

SEPTIC SYSTEM REPLACEMENT

2 LOADING PLACE ROAD MANCHESTER-BY-THE-SEA, MASSACHUSETTS

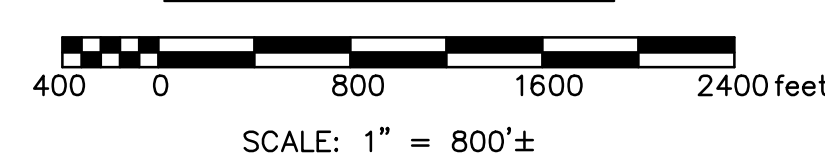
DHCD PROJECT # 166079

MAY 19, 2020

REVISED:



LOCUS MAP



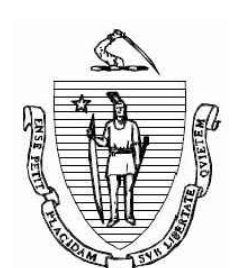
INDEX OF DRAWINGS

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C-102	CIVIL DETAILS

OWNER / AWARDING AUTHORITY:

MANCHESTER HOUSING AUTHORITY
P.O. BOX 608
MANCHESTER-BY-THE-SEA, MA 01944

FUNDING AUTHORITY:



Commonwealth of Massachusetts
**DEPARTMENT OF HOUSING &
COMMUNITY DEVELOPMENT**

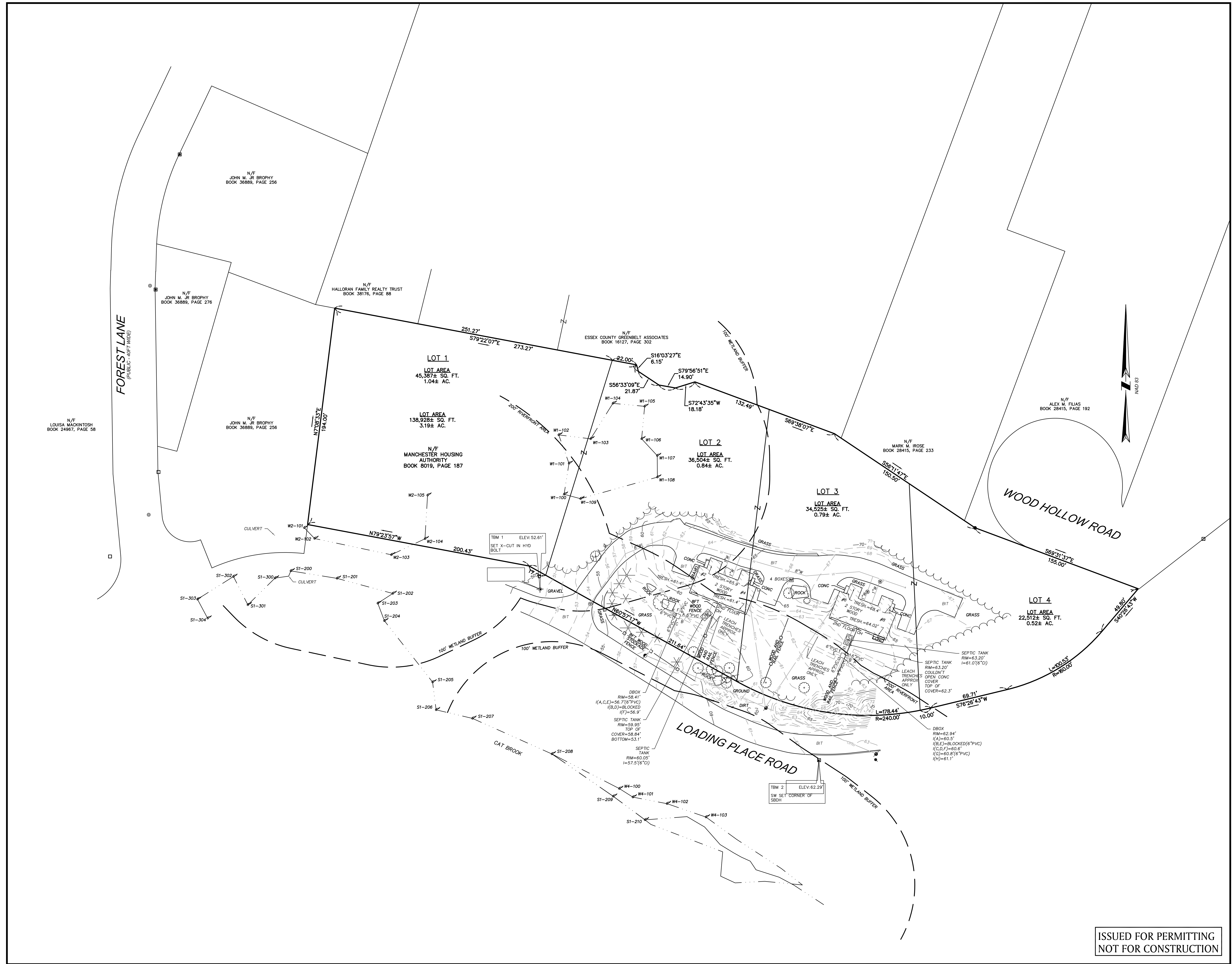
100 CAMBRIDGE STREET
BOSTON, MA 02114
TEL: (617) 573-1100



ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

PREPARED BY:

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127
617 896 4300



PROFESSIONAL ENGINEER DATE

DHCD PROJECT # 166079

SEPTIC SYSTEM REPLACEMENT

2 LOADING PLACE ROAD
IN
MANCHESTER-BY-THE-SEA
MASSACHUSETTS
(ESSEX COUNTY)

SEPTIC DESIGN PLAN

MAY 15, 2020

REVISIONS:

NO.	DATE	DESC.

OWNER / AWARDED AUTHORITY:

MANCHESTER HOUSING AUTHORITY
P.O. BOX 808
MANCHESTER-BY-THE-SEA, MA 01944

FUNDING AUTHORITY:

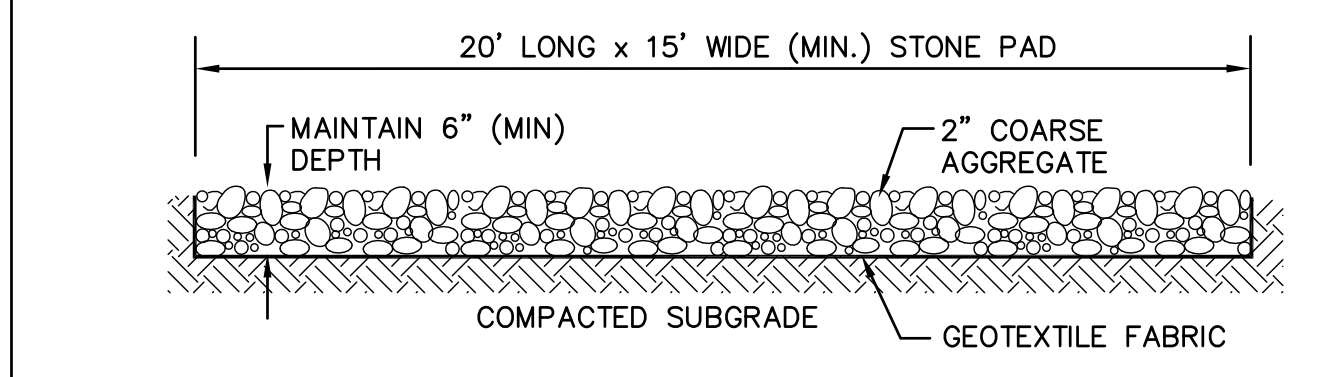
MASSACHUSETTS DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
100 CAMBRIDGE STREET
BOSTON, MA 02114
TEL: (617) 573-1100

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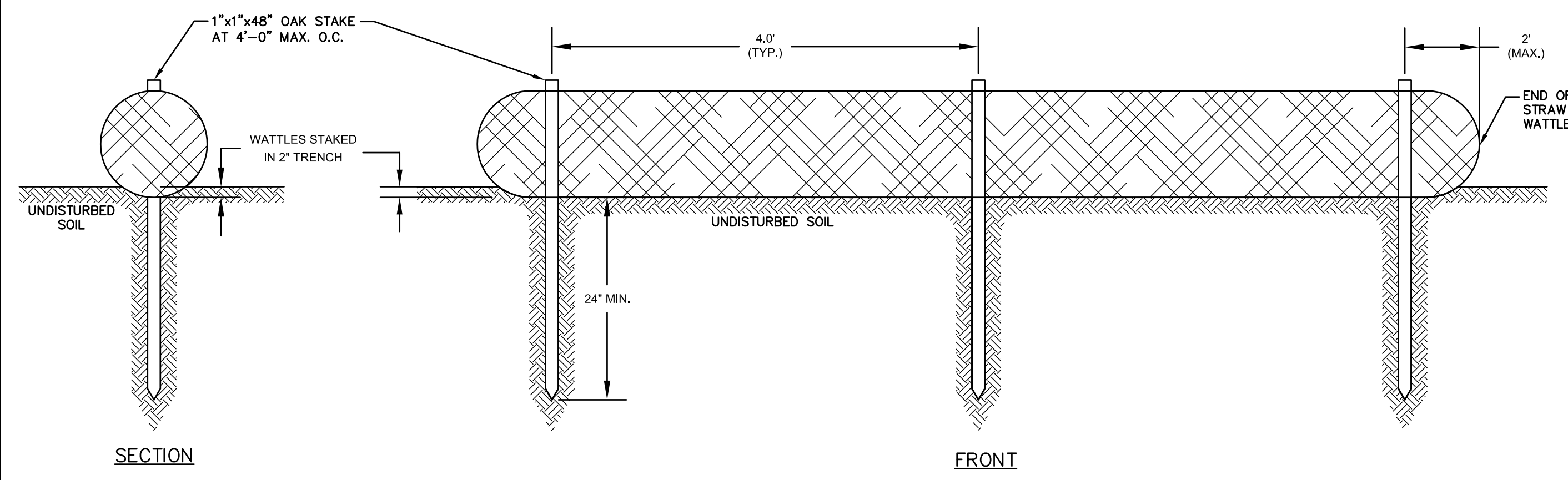
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SCALE: 1" = 30'
0 15 30 60 FEET
FILE: P:\2311008\C\DWG:
JOB. NO: 23310.08 SHEET V-100

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- GENERAL NOTES:**
- AREAS OUTSIDE THE LIMIT OF WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.
 - CONTRACTOR SHALL COORDINATE STAGING AREAS NEEDED WITH THE MANCHESTER HOUSING AUTHORITY PRIOR TO CONSTRUCTION.
 - CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. ALL CONSTRUCTION ACTIVITY SHALL BE IN ACCORDANCE WITH OSHA REGULATIONS AND LOCAL & STATE REQUIREMENTS.
 - ALL MATERIALS TO BE DISPOSED OF PER APPLICABLE LAWS AND REGULATIONS.
 - WHERE EXISTING PAVEMENT TO BE REMOVED MEETS EXISTING PAVEMENTS TO REMAIN CONTRACTOR IS TO SAWCUT A STRAIGHT LINE UNLESS INDICATED OTHERWISE.
 - ALL AREAS DISTURBED DURING CONSTRUCTION NOT COVERED WITH STRUCTURES OR PAVEMENTS SHALL RECEIVE SIX INCHES OF LOAM AND SEED, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
 - PROTECT ALL EXISTING FENCES, UTILITIES, BUILDINGS, AND VEGETATION NOT DESIGNATED FOR REMOVAL.
 - NO IDLING OF EQUIPMENT DURING CONSTRUCTION.
 - MINIMIZE DURATION OF SOIL EXPOSURE.
 - SAFE ACCESS TO THE SITE AND TO ALL THE UNITS SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE A PHASING PLAN FOR THE WORK TO BE APPROVED BY THE OWNER AND ENGINEER PRIOR TO BEGINNING WORK.
 - MANCHESTER HOUSING AUTHORITY SHALL BE RESPONSIBLE FOR COORDINATING THE REMOVAL OF RESIDENTS PERSONAL BELONGINGS WITHIN THE WORK LIMITS PRIOR TO CONSTRUCTION.

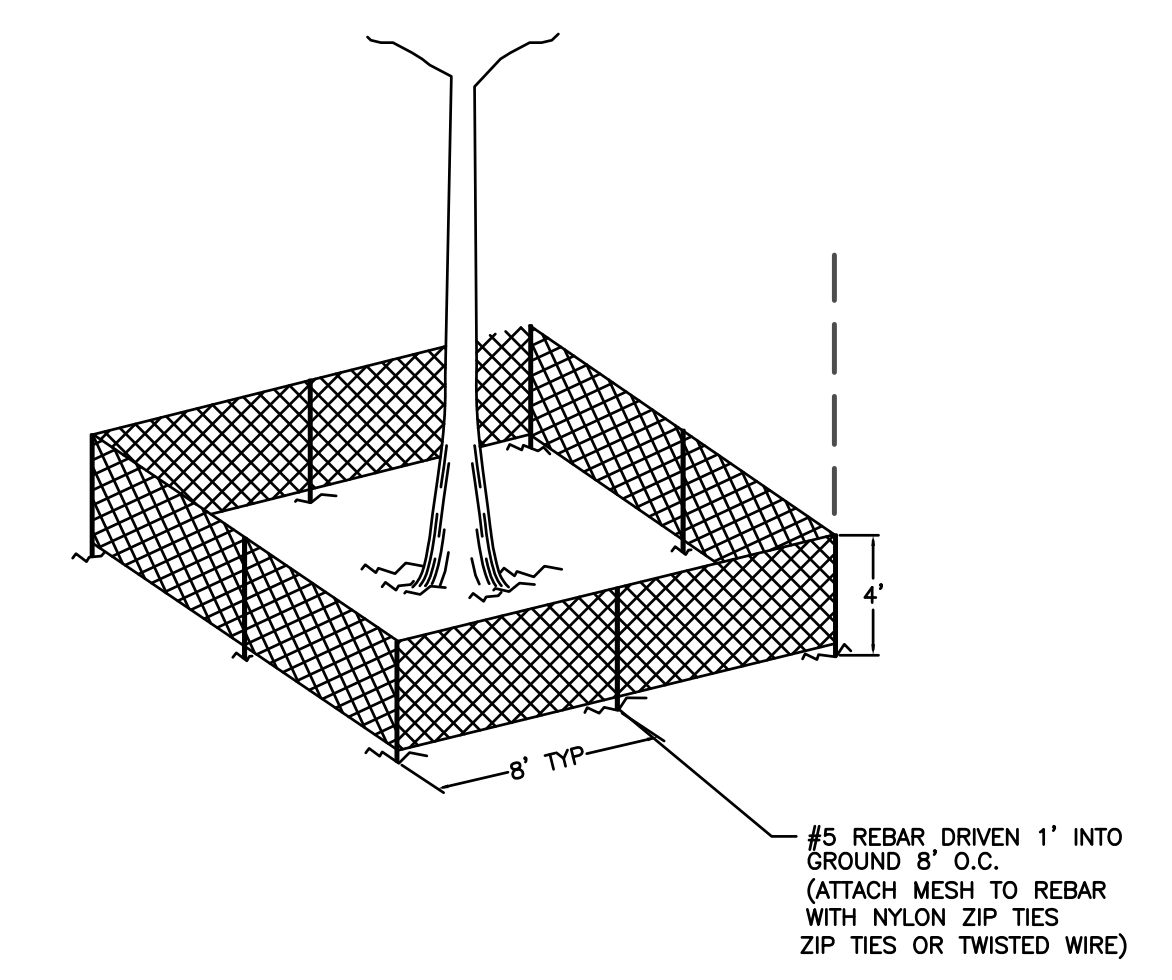


TEMPORARY CONSTRUCTION ENTRANCE
SCALE: NONE

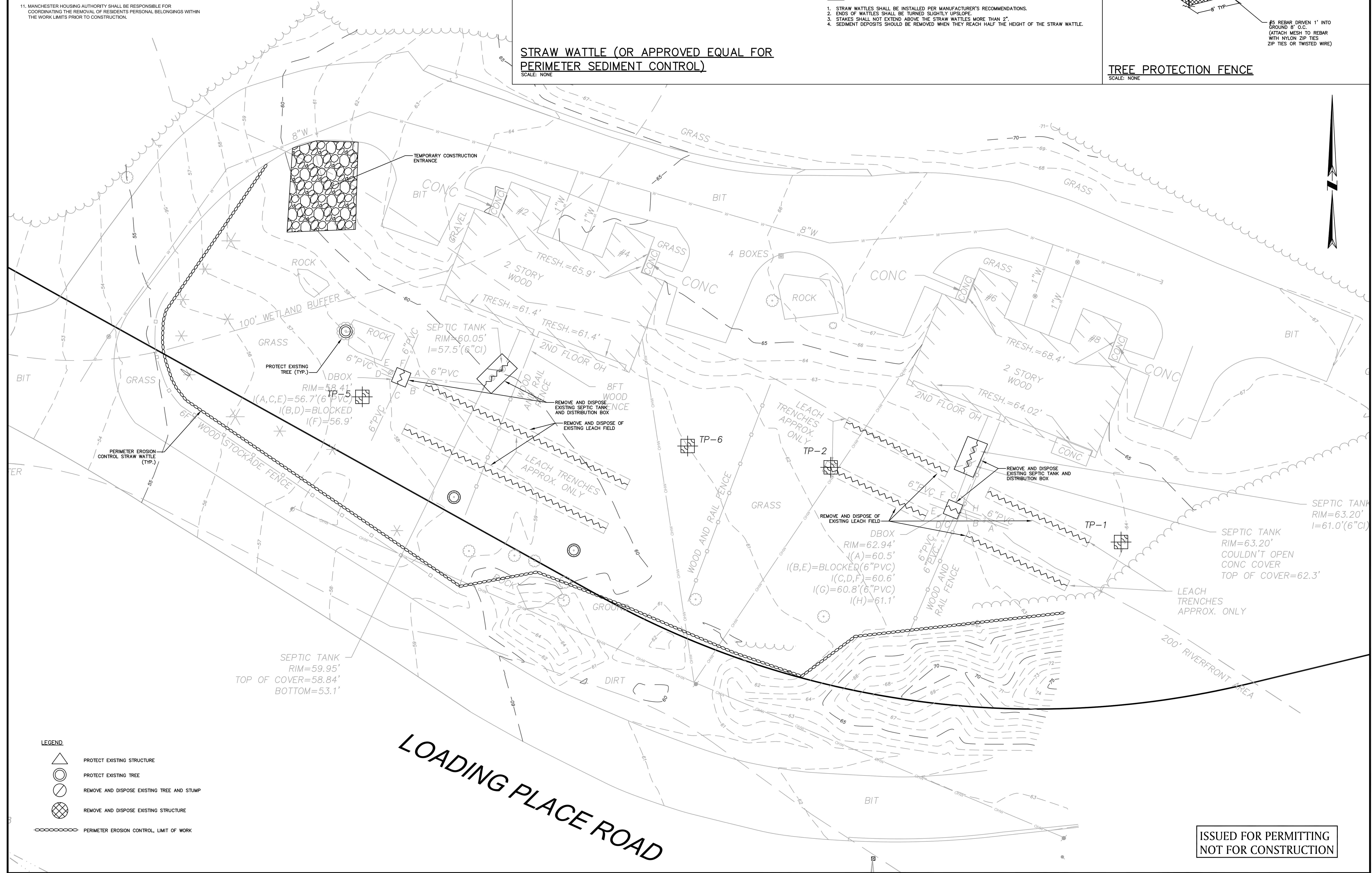


STRAW WATTLE (OR APPROVED EQUAL FOR PERIMETER SEDIMENT CONTROL)
SCALE: NONE

- NOTES:**
- STRAW WATTLES SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
 - ENDS OF WATTLES SHALL BE TURNED SLIGHTLY UPSLOPE.
 - STAKES SHALL NOT EXTEND ABOVE THE STRAW WATTLES MORE THAN 2".
 - SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH HALF THE HEIGHT OF THE STRAW WATTLE.



TREE PROTECTION FENCE
SCALE: NONE



- LEGEND**
- PROTECT EXISTING STRUCTURE
 - PROTECT EXISTING TREE
 - REMOVE AND DISPOSE EXISTING TREE AND STUMP
 - REMOVE AND DISPOSE EXISTING STRUCTURE
 - PERIMETER EROSION CONTROL, LIMIT OF WORK

**ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION**



PROFESSIONAL ENGINEER DATE

DHCD PROJECT # 166079

SEPTIC SYSTEM REPLACEMENT

2 LOADING PLACE ROAD
IN
MANCHESTER-BY-THE-SEA
MASSACHUSETTS
(ESSEX COUNTY)

SITE PREP PLAN

MAY 19, 2020

REVISIONS:

NO.	DATE	DESC.

OWNER / AWARDED AUTHORITY:
MANCHESTER HOUSING AUTHORITY
P.O. BOX 808
MANCHESTER-BY-THE-SEA, MA 01944

FUNDING AUTHORITY:
MASSACHUSETTS DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
100 CAMBRIDGE STREET
BOSTON, MA 02114
TEL: (617) 573-1100

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127
617 896 4300

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SCALE: 1" = 10'
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DWG: SHEET C-100
JOB. NO: 23310.08

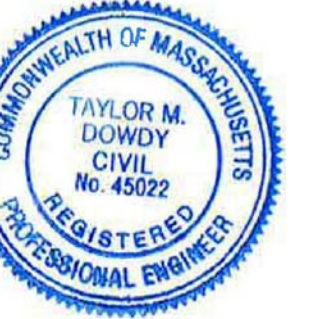
GENERAL CONSTRUCTION NOTES:

- THE EXISTING CONDITIONS SHOWN ON THIS PLAN IS BASED UPON AN ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. BETWEEN APRIL 23 AND MAY 9, 2020.
- EXISTING UTILITIES WHERE SHOWN HEREON ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH DIG-SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1-888-344-7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERTS OR UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
- IN GENERAL, THESE SITE PLANS DEPICT THE DESIGN INTENT OF THE WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND SETTING OF GRADES OF ALL WORK IN ACCORDANCE WITH THE AMERICAN DISABILITIES ACT AND THE COMMONWEALTH OF MASSACHUSETTS ARCHITECTURAL ACCESS BOARD REGULATIONS BASED ON THE ACTUAL GRADES DETERMINED AS PART OF THE CONTRACT WORK AND FOR THE PROPER SURFACE DRAINAGE WITHIN THE LIMITS OF WORK.
- THE CONTRACTOR SHALL CONSTRUCT ALL SURFACE REPAIRS IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES AND THE COMMONWEALTH OF MASSACHUSETTS ARCHITECTURAL ACCESS BOARD REGULATIONS (821 CMR). IN GENERAL, NO SIDEWALK CROSS SLOPES SHALL EXCEED 2% AND NO LONGITUDE SLOPES SHALL EXCEED 5%. HANDICAP PARKING SPACES, LEVEL LANDINGS AND PLAZA AREAS SHALL NOT EXCEED 2% IN ANY DIRECTION. IF AT ANY TIME DURING THE PERFORMANCE OF THE WORK THE CONTRACTOR DETERMINES THAT A PORTION OF THE WORK CANNOT MEET THE ADA STANDARDS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING. NO WORK SHALL BE PERFORMED ON NON-CONFORMING AREAS UNTIL DIRECTION FROM THE ENGINEER OR MHA HAS BEEN PROVIDED.
- ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE HOUSING AUTHORITY, TOWN OF MANCHESTER AND STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES OF THE MASSACHUSETTS HIGHWAY DEPARTMENT, LATEST EDITIONS AND THESE CONTRACT DOCUMENTS. ALL WORK SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL COORDINATE STAGING AREAS NEEDED WITH THE MANCHESTER HOUSING AUTHORITY PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL DEVICES FOR THE PROJECT THROUGHOUT THE DURATION OF THE PROJECT IN ACCORDANCE WITH APPLICABLE TOWN AND STATE STANDARDS AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE CONDITIONS AT THE SITE.
- CONSTRUCTION HOURS SHALL BE COORDINATED WITH THE MANCHESTER HOUSING AUTHORITY PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL SET ALL DRAINAGE RIMS AND UTILITY COVERS WITHIN THE LIMITS OF THE WORK CONSISTENT WITH THE SURROUNDING GRADES AT NO ADDITIONAL COST TO THE OWNER.
- 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. TO THE SATISFACTION OF THE ENGINEER, ALL AREAS DISTURBED DURING CONSTRUCTION NOT COVERED WITH BUILDINGS, STRUCTURES, OR PAVEMENTS SHALL RECEIVE SIX INCHES OF LOAM AND SEED, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. ALL CONSTRUCTION ACTIVITY SHALL BE IN ACCORDANCE WITH OSHA REGULATIONS AND LOCAL & STATE REQUIREMENTS.
- LIMITS OF WORK ARE SHOWN AS APPROPRIATE. THE CONTRACTOR SHALL COORDINATE ALL WORK TO PROVIDE SMOOTH TRANSITIONS. THIS INCLUDES GRADING, PAVEMENT, CURBING, SIDEWALKS AND ALL OTHER WORK.
- ALL MATERIALS SHALL BE DISPOSED OF OFF SITE PER APPLICABLE LAWS AND REGULATIONS AT NO ADDITIONAL COST TO THE OWNER.
- ALL EXISTING PAVEMENT IN THE VICINITY OF THE PROPOSED WORK SHALL BE RESTORED, IF DAMAGED, AT NO ADDITIONAL COST TO THE OWNER. ALL PAVEMENT WORK SHALL BLEND WITH EXISTING PAVEMENT, WITH SAWCUTS AND EMULSION APPLIED TO ALL CUT SURFACES.
- SAFE ACCESS TO THE SITE AND TO ALL THE UNITS SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE A PHASING PLAN AT LEAST 14 DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION TO BE APPROVED BY THE OWNER AND ENGINEER.
- AT THE COMPLETION OF CONSTRUCTION AND PRIOR TO THE ACCEPTANCE, THE CONTRACTOR SHALL SUBMIT TO THE BOARD OF HEALTH A SET OF AS-BUILT RECORD DRAWINGS.

SEPTIC SYSTEM NOTES:

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO MASS DEP TITLE V REGULATIONS (WHERE APPROPRIATE), PRESBY ENVIRO-SEPTIC LEACHING SYSTEM METHODS AND MATERIALS SHALL CONFORM TO THE MANUFACTURERS MOST CURRENT CERTIFICATION FOR GENERAL USE.
- REMOVE ALL TOPSOIL, SUBSOIL AND OTHER IMPERVIOUS MATERIAL AS REQUIRED BY TITLE V.
- THE PIPE BETWEEN THE DISTRIBUTION BOX AND THE SYSTEM SHALL BE INSTALLED AT A MINIMUM SLOPE OF 0.02 FEET/FOOT OR A MINIMUM DROP OF 2", WHICH EVER IS GREATER.
- INSPECTIONS: CONTRACTOR SHALL NOTIFY ENGINEER A FULL 72 HOURS BEFORE INSPECTION. INSPECTIONS REQUIRED AS FOLLOWS:
A. PREPARED SITE EXCAVATION OF REMOVAL OF TOP SOIL AND SUBSOIL AND ANY UNSUITABLE MATERIAL BEFORE PLACEMENT OF TITLE 5 FILL MATERIAL.
B. PRIOR TO BACKFILLING.
C. DURING BACKFILLING.
D. ADDITIONAL INSPECTIONS AS REQUIRED BY BOARD OF HEALTH.
- NO FILTERS ARE TO BE INSTALLED IN SEPTIC TANK TEES TO INSURE POSITIVE VENTILATION.
- CONTRACTOR TO PUMP TANKS AS NEEDED DURING CONSTRUCTION TO MAINTAIN OCCUPANCY.

N/F
MARK M. IROSE
BOOK 28415, PAGE 233



DATE
PROFESSIONAL ENGINEER

DHCD PROJECT # 166079

SEPTIC SYSTEM REPLACEMENT

2 LOADING PLACE ROAD
IN
MANCHESTER-BY-THE-SEA
MASSACHUSETTS
(ESSEX COUNTY)

SEPTIC REPAIR PLAN

MAY 19, 2020

REVISIONS:

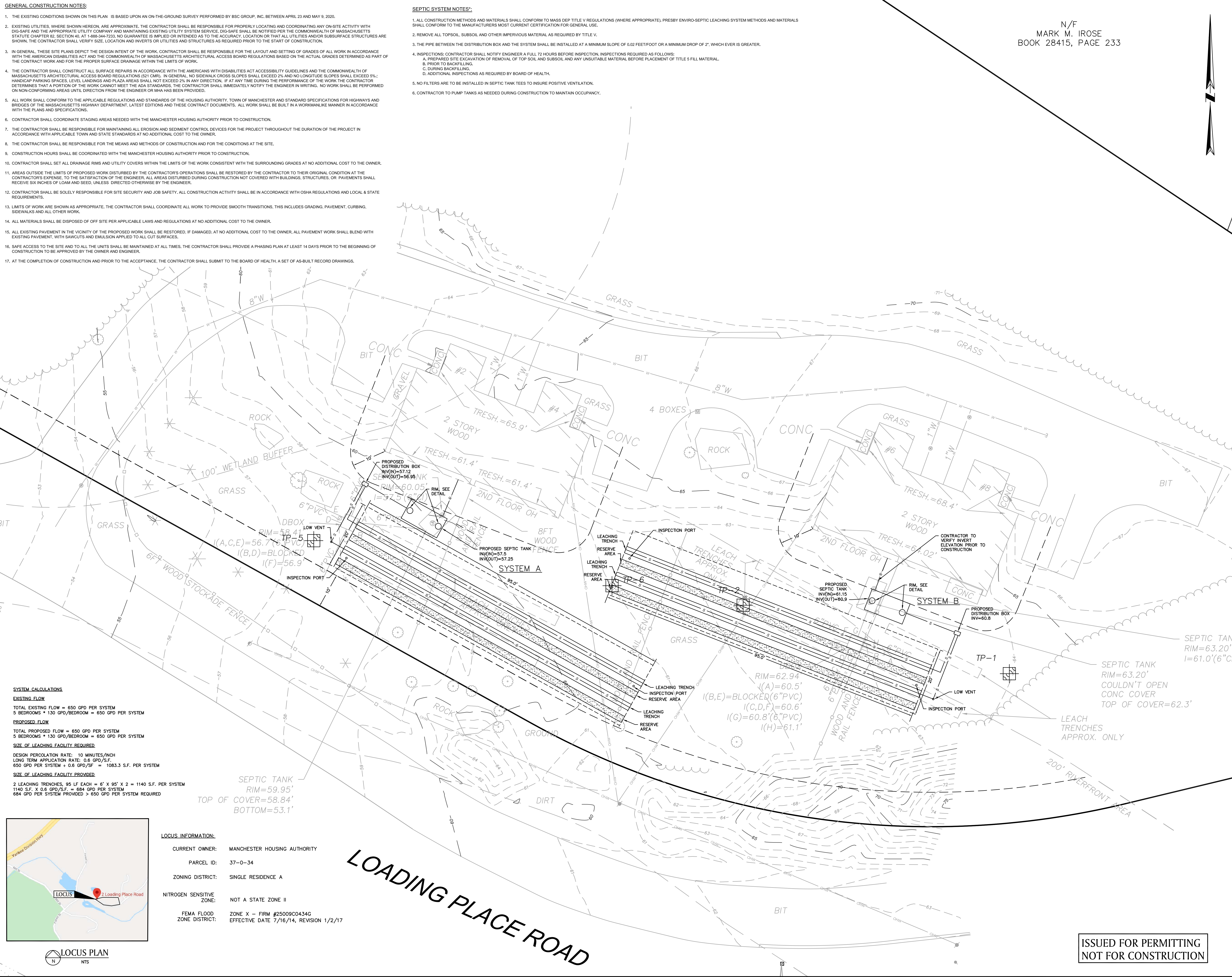
NO.	DATE	DESC.

OWNER / AWARDED AUTHORITY:
MANCHESTER HOUSING AUTHORITY
P.O. BOX 808
MANCHESTER-BY-THE-SEA, MA 01944

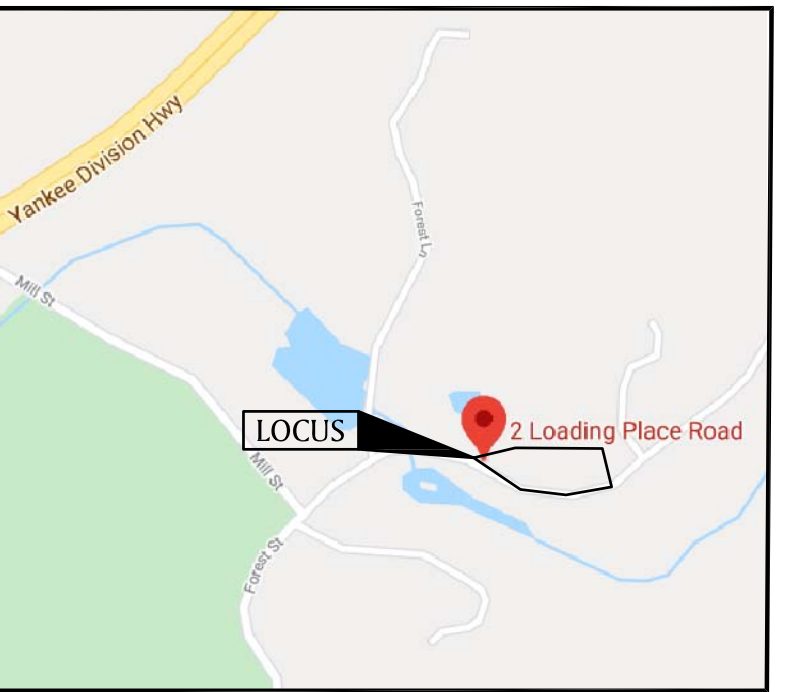
FUNDING AUTHORITY:
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BOSTON, MA 02114
TEL: (617) 573-1100

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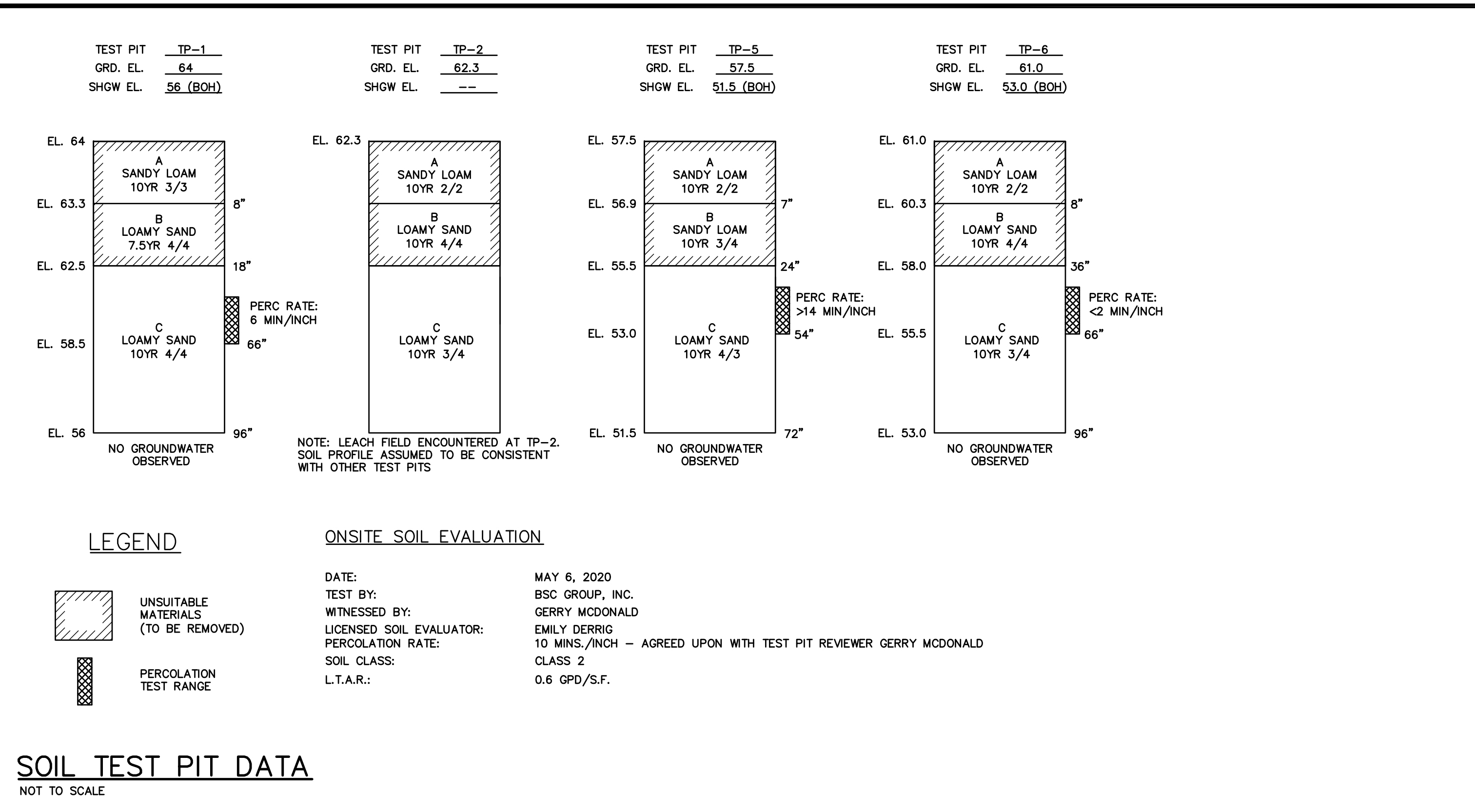
SYSTEM CALCULATIONS
EXISTING FLOW
TOTAL EXISTING FLOW = 650 GPD PER SYSTEM
5 BEDROOMS * 130 GPD/BEDROOM = 650 GPD PER SYSTEM
PROPOSED FLOW
TOTAL PROPOSED FLOW = 650 GPD PER SYSTEM
5 BEDROOMS * 130 GPD/BEDROOM = 650 GPD PER SYSTEM
SIZE OF LEACHING FACILITY REQUIRED
DESIGN PERCOLATION RATE: 10 MINUTES/NCH
LONG TERM APPLICATION RATE: 0.6 GPD/SF
650 GPD PER SYSTEM * 0.6 GPD/SF = 1083.3 S.F. PER SYSTEM
SIZE OF LEACHING FACILITY PROVIDED
2 LEACHING TRENCHES, 95 LF EACH = 6' X 95' X 2 = 1140 S.F. PER SYSTEM
1140 S.F. X 0.6 GPD/SF = 684 GPD PER SYSTEM
684 GPD PER SYSTEM PROVIDED > 650 GPD PER SYSTEM REQUIRED



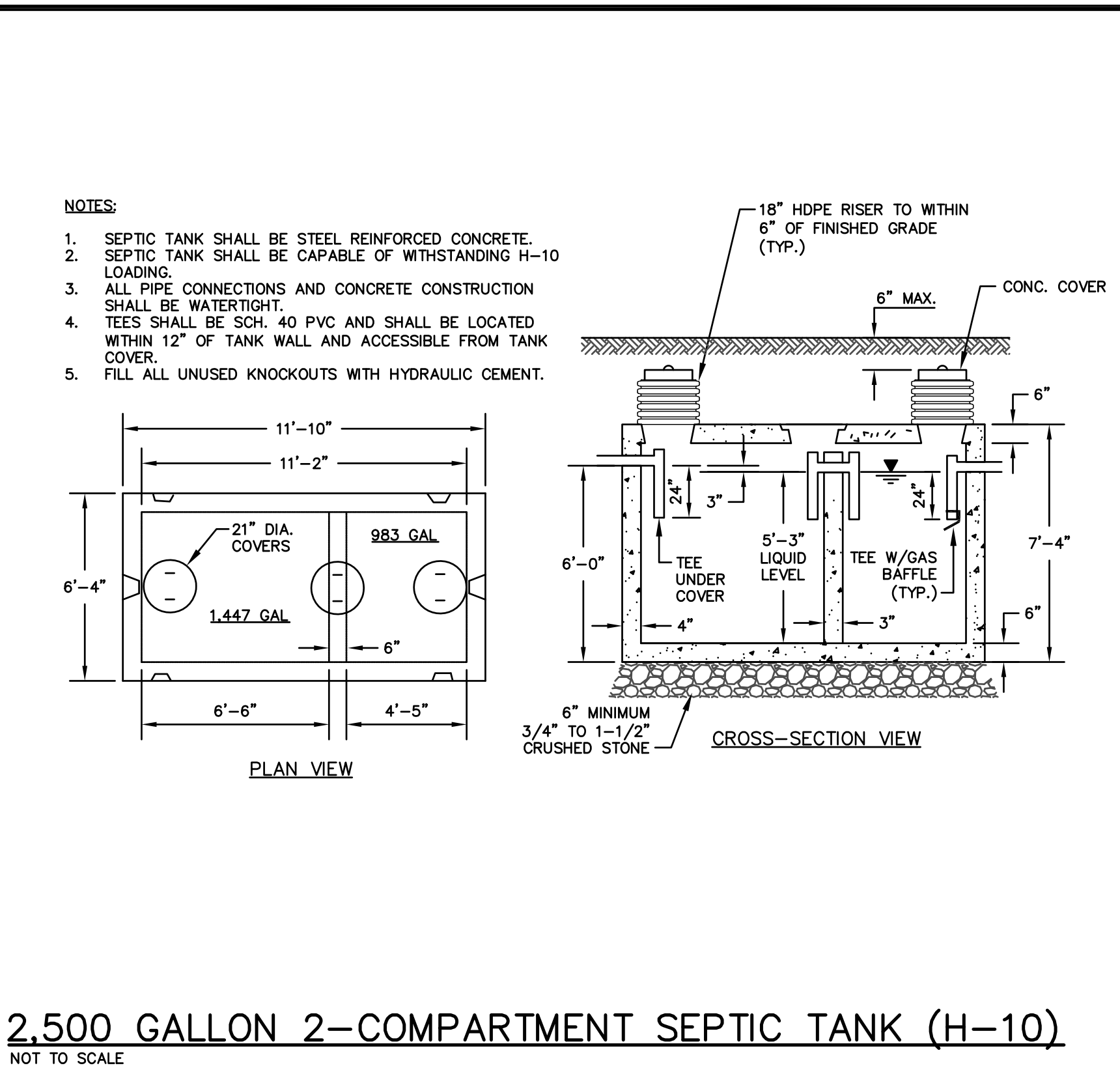
LOCUS INFORMATION:
CURRENT OWNER: MANCHESTER HOUSING AUTHORITY
PARCEL ID: 37-0-34
ZONING DISTRICT: SINGLE RESIDENCE A
NITROGEN SENSITIVE ZONE: NOT A STATE ZONE II
FEMA FLOOD ZONE DISTRICT: ZONE X - FIRM #250090434G
EFFECTIVE DATE 7/16/14, REVISION 1/2/17

LOADING PLACE ROAD

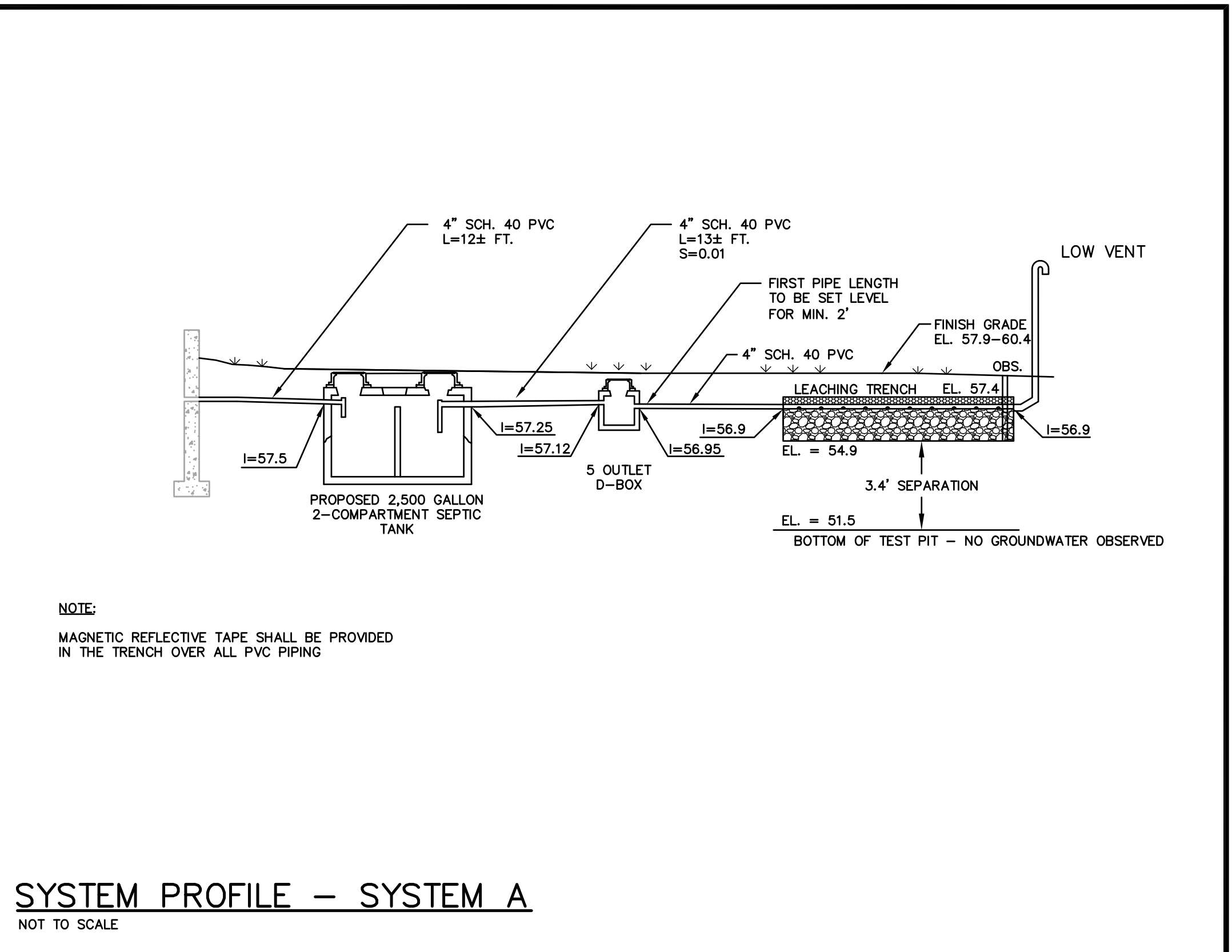
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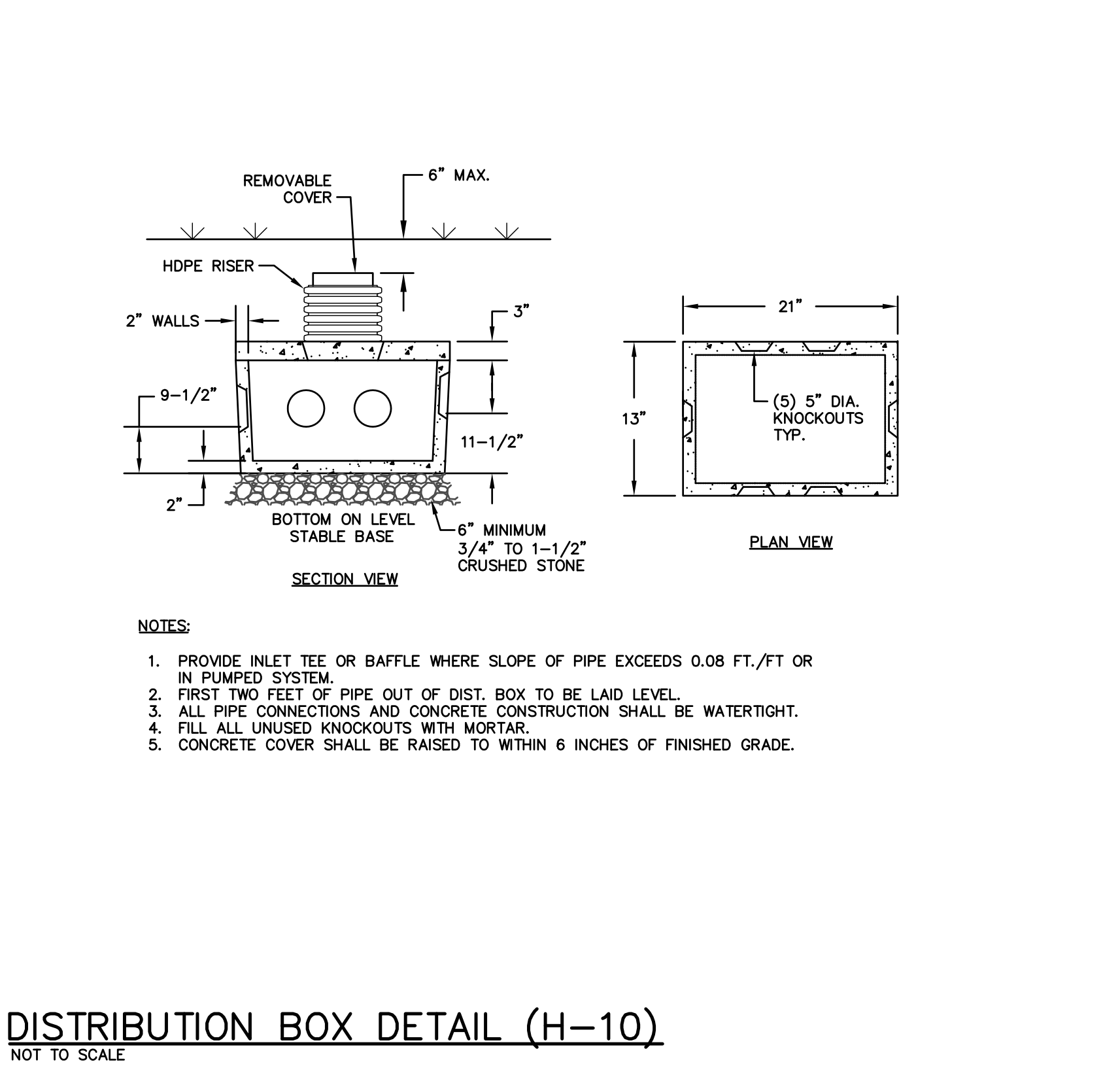
SOIL TEST PIT DATA
NOT TO SCALE



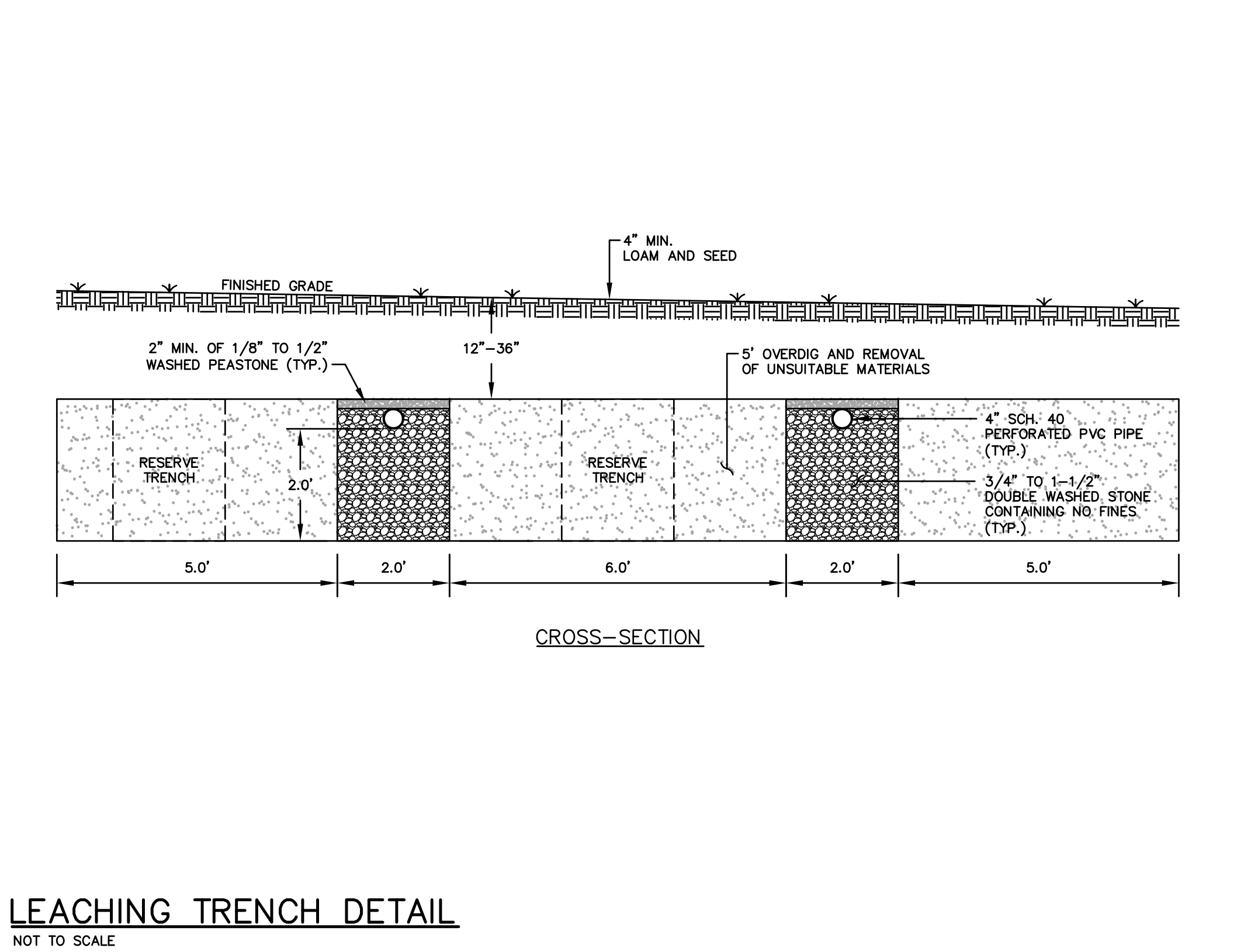
2,500 GALLON 2-COMPARTMENT SEPTIC TANK (H-10)
NOT TO SCALE



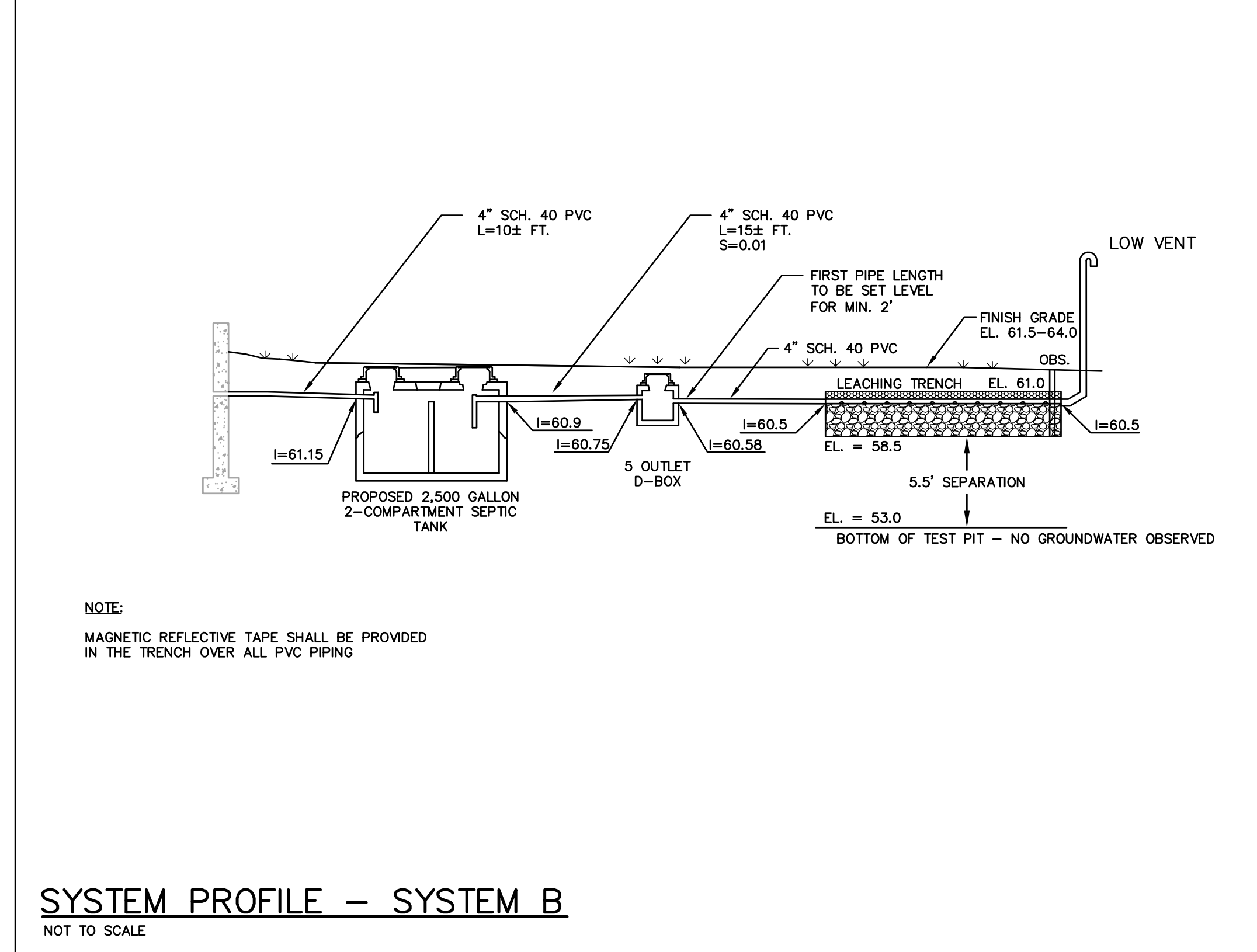
SYSTEM PROFILE - SYSTEM A
NOT TO SCALE



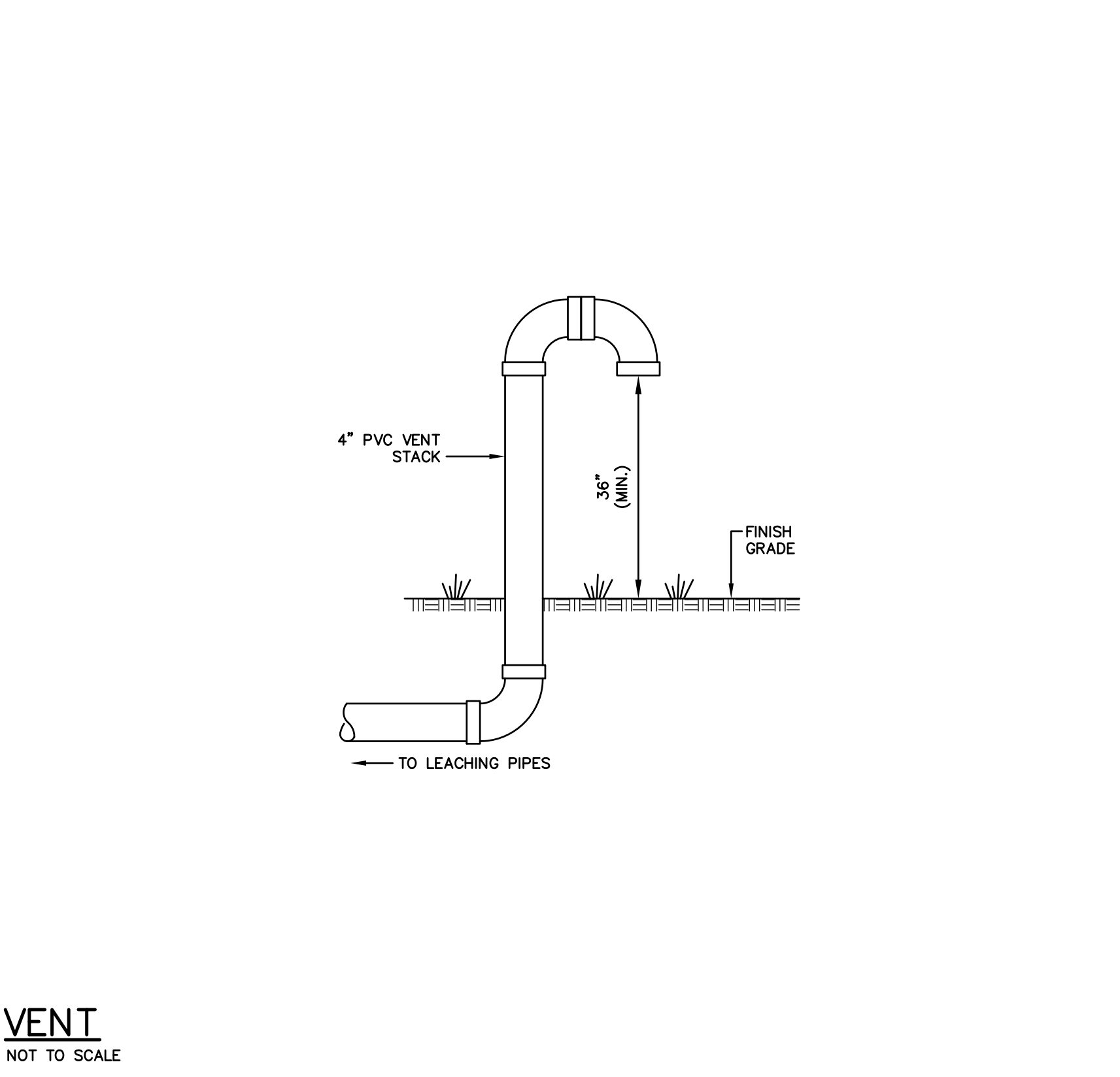
DISTRIBUTION BOX DETAIL (H-10)
NOT TO SCALE



LEACHING TRENCH DETAIL
NOT TO SCALE



SYSTEM PROFILE - SYSTEM B
NOT TO SCALE



VENT
NOT TO SCALE

TAYLOR M. LOWMY
CIVIL No. 45022
REGISTERED PROFESSIONAL ENGINEER

DATE

DHCD PROJECT # 166079

SEPTIC SYSTEM REPLACEMENT

2 LOADING PLACE ROAD
IN
MANCHESTER-BY-THE-SEA
MASSACHUSETTS
(ESSEX COUNTY)

CIVIL DETAILS

MAY 19, 2020

REVISIONS:

NO.	DATE	DESC.

OWNER / AWARDED AUTHORITY:
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MANCHESTER-BY-THE-SEA, MA 01944

FUNDING AUTHORITY:
MASSACHUSETTS DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
100 CAMBRIDGE STREET
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