



October 9, 2019

Boston Conservation Commission
Boston City Hall, Room 709
Boston, MA 02201

**Re: Order of Conditions, DEP File No. 006-1648
Parkway Apartments
1545 – 1555 VFW Parkway, W. Roxbury, MA.**

Dear Commission Members:

On behalf of Lincoln Parkway, LLC (the “Proponent”), Howard Stein Hudson and Epsilon Associates, Inc. respectfully submit this Request for an Amendment to the Order of Conditions (OOC) issued on April 17, 2019 for the above-named Project, to delete Special Condition No. 68 from the OOC, and to approve a minor plan change to increase the amount of compensatory flood storage.

Please note that this Request for Amendment is submitted if and only to the extent required, pending further discussion of the Proponent’s pre-construction submittals scheduled for the Commission’s October 9, 2019 meeting. The Proponent seeks to resolve the subject matter of this Request at the Commission’s October 9, 2019 meeting without the need for any OOC amendments. In that event, the Proponent will withdraw this Request.

Special Condition No. 68

The Proponent’s September 6, 2019 pre-construction submittals demonstrated that the Project is in full compliance with the DEP Wetlands Protection Act Regulations (the “Regulations”) as related to work within Bordering Land Subject to Flooding, including the provision of required compensatory flood storage in accordance with 310 CMR 10.57(4)(a)(1). Specifically, that submittal demonstrated compliance with Special Condition No. 68 of the OOC, which required the Proponent to confirm the sufficiency of the Project’s



compensatory flood storage by submitting “evidence from FEMA... based on the base flood elevation provided in the flood study for the site”. This Condition has been satisfied by the Project Engineer’s September 6, 2019 certification (additional copy appended as Attachment A) that, based on the FEMA base flood elevation data included in the most recent (2016) FEMA flood study for the site, the Final Plans (additional copy appended as Attachment B) provide sufficient compensatory flood storage.

To the extent that Special Condition No. 68 is interpreted to require a separate determination *by or from a FEMA official*, the Condition is contrary to the Wetlands Protection Regulations. The Regulations at 310 CMR 10.57(2)(a)3. affirmatively require use of existing FEMA flood profile data to determine base flood elevations and presume the FEMA data are accurate. FEMA, a federal agency, has no jurisdiction to review or approve project-specific compensatory flood storage compliance under state Regulations. Moreover, FEMA staff have directly informed the Proponent that FEMA does not and will not issue such project-specific determinations. To the extent that post-approval communications from Conservation staff regarding compliance with Condition No. 68 have sought completion of a hydrologic and hydraulic study to determine base flood elevation, such additional information cannot be required given that neither the approved OOC nor the Regulations require such an analysis. Accordingly, the Proponent requests that Special Condition No. 68 be removed from the OOC, as it is unenforceable as well as impossible to perform.

Minor Plan Change

Further, the Proponent respectfully requests (to the extent not already fully addressed at the October 9, 2019 Commission meeting) that the minor plan change reflected in the September 6, 2019 Final Plans to increase the extent of compensatory flood storage be approved, either as an administrative change or an Amendment to the approved OOC Plans. The Proponent has revised the Plans with respect to compensatory flood storage on site to reflect a more conservative Base Flood Elevation (“BFE”) as provided in the 2016 FEMA Flood Profile for the project area of 90.4 feet NAVD 88, instead of 90 feet as described in the original Notice of Intent application. This results in a slightly increased



amount of work in the floodplain (limited to site grading and a portion of the building). The compensatory flood storage provided to mitigate this impact meets the requirements of 310 CMR 10.57(4)(a)1. As documented in the September 6, 2019 submittal, the Project as modified provides an increase in flood storage capacity (an additional 645 cubic feet) compared to pre-development site conditions. Accordingly, the Proponent requests that the Commission approve this minor plan change.

The Proponent asks that this Request be scheduled for a public hearing at the Commission's next meeting date (October 23, 2019). Thank you for your attention.

Sincerely,

Richard E. Latini, P. E., LEED Green Assoc.
Associate Principal

cc: John Noone, Lincoln Parkway, LLC
Alyssa Jacobs, PWS, Associate Manager, Epsilon Associates, Inc.
Marilyn Newman and Nicholas Cramb, Mintz Levin

Attachments

Attachment A:
Copy of Engineering Certification/Minor Plan Modification Regarding Base Flood Elevation and Compensatory Flood Storage (and supporting documentation), dated September 6, 2019

Attachment B:
Copy of Final Plans prepared and stamped by Howard Stein Hudson, dated September 6, 2019



PARKWAY APARTMENTS
1545 – 1555 VFW Parkway
October 9, 2019

Attachment A



September 6, 2019

Boston Conservation Commission
Boston City Hall, Room 709
Boston, MA 02201

**Re: Parkway Apartments Order of Conditions, DEP File No. 006-1648
Engineering Certification/Minor Plan Modification Regarding Base Flood
Elevation and Compensatory Flood Storage**

Dear Commission Members:

I, Richard E. Latini, a professional engineer licensed in the Commonwealth of Massachusetts, certify the following in satisfaction of Special Condition Nos. 36, 65 and 68 of the Commission's Order of Conditions issued April 17, 2019, DEP File No. 006-1648 (the "OOC") for Parkway Apartments (the "Project"), 1545-1555 VFW Parkway, West Roxbury, MA. (the "Project Site").

1. Data provided in the Federal Emergency Management Agency ("FEMA") Flood Insurance Study No. 25025CV000B, Suffolk County, MA, Revised March 16, 2016, (the "FEMA Study") Flood Profiles for Charles River, Panels 04P and 05P (copy attached as Exhibit A), evidences that the Base Flood Elevation ("BFE") at the Project Site is **90.4 feet** North American Vertical Datum of 1988 (NAVD 88), which corresponds to elevation 96.9 feet Boston City Base ("BCB").
2. This BFE is slightly greater than the 90 feet NAVD 88 value used in the Project Notice of Intent ("NOI") to calculate compensatory flood storage. (The 90 foot value was obtained from the most recent Flood Insurance Rate Map, Map Number 25025C0068G, dated September 25, 2009. The corrected value 90.4 is the more conservative and precise BFE value provided by the applicable FEMA Study Flood Profiles as shown in Exhibit A.)
3. Figure 1, attached to this Certificate as Exhibit B, is a true and correct depiction, based on site-specific surveyed elevations, of the location of the BFE 90.4 feet NAVD 88 on the Project Site.
4. Based on review of the above-described FEMA data, I have recalculated the Project's area of impact within Bordering Land Subject to Flooding ("BLSF") at the Project Site. The amended version of NOI Narrative, Table 1, Resource Area Impact Table, is attached as Exhibit C.



5. Based on the above-described FEMA data, I have recalculated the amount of compensatory flood storage required to be provided, under 310 CMR 10.57(4), to compensate for the volume of BLSF impacted by the Project. The revised calculation is attached as Exhibit D. The final volume of compensatory flood storage to be provided in the post-development condition exceeds the volume of flood storage lost.
6. Exhibit E to this Certification provides stamped Final Site Preparation, Layout and Materials, and Grading and Utilities Plans, depicting the limit of BLSF at the Project Site and the area of compensatory flood storage to be provided by the Project, modified as described herein.

Based on the above, I certify to the best of my knowledge, information and belief that:

- (i) evidence provided by FEMA in the FEMA Flood Study documents that the BFE at the Project Site is 90.4 NAVD 1988;
- (ii) this BFE from the FEMA Flood Study was used in calculating compensatory flood storage as described in this Certificate; and
- (iii) the attached Final Plans as modified provide required compensatory flood storage for all flood storage volume that will be lost within BLSF, in full compliance with 310 CMR 10.57(4).

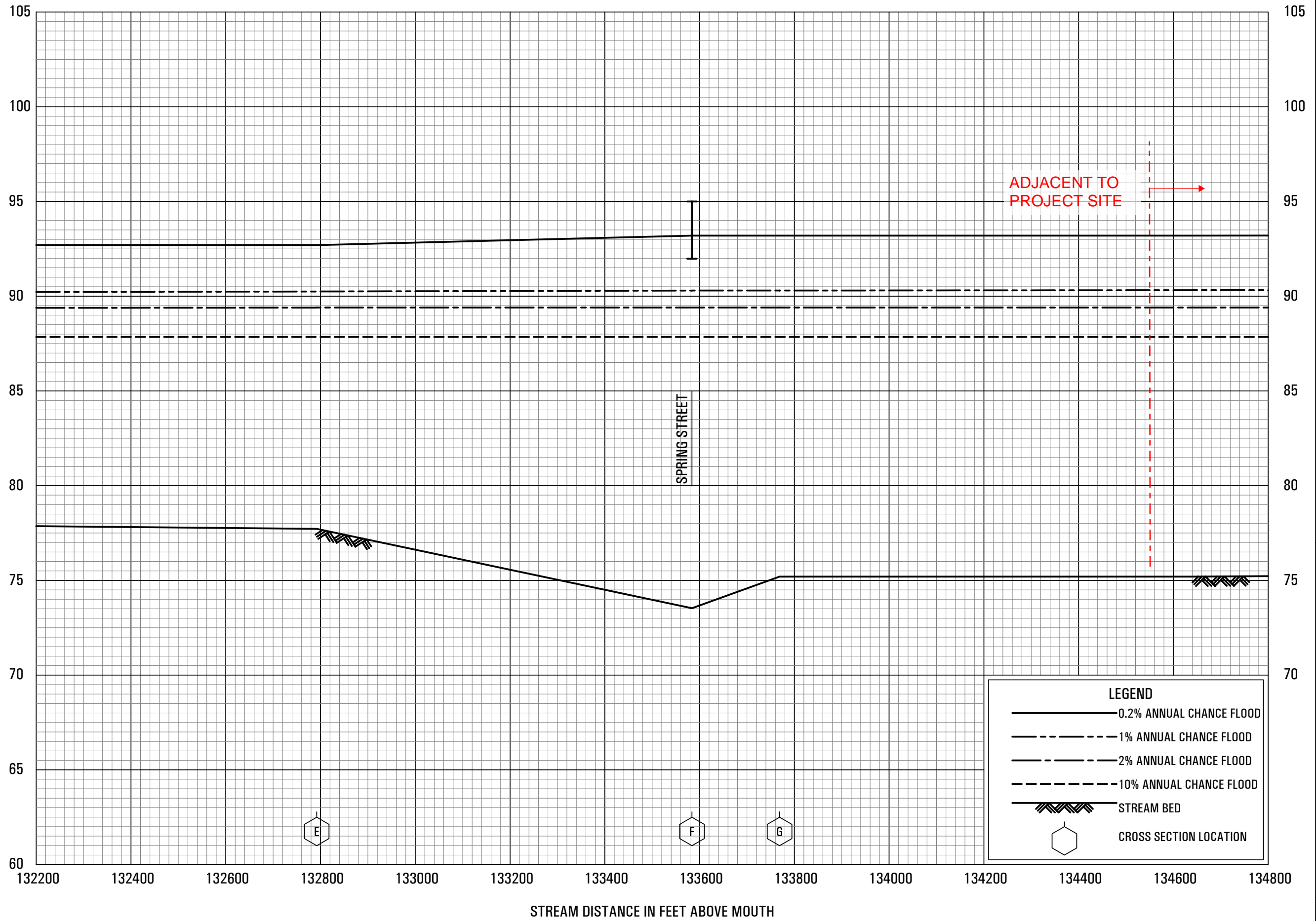


Richard E. Latini, P.E.
Associate Principal



Exhibit A – Flood Insurance Study Panels

ELEVATION IN FEET (NAVD 88)



FLOOD PROFILES

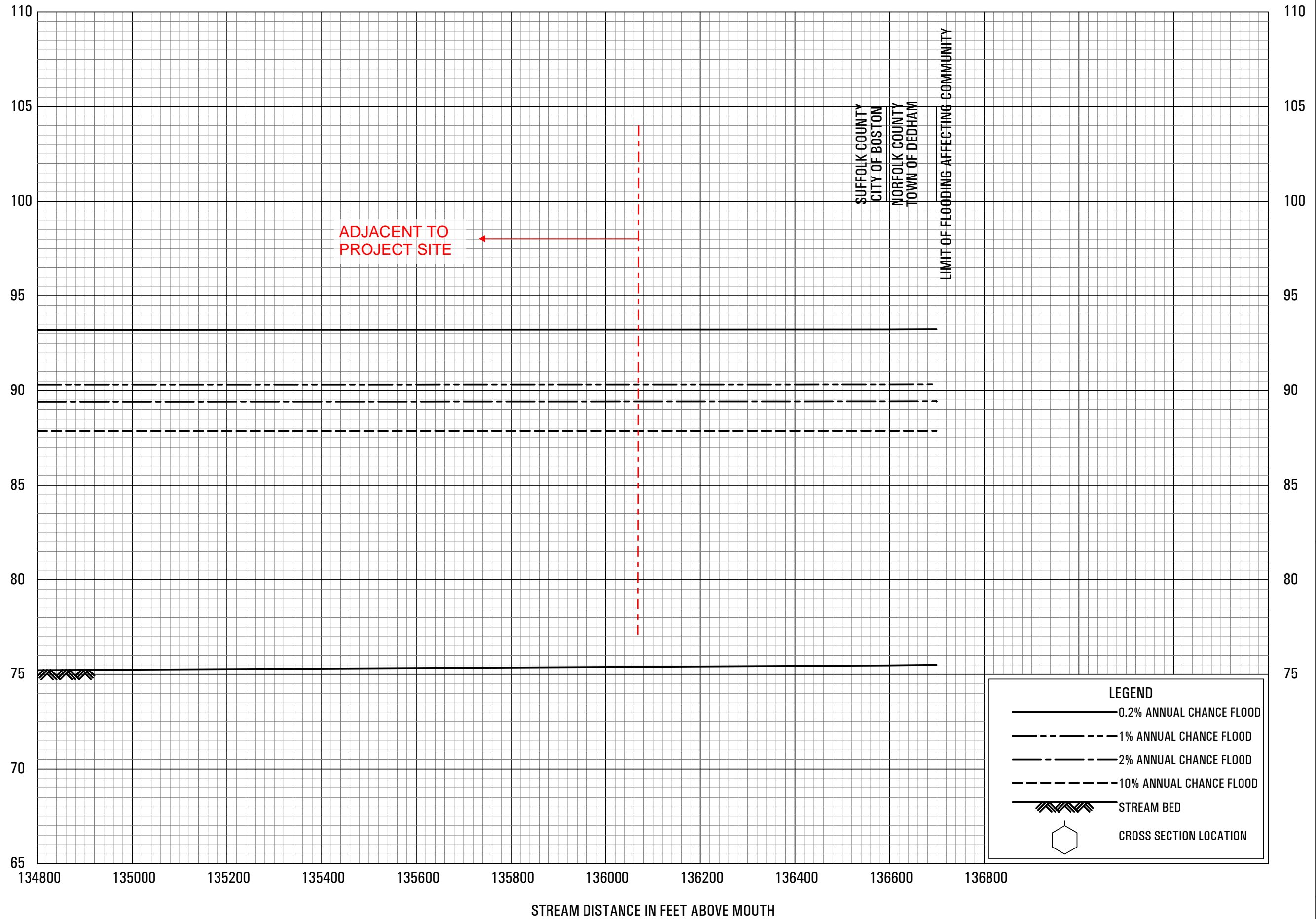
CHARLES RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

SUFFOLK COUNTY, MA
(ALL JURISDICTIONS)

04P

ELEVATION IN FEET (NAVD 88)



FLOOD PROFILES

CHARLES RIVER

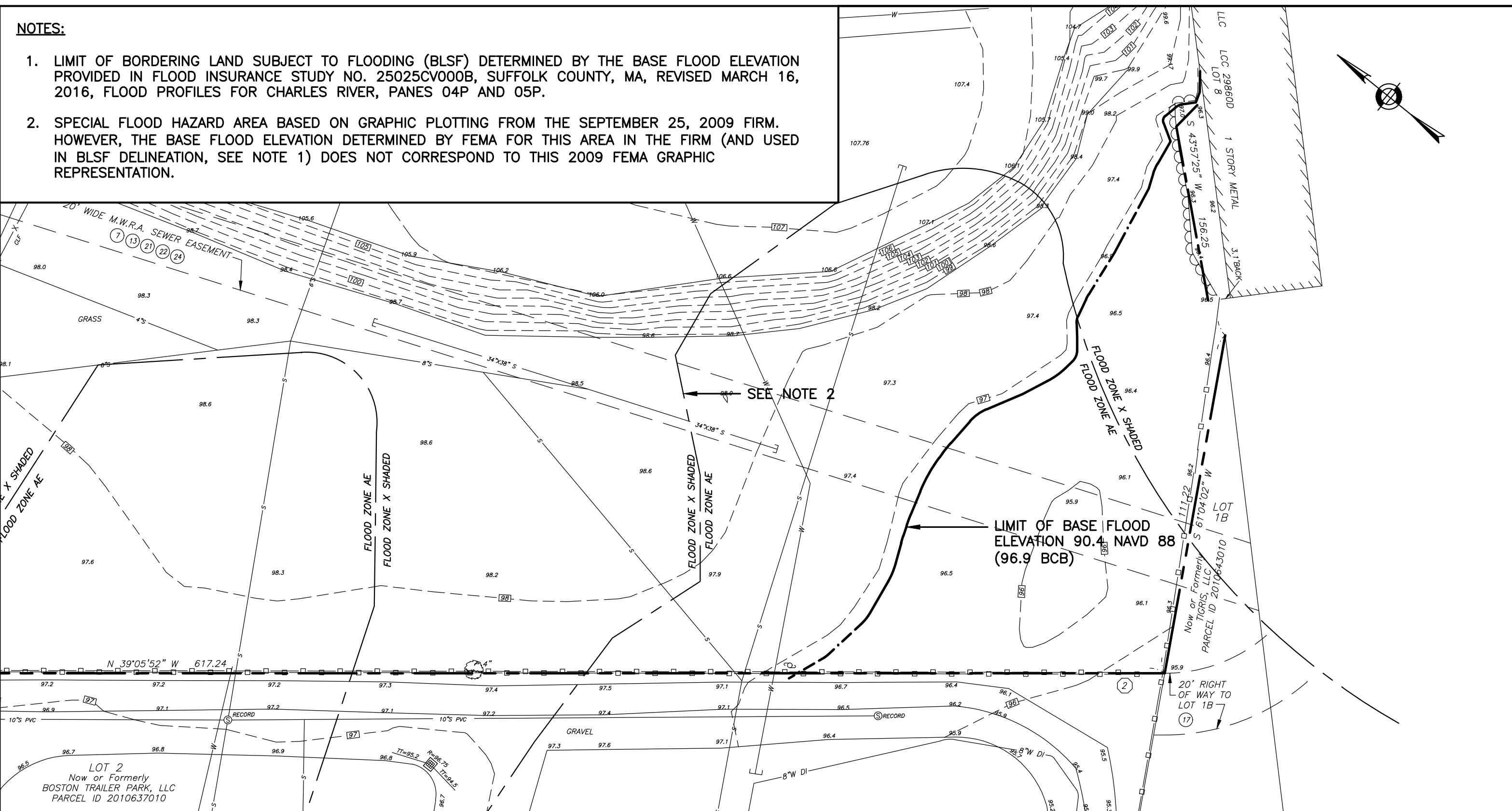
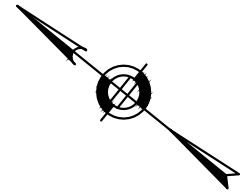
FEDERAL EMERGENCY MANAGEMENT AGENCY

SUFFOLK COUNTY, MA
(ALL JURISDICTIONS)

05P

NOTES:

1. LIMIT OF BORDERING LAND SUBJECT TO FLOODING (BLSF) DETERMINED BY THE BASE FLOOD ELEVATION PROVIDED IN FLOOD INSURANCE STUDY NO. 25025CV000B, SUFFOLK COUNTY, MA, REVISED MARCH 16, 2016, FLOOD PROFILES FOR CHARLES RIVER, PANES 04P AND 05P.
2. SPECIAL FLOOD HAZARD AREA BASED ON GRAPHIC PLOTTING FROM THE SEPTEMBER 25, 2009 FIRM. HOWEVER, THE BASE FLOOD ELEVATION DETERMINED BY FEMA FOR THIS AREA IN THE FIRM (AND USED IN BLSF DELINEATION, SEE NOTE 1) DOES NOT CORRESPOND TO THIS 2009 FEMA GRAPHIC REPRESENTATION.



HOWARD STEIN HUDSON
 11 Beacon Street, Suite 1010
 Boston, MA 02108
 www.hshassoc.com

HSH Proj: 17163.01

DRAWN BY: HSH

**BLSF LOCATION
 PARKWAY APARTMENTS
 BOSTON, MA**



**EXHIBIT
 B**

DATE: 09-03-2019

SCALE: 1" = 30'



EXHIBIT C

4.0 Wetland Resource Area Impacts

Portions of the proposed activities will be conducted within Bordering Land Subject to Flooding. This includes a portion of the proposed building and associated grading constructed in the flood storage area which will be replaced along the southwestern property line (see Figure 11 in Attachment B and Sheet C3.01 of the Plans). Permanent impacts from the project are as a result of construction of the new building, driveway and utilities. Temporary impacts from the Project are as a result of grading, and the excavation for the building.

The impacts are presented in Table 1 below in square feet (SF) and are detailed in the following sections.

Table 1. Summary of Resource Area Impacts

RESOURCE AREA IMPACT TABLE			
Resource Area	Impacts		
	Temporary	Permanent	Total
Bordering Land Subject to Flooding	6,894 SF	4,416 SF	11,310 SF



HOWARD STEIN HUDSON

EXHIBIT D

Project: Parkway Apartments

Address: 1545-1555 VFW Parkway, W. Roxbury, MA

Date: July 1, 2019

EXISTING FLOOD STORAGE WITHIN PROJECT SITE (BASE FLOOD ELEVATION=96.9)

Elevation (ft)	Area (sf)	Average Area (sf)	Depth (ft)	Volume (cf)
95.8	5.0			
		613.2	0.2	122.6
96	1,221.3			
		6,738.3	1	6,738.3
97	12,255.3			
Total Volume				6,860.9

PROPOSED FLOOD STORAGE WITHIN PROJECT SITE (BASE FLOOD ELEVATION=96.9)

Elevation (ft)	Area (sf)	Average Area (sf)	Depth (ft)	Volume (cf)
95.8	2,406.5			
		3,235.2	0.2	647.0
96	4,063.9			
		6,859.3	1	6,859.3
97	9,654.6			
Total Volume				7,506.3



Exhibit E – Revised Plans

11"x17" (Stamped, full-size plans submitted separately)

PREPARED FOR:
 LINCOLN PARKWAY LLC
 C/O LINCOLN PROPERTY COMPANY
 221 CRESCENT ST, SUITE 102A
 WALTHAM, MA 02453

PARKWAY APARTMENTS
 1545-1555 VFW PARKWAY
 WEST ROXBURY, BOSTON, MA, 02132
 SUFFOLK COUNTY

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET

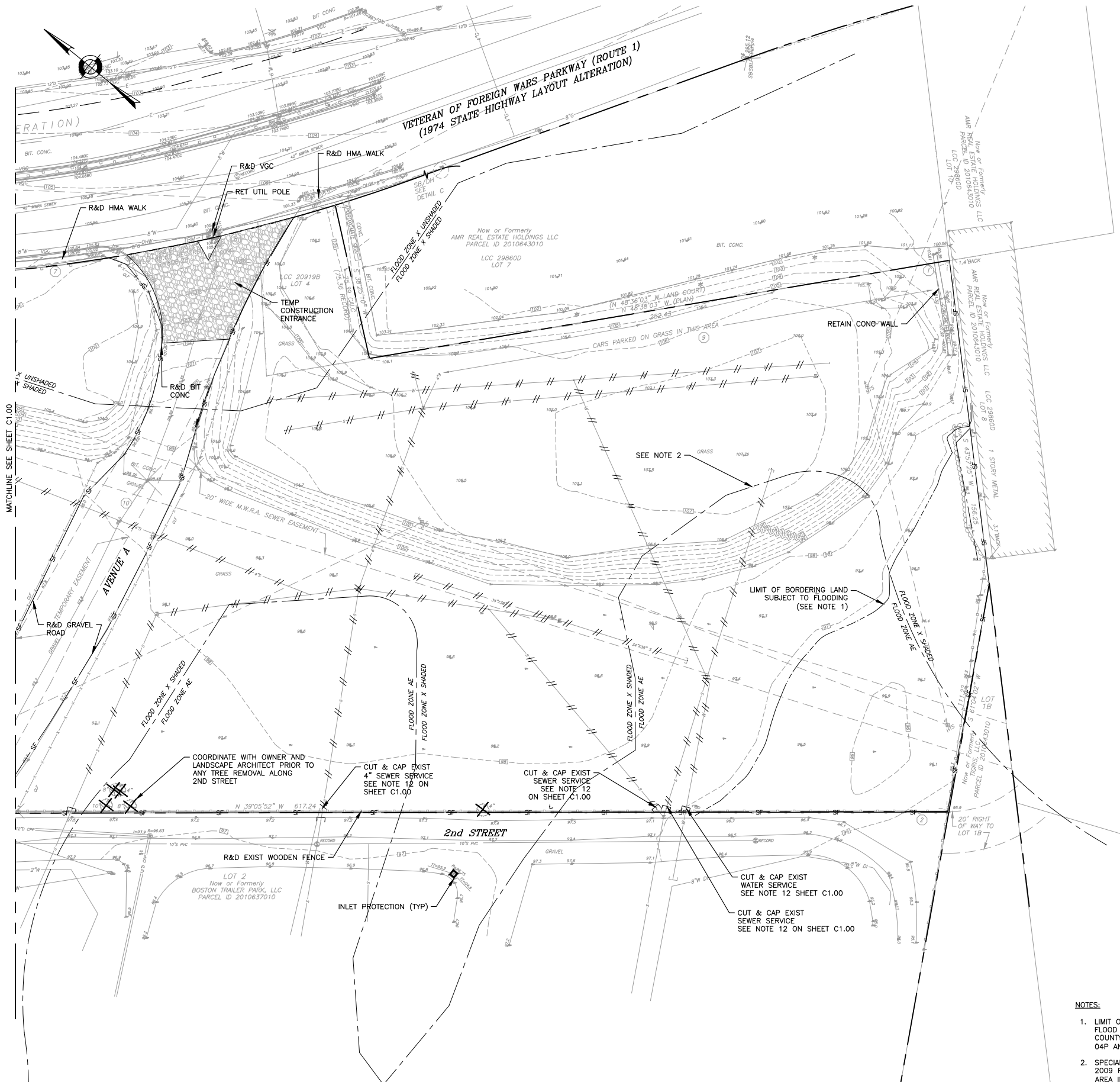


100% CD SET

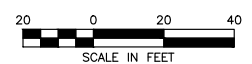
SITE PREPARATION PLAN - 2

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C1.01



- NOTES:
- LIMIT OF BORDERING LAND SUBJECT TO FLOODING (BLSF) DETERMINED BY THE BASE FLOOD ELEVATION PROVIDED IN FLOOD INSURANCE STUDY NO. 25025CV000B, SUFFOLK COUNTY, MA REVISED MARCH 16, 2016, FLOOD PROFILES FOR CHARLES RIVER, PANES 04P AND 05P, 90.4' NAVD 88 (96.9' BCB), AND FIELD SURVEY.
 - SPECIAL FLOOD HAZARD AREA BASED ON GRAPHIC PLOTTING FROM THE SEPTEMBER 25, 2009 FIRM. HOWEVER, THE BASE FLOOD ELEVATION DETERMINED BY FEMA FOR THIS AREA IN THE FIRM (AND USED IN BLSF DELINEATION, SEE NOTE 1) DOES NOT CORRESPOND TO THIS 2009 FEMA GRAPHIC REPRESENTATION.



PREPARED FOR:
 LINCOLN PARKWAY LLC
 C/O LINCOLN PROPERTY COMPANY
 221 CRESCENT ST, SUITE 102A
 WALTHAM, MA 02453

PARKWAY APARTMENTS
 1545-1555 VFW PARKWAY
 WEST ROXBURY, BOSTON, MA, 02132
 SUFFOLK COUNTY

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NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
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3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET

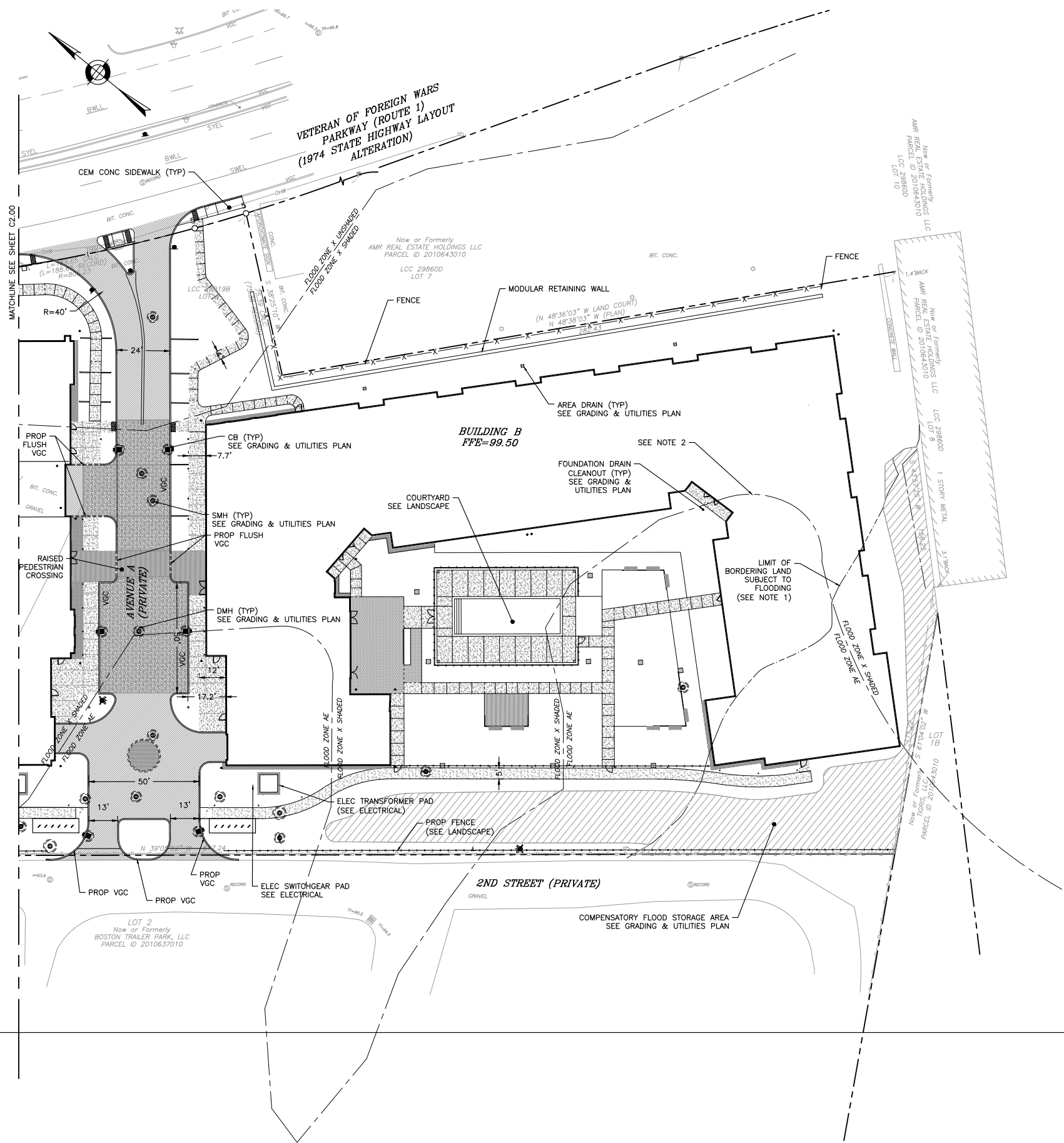


100% CD SET

LAYOUT & MATERIALS PLAN - 2

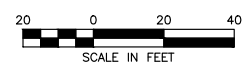
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PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C2.01



NOTES:

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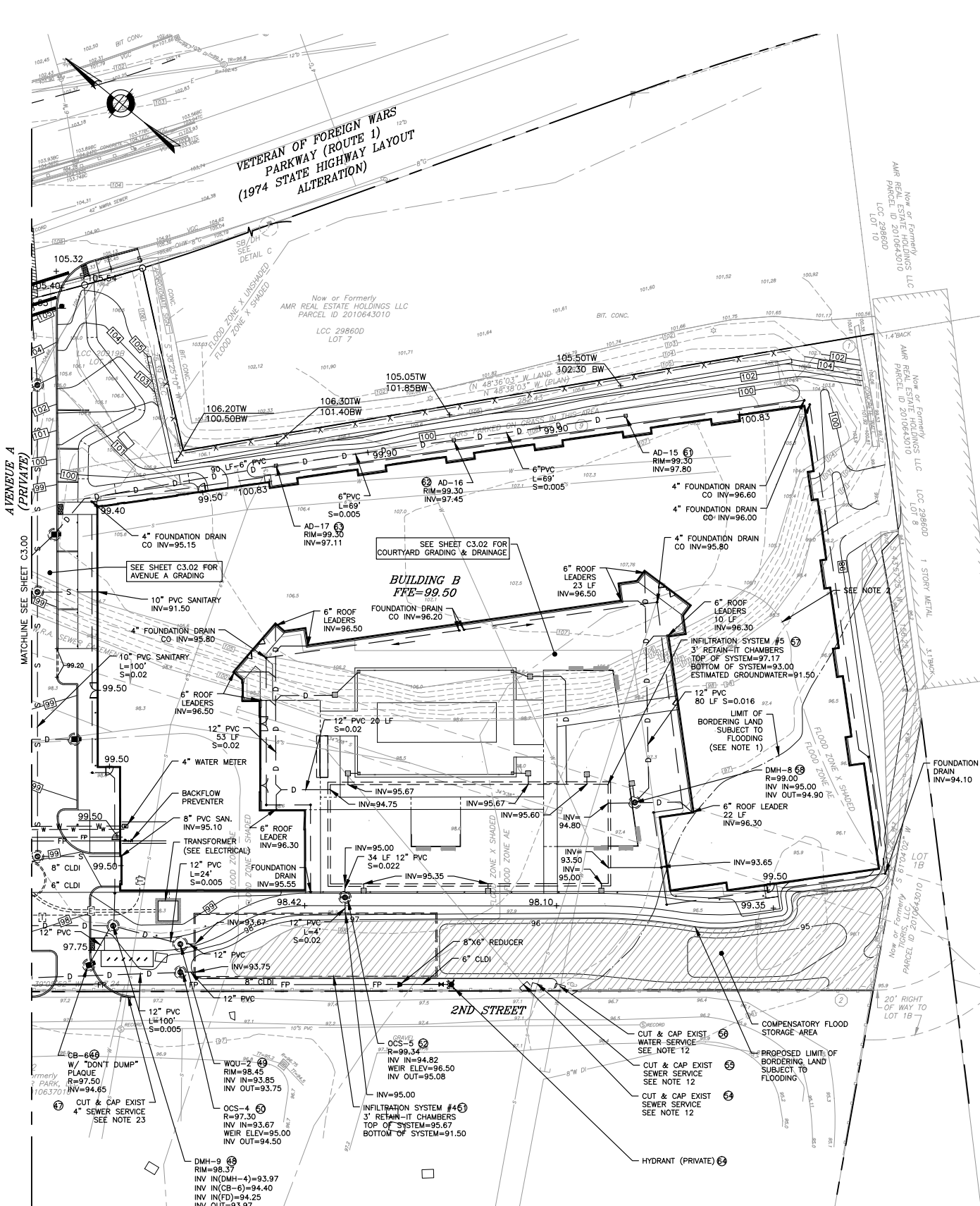


100% CD SET

GRADING & UTILITIES PLAN - 2

DATE: 11/30/2018
 PROJECT NUMBER: 17163.01
 DESIGNED BY: JEC
 DRAWN BY: JEC
 CHECKED BY: RL

C3.01



- LEGEND**
- PROPOSED**
- CEMENT-LINED DUCTILE IRON PIPE (CLASS 56)
 - CLDI
 - DRAIN MANHOLE
 - GATE VALVE
 - POLYVINYL CHLORIDE PIPE
 - OUTLET CONTROL STRUCTURE
 - CATCH BASIN
 - TAPPING SLEEVE & GATE VALVE
 - PROPOSED CONTOUR
 - AREA DRAIN
- EXISTING**
- SEWER MANHOLE
 - DRAIN MANHOLE
 - ELECTRIC MANHOLE
 - TELEPHONE MANHOLE
 - MANHOLE
 - HYDRANT
 - WATER SHUT OFF
 - GAS SHUT OFF
 - BOSTON WATER VALVE
 - CATCH BASIN
 - ELECTRIC HANDHOLE
 - BOLLARD
 - MAIL BOX
 - SIGN
 - AREA DRAIN
 - LIGHT POLE
 - UTILITY POLE W/ LIGHT
 - GAS METER
 - TRASH RECEPTACLE
 - DECIDUOUS TREE
 - GATE POST
 - NUMBER OF PARKING SPACES
- EXISTING**
- HANDICAP RAMP
 - BC BOTTOM OF CURB
 - BT BITUMINOUS
 - BW BOTTOM OF WALL
 - CLT CHAIN LINK FENCE
 - CONC CONCRETE
 - FCC FLUSH GRANITE CURB
 - FW INVERT ELEVATION
 - INACC INACCESSIBLE
 - LCC LAND COURT CASE
 - NIS NOT TO SCALE
 - Ra RADIIUS OF RIM ELEVATION
 - SO, FT. SQUARE FEET
 - TEB TEMPORARY BENCH MARK
 - TC TOP OF CURB
 - TR CENTERLINE OF TROUGH
 - TS TOP OF STEPS
 - TT TOP OF TRAP
 - TW TOP OF WALL
 - VGC VERTICAL GRANITE CURB
 - C CABLE TELEVISION
 - CS COMBINED SEWER
 - D DRAIN
 - E ELECTRIC
 - G GAS
 - W WATER
 - T TELEPHONE
 - S SEWER

BWSC INSPECTION SIGN-OFF SCHEDULE

ITEM NO.	DESCRIPTION OF SERVICE	BWSC INSPECTOR/DATE	COMMENT
1	EXISTING DMH CONNECTION		
2	OCS-1		
3	INFILTRATION SYSTEM #1		
4	AD-1		
5	AD-2		
6	AD-3		
7	AD-4		
8	INFILTRATION SYSTEM #2		
9	CUT & CAP EXIST WATER SERVICE		
10	AD-5 (IN COURTYARD)		
11	AD-6 (IN COURTYARD)		
12	DMH-1		
13	AD-7		
14	AD-9		
14A	AD-9A		
15	OCS-2		
16	DMH-6		
17	CUT & CAP EXIST SEWER SERVICE		
18	INFILTRATION SYSTEM #3		
19	WQU-1		
20	AD-8		
21	CUT & CAP EXIST WATER SERVICE		
22	CUT & CAP EXIST WATER SERVICE		
23	AD-10		
24	6" DOMESTIC WATER SERVICE		
25	8" FIRE PROTECTION SERVICE		
26	SEWER SERVICE		
27	AD-11		
28	CUT & CAP EXIST SEWER SERVICE		
29	OCS-3		
30	DMH-5		
31	EXIST DMH CONNECTION		
32	CB-5		
33	DMH-4		
34	DMH-7		
35	SMH-1		
36	HYDRANT (PRIVATE)		
37	CB-3		
38	DMH-3		
39	CB-4		
40	SMH-2		
41	GAS OIL SEPARATOR		
42	CB-1 W/ CASCADE GRATE		
43	DMH-2		
44	CB-2 W/ CASCADE GRATE		
45	SMH-3		
46	CB-6		
47	CUT & CAP EXIST SEWER SERVICE		
48	DMH-9		
49	WQU-2		
50	OCS-4		
51	INFILTRATION SYSTEM #4		
52	OSC-5		
53	AD-12 (IN COURTYARD)		
54	CUT & CAP EXIST SEWER SERVICE		
55	CUT & CAP EXIST SEWER SERVICE		
56	CUT & CAP EXIST WATER SERVICE		
57	INFILTRATION SYSTEM #5		
58	DMH-8		
59	AD-13 (IN COURTYARD)		
60	AD-14 (IN COURTYARD)		
61	AD-15		
62	AD-16		
63	AD-17		
64	HYDRANT (PRIVATE)		
	"DON'T DUMP" PLAQUE (6)		
	AS-BUILT		
	4:1 1/1		

STORMWATER INFILTRATION CALCULATIONS (CONT'D):

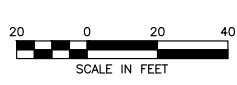
INFILTRATION SYSTEM #4 - 3' RETAIN-IT CHAMBERS (OR EQUAL)
 D=(WEIR EL.=96.50)-(BOS=93)=3.50 FT
 CHAMBER STORAGE = # OF CHAMBERS X PER CHAMBER VOLUME =
 36 CHAMBERS X 170.6 CF = 6,142 CF
 STONE STORAGE = (L X W X H) - CHAMBER DISPLACEMENT X 30% VOIDS =
 (98 FT X 26 FT X 3.50 FT) - (36 X 234.7 CF) X 30% = 141 CF
 VOLUME = 6,142 CF + 141 CF = 6,283 CF

INFILTRATION SYSTEM #5 - 3' RETAIN-IT CHAMBERS (OR EQUAL)
 D=(WEIR EL.=96.50)-(BOS=93)=3.50 FT
 CHAMBER STORAGE = # OF CHAMBERS X PER CHAMBER VOLUME =
 70 CHAMBERS X 170.6 CF = 11,942 CF
 STONE STORAGE = (L X W X H) - CHAMBER DISPLACEMENT X 30% VOIDS =
 (114 FT X 42 FT X 3.50 FT) - (70 X 234.7 CF) X 30% = 99 CF
 VOLUME = 11,942 CF + 99 CF = 12,041 CF

TOTAL INFILTRATION VOLUME PROVIDED= 843 CF+6,386 CF+6,097CF+6,283 CF+12,041 CF=31,650 CF
 31,650 CF PROPOSED > 12,938 CF REQUIRED

SEWER GENERATION FLOW ESTIMATE

USE	QUANTITY	DESIGN FLOWS	ESTIMATED DAILY FLOW (GPD)
RESIDENTIAL	340 BEDROOMS	110 GPD/BEDROOM	37,400
PROPOSED TOTAL			37,400





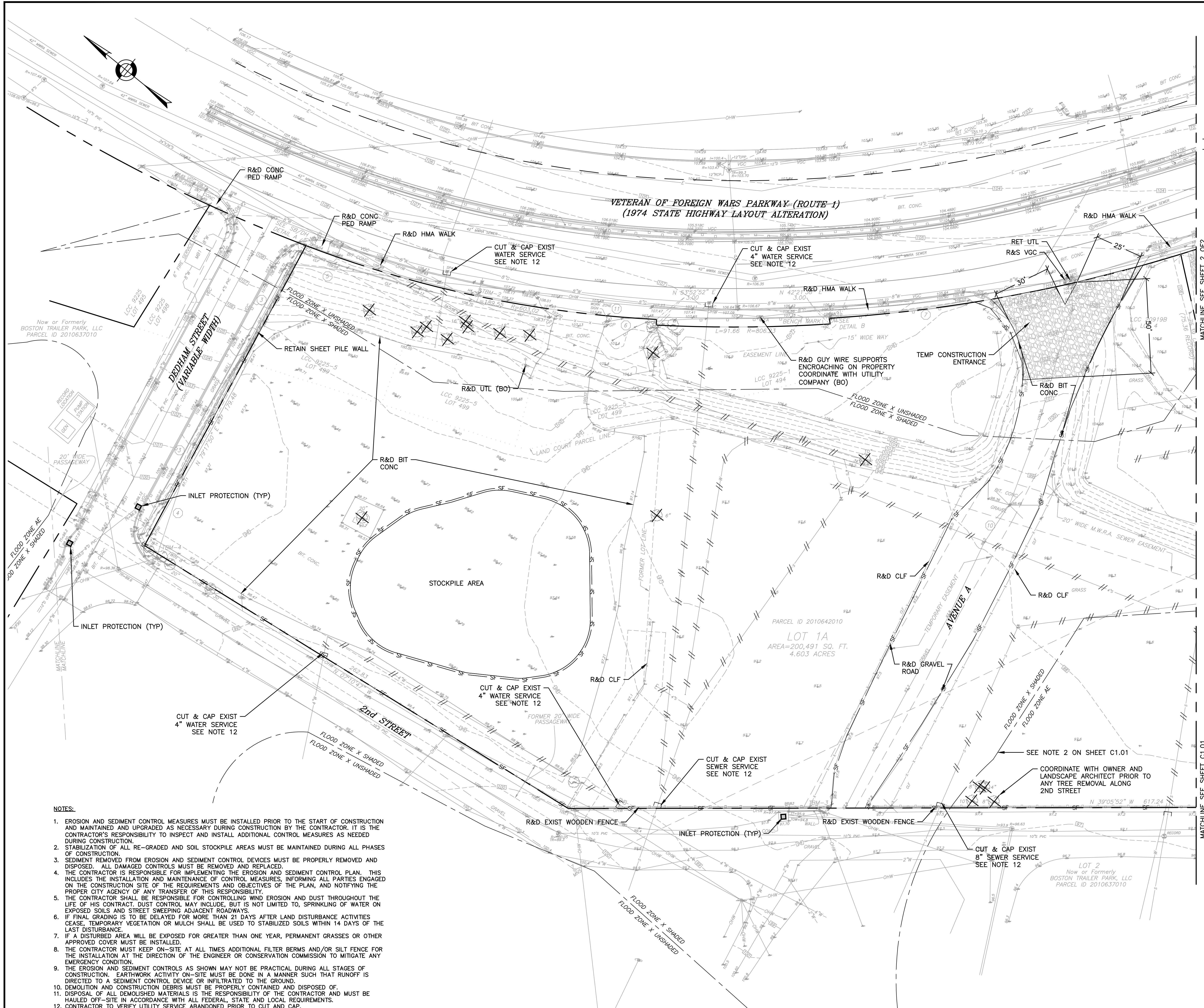
PARKWAY APARTMENTS
1545 – 1555 VFW Parkway
October 9, 2019

Attachment B

Final Plans Submitted under Separate Cover

LEGEND

ABAN	ABANDON
R&D	REMOVE & DISPOSE
R&S	REMOVE & STACK
ADJ	ADJUST
EXIST	EXISTING
L.O.W.	LIMIT OF WORK
CONC	CONCRETE
C	CUT & CAP UTILITY LINE
SF	SILT FENCE
—	TEMPORARY CONSTRUCTION FENCE
□	CATCH BASIN FILTER
▣	ROCK CONSTRUCTION ENTRANCE
///	ABANDON
////	R&D EXIST. DRAIN LINE
—	PROPERTY LINE
—	R&D WALL
✕	R&D TREE & STUMP



- NOTES:**
1. EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED AND UPGRADED AS NECESSARY DURING CONSTRUCTION BY THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND INSTALL ADDITIONAL CONTROL MEASURES AS NEEDED DURING CONSTRUCTION.
 2. STABILIZATION OF ALL RE-GRADED AND SOIL STOCKPILE AREAS MUST BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
 3. SEDIMENT REMOVED FROM EROSION AND SEDIMENT CONTROL DEVICES MUST BE PROPERLY REMOVED AND DISPOSED. ALL DAMAGED CONTROLS MUST BE REMOVED AND REPLACED.
 4. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENT CONTROL PLAN. THIS INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, AND NOTIFYING THE PROPER CITY AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY.
 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING WIND EROSION AND DUST THROUGHOUT THE LIFE OF HIS CONTRACT. DUST CONTROL MAY INCLUDE, BUT IS NOT LIMITED TO, SPRINKLING OF WATER ON EXPOSED SOILS AND STREET SWEEPING ADJACENT ROADWAYS.
 6. IF FINAL GRADING IS TO BE DELAYED FOR MORE THAN 21 DAYS AFTER LAND DISTURBANCE ACTIVITIES CEASE, TEMPORARY VEGETATION OR MULCH SHALL BE USED TO STABILIZED SOILS WITHIN 14 DAYS OF THE LAST DISTURBANCE.
 7. IF A DISTURBED AREA WILL BE EXPOSED FOR GREATER THAN ONE YEAR, PERMANENT GRASSES OR OTHER APPROVED COVER MUST BE INSTALLED.
 8. THE CONTRACTOR MUST KEEP ON-SITE AT ALL TIMES ADDITIONAL FILTER BERMS AND/OR SILT FENCE FOR THE INSTALLATION AT THE DIRECTION OF THE ENGINEER OR CONSERVATION COMMISSION TO MITIGATE ANY EMERGENCY CONDITION.
 9. THE EROSION AND SEDIMENT CONTROLS AS SHOWN MAY NOT BE PRACTICAL DURING ALL STAGES OF CONSTRUCTION. EARTHWORK ACTIVITY ON-SITE MUST BE DONE IN A MANNER SUCH THAT RUNOFF IS DIRECTED TO A SEDIMENT CONTROL DEVICE OR INFILTRATED TO THE GROUND.
 10. DEMOLITION AND CONSTRUCTION DEBRIS MUST BE PROPERLY CONTAINED AND DISPOSED OF.
 11. DISPOSAL OF ALL DEMOLISHED MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE HAULED OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.
 12. CONTRACTOR TO VERIFY UTILITY SERVICE ABANDONED PRIOR TO CUT AND CAP.

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
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100% CD SET

SITE PREPARATION PLAN - 1

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C1.00



PARKWAY APARTMENTS
 1545-1555 VFW PARKWAY
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4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET

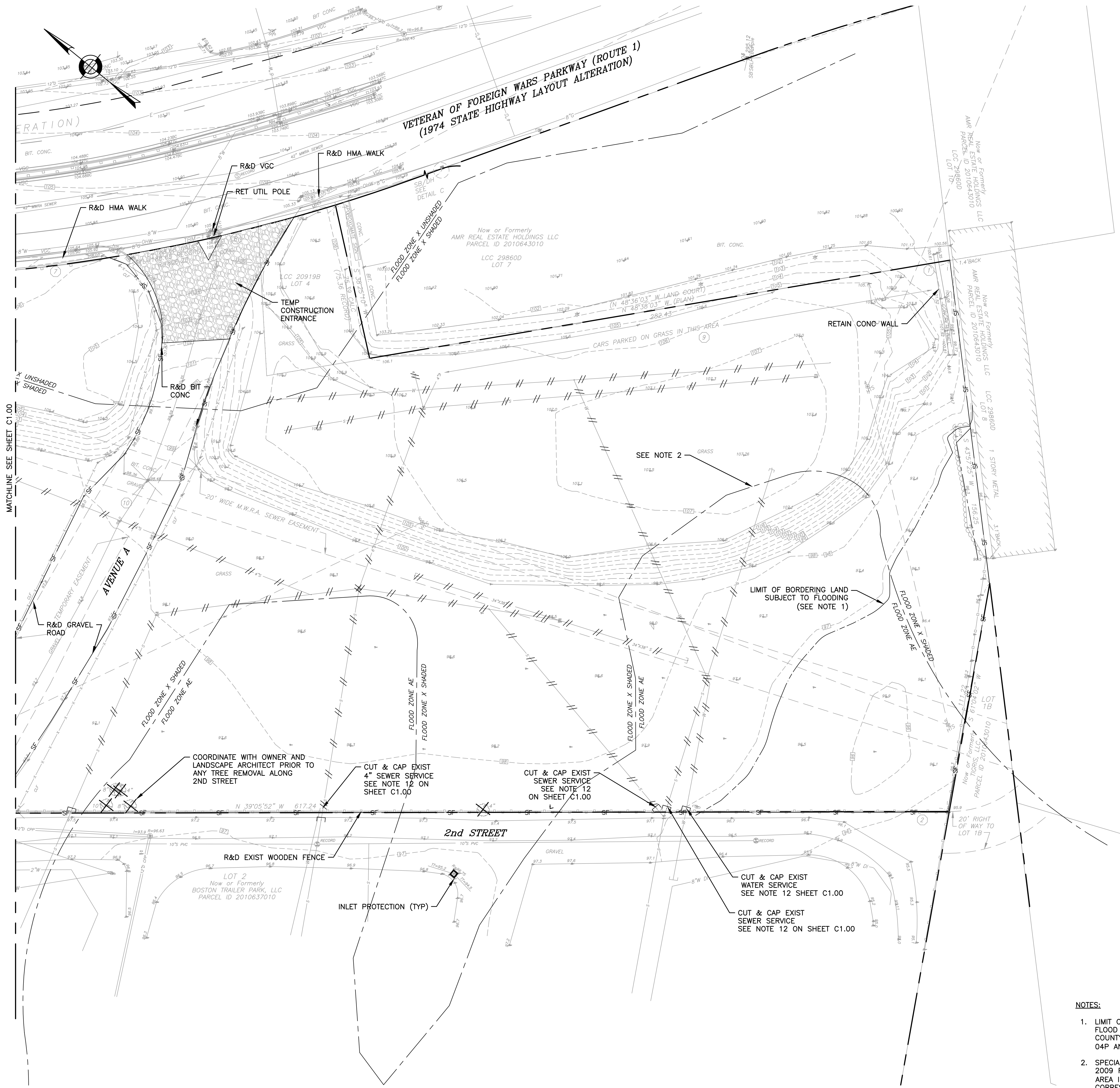


100% CD SET

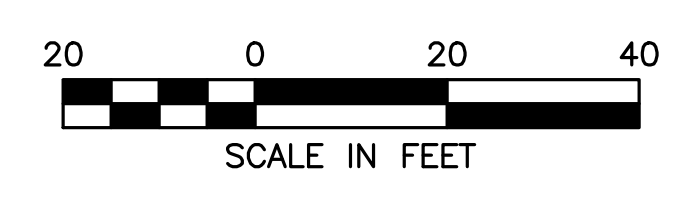
SITE PREPARATION PLAN - 2

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C1.01



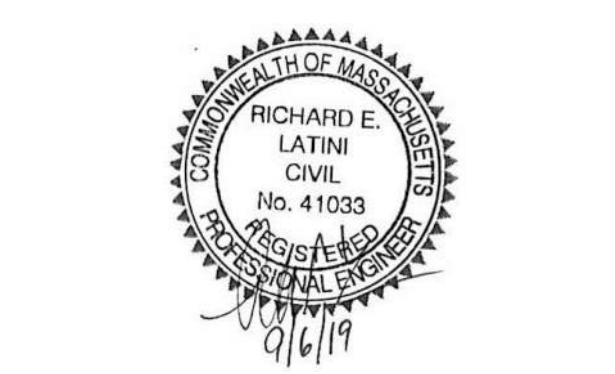
- NOTES:**
- LIMIT OF BORDERING LAND SUBJECT TO FLOODING (BLSF) DETERMINED BY THE BASE FLOOD ELEVATION PROVIDED IN FLOOD INSURANCE STUDY NO. 25025CV000B, SUFFOLK COUNTY, MA REVISED MARCH 16, 2016, FLOOD PROFILES FOR CHARLES RIVER, PANES 04P AND 05P, 90.4' NAVD 88 (96.9' BCB), AND FIELD SURVEY.
 - SPECIAL FLOOD HAZARD AREA BASED ON GRAPHIC PLOTTING FROM THE SEPTEMBER 25, 2009 FIRM. HOWEVER, THE BASE FLOOD ELEVATION DETERMINED BY FEMA FOR THIS AREA IN THE FIRM (AND USED IN BLSF DELINEATION, SEE NOTE 1) DOES NOT CORRESPOND TO THIS 2009 FEMA GRAPHIC REPRESENTATION.



PREPARED FOR:
 LINCOLN PARKWAY LLC
 C/O LINCOLN PROPERTY COMPANY
 221 CRESCENT ST, SUITE 102A
 WALTHAM, MA 02453

PARKWAY APARTMENTS
 1545-1555 VFW PARKWAY
 WEST ROXBURY, BOSTON, MA, 02132
 SUFFOLK COUNTY

REVISIONS:			
NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET

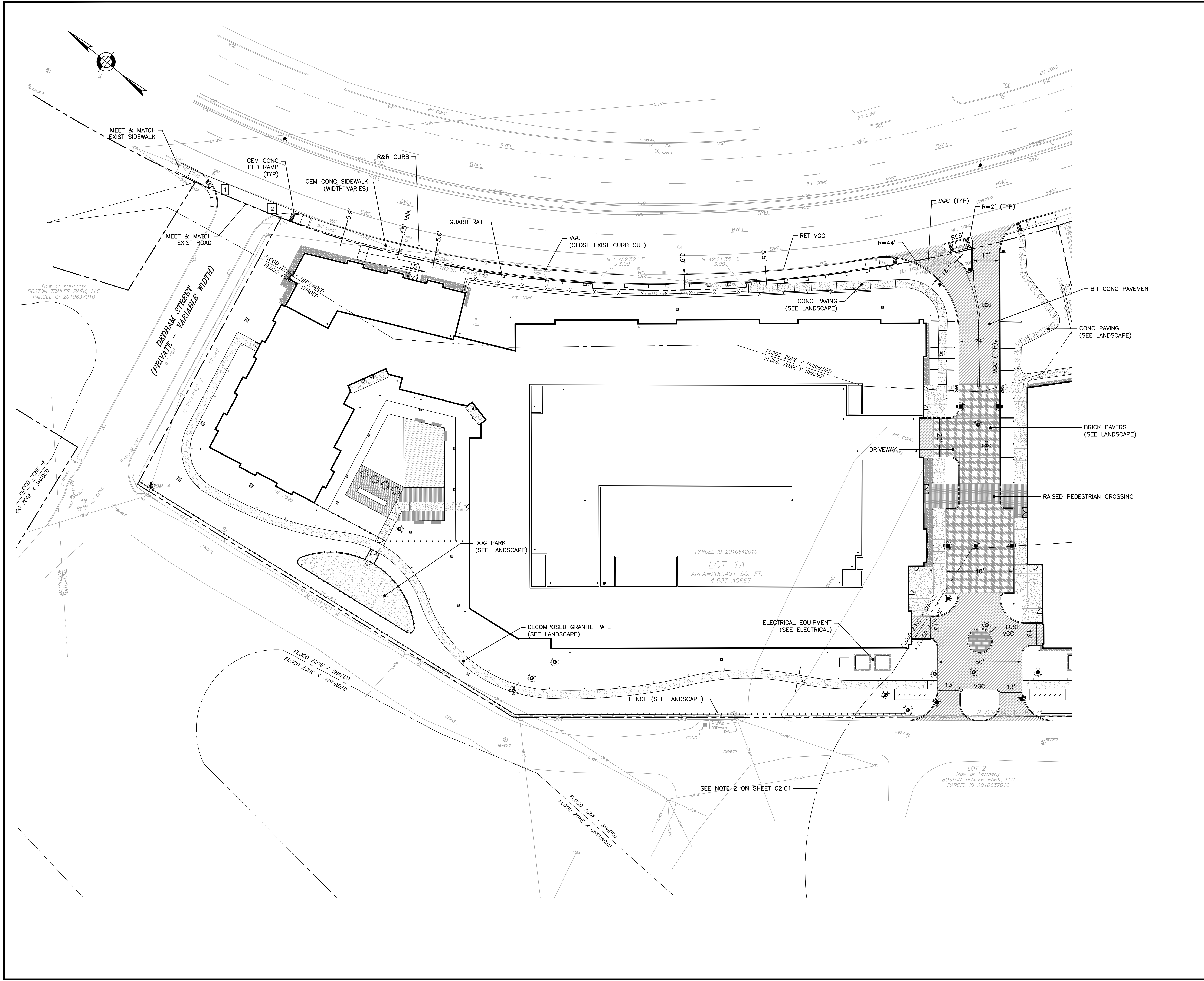


100% CD SET

LAYOUT &
 MATERIALS
 PLAN - 1

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C2.00

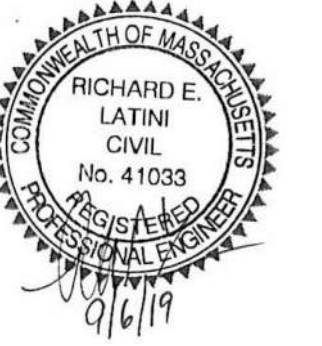


9/8/2018 - L:\17163\CD\SET\17163.LAYOUT PLAN.dwg

PARKWAY APARTMENTS
 1545-1555 VFW PARKWAY
 WEST ROXBURY, BOSTON, MA, 02132
 SUFFOLK COUNTY

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET

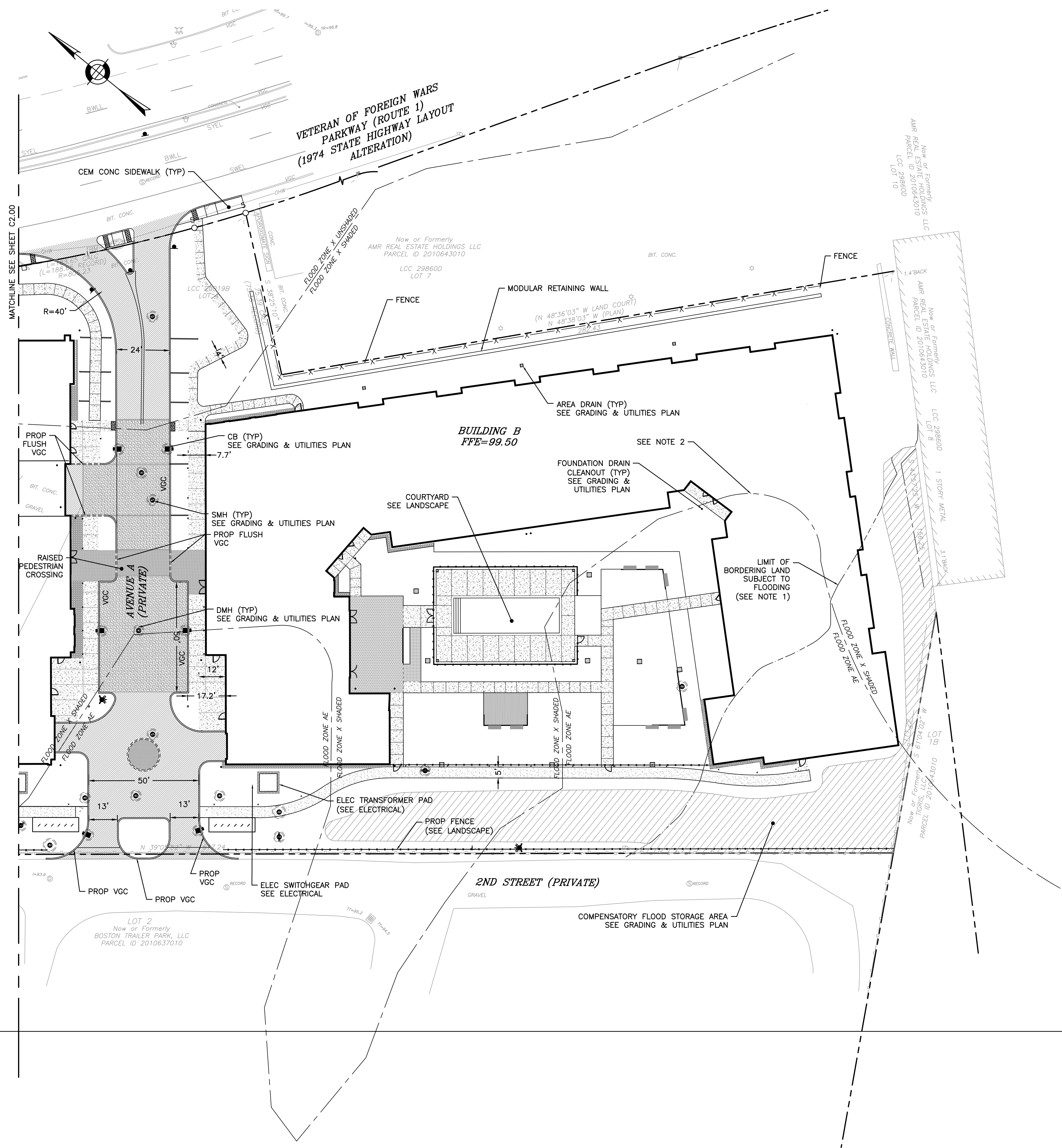


100% CD SET

LAYOUT & MATERIALS PLAN - 2

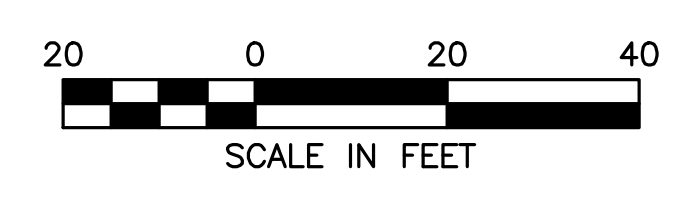
DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C2.01

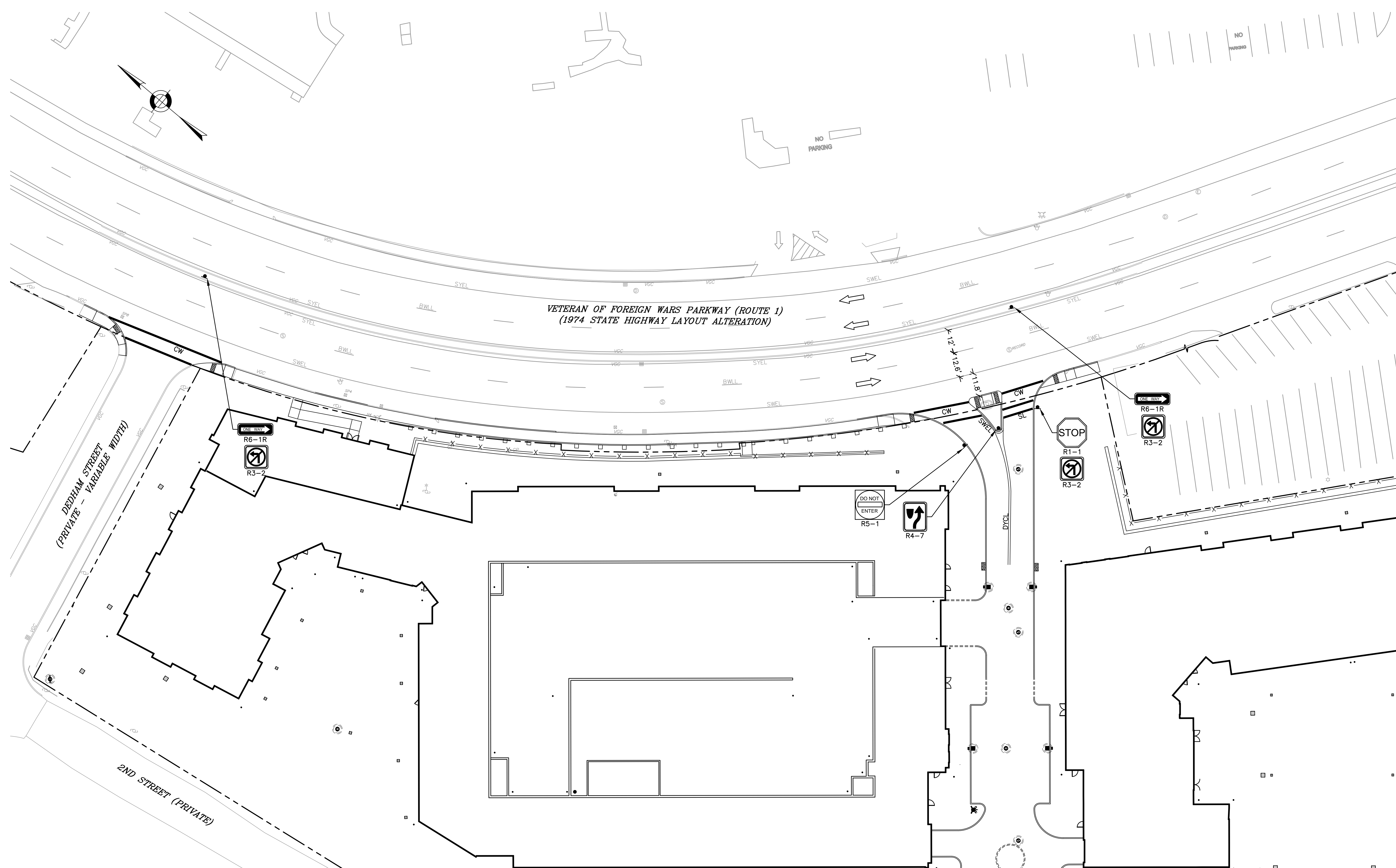


NOTES:

- LIMIT OF BORDERING LAND SUBJECT TO FLOODING (BLSF) DETERMINED BY THE BASE FLOOD ELEVATION PROVIDED IN FLOOD INSURANCE STUDY NO. 25025CV000B, SUFFOLK COUNTY, MA REVISED MARCH 16, 2016, FLOOD PROFILES FOR CHARLES RIVER, PANES 04P AND 05P, 90.4' NAVD 88 (96.9' BCB), AND FIELD SURVEY.
- SPECIAL FLOOD HAZARD AREA BASED ON GRAPHIC PLOTTING FROM THE SEPTEMBER 25, 2009 FIRM. HOWEVER, THE BASE FLOOD ELEVATION DETERMINED BY FEMA FOR THIS AREA IN THE FIRM (AND USED IN BLSF DELINEATION, SEE NOTE 1) DOES NOT CORRESPOND TO THIS 2009 FEMA GRAPHIC REPRESENTATION.



PARKWAY APARTMENTS
 1545-1555 VFW PARKWAY
 WEST ROXBURY, BOSTON, MA, 02132
 SUFFOLK COUNTY



REVISIONS:

NO	BY	DATE	DESCRIPTION
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2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
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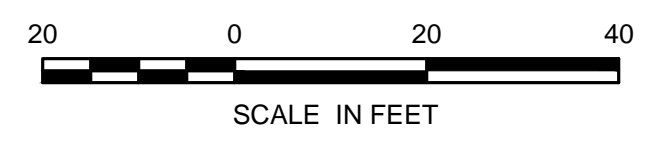


PAVEMENT MARKING LEGEND

SWEL	6" SOLID WHITE EDGE LINE
SWGL	6" SOLID WHITE GORE LINE
DYCL	2-6" YELLOW CENTER LINES, 6" GAP
SL	WHITE STOP LINE (24" UNLESS OTHERWISE SPECIFIED)
CW	WHITE - CROSS WALK (12" LINES, 8' O.C.) (UNLESS OTHERWISE SHOWN)
▲	SIGN POST
BWLL	EXISTING BROKEN WHITE LANE LINE
SWEL	EXISTING SOLID WHITE EDGE LINE
SYEL	EXISTING SOLID YELLOW EDGE LINE

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		TEXT	TEXT DIMENSIONS	NUMBER OF SIGNS REQUIRED	BACK-GROUND	LEGEND/SYMBOL	BORDER	POST SIZE AND NUMBER REQUIRED PER SIGN	UNIT AREA SF	AREA IN SQUARE FEET
	WIDTH	HEIGHT									
R1-1	30"	30"	STOP	⊙	1	RED	WHITE	WHITE	P5 (1)	6.25	6.25
R3-2	24"	24"			3	WHITE	BLACK/RED	BLACK	P5 (2)	4.00	12.00
R4-7	18"	24"			1	WHITE	BLACK	BLACK	P5 (1)	3.00	3.00
R5-1	30"	30"	DO NOT ENTER		1	WHITE	RED	WHITE	P5 (1)	6.25	6.25
R6-1R	36"	12"	ONE WAY		2	BLACK	WHITE	BLACK	P5 (1)	3.00	6.00

① SEE MUTCD 2009 EDITION, 2004/2012 STD. HWY. SIGNS AND SECTION M9.30.0. TYPE III OF THE MASSDOT STANDARD SPECIFICATION FOR TEXT DIMENSIONS AND COLOR.



100% CD SET

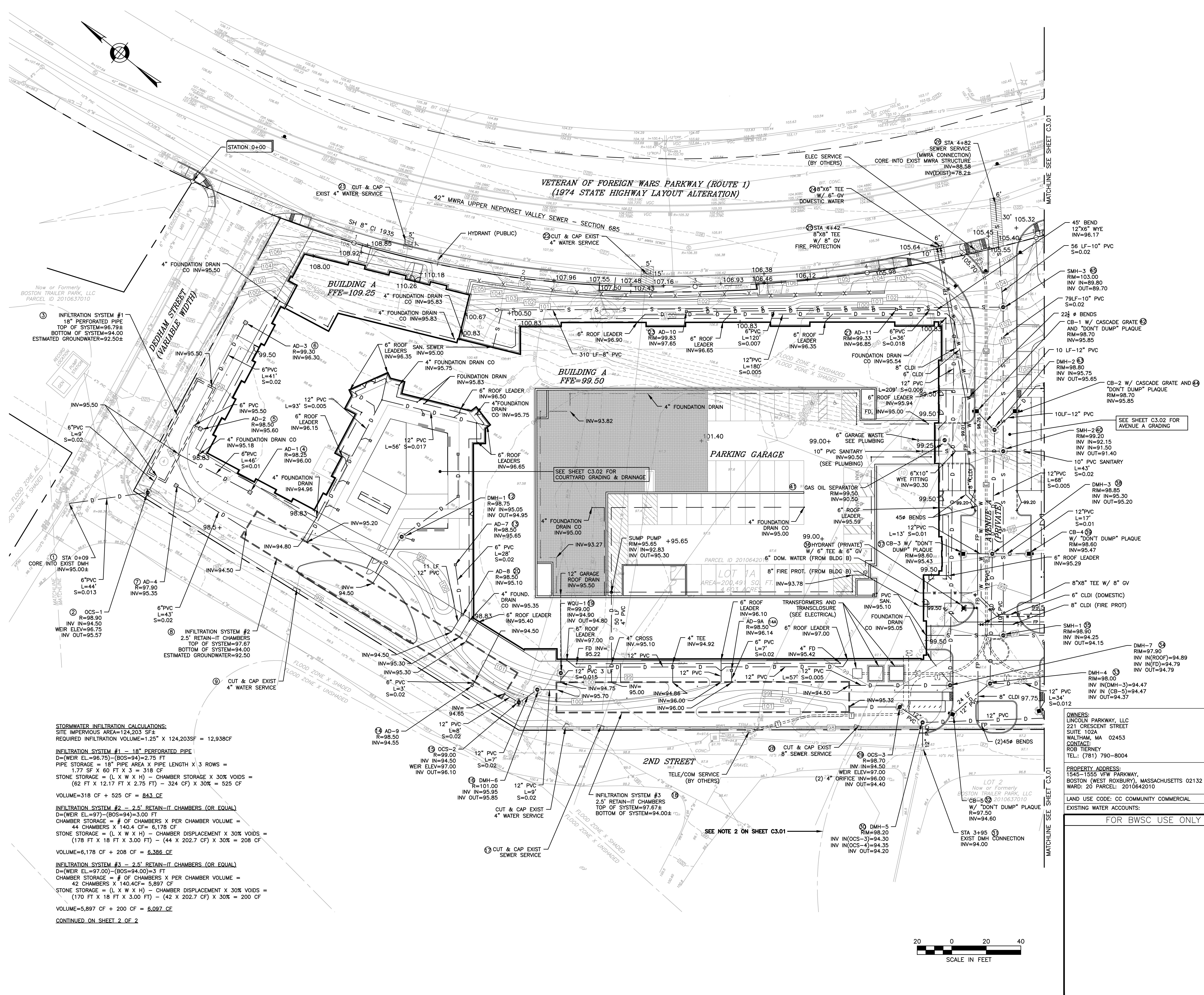
PAVEMENT MARKING & SIGNAGE PLAN

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

PM1.00

PREPARED FOR:
 LINCOLN PARKWAY LLC
 C/O LINCOLN PROPERTY COMPANY
 221 CRESCENT ST, SUITE 102A
 WALTHAM, MA 02453

PARKWAY APARTMENTS
 1545-1555 VFW PARKWAY
 WEST ROXBURY, BOSTON, MA, 02132
 SUFFOLK COUNTY



STORMWATER INFILTRATION CALCULATIONS:
 SITE IMPERVIOUS AREA=124,203 SF ±
 REQUIRED INFILTRATION VOLUME=1.25" X 124,203SF = 12,938CF

INFILTRATION SYSTEM #1 - 18" PERFORATED PIPE
 D=(WEIR EL.=96.75)-(BOS=94)=2.75 FT
 PIPE STORAGE = 18" PIPE AREA X PIPE LENGTH X 3 ROWS =
 1.77 SF X 60 FT X 3 = 318 CF
 STONE STORAGE = (L X W X H) - CHAMBER STORAGE X 30% VOIDS =
 (62 FT X 12.17 FT X 2.75 FT) - 324 CF X 30% = 525 CF
 VOLUME=318 CF + 525 CF = **843 CF**

INFILTRATION SYSTEM #2 - 2.5' RETAIN-IT CHAMBERS (OR EQUAL)
 D=(WEIR EL.=97)-(BOS=94)=3.00 FT
 CHAMBER STORAGE = # OF CHAMBERS X PER CHAMBER VOLUME =
 44 CHAMBERS X 140.4 CF = 6,178 CF
 STONE STORAGE = (L X W X H) - CHAMBER DISPLACEMENT X 30% VOIDS =
 (178 FT X 18 FT X 3.00 FT) - (44 X 202.7 CF) X 30% = 208 CF
 VOLUME=6,178 CF + 208 CF = **6,386 CF**

INFILTRATION SYSTEM #3 - 2.5' RETAIN-IT CHAMBERS (OR EQUAL)
 D=(WEIR EL.=97.00)-(BOS=94.00)=3 FT
 CHAMBER STORAGE = # OF CHAMBERS X PER CHAMBER VOLUME =
 42 CHAMBERS X 140.4CF = 5,897 CF
 STONE STORAGE = (L X W X H) - CHAMBER DISPLACEMENT X 30% VOIDS =
 (170 FT X 18 FT X 3.00 FT) - (42 X 202.7 CF) X 30% = 200 CF
 VOLUME=5,897 CF + 200 CF = **6,097 CF**

CONTINUED ON SHEET 2 OF 2

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET



OWNERS:
 LINCOLN PARKWAY, LLC
 221 CRESCENT STREET
 SUITE 102A
 WALTHAM, MA 02453
CONTACT:
 ROB TIERNY
 TEL: (781) 790-8004

PROPERTY ADDRESS:
 1545-1555 VFW PARKWAY,
 BOSTON (WEST ROXBURY), MASSACHUSETTS 02132
 WARD: 20 PARCEL: 2010642010

LAND USE CODE: CC COMMUNITY COMMERCIAL
EXISTING WATER ACCOUNTS:

FOR BWSC USE ONLY

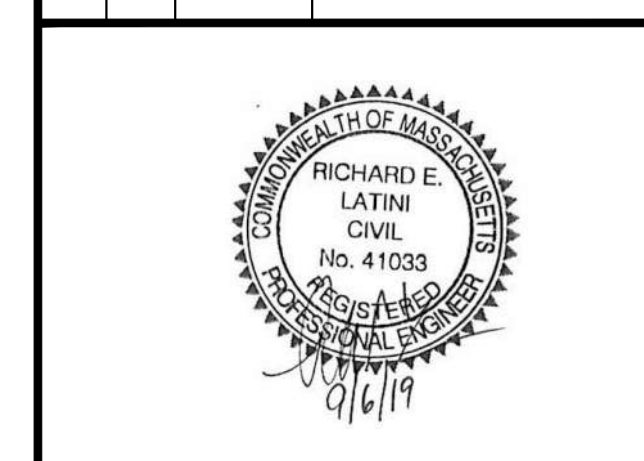
100% CD SET

**GRADING & UTILITIES
 PLAN - 1**

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET



100% CD SET

**GRADING & UTILITIES
 PLAN - 2**

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C3.01

LEGEND

- PROPOSED**
- CEMENT-LINED DUCTILE IRON PIPE (CLASS 56) CLDI
 - DRAIN MANHOLE
 - GATE VALVE
 - POLYVINYL CHLORIDE PIPE
 - OUTLET CONTROL STRUCTURE
 - CATCH BASIN
 - TAPPING SLEEVE & GATE VALVE
 - PROPOSED CONTOUR
 - AREA DRAIN
- EXISTING**
- SEWER MANHOLE
 - DRAIN MANHOLE
 - ELECTRIC MANHOLE
 - TELEPHONE MANHOLE
 - MANHOLE
 - HYDRANT
 - WATER SHUT OFF
 - GAS SHUT OFF
 - BOSTON WATER VALVE
 - CATCH BASIN
 - ELECTRIC HANDHOLE
 - BOLLARD
 - MAIL BOX
 - SIGN
 - AREA DRAIN
 - LIGHT POLE
 - UTILITY POLE W/ LIGHT
 - GAS METER
 - TRASH RECEPTACLE
 - DECIDUOUS TREE
 - GATE POST
 - NUMBER OF PARKING SPACES
 - HANDICAP RAMP
 - BOTTOM OF CURB
 - BOTTOM OF WALL
 - CHAIN LINK FENCE
 - CONCRETE
 - FLUSH GRANITE CURB
 - INVERT ELEVATION
 - IMACCESSIBLE
 - LAND COURT CASE
 - NOT TO SCALE
 - RADIUS OF RIM ELEVATION
 - SQUARE FEET
 - TEMPORARY BENCH MARK
 - TOP OF CURB
 - CENTERLINE OF TROUGH
 - TOP OF STEPS
 - TOP OF TRAP
 - TOP OF WALL
 - VERTICAL GRANITE CURB
 - CABLE TELEVISION
 - COMBINED SEWER DRAIN
 - ELECTRIC
 - GAS
 - TELEPHONE
 - WATER
 - SEWER

NOTES

- LIMIT OF BORDERING LAND SUBJECT TO FLOODING (BLSF) DETERMINED BY THE BASE FLOOD ELEVATION PROVIDED IN FLOOD INSURANCE STUDY NO. 25025CV000B, SUFFOLK COUNTY, MA, REVISED MARCH 16, 2016, FLOOD PROFILES FOR CHARLES RIVER, PANES 04P AND 05P, 90.4' NAVD 88 (96.9' BCB), AND FIELD SURVEY.
- SPECIAL FLOOD HAZARD AREA BASED ON GRAPHIC PLOTTING FROM THE SEPTEMBER 25, 2009 FIRM. HOWEVER, THE BASE FLOOD ELEVATION DETERMINED BY FEMA FOR THIS AREA IN THE FIRM (AND USED IN BLSF DELINEATION, SEE NOTE 1) DOES NOT CORRESPOND TO THIS 2009 FEMA GRAPHIC REPRESENTATION.
- TOPOGRAPHIC AND PROPERTY LINE INFORMATION OBTAINED FROM A PLAN ENTITLED "ALTA/NSPS LAND TITLE SURVEY, 1515 VETERANS OF FOREIGN WARS PARKWAY, BOSTON (WEST ROXBURY DISTRICT) MASS.", PREPARED BY FELDMAN LAND SURVEYORS, DATED JULY 31, 2017 REVISED THROUGH MAY 16, 2018.
- ALL ELEVATIONS ARE BOSTON CITY BASE (B.C.B.).
- THE ACCURACY AND COMPLETENESS OF UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT LOCATION, SIZE, TYPE, ETC. OF ALL UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE WORK. AT LEAST 72 HOURS BEFORE EXCAVATION BEGINS THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT (888)344-7233.
- THE CONTRACTOR SHALL FIELD VERIFY CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENGINEER.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION, 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.
- ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE NOTIFIED, INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN, (SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS) PRIOR TO DESIGNING, EXCAVATING, BLASTING, INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORATION, OR REPAIRING.
- PROTECT ALL NEW AND EXISTING UTILITIES DURING CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE CONSTRUCTION OF THE PROJECT.
- ALL WATER, SEWER, AND DRAIN WORK SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS AND STANDARD DETAILS OF THE BOSTON WATER AND SEWER COMMISSION.
- ALL ABANDONED WATER, SEWER AND DRAIN CONNECTIONS MUST BE CUT AND CAPPED AT THE MAIN IN THE STREET IN ACCORDANCE WITH BWSO STANDARDS. SANITARY SEWER AND STORM DRAIN ABANDONMENT PROCEDURE IS TO CUT AND CAP AT MAIN. RETURN METERS NOT IN USE.
- PIPE SLOPES ARE IN FEET/FEET.
- ALL CONSTRUCTION WORK PERFORMED ON THE BWSO'S UTILITY LINES MUST BE INSPECTED BY BWSO CONSTRUCTION INSPECTORS. AS-BUILT PLANS SHALL BE SUBMITTED TO THE BWSO FOLLOWING THE COMPLETION OF THE INSTALLATIONS.
- CONTRACTOR MUST PAY ALL FEES AND PERMITS.
- THE CONTRACTOR MUST CLEAN ALL DRAIN INLETS ADJACENT TO THE SITE PRIOR TO PROJECT CLOSEOUT.
- ANY CONSTRUCTION DEWATERING REQUIRES A DRAINAGE DISCHARGE PERMIT FROM THE BWSO AND A NPDES PERMIT FROM THE EPA.
- RIM ELEVATIONS OF ALL STRUCTURES ARE APPROXIMATE AND SHALL BE FLUSH TO FINISH GRADE. THIS INCLUDES ADJUSTING THE RIM ELEVATIONS OF EXISTING MANHOLES, GATES, ETC. FINAL ELEVATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD.
- BWSO OPERATIONS (617-989-7276) MUST BE NOTIFIED 48 HOURS IN ADVANCE PRIOR TO THE INSTALLATION OF WATER AND FIRE SERVICES AND, IF NEEDED, SHUTTING DOWN OF THE MAIN.
- THE CONTRACTOR SHALL PREPARE AS-BUILT PLAN (MYLAR & ELECTRONICALLY) OF THE UTILITY SYSTEM WORK FOR SUBMITTAL TO THE BOSTON WATER AND SEWER COMMISSION, AND IS INCIDENTAL TO THE WORK.
- A PREREQUISITE FOR FILING A GENERAL SERVICE APPLICATION WITH THE BOSTON WATER AND SEWER COMMISSION FOR NEW CONSTRUCTION IS THE ROUGH CONSTRUCTION SIGN-OFF DOCUMENT FROM THE CITY OF BOSTON'S INSPECTION SERVICES DEPARTMENT.
- IF WATER USE FROM HYDRANT IS PROPOSED THE CONTRACTOR MUST APPLY FOR A HYDRANT METER PERMIT FROM THE BWSO AND PAY ALL COSTS INCLUDING DEPOSIT, RENTAL, AND WATER USAGE FEES.
- METERS 2-INCHES OR LESS WILL BE SUPPLIED BY BWSO.
- PIPE MATERIALS (UNLESS OTHERWISE NOTED)
 STORM DRAIN: PVC SDR 35
 SANITARY SEWER: PVC SDR 35
 WATER PIPE: CLDI CLASS 56 W/ ZINC COATING
- PRIVATE HYDRANTS MUST BE PAINTED RED AND PURCHASED FROM BWSO
- BENDS IN THE WATER SERVICE MUST BE RESTRAINED JOINT TYPE

BWSO INSPECTION SIGN-OFF SCHEDULE

ITEM NO.	DESCRIPTION OF SERVICE	BWSO INSPECTOR/DATE	COMMENT
1	EXISTING DMH CONNECTION		
2	OCS-1		
3	INFILTRATION SYSTEM #1		
4	AD-1		
5	AD-2		
6	AD-3		
7	AD-4		
8	INFILTRATION SYSTEM #2		
9	CUT & CAP EXIST WATER SERVICE		
10	AD-5 (IN COURTYARD)		
11	AD-6 (IN COURTYARD)		
12	DMH-1		
13	AD-7		
14	AD-9		
14A	AD-9A		
15	OCS-2		
16	DMH-6		
17	CUT & CAP EXIST SEWER SERVICE		
18	INFILTRATION SYSTEM #3		
19	WQU-1		
20	AD-8		
21	CUT & CAP EXIST WATER SERVICE		
22	CUT & CAP EXIST WATER SERVICE		
23	AD-10		
24	6" DOMESTIC WATER SERVICE		
25	8" FIRE PROTECTION SERVICE		
26	SEWER SERVICE		
27	AD-11		
28	CUT & CAP EXIST SEWER SERVICE		
29	OCS-3		
30	DMH-5		
31	EXIST DMH CONNECTION		
32	CB-5		
33	DMH-4		
34	DMH-7		
35	SMH-1		
36	HYDRANT (PRIVATE)		
37	CB-3		
38	DMH-3		
39	CB-4		
40	SMH-2		
41	GAS OIL SEPARATOR		
42	CB-1 W/ CASCADE GRATE		
43	DMH-2		
44	CB-2 W/ CASCADE GRATE		
45	SMH-3		
46	CB-6		
47	CUT & CAP EXIST SEWER SERVICE		
48	DMH-9		
49	WQU-2		
50	OCS-4		
51	INFILTRATION SYSTEM #4		
52	OCS-5		
53	AD-12 (IN COURTYARD)		
54	CUT & CAP EXIST SEWER SERVICE		
55	CUT & CAP EXIST SEWER SERVICE		
56	CUT & CAP EXIST WATER SERVICE		
57	INFILTRATION SYSTEM #5		
58	DMH-8		
59	AD-13 (IN COURTYARD)		
60	AD-14 (IN COURTYARD)		
61	AD-15		
62	AD-16		
63	AD-17		
64	HYDRANT (PRIVATE)		
	"DON'T DUMP" PLAQUE (6)		
	AS-BUILT		
	4:1 I/1		

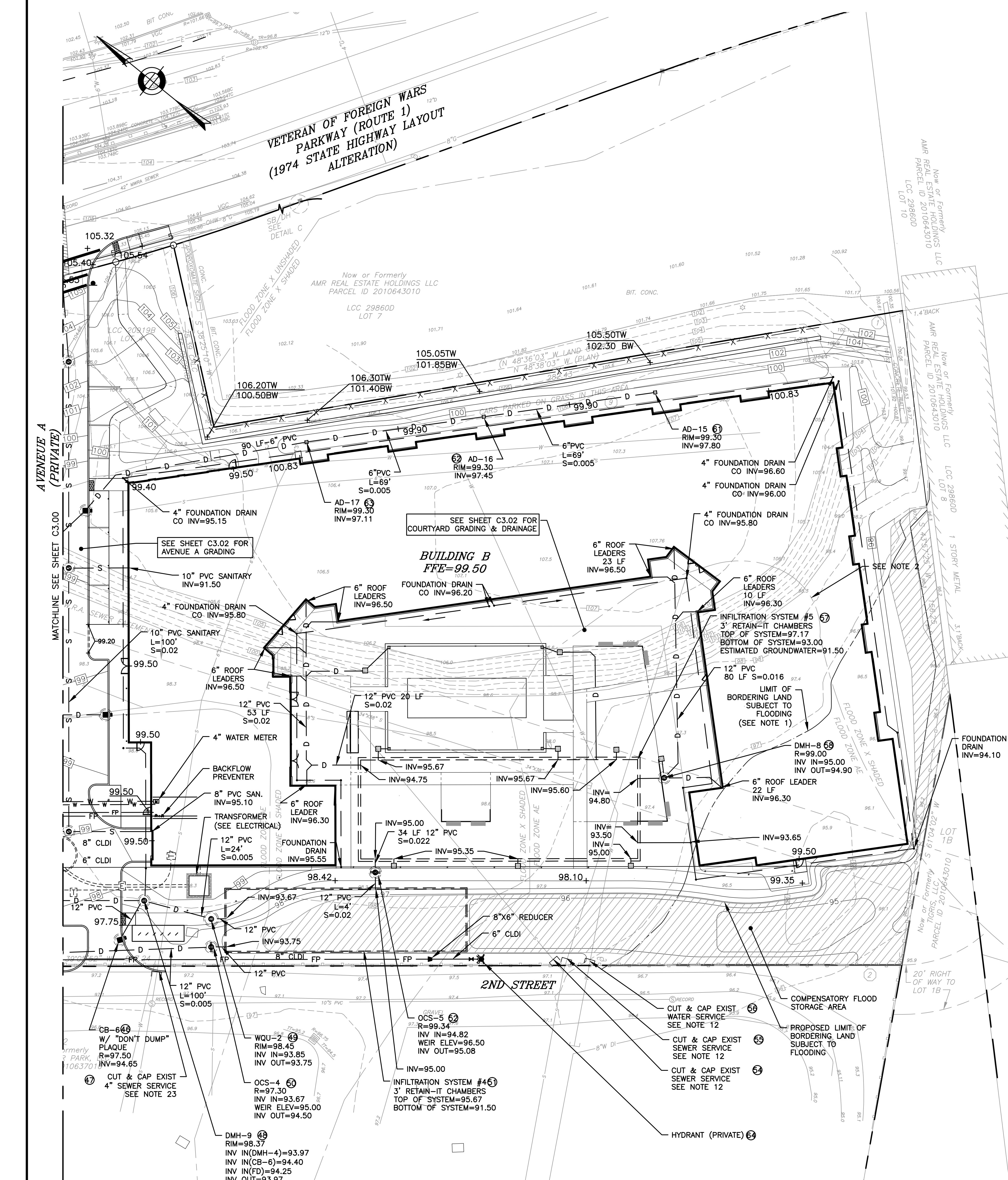
STORMWATER INFILTRATION CALCULATIONS (CONT'D):

INFILTRATION SYSTEM #4 - 3' RETAIN-IT CHAMBERS (OR EQUAL)
 D=(WEIR EL=96.50)-(BOS=93)=3.50 FT
 CHAMBER STORAGE = # OF CHAMBERS X PER CHAMBER VOLUME =
 36 CHAMBERS X 170.6 CF = 6,142 CF
 STONE STORAGE = (L X W X H) - CHAMBER DISPLACEMENT X 30% VOIDS =
 (98 FT X 26 FT X 3.50 FT) - (36 X 234.7 CF) X 30% = 141 CF
 VOLUME = 6,142 CF + 141 CF = **6,283 CF**

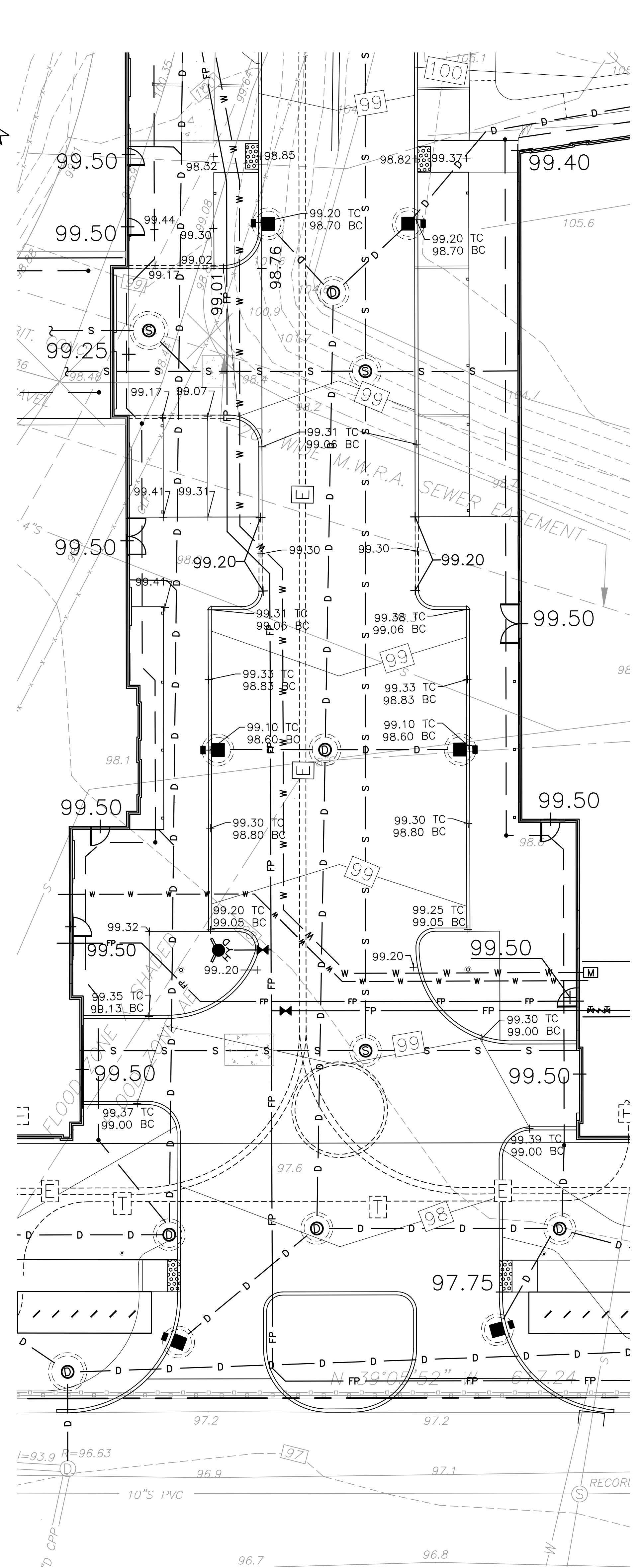
INFILTRATION SYSTEM #5 - 3' RETAIN-IT CHAMBERS (OR EQUAL)
 D=(WEIR EL=96.50)-(BOS=93)=3.50 FT
 CHAMBER STORAGE = # OF CHAMBERS X PER CHAMBER VOLUME =
 70 CHAMBERS X 170.6 CF = 11,942 CF
 STONE STORAGE = (L X W X H) - CHAMBER DISPLACEMENT X 30% VOIDS =
 (114 FT X 42 FT X 3.50 FT) - (70 X 234.7 CF) X 30% = 99 CF
 VOLUME = 11,942 CF + 99 CF = **12,041 CF**

TOTAL INFILTRATION VOLUME PROVIDED= 843 CF+6,386 CF+6,097CF+6,283 CF+12,041 CF=31,650 CF
 31,650 CF PROPOSED > 12,938 CF REQUIRED

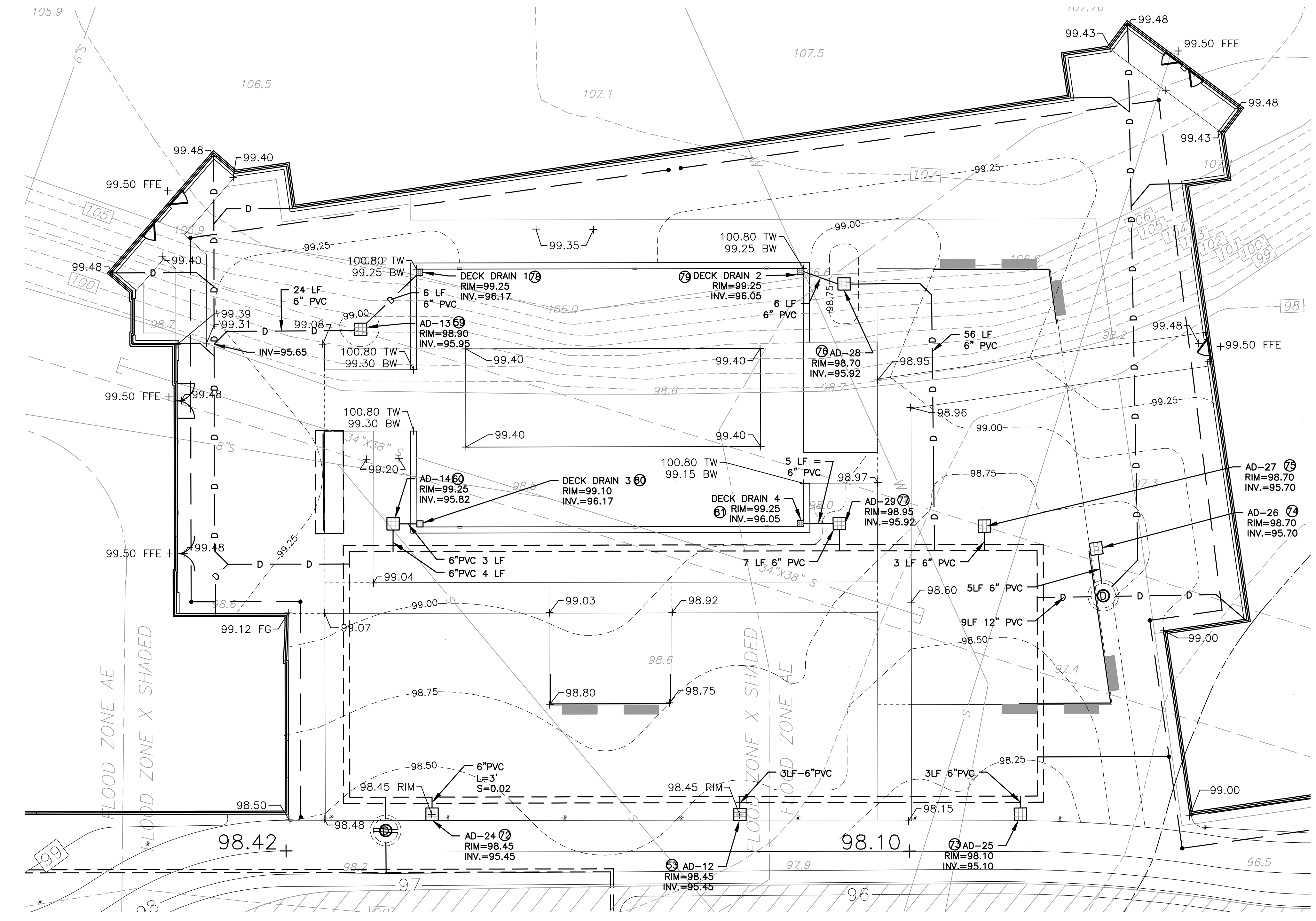
SEWER GENERATION FLOW ESTIMATE			
USE	QUANTITY	DESIGN FLOWS	ESTIMATED DAILY FLOW (GPD)
RESIDENTIAL	340 BEDROOMS	110 GPD/BEDROOM	37,400
	PROPOSED TOTAL		37,400



PARKWAY APARTMENTS
 1545-1555 VFW PARKWAY
 WEST ROXBURY, BOSTON, MA, 02132
 SUFFOLK COUNTY

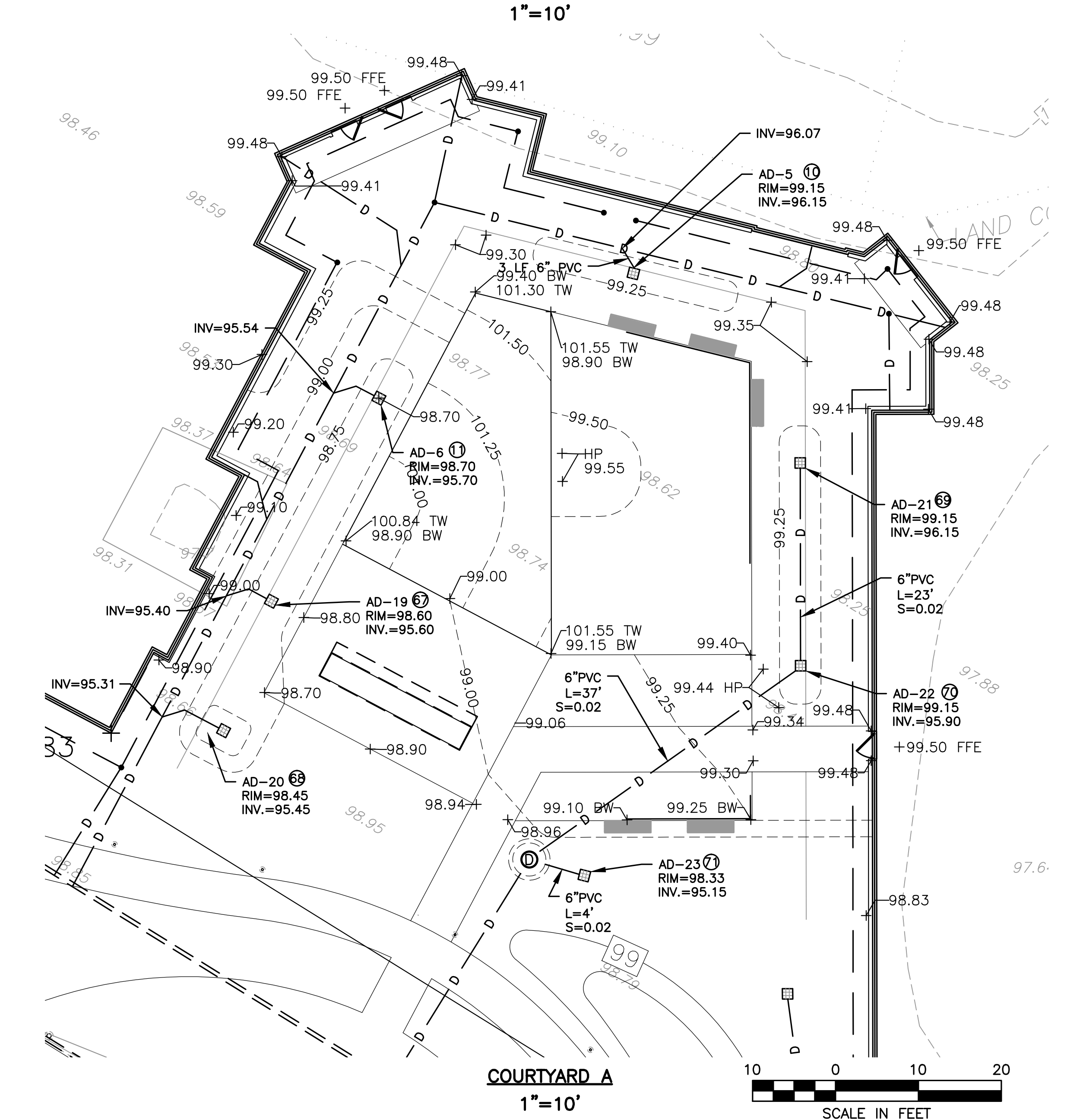


AVENUE A
 1"=10'



COURTYARD B
 1"=10'

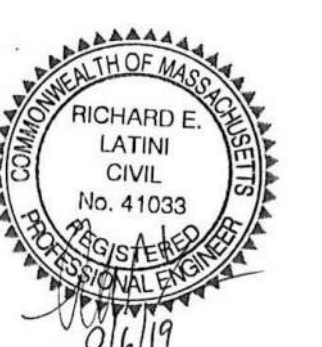
BWSC INSPECTION SIGN-OFF SCHEDULE			
ITEM NO.	DESCRIPTION OF SERVICE	BWSC INSPECTOR/DATE	COMMENT
67	AD-19		
68	AD-20		
69	AD-21		
70	AD-22		
71	AD-23		
72	AD-24		
73	AD-25		
74	AD-26		
75	AD-27		
76	AD-28		
77	AD-29		
78	DECK DRAIN 1		
79	DECK DRAIN 2		
80	DECK DRAIN 3		
81	DECK DRAIN 4		



COURTYARD A
 1"=10'
 SCALE IN FEET

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET



100% CD SET

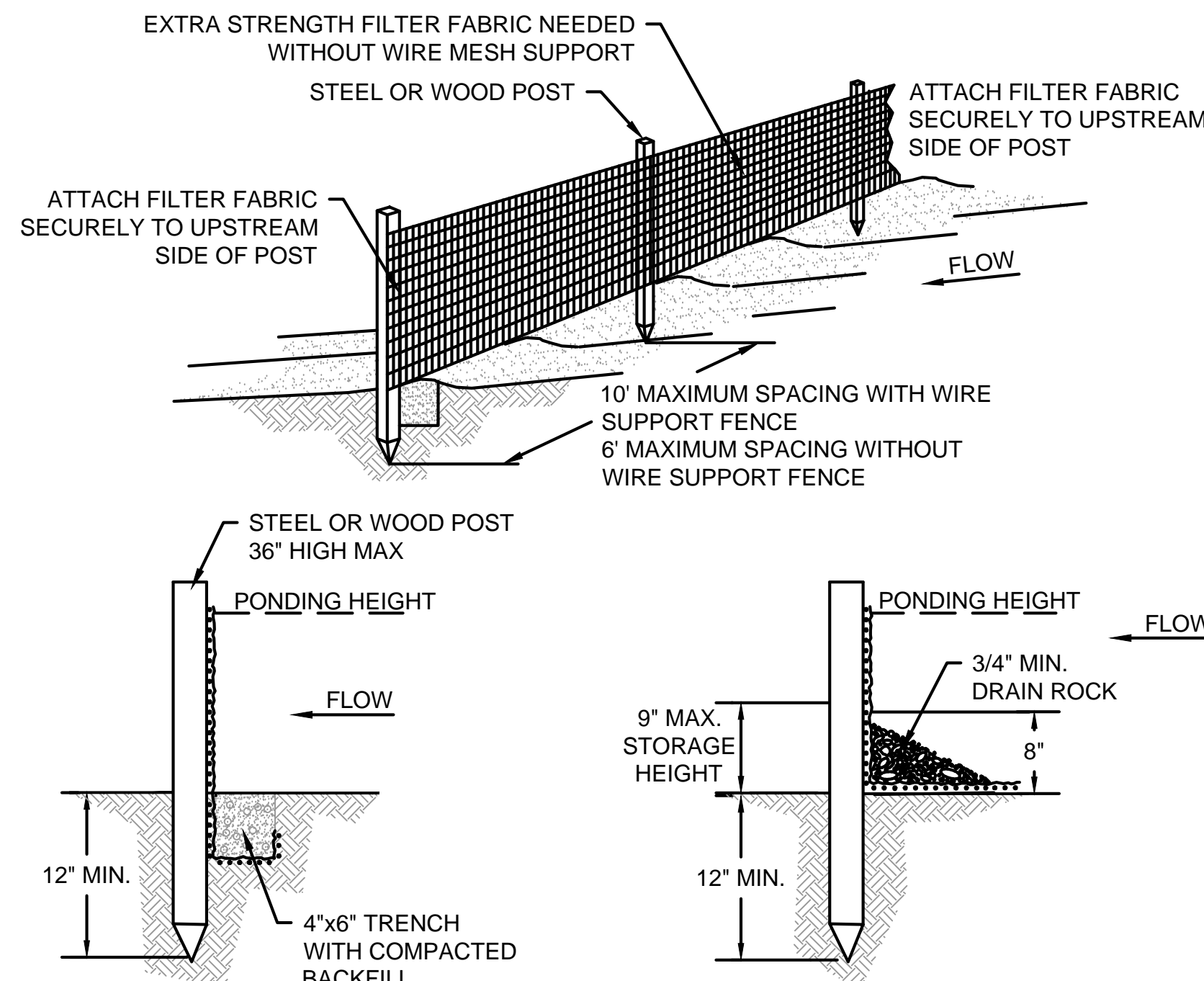
**GRADING & UTILITIES
 PLAN - 3**

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C3.02

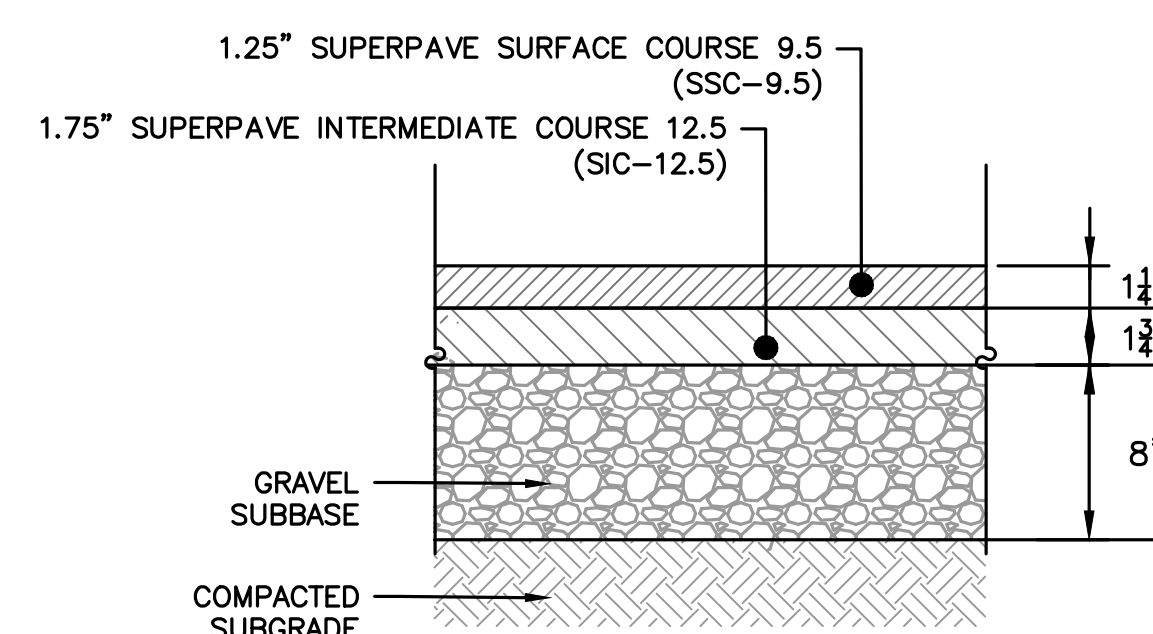
EROSION & SEDIMENT CONTROL NOTES:

1. EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED AND UPGRADED AS NECESSARY DURING CONSTRUCTION BY THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND INSTALL ADDITIONAL CONTROL MEASURES AS NEEDED DURING CONSTRUCTION.
2. ALL CATCH BASINS RECEIVING DRAINAGE FROM THE PROJECT SITE MUST BE PROVIDED WITH A CATCH BASIN FILTER.
3. STABILIZATION OF ALL RE-GRADED AND SOIL STOCKPILE AREAS MUST BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
4. SEDIMENT REMOVED FROM EROSION AND SEDIMENT CONTROL DEVICES MUST BE PROPERLY REMOVED AND DISPOSED. ALL DAMAGED CONTROLS MUST BE REMOVED AND REPLACED.
5. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENT CONTROL PLAN. THIS INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, AND NOTIFYING THE PROPER CITY AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING WIND EROSION AND DUST THROUGHOUT THE LIFE OF HIS CONTRACT. DUST CONTROL MAY INCLUDE, BUT IS NOT LIMITED TO, SPRINKLING OF WATER ON EXPOSED SOILS AND STREET SWEEPING ADJACENT ROADWAYS.
7. IF FINAL GRADING IS TO BE DELAYED FOR MORE THAN 21 DAYS AFTER LAND DISTURBANCE ACTIVITIES CEASE, TEMPORARY VEGETATION OR MULCH SHALL BE USED TO STABILIZED SOILS WITHIN 14 DAYS OF THE LAST DISTURBANCE.
8. IF A DISTURBED AREA WILL BE EXPOSED FOR GREATER THAN ONE YEAR, PERMANENT GRASSES OR OTHER APPROVED COVER MUST BE INSTALLED. THE CONTRACTOR MUST KEEP ON-SITE AT ALL TIMES ADDITIONAL FILTER BERMS AND/OR SILT FENCE FOR THE INSTALLATION AT THE DIRECTION OF THE ENGINEER OR CONSERVATION COMMISSION TO MITIGATE ANY EMERGENCY CONDITION.
9. THE CONSTRUCTION FENCING AND EROSION AND SEDIMENT CONTROLS AS SHOWN MAY NOT BE PRACTICAL DURING ALL STAGES OF CONSTRUCTION. EARTHWORK ACTIVITY ON-SITE MUST BE DONE IN A MANNER SUCH THAT RUNOFF IS DIRECTED TO A SEDIMENT CONTROL DEVICE OR INFILTRATED TO THE GROUND.
10. DEMOLITION AND CONSTRUCTION DEBRIS MUST BE PROPERLY CONTAINED AND DISPOSED OF.
11. DISPOSAL OF ALL DEMOLISHED MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE HAUL OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.
12. CONSTRUCTION VEHICLES MUST ACCESS THE SITE FROM HAUL ROAD DURING CONSTRUCTION.

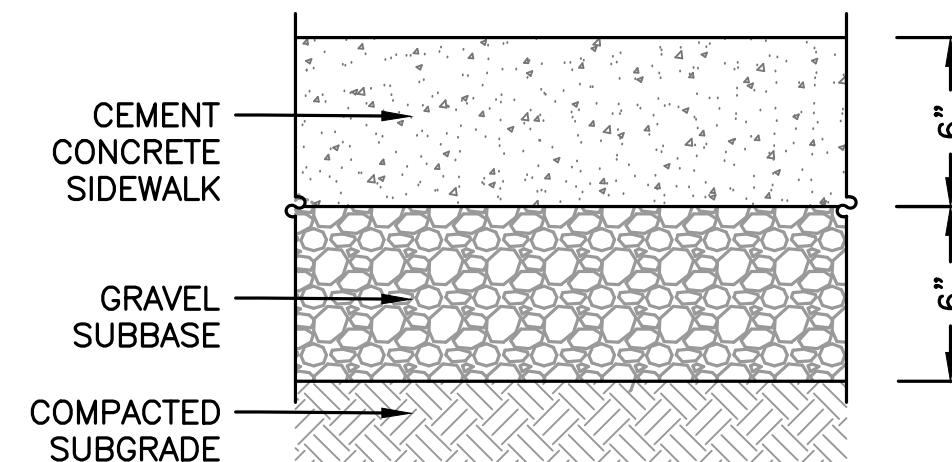


- NOTES:**
1. EROSION CONTROL BARRIER (HAY BALES, SILT FENCE OR EROSION STOCK) SHALL BE PLACED AROUND ALL MATERIAL STOCKPILE AREAS AND MAINTAINED AT STAGING AREAS TO ASSURE NO SILTATION ONTO PUBLIC OR PRIVATE WAYS OR PROPERTY.

EROSION CONTROL BARRIER
NOT TO SCALE

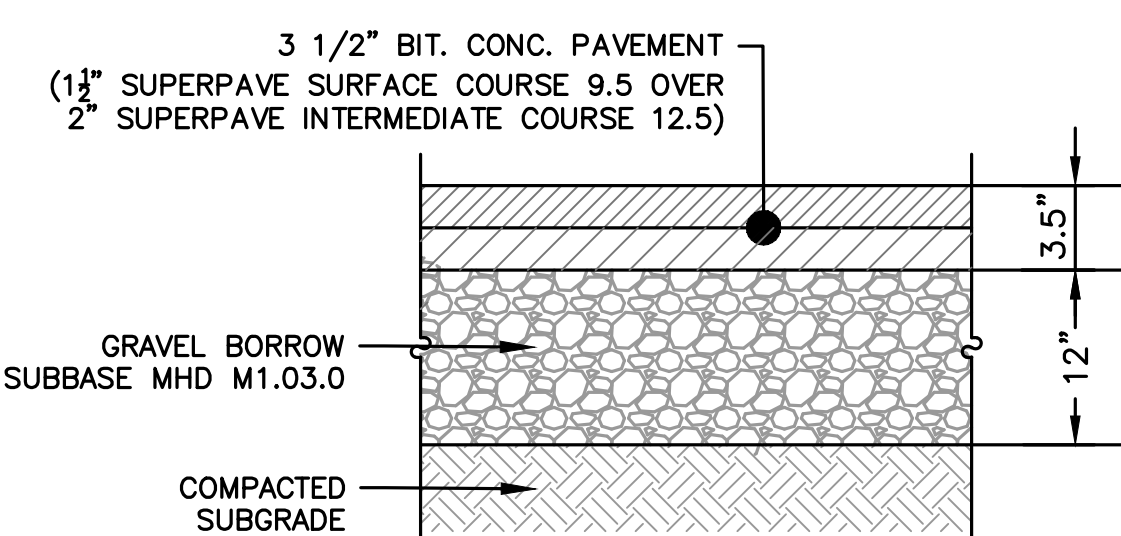


HOT MIX ASPHALT (HMA) SIDEWALK
NOT TO SCALE

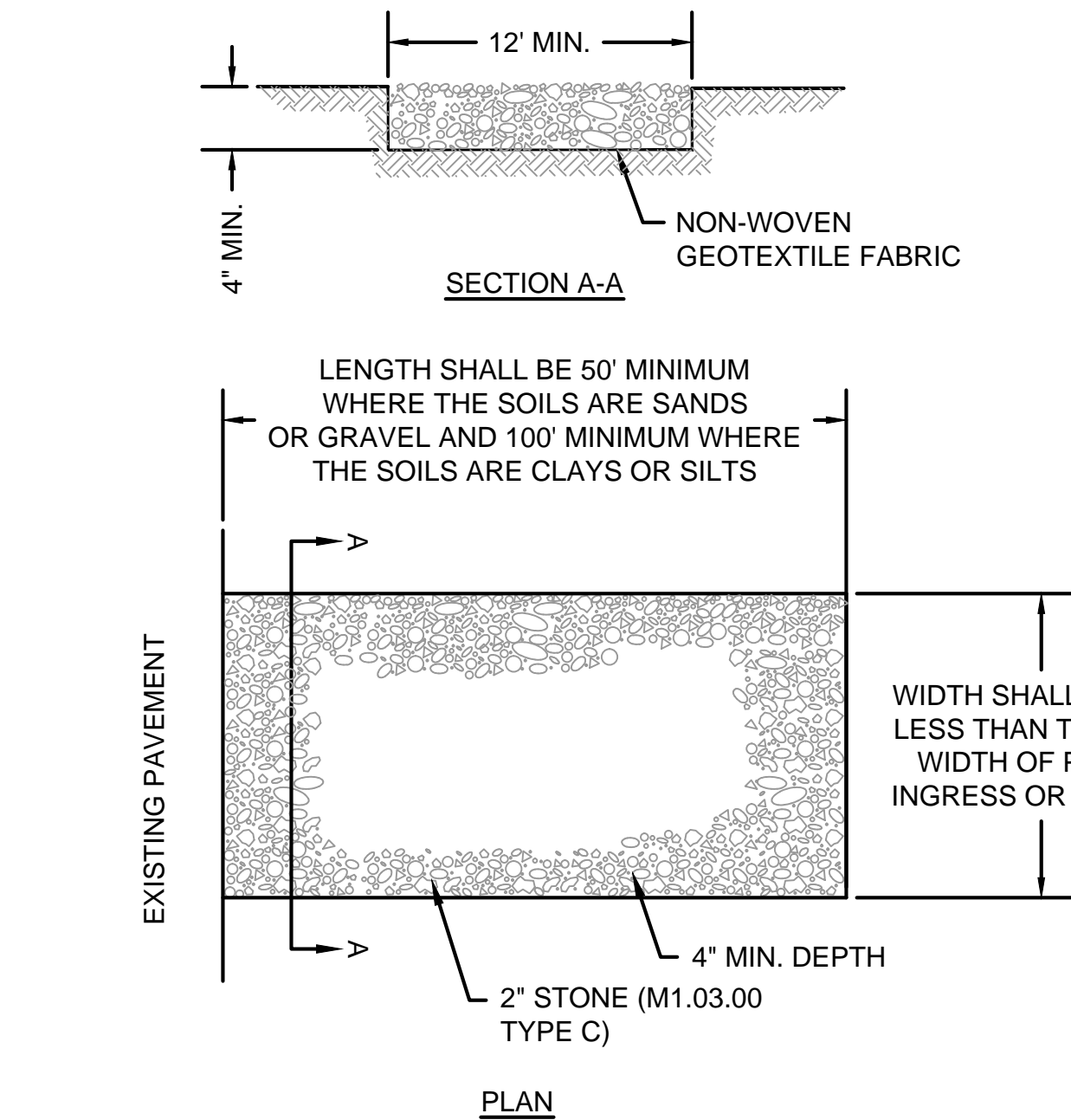


- NOTES:**
1. CONCRETE SIDEWALK DETAIL AND NOTES APPLY TO SIDEWALK WITHIN THE RIGHT-OF-WAY.
 2. CONCRETE SHALL BE 4,000 PSI.
 3. SIDEWALKS ARE TO BE RAKED FINISH WITH 3/8 INCH TROWEL JOINTS.

CEM CONC SIDEWALK SECTION DETAIL
NOT TO SCALE

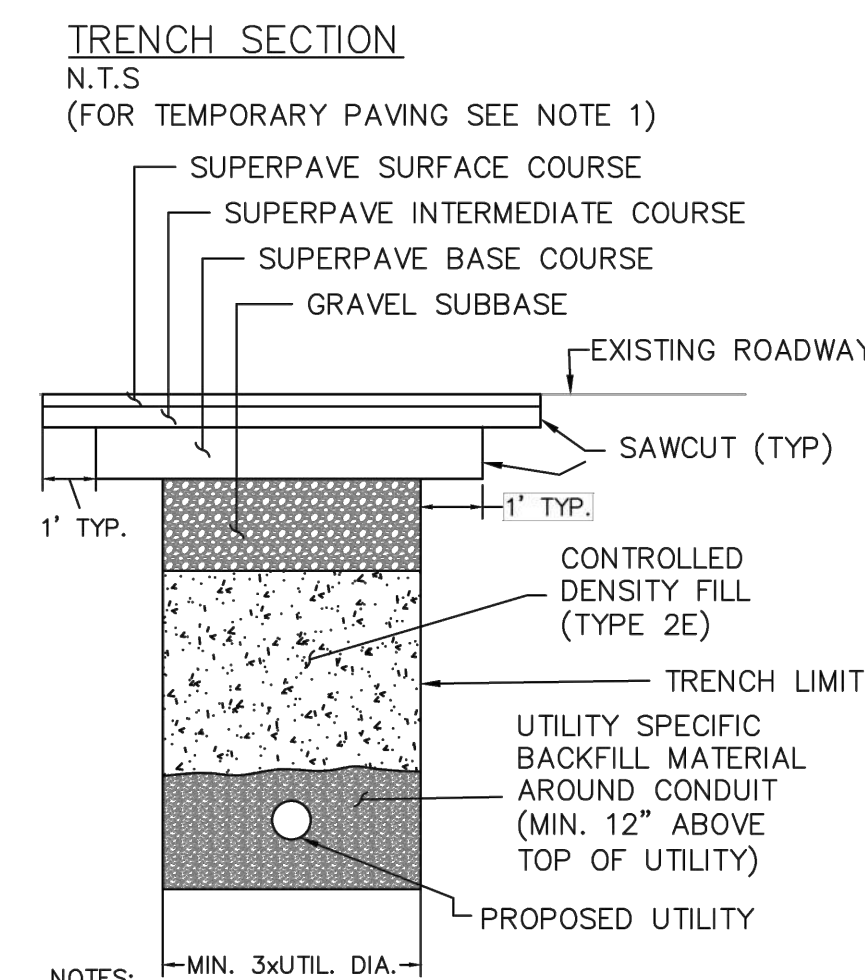


BIT CONC PAVEMENT
NOT TO SCALE



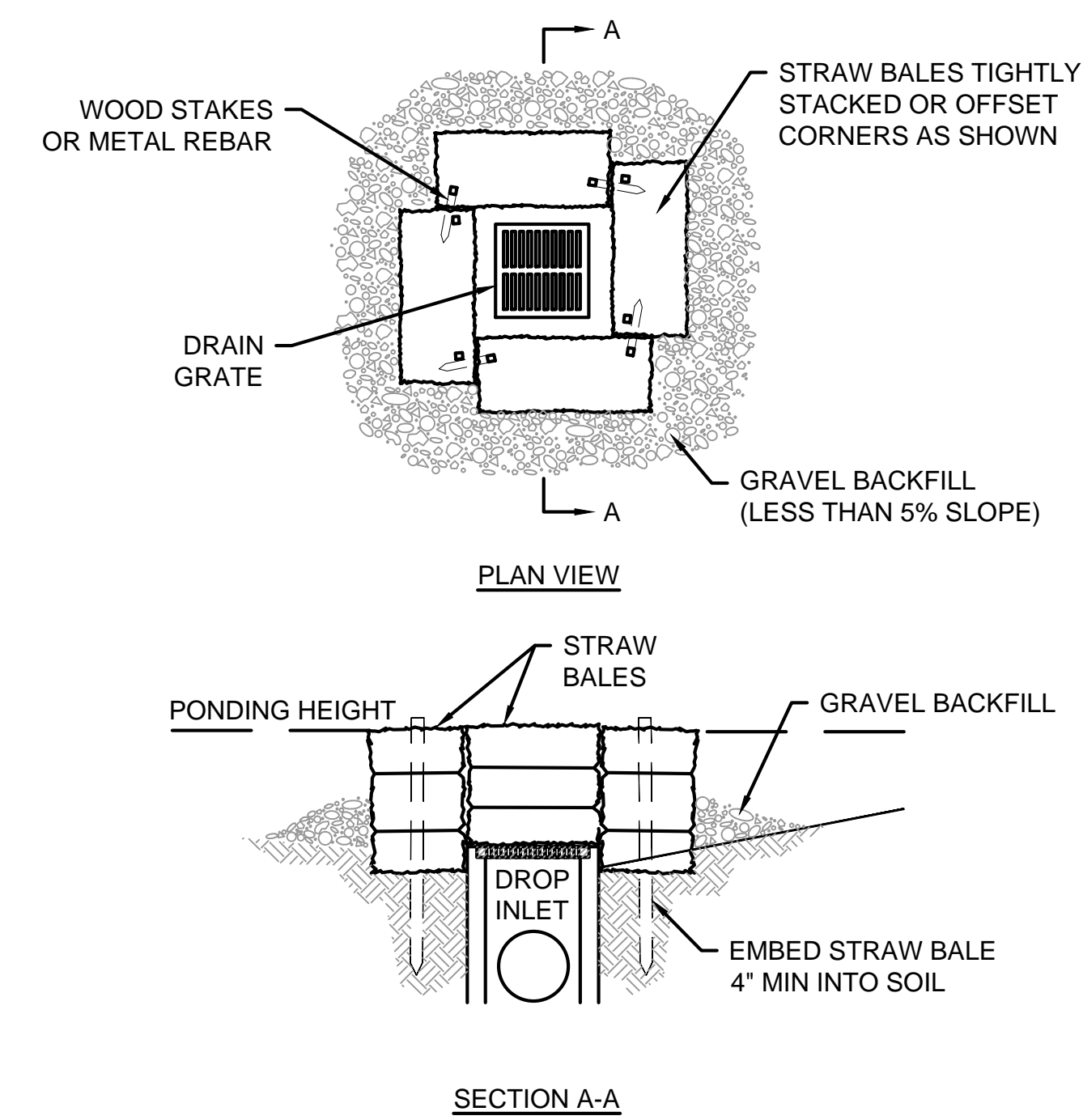
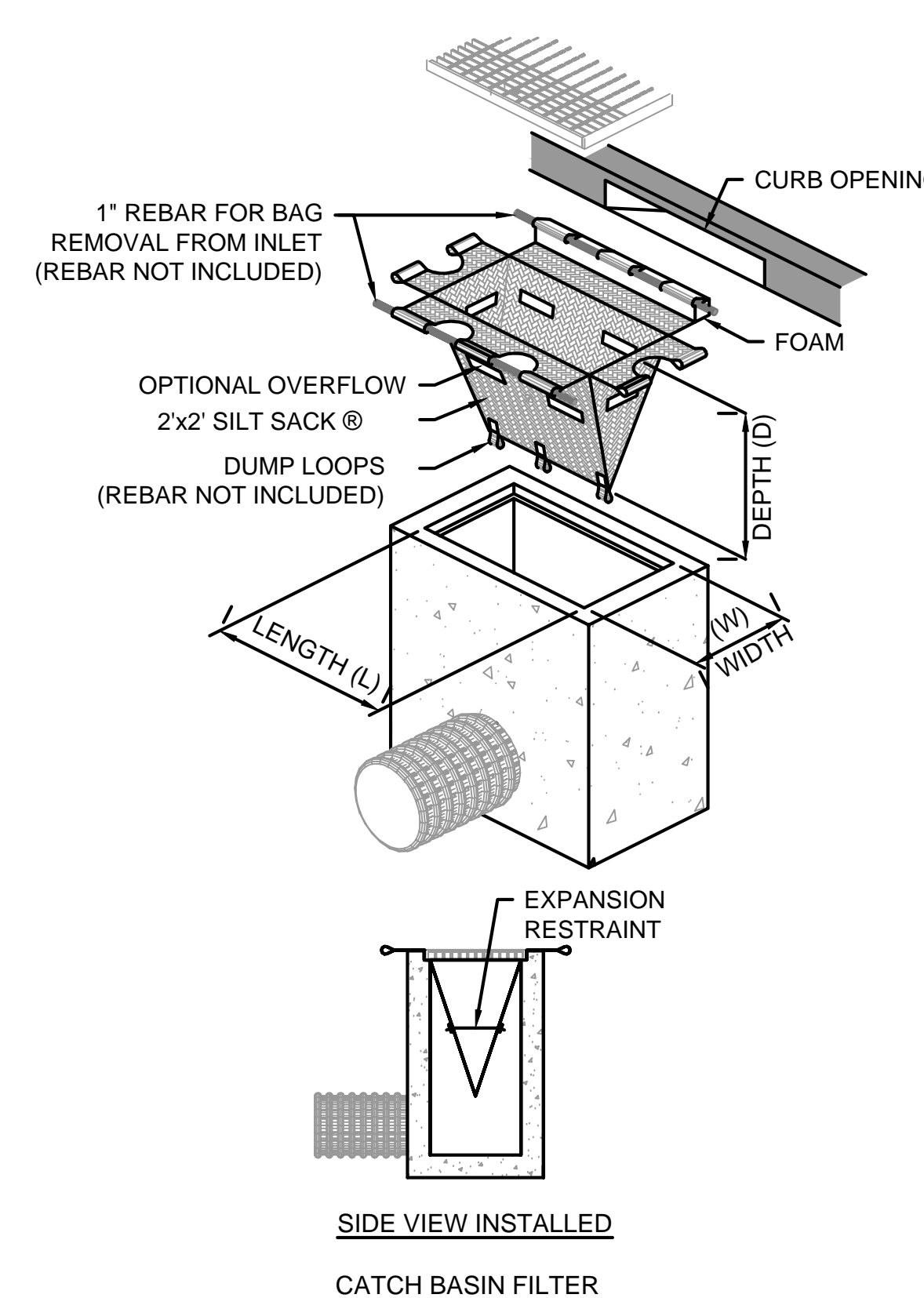
- NOTES:**
1. INSTALLATION: THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. THE GRAVEL SHALL BE PLACED TO THE SPECIFIED DIMENSIONS NOTED ABOVE.
 2. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENTS ONTO PUBLIC RIGHT-OF-WAYS. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE, OR ADDITIONAL LENGTH, AS CONDITIONS DEMAND, AND REPAIR, AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
 3. LOCATION: SEE C1.0 FOR LOCATION OF CONSTRUCTION ENTRANCES.

ROCK CONSTRUCTION ENTRANCE
NOT TO SCALE



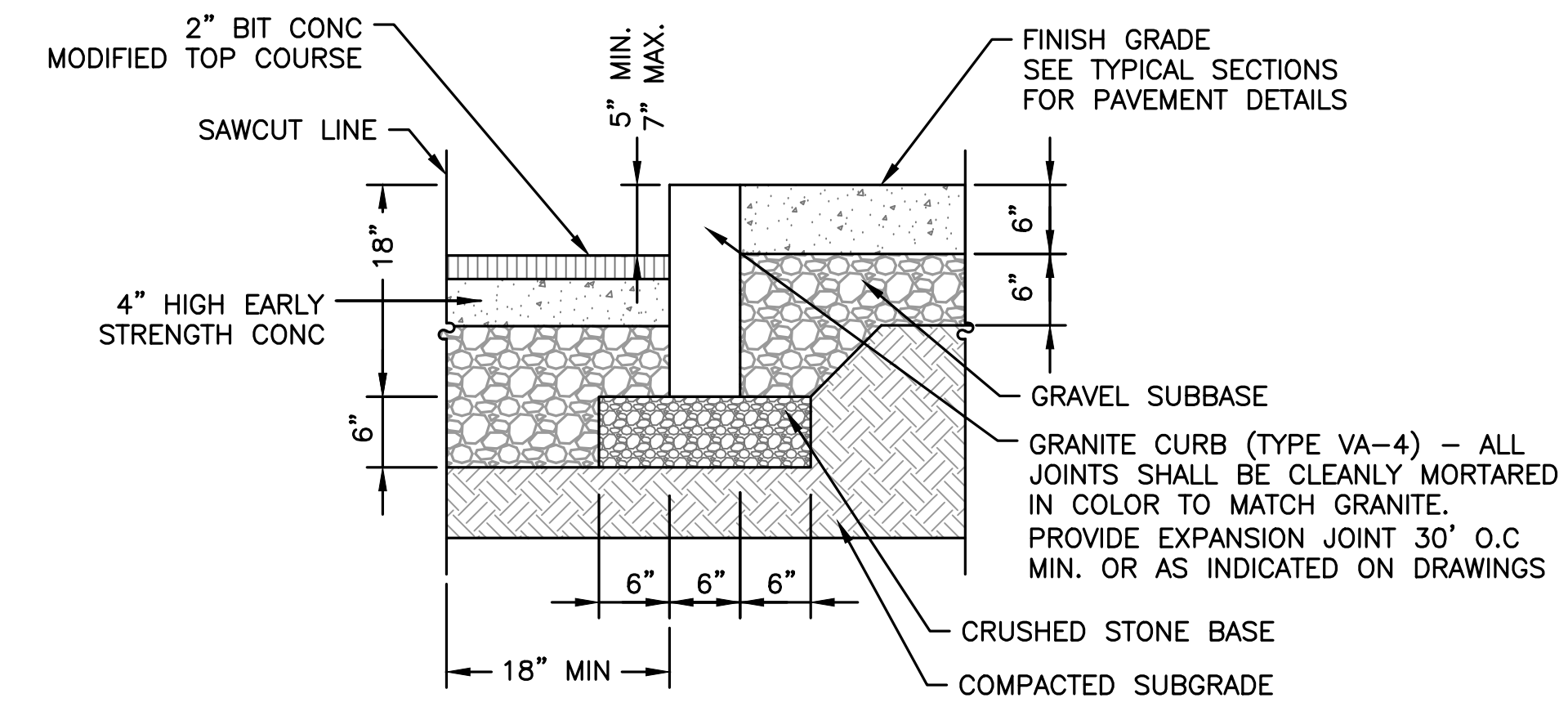
- NOTES:**
- 1.) IF A TEMPORARY PATCH IS TO BE USED, THE CDF SHALL BE PLACED TO THE ELEVATION OF THE ADJOINING SUBGRADE, THEN GRAVEL SHALL BE PLACED AND COMPACTED TO WITHIN 3 1/2 INCHES OF THE FINISHED GRADE. THE LAST 3 1/2 INCHES SHALL BE HOT MIX ASPHALT PLACED IN TWO LAYERS: 1 1/2" SURFACE COURSE OVER 2" INTERMEDIATE COURSE.
 - 2.) MATERIAL WHICH MEETS THE SPECIFICATION FOR GRAVEL BORROW TYPE C (M1.03.0 TYPE C), PLACED AND COMPACTED IN LAYERS NO GREATER THAN 6", MAY BE USED IN PLACE OF THE CDF WITH APPROVAL FROM THE DISTRICT HIGHWAY DIRECTOR.
 - 3.) THE EXPOSED EDGES OF ALL LONGITUDINAL AND TRANSVERSE SAW CUT JOINTS SHALL BE TREATED WITH HOT Poured RUBBERIZED ASPHALT JOINT SEALANT MEETING MASSDOT SPECIFICATIONS.
 - 4.) YELLOW METAL FOIL MARKING TAPE SHALL BE PLACED 18" OVER THE CONDUIT (METAL MARKING TAPE/WIRE SHOULD BE USED FOR NON-METALLIC CONDUIT.)
 - 5.) FOR ROADS WITH AN EXISTING CEMENT CONCRETE BASE, A REINFORCED, HIGH EARLY STRENGTH AIR ENTRAINED, CLASS "F" CEMENT CONCRETE SLAB SHALL BE CAST IN PLACE TO MEET THE EXISTING PAVEMENT. SPECIFIC JOINT DETAILS WITH THE EXISTING PAVEMENT SHALL BE APPROVED DEPENDENT ON THE EXISTING SITE CONDITIONS.
 - 6.) ALL TRENCH DIMENSIONS SHALL BE IN ACCORDANCE WITH SUB-SECTION 140.80 OF THE MASSDOT STANDARDS AND SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
 - 7.) SIC 19.0 MAY BE SUBSTITUTED FOR SBC-37.5

TRENCH PATCH
NOT TO SCALE

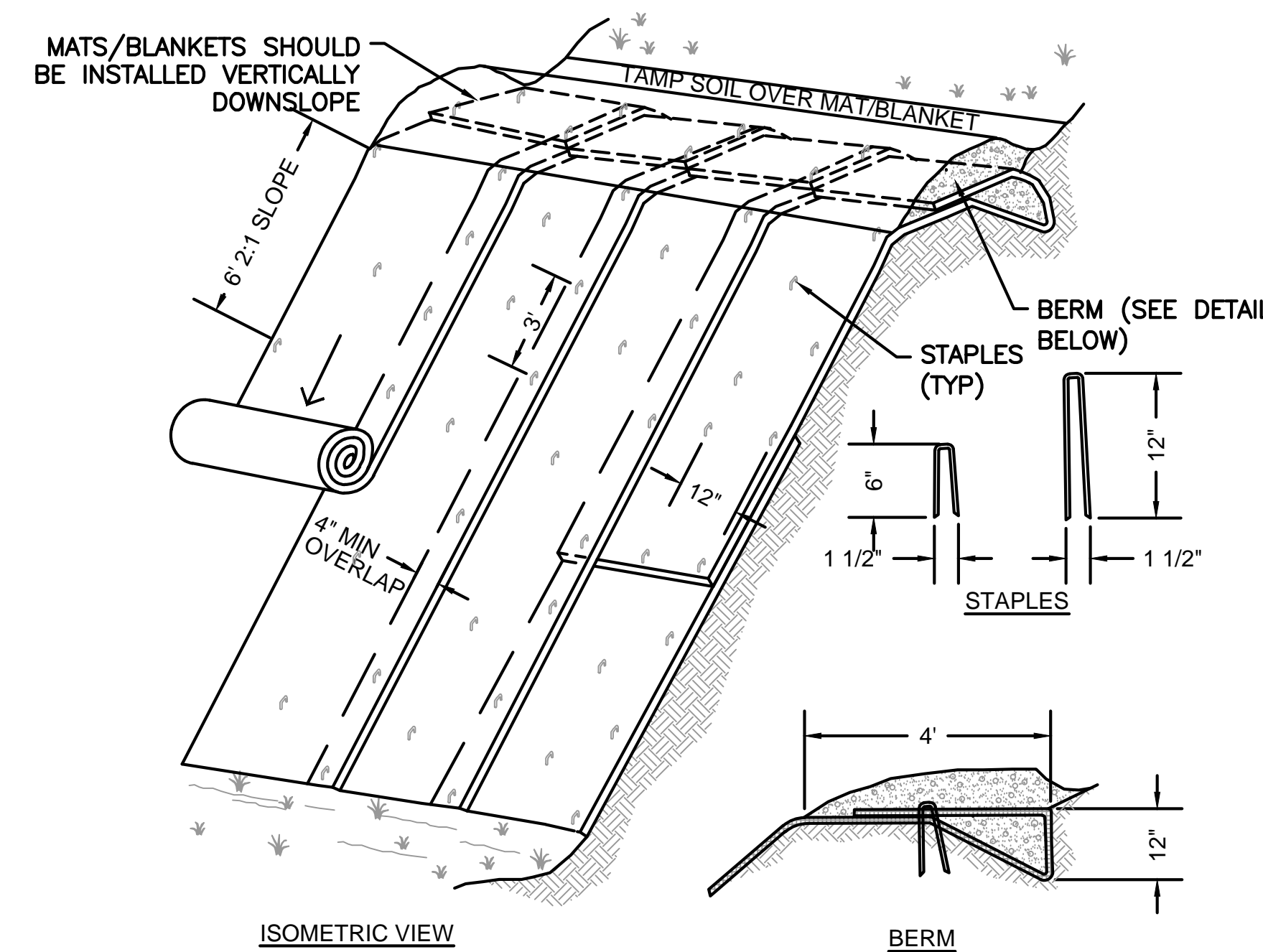


STRAW BALE & GRAVEL INLET SEDIMENT BARRIER

TEMPORARY INLET PROTECTION
NOT TO SCALE



VERTICAL GRANITE CURB AT STREET
NOT TO SCALE



EROSION BLANKETS AND TURF REINFORCEMENT MATS SLOPE INSTALLATION
NOT TO SCALE

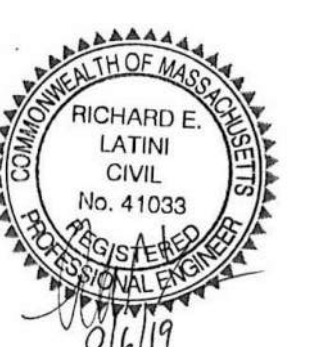
- NOTES:**
- 1) SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
 - 2) APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
 - 3) LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

PREPARED FOR:
 LINCOLN PARKWAY LLC
 C/O LINCOLN PROPERTY COMPANY
 221 CRESCENT ST, SUITE 102A
 WALTHAM, MA 02453

PARKWAY APARTMENTS
 1545-1555 VFW PARKWAY
 WEST ROXBURY, BOSTON, MA, 02132
 SUFFOLK COUNTY

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET



100% CD SET

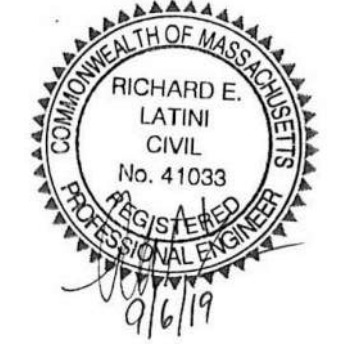
SITE DETAILS - 1

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C4.00

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET

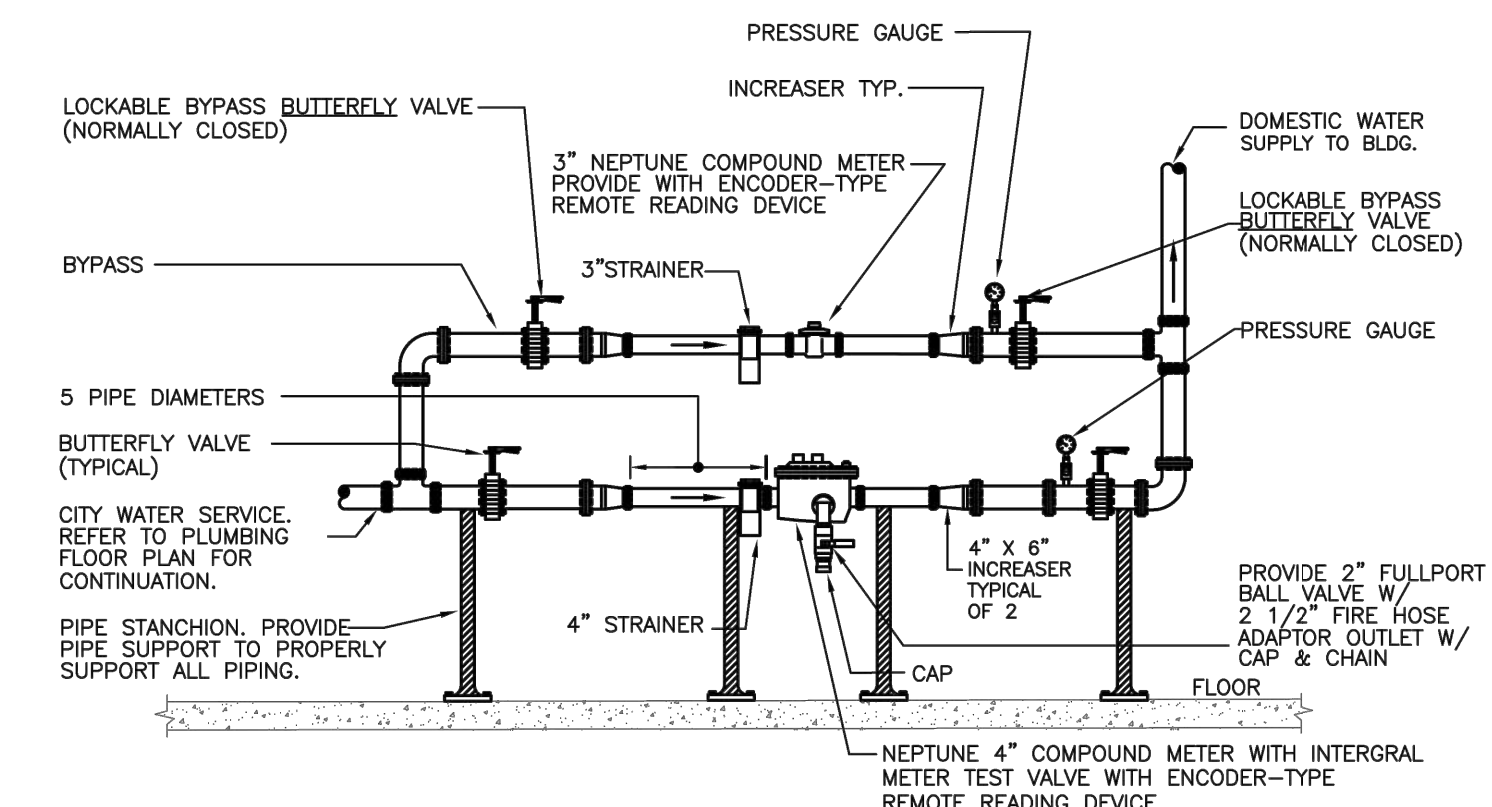


100% CD SET

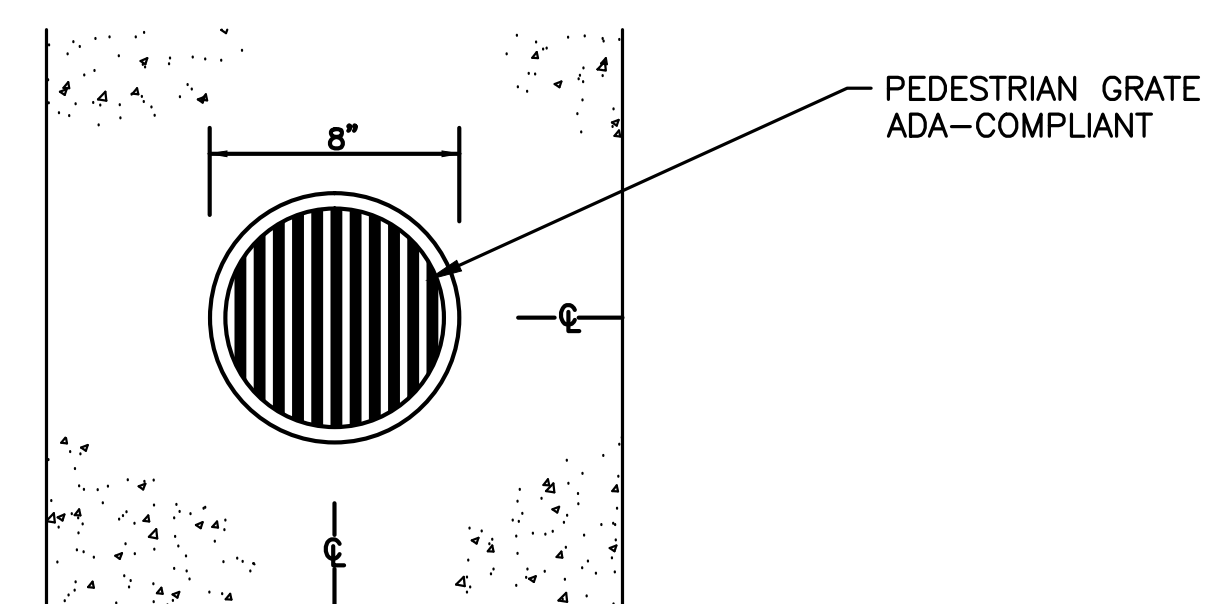
SITE DETAILS - 2

DATE: 11/30/2018
 PROJECT NUMBER: 17163.01
 DESIGNED BY: JEC
 DRAWN BY: JEC
 CHECKED BY: RL

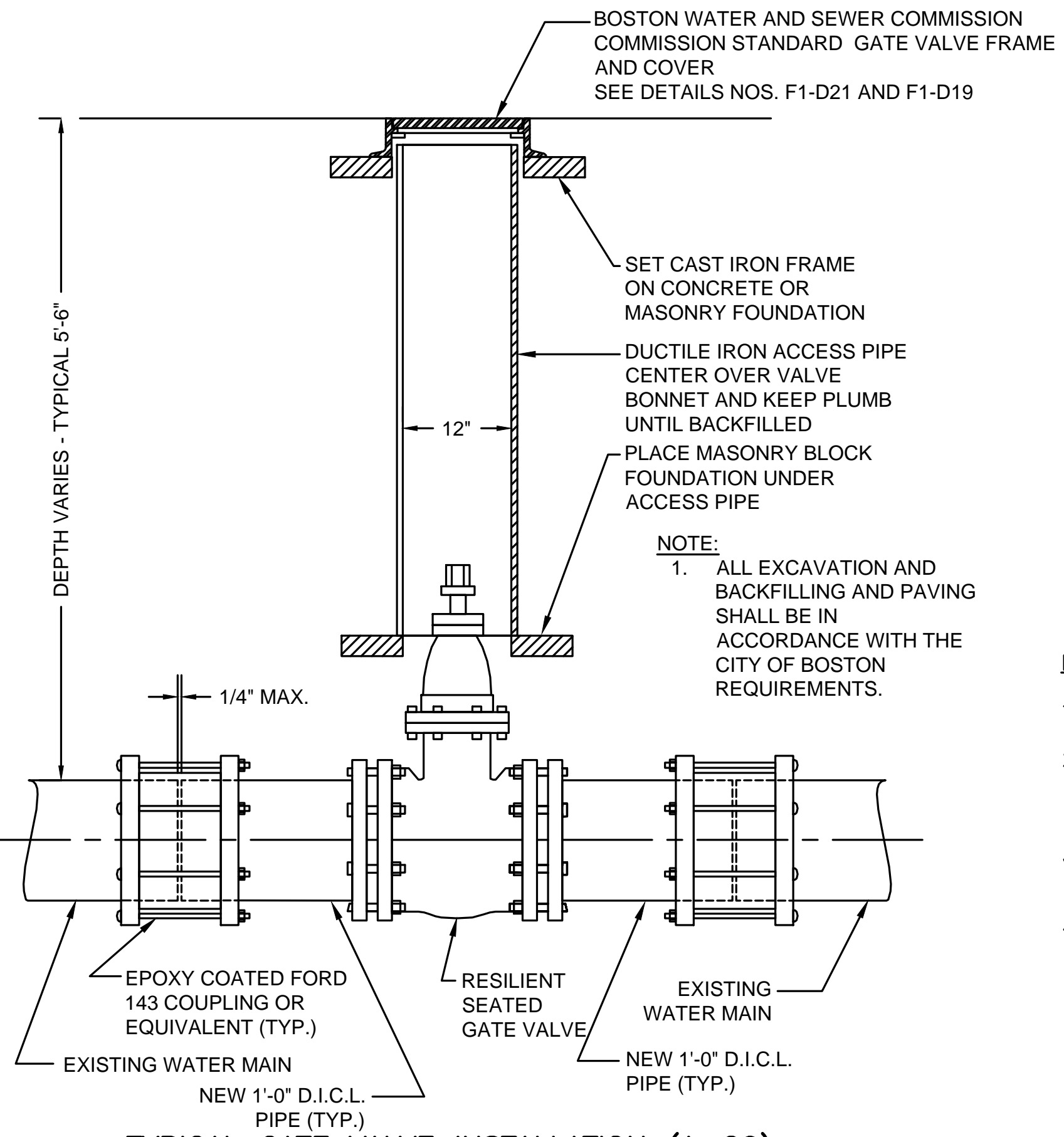
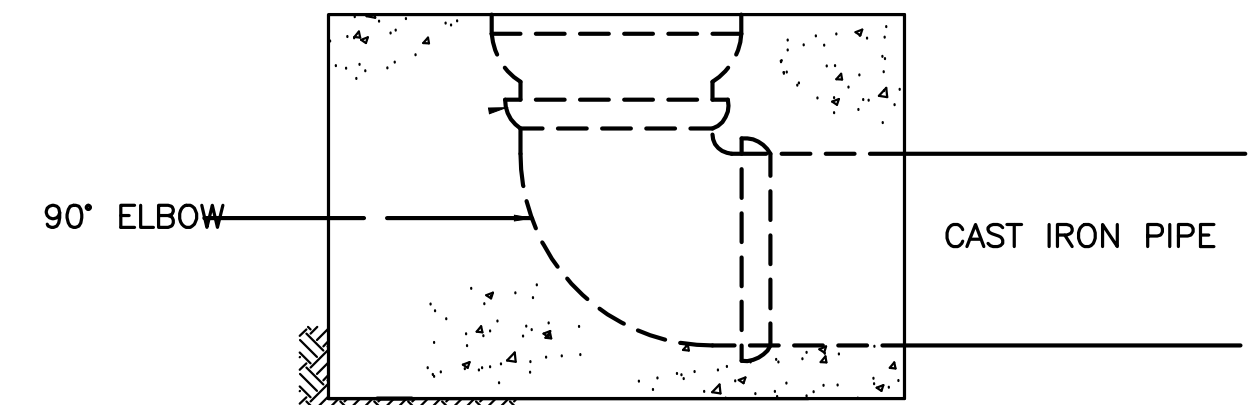
C4.01



4" MAIN METER W/ 3" BYPASS METER
 NOT TO SCALE

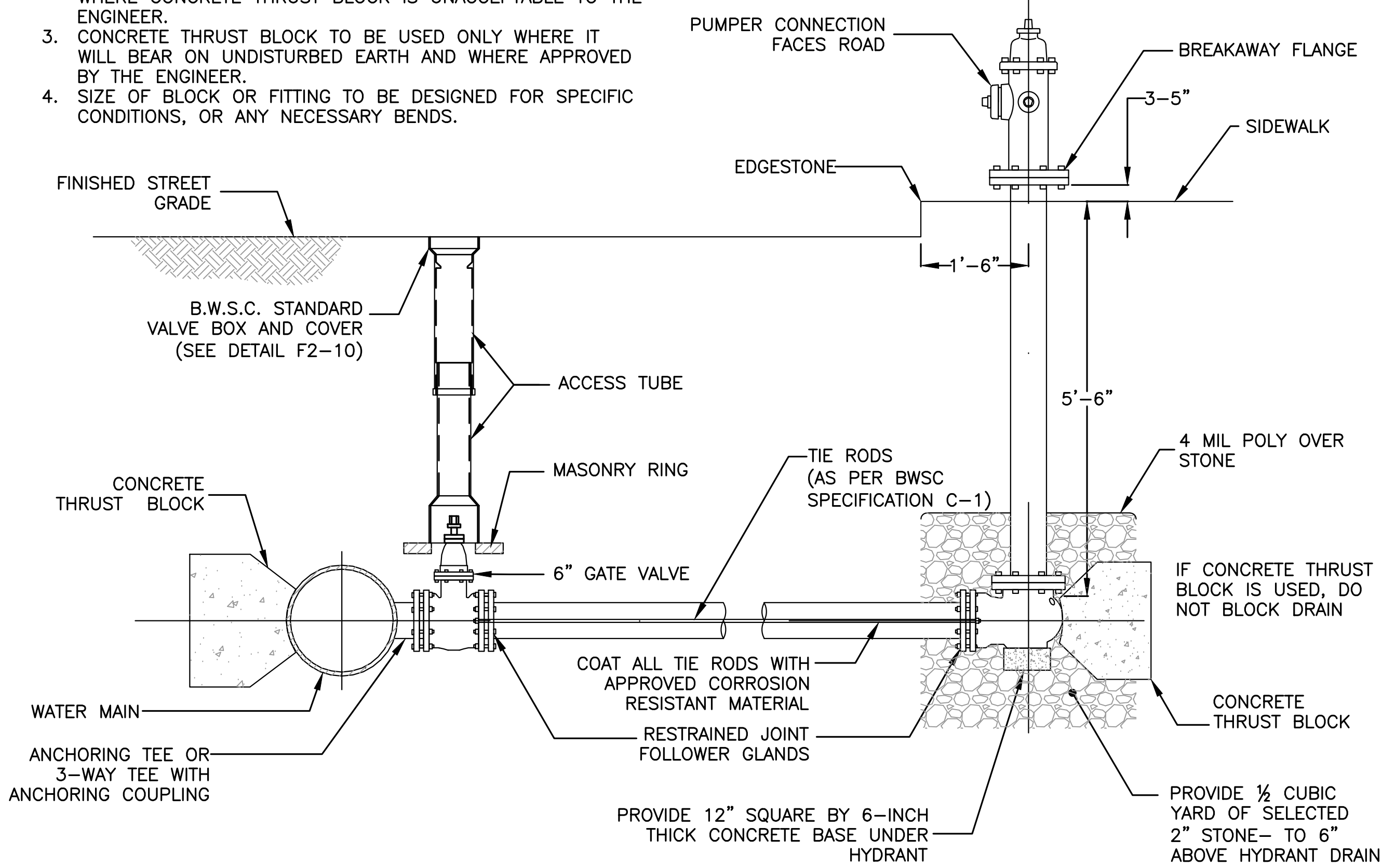


DECK DRAIN
 NOT TO SCALE

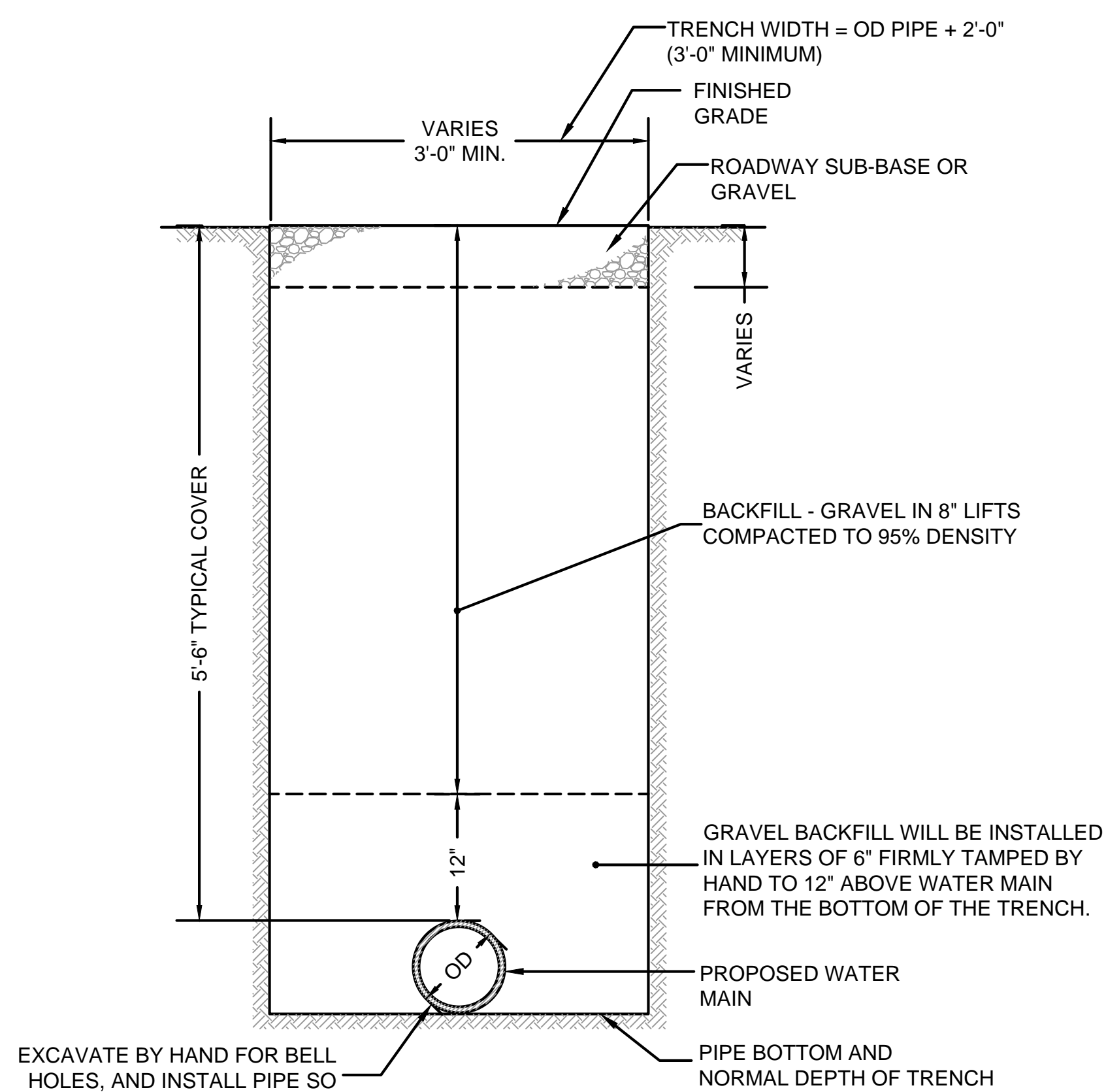


TYPICAL GATE VALVE INSTALLATION (A-20)
 NOT TO SCALE

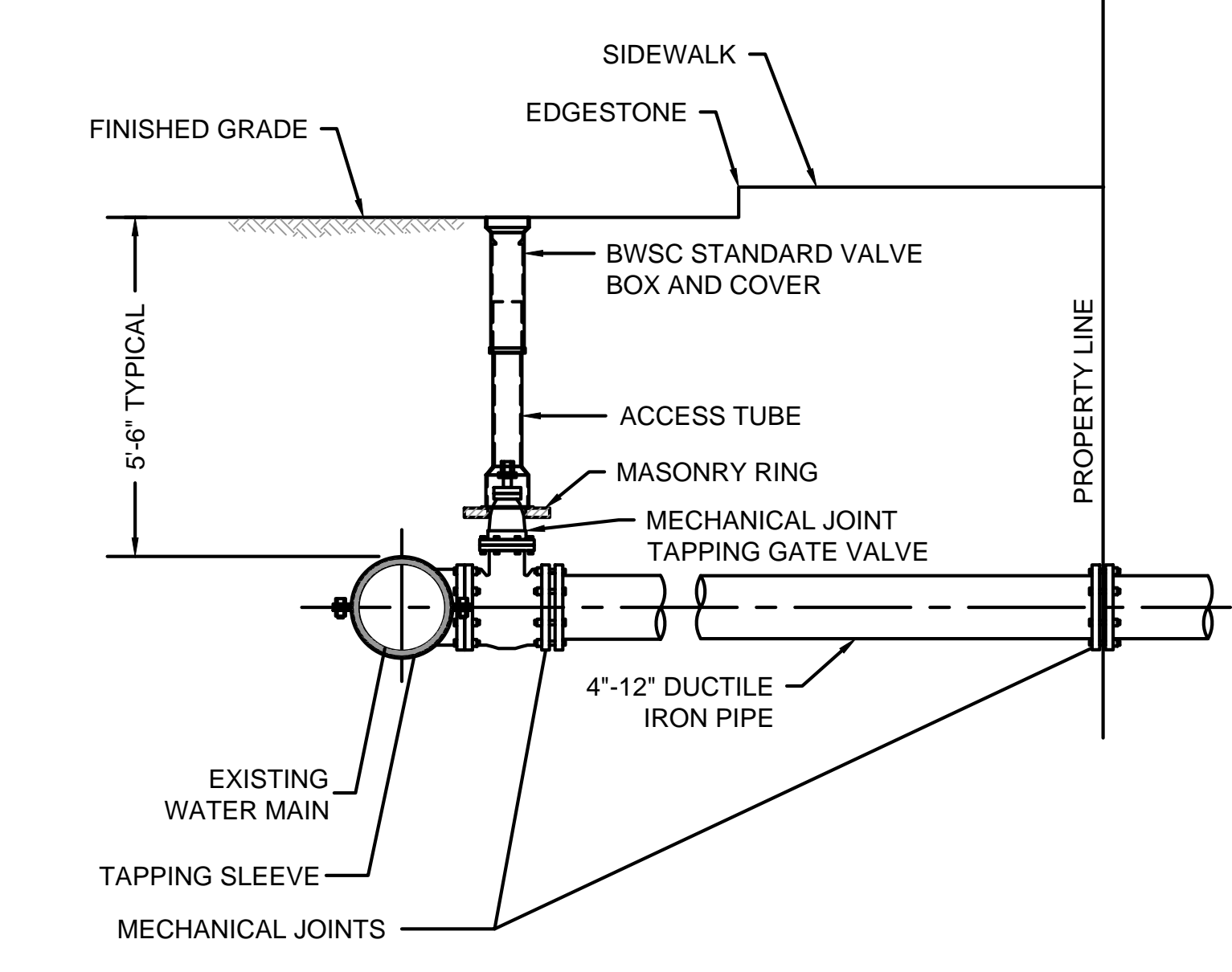
- NOTES:**
1. ANY DEVIATIONS OF THIS TYPICAL CONNECTION TO MEET FIELD CONDITIONS SHALL BE APPROVED BY THE ENGINEER.
 2. USE RESTRAINED JOINT FOLLOWER GLANDS, OR TIE RODS IN ACCORDANCE WITH SECTION C-1 OF BWSG SPECIFICATIONS, WHERE CONCRETE THRUST BLOCK IS UNACCEPTABLE TO THE ENGINEER.
 3. CONCRETE THRUST BLOCK TO BE USED ONLY WHERE IT WILL BEAR ON UNDISTURBED EARTH AND WHERE APPROVED BY THE ENGINEER.
 4. SIZE OF BLOCK OR FITTING TO BE DESIGNED FOR SPECIFIC CONDITIONS, OR ANY NECESSARY BENDS.



FIRE HYDRANT CONNECTION
 NOT TO SCALE

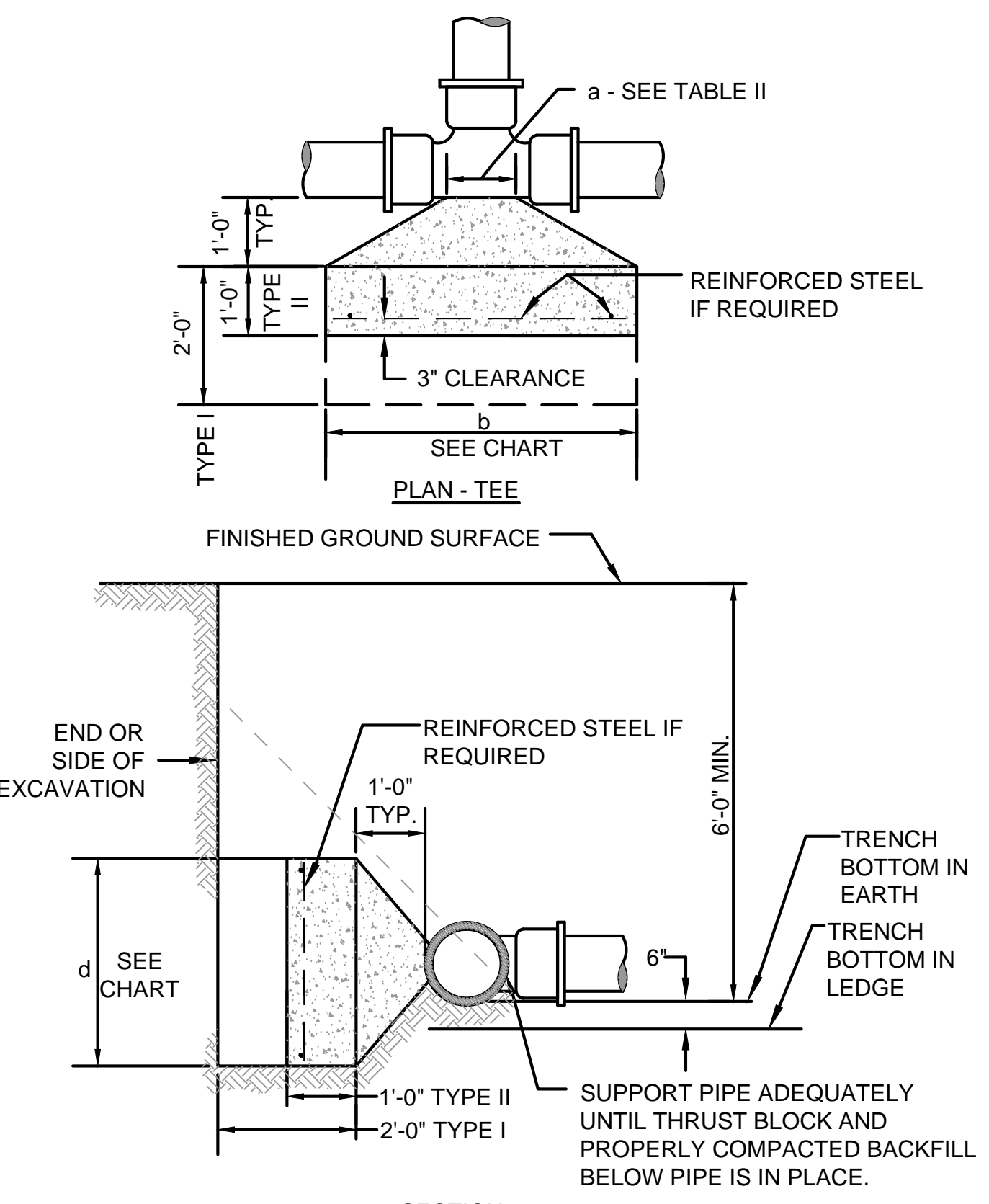


TRENCH DETAIL - WATER MAIN (A-05)
 NOT TO SCALE

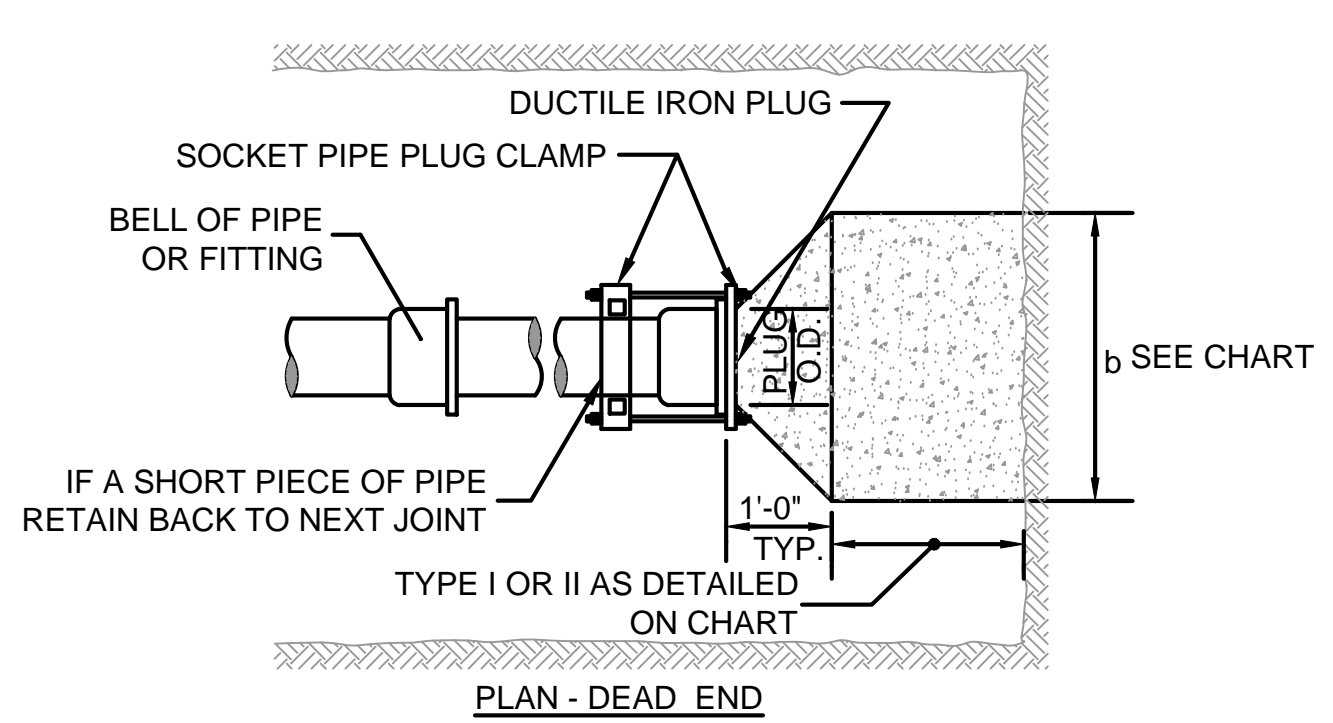


- NOTES:**
1. CONCRETE THRUST BLOCK TO BE USED ONLY WHERE IT WILL BEAR ON UNDISTURBED EARTH.
 2. USE RESTRAINED JOINT FITTINGS OR TIE RODS WHERE CONCRETE THRUST BLOCK IS UNACCEPTABLE.
 3. SIZE OF BLOCK OR MEGALUG TO BE DESIGNED FOR SPECIFIC CONDITIONS.

TAPPING SLEEVE & VALVE (A-09)
 NOT TO SCALE



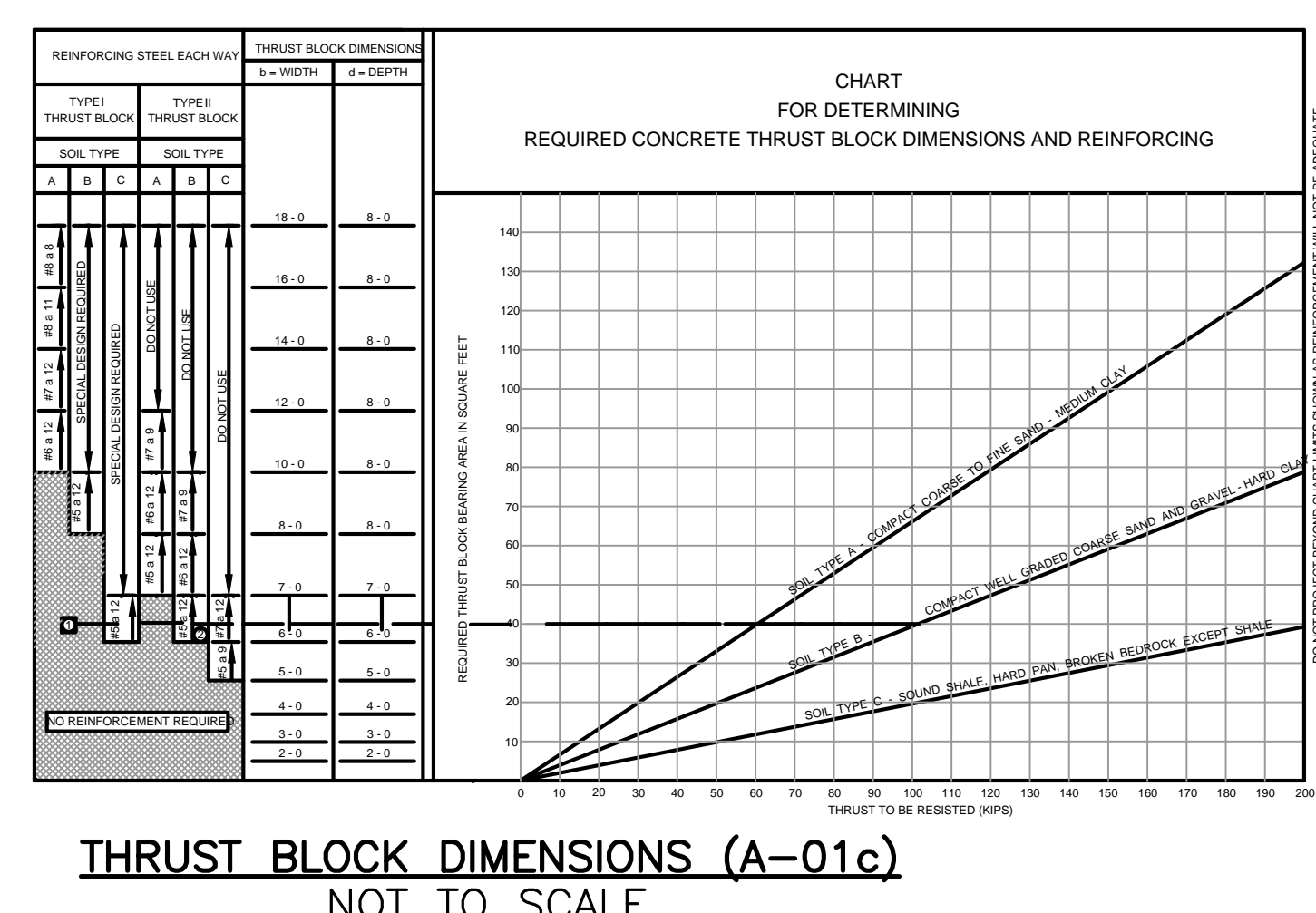
THRUST BLOCK (A-01b)
 NOT TO SCALE



THRUST BLOCK (A-01a)
 NOT TO SCALE

TABLE I - 9" DIMENSION - FEET

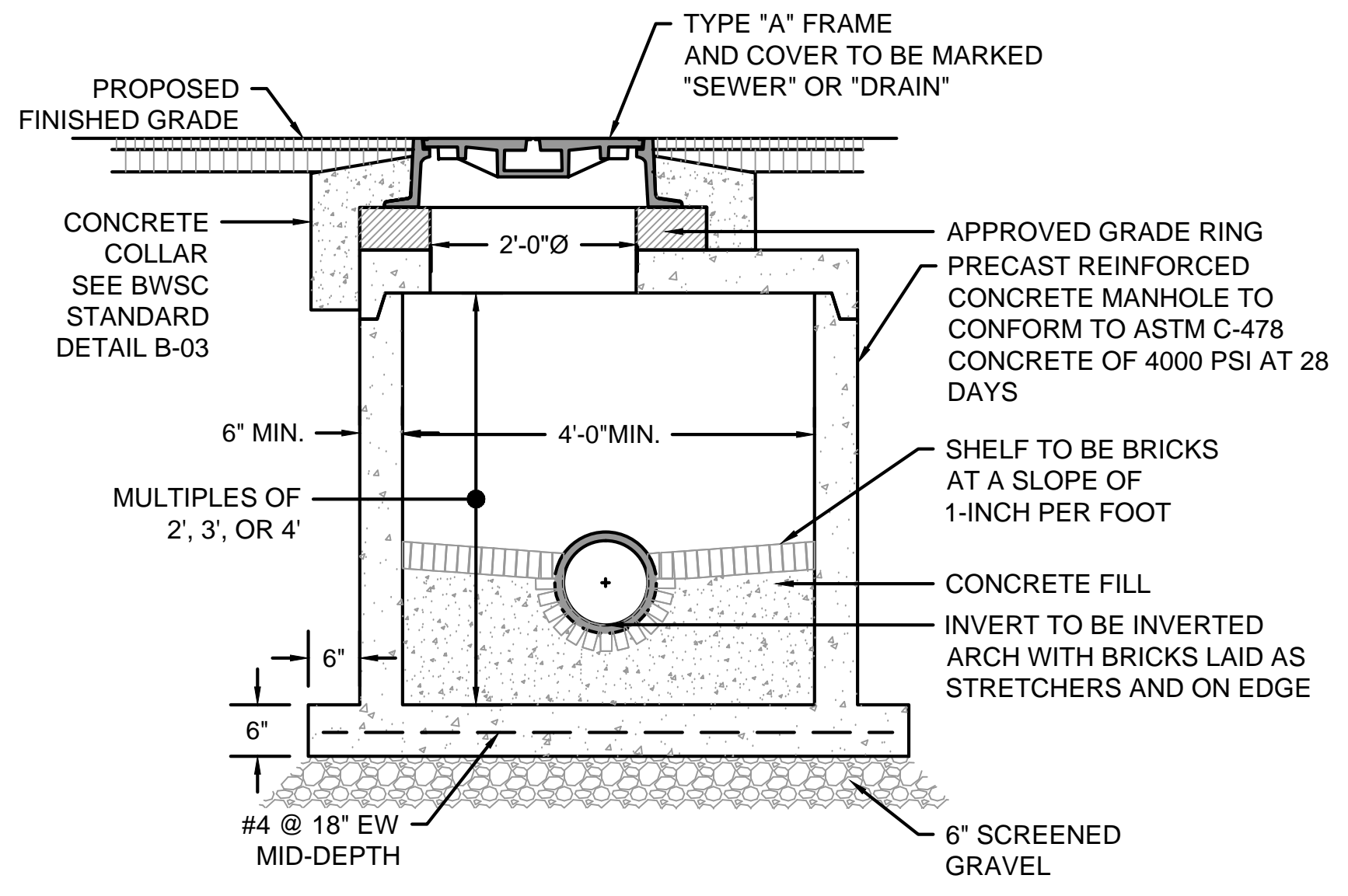
PIPE DIAMETER - INCHES	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
1.0	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
1.5	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5
2.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
2.5	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5
3.0	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0
3.5	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5
4.0	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0
4.5	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5
5.0	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0
5.5	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5
6.0	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0
6.5	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5
7.0	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0
7.5	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5
8.0	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0
8.5	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5
9.0	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0
9.5	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5
10.0	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0



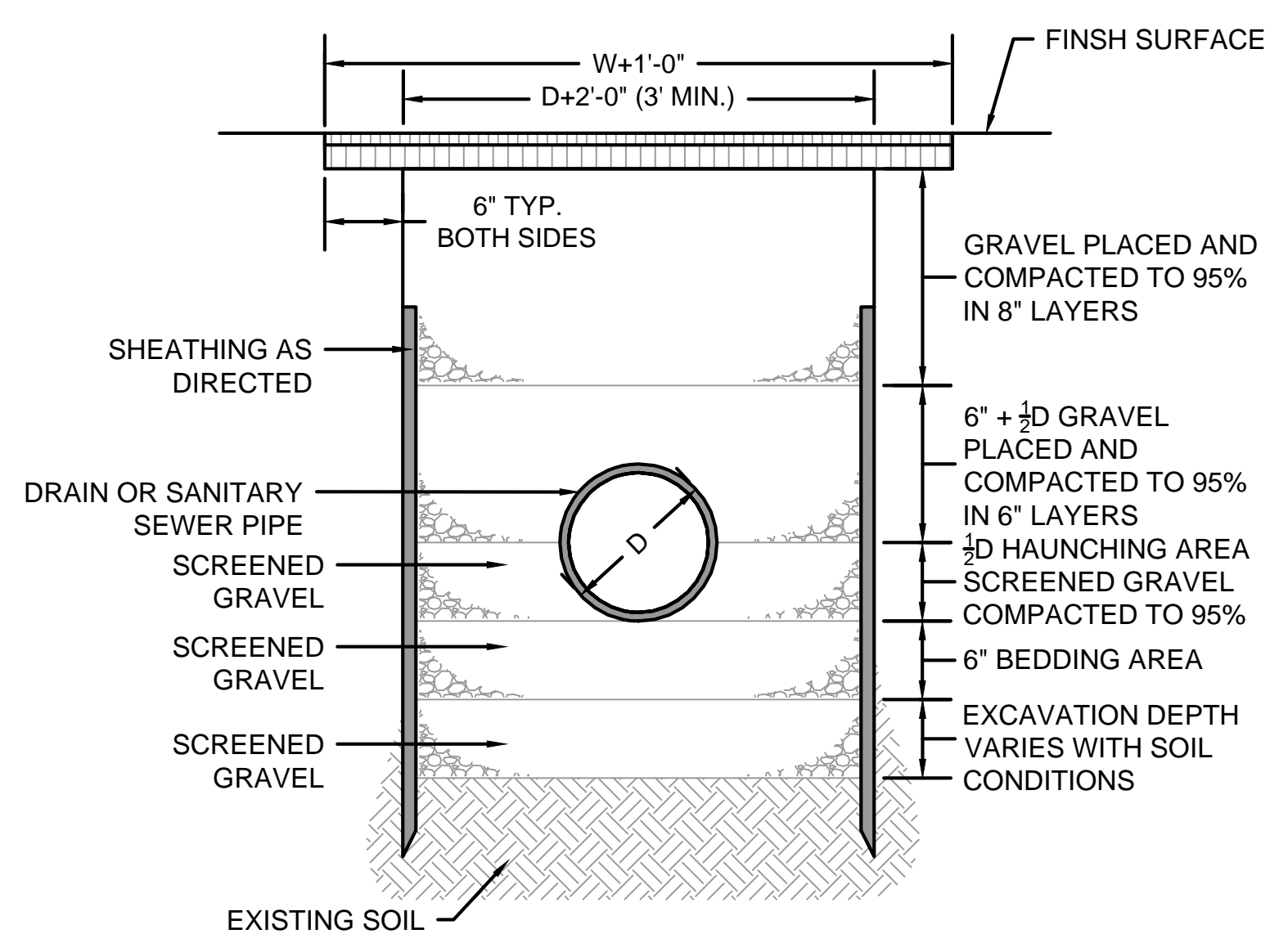
THRUST BLOCK DIMENSIONS (A-01c)
 NOT TO SCALE

PREPARED FOR:
 LINCOLN PARKWAY LLC
 C/O LINCOLN PROPERTY COMPANY
 221 CRESCENT ST, SUITE 102A
 WALTHAM, MA 02453

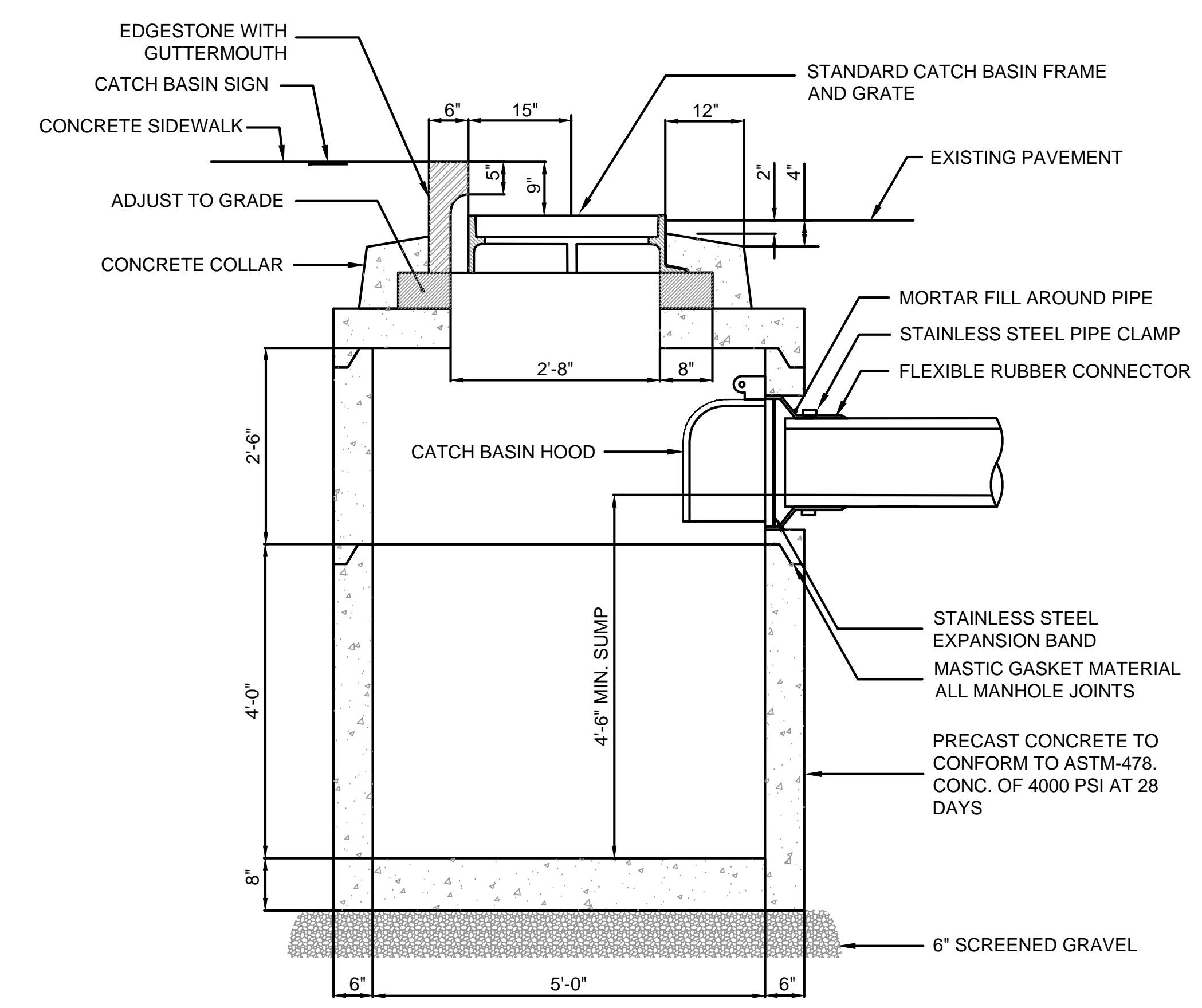
PARKWAY APARTMENTS
 1545-1555 VFW PARKWAY
 WEST ROXBURY, BOSTON, MA, 02132
 SUFFOLK COUNTY



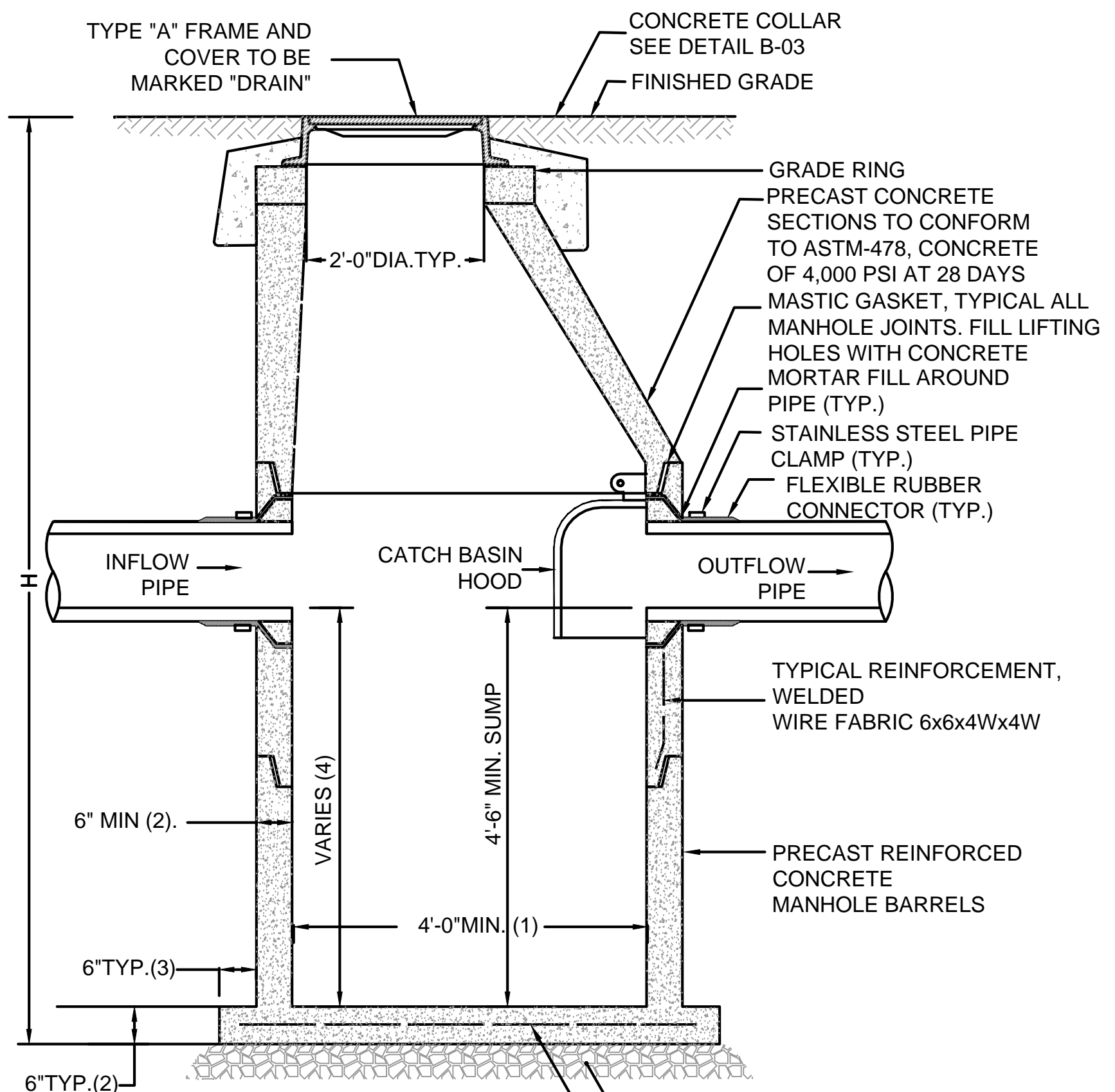
SHALLOW MANHOLE (B-06)
 NOT TO SCALE



TRENCH DETAIL - DRAIN & SANITARY SEWER (B-08)
 NOT TO SCALE



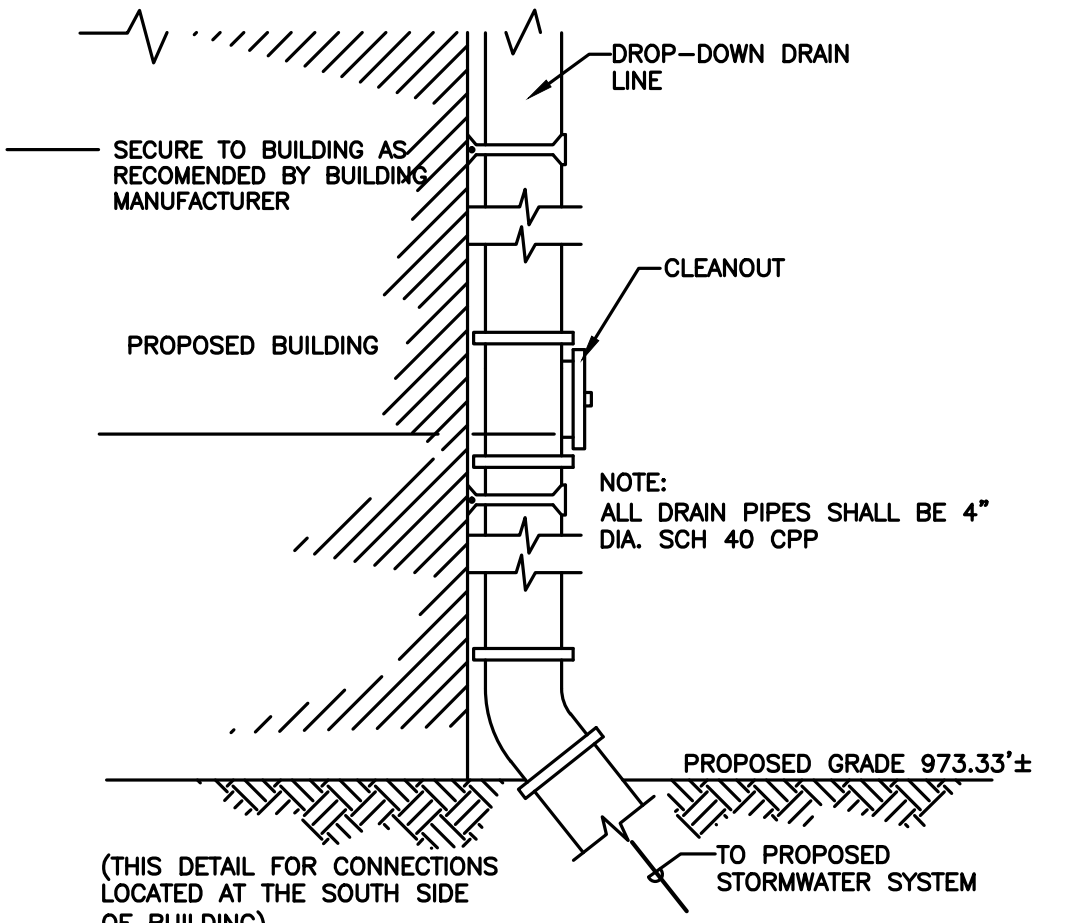
SHALLOW CATCH BASIN
 NOT TO SCALE



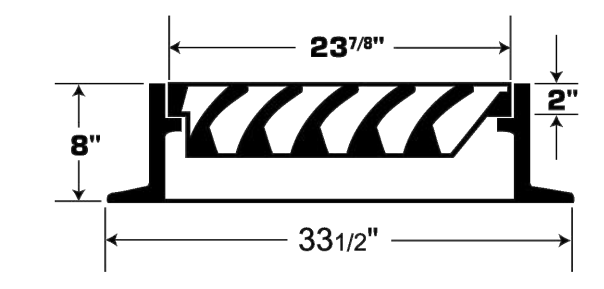
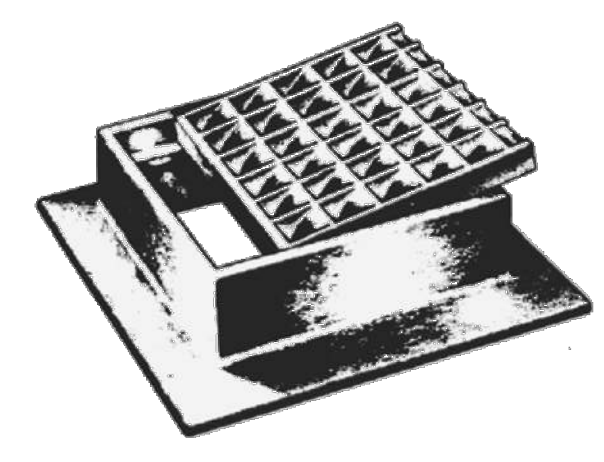
H= 10' OR LESS #4 AT 18 EW MIDDEPTH
 H= 10' TO 20' #4 AT 12 EW MIDDEPTH
 H= 20' TO 30' #5 AT 12 EW MIDDEPTH
 IN ADDITION TO WELDED WIRE FABRIC

- NOTES:**
- 5'-0" DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET OR WHEN ORDERED BY THE ENGINEER.
 - 6 INCH MIN. WALL THICKNESS AND 7 INCH MIN. BASE THICKNESS WITH 5'-0" DIAMETER MANHOLES.
 - 6 INCH LIP OPTIONAL UNLESS OTHERWISE NOTED. CONCRETE INVERT AND SHELF MAY BE SUBSTITUTED IN STORM DRAIN MANHOLES AS DIRECTED BY THE ENGINEER.
 - IN SOME INSTALLATIONS, THE INFLOW PIPE WILL BE LOWER THAN THE OUTFLOW PIPE, AND THE SUMP DEPTH WILL BE GREATER THAN 4'-6" TO MAINTAIN A MINIMUM DISTANCE OF 2'-6" FROM THE INVERT OF THE INFLOW PIPE TO THE BOTTOM OF THE SUMP.

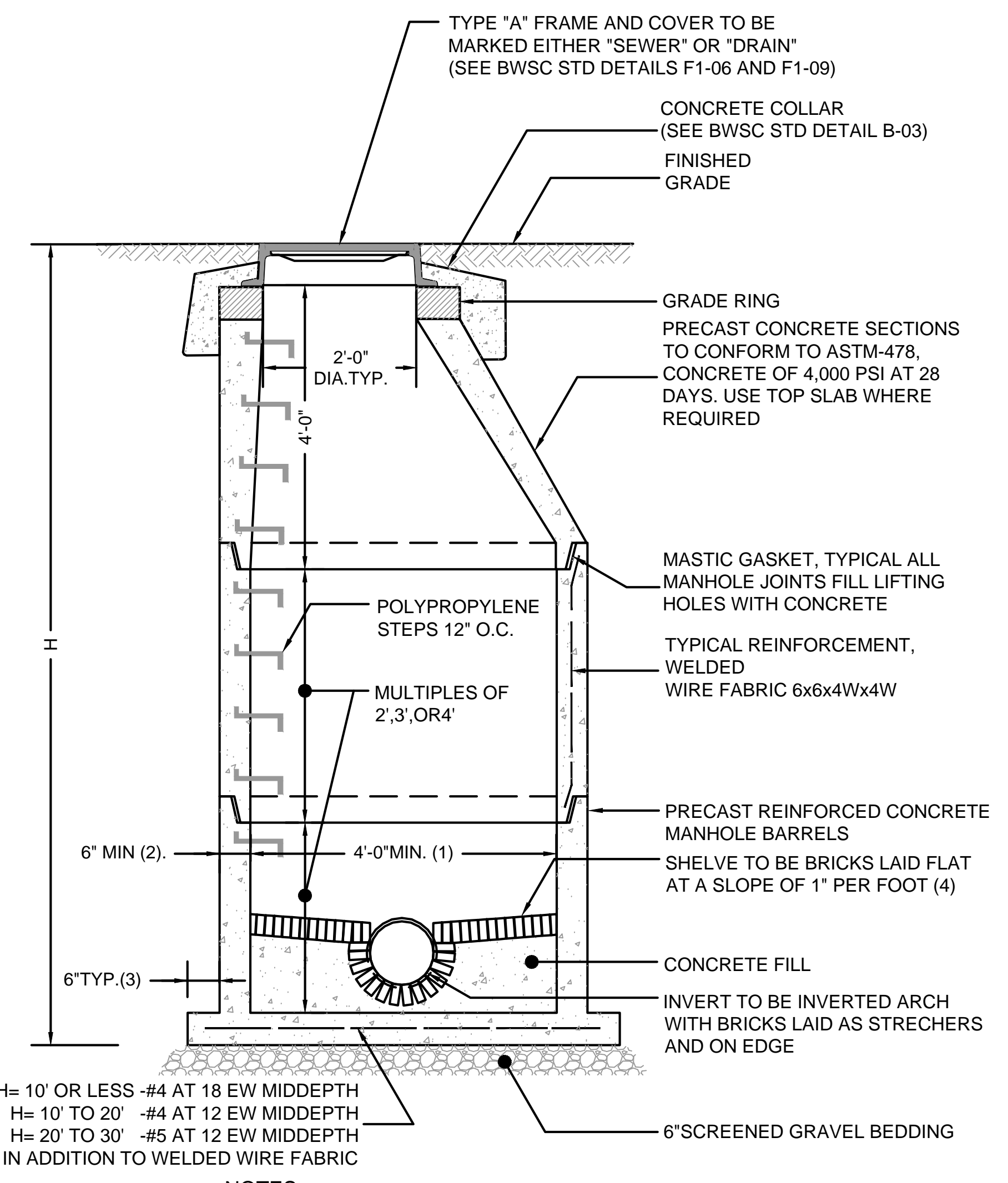
PRECAST CONCRETE DRAIN SUMP MANHOLE (B-07)
 NOT TO SCALE



ROOF DRAIN LINE AND DROP-DOWN LEADER JUNCTION DETAIL
 NOT TO SCALE



CASCADE GRATE
 NOT TO SCALE



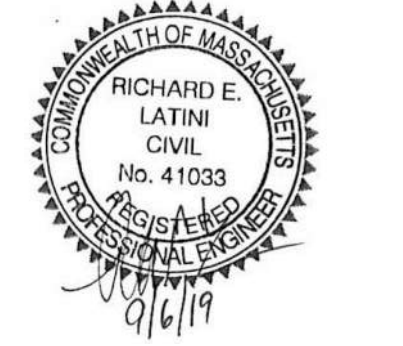
H= 10' OR LESS #4 AT 18 EW MIDDEPTH
 H= 10' TO 20' #4 AT 12 EW MIDDEPTH
 H= 20' TO 30' #5 AT 12 EW MIDDEPTH
 IN ADDITION TO WELDED WIRE FABRIC

- NOTES:**
- 5'-0" DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET OR WHEN ORDERED BY THE ENGINEER.
 - 6 INCH MIN. WALL THICKNESS AND 7 INCH MIN. BASE THICKNESS WITH 5'-0" DIAMETER MANHOLES.
 - 6 INCH LIP OPTIONAL UNLESS OTHERWISE NOTED. CONCRETE INVERT AND SHELF MAY BE SUBSTITUTED IN STORM DRAIN MANHOLES AS DIRECTED BY THE ENGINEER.

PRECAST CONCRETE MANHOLE (B-02a)
 NOT TO SCALE

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET

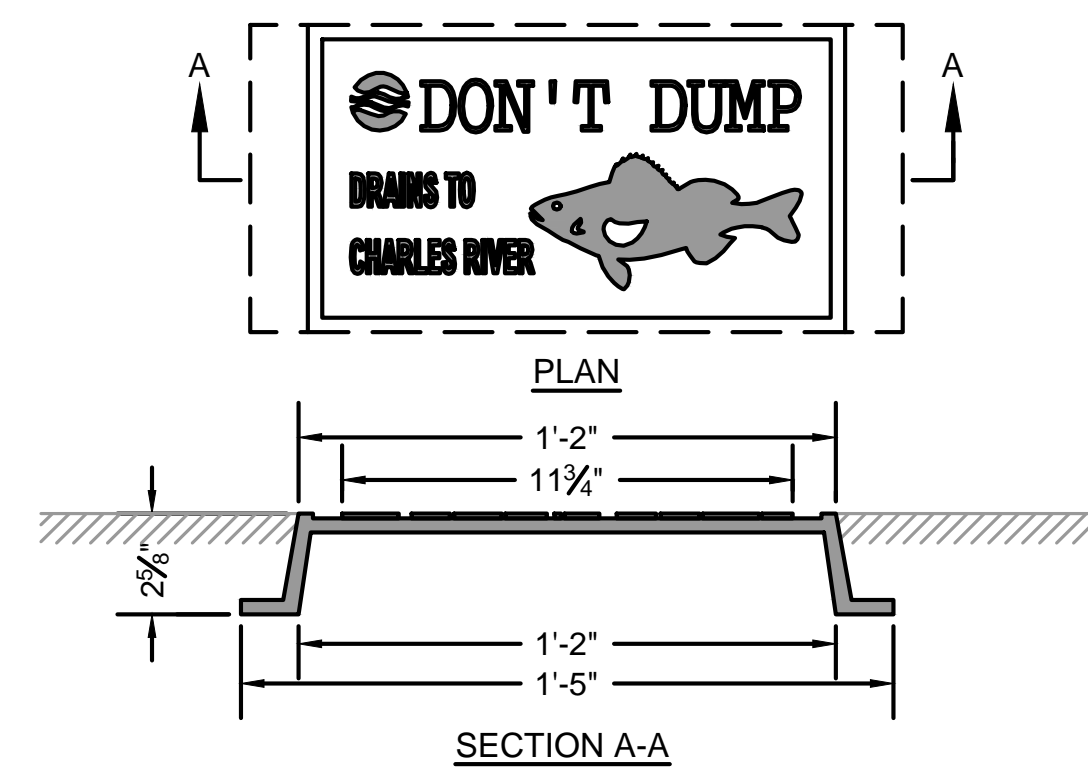


100% CD SET

SITE DETAILS - 3

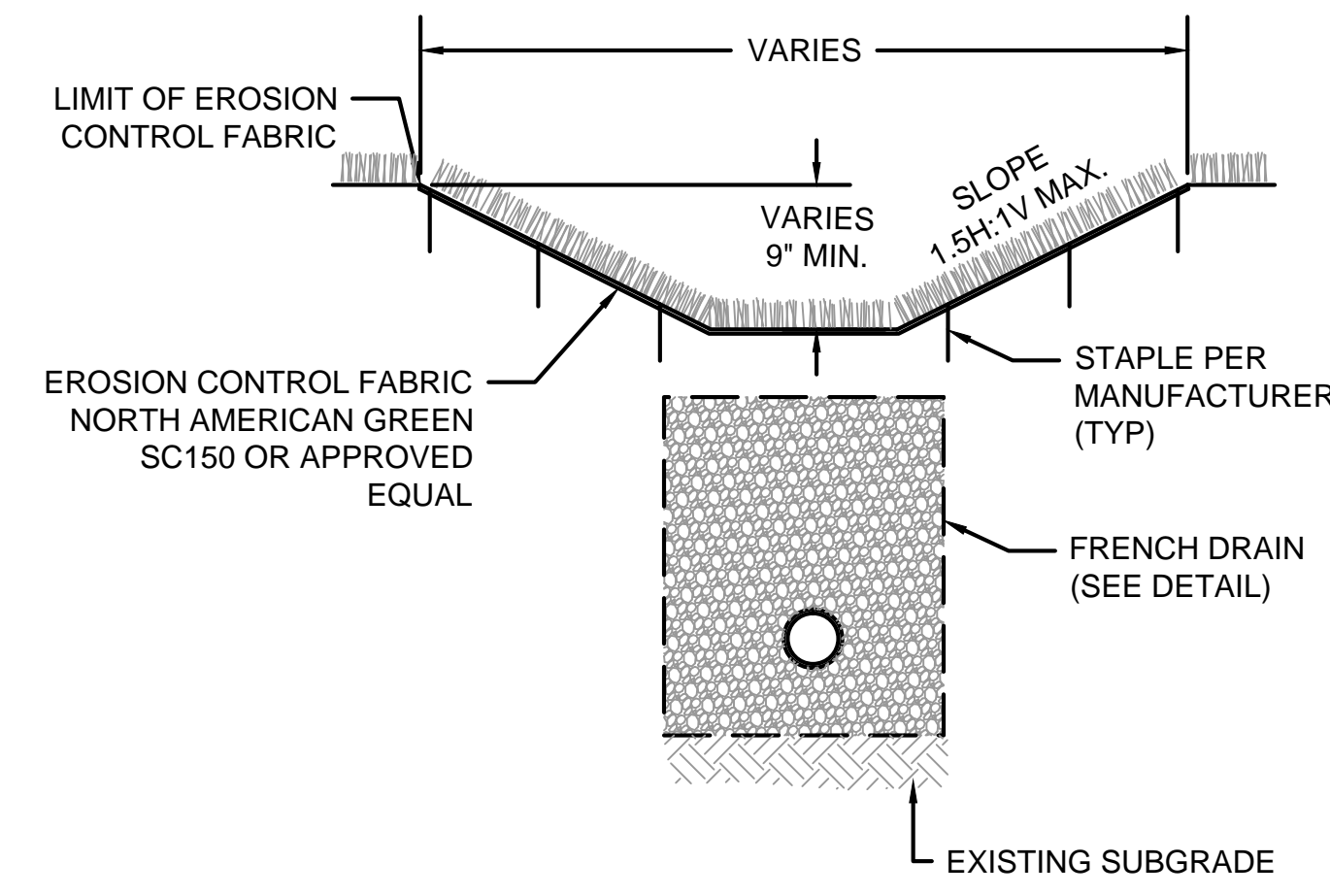
DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C4.02

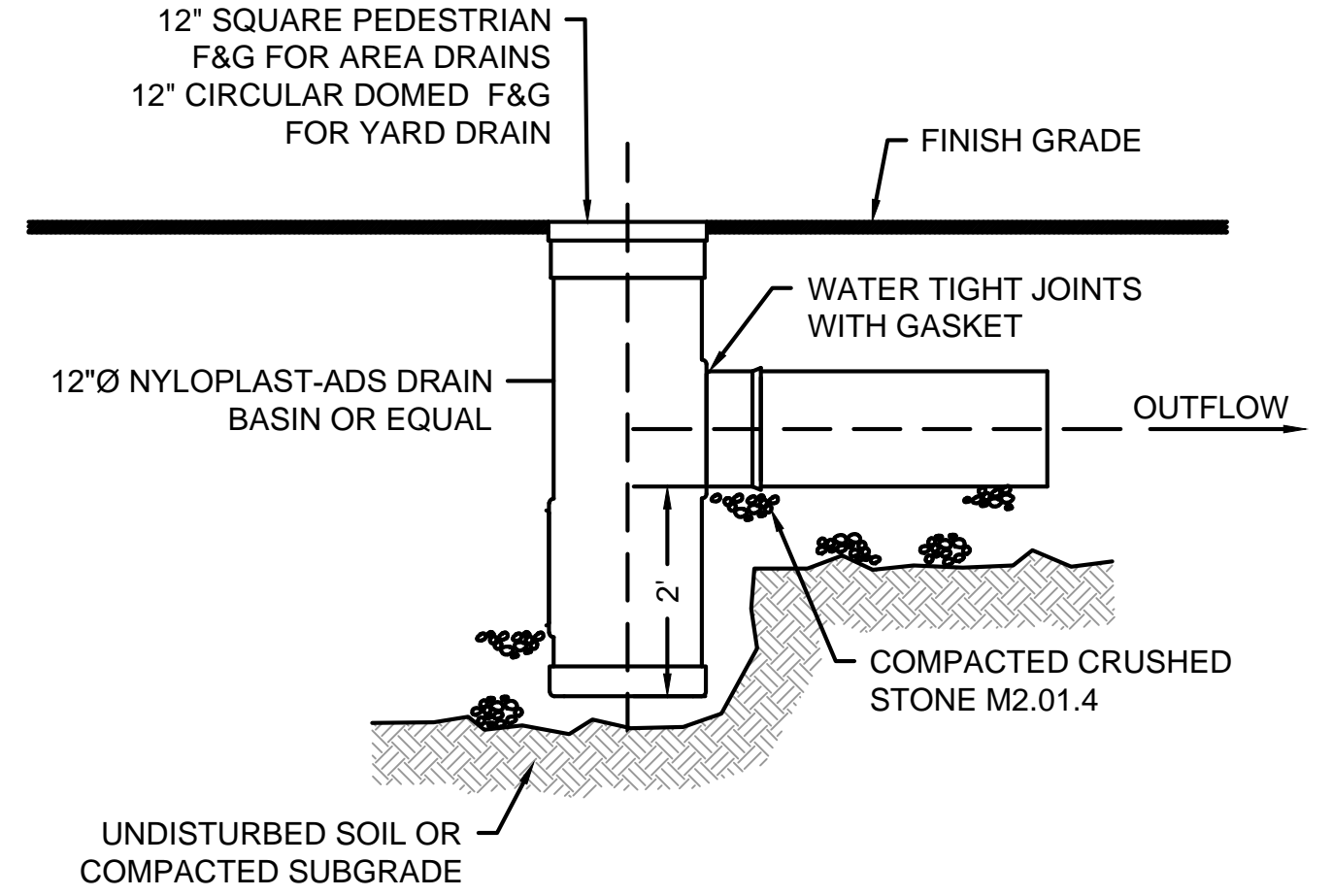


NOTE:
 CATCH BASIN SIGNS TO BE PROVIDED BY THE BOSTON WATER AND SEWER COMMISSION (BWSC).

8" X 14" CATCH BASIN SIGN (F1-D23)
 NOT TO SCALE



VEGETATED SWALE
 NOT TO SCALE



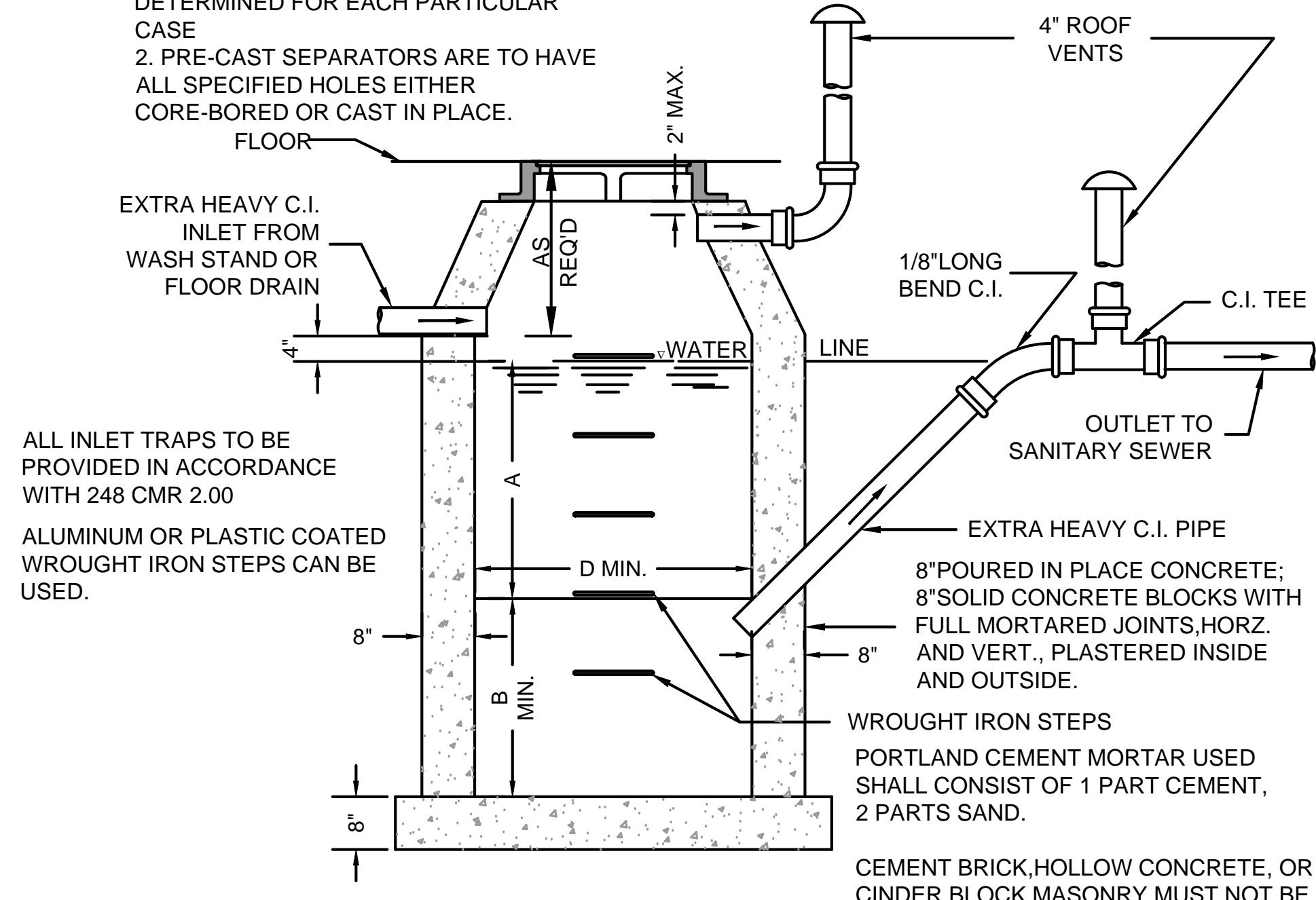
NOTE: STRUCTURE MUST BE ADEQUATE FOR H-10 MIN. LOADING

AREA DRAIN
 NOT TO SCALE

INLET	D	A	B	INLET	D	A	B
4"	3'-6"Ø	3'-0"	2'-6"	8"	5'-0"Ø	6'-0"	5'-0"
5"	3'-6"Ø	5'-0"	4'-0"	8"	5'-6" x 5'-6"	4'-6"	4'-0"
	3'-6" x 3'-6"	4'-0"	3'-0"		6'-0"Ø	4'-0"	3'-6"
	4'-0"	3'-8"	3'-0"		6'-0" x 6'-0"	3'-0"	2'-6"
	4'-0" x 4'-0"	3'-0"	2'-6"		6'-0"Ø	3'-6"	3'-0"
	4'-6"	3'-0"	2'-6"		6'-6" x 6'-6"	3'-0"	2'-6"
6"	4'-0"Ø	5'-0"	4'-6"	10"	5'-6"Ø	7'-6"	6'-6"
	4'-0" x 4'-0"	4'-0"	3'-6"		6'-0" x 6'-0"	5'-6"	4'-6"
	4'-6"Ø	4'-0"	3'-6"		6'-0"Ø	6'-6"	5'-6"
	4'-6" x 4'-6"	3'-6"	3'-0"		6'-6" x 6'-6"	5'-6"	5'-6"
	5'-0"Ø	3'-0"	2'-6"		6'-6" x 6'-6"	5'-0"	4'-0"
	5'-0" x 5'-0"	3'-0"	2'-6"				

NOTES:

- FOR INLETS LARGER THAN 10" THE DESIGN AND DIMENSIONS WILL BE DETERMINED FOR EACH PARTICULAR CASE
- PRE-CAST SEPARATORS ARE TO HAVE ALL SPECIFIED HOLES EITHER CORE-BORED OR CAST IN PLACE.

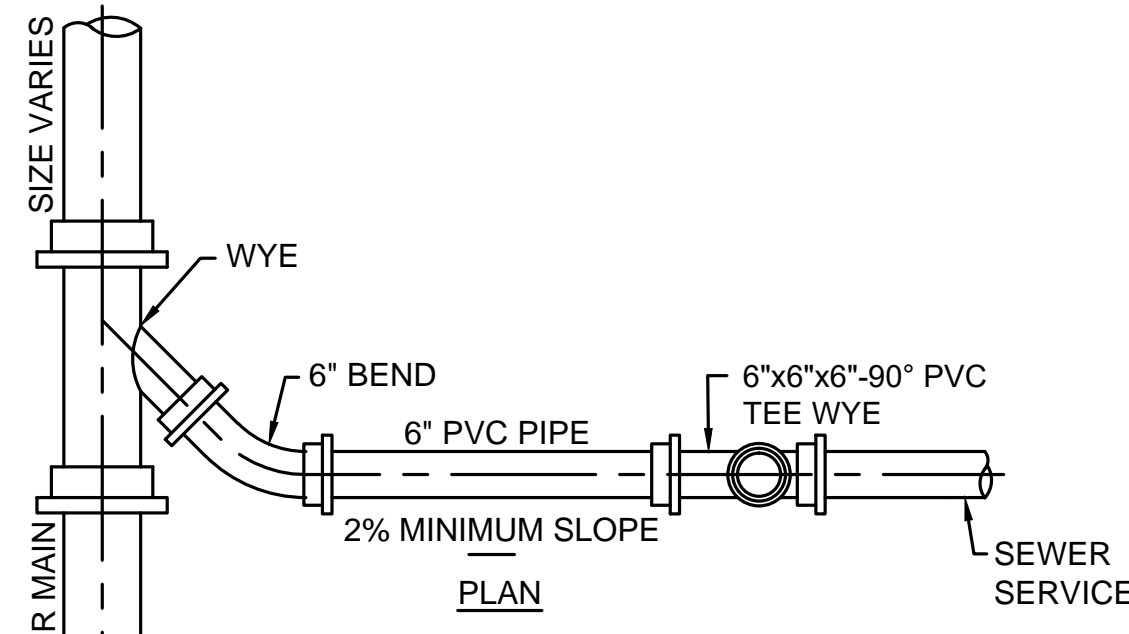


ALL INLET TRAPS TO BE PROVIDED IN ACCORDANCE WITH 248 CMR 2.00
ALUMINUM OR PLASTIC COATED WROUGHT IRON STEPS CAN BE USED.

GENERAL CONSTRUCTION NOTES

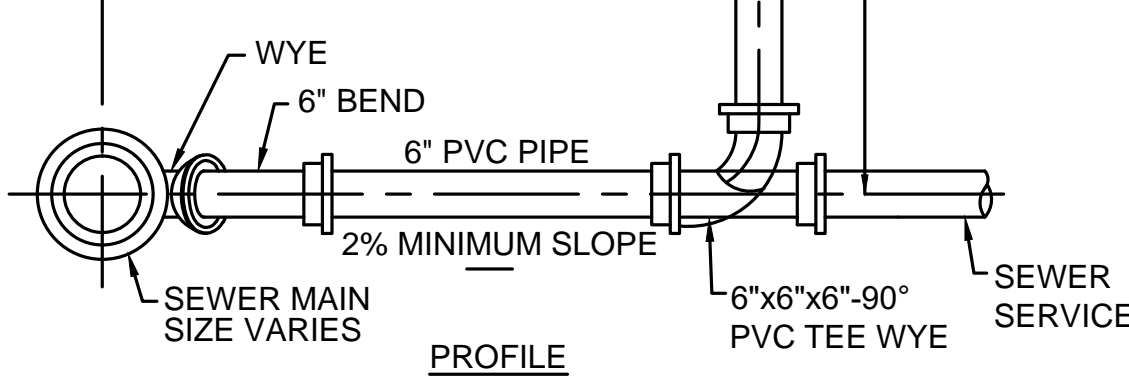
- BASIN TO BE LOCATED OUTSIDE OF BUILDING WHERE POSSIBLE, COVER TO HAVE A CENTER HOLE.
 - A TIGHT COVER MUST BE USED IF BASIN IS LOCATED INSIDE OF BUILDING.
 - OPENING SHALL BE NOT LESS THAN 24" DIA.
 - THE CATCH BASIN SHALL BE SO LOCATED AND CONSTRUCTED THAT SURFACE WATER SHALL BE EXCLUDED.
 - INLET PIPE SHALL BE AT LEAST FOUR INCHES ABOVE NORMAL WATER LINE.
 - WHERE SUBJECT TO FROST OR CRUSHING CONDITIONS, OUTLET SHALL BE AT LEAST THREE FEET BELOW THE SURFACE.
 - THE NEW CATCH BASIN MUST BE FILLED WITH CLEAN
- WATER BEFORE USING, AND AFTER BEING EMPTIED FOR PERIODIC CLEANING.
 - ALL OIL AND GASOLINE MUST BE REMOVED BEFORE CLEANING OUT THE BASIN, AND MUST NOT BE DISCHARGED INTO THE SEWER THROUGH OTHER FIXTURES.
 - SPECIFICATIONS FOR COVERING SPECIAL CASES OR CONDITIONS, SHALL BE APPROVED BY THE LOCAL AUTHORITIES, AND THE AUTHORITIES OF THE M.W.R.A.
 - WROUGHT IRON STEPS SHALL BE SPACED ABOUT 18" APART.
 - BOTH VENTS SHALL BE EXTENDED INDEPENDENTLY 18" ABOVE THE ROOF, OR AS APPROVED BY THE LOCAL AUTHORITIES, AND THE AUTHORITIES OF THE M.W.R.A.
 - OUTLET PIPE TO BE 45 DEGREE ANGLE.

APPROVED OIL AND GREASE SEPARATOR (G-01)
NOT TO SCALE

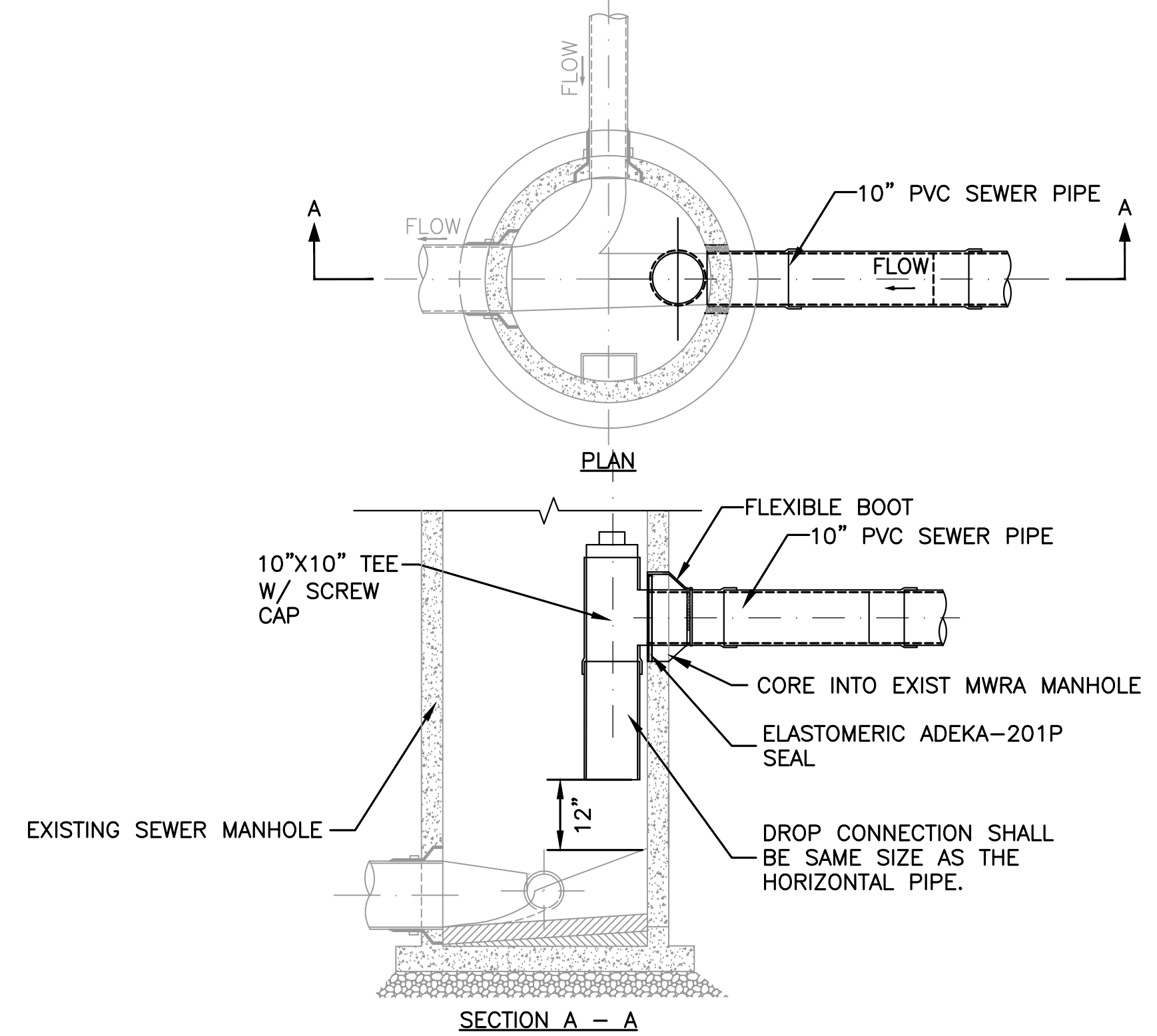


NOTE:

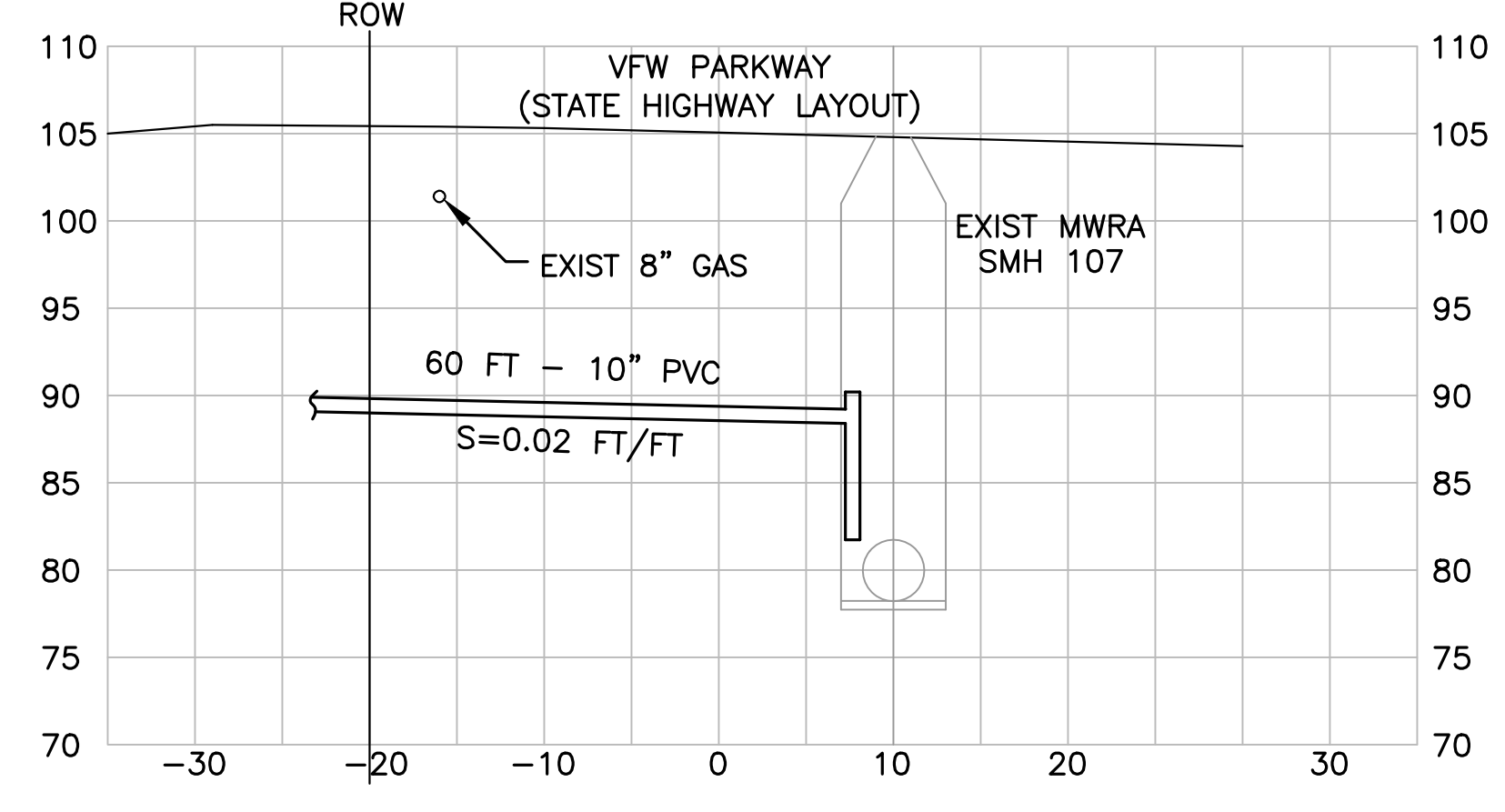
FOR CLEANOUTS WHICH TERMINATE WITHIN PAVEMENT AREAS CONTRACTOR TO SUPPLY THE TOP OF A STANDARD WATER GATE BOX TO PROVIDE ACCESS AND TO PROTECT THE PIPE. REDUCE CLEANOUT PIPE SIZE FROM 6" TO 4" WITHIN THE GATE BOX TOP.



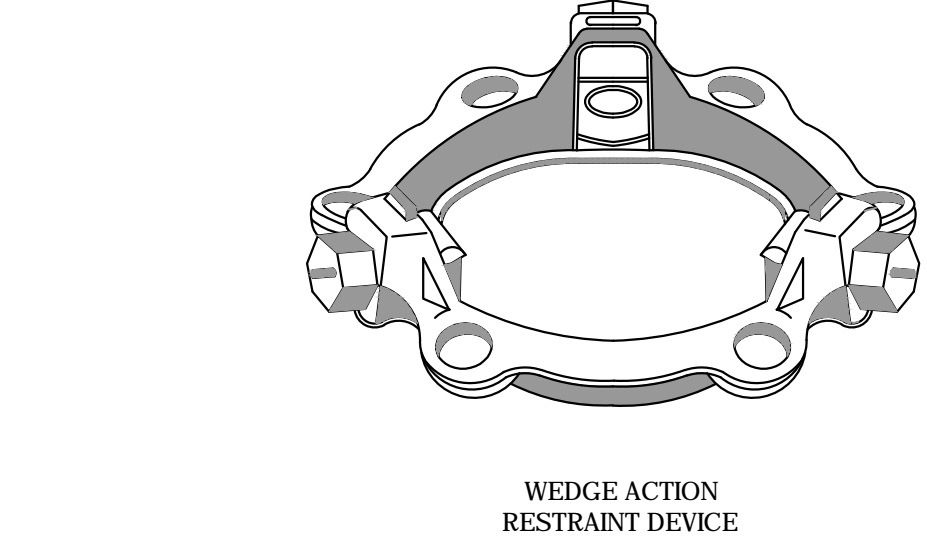
SEWER CLEANOUT
NOT TO SCALE



MWRA SEWER MANHOLE CONNECTION DROP MANHOLE CONNECTION
NOT TO SCALE

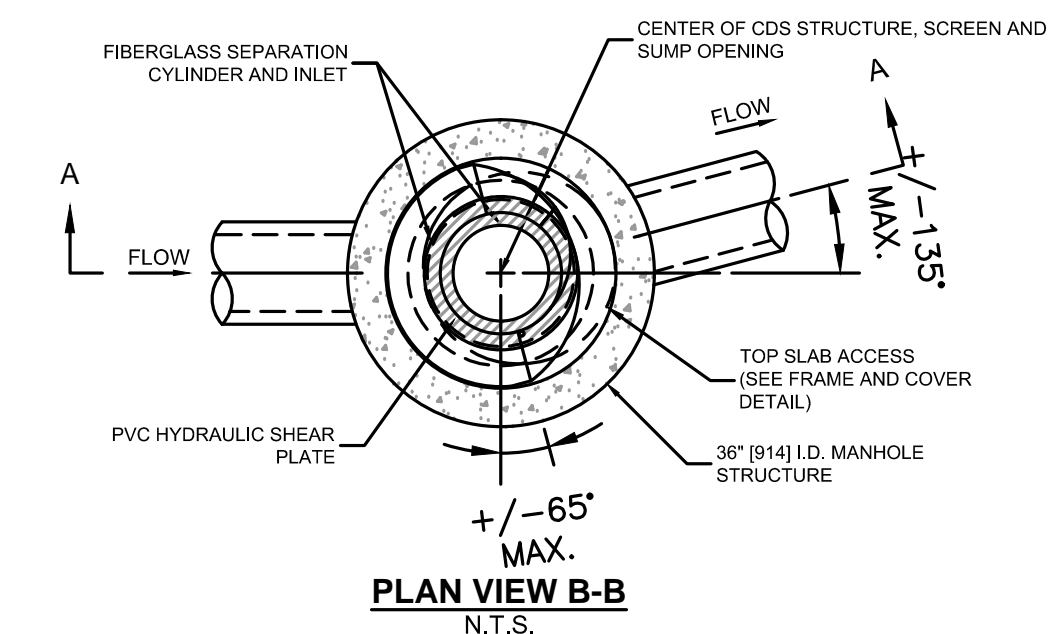


SEWER PROFILE
SCALE: 1"=5'

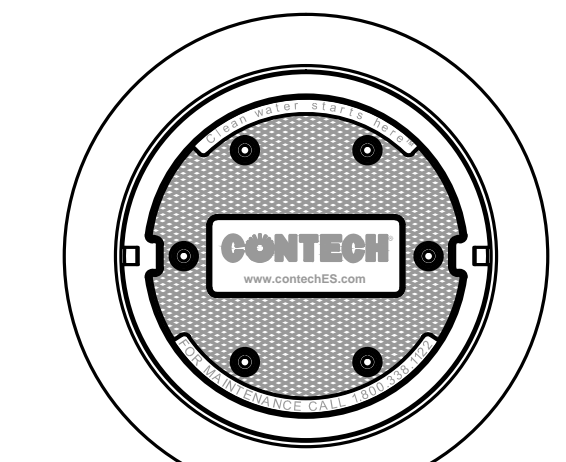


- NOTES:**
- RESTRAINED JOINT SHALL BE MEGALUG SERIES 1100 OR APPROVED EQUAL
 - RESTRAINED JOINTS NEED TO BE USED BEYOND THE LOCATION OF THE BENDS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS

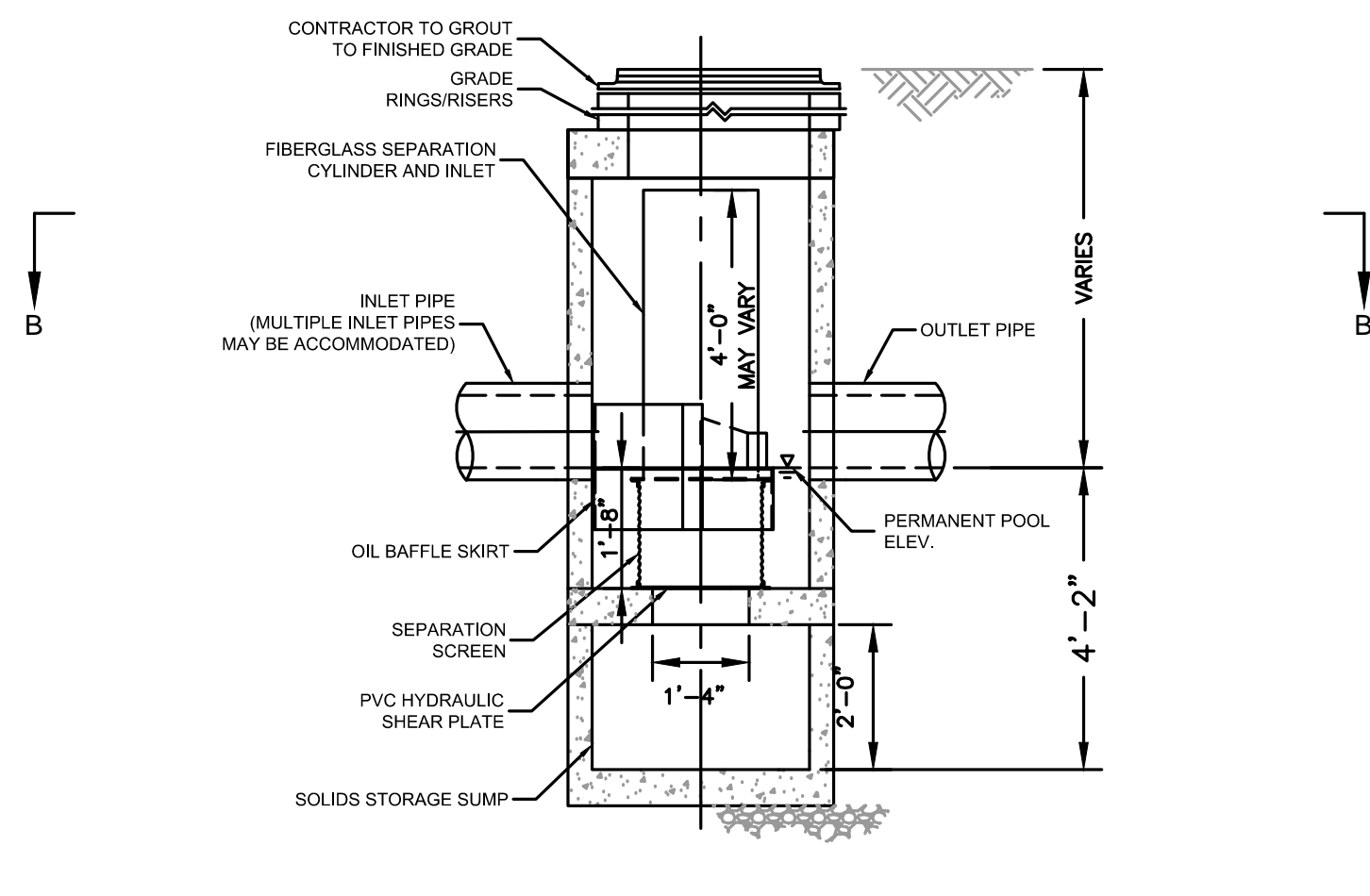
RESTRAINED JOINT
NOT TO SCALE



PLAN VIEW B-B
N.T.S.



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



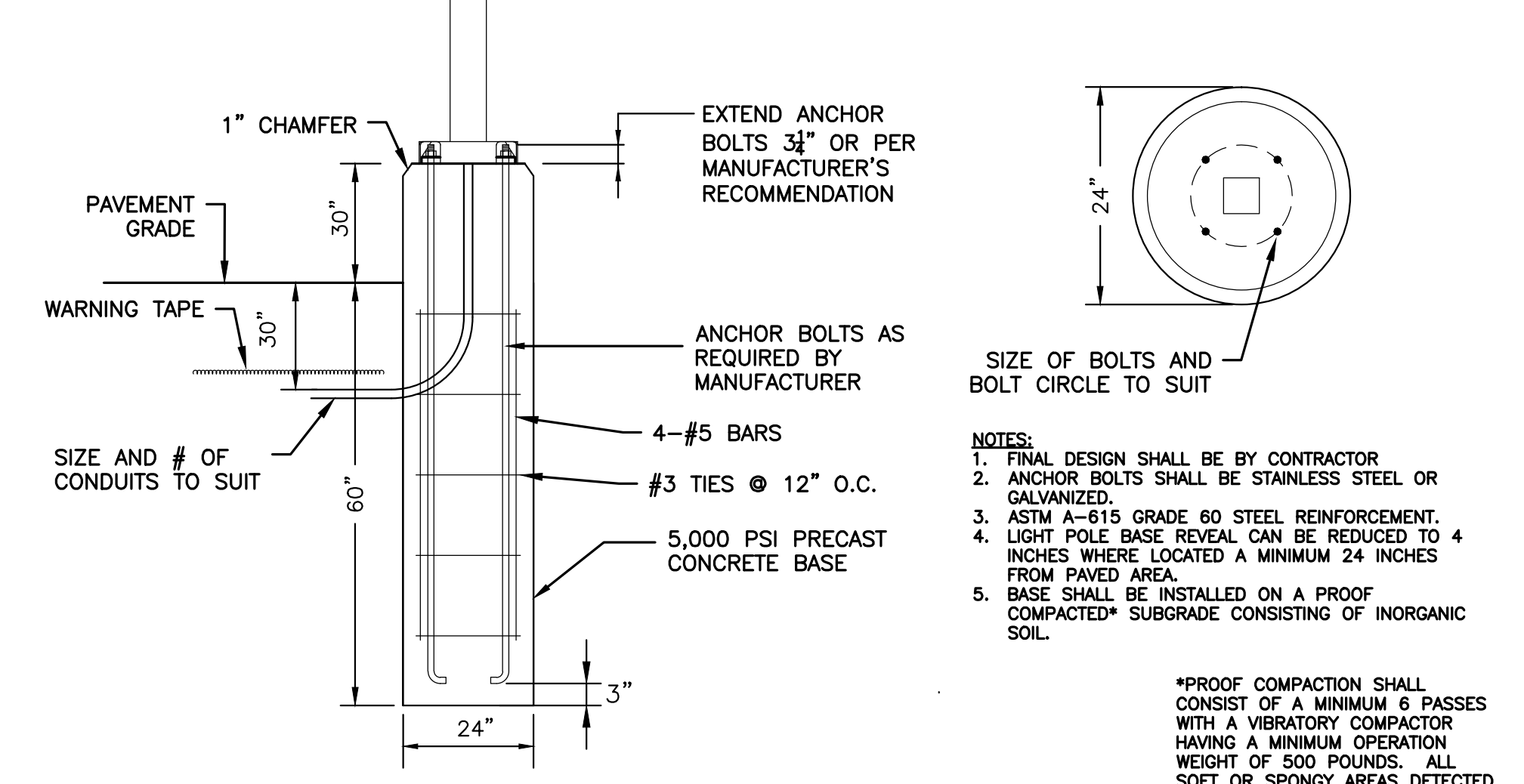
ELEVATION A-A
N.T.S.

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE: www.ConTechES.com
- CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
- IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
- CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



LIGHT POLE BASE
NOT TO SCALE

WATER QUALITY UNIT - CDS1515-3-C
NOT TO SCALE

PREPARED FOR:
LINCOLN PARKWAY LLC
C/O LINCOLN PROPERTY COMPANY
221 CRESCENT ST, SUITE 102A
WALTHAM, MA 02453

PARKWAY APARTMENTS
1545-1555 VFW PARKWAY
WEST ROXBURY, BOSTON, MA, 02132
SUFFOLK COUNTY

REVISIONS:

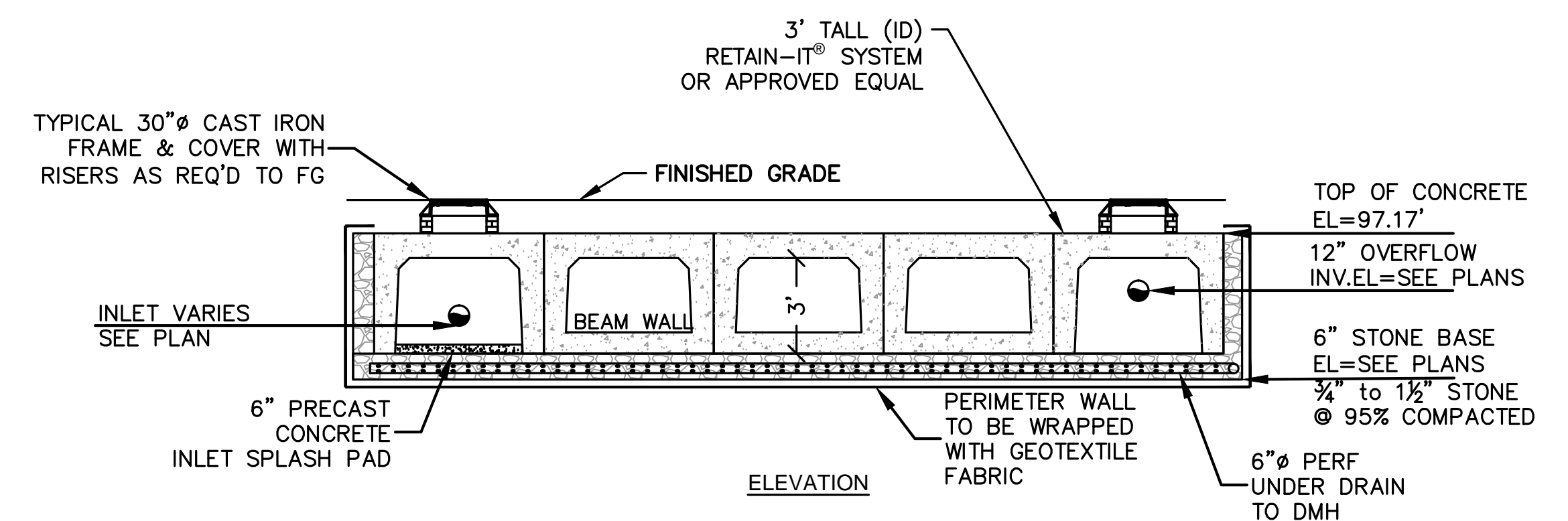
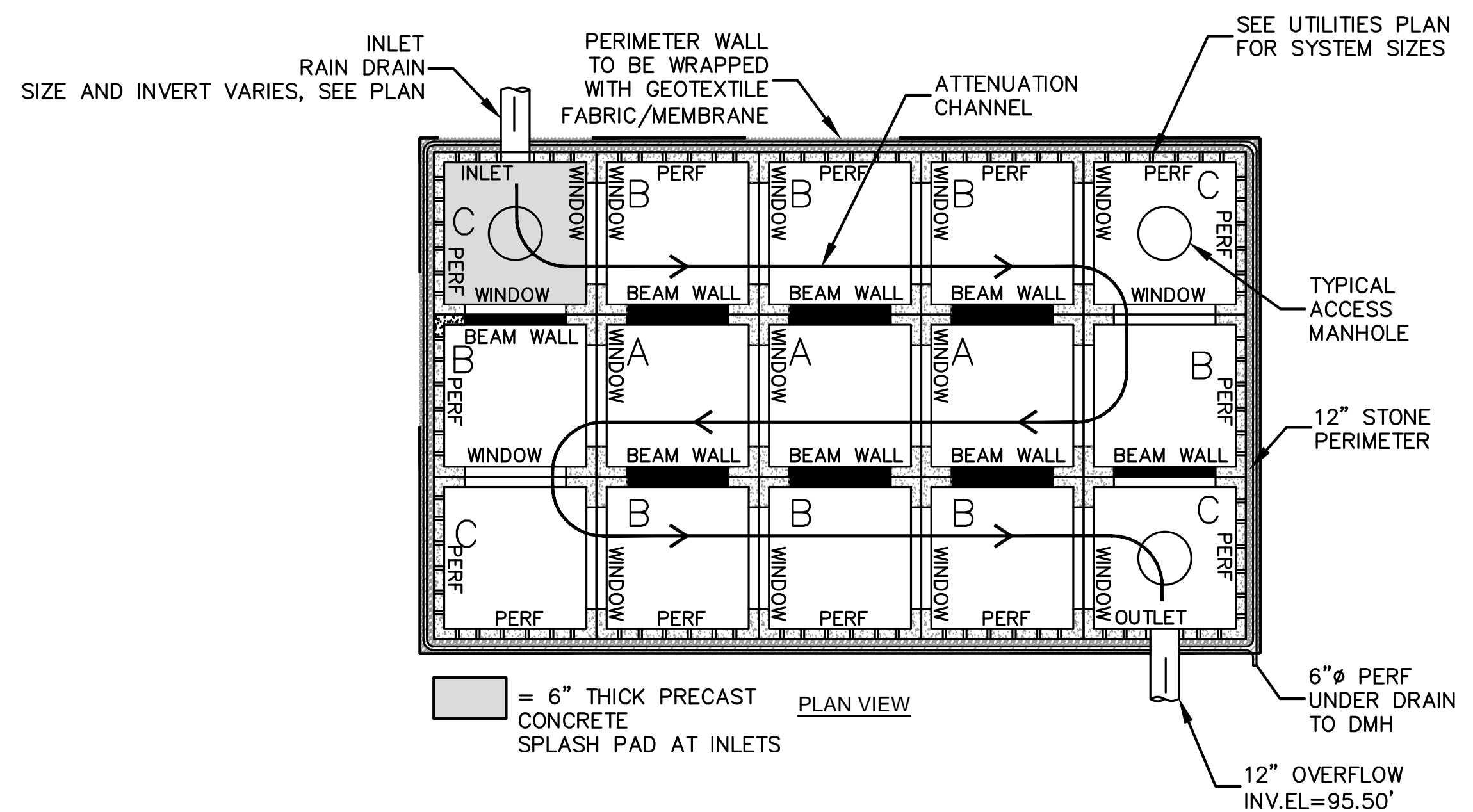
NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET



100% CD SET

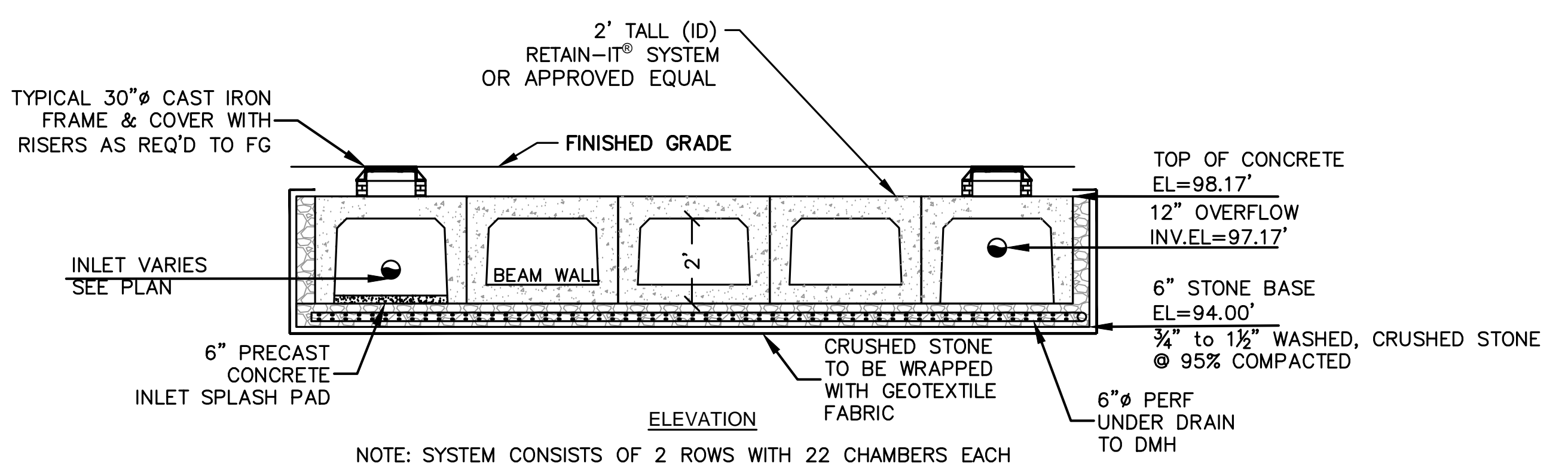
SITE DETAILS - 4

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

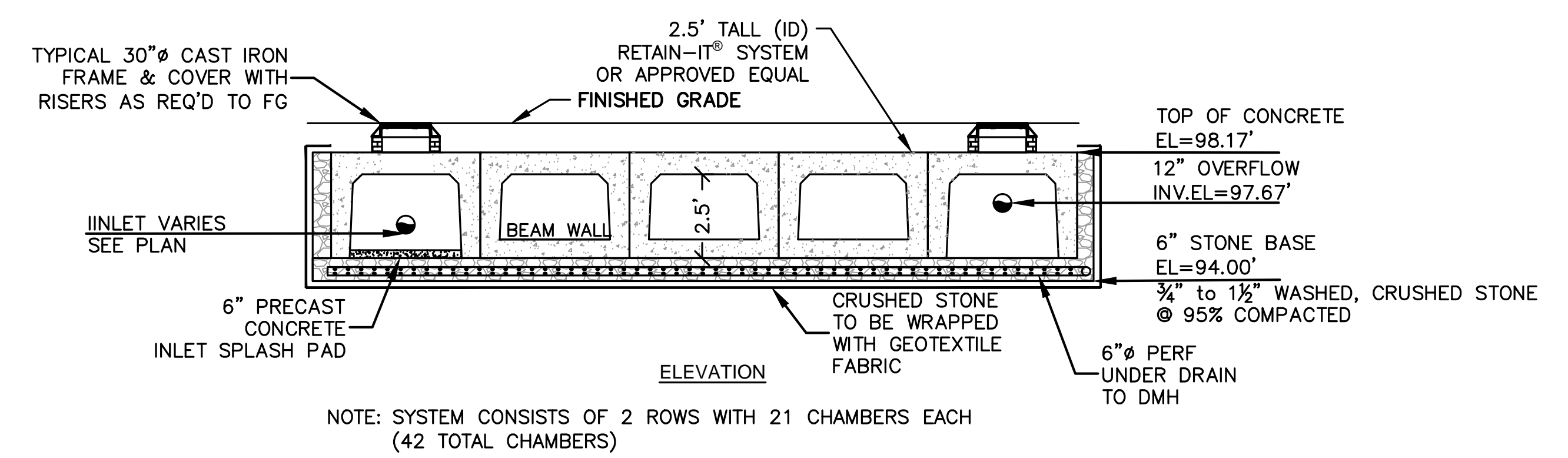


- NOTES:
 1. SYSTEM #4 CONSISTS OF 3 ROWS WITH 12 CHAMBERS EACH (36 TOTAL CHAMBERS)
 2. SYSTEM #5 CONSISTS OF 5 ROWS WITH 14 CHAMBER EACH (70 TOTAL CHAMBERS)

SUBSURFACE INFILTRATION SYSTEM #4 & #5
 NOT TO SCALE



NOTE: SYSTEM CONSISTS OF 2 ROWS WITH 22 CHAMBERS EACH (44 TOTAL CHAMBERS)
SUBSURFACE INFILTRATION SYSTEM #2
 NOT TO SCALE



NOTE: SYSTEM CONSISTS OF 2 ROWS WITH 21 CHAMBERS EACH (42 TOTAL CHAMBERS)
SUBSURFACE INFILTRATION SYSTEMS #3
 NOT TO SCALE

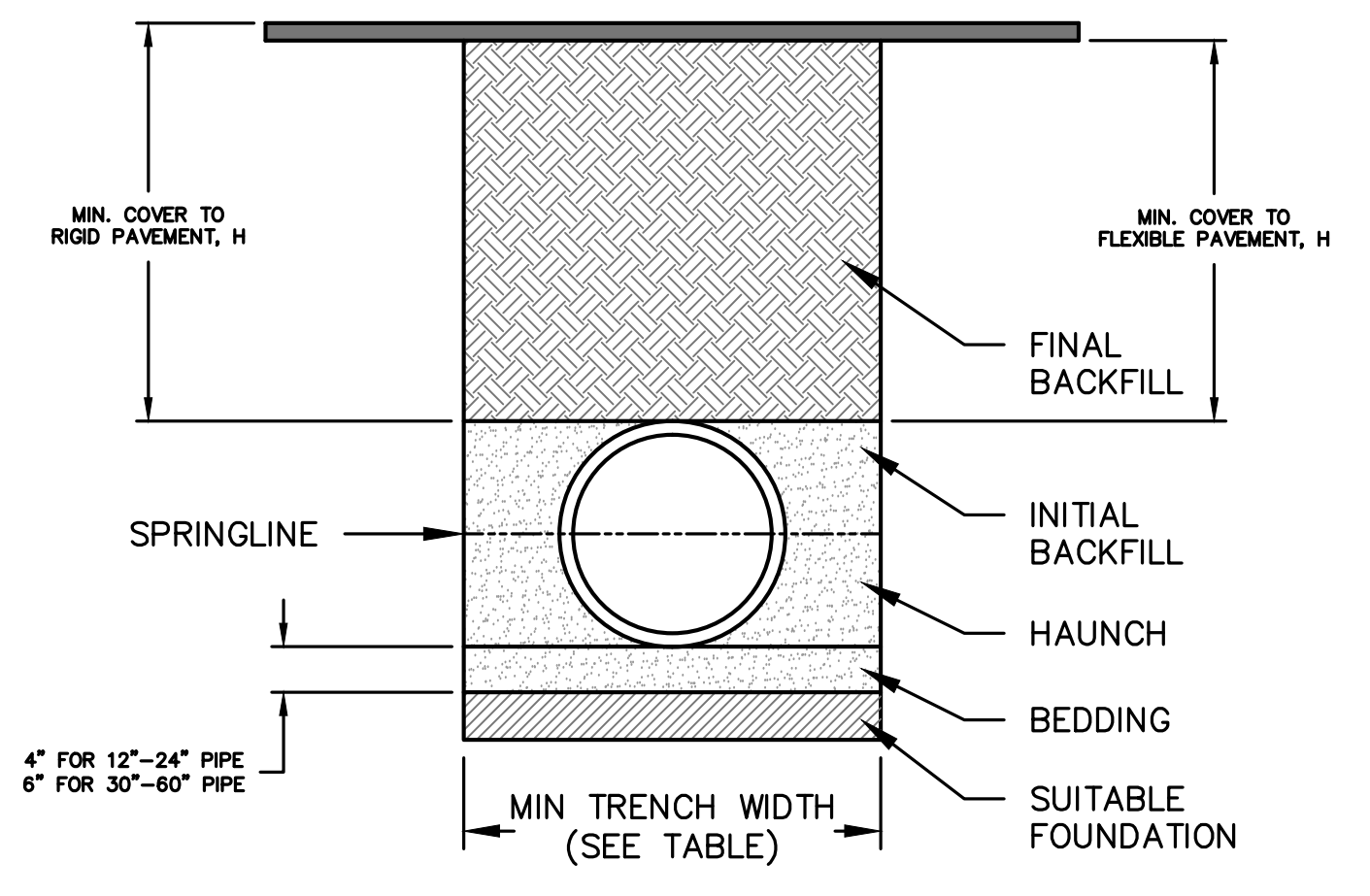


TABLE 1. RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
60"	96"

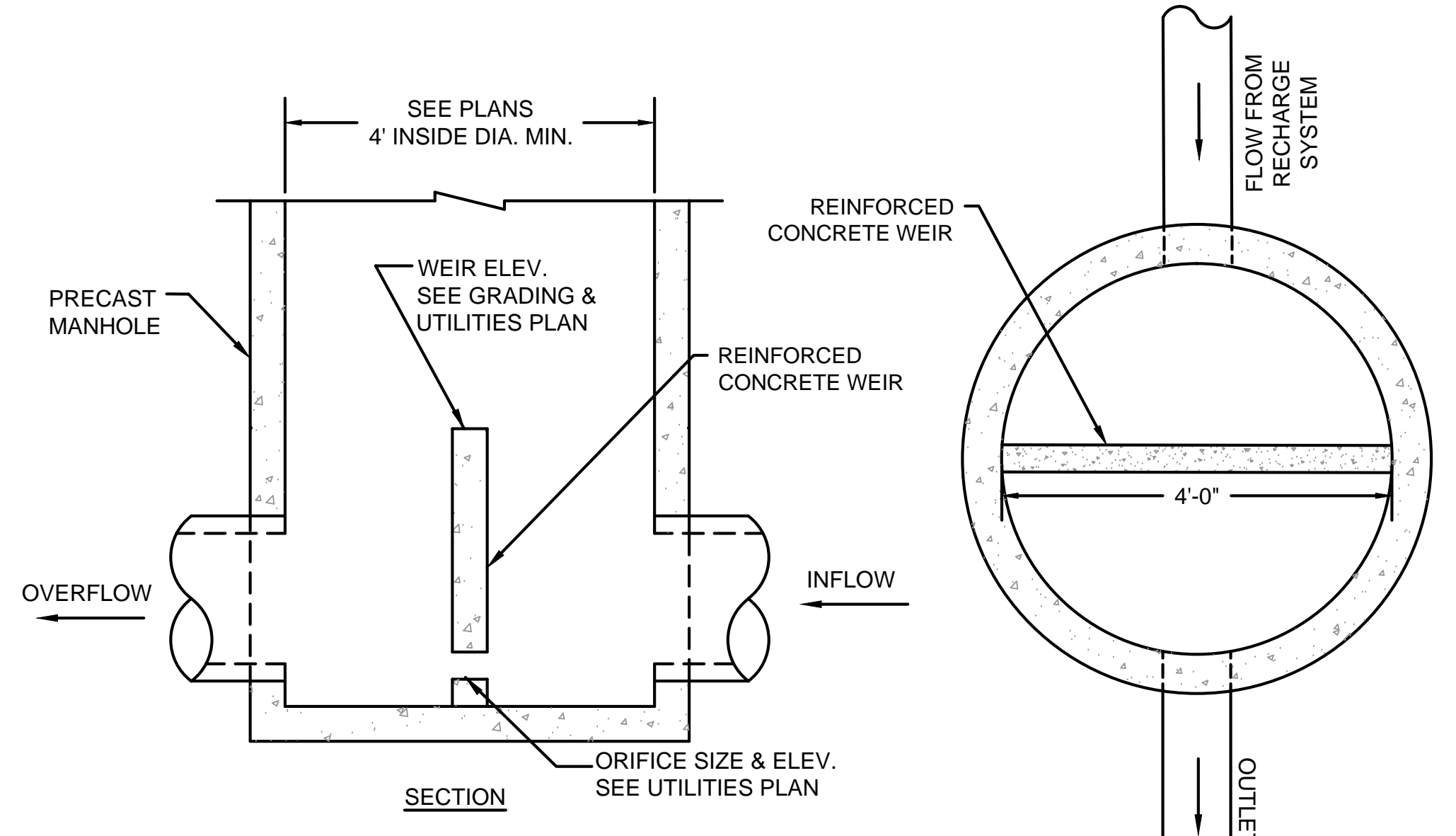
TABLE 2. MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

PIPE DIAM.	SURFACE LIVE LOADING CONDITION	
	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

- NOTES:
 1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION, WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS I/IV MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
 2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
 3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
 4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" (300mm-600mm) DIAMETER PIPE; 6" (150mm) FOR 30"-60" (750mm-1500mm) DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
 5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
 6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS: CLASS I OR II MATERIAL COMPACTED TO 90% SPD AND CLASS III COMPACTED TO 95% SPD IS REQUIRED. FOR TRAFFIC APPLICATIONS: MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
 7. FOR ADDITIONAL INFORMATION SEE TECHNICAL NOTE 2.04.

INFILTRATION SYSTEM #1
18" PERFORATED PIPES
 NOT TO SCALE

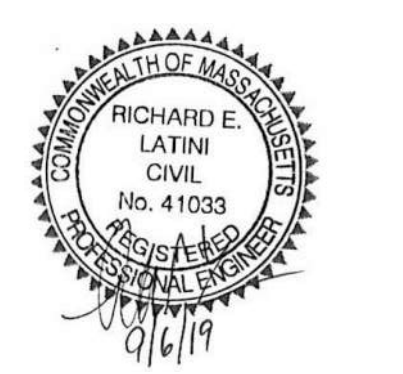


- NOTES:
 1. 6 INCH MIN. WALL THICKNESS AND 7 INCH MIN. BASE THICKNESS WITH 5'-0" DIAMETER MANHOLES.
 2. 6 INCH LIP OPTIONAL UNLESS OTHERWISE NOTED. CONCRETE INVERT AND SHELF MAY BE SUBSTITUTED IN STORM DRAIN MANHOLES AS DIRECTED BY THE ENGINEER.
 3. CONTRACTOR TO SUBMIT METHOD OF BRACING WEIR.

OUTLET CONTROL STRUCTURE
 NOT TO SCALE

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET



100% CD SET

SITE DETAILS - 5

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C4.04

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET

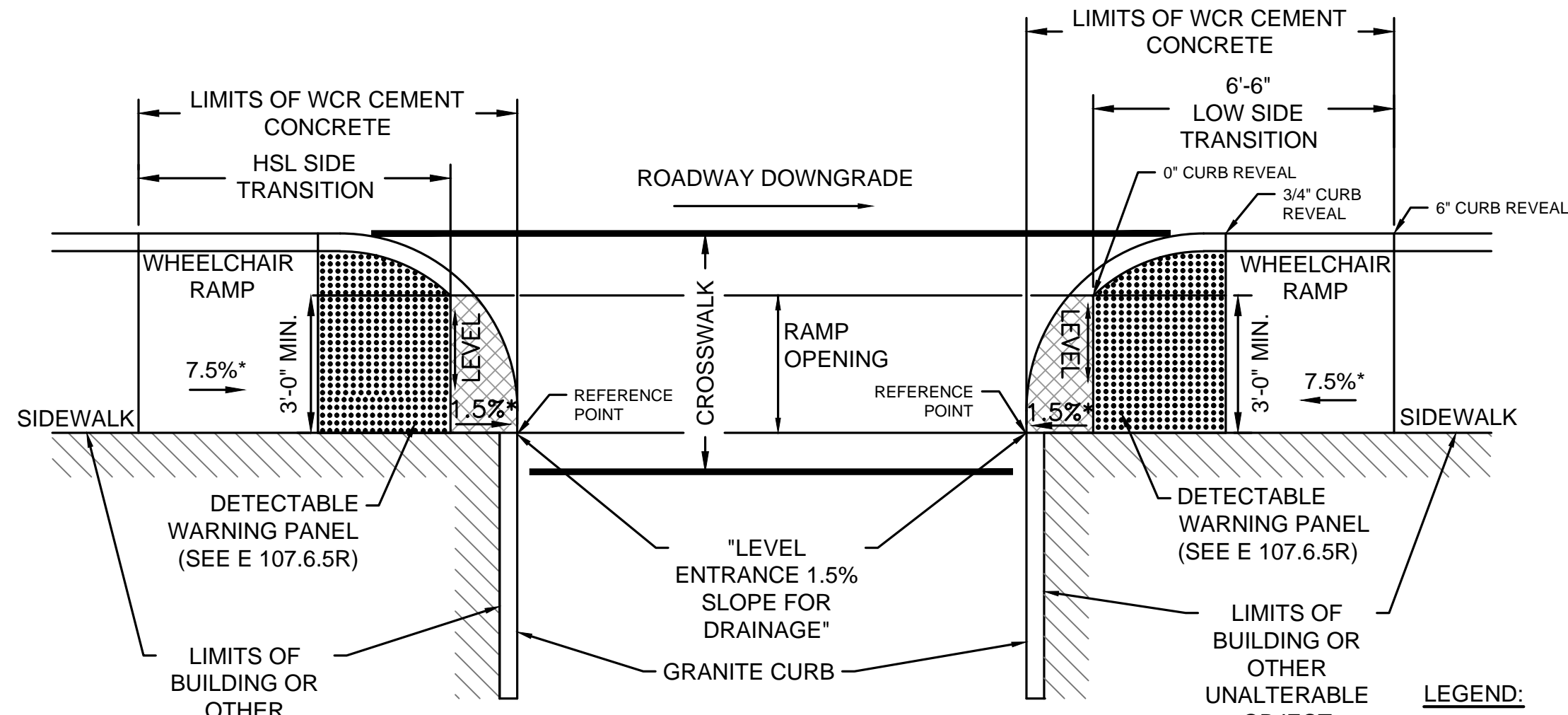


100% CD SET

SITE DETAILS - 6

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C4.05

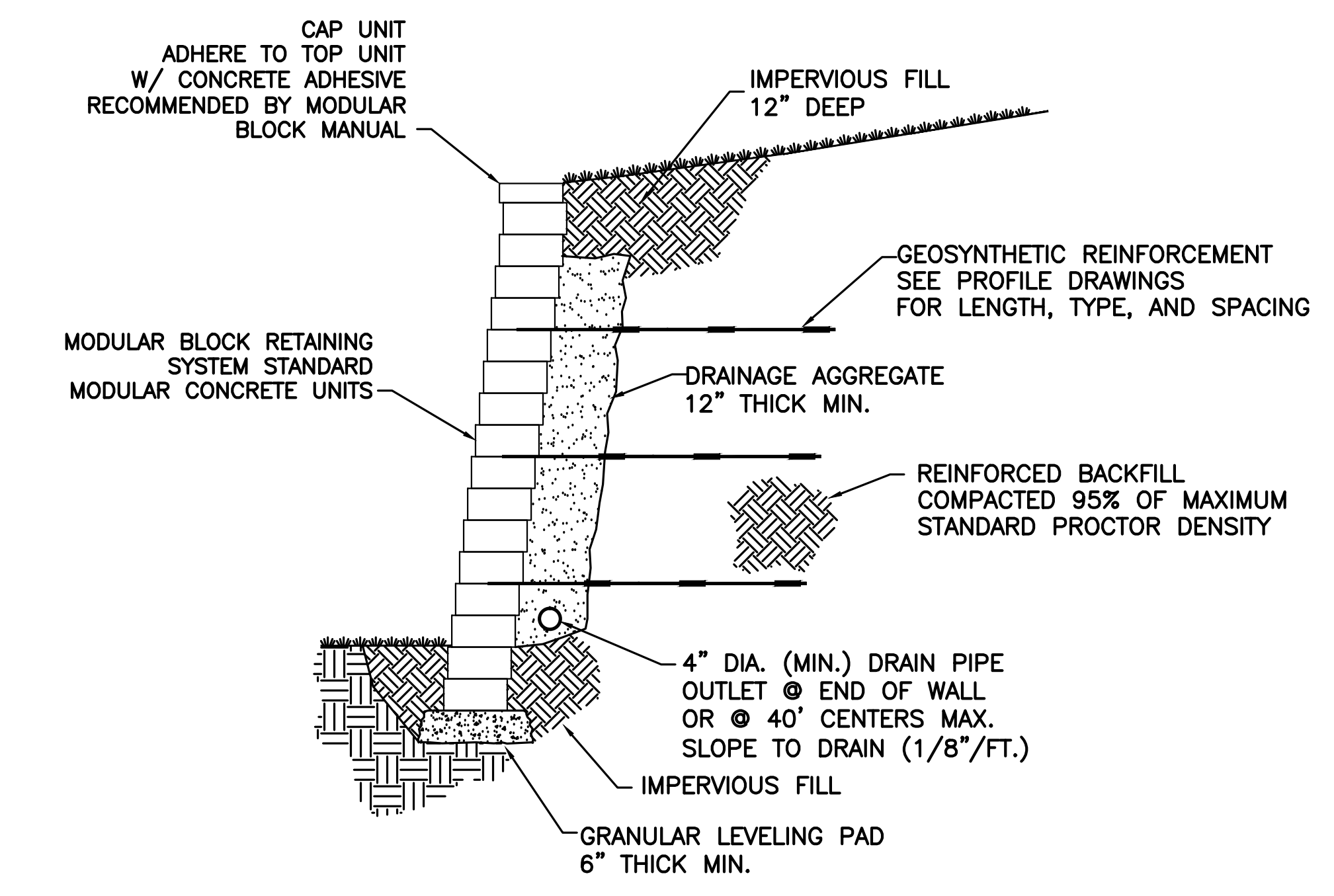


NOTES:
 DETECTABLE WARNING PANEL LOCATED NOT LESS THAN 6" OR MORE THAN 24" FROM ROADWAY EDGE (GUTTER LINE). TRUNCATED DOMES TO BE ALIGNED WITH DIRECTION OF TRAVEL.
 FOR DETAILS OF TRUNCATED DOMES SEE DRAWING E 107.6.5.
 ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS.

LEGEND:
 HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0)
 * = TOLERANCE FOR CONSTRUCTION ±0.5%

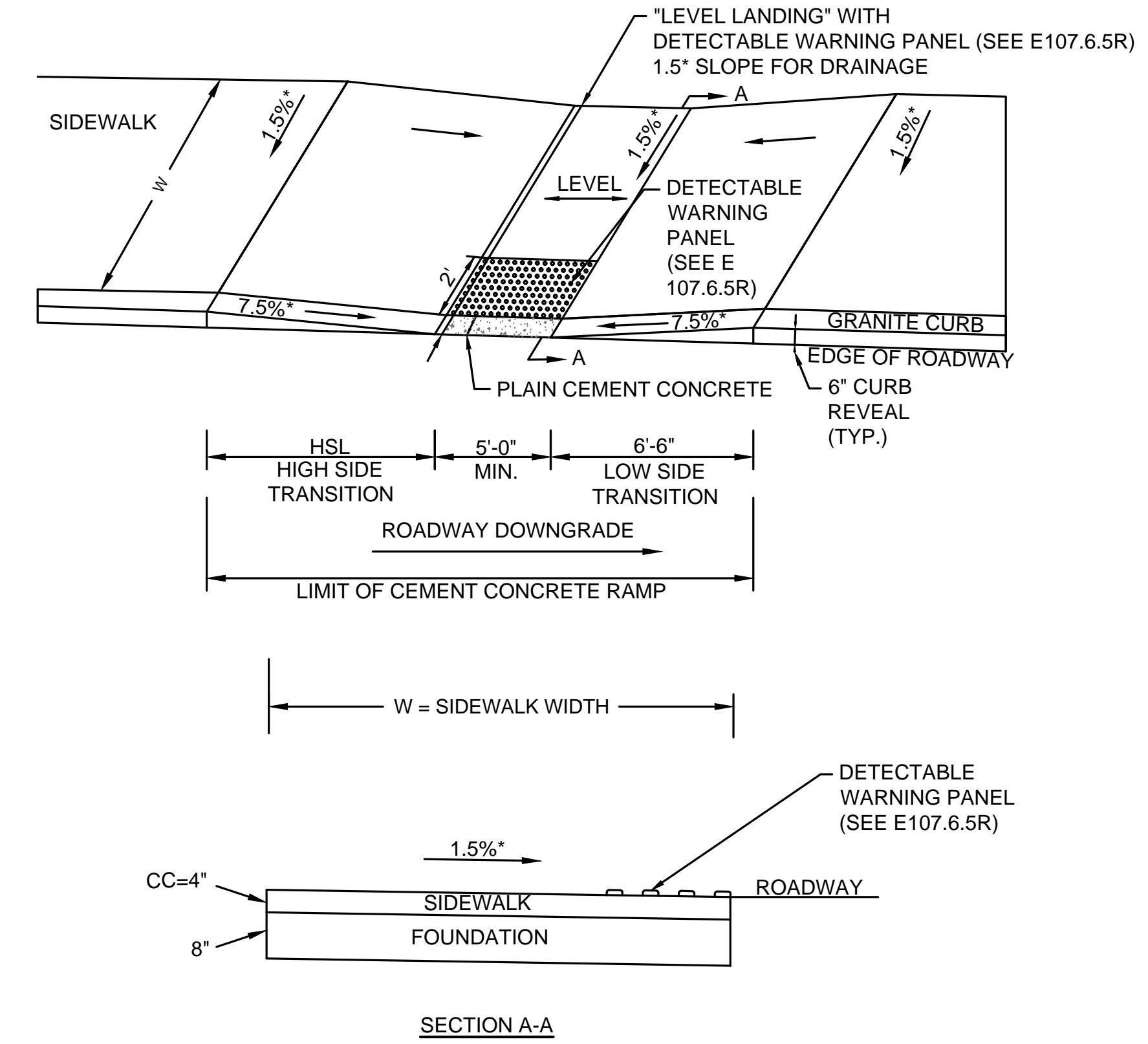
WHEELCHAIR RAMP FOR CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL (E107.6.0)
 NOT TO SCALE

WHEELCHAIR RAMP FOR ONE CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL (E 107.6.0)											
WCR #	ROADWAY ELEV. AT RAMP ℓ	RAMP REFERENCE POINT			LENGTH OF PRIMARY RAMP	WIDTH OF SIDEWALK	WIDTH OF RAMP ENTRANCE	DEPTH OF LEVEL LANDING	TRANSITION		GUTTER SLOPE
		STREET	STATION	OFFSET					LEFT SIDE	RIGHT SIDE	
2	108.39	VFW PARKWAY	0+50.50	0'	6.5'	5.5'	4.0'	-	6.5'	-	-0.60%±
3	105.70	VFW PARKWAY	4+38.37	0'	6.5'	5.5'	5.0'	-	-	6.5'	-0.20%±
4	105.65	VFW PARKWAY	4+58.08	0'	4'	5.5'	5.5'	-	4'	-	-0.80%±
5	105.50	VFW PARKWAY	4+72.28	0'	3.5'	5.5'	5.5'	-	-	3.5'	-0.80%±
6	105.38	VFW PARKWAY	4+92.88	3.20' LT	6.0'	5.0'	4.0'	-	6.0'	-	-0.80%±

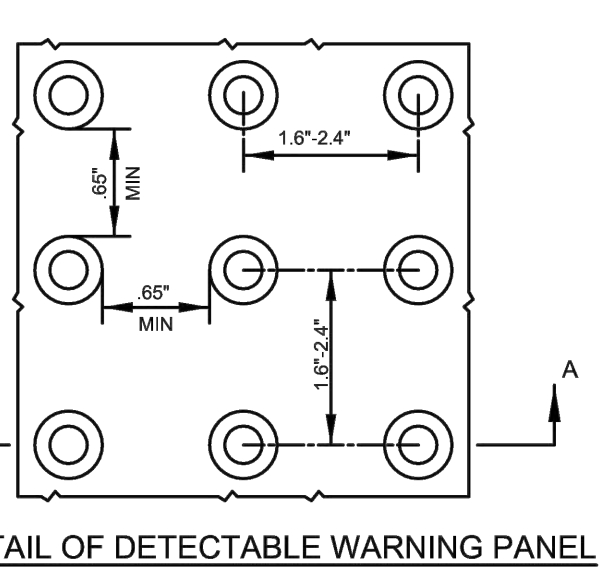
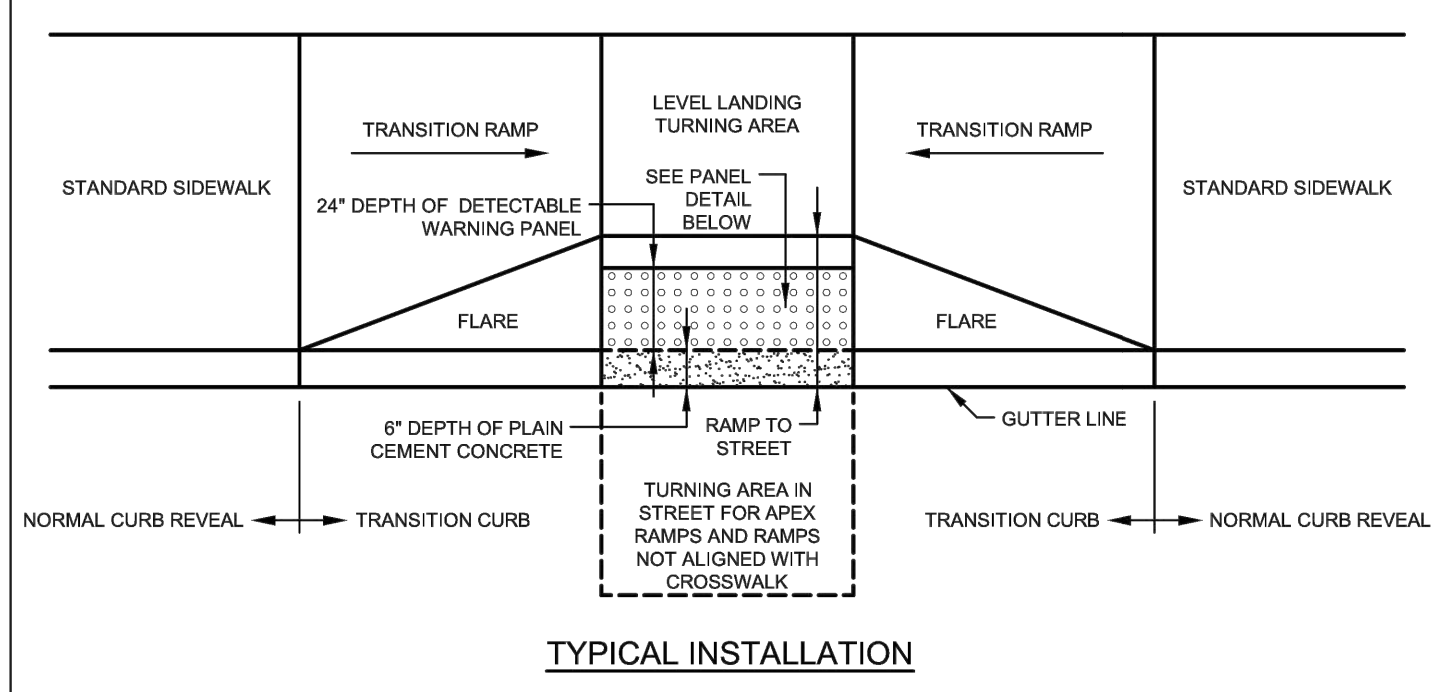


RETAINING WALL SHOWN FOR COORDINATION PURPOSES ONLY. FINAL WALL DESIGN SHALL BE PROVIDED BY OTHERS AND STAMPED BY A PROFESSIONAL ENGINEER.

MODULAR RETAINING WALL
 (NOT TO SCALE)



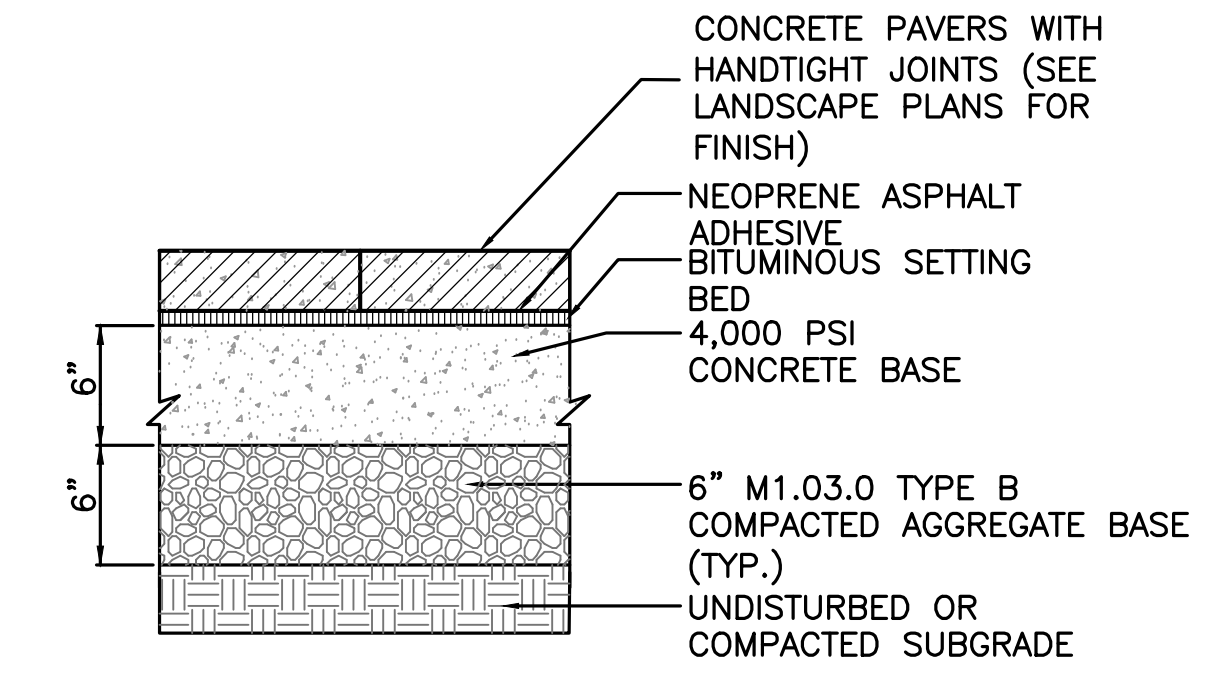
WHEELCHAIR RAMP ON NARROW SIDEWALK (E107.6.0)
 NOT TO SCALE



NOTE:
 PANELS MAY BE CONCRETE PRECAST OR CAST IN PLACE OR OTHER SUITABLE MATERIAL PERMANENTLY APPLIED TO THE RAMP. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.

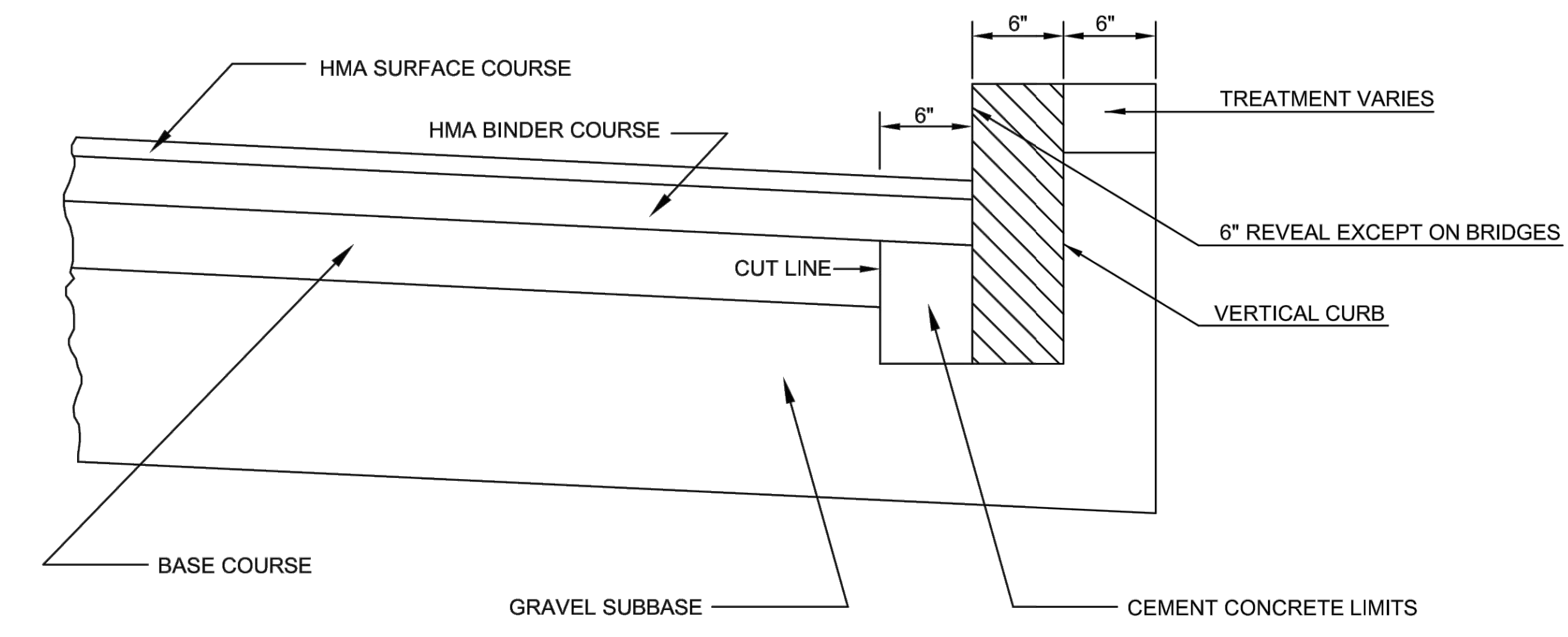
DETECTABLE WARNING PANEL FOR WHEELCHAIR RAMPS (E107.6.5)
 NOT TO SCALE

WHEELCHAIR RAMPS ON NARROW SIDEWALK WITH DETECTABLE WARNING PANEL (E107.2.1)											
WCR #	ROADWAY ELEV. AT RAMP ℓ	RAMP REFERENCE POINT			LENGTH OF PRIMARY RAMP	WIDTH OF SIDEWALK	WIDTH OF RAMP ENTRANCE	DEPTH OF LEVEL LANDING	TRANSITION		GUTTER SLOPE
		STREET	STATION	OFFSET					LEFT SIDE	RIGHT SIDE	
1	108.67	VFW PARKWAY	0+12.90	0'	8.5'	VARIES 5.5' - 3.5'	5.0'	5.5'	6.5'	12.0'	0.70%±



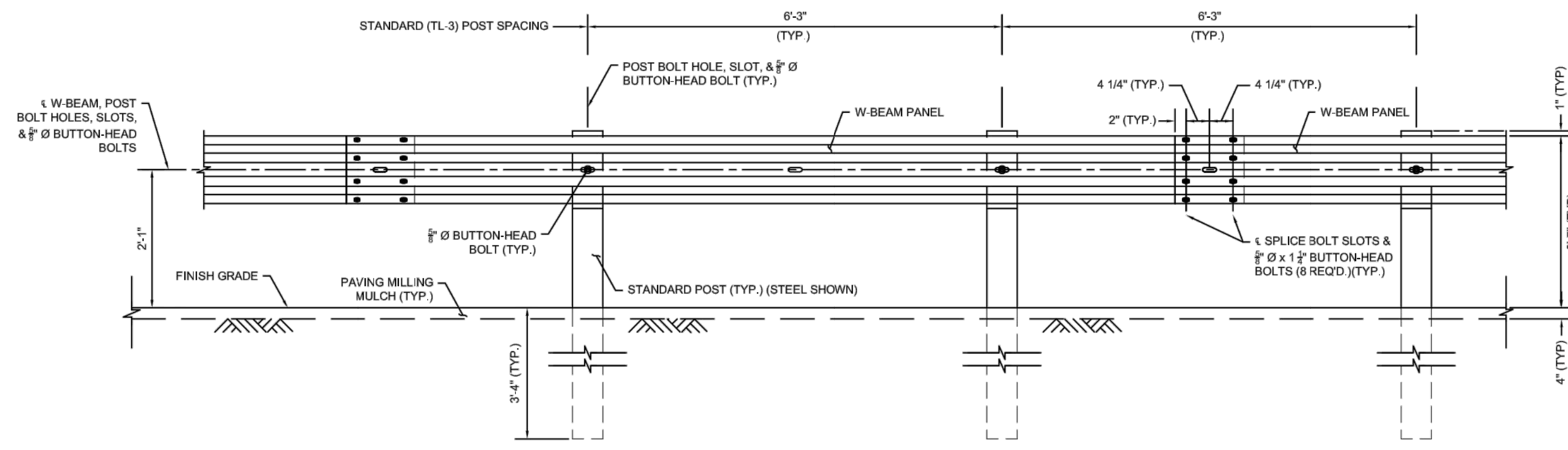
NOTE: CONCRETE UNIT PAVER SHALL BE UNI-ANCHORLOCK AS MANUFACTURED BY UNILOCK OR APPROVED EQUAL.

CONC UNIT PAVER ACCENT STRIP
 NOT TO SCALE

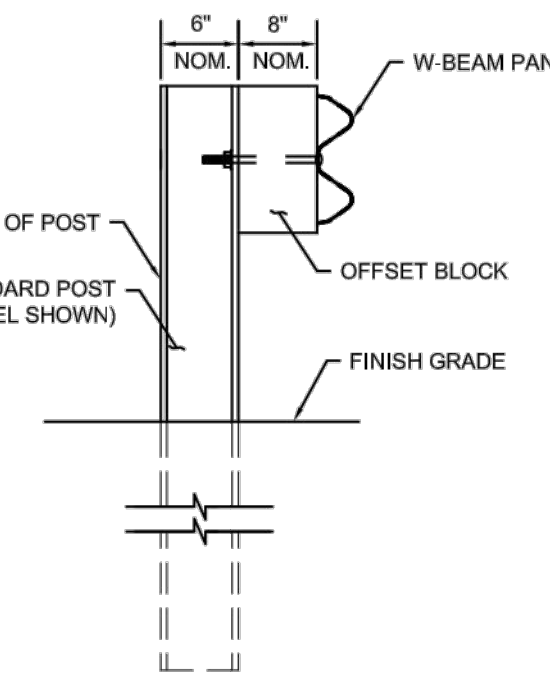


NOTES:
 1. THIS PROCEDURE IS APPLICABLE ONLY IF CURB IS TO BE SET AFTER BASE COURSE IS IN PLACE PRIOR TO BINDER AND TOP PLACEMENT.
 2. CUT NEAT LINE 6" FROM CURB LINE AND REMOVE BASE AND GRAVEL. REPLACE WITH CEMENT CONCRETE.
 3. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED; ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT TO BE USED AS A SUBSTITUTE.

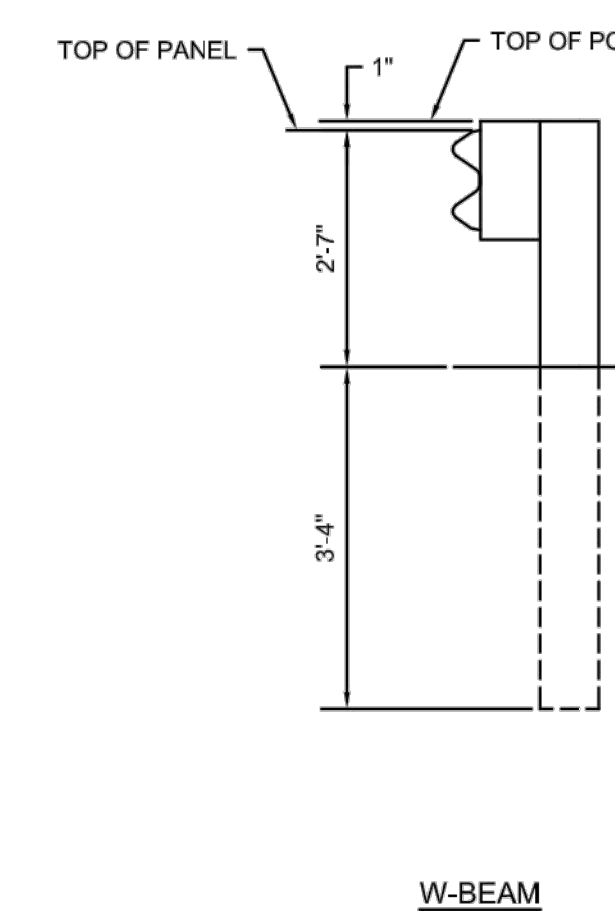
GRANITE CURB
 NOT TO SCALE



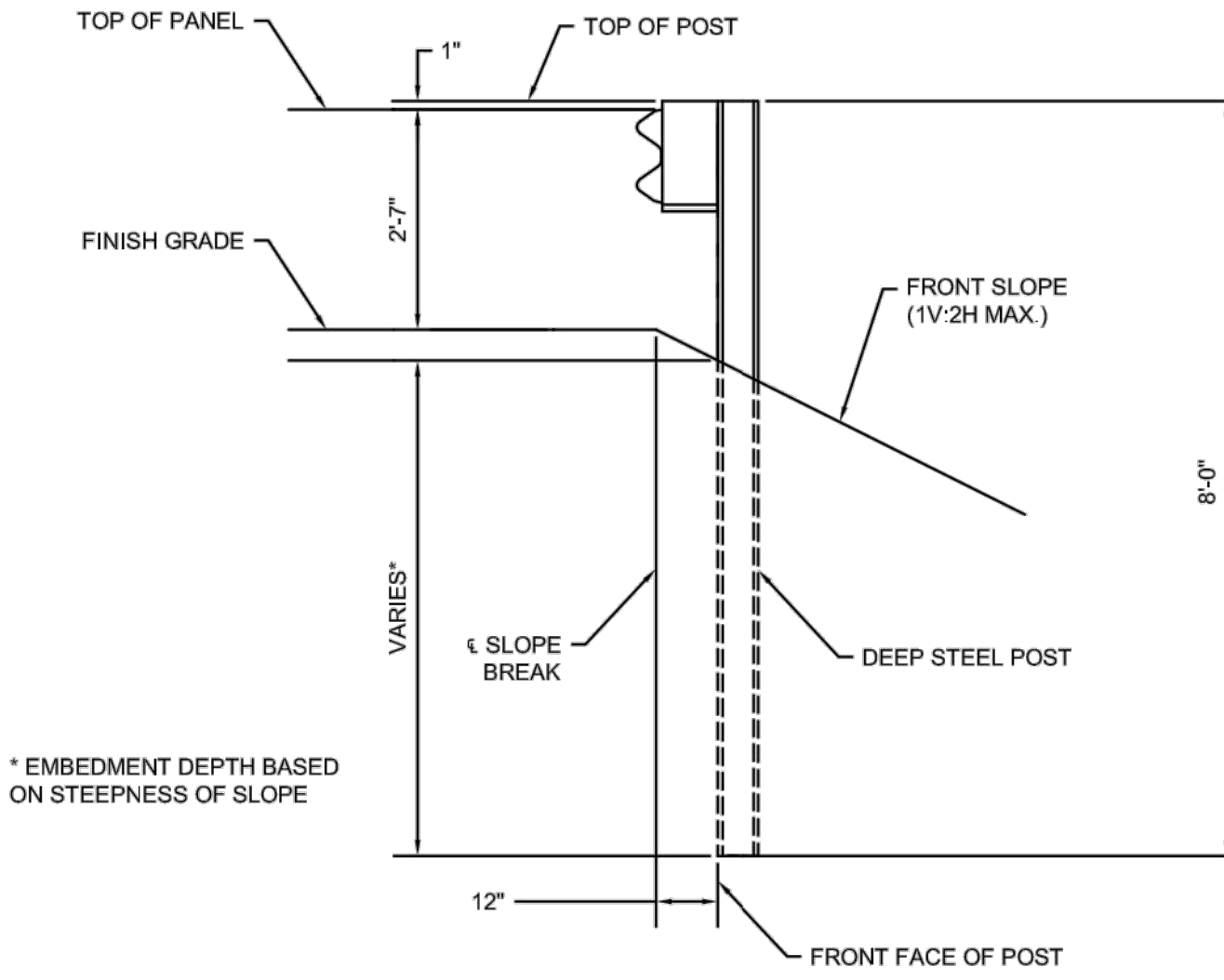
ELEVATION



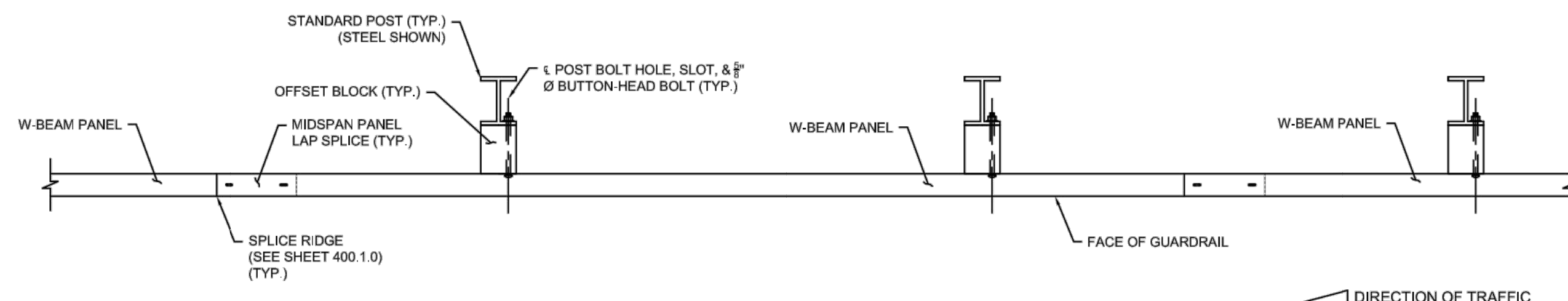
SECTION



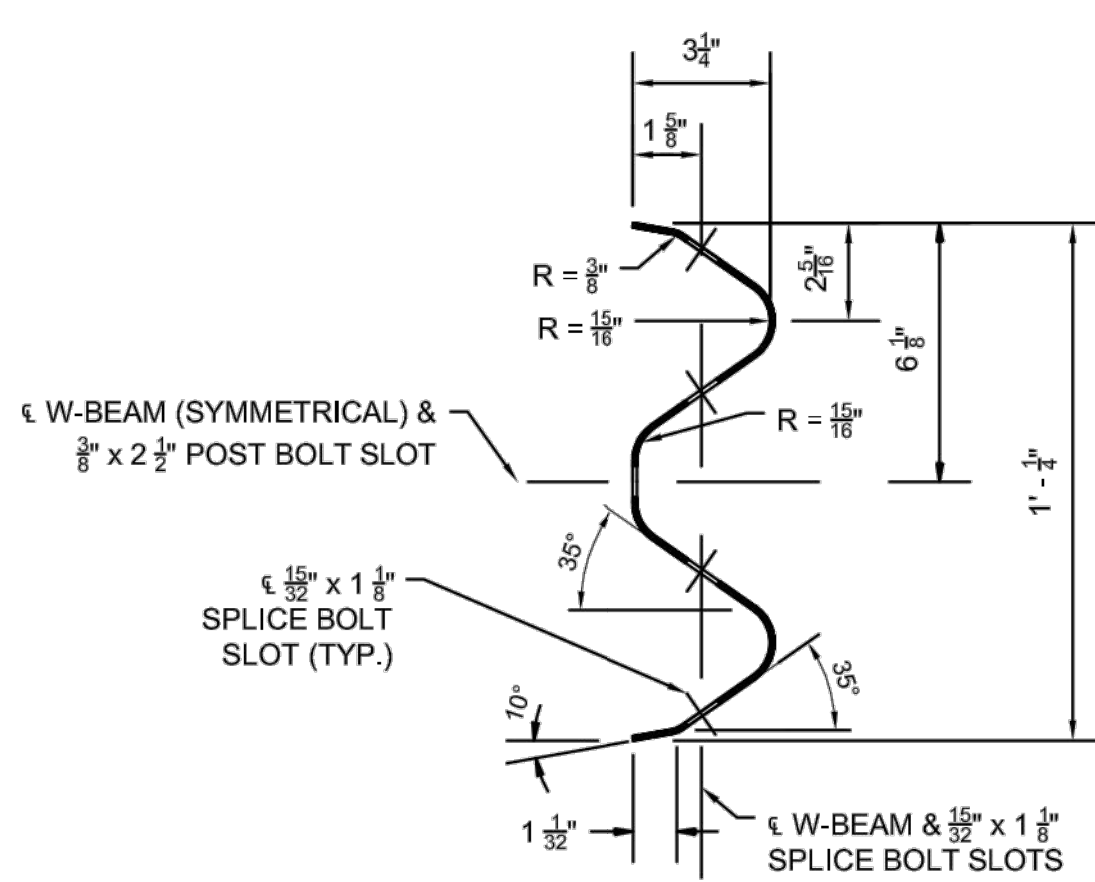
W-BEAM



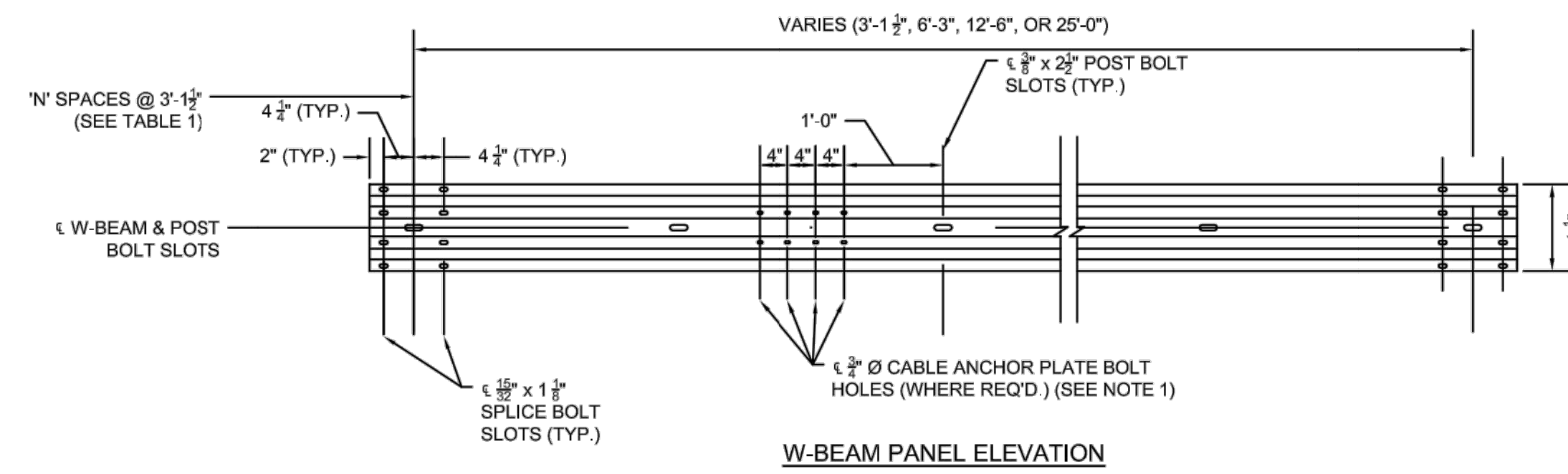
SLOPE BREAK CONDITION
STEEL DEEP POST



PLAN



W-BEAM PANEL SECTION



W-BEAM PANEL ELEVATION

TABLE 1: PANEL SUMMARY

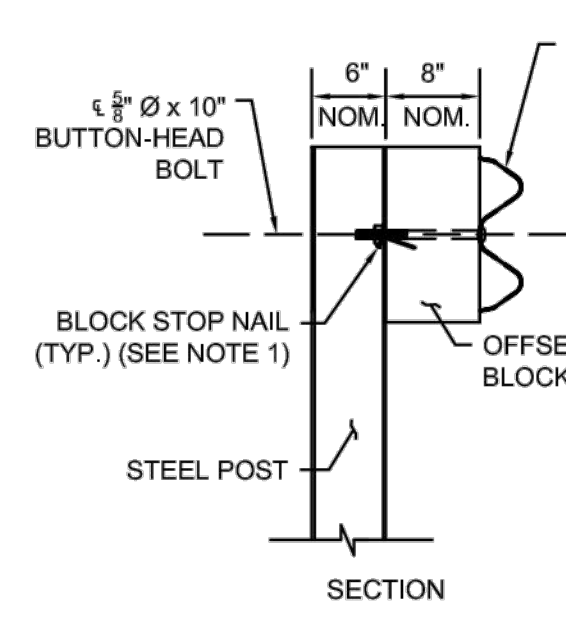
PANEL TYPE	NUMBER OF SPACES 'N'	GAUGE
6'-3" W-BEAM	2	12
6'-6" W-BEAM	3	12
12'-6" W-BEAM	4	12
25'-0" W-BEAM	8	12
12'-6" THREE-BEAM	4	12
25'-0" THREE-BEAM	8	12
THREE-BEAM TRANS.	2	10

NOTES:

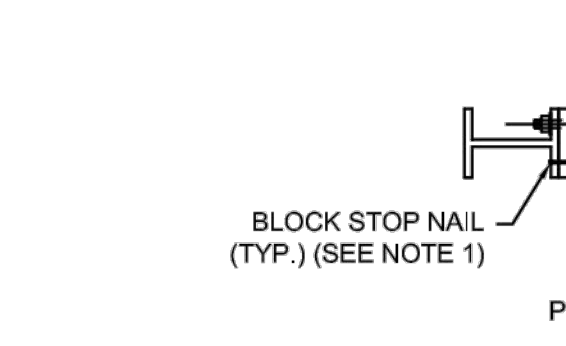
- INCLUDE 1/2" Ø CABLE ANCHOR PLATE BOLT HOLES ONLY WHERE REQUIRED FOR THE INSTALLATION OF THE CABLE ANCHOR PLATE SHOWN ON 400.4.1 AND 400.4.2.
- INSTALL BUTTON-HEAD BOLTS FOR POST MOUNTS AND SPLICES, AS REQUIRED. BOLT LENGTHS SHALL CONFORM TO TABLE 2 UNLESS OTHERWISE INDICATED. PLACE WASHERS UNDER NUTS, WASHERS ARE OPTIONAL AGAINST STEEL FLANGES, DO NOT PLACE WASHERS BETWEEN BOLT HEADS AND PANELS UNLESS OTHERWISE INDICATED.

NOTES:

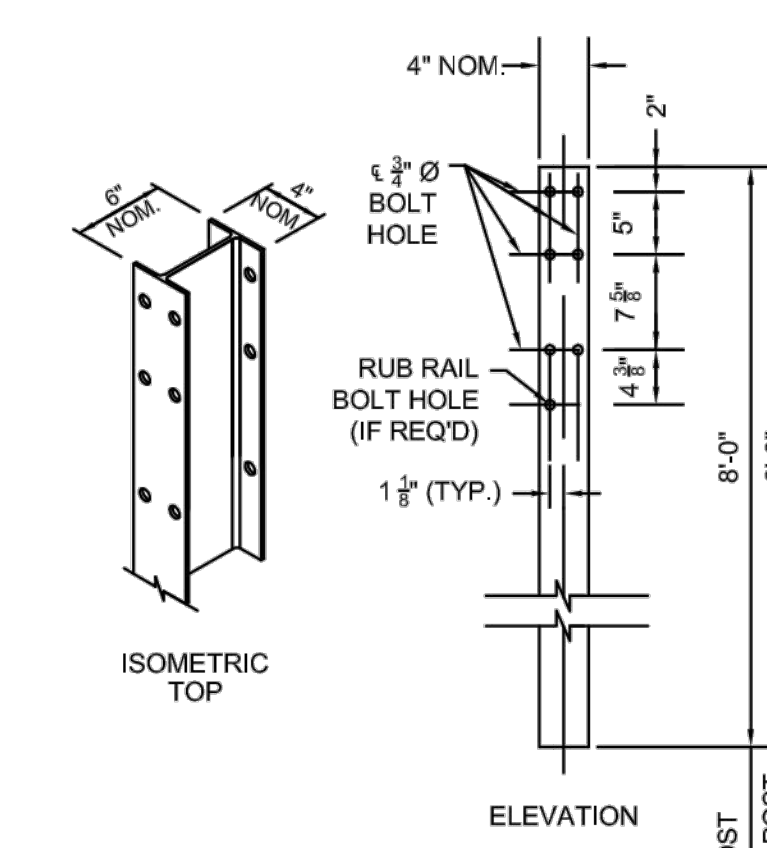
- CONSTRUCTION TOLERANCE FOR PANEL HEIGHT = ± 1".



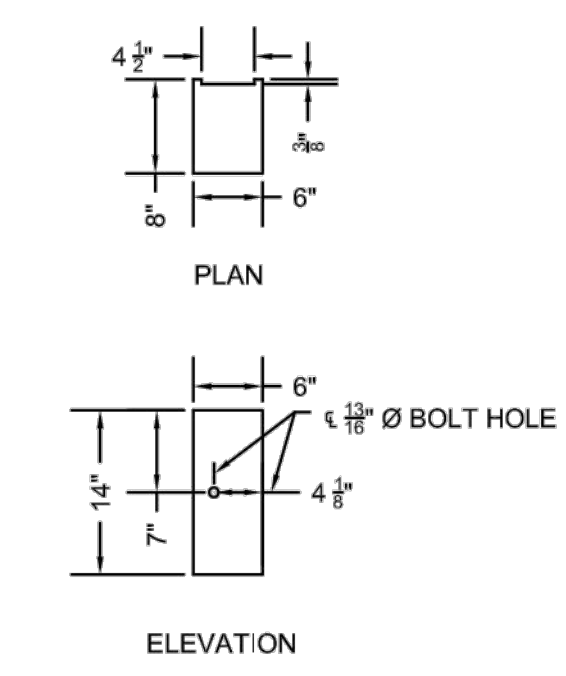
SECTION



PLAN



STEEL POST (W6X8.5 OR W6X9)



ELEVATION

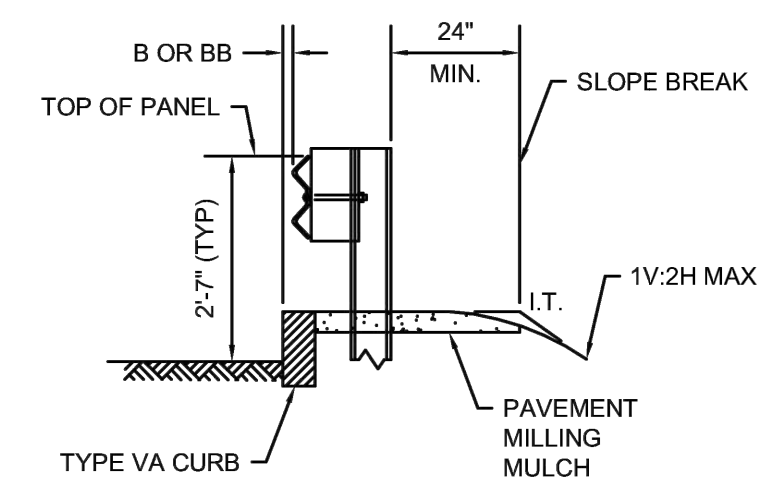
W-BEAM TIMBER OFFSET BLOCK FOR USE WITH STEEL POSTS (6"X8" NOMINAL)

NOTES:

- DRIVE ONE NAIL PER W-BEAM TIMBER OFFSET BLOCK TO PREVENT BLOCK ROTATION. USE ASTM A153 HOT DIP GALVANIZED STEEL 3 1/2" TYPE 160 NAILS. FOR STEEL POSTS, DRIVE THE NAIL THROUGH THE UNUSED FLANGE BOLT HOLE AND BEND THE NAIL SO ITS HEAD CONTACTS THE FLANGE.
- DEEP STEEL POSTS SHALL ONLY BE USED WHERE INDICATED IN THESE STANDARDS OR THE PLANS.
- WHERE BACK OF POSTS ARE EXPOSED AND PLACED WITHIN 2'-0" OF A SIDEWALK, SEPARATED BIKE FACILITY OR SHARED-USE PATH, TIMBER POSTS SHALL BE USED ALTERNATIVELY. STEEL POSTS WITH A TIMBER BACKING, PER 400.5.1, MAY BE SUBSTITUTED AT NO ADDITIONAL COST WHEN TIMBER POSTS ARE USED. ONE OF THE FOLLOWING SAFETY TREATMENTS IS REQUIRED FOR ALL BOLTS PROTRUDING FROM THE BACK FACE OF THE POST:
 - AFTER TIGHTENING THE NUT, TRIM THE PROTRUDING POST BOLT FLUSH WITH THE NUT AND GALVANIZE PER M7.04.11;
 - USE 15" POST BOLTS AND COUNTERSINK THE WASHER AND NUT BETWEEN 1" AND 1 1/2" DEEP INTO THE BACK FACE OF THE POST; OR
 - USE 15" POST BOLT SLEEVE NUTS AND WASHERS.
 END TREATMENTS AND TRANSITIONS, WHERE SPECIFIC MATERIAL TYPES ARE SPECIFIED, ARE EXEMPT FROM THESE REQUIREMENTS.

TABLE 2: 5/8" BUTTON-HEAD BOLT LENGTHS

APPLICATION(S)	LENGTH 'L'	MIN. THREAD LENGTH
PANEL SPLICE	1'-3"	FULL LENGTH
STEEL POST MOUNT - SINGLE FACED	10"	4"
TIMBER POST MOUNT - SINGLE FACED	18"	4"
STEEL POST MOUNT - DOUBLE FACED	10"	4"
TERMINAL CONNECTOR SPLICE	2'	FULL LENGTH



TYPE VA CURB (HMA CURB SIMILAR)

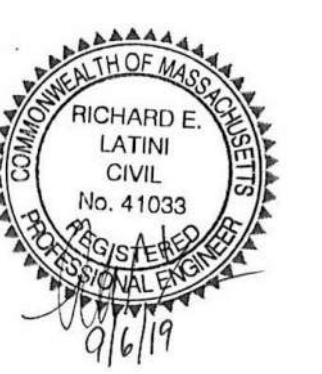
	TL-2	TL-3
B (AT FACE)	0" TO 6"	0" TO 6"
BB (OFFSET)	6'-0" (MIN)	N/A (SEE NOTE 5)

NOTES:

- ALL DIMENSIONS OF STANDARD GUARDRAIL COMPONENTS, INCLUDING PANELS, POSTS, OFFSET BLOCKS, BOLTS, NUTS, WASHERS AND HOLES, ARE BASED UPON ENGLISH UNIT CONVERSIONS OF THE AASHTO-ARTBA-AGC JOINT COMMITTEE TASK FORCE 13 REPORT: A GUIDE TO STANDARDIZING HIGHWAY BARRIER HARDWARE (<http://www.aashtotf13.org/Barrier-Hardware.php>).
- ALL GUARDRAIL MATERIALS SHALL CONFORM TO M8.07.0 UNLESS OTHERWISE INDICATED.
- APPROVAL BY THE ENGINEER IS REQUIRED WHERE A DIFFERING GUARDRAIL CONFIGURATION IS REQUIRED FOR CONSTRUCTABILITY BEYOND THE OPTIONS SHOWN IN THESE STANDARDS OR THE PLANS.
- THE BEGIN OR END STATION LABELS SHOWN IN THESE STANDARDS CORRESPOND TO THE STATION AND OFFSET CALLOUTS SPECIFIED IN THE PLANS.
- USE 12'-6" NOMINAL LENGTH PANELS UNLESS OTHERWISE INDICATED IN THESE STANDARDS OR THE PLANS.
- ALL LAP SPLICES SHALL BE MIDSPAN UNLESS OTHERWISE SHOWN.
- LAP SPLICES SHALL BE CONSTRUCTED WITH THE SPLICE RIDGE ORIENTED DOWNSTREAM OF THE FINAL DIRECTION OF TRAFFIC IN THE NEAREST TRAVEL LANE. REORIENTING LAP SPLICES FOR TEMPORARY TRAFFIC CONTROL IS NOT REQUIRED.
- STANDARD POSTS SHALL BE STEEL OR TIMBER, UNLESS OTHERWISE INDICATED IN THE PLANS, FABRICATED TO THE DIMENSIONS SHOWN ON 400.1.4. POSTS OF A SINGLE MATERIAL TYPE SHALL BE USED THROUGHOUT AN ENTIRE RUN OF GUARDRAIL; EXCEPTIONS ARE ALLOWED ONLY WHEN SPECIFIC MATERIAL TYPES ARE REQUIRED FOR TRANSITIONS, END TREATMENTS, AND/OR ANCHORAGES.
- DEEP POST SHALL ONLY BE USED WHERE INDICATED IN THESE STANDARDS OR THE PLANS.
- OFFSET BLOCKS, WHERE REQUIRED, SHALL BE TIMBER AND FABRICATED TO THE NOMINAL DIMENSIONS SHOWN ON 400.1.4. PLASTIC OR COMPOSITE OFFSET BLOCKS OF THE SAME NOMINAL DIMENSIONS THAT ARE LISTED ON THE QUALIFIED CONSTRUCTION MATERIALS LIST MAY BE SUBSTITUTED. OFFSET BLOCKS OF A SINGLE MATERIAL TYPE SHALL BE USED THROUGHOUT AN ENTIRE RUN OF GUARDRAIL; EXCEPTIONS ARE ALLOWED ONLY WHEN SPECIFIC MATERIAL TYPES ARE REQUIRED FOR TRANSITIONS, END TREATMENTS, AND/OR ANCHORAGES.
- PAVEMENT MILLING MULCH, WHERE CALLED FOR IN THE STANDARDS, SHALL CONFORM TO SECTION 739.
- GUARDRAIL DELINEATORS, CONFORMING TO SECTION 601, SHALL BE INSTALLED AT 25' INTERVALS WITHIN 100' OF AN END TREATMENT OR TRAILING ANCHORAGE AND AT 100' INTERVALS IN ALL OTHER AREAS UNLESS OTHERWISE SHOWN IN THE PLANS.
- MINIMUM OFFSET DISTANCE FROM FACE OF W-BEAM PANEL TO A FIXED (NON-BREAKAWAY) OBJECT SHALL BE 48" FOR TL-2 AND 60" FOR TL-3.

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	HS	5/20/19	50% CD SET
2	HS	7/19/19	80% CD SET
3	HS	7/26/19	BLDG PERMIT SET
4	HS	8/20/19	ADD SMH CORING NOTE
5	RM	9/6/19	100% CD SET



100% CD SET

SITE DETAILS - 7

DATE:	11/30/2018
PROJECT NUMBER:	17163.01
DESIGNED BY:	JEC
DRAWN BY:	JEC
CHECKED BY:	RL

C4.06