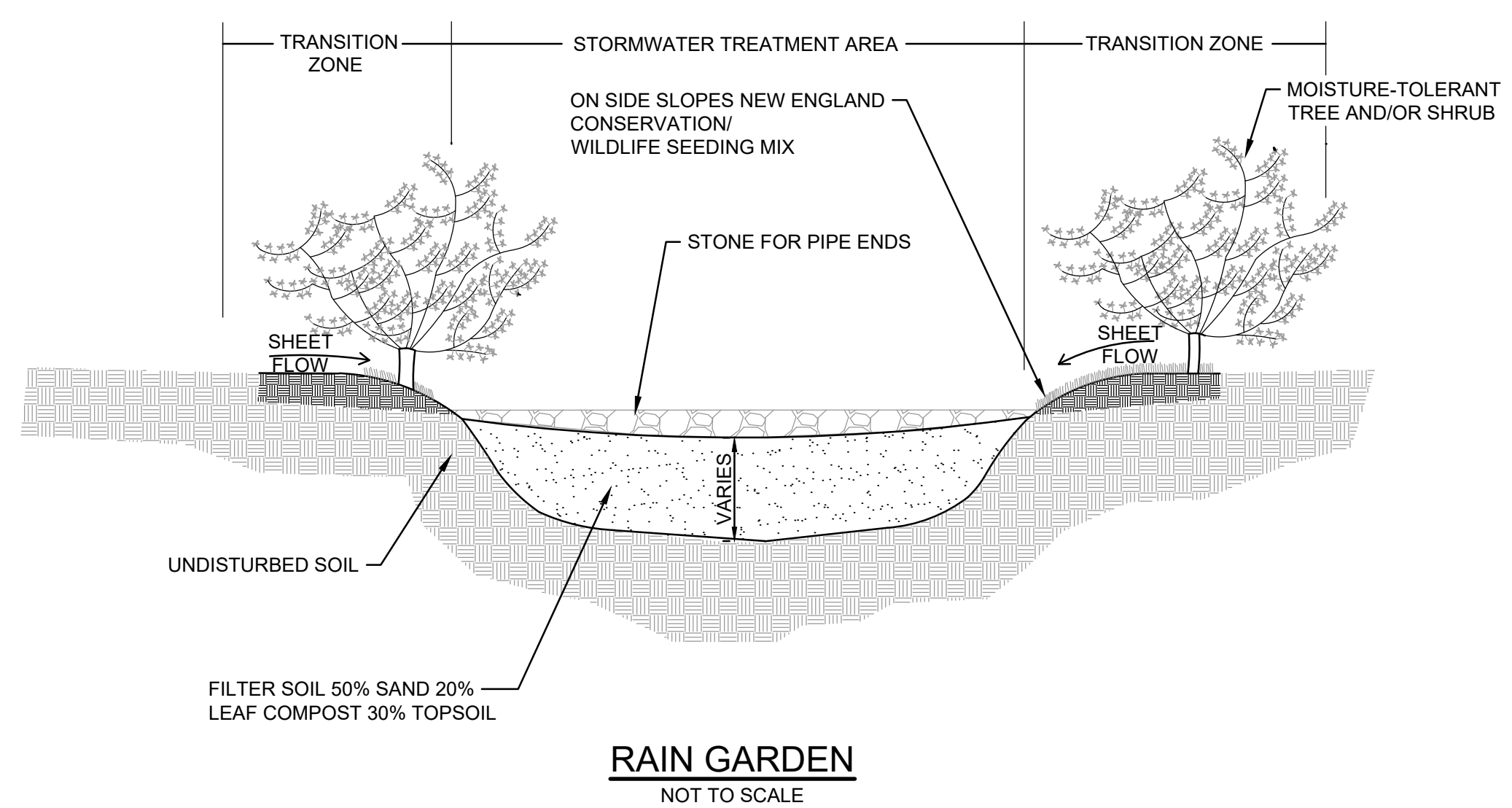
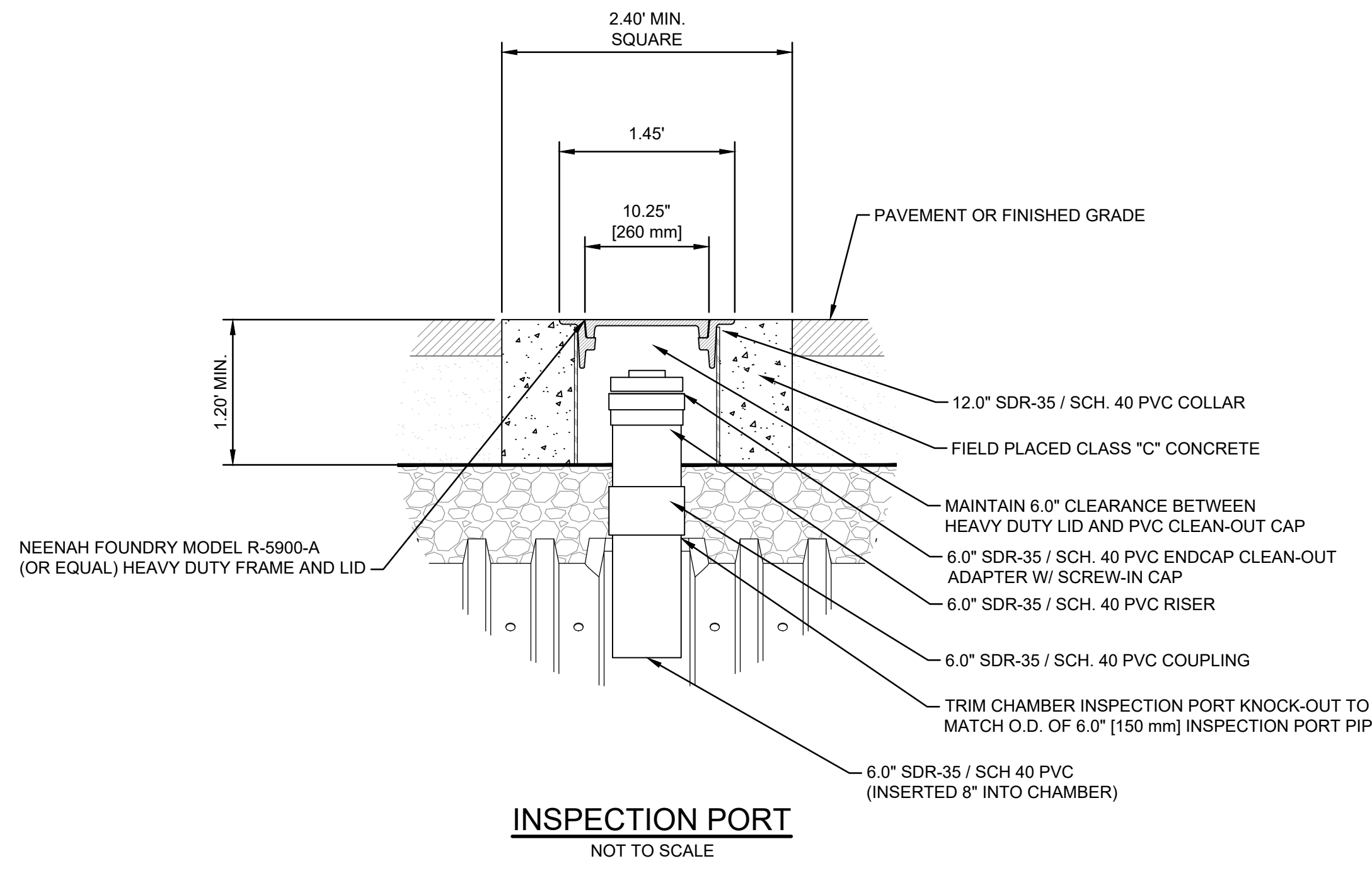
Carlos E. Ferreira P.E. #41.423  
Date: \_\_\_\_\_

Project Title:  
**NOTICE OF INTENT**  
SENA RESIDENCE

Sheet Title:  
**CONSTRUCTION**  
DETAILS

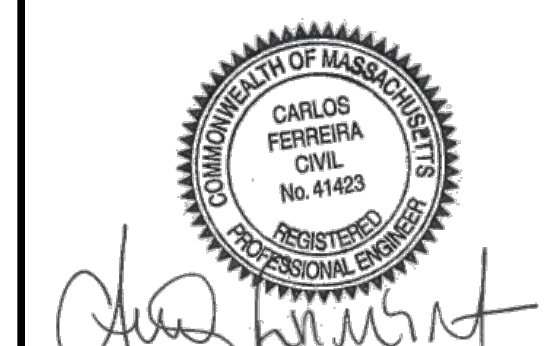
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DRAWN	CMS
CHECKED	CEF
FILE NAME	146 GEORGETOWN
PROJECT	146 GEORGETOWN RD
ISSUE DATE	05/21/2021
JOB NO.	146-0521





- NOTES:**
- GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
  - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
  - INFILTRATION SYSTEM FROM CULTEC RECHARGER 280HD MANUFACTURED ACCORDING TO PLAN DETAILS.
  - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
  - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-013.

GRATE OPTIONS	LOAD RATINGS	PART #	DRAWING #
STANDARD	MEETS H-20	11899C-GS	7001-110-213



Revisions

No.	Date	Description
4	09/27/21	COMMISSION COMMENTS
3	08/17/21	STORMWATER MANAGEMENT
1	06/11/21	NOI SUBMITTAL

Prepared for:  
**CLAUDIO SENA**  
 146 GEORGETOWN ROAD  
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Property of:  
**142 FISHER STREET LLC**  
 142 FISHER STREET  
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SCALE: 1"=20'

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**SHEET C-502**