

# NOTICE OF INTENT LYLE ESTATES

PREPARED FOR  
JAMESON PROPERTIES LLC  
627 MAIN STREET, SUITE 1  
WOBURN, MA, 01801

CIVIL/TRAFFIC ENGINEER:

**ASB**  
design group LLC  
Civil Engineering  
Traffic Engineering  
Architecture  
Landscape Design & Construction  
363 Boston Street, Route 1  
Topsfield, MA, 01983  
978-500-8419  
www.asbdesigngroup.com

SURVEYOR:

**DONOHUE SURVEY, INC.**  
LAND SURVEYING & MAPPING  
303 Boston Street, Route 1  
Topsfield, MA, 01983  
978-587-6161  
www.donohuesurvey.com

WETLANDS: NOTICE OF INTENT

WETLAND AND LAND MANAGEMENT INC.  
100 CONIFER HILL DRIVE - #516  
DANVERS, MA, 01923  
978-777-0004

CURRENT OWNERS:

JAMESON PROPERTIES LLC  
627 MAIN STREET, SUITE 1  
WOBURN, MA, 01801

## INDEX OF SHEETS

C1	SHEET 1 OF 7	EXISTING CONDITIONS PLAN
C2	SHEET 2 OF 7	TREE INVENTORY PLAN
C3	SHEET 3 OF 7	SITE GRADING & DRAINAGE PLAN
C4	SHEET 4 OF 7	WETLAND AND BUFFER ZONE MITIGATION PLAN
C5	SHEET 5 OF 7	SWPPP AND EROSION CONTROL DETAILS
C6	SHEET 6 OF 7	SITE DETAILS
C7	SHEET 7 OF 7	UTILITIES DETAILS

## TABLE E1 EXISTING WETLAND RESOURCE AREA IMPACTS:

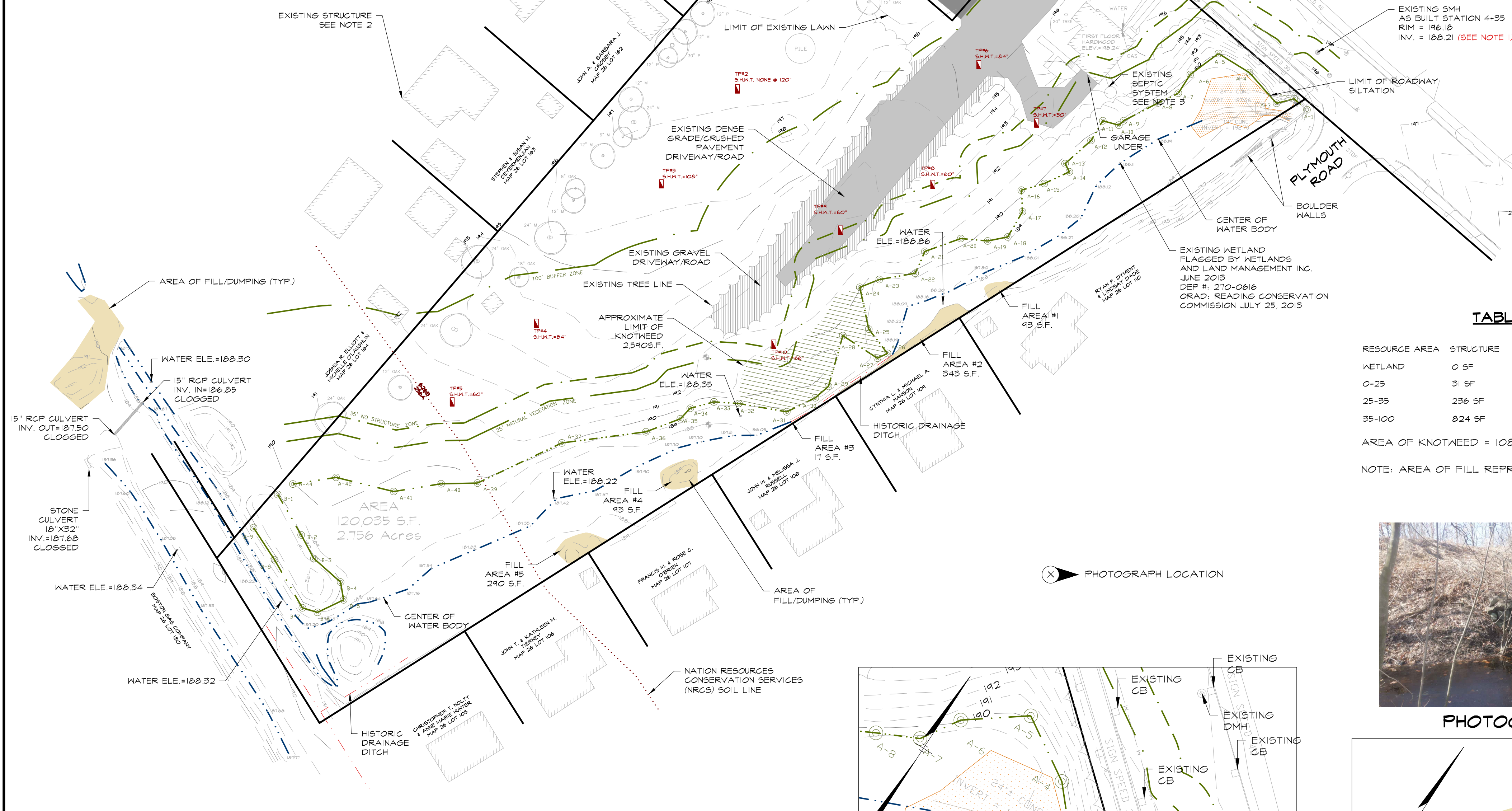
RESOURCE AREA	STRUCTURE	DENSE GRADE DRIVE/ROAD	LAWN	GRAVEL SURFACE	CONCRETE	PAVEMENT	FILL/DUMPING	ROADWAY SILTATION
WETLAND	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	2,314 SF	1,088 SF
0-25	31 SF	303 SF	822 SF	191 SF	0 SF	0 SF	0 SF	0 SF
25-35	236 SF	644 SF	170 SF	371 SF	0 SF	0 SF	0 SF	0 SF
35-100	824 SF	783 SF	3315 SF	3558 SF	184 SF	121 SF	0 SF	0 SF

AREA OF KNOTWEED = 1088 SF

NOTE: AREA OF FILL REPRESENTS ONLY THAT FILL WITHIN THE LIMIT OF 370 LOWELL STREET.

## PROJECT GENERAL NOTES

- EXISTING BOUNDARY LINE, TOPOGRAPHIC, AND SITE UTILITY INFORMATION IS BASED UPON SURVEY PERFORMED BY DONOHUE SURVEY.
- PRIOR TO WORK, CONTRACTOR SHALL HAVE THE PROPOSED SITE LAID OUT VERTICALLY AND HORIZONTALLY BY A PROFESSIONAL LAND SURVEYOR.
- CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND SHORING OF ALL EXCAVATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF ALL GOVERNING CODES AND REGULATIONS.
- CONTRACTOR SHALL COORDINATE WITH THE STATE POLICE AND/OR THE LOCAL POLICE DEPARTMENT FOR TRAFFIC RELATED ISSUES PRIOR TO COMMENCING WORK. CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC COORDINATION AND POLICE DETAILS AS REQUIRED BY THE CITY, TOWN OR STATE.
- CONTRACTOR SHALL SAW-CUT PAVEMENT WHERE PAVEMENT TO BE REMOVED ADJUTS PAVEMENT WHICH IS TO REMAIN AND WHERE NEW PAVEMENT ADJUTS EXISTING PAVEMENT.
- CONTRACTOR SHALL MAINTAIN ALL NEW AND EXISTING UTILITIES IN GOOD WORKING ORDER AND SHALL PROTECT THEM FROM DAMAGE AT ALL TIMES THROUGHOUT CONSTRUCTION UNTIL WORK IS COMPLETED AND ACCEPTED.



## NOTES:

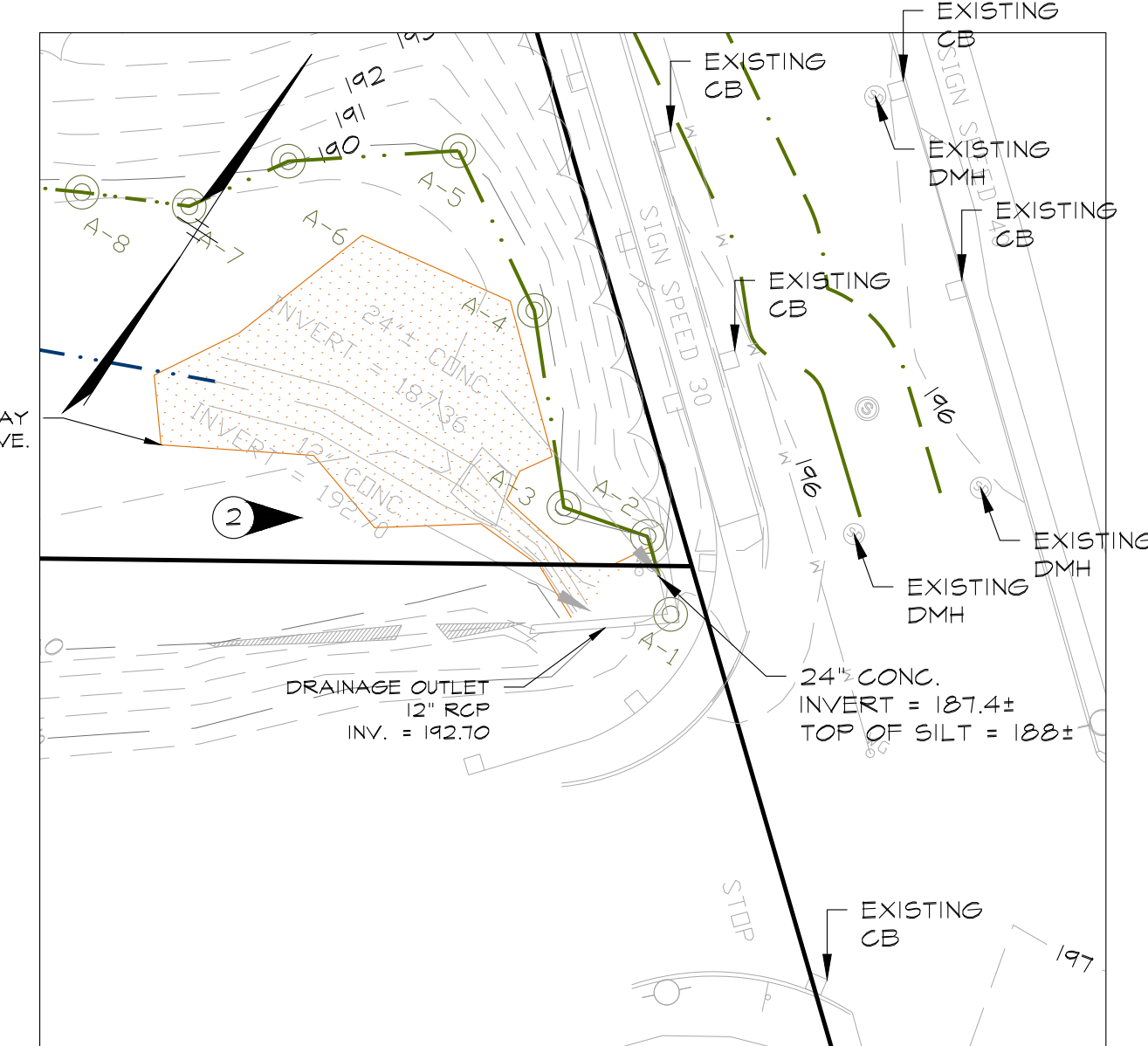
- SEWER INVERTS TAKEN FOR TOWN OF READING SEWER AS-BUILT PLAN - MAIN SEWER CONSTRUCTION LOWELL STREET (PLYMOUTH TO BARKWY) 000-L-425 SHEET 10 DATED 1927. CONTRACTOR SHALL CONFIRM INVERTS PRIOR TO CONSTRUCTION AND PURCHASE OF ANY SEWER STRUCTURES AND SEWER PIPE.
- ABUTTING STRUCTURES SHOWN AS TAKEN FROM TOWN OF READING GIS MAP.
- EXISTING SEPTIC SYSTEM TO BE ABANDONED IN ACCORDANCE ALL APPLICABLE STATE AND LOCAL BOARD OF HEALTH REGULATIONS.

## NRCS SOILS:

256A	DEERFIELD LOAMY SAND 0-5% SLOPES	H5G A
626B	MERRIMAC-URBAN LAND COMPLEX 0-8% SLOPES	H5G A



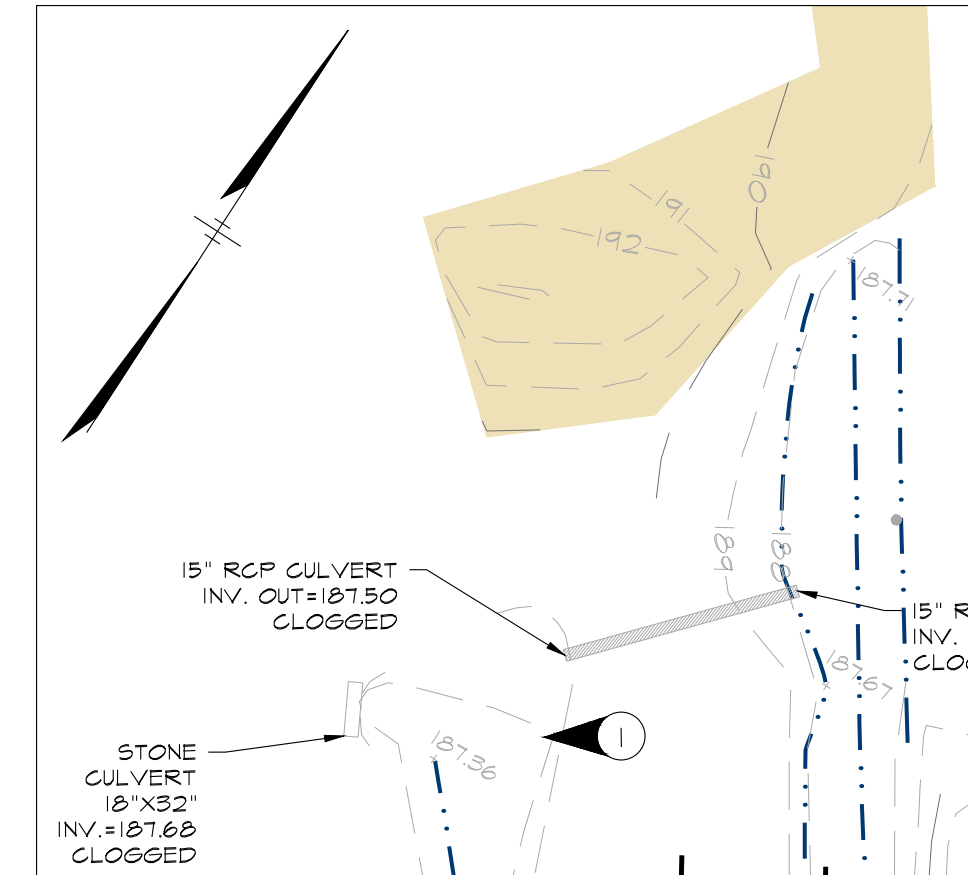
PHOTOGRAPH 2



ROADWAY SILTATION DETAIL



PHOTOGRAPH 1



CULVERT DETAIL

## DIG SAFE

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

BEFORE CONSTRUCTION CALL (72 HOURS IN ADVANCE):  
• "DIG SAFE" AT 1-800-DIG SAFE  
• 1-888-344-1233



SCALE BAR 0 40' 80' SCALE: 1"=40'

# ASB

design group, LLC

civil engineering  
traffic engineering  
architecture  
landscape design & construction

363 boston street, route 1  
topsfield, ma 01983

SURVEYOR

**DONOHUE SURVEY, INC.**  
LAND SURVEYING & MAPPING  
303 Boston Street, Route 1  
Topsfield, MA, 01983  
978-587-6161  
www.donohuesurvey.com

PROJECT: 2033

project title:

LYLE ESTATES

prepared for:

JAMESON PROPERTIES LLC  
627 MAIN STREET, SUITE 1  
WOBURN, MA 01801

revisions

no.	date	description
0	10.25.16	ISSUED FOR REVIEW
1	02.12.17	REVISIONS DRT MEETING

plan submission

NOTICE OF INTENT

date: 10.25.2016

scale: 1"=40'

job no: 2012-30

DEP no: TBD

Thad D Barry  
No. 41255  
CIVIL  
ENGINEER  
STATE OF MASSACHUSETTS

drawing name

EXISTING CONDITIONS

drawing number

FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

*Thad D Berry*

DATE: OCTOBER 18, 2016

project title:

**LYLE ESTATES**

prepared for:

JAMIESON PROPERTIES LLC  
627 MAIN STREET, SUITE 1  
WOBURN, MA 01801

revisions

no.	date	description
0	10.25.16	ISSUED FOR REVIEW
1	02.12.17	REVISIONS DRT MEETING

plan submission

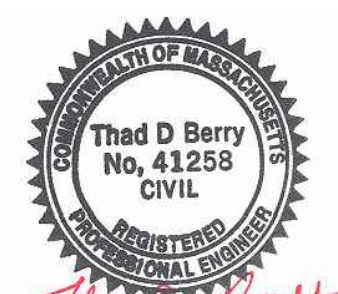
NOTICE OF INTENT

date: 10.25.2016

scale: 1"=30'

job no: 2012-30

DEP no: TBD

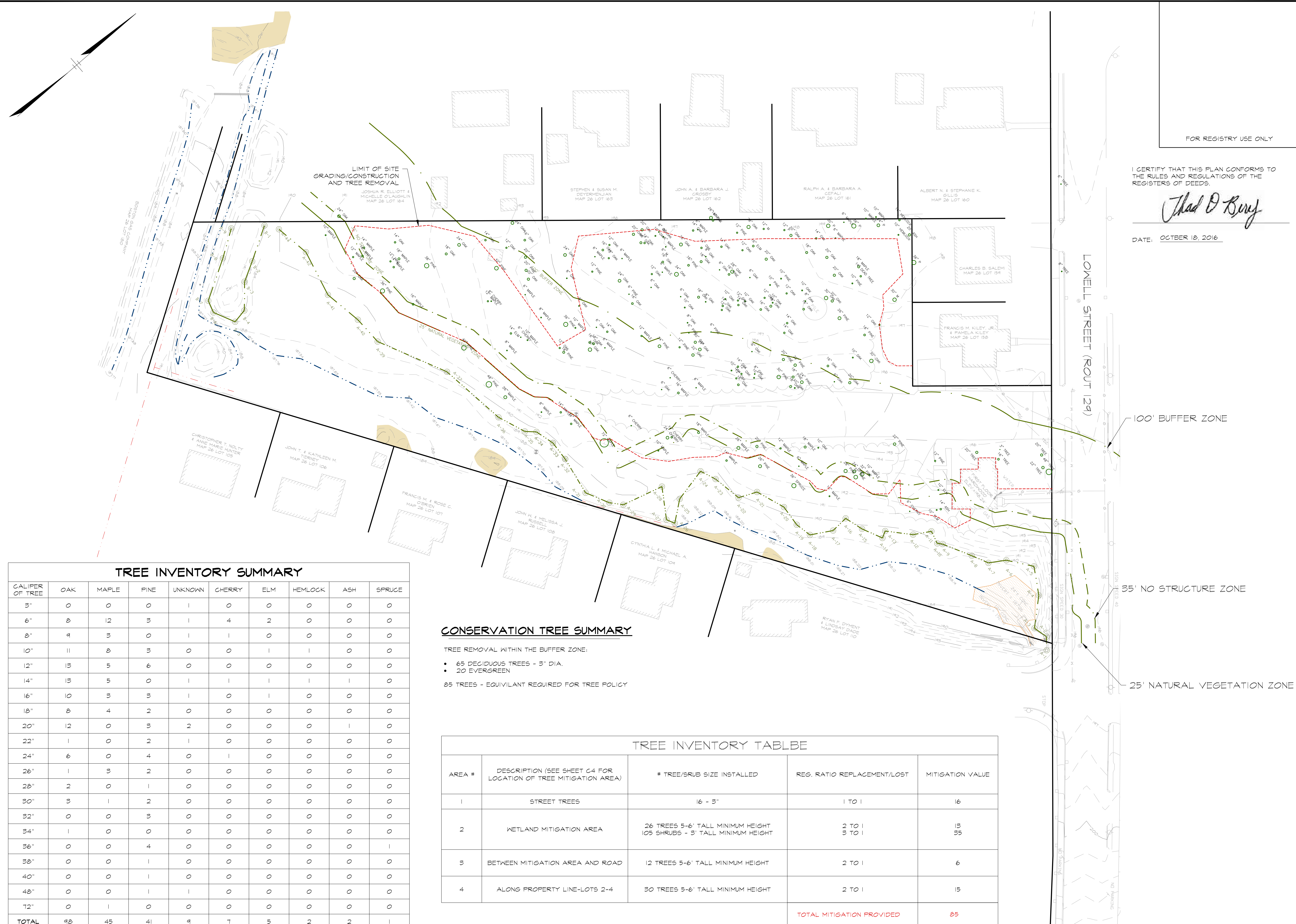


drawing name

**TREE INVENTORY PLAN**

drawing number

C2



**TREE INVENTORY SUMMARY**

CALIPER OF TREE	OAK	MAPLE	PINE	UNKNOWN	CHERRY	ELM	HEMLOCK	ASH	SPRUCE
3"	0	0	0	1	0	0	0	0	0
6"	8	12	3	1	4	2	0	0	0
8"	9	3	0	1	1	0	0	0	0
10"	11	8	3	0	0	1	1	0	0
12"	13	5	6	0	0	0	0	0	0
14"	13	5	0	1	1	1	1	1	0
16"	10	3	3	1	0	1	0	0	0
18"	8	4	2	0	0	0	0	0	0
20"	12	0	3	2	0	0	0	1	0
22"	1	0	2	1	0	0	0	0	0
24"	6	0	4	0	1	0	0	0	0
26"	1	3	2	0	0	0	0	0	0
28"	2	0	1	0	0	0	0	0	0
30"	3	1	2	0	0	0	0	0	0
32"	0	0	3	0	0	0	0	0	0
34"	1	0	0	0	0	0	0	0	0
36"	0	0	4	0	0	0	0	0	1
38"	0	0	1	0	0	0	0	0	0
40"	0	0	1	0	0	0	0	0	0
48"	0	0	1	1	0	0	0	0	0
72"	0	1	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>98</b>	<b>45</b>	<b>41</b>	<b>9</b>	<b>7</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>1</b>

**CONSERVATION TREE SUMMARY**

TREE REMOVAL WITHIN THE BUFFER ZONE:  
 • 65 DECIDUOUS TREES - 3" DIA.  
 • 20 EVERGREEN  
 85 TREES - EQUIVARIANT REQUIRED FOR TREE POLICY

**TREE INVENTORY TABLE**

AREA #	DESCRIPTION (SEE SHEET C4 FOR LOCATION OF TREE MITIGATION AREA)	# TREE/SRUB SIZE INSTALLED	REG. RATIO REPLACEMENT/LOST	MITIGATION VALUE
1	STREET TREES	16 - 3"	1 TO 1	16
2	WETLAND MITIGATION AREA	26 TREES 5-6' TALL MINIMUM HEIGHT 105 SHRUBS - 3' TALL MINIMUM HEIGHT	2 TO 1 3 TO 1	13 35
3	BETWEEN MITIGATION AREA AND ROAD	12 TREES 5-6' TALL MINIMUM HEIGHT	2 TO 1	6
4	ALONG PROPERTY LINE-LOTS 2-4	30 TREES 5-6' TALL MINIMUM HEIGHT	2 TO 1	15
<b>TOTAL MITIGATION PROVIDED</b>				<b>85</b>



**NOTES:**

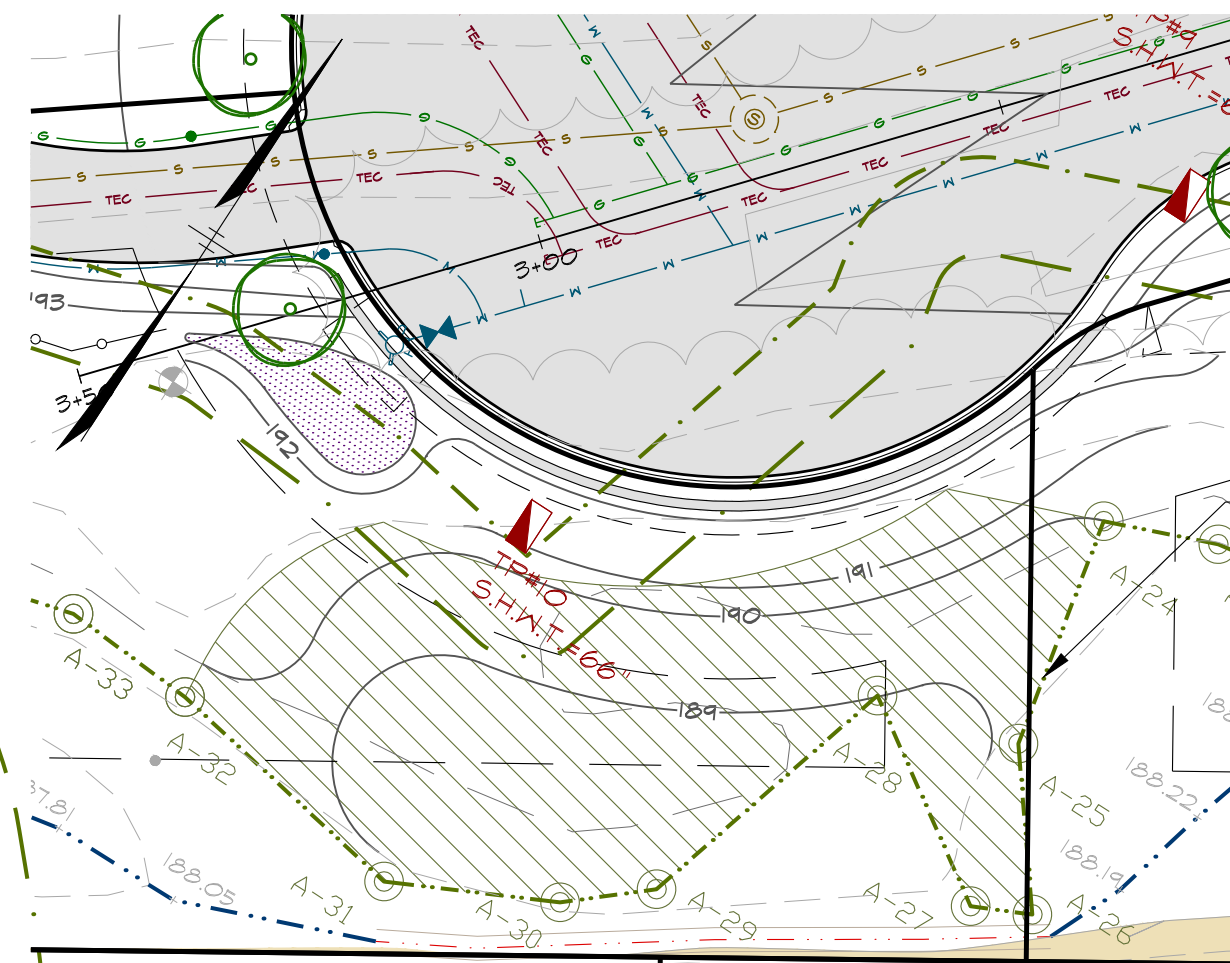
- SEWER INVERTS TAKEN FOR TOWN OF READING SEWER AS-BUILT PLAN - MAIN SEWER CONSTRUCTION LOWELL STREET (PLYMOUTH TO BARRONS) 000-L-425 SHEET 10 DATED 1921. CONTRACTOR SHALL CONFIRM INVERTS PRIOR TO CONSTRUCTION AND PURCHASE OF ANY SEWER STRUCTURES AND SEWER PIPE.
  - FOR DRAINAGE RIMS AND INVERTS SEE SHEETS C8 AND C14.
  - FOR LID 1-5 DETAILS SEE SHEET G15.
- NOTE:**  
PROPOSED HOUSES, DECKS, DRIVEWAYS AND GRADING SPECIFIC TO EACH LOT, ARE SHOWN CONCEPTUAL FOR PLANNING PURPOSES ONLY. FINAL DESIGN FOR EACH LOT WITHIN THE BUILDING ENVELOPE AS SHOWN WILL BE REQUIRED PRIOR TO CONSTRUCTION.

FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

*Thad D Barry*

DATE: \_\_\_\_\_



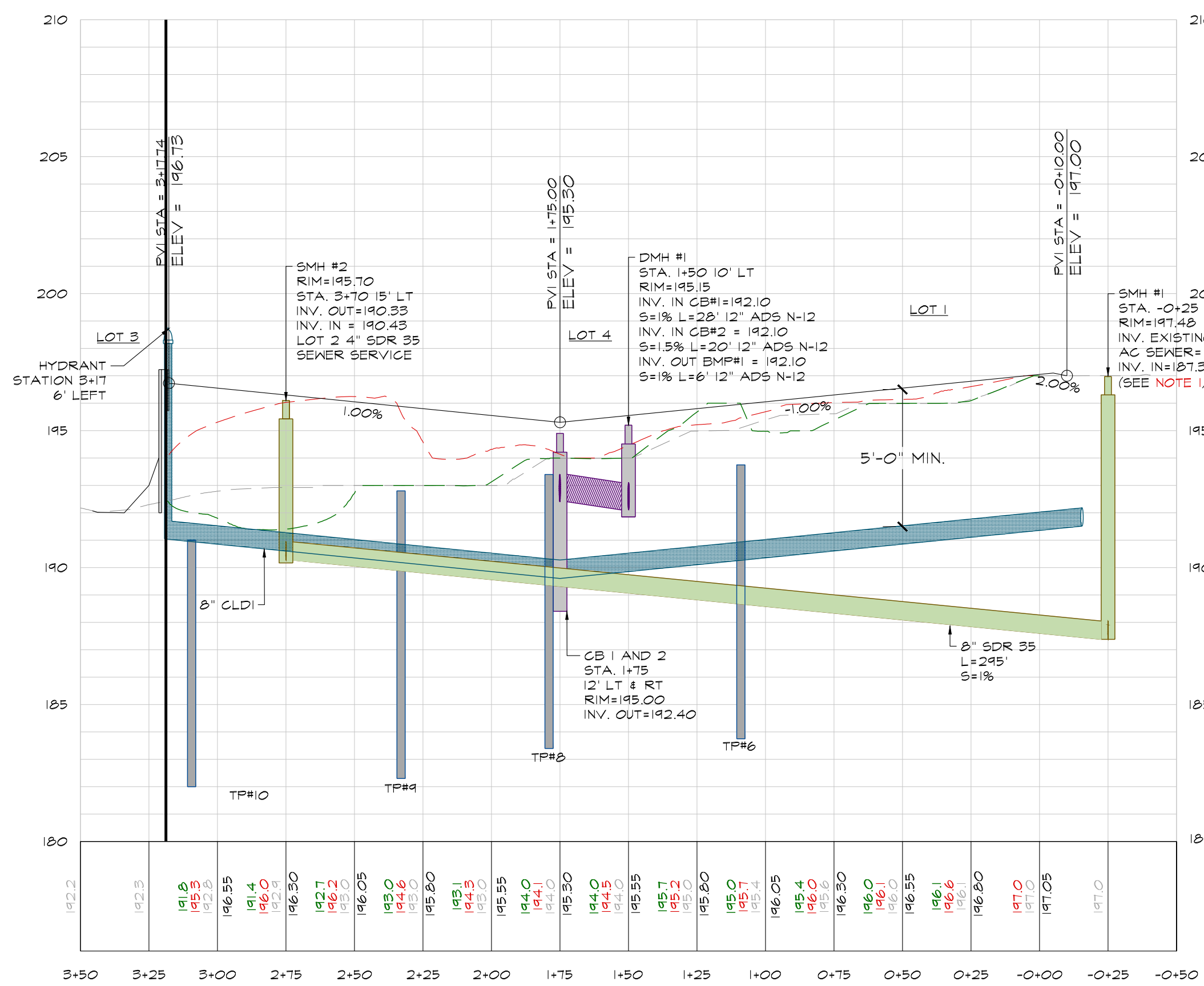
**WETLAND RESTORATION DETAIL (KNOTWEED REMOVAL = 2,590 S.F.)**

**NOTES:**

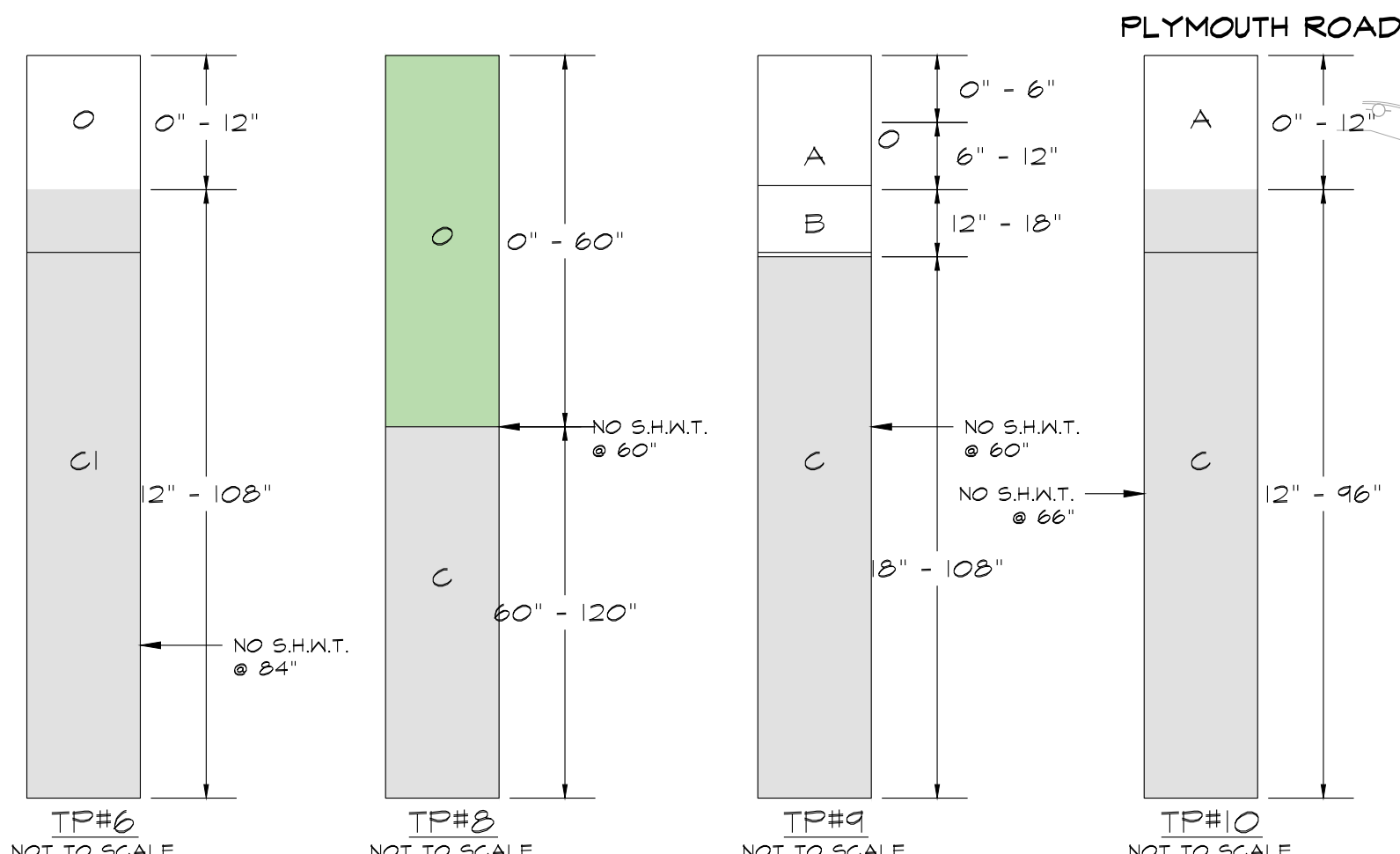
- REMOVE AND DISPOSE KNOTWEED (AREA = 2,590 S.F.).
- EXCAVATE AND REMOVE/DISPOSE FILL (AREA = 2,590 S.F.).
- ESTABLISH CENTER FLOW LINE (ELEV. = 188.0)
- RE-VEGETATE AS DESCRIBE ON NOTICE OF INTENT BY WETLAND AND LAND MANAGEMENT INC.

**PROFILE NOTES:**

- SEWER INVERTS TAKEN FOR TOWN OF READING SEWER AS-BUILT PLAN - MAIN SEWER CONSTRUCTION LOWELL STREET (PLYMOUTH TO BARRONS) 000-L-425 SHEET 10 DATED 1921. CONTRACTOR SHALL CONFIRM INVERTS PRIOR TO CONSTRUCTION AND PURCHASE ANY SEWER STRUCTURES AND SEWER PIPE.



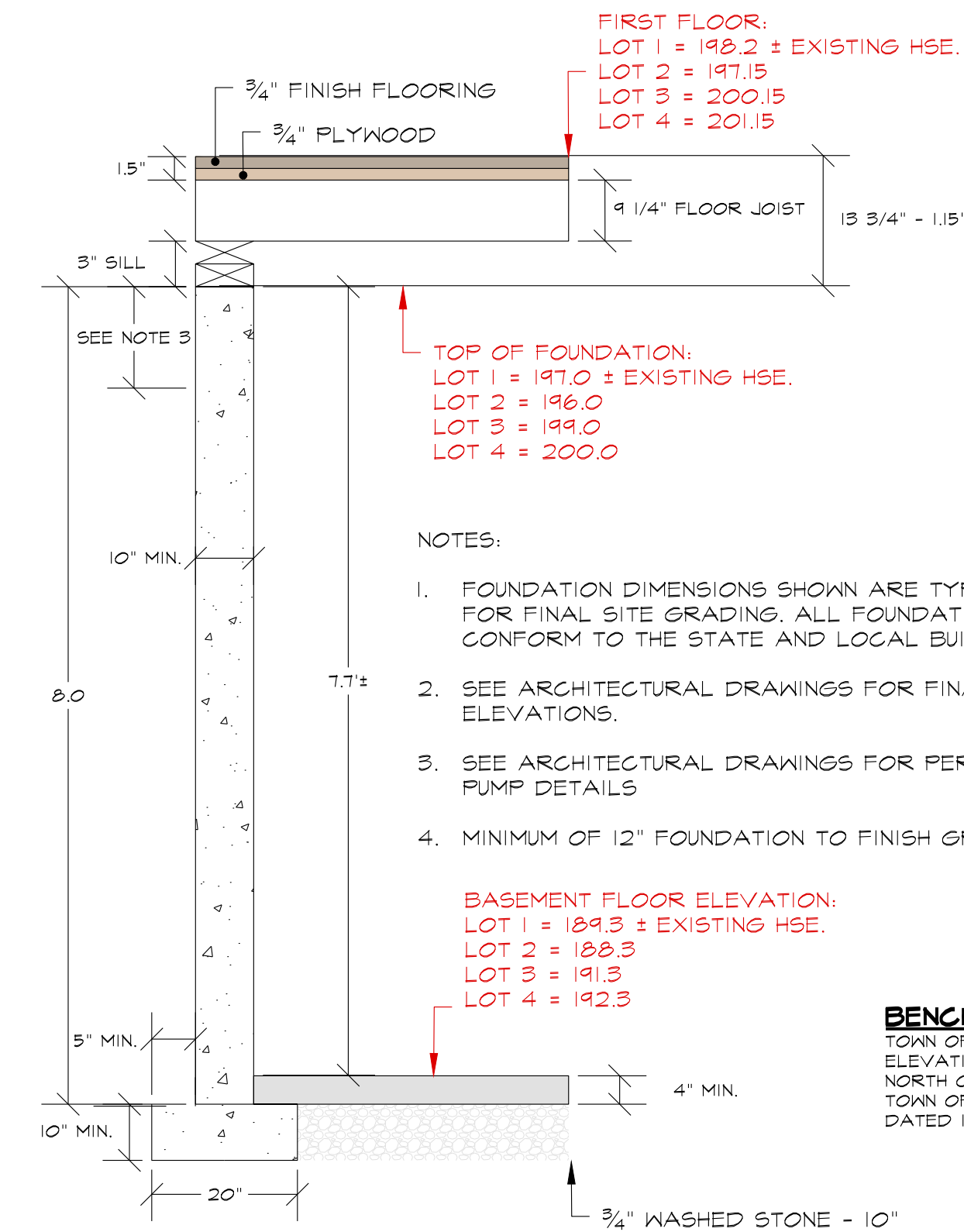
**PROFILE - LYLE ESTATES**  
SCALE: 1"=40' (VERT) & 1"=40' (HORIZ)



**AQUIFER PROTECTION DISTRICT RECHARGE CALCULATIONS**

Lot	Area	Upland Area	Impervious Surface	House & Addition	Recharge Area Required
LOT 1 EXISTING HOUSE	25,778 S.F.	16,999 S.F.	433 S.F.	1,705 S.F.	15(16,999) = 2,550 S.F.
LOT 2	46,080 S.F.	22,575 S.F.	272 S.F.	3,904 S.F.	15(24,505) = 3,681 S.F.
LOT 3	25,778 S.F.	15,233 S.F.	433 S.F.	2,677 S.F.	15(15,233) = 2,285 S.F.
LOT 4	25,778 S.F.	15,000 S.F.	671 S.F.	2,743 S.F.	15(15,000) = 2,250 S.F.

**NOTE:**  
ALL STORM WATER RUNOFF GENERATED FROM THE SITE UNDER PROPOSED CONDITIONS IS BEING INFILTRATED FOR THE 100 YEAR 24 HOUR RAIN FALL EVENT (7.1").



**TYPICAL FOUNDATION DETAIL**

NOT TO SCALE

project title:

**LYLE ESTATES**

prepared for:

JAMIESON PROPERTIES LLC  
627 MAIN STREET, SUITE 1  
WOBURN, MA 01801

revisions

no.	date	description
0	10.25.16	ISSUED FOR REVIEW
1	02.12.17	REVISIONS DRT MEETING

plan submission

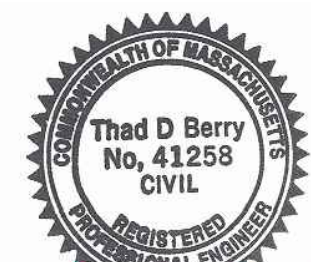
NOTICE OF INTENT

date: 10.25.2016

scale: AS NOTED

job no: 2012-30

DEP no: TBD



drawing name

**SITE GRADING & DRAINAGE PLAN**

drawing number

C3



project title:

**LYLE ESTATES**

prepared for:

JAMIESON PROPERTIES LLC  
627 MAIN STREET, SUITE 1  
WOBURN, MA 01801

revisions

no.	date	description
0	10.25.16	ISSUED FOR REVIEW
1	02.12.17	REVISIONS DRT MEETING

plan submission

NOTICE OF INTENT

date: 10.25.2016

scale: 1"=40'

job no: 2012-30

DEP no: TBD



drawing name

SWPP PLAN

drawing number

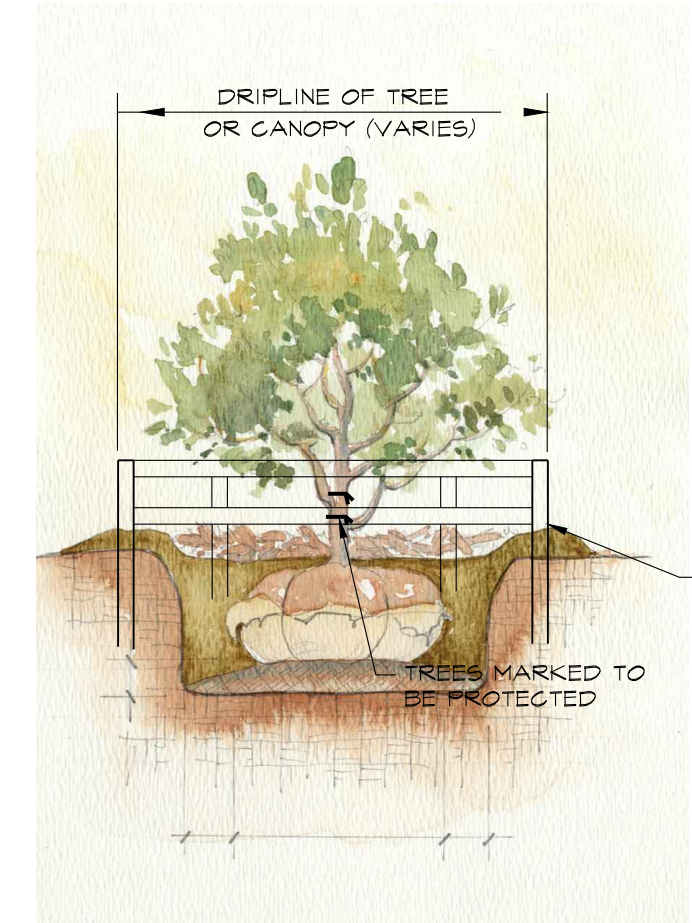
C5

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

*Thad D Barry*

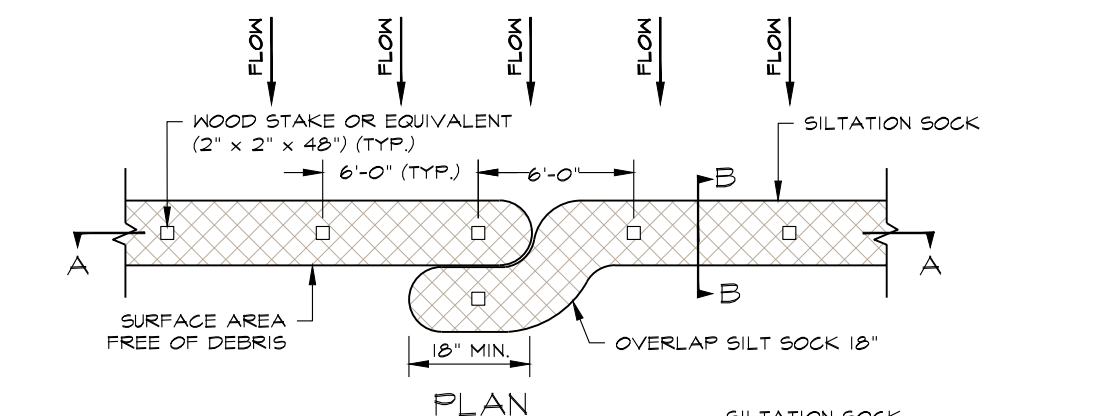
DATE: \_\_\_\_\_

FOR REGISTRY USE ONLY

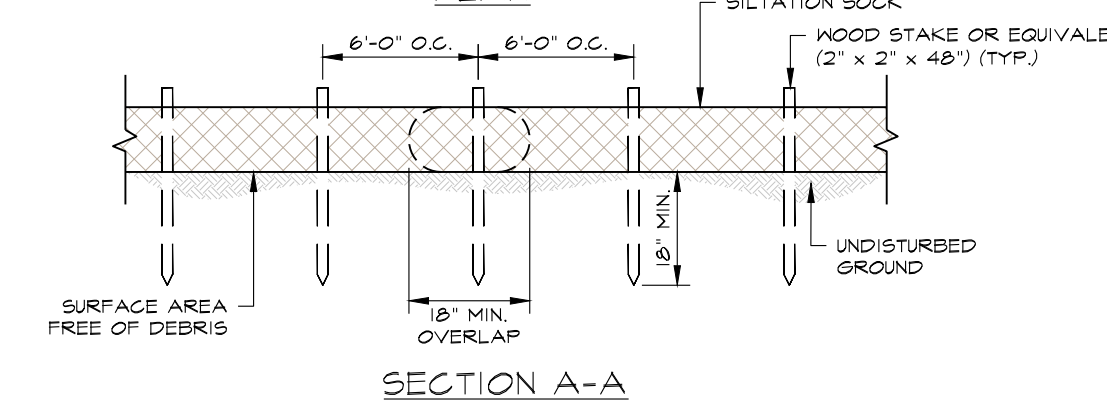


**TYPICAL TREE PROTECTION FENCE**

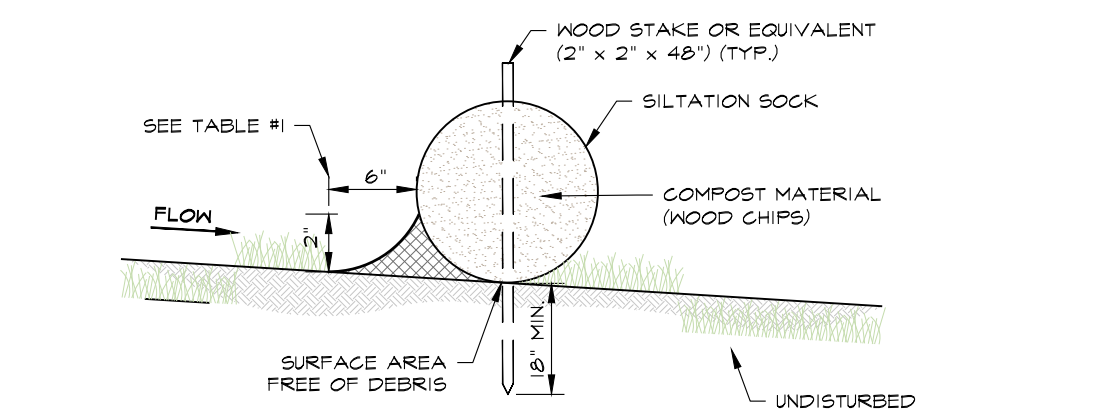
NOTE:  
DO NOT STORE ANY MACHINERY OR MATERIALS WITHIN THE AREA OF THE TREE PROTECTION FENCING



PLAN



SECTION A-A



SECTION B-B

- INSTALLATION NOTES:
- INSTALL SILT SOCK ON A SURFACE CLEAR OF DEBRIS.
  - OVERLAP ENDS BY A MINIMUM OF 18-INCHES.
  - END OF SILT SOCK TO BE DIRECTED UP SLOPE.
  - PLACE STAKES THROUGH SILT SOCK OR ON DOWNSTREAM SIDE.
  - ON SLOPES GREATER THAN 2:1 (2:1) SEED COMPOST SOCK IS RECOMMENDED.

TABLE #1			
SLOPE	SOCK DIAMETER (MIN.)	STAKING	2" COMPOST BARRIER (WOOD CHIPS)
< 50:1	8"	6' O.C.	---
50:1 TO 10:1	8"	6' O.C.	---
10:1 TO 5:1	12"	6' O.C.	---
5:1 TO 2:1	12"	4' O.C.	---
> 2:1	18"	4' O.C.	RECOMMENDED

USE 4" SOCK

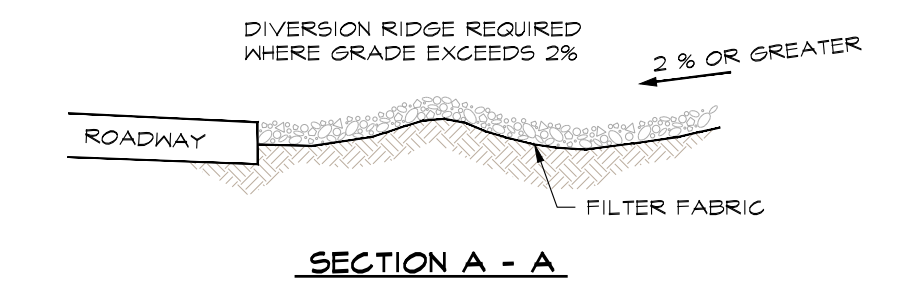
**SILTATION SOCK DETAIL**

NOT TO SCALE

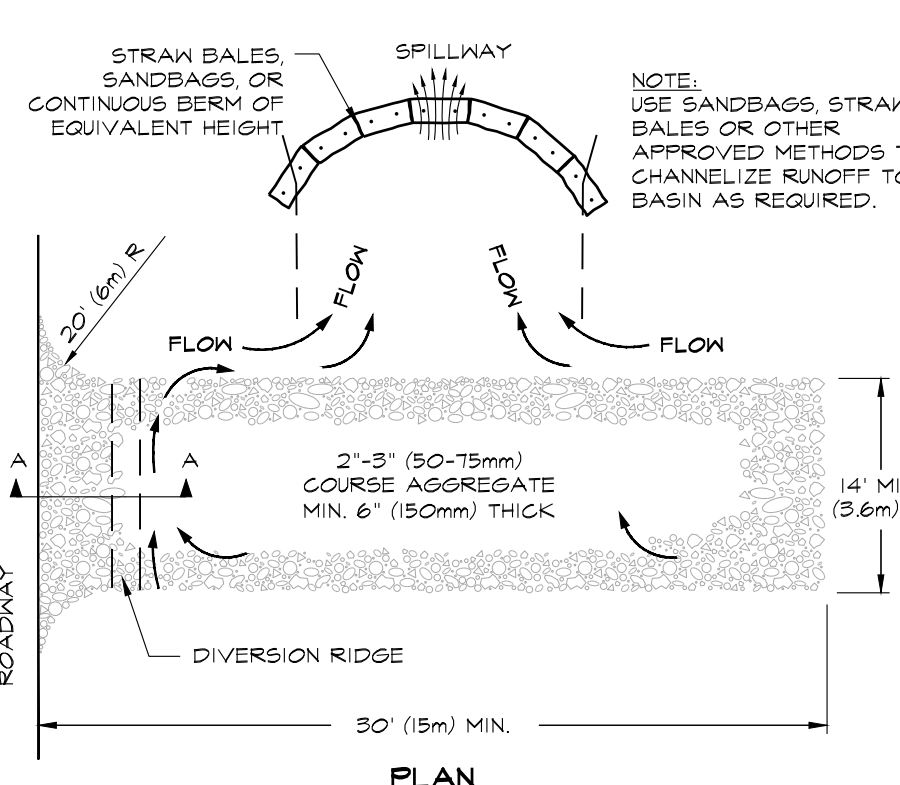
- NOTE:
- EROSION CONTROL BARRIER TO BE STAKED IN THE FIELD BY SURVEYOR PRIOR TO CONSTRUCTION.
  - MATERIAL STOCKPILE AREA WILL BE SURROUNDED BY AN EROSION CONTROL BARRIER (HAY BALES, SILTATION FENCE, AND/OR SILTATION SOCK). LOT 4 WILL ACT AS MATERIAL STOCKPILE AREA DURING CONSTRUCTION. MATERIAL STOCKPILE AREA SHALL BE PLACED WITHIN AREA TO BE CLEAR FOR LOT 4 HOUSE CONSTRUCTION AND OUTSIDE THE 100' BUFFER ZONE.
  - ALL LOAM IS TO REMAIN ON SITE UNTIL ALL AREAS ARE LOAMED AND SEEDED. EXCESS LOAM SHALL BE REMOVED FROM THE SITE AT THE COMPLETION FOR ROADWAY AND LOT CONSTRUCTION.
  - FOR INDIVIDUAL LOT CONSTRUCTION CONTRACTOR SHALL PLACE ALL MATERIALS WITHIN THE ZONE OF CONSTRUCTIONS SURROUNDED BY EROSION CONTROL BARRIER (HAY BALES, SILTATION FENCE, AND/OR SILTATION SOCK). CONTRACTOR IS RESPONSIBLE FOR MOVEMENT OF ALL MATERIALS ON THE LOTS IN ORDER TO COMPLETE CONSTRUCTION IN CONFORMANCE WITH THE PLANS, DETAILS, SPECIFICATIONS AND READING CONSERVATION COMMISSION ORDER OF CONDITIONS.
  - CONSTRUCTION ENTRANCE WILL BE INSTALLED FOR VEHICLE ACCESS TO CONSTRUCTION STAGING AREA.
  - CONCRETE WASHOUT AREA WILL BE A MINIMUM OF 6'x6' AND BE SURROUNDED BY A SINGLE ROW OF STACKED HAY BALES. ALL HARDENED CONCRETE WILL BE REMOVED AND DISPOSED OF OFF SITE IN ACCORDANCE WITH THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION'S (MADEP) RULES AND REGULATIONS.
  - ALL CATCH BASINS WILL BE PROTECTED BY A "SILT BAG INLET PROTECTION".
  - BMPs WILL ACT AS TEMPORARY SEDIMENTATION POND DURING CONSTRUCTION. THEREFORE THE INITIAL BASIN EXCAVATION SHOULD BE TAKEN TO NO MORE THAN 1 FT OF THE FINISH BASIN FLOOR ELEVATION EXCEPT TO ACCOMMODATE THE BASIN OUTLET. ACCUMULATED SEDIMENTS SHALL BE REMOVED DURING FINAL BMP CONSTRUCTION AND STABILIZATION. REMOVE SEDIMENTS WHEN DEPTH REACHES 12".
  - DURING BUILDING CONSTRUCTION A VEHICLE WASH AREA WILL BE LOCATED WITHIN THE GENERAL BUILDING AREA CONSTRUCTION LIMITS.



SCALE BAR SCALE: 1"=40'



SECTION A - A

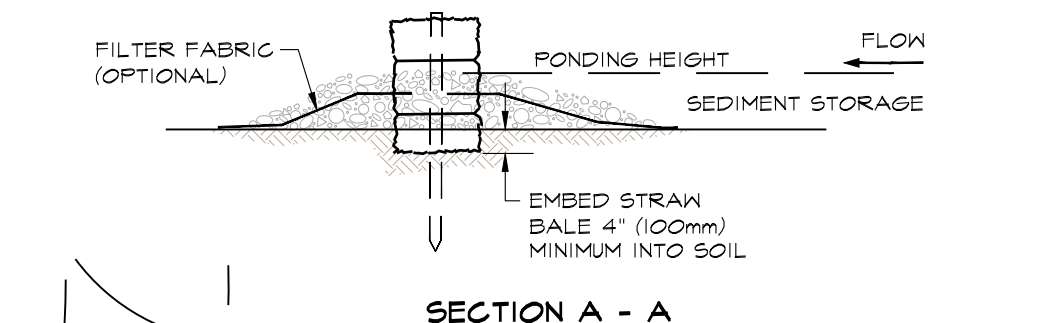


PLAN

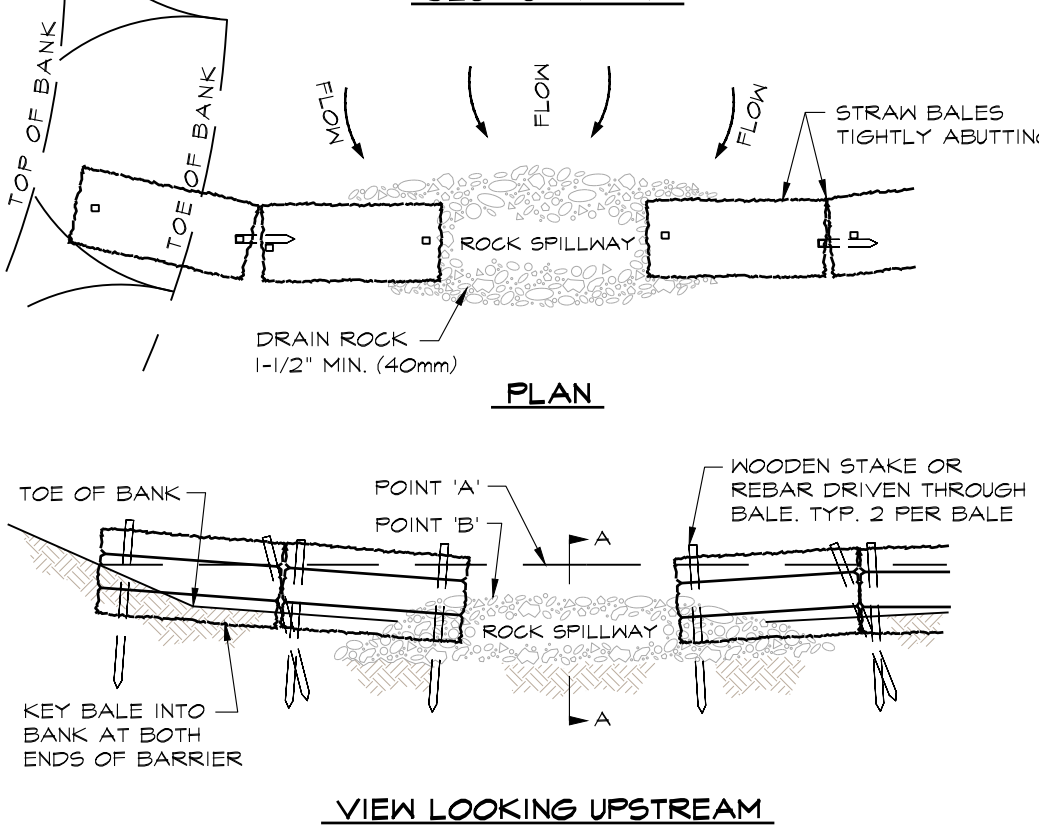
- NOTES:
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
  - WHEN NECESSARY WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
  - ADJACENT STREETS SHALL BE SWEPT.

**TEMPORARY CONSTRUCTION ENTRANCE**

NOT TO SCALE



SECTION A - A

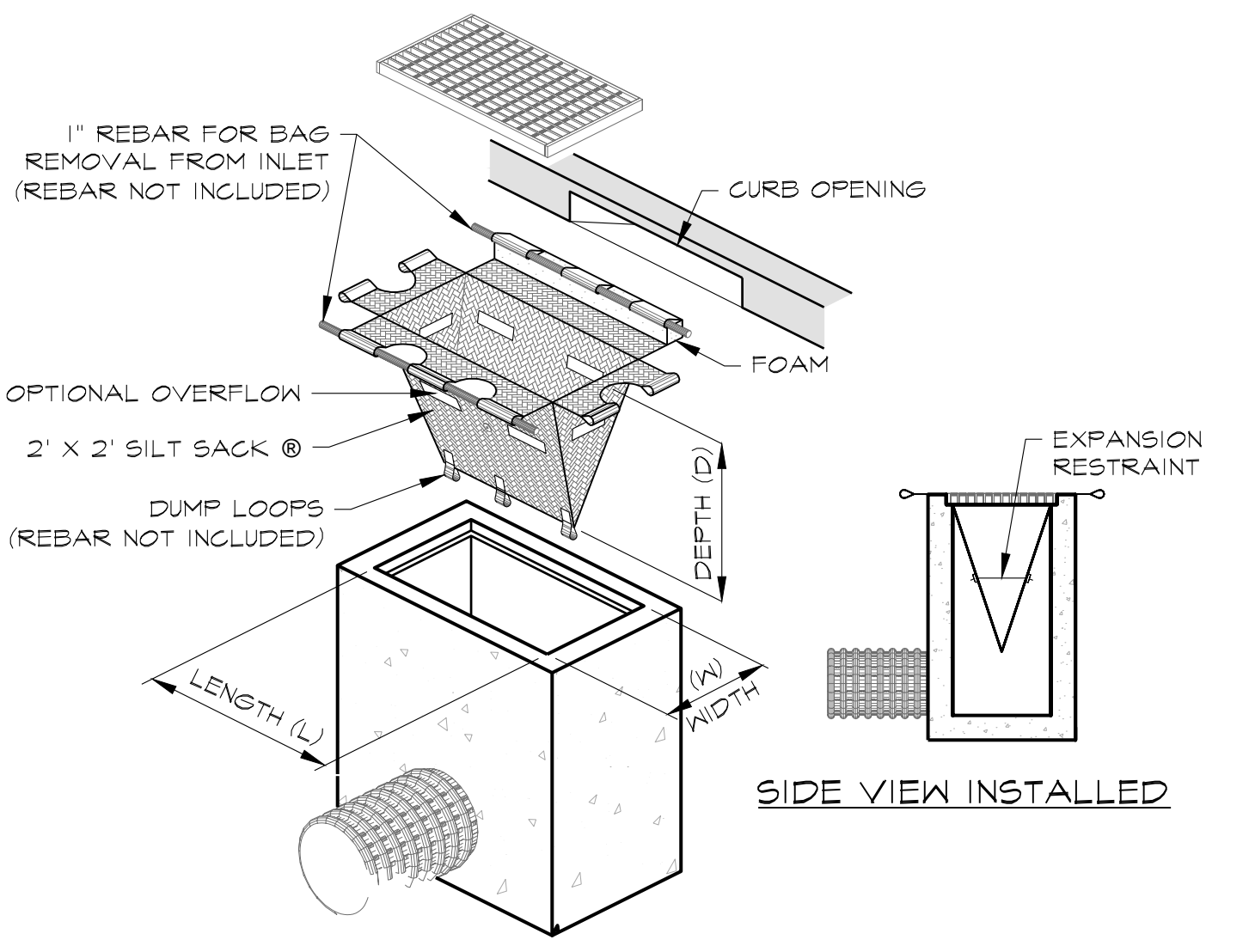


VIEW LOOKING UPSTREAM

- NOTES:
- PLACE BALES PERPENDICULAR TO FLOW.
  - EMBED THE BALE 4" (100mm) INTO THE SOIL AND "KEY" THE END BALES INTO THE CHANNEL BANKS TO PREVENT FLOW AROUND THE BALES.
  - BALES PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING.
  - POINT "A" SHALL BE HIGHER THAN POINT "B".
  - SPILLWAY HEIGHT SHALL NOT EXCEED 24" (0.6m).

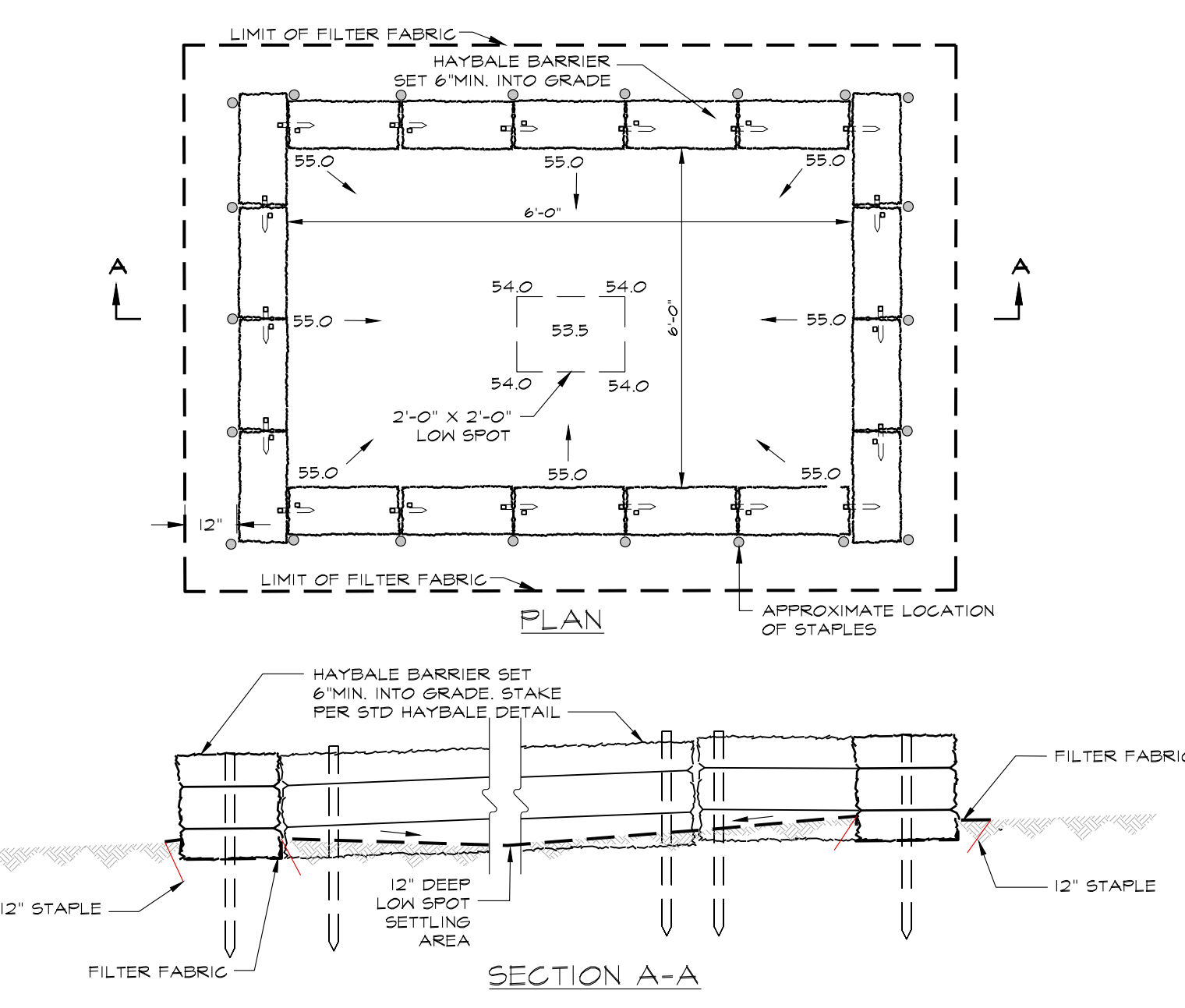
**SEMI-PERVIOUS STRAW BALE SEDIMENT BARRIER**

NOT TO SCALE



**SILT BAG INLET PROTECTION**

NOT TO SCALE



**CONCRETE WASH OUT BASIN**

NOT TO SCALE

ALL CONCRETE WASTE TO BE REMOVED AND DISPOSED OF OFF SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL RULES AND REGULATIONS

FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

*Thad D Barry*

DATE: \_\_\_\_\_

project title:

**LYLE ESTATES**

prepared for:

JAMIESON PROPERTIES LLC  
627 MAIN STREET, SUITE 1  
WOBURN, MA 01801

revisions

no.	date	description
0	10.25.16	ISSUED FOR REVIEW
1	02.12.17	REVISIONS DRT MEETING

plan submission

NOTICE OF INTENT

date: 10.25.2016

scale: NOT TO SCALE

job no: 2012-30

DEP no: TBD

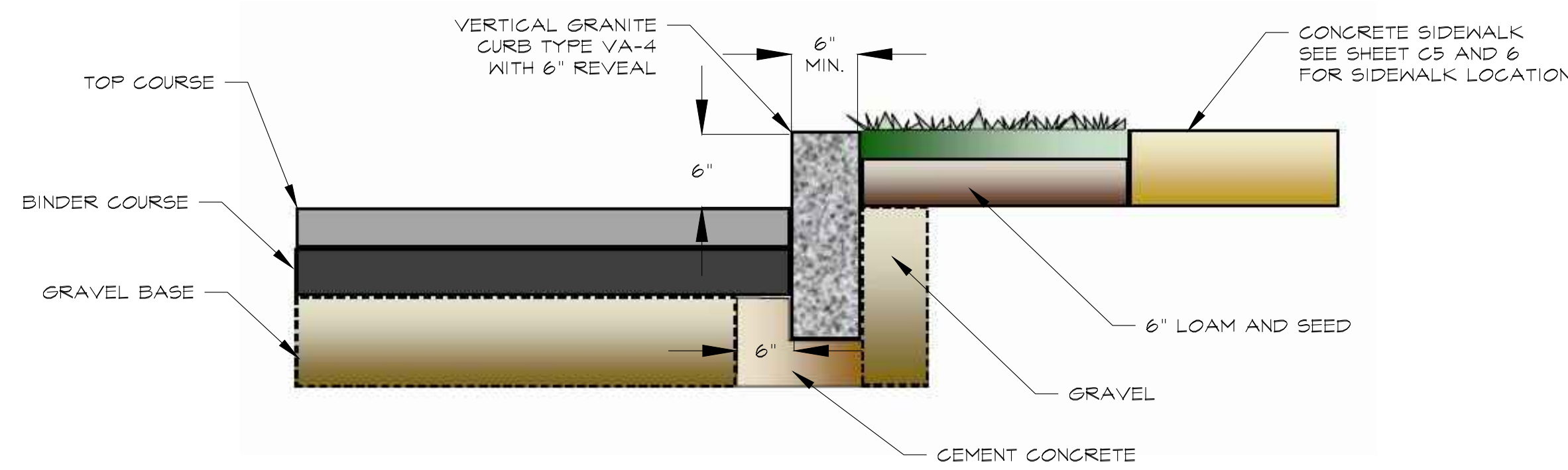


drawing name

**SITE DETAILS**

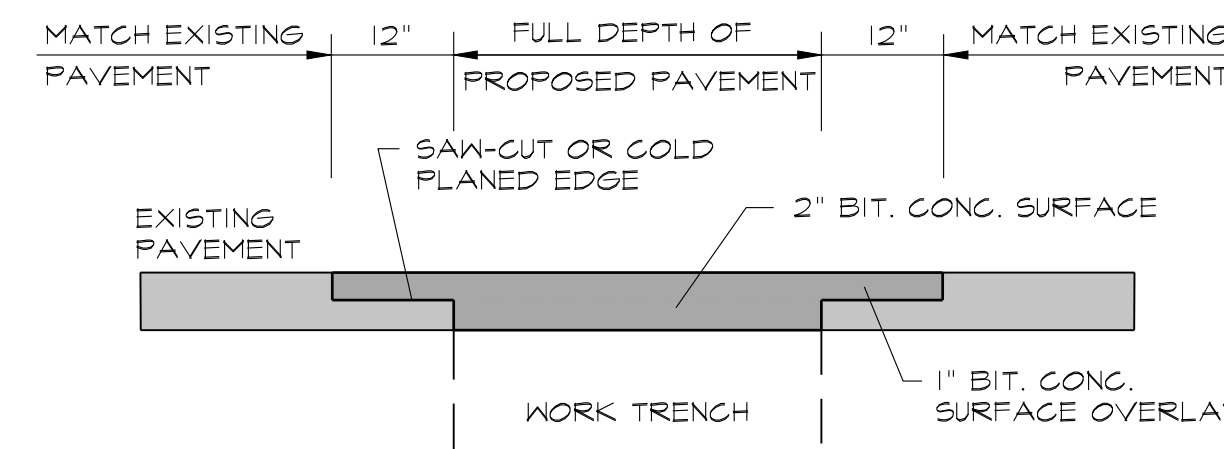
drawing number

*CB*



**VERTICAL GRANITE CURB**

NOT TO SCALE

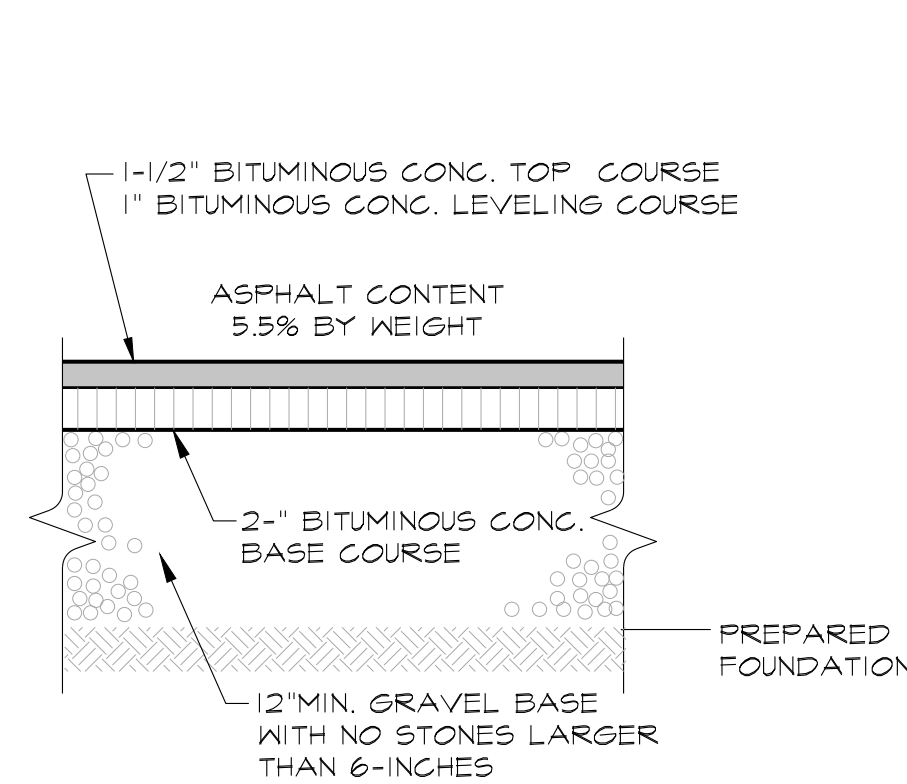


**PAVEMENT SAW-CUT**

NOT TO SCALE

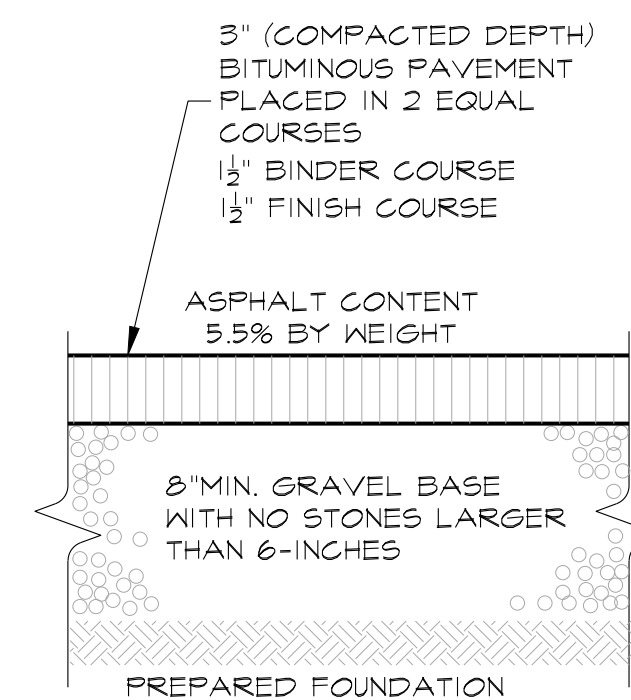
**NOTES:**

1. CLEAN AREA OF ANY LOOSE DEBRIS. AREA SHOULD BE FREE OF DUST OR DIRT, AND THOROUGHLY DRIED.
2. A TACK COAT OF EMULSIFIED ASPHALT SHALL BE APPLIED TO THE SAW CUT AREA PRIOR TO PAVING.



**TYPICAL PAVEMENT SECTION**

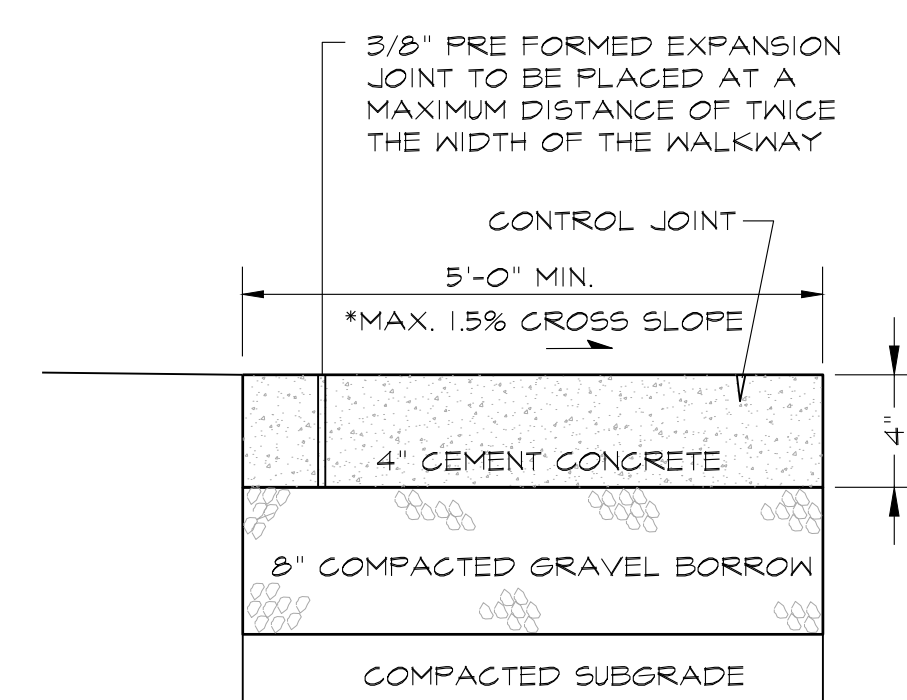
NOT TO SCALE



**SIDEWALK & DRIVE APRON PAVEMENT SECTION**

NOT TO SCALE

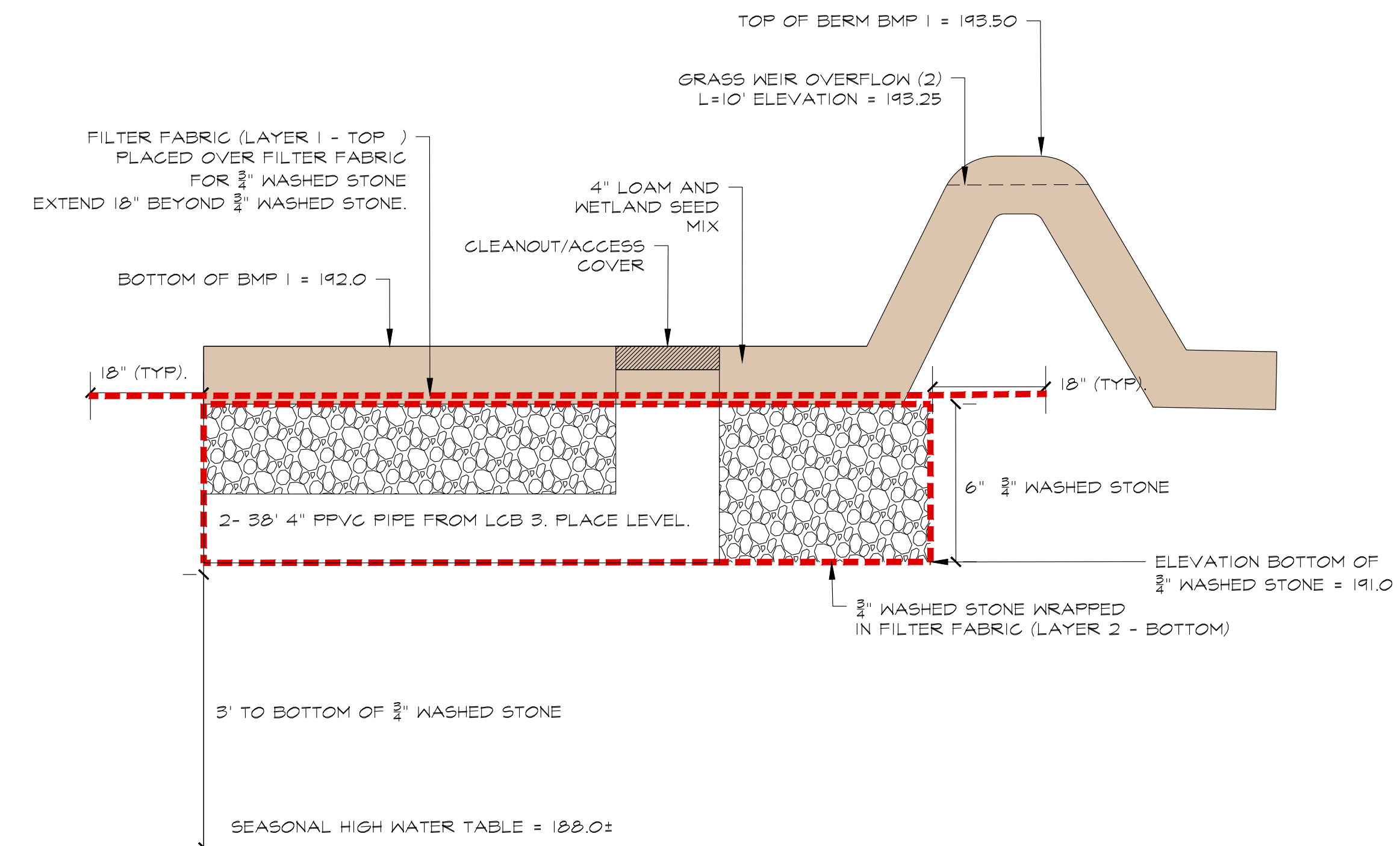
NOTE: ALL DRIVEWAY APRONS TO CONSTRUCTED UP TO AND WITHIN THE (PROPOSED) ROW



**CONCRETE SIDEWALK DETAIL**

NOT TO SCALE

\* CONCRETE TO BE 5" @ THE ATTACHED RAMPS



**BMP # DETAIL**

**INFILTRATION CALCULATIONS:**

TEXTURE CLASS	NRCS HYDROLOGIC SOIL GROUP (HSG)	INFILTRATION RATE (INCHES/HOUR)
SAND	A	0.27
LOAMY SAND	A	2.41
SANDY LOAM	B	1.02
LOAM	B	0.52
SILT LOAM	C	0.27
SANDY CLAY LOAM	C	0.17
CLAY LOAM	D	0.09
SILTY CLAY LOAM	D	0.06
SANDY CLAY	D	0.05
SILTY CLAY	D	0.04
CLAY	D	0.02

**TOTAL INFILTRATION AREA:**

2X5'X18' + 18'X9' = INFILTRATION AREA  
180 S.F.' + 162 S.F.' = INFILTRATION AREA  
342 S.F.' = INFILTRATION AREA

**TOTAL ROOF AREA:**

LARGEST ROOF AREA LOT 2 = 2012 S.F.  
ROOF AREA LOT 3 = 1800 S.F.  
ROOF AREA LOT 4 = 1756 S.F.

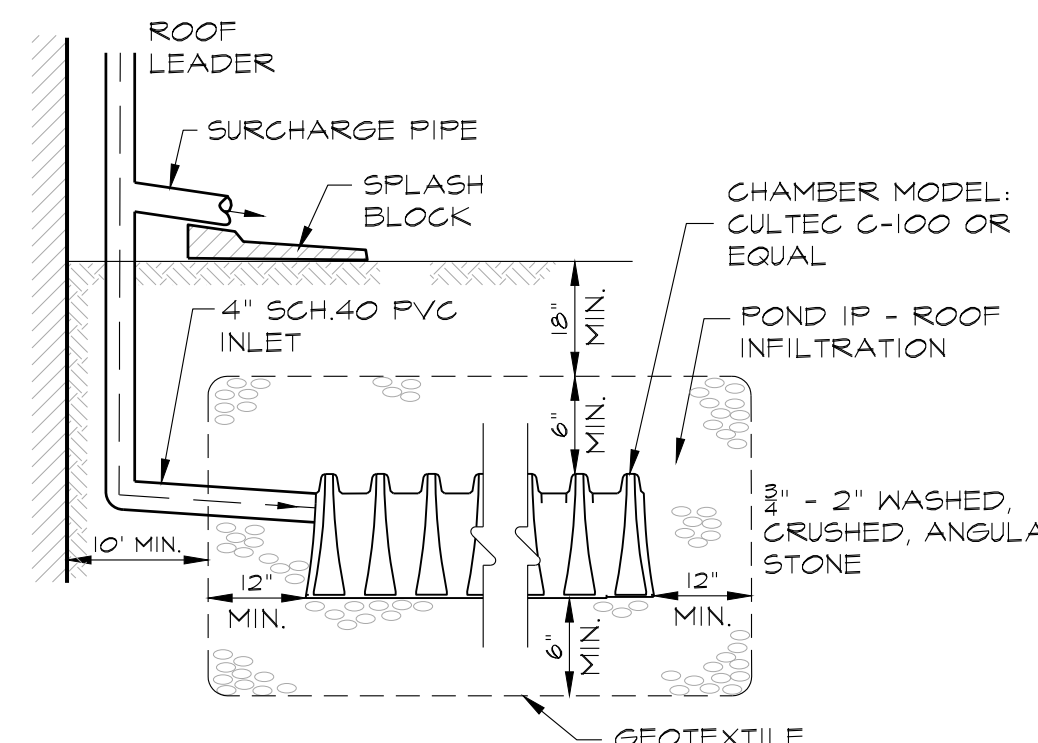
**INFILTRATION FOR ROOF ("STATIC" METHOD)**

- INFILTRATION RATE: 0.27 IN/HR
- $Q = (K) \times (\text{BOTTOM AREA OF ALL INFILTRATION SYSTEMS})$
- $Q = (0.27 \text{ IN/HR}) \times (342 \text{ S.F. SYSTEM}) \times \left(\frac{1 \text{ IN} \times \text{HR}}{12 \text{ IN} \times 3600 \text{ SEC}}\right)$
- $Q = 0.065 \text{ cfs SAY } 0.06 \text{ cfs}$

IF DOWN SPOUTS ARE NOT USED THE CONTRACTOR SHALL INSTALL A STONE DRIP EDGE (12" WIDE MINIMUM) AT ALL ROOF DRIP EDGES THAT DISCHARGES STORMWATER ROOF RUNOFF.

**INFILTRATION:**

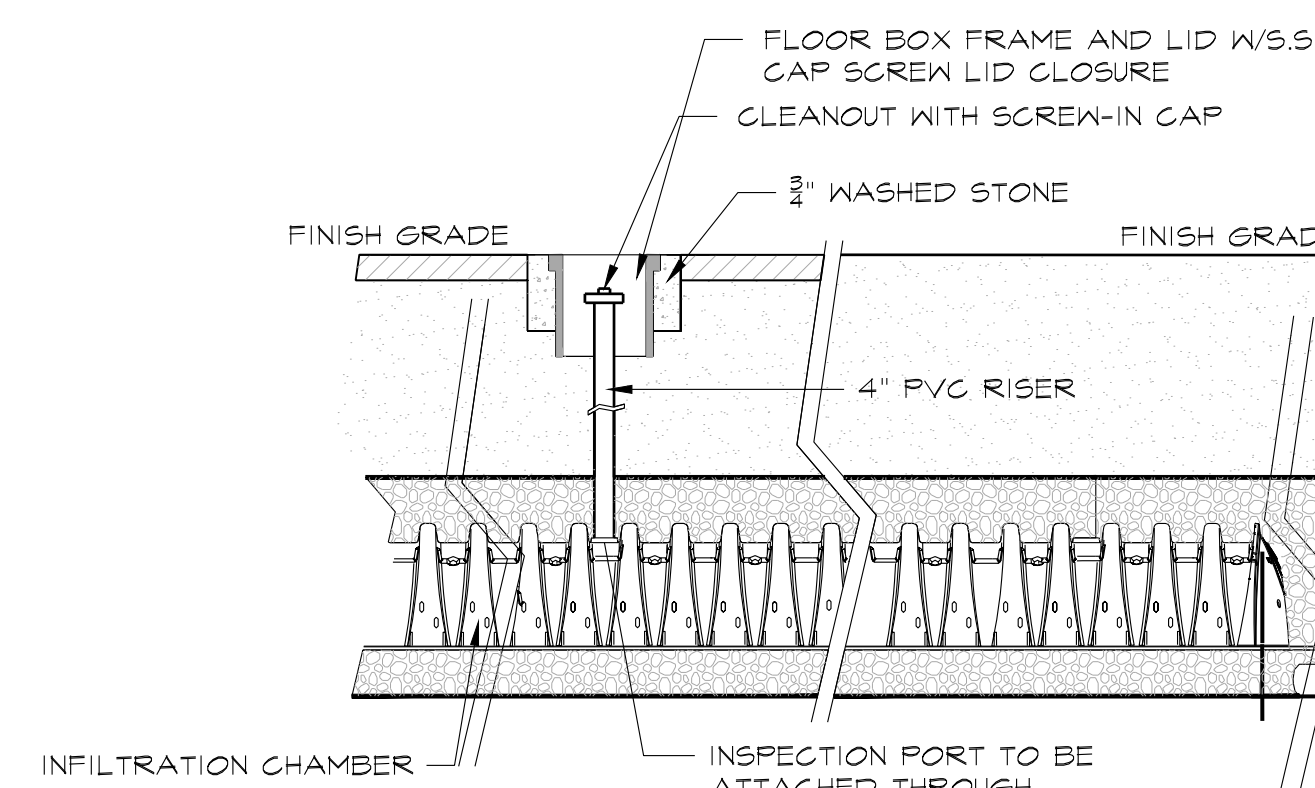
INFILTRATION SYSTEM INFILTRATES 100 YEAR STORM EVENT (1.1" OF RAIN IN 24 HOURS). SEE PROJECT DATA REPORT - POST HYDROLOGY ROOF RUNOFF.



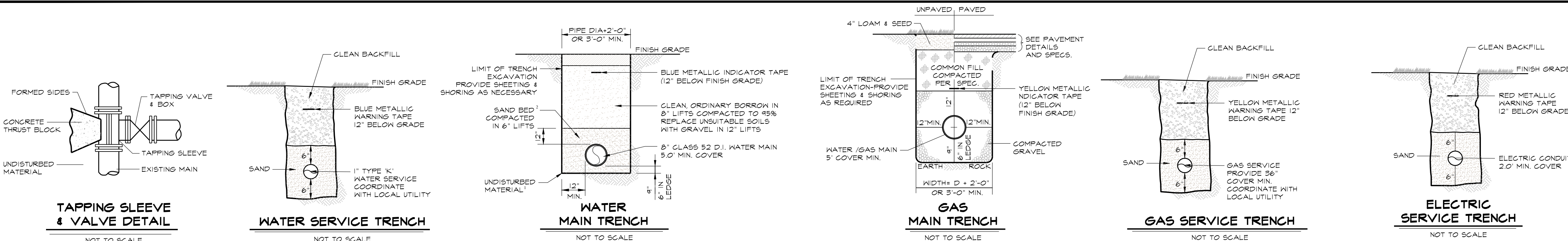
NOTE: PLACE SCREEN AT INLET OF ROOF LEADER TO PREVENT LEAVES AND OTHER DEBRIS FROM DISCHARGING INTO THE ROOF LEADER.

**ROOF DRAIN INFILTRATION SYSTEM & OVERFLOW**

NOT TO SCALE



**INSPECTION PORT DETAIL**



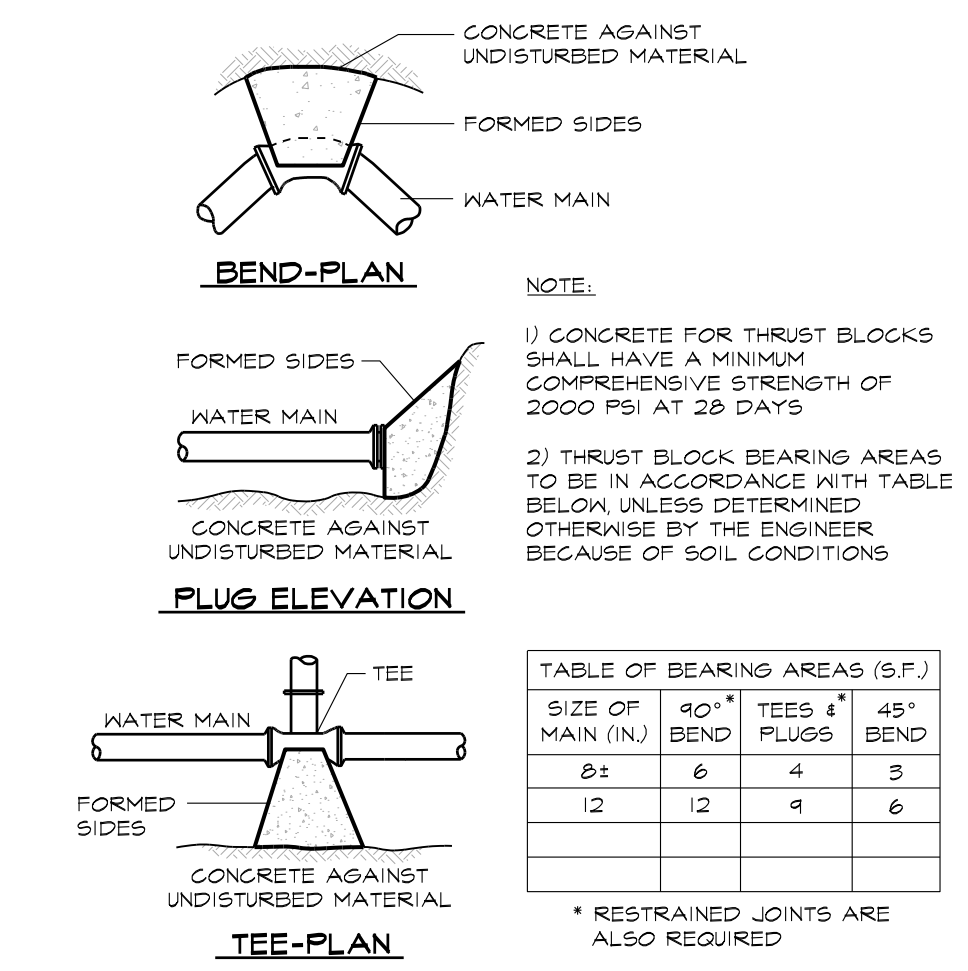
**TRENCH NOTES:**  
 1) FIRM FOUNDATION SOILS (2000 PSI MIN) REQUIRED. REPLACE UNSUITABLE SOILS WITH GRAVEL AS DIRECTED.  
 2) MHD M1.0.4.0 SAND SPEC. FOR WATER PIPE.  
 3) TRENCH TO CONFORM TO TOWN STANDARDS - CONTRACTOR TO CONFIRM.

FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

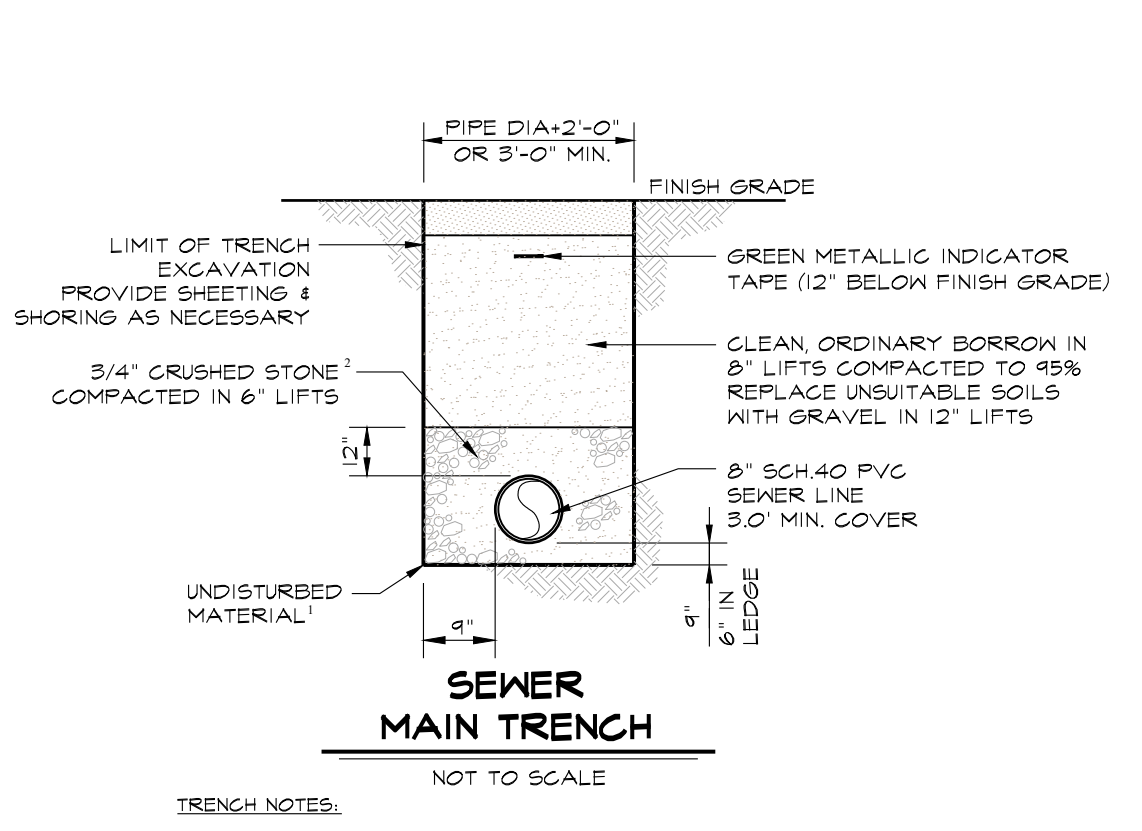
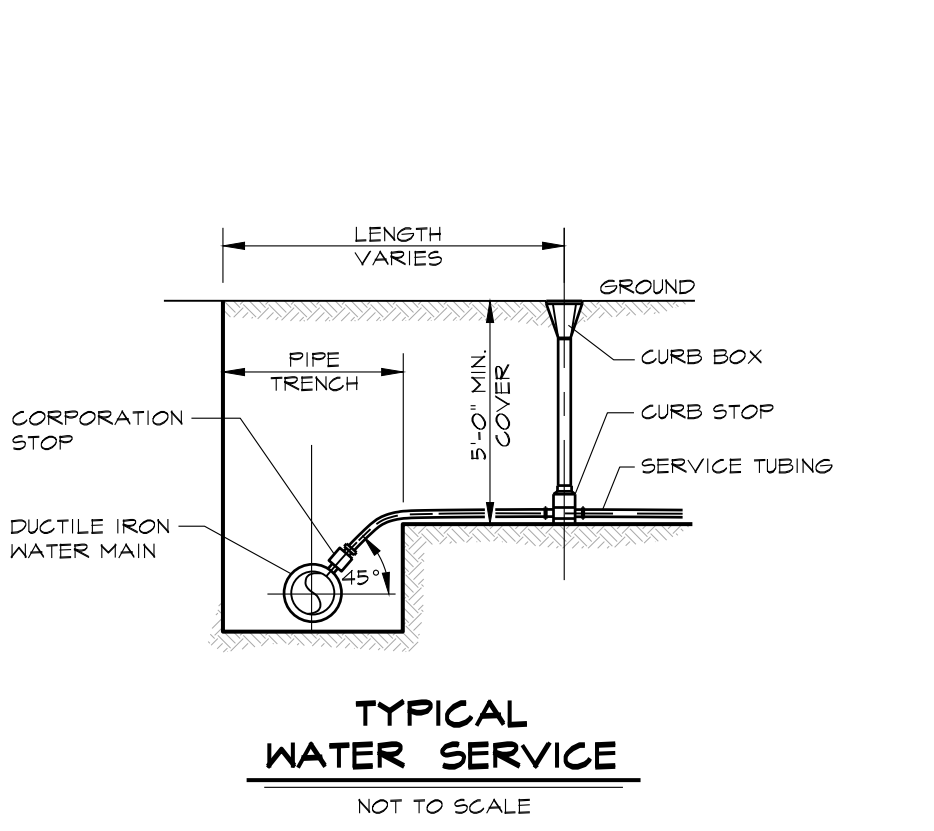
*Thad D Barry*

DATE: \_\_\_\_\_

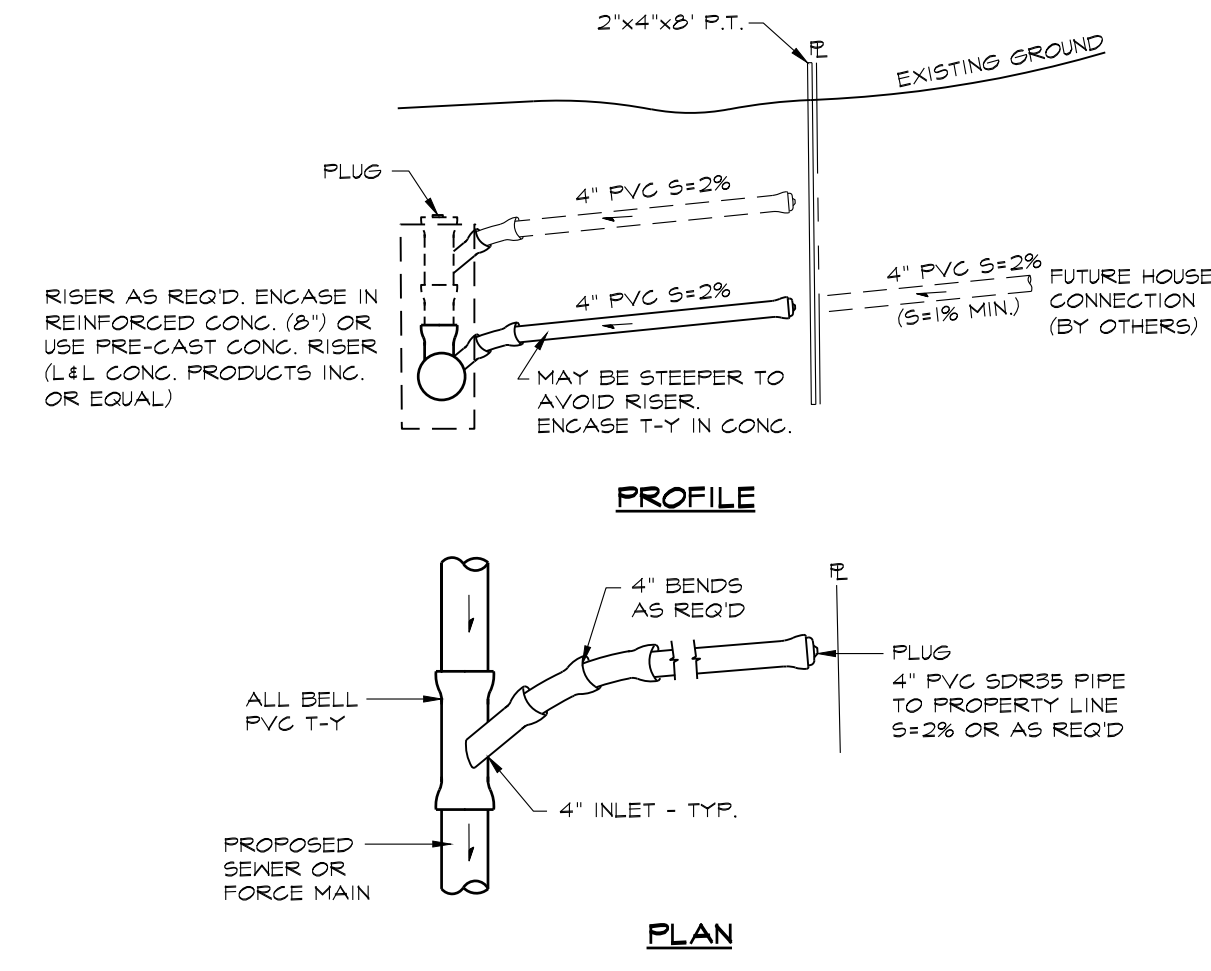


**NOTE:**  
 1) CONCRETE FOR THRUST BLOCKS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.  
 2) THRUST BLOCK BEARING AREAS TO BE IN ACCORDANCE WITH TABLE BELOW UNLESS DETERMINED OTHERWISE BY THE ENGINEER BECAUSE OF SOIL CONDITIONS.

\* RESTRAINED JOINTS ARE ALSO REQUIRED

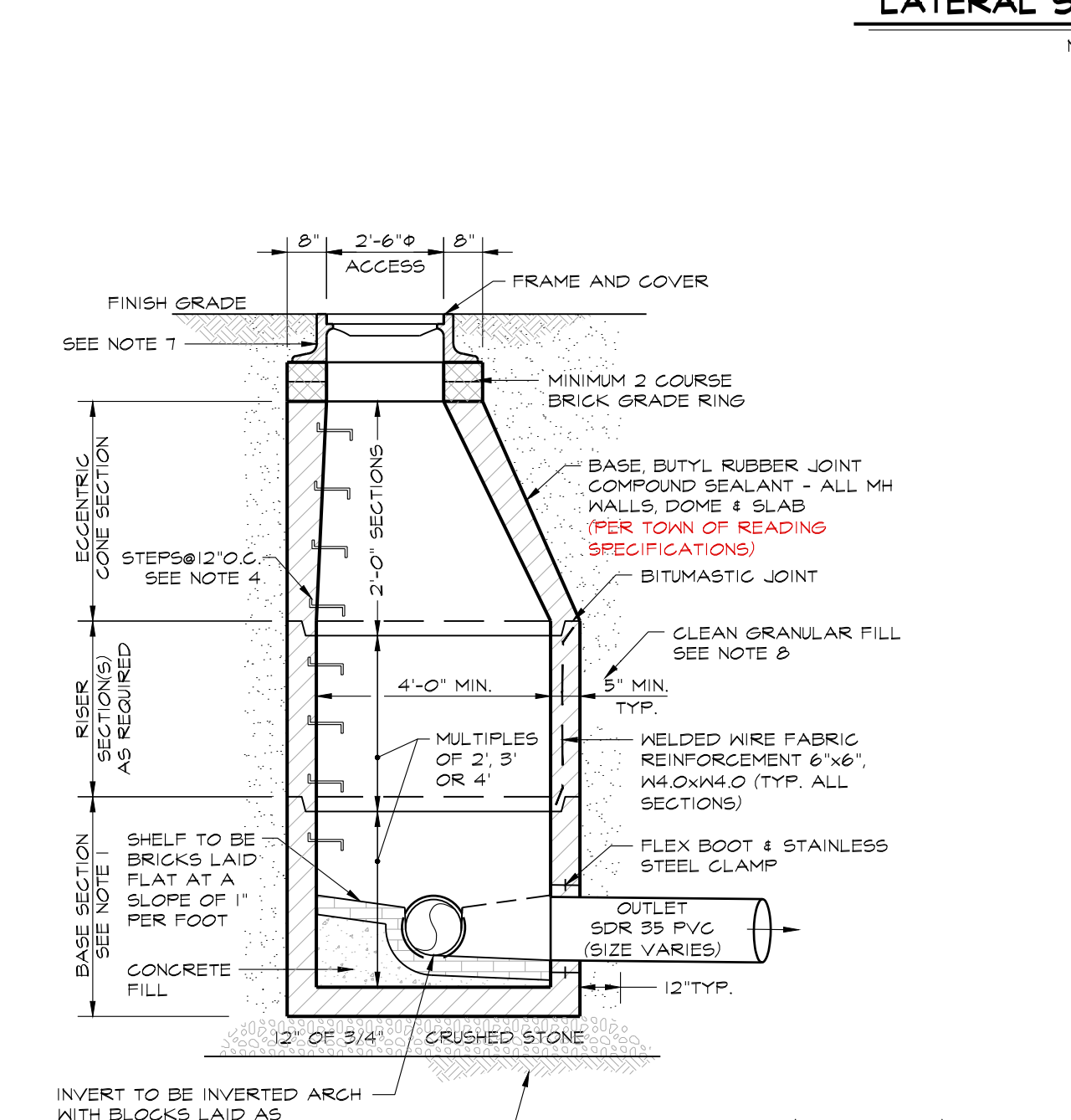
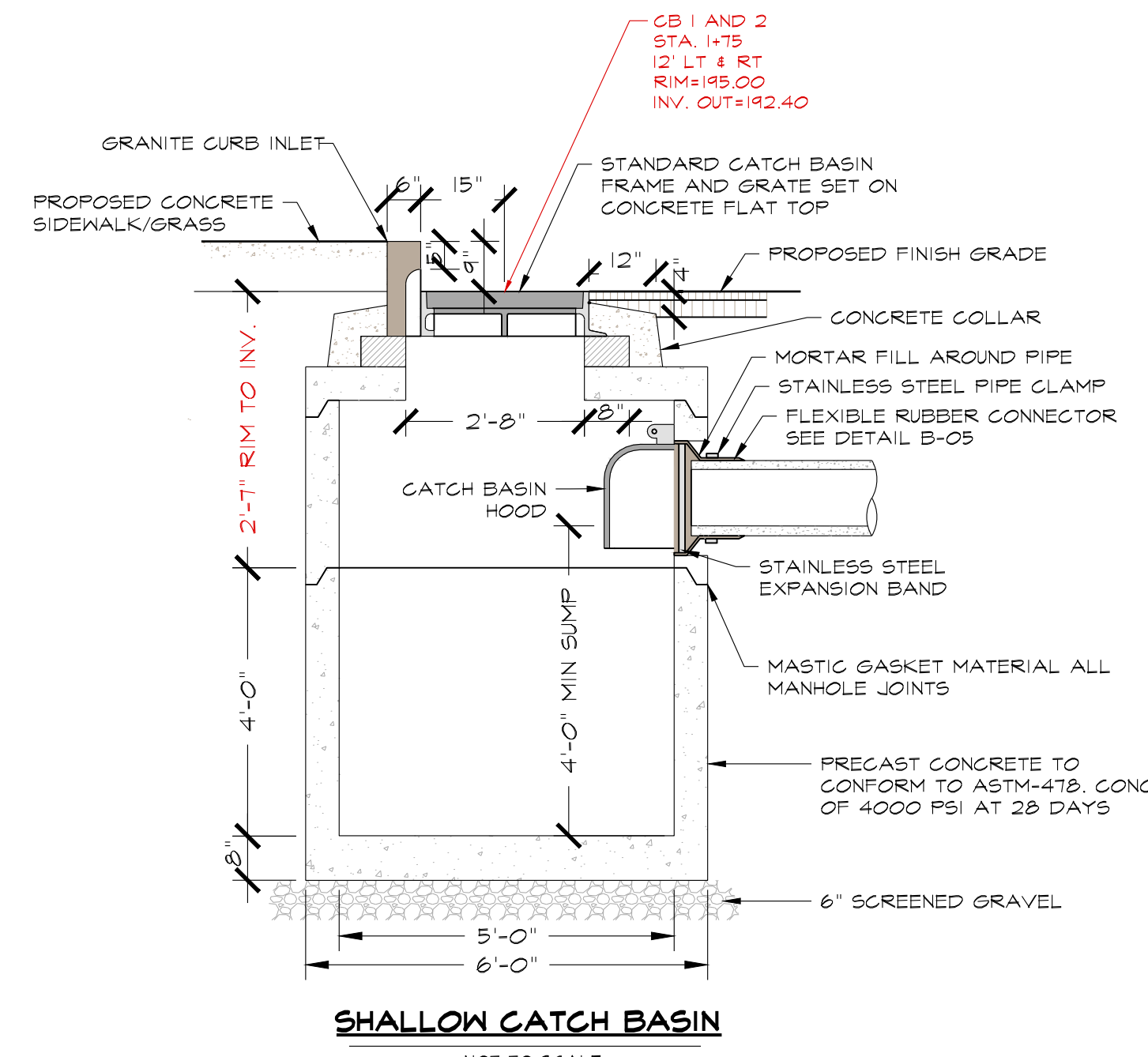


**TRENCH NOTES:**  
 1) FIRM FOUNDATION SOILS (2000 PSI MIN) REQUIRED. REPLACE UNSUITABLE SOILS WITH GRAVEL AS DIRECTED.  
 2) MHD M2.0.1.7 CRUSHED STONE SPEC. FOR SEWER PIPE.  
 3) SEWER TRENCH TO CONFORM TO TOWN STANDARDS - CONTRACTOR TO CONFIRM.

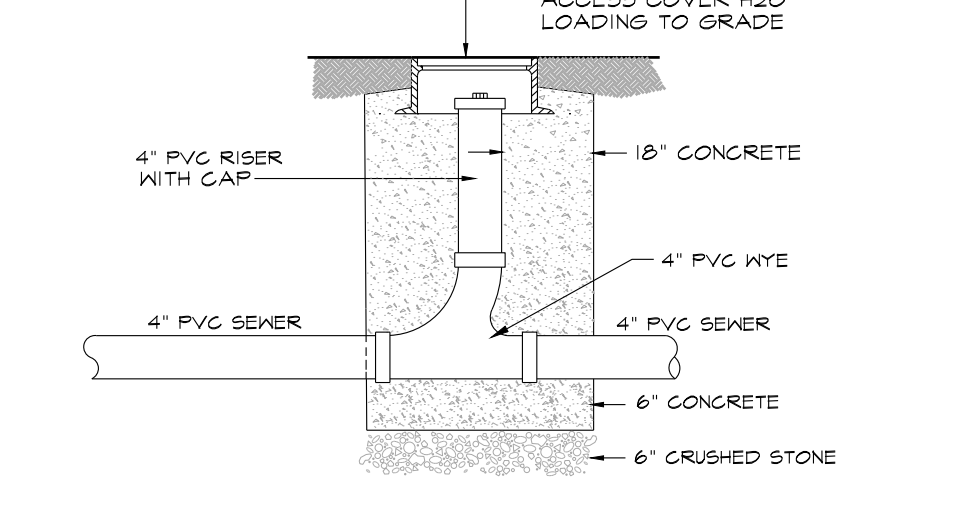
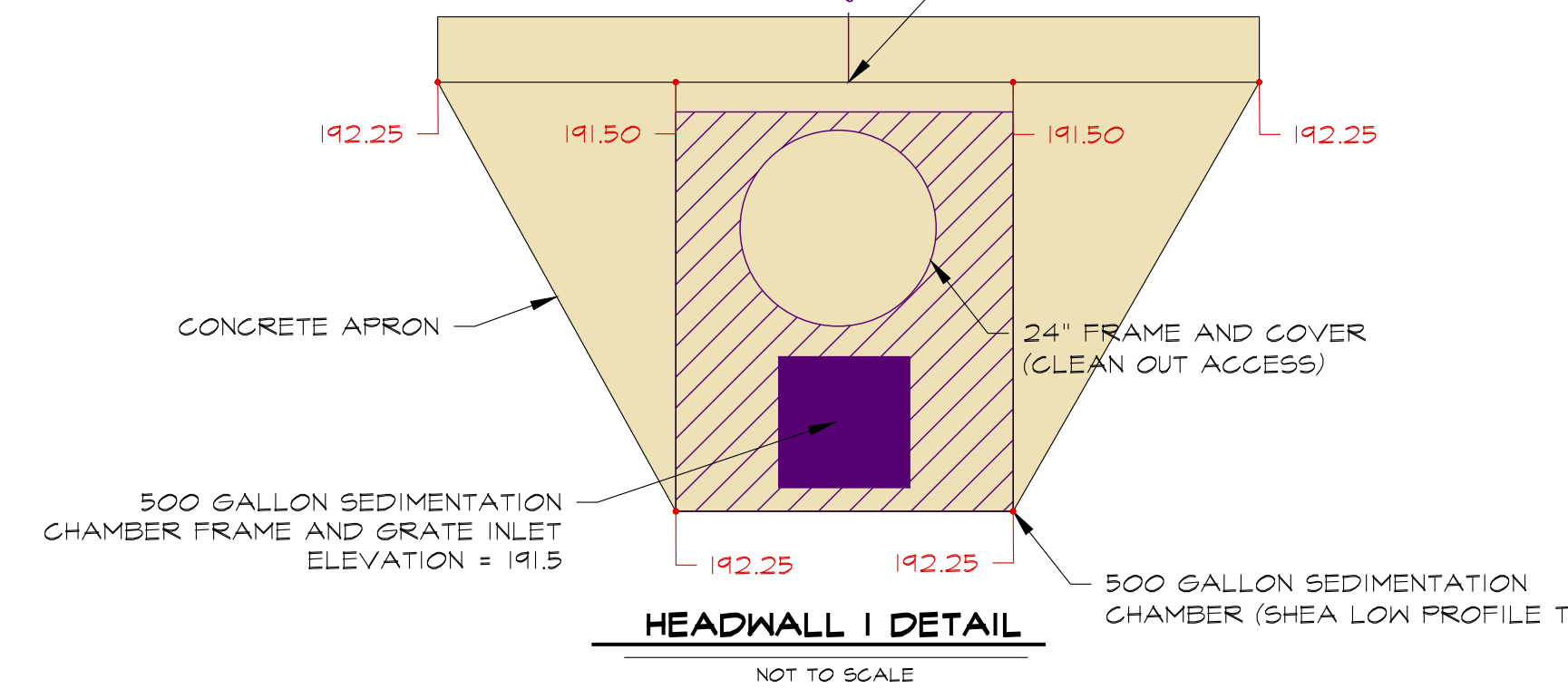
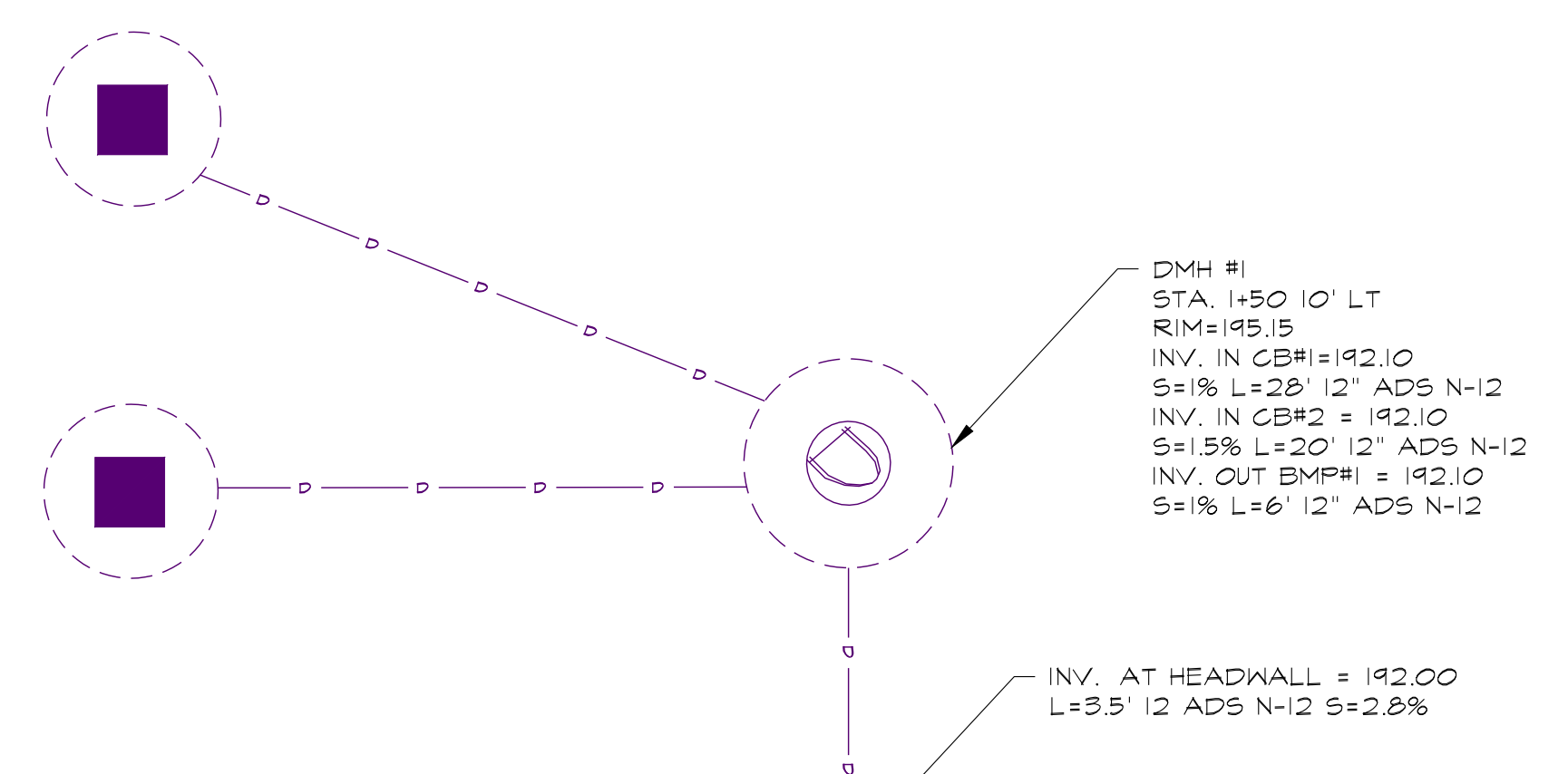


**UTILITY NOTES**

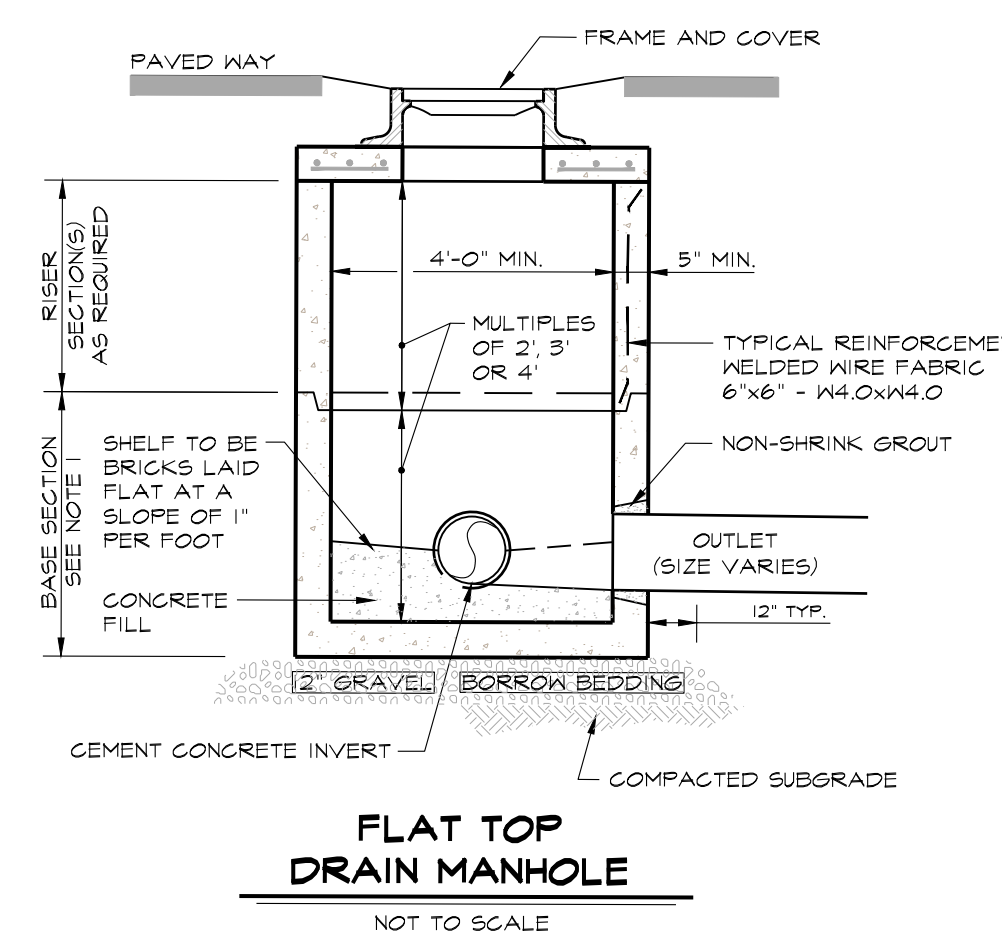
- ALL WORK ASSOCIATED WITH MAKING, REMOVING, OR REPAIRING A CONNECTION TO AN EXISTING STUD, OR THE CONSTRUCTION OF ANY NEW LINE, EXTENSION, OR CONNECTION MUST BE PERFORMED BY A DRAIN LAYER LICENSED BY THE TOWN.
- AT THE TIME A CONNECTION IS MADE AND INSPECTED, IT IS THE RESPONSIBILITY OF THE DRAIN LAYER TO PROVIDE THE INSPECTOR WITH AN AS-BUILT DRAWING OF THE INSTALLATION, CLEARLY SHOWING THE COURSE OF THE LINE, ANY CLEAN OUTS, AND ANY OTHER PERTINENT DETAILS. NO FURTHER CONNECTION PERMIT APPLICATIONS WILL BE ACCEPTED FROM A DRAIN LAYER UNTIL THIS REQUIREMENT IS FULFILLED.
- ALL MANHOLES MUST BE APPROVED BY THE TOWN OF READING ENGINEERING/D.P.W.
- TYPE AND SIZE OF WATER MAIN EXTENSION: 8" D.I. CLASS 52. ALL MATERIALS TO CONFORM TO THE TOWN WATER DEPARTMENT STANDARDS.
- TYPE AND SIZE OF WATER SERVICE PIPE: 1" NOMINAL (MINIMUM) FROM PROPERTY LINE TO FOUNDATION. ALL MATERIALS TO CONFORM TO THE TOWN WATER DEPARTMENT STANDARDS.
- JOINTS MUST BE WATERTIGHT. COMPRESSION GASKETS TO BE WIPED CLEAN AND LUBRICATED IMMEDIATELY PRIOR TO CONNECTION.
- LINE SHALL BE LAID AS STRAIGHT AS POSSIBLE, WITH MINIMUM BENDS.
- BEDDING SHALL BE ADEQUATE TO ASSURE NO DEFORMATION OF THE PIPE AFTER BACKFILLING. MATERIAL MUST BE PROCESSED SAND OR CRUSHED STONE, NO LARGER THAN 3/4-INCH, COMPACTED TO A MINIMUM DEPTH OF 6" BELOW PIPE, AND USED AS COVER TO A MINIMUM OF 6 INCHES OVER THE PIPE.
- THE ENTIRE LENGTH OF THE WORK INCLUDING JOINTS MUST BE INSPECTED PRIOR TO BACK FILLING.



**SEWER MANHOLE NOTES:**  
 1) BASE SECTION SHALL BE MONOLITHIC WITH 48-INCH INSIDE DIAMETER.  
 2) ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.  
 3) CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000psi TYPE II CEMENT. PRE-CAST REINFORCED CONCRETE SHALL BE ASTM C-478.  
 4) MANHOLE STEPS SHALL BE REINFORCED COPOLYMER POLYPROPYLENE M.H. STEPS INSTALLED @ 12" O.C WITH A 6" PROJECTION (NA INDUSTRIES INC. STEP MODEL NO. PS-1-PF PR. EQUAL) FOR THE FULL DEPTH OF THE STRUCTURE.  
 5) STANDARD SEWER MANHOLE FRAME SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 COURSE MAXIMUM).  
 6) FRAME AND COVER SHALL BE LABARON LA 326-1 CAST IRON OR ENGINEER APPROVED EQUAL. THE WORD "SEWER" SHALL BE CAST INTO THE COVER WITH 3-INCH LETTERS.  
 7) CLEAN GRANULAR FILL SHALL BE FREE FROM FROM ORGANIC MATTER, LARGE STONES, STUMPS, MASONRY, FROZEN EARTH, WOOD, TREE BRANCHES & WASTE CONSTRUCTION MATERIAL. PLACE AND MECHANICALLY COMPACT IN 12" LIFTS TO 95% OF MAX. STANDARD PROCTOR COMPACTION.  
 8) FOLLOWING ALL INSTALLATIONS VACUUM TEST MANHOLES AND PRESSURE TEST SEWERS.  
 9) TRENCH SHEETING & BRACING TO BE SUPPLIED AS REQUIRED.



**SEWER CLEANOUT - LOT 2**  
NOT TO SCALE



**FLAT TOP DRAIN MANHOLE**  
NOT TO SCALE

project title: \_\_\_\_\_

LYLE ESTATES

prepared for: \_\_\_\_\_

JAMIESON PROPERTIES LLC  
627 MAIN STREET, SUITE 1  
WOBURN, MA 01801

revisions

no.	date	description
0	10.25.16	ISSUED FOR REVIEW
1	02.12.17	REVISIONS DRT MEETING

plan submission

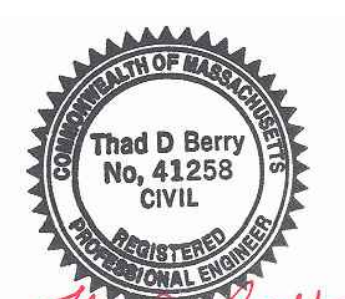
NOTICE OF INTENT

date: 10.25.2016

scale: NOT TO SCALE

job no: 2012-30

DEP no: TBD



drawing name

UTILITY DETAILS

drawing number

07