

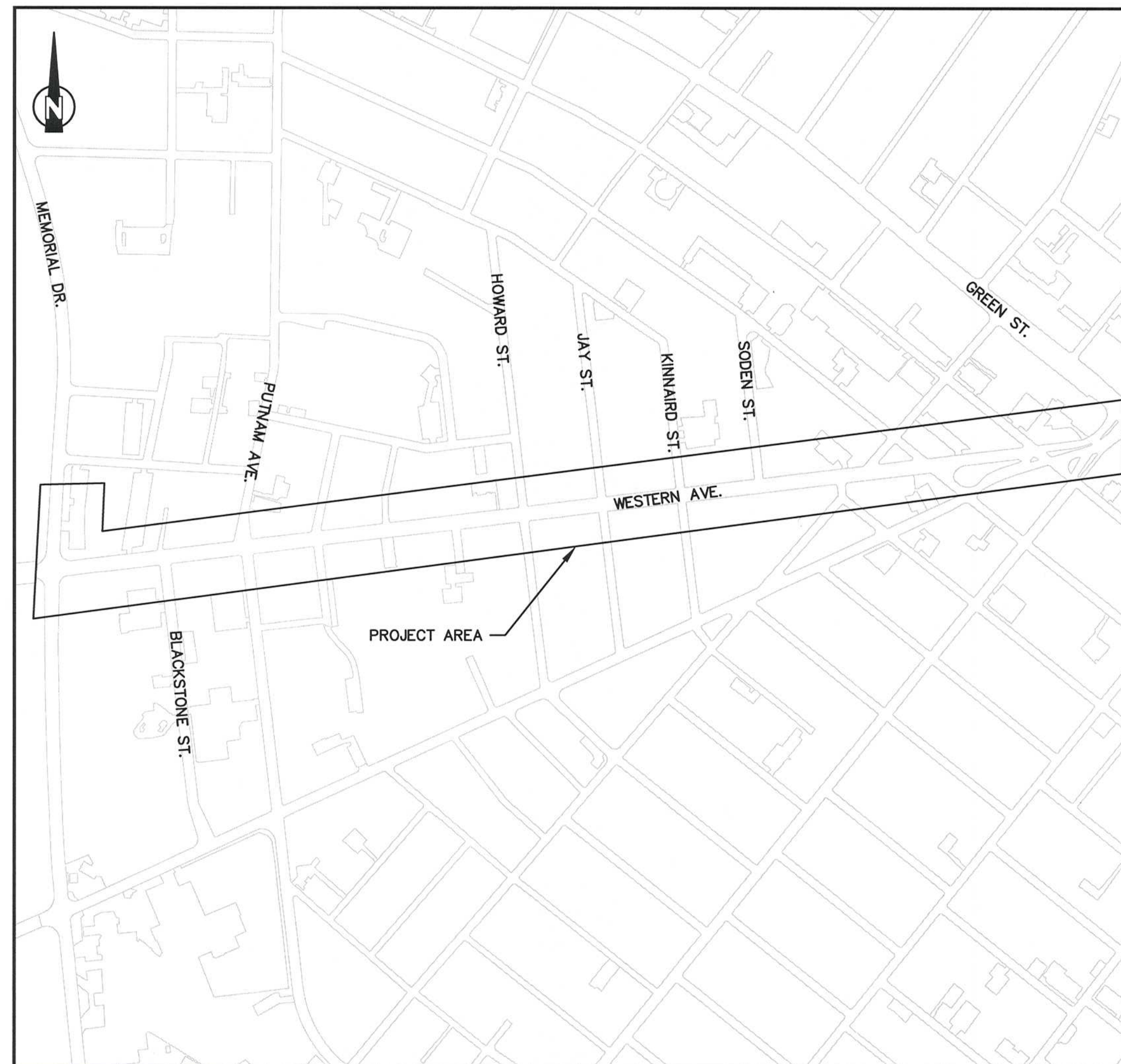
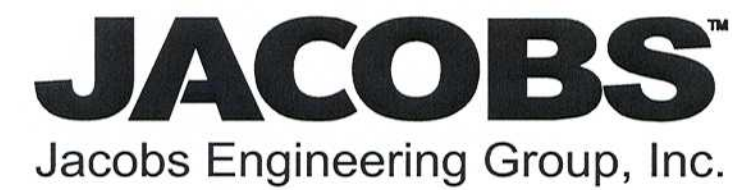
CITY OF CAMBRIDGE, MA

WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT

RECORD SET

APRIL 2017

PROJECT DESIGN TEAM



LOCUS PLAN
APPROX. SCALE: 1" = 300'



CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

RECORD DRAWING

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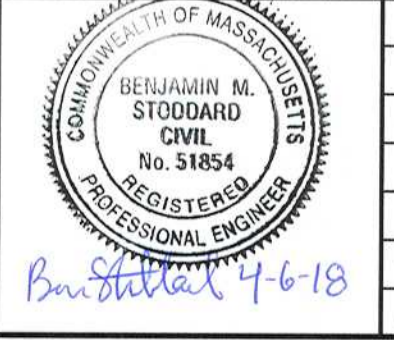
SHEET NUMBER	DRAWING LIST SHEET NAME
G-1	GENERAL - COVER SHEET WITH SITE LOCUS
G-2	GENERAL - DRAWING LIST
G-3	GENERAL - LEGEND AND ABBREVIATIONS
G-4	GENERAL - SUBSURFACE KEYPLAN
G-5	GENERAL - SUBSURFACE CONSTRUCTION BASELINE I
G-6	GENERAL - SUBSURFACE CONSTRUCTION BASELINE II
GEO-1	GEOTECHNICAL - GENERAL NOTES, LEGEND AND DETAILS
GEO-2	GEOTECHNICAL - GEOTECHNICAL INSTRUMENTATION AND MONITORING PLAN STA 0+00 TO 11+50
GEO-3	GEOTECHNICAL - GEOTECHNICAL INSTRUMENTATION AND MONITORING PLAN STA 11+50 TO 22+00
GEO-4	GEOTECHNICAL - GEOTECHNICAL INSTRUMENTATION AND MONITORING PLAN STA 22+00 TO 32+30
CG-1	CIVIL GENERAL - GENERAL NOTES
CG-2	CIVIL GENERAL - TRENCH, PIPE AND SERVICE CONNECTION DETAILS
CG-3	CIVIL GENERAL - MANHOLE DETAILS
CG-4	CIVIL GENERAL - MANHOLE AND CATCH BASIN DETAILS
CG-5	CIVIL GENERAL - MISCELLANEOUS DETAILS
CG-6	CIVIL GENERAL - TOTAL PHOSPHOROUS DEFLECTION STRUCTURE DETAILS
CG-7	CIVIL GENERAL - HARVARD STEAM TUNNEL CROSSING PLAN AND SECTIONS
CG-8	CIVIL GENERAL - COMBINED SEWER CONNECTION TO MWRA MET SEWER DETAILS
CG-9	CIVIL GENERAL - WESTERN AVENUE OUTFALL DETAIL PLAN
CG-10	CIVIL GENERAL - WESTERN AVENUE OUTFALL SECTIONS AND PROFILES
CG-11	CIVIL GENERAL - WESTERN AVENUE OUTFALL MISCELLANEOUS DETAILS
CG-12	CIVIL GENERAL - ISOLATION GATE STRUCTURE DETAILS
CG-13	CIVIL GENERAL - WATER QUALITY SAMPLING STATION PLAN AND DETAILS
CG-14	CIVIL GENERAL - MISCELLANEOUS DETAILS
EX-1	CIVIL - EXISTING CONDITIONS PLAN STA 0+00 TO 11+50
EX-2	CIVIL - EXISTING CONDITIONS PLAN STA 11+50 TO 22+00
EX-3	CIVIL - EXISTING CONDITIONS PLAN STA 22+00 TO 32+30
EX-4	CIVIL - EXISTING SUBSURFACE CONDITIONS TEST PITS & UTILITY MANHOLE INFORMATION
C-1	CIVIL - WESTERN AVE PLAN AND PROFILE STA 100+00 TO 105+00
C-2	CIVIL - WESTERN AVE PLAN AND PROFILE STA 105+00 TO 111+00
C-3	CIVIL - WESTERN AVE PLAN AND PROFILE STA 111+00 TO 116+50
C-4	CIVIL - WESTERN AVE PLAN AND PROFILE STA 116+50 TO 122+00
C-5	CIVIL - WESTERN AVE PLAN AND PROFILE STA 122+00 TO 128+00
C-6	CIVIL - WESTERN AVE PLAN AND PROFILE STA 128+00 TO 132+30
C-7	CIVIL - BLACKSTONE ST, RIVERSIDE PL, AND PUTNAM AVE PLANS AND PROFILES - STA 200+00 TO 202+00 AND 300+00 TO 301+60
C-8	CIVIL - DODGE ST, HOWARD ST AND JAY ST PLANS AND PROFILES - STA 400+00 TO 401+30, 500+00 TO 501+30, AND 600+00 TO 601+00
C-9	CIVIL - KINNAIRD ST, SODEN ST, AND PLEASANT ST PLANS AND PROFILES - STA 700+00 TO 701+40, 800+00 TO 801+20, AND 900+00 TO 901+70
C-10	CIVIL - UTILITY COORDINATION STA 100+00 TO 107+00
C-10A	CIVIL - UTILITY COORDINATION STA 107+00 TO 111+50
C-11	CIVIL - UTILITY COORDINATION STA 111+50 TO 122+00
C-12	CIVIL - UTILITY COORDINATION STA 122+00 TO 132+30
C-13	CIVIL - TRAFFIC, LIGHTING, IRRIGATION STA 100+00 TO 111+50
C-14	CIVIL - TRAFFIC, LIGHTING, IRRIGATION STA 111+50 TO 122+00
C-15	CIVIL - TRAFFIC, LIGHTING, IRRIGATION STA 122+00 TO 132+30
RG-1	ROADWAY GENERAL - SURFACE KEYPLAN
RG-2	ROADWAY GENERAL - TYPICAL SECTIONS - 1-
RG-3	ROADWAY GENERAL - TYPICAL SECTIONS - 2-
RG-4	ROADWAY GENERAL - CONSTRUCTION DETAILS - 1-
RG-5	ROADWAY GENERAL - CONSTRUCTION DETAILS - 2-
RG-6	ROADWAY GENERAL - CONSTRUCTION DETAILS - 3-
RG-7	ROADWAY GENERAL - PEDESTRIAN RAMP DETAILS
RG-8	ROADWAY GENERAL - DRIVEWAY DATA - 1-
RG-9	ROADWAY GENERAL - DRIVEWAY DATA - 2-
RG-10	ROADWAY GENERAL - SPECIALTY SOILS, FLEXI-PAVE, AND PERVIOUS HMA PROJECT PLAN
RC-1	ROADWAY CONSTRUCTION PLAN - 1-
RC-2	ROADWAY CONSTRUCTION PLAN - 2-
RC-3	ROADWAY CONSTRUCTION PLAN - 3-
RC-4	ROADWAY CONSTRUCTION PLAN - 4-
RC-5	ROADWAY CONSTRUCTION PLAN - 5-
RP-1	ROADWAY PROFILE - 1-
RP-2	ROADWAY PROFILE - 2-
RP-3	ROADWAY PROFILE - 3-
RA-1	ROADWAY ALIGNMENT & CURB TIE PLAN - 1-
RA-2	ROADWAY ALIGNMENT & CURB TIE PLAN - 2-
RA-3	ROADWAY ALIGNMENT & CURB TIE PLAN - 3-
RA-4	ROADWAY ALIGNMENT & CURB TIE PLAN - 4-
RA-5	ROADWAY ALIGNMENT & CURB TIE PLAN - 5-
GR-1	ROADWAY GRADING PLAN - 1-
GR-2	ROADWAY GRADING PLAN - 2-
GR-3	ROADWAY GRADING PLAN - 3-
GR-4	ROADWAY GRADING PLAN - 4-
GR-5	ROADWAY GRADING PLAN - 5-
GR-6	ROADWAY GRADING - INTERSECTION GRADING PLAN - 1-
GR-7	ROADWAY GRADING - INTERSECTION GRADING PLAN - 2-

GR-8	ROADWAY GRADING - INTERSECTION GRADING PLAN - 3-
GR-9	ROADWAY GRADING - INTERSECTION GRADING PLAN - 4-
GR-10	ROADWAY GRADING - INTERSECTION GRADING PLAN - 5-
GR-11	ROADWAY GRADING - INTERSECTION GRADING PLAN - 6-
GR-12	ROADWAY GRADING - INTERSECTION GRADING PLAN - 7-
SS-1	STREETSCAPE MATERIALS & STREET TREE PIT LAYOUT PLAN - 1-
SS-2	STREETSCAPE MATERIALS & STREET TREE PIT LAYOUT PLAN - 2-
SS-3	STREETSCAPE MATERIALS & STREET TREE PIT LAYOUT PLAN - 3-
SS-4	STREETSCAPE MATERIALS & STREET TREE PIT LAYOUT PLAN - 4-
SS-5	STREETSCAPE MATERIALS & STREET TREE PIT LAYOUT PLAN - 5-
SS-6	STREETSCAPE PLANTING PLAN - 1 & PLANTER ENLARGEMENT & LAYOUT PLAN
SS-7	STREETSCAPE PLANTING PLAN - 2 & PLANTER ENLARGEMENT & LAYOUT PLAN
SS-8	STREETSCAPE PLANTING PLAN - 3 & PLANTER ENLARGEMENT & LAYOUT PLAN
SS-9	STREETSCAPE PLANTING PLAN - 4 & PLANTER ENLARGEMENT & LAYOUT PLAN
SS-10	STREETSCAPE PLANTING PLAN - 5 & PLANTER ENLARGEMENT & LAYOUT PLAN
SS-11	STREETSCAPE DETAILS - 1-
SS-12	STREETSCAPE DETAILS - 2-
SS-13	STREETSCAPE DETAILS - 3-
SS-14	STREETSCAPE - CRONIN PARK SITE PREPARATION PLAN
SS-15	STREETSCAPE - CRONIN PARK MATERIALS PLAN
SS-16	STREETSCAPE - CRONIN PARK LAYOUT PLAN
SS-17	STREETSCAPE - CRONIN PARK PLANTING PLAN
SS-18	STREETSCAPE - CRONIN PARK GRADING PLAN
SS-19	STREETSCAPE - CRONIN PARK DETAILS - 1-
SS-20	STREETSCAPE - CRONIN PARK DETAILS - 2-
SS-21	STREETSCAPE - CRONIN PARK DETAILS - 3-
SS-22	STREETSCAPE - CRONIN PARK DETAILS - 4-
SS-23	STREETSCAPE - CRONIN PARK DETAILS - 5-
LA-1	LANDSCAPING - SITE PREPARATION, TREE PROTECTION, MATERIALS AND LAYOUT PLAN
LA-2	LANDSCAPING - PLANTING AND GRADING PLAN
LA-3	LANDSCAPING - DETAILS
I-1	IRRIGATION - CRONIN PARK IRRIGATION PLAN
I-2	IRRIGATION - CRONIN PARK IRRIGATION DETAILS - 1-
I-3	IRRIGATION - CRONIN PARK IRRIGATION DETAILS - 2-
I-4	IRRIGATION - STREETSCAPE IRRIGATION PLAN - 1-
I-5	IRRIGATION - STREETSCAPE IRRIGATION PLAN - 2-
I-6	IRRIGATION - STREETSCAPE IRRIGATION PLAN - 3-
I-7	IRRIGATION - STREETSCAPE IRRIGATION PLAN - 4-
I-8	IRRIGATION - STREETSCAPE IRRIGATION PLAN - 5-
I-9	IRRIGATION - STREETSCAPE IRRIGATION PLAN - 6-
I-10	IRRIGATION - STREETSCAPE IRRIGATION PLAN - 7-
I-11	IRRIGATION - STREETSCAPE IRRIGATION PLAN - 8 AND DETAIL
I-12	IRRIGATION - STREETSCAPE IRRIGATION DETAILS
T-1	TRAFFIC - SIGNS AND PAVEMENT MARKINGS PLAN - 1-
T-2	TRAFFIC - SIGNS AND PAVEMENT MARKINGS PLAN - 2-
T-3	TRAFFIC - SIGNS AND PAVEMENT MARKINGS PLAN - 3-
T-4	TRAFFIC - SIGNS AND PAVEMENT MARKINGS PLAN - 4-
T-5	TRAFFIC - SIGNS AND PAVEMENT MARKINGS PLAN - 5-
T-6	TRAFFIC - PUTNAM AVENUE SIGNAL PLAN
T-7	TRAFFIC - HOWARD STREET SIGNAL PLAN
T-8	TRAFFIC - MEMORIAL DRIVE AND GREEN STREET SIGNAL PLAN
T-9	TRAFFIC - SIGN SUMMARY - 1-
T-10	TRAFFIC - SIGN SUMMARY - 2-
T-11	TRAFFIC - SIGNAL MAST ARM DETAILS
L-1	LIGHTING - ROADWAY LIGHTING PLAN - 1-
L-2	LIGHTING - ROADWAY LIGHTING PLAN - 2-
L-3	LIGHTING - ROADWAY LIGHTING PLAN - 3-
L-4	LIGHTING - ROADWAY LIGHTING PLAN - 4-
L-5	LIGHTING - ROADWAY LIGHTING PLAN - 5-
L-6	LIGHTING - ROADWAY LIGHTING SCHEDULES AND DETAILS - 6-
TMP-1	TRAFFIC MANAGEMENT PLAN - DETAILS AND NOTES
TMP-2	TRAFFIC MANAGEMENT PLAN - DETAILS
TMP-3	TRAFFIC MANAGEMENT PLAN - WORK ZONES 1 AND 2-
TMP-4	TRAFFIC MANAGEMENT PLAN - WORK ZONES 3 AND 4-
TMP-5	TRAFFIC MANAGEMENT PLAN - WORK ZONE 5-
TMP-6	TRAFFIC MANAGEMENT PLAN - WORK ZONES 6 AND 10-
TMP-7	TRAFFIC MANAGEMENT PLAN - PHASE 1-
TMP-8	TRAFFIC MANAGEMENT PLAN - PHASE 2-
TMP-9	TRAFFIC MANAGEMENT PLAN - PHASE 3-
TMP-10	TRAFFIC MANAGEMENT PLAN - PHASE 4-

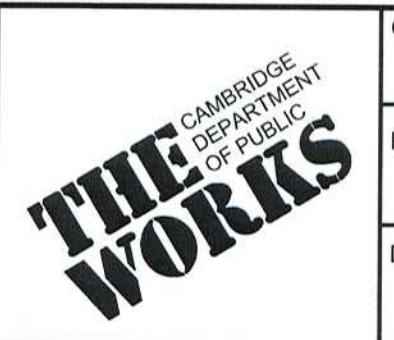
RECORD DRAWING

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RECORD SET



Scale	AS NOTED	
Date	APRIL 2017	
Job No.	2009143.01-A	
Designed by	KJL	
Drawn by	KJL	
Checked by	KEG	
Approved by	JUS	
No.	Description	Date



Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	GENERAL - DRAWING LIST

Sheet	G-2
File No.	

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TRAFFIC SIGNAL SYMBOLS

PROPOSED EXISTING

	CONTROLLER PHASE ACTUATED TRAFFIC SIGNAL HEAD (SIZE AS NOTED) WIRE LOOP DETECTOR (6'X 6' TYPICAL UNLESS OTHERWISE SPECIFIED) VIDEO SURVEILLANCE CAMERA MICROWAVE DETECTOR MAGNETOMETER (2 SHOWN) PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE OPTICOM CONFIRMATION STROBE LIGHT VEHICULAR SIGNAL HEAD VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED FLASHING BEACON PEDESTRIAN SIGNAL HEAD (TYPE AS NOTED OR AS SPECIFIED) PEDESTRIAN SIGNAL HEAD, OPTICALLY PROGRAMMED SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED) STREET LIGHT POLE UTILITY POLE (NO. OF POLE & TYPE OF UTILITY) MAST ARM, SHAFT AND BASE(ARM LENGTH AS NOTED) HIGH MAST POLE OR TOWER SIGN AND POST SIGNAL AND LIGHTING MAST ARM EMERGENCY PRE-EMPTION DETECTOR (OPTICOM) CONTROL CABINET, GROUND MOUNTED CONTROL CABINET, POLE MOUNTED FLASHING BEACON CONTROL & METER PEDESTAL LOAD CENTER ASSEMBLY PULL BOX 12"X12" (AND AS NOTED) ELECTRIC HANDHOLE 12" X 24" TRAFFIC SIGNAL INTERCONNECT CONDUIT TRAFFIC SIGNAL CONDUIT (TYPE AS NOTED) TRAFFIC SIGNAL
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PAVEMENT MARKING SYMBOLS

PROPOSED EXISTING

	STOP LINE - 12" WHITE LINE CROSSWALK - 2 - 12" WHITE LINE (1' LINE, 4' SPACE) SOLID WHITE LANE LINE-6" BROKEN WHITE LANE LINE (10' LINE, 30' SPACE TYP.)-6" SOLID WHITE EDGE LINE-6" YELLOW GORE LINE-12" DOUBLE YELLOW CENTER LINE-6" SOLID WHITE CHANNELIZATION LINE-8" WHITE GORE LINE-12" SOLID YELLOW EDGE LINE-6" BROKEN YELLOW CENTER LINE (10' LINE, 30' SPACE TYP.)-6" SOLID YELLOW CENTER LINE - 6" DOTTED WHITE LANE LINE - 6" (2' LINE, 4' SPACE) YIELD LINE, 24" W x 36" H TRIANGLES
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PROPOSED ABBREVIATIONS

ADJ.	ADJUST	BC	BOTTOM OF CURB	BEG.	BEGIN	BO	BY OTHERS	CAB.	CABINET	CB	CATCH BASIN	CEM	CEMENT	CIPP	CURED IN PLACE PIPELINING	CONC.	CONCRETE	CONST.	CONSTRUCTION	DI	DUCTILE IRON	DMH	DRAIN MANHOLE	DW	DON'T WALK - PORTLAND ORANGE	EB	EASTBOUND	EXIST.	EXISTING	FDW	FLASHING DON'T WALK-PORTLAND ORANGE	FR	FLASHING CIRCULAR RED	FRL	FLASHING RED LEFT ARROW	FRR	FLASHING RED RIGHT ARROW	FRP	CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR	FY	FLASHING CIRCULAR YELLOW	G	CIRCULAR GREEN	GL	GREEN LEFT ARROW	GR	GREEN RIGHT ARROW	GSL	GREEN SLASH LEFT ARROW	GSR	GREEN SLASH RIGHT ARROW	GV	GREEN VERTICAL ARROW	HMA	HOT MIX ASPHALT	HP	HIGH POINT	INV EL	INVERT ELEVATION	K	RATE OF VERTICAL CURVATURE	LP	LOW POINT	MA	MAST ARM	NB	NORTHBOUND	NTS	NOT TO SCALE	OL	OVERLAP	OP	OPTICOM	PED.	PEDESTRIAN	PGL	PROFILE GRADE LINE	PROP.	PROPOSED	PROV.	PROVIDED	PT	POLE MOUNTED LIGHTING FIXTURE	PVC	POLYVINYL CHLORIDE	PVM'T	PAVEMENT	R&D	REMOVE AND DISPOSE	R&R	REMOVE AND RESET	R&S	REMOVE AND STACK	R&T	REMOVE AND TRANSPORT	RCP	REINFORCED CONCRETE PIPE	REM.	REMOVE	RET.	RETAIN	RIM EL	RIM ELEVATION	RL	RED LEFT ARROW	RR	RED RIGHT ARROW	ROW	RIGHT OF WAY	SB	SOUTHBOUND	SHLD.	SHOULDER	SHLO.	STATE HIGHWAY LAYOUT	SMH	SEWER MANHOLE	SST	STAINLESS STEEL	STA	STATION	TC	TOP OF CURB	TS	TRAFFIC SIGNAL	TYP.	TYPICAL	VAR.	VARIES	VC	VERTICAL CURB	VGC	VERTICAL GRANITE CURB	VPC	VERTICAL POINT OF CURVE	VPI	VERTICAL POINT OF INTERSECTION	VPT	VERTICAL POINT OF TANGENT	W	WALK-LUNAR WHITE	WB	WESTBOUND	Y	CIRCULAR YELLOW	YL	YELLOW LEFT ARROW	YR	YELLOW RIGHT ARROW
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EXISTING CONDITIONS LEGEND AND ABBREVIATIONS

<p>PROPOSED LEGEND</p>

	DROP INLET FIRE HYDRANT GATE OR BUTTERFLY VALVE CAST-IN-PLACE FIELD CLOSURE SIGN TREE TEST PIT UTILITY RELOCATION STRUCTURE ABANDONMENT PIPE ABANDONMENT DETECTABLE WARNING PANEL BUS SHELTER
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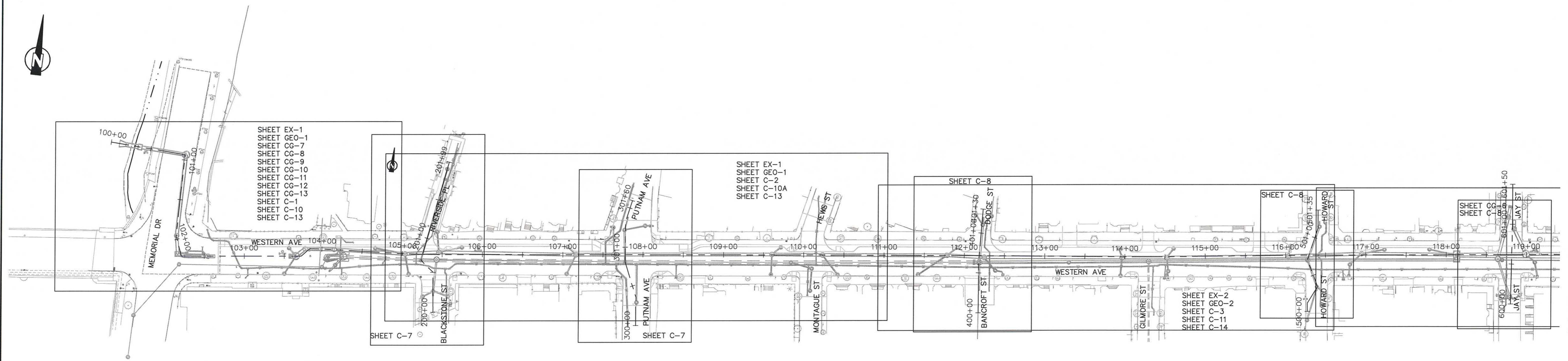
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Job No.	2009143.01-A
Designed by	CMC
Drawn by	CMC
Checked by	KEG
Approved by	JJS



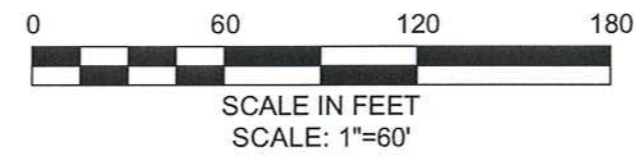
Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	GENERAL - LEGEND AND ABBREVIATIONS

Sheet	G-3
File No.	

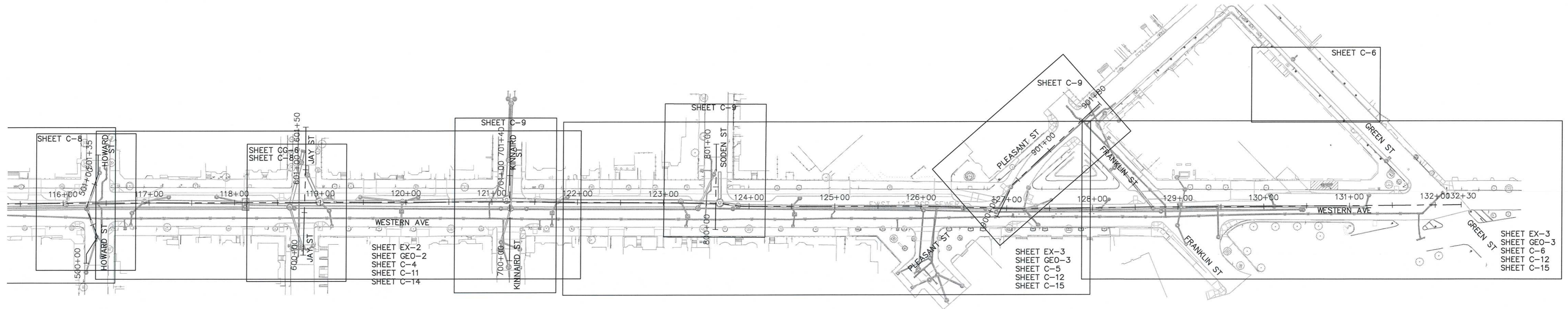
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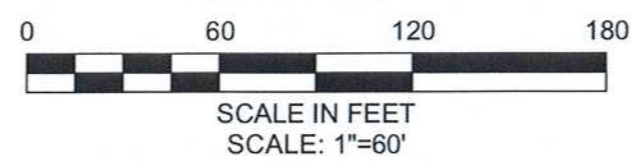
PLAN



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PLAN



NOTES:
 1. SUBSURFACE WORK IS SHOWN FOR REFERENCE ONLY. REFER TO CIVIL SHEETS FOR SUBSURFACE DESIGN.

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RECORD SET



HDR
 HDR ENGINEERING, INC.
 695 ATLANTIC AVENUE, 2FL
 BOSTON, MASSACHUSETTS 02111-2626
 (617) 357-7700



Scale	AS NOTED		
Date	APRIL 2017		
Job No.	2009143.01-A		
Designed by	CMC		
Drawn by	CMC		
Checked by	KEG	No.	Description
Approved by	JJS		REVISIONS



Client	CITY OF CAMBRIDGE, MA	Sheet	G-4
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	GENERAL - SUBSURFACE KEYPLAN		

CONTINUE BELOW



SUBSURFACE CONSTRUCTION BASELINE – RIVERSIDE PLACE ALIGNMENT

Number	Length	Line/Chord Direction	Starting Station	Northing	Easting	Ending Station	Northing	Easting
L27	50.02	N7° 05' 31.66"W	40+00.00	2957984.64	760271.51	40+50.02	2958034.28	760265.33
L28	21.65	N51° 48' 15.72"W	40+50.02	2958034.28	760265.33	40+71.67	2958047.67	760248.32
L29	127.54	N8° 45' 38.54"E	40+71.67	2958047.67	760248.32	41+99.21	2958173.72	760267.74

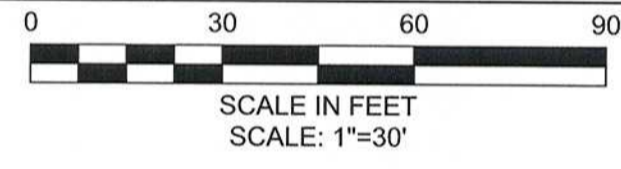
SUBSURFACE CONSTRUCTION BASELINE – PUTNAM AVENUE ALIGNMENT

Number	Length	Line/Chord Direction	Starting Station	Northing	Easting	Ending Station	Northing	Easting
L30	35.19	N6° 41' 08.31"W	50+00.00	2957998.85	760524.06	50+35.19	2958033.80	760519.97
L31	46.62	N24° 14' 52.67"W	50+35.19	2958033.80	760519.97	50+81.81	2958076.31	760500.82
L32	50.41	N6° 34' 57.33"W	50+81.81	2958076.31	760500.82	51+32.22	2958126.39	760495.04
L33	27.62	N10° 32' 33.80"E	51+32.22	2958126.39	760495.04	51+59.83	2958153.54	760500.09

SUBSURFACE CONSTRUCTION BASELINE – WESTERN AVENUE ALIGNMENT

Number	Length	Line/Chord Direction	Starting Station	Northing	Easting	Ending Station	Northing	Easting
L1	93.15	S87° 15' 13.49"E	0+00.00	2958147.60	759846.94	0+93.15	2958143.14	759939.98
L2	102.87	S1° 05' 13.94"E	0+93.15	2958143.14	759939.98	1+96.01	2958040.29	759941.94
L3	25.44	S21° 55' 44.87"E	1+96.01	2958040.29	759941.94	2+21.45	2958016.70	759951.44
L4	32.44	N83° 45' 58.44"E	2+21.45	2958016.70	759951.44	2+53.89	2958020.22	759983.68
L5	117.06	N82° 52' 56.74"E	2+53.89	2958020.22	759983.68	3+70.95	2958034.72	760099.84
L6	13.83	N41° 55' 06.77"E	3+70.95	2958034.72	760099.84	3+84.78	2958045.02	760109.08
L7	23.27	N84° 44' 07.58"E	3+84.78	2958045.02	760109.08	4+08.05	2958047.15	760132.25
L8	95.57	N86° 28' 43.89"E	4+08.05	2958047.15	760132.25	5+03.62	2958053.02	760227.64
L9	44.23	N84° 09' 07.30"E	5+03.62	2958053.02	760227.64	5+47.85	2958057.53	760271.64
L10	166.57	N83° 06' 50.65"E	5+47.85	2958057.53	760271.64	7+14.42	2958077.50	760437.01
L11	84.82	N83° 05' 16.40"E	7+14.42	2958077.50	760437.01	7+99.24	2958087.71	760521.22
L12	209.71	N83° 08' 30.36"E	7+99.24	2958087.71	760521.22	10+08.95	2958112.75	760729.43
L13	213.86	N83° 20' 02.73"E	10+08.95	2958112.75	760729.43	12+22.82	2958137.57	760941.84
L14	172.82	N83° 31' 50.20"E	12+22.82	2958137.57	760941.84	13+95.63	2958157.05	761113.56
L15	57.51	N82° 58' 34.39"E	13+95.63	2958157.05	761113.56	14+53.15	2958164.08	761170.64
L16	165.93	N82° 20' 44.50"E	14+53.15	2958164.08	761170.64	16+19.08	2958186.18	761335.10
L17	260.16	N82° 49' 54.32"E	16+19.08	2958186.18	761335.10	18+79.23	2958218.64	761593.22

WESTERN AVENUE CONSTRUCTION BASELINE



CONTINUE ABOVE

SEE SHEET G-6

- NOTES:
- BENCH MARK INFORMATION:
 - BENCH MARK USED:
 - TEMPORARY BENCH MARKS SET:
 - TBM-GEN6 CHIS [] TOP OF CONCRETE WINGWALL – ELEVATION=31.53
 - TBM-GEN5 373 WESTERN RIGHT CORNER LOWER CONCRETE STEP – ELEVATION=24.57
 - TBM-114 BACK LT. BOLT MAST ARM – ELEVATION=26.02
 - TBM-113 BACK LT. CORN CONCRETE LIGHT POLE BASE – ELEVATION=23.09
 - TBM – HYDRANT SPINDLE – ELEVATION=23.54
 - 34 – DRILLED HOLE CONCRETE WALK – ELEVATION=24.48
 - TBM-111 FRONT RIGHT BOLT NW'LY ON LIGHT POLE – ELEVATION=27.59
 - TBM-110 BACK RIGHT BOLT NW'LY ON LIGHT POLE – ELEVATION=28.25

SUBSURFACE CONSTRUCTION BASELINE – DODGE STREET ALIGNMENT

Number	Length	Line/Chord Direction	Starting Station	Northing	Easting	Ending Station	Northing	Easting
L34	63.43	N6° 30' 03.34"W	60+00.00	2958065.80	760945.23	60+63.43	2958128.82	760938.05
L35	66.70	N2° 24' 24.76"W	60+63.43	2958128.82	760938.05	61+30.13	2958195.47	760935.25

SUBSURFACE CONSTRUCTION BASELINE – HOWARD STREET ALIGNMENT

Number	Length	Line/Chord Direction	Starting Station	Northing	Easting	Ending Station	Northing	Easting
L36	10.71	N7° 33' 57.56"W	70+00.00	2958117.26	761351.92	70+10.71	2958127.88	761350.51
L37	24.03	N25° 09' 28.99"E	70+10.71	2958127.88	761350.51	70+34.74	2958149.63	761360.72
L38	35.98	N28° 01' 44.67"W	70+34.74	2958149.63	761360.72	70+70.71	2958181.39	761343.82
L39	41.97	N11° 16' 47.62"E	70+70.71	2958181.39	761343.82	71+12.68	2958222.54	761352.03
L40	22.33	N6° 52' 20.74"W	71+12.68	2958222.54	761352.03	71+35.01	2958244.71	761349.35

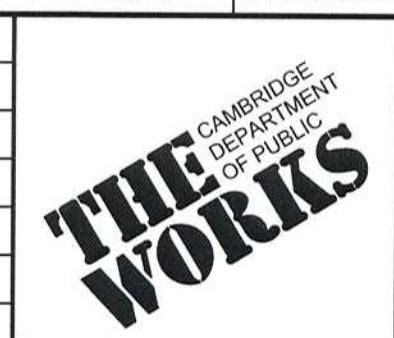
RECORD DRAWING

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.

RECORD SET



Scale	AS NOTED
Date	APRIL 2017
Job No.	2009143.01-A
Designed by	KJL
Drawn by	KJL
Checked by	KEG
Approved by	JJS



Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	GENERAL - SUBSURFACE CONSTRUCTION BASELINE I

Sheet	G-5
File No.	

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SUBSURFACE CONSTRUCTION BASELINE – JAY STREET ALIGNMENT

Number	Length	Line/Chord Direction	Starting Station	Northing	Easting	Ending Station	Northing	Easting
L41	100.02	N5° 41' 16.93"W	80+00.00	2958157.30	761601.68	81+00.02	2958256.83	761591.77

SUBSURFACE CONSTRUCTION BASELINE – KINNAIRD STREET ALIGNMENT

Number	Length	Line/Chord Direction	Starting Station	Northing	Easting	Ending Station	Northing	Easting
L42	19.28	N6° 38' 13.15"W	90+00.00	2958179.78	761841.48	90+19.28	2958198.93	761839.25
L43	120.32	N7° 09' 11.29"W	90+19.28	2958198.93	761839.25	91+39.60	2958318.32	761824.27

SUBSURFACE CONSTRUCTION BASELINE – SODEN STREET ALIGNMENT

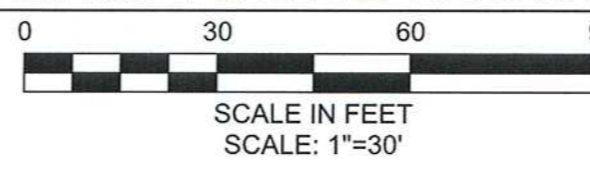
Number	Length	Line/Chord Direction	Starting Station	Northing	Easting	Ending Station	Northing	Easting
L44	99.99	N6° 39' 31.80"W	100+00.00	2958245.22	762074.91	100+99.99	2958344.54	762063.31



SEE SHEET G-5

CONTINUE BELOW

WESTERN AVENUE CONSTRUCTION BASELINE

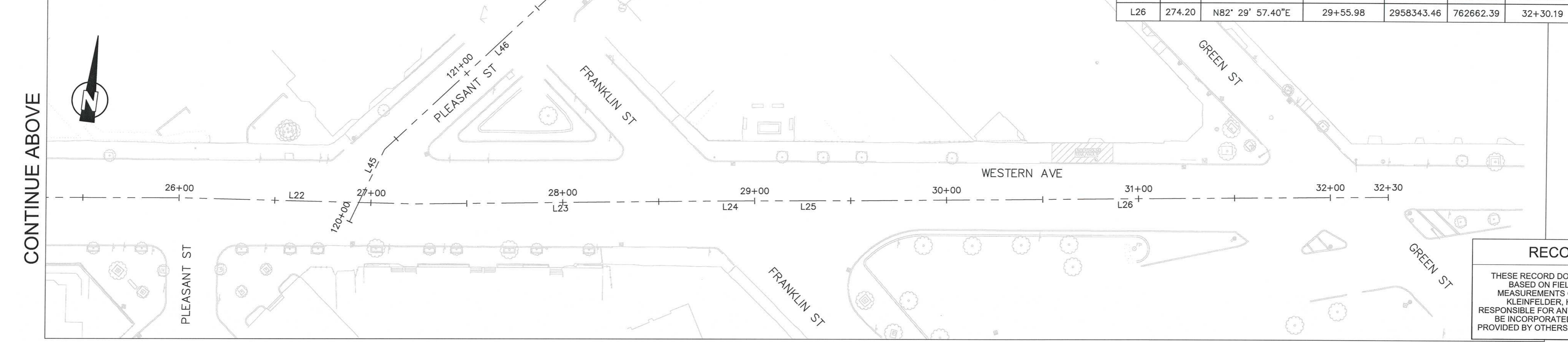


SUBSURFACE CONSTRUCTION BASELINE – WESTERN AVENUE ALIGNMENT

Number	Length	Line/Chord Direction	Starting Station	Northing	Easting	Ending Station	Northing	Easting
L17	260.16	N82° 49' 54.32"E	16+19.08	2958186.18	761335.10	18+79.23	2958218.64	761593.22
L18	242.53	N82° 54' 53.58"E	18+79.23	2958218.64	761593.22	21+21.77	2958248.56	761833.90
L19	245.08	N83° 26' 19.80"E	21+21.77	2958248.56	761833.90	23+66.85	2958276.56	762077.37
L20	21.89	S87° 48' 13.70"E	23+66.85	2958276.56	762077.37	23+88.74	2958275.72	762099.25
L21	211.25	N83° 05' 29.59"E	23+88.74	2958275.72	762099.25	25+99.99	2958301.13	762308.97
L22	122.85	N84° 26' 46.31"E	25+99.99	2958301.13	762308.97	27+22.84	2958313.02	762431.24
L23	152.14	N82° 22' 03.97"E	27+22.84	2958313.02	762431.24	28+74.98	2958333.23	762582.03
L24	25.01	N82° 38' 48.45"E	28+74.98	2958333.23	762582.03	28+99.99	2958336.43	762606.84
L25	55.99	N82° 47' 08.25"E	28+99.99	2958336.43	762606.84	29+55.98	2958343.46	762662.39
L26	274.20	N82° 29' 57.40"E	29+55.98	2958343.46	762662.39	32+30.19	2958379.26	762934.24

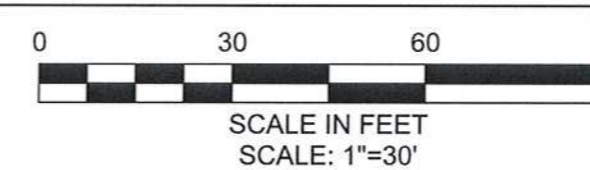
SUBSURFACE CONSTRUCTION BASELINE – PLEASANT STREET ALIGNMENT

Number	Length	Line/Chord Direction	Starting Station	Northing	Easting	Ending Station	Northing	Easting
L45	41.79	N18° 20' 13.44"E	120+00.00	2958299.67	762398.76	120+41.79	2958339.34	762411.91
L46	128.98	N39° 52' 35.39"E	120+41.79	2958339.34	762411.91	121+70.77	2958438.33	762494.60



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WESTERN AVENUE CONSTRUCTION BASELINE

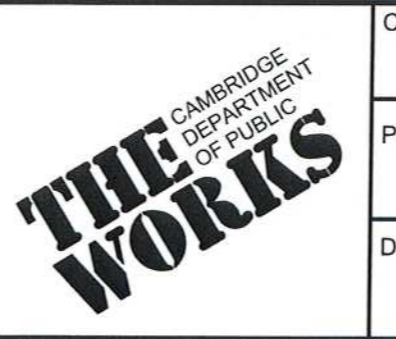


RECORD DRAWING
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RECORD SET



Scale	AS NOTED		
Date	APRIL 2017		
Job No.	2009143.01-A		
Designed by	KJL		
Drawn by	KJL		
Checked by	KEG	No.	Description
Approved by	JJS		REVISIONS



Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	GENERAL - SUBSURFACE CONSTRUCTION BASELINE II

Sheet	G-6
File No.	

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GENERAL NOTES

- THE CONTRACTOR SHALL PROVIDE A STAKED LAYOUT ON SITE FOR THE ENGINEER'S REVIEW PRIOR TO COMMENCING SIDEWALK WORK. THE CONTRACTOR SHALL NOTE CUT AND FILL AMOUNTS AT ALL BACK OF SIDEWALK STEPS, WALLS, DRIVEWAYS, WALKWAYS, BUILDING ENTRANCES, STRUCTURES AND TRANSITIONS TO EXISTING SIDEWALKS.
- THE CONTRACTOR SHALL COORDINATE RUBBISH REMOVAL, RECYCLING AND OTHER CITY SERVICES WITH THE CITY. THE CONTRACTOR SHALL ASSIST WITH SUCH SERVICES IN AREAS THAT ARE UNDER CONSTRUCTION.
- THE LOCATION OF EXISTING UNDERGROUND PIPES, CABLES, CONDUITS AND STRUCTURES AS SHOWN HAS BEEN COLLECTED FROM THE BEST AVAILABLE SOURCES AND THE OWNER TOGETHER WITH ITS AGENTS DOES NOT IMPLY OR GUARANTEE THE DATA AND INFORMATION IN CONNECTION WITH THE UNDERGROUND PIPES, CABLES, CONDUITS, STRUCTURES AND SUCH OTHER PARTS AS TO THEIR COMPLETENESS NOR THEIR LOCATIONS AS INDICATED. THE CONTRACTOR SHALL CONTACT UTILITY OWNERS AND REQUEST MARKING LOCATION OF ALL THEIR LINES IN THE WORK AREAS. THE CONTRACTOR SHALL ASSUME THAT THERE ARE EXISTING WATER, GAS, AND OTHER UTILITY CONNECTIONS TO EACH AND EVERY BUILDING ENROUTE, WHETHER THEY APPEAR ON THE PLANS OR NOT. ANY EXPENSE AND/OR DELAY OCCASIONED BY THESE UTILITIES AND STRUCTURES OR DAMAGE THERETO, INCLUDING THOSE NOT SHOWN, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND AT NO ADDITIONAL EXPENSE TO THE OWNER. (SEE SPECIAL CONDITIONS).
- FOUNDATIONS AND LINES FOR SERVICES, POLICE AND FIRE ALARM BOXES, STREET LIGHTS, AND TRAFFIC SIGNALS ARE NOT SHOWN ON THE PLANS. THE APPROPRIATE UTILITY COMPANIES OR AUTHORITIES SHOULD BE CONTACTED AND CONSULTED FOR LOCATIONS OF THE ABOVE.
- THE CONTRACTOR SHALL PREMARK THE EXCAVATION AREA AND NOTIFY THE DIG SAFE CENTER (TEL. NO.1-888-DIG-SAFE) AT LEAST THREE BUSINESS DAYS PRIOR TO ANY EXCAVATION WORK. IN ADDITION, NOTIFICATION SHALL ALSO BE GIVEN TO ALL AFFECTED PRIVATE AND/OR PUBLIC UTILITIES TO PERMIT STREET MARKING OF THEIR LINES.
- THE STATIONS AS SHOWN FOR SEWERS AND DRAINS ARE APPROXIMATE. THE EXACT STATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND RECORDED ON THE RECORD DRAWINGS.
- ALL CATCH BASIN LATERALS SHALL BE 12-INCH DI, UNLESS OTHERWISE SHOWN OR DIRECTED.
- ALL EXISTING OPENINGS IN CATCH BASINS AND MANHOLES WHICH ARE NOT RECONNECTED SHALL BE PLUGGED AT BOTH ENDS WITH BRICK MASONRY 8-INCHES THICK. PLUG SHALL BE WATERTIGHT.
- ALL EXISTING MANHOLE FRAMES, COVERS, CATCH BASIN FRAMES AND GRATES REMOVED AND NOT REUSED SHALL REMAIN THE PROPERTY OF THE OWNER AND THEN LATER SELECTED BY THE OWNER AND DELIVERED BY THE CONTRACTOR TO A LOCATION DESIGNATED BY THE OWNER.
- BORINGS WERE TAKEN FOR THE PURPOSE OF DESIGN AND INDICATE CONDITIONS AT THE LOCATION OF THE BORING ONLY. SUBSURFACE CONDITIONS ENCOUNTERED DURING CONSTRUCTION MAY VARY FROM THOSE SHOWN IN THE BORING LOGS. GROUNDWATER LEVELS INDICATED IN THE BORING LOGS ARE THOSE EXISTING AT THE TIME SUBSURFACE INVESTIGATIONS WERE MADE AND DO NOT REPRESENT PERMANENT GROUNDWATER LEVELS. GROUNDWATER AS MEASURED IN MONITORING WELLS SHALL BE USED AS REPRESENTATIVE OF GROUNDWATER CONDITIONS IN THE PROJECT AREAS. SEE "APPENDIX B" OF THE SPECIFICATIONS.
- TEST PITS SHALL BE EXCAVATED AT THOSE LOCATIONS INDICATED ON THE DRAWINGS AND WHERE ORDERED OR APPROVED BY THE OWNER. ALL TEST PIT EXCAVATIONS SHALL BE MADE TO DETERMINE THE LOCATIONS OF EXISTING UTILITIES OR STRUCTURES AND PERFORMED WELL IN ADVANCE OF CONSTRUCTION OPERATIONS SO THAT ANY CHANGES IN ALIGNMENT AND/OR GRADE OF THE PROPOSED WORK OR UTILITY LOCATIONS MAY BE DETERMINED. ALL DECISIONS RELATIVE TO UTILITY CONFLICTS AND RELOCATION REQUIREMENTS SHALL BE MADE BY THE UTILITY OWNER.
- AT THOSE LOCATIONS WHERE TEST PITS ARE REQUIRED TO DETERMINE THE LOCATION OF EXISTING UTILITIES, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES INVOLVED AT LEAST 72 HOURS PRIOR TO EXCAVATION OF THE TEST PITS.
- WHERE TEMPORARY OR PERMANENT UTILITY RELOCATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANY 30 DAYS IN ADVANCE OF CONSTRUCTION AND SHALL COORDINATE THE NEW WORK WITH THE UTILITY RELOCATION.
- THE CONTRACTOR SHALL COORDINATE THE RELOCATION AND ABANDONMENT OF WATER MAINS WITH THE CITY WATER DEPARTMENT.
- LOCATIONS OF WATER, SANITARY, AND DRAINAGE SERVICE CONNECTIONS SHALL BE DETERMINED DURING CONSTRUCTION, IN CONSULTATION WITH PROPERTY OWNER AND CITY.
- THE LIMITS OF EXCAVATIONS FOR NEW PIPELINES OR STRUCTURES ARE APPROXIMATE ONLY. ACTUAL HORIZONTAL AND VERTICAL LIMITS INCLUDING MEASUREMENT FOR THE NEW WORK SHALL BE APPROVED BY THE ENGINEER DURING CONSTRUCTION.
- EXISTING CONDITIONS ARE SHOWN SCREENED.
- THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS INFORMATION AND REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND THE ACTUAL CONDITIONS TO THE ENGINEER PRIOR TO BEGINNING WORK.
- INTERRUPTIONS OF SERVICES SHALL NOT BE PERMITTED. THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES AND PROVIDE ALL TEMPORARY UTILITIES AND CONNECTIONS TO AVOID INTERRUPTIONS OF WATER, SANITARY, DRAINAGE, ELECTRIC, PHONE, GAS, FIBER OPTICS, CABLE SERVICES.
- EXISTING UTILITY ELEVATIONS ARE BASED ON THE BEST AVAILABLE INFORMATION. IN THE ABSENCE OF CONFIRMED VERTICAL INFORMATION, UTILITY PROFILES (TOP OF PIPE FROM GROUND SURFACE) WERE ASSUMED AS FOLLOWS:

UTILITY	ASSUMED COVER (FEET)
TELEPHONE, CATV	2.0 OR LESS
ELECTRIC, GAS	3.5
WATER	5.0

POTENTIAL UTILITY CONFLICTS SHALL BE VERIFIED BY THE CONTRACTOR USING TEST PITS AS PER THE DRAWINGS.
- THE CONTRACTOR SHALL PROTECT ALL TRAVELED WAYS FROM DUST AND CONSTRUCTION DEBRIS AT ALL TIMES.
- AREAS ADJACENT TO AND WITHIN THE CONSTRUCTION ZONE WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEMOLISHED MATERIALS, RUBBISH, EXCAVATED MATERIAL AND DEBRIS, UNLESS OTHERWISE NOTED, AND IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL DISPOSAL PERMITS AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR MAY BE ASKED BY THE OWNER TO SUSPEND CONSTRUCTION OPERATIONS TEMPORARILY TO AVOID CONFLICTS WITH LARGE PUBLIC EVENTS OR LARGE STORM EVENTS. THE CONTRACTOR SHALL NOT BE COMPENSATED FOR COSTS RELATING TO SHUTDOWNS FOR THESE REASONS.
- THE CONTRACTOR SHALL ALLOW ACCESS TO PRIVATE PARKING, ALSO PROVIDE AND COORDINATE WORK ACTIVITIES TO ACCOMMODATE FUNERAL HOME SERVICES AT 124 WESTERN AVE. THE CONTRACTOR SHALL COORDINATE WITH THE CITY AND RESIDENTS PRIOR TO BLOCKING DRIVEWAYS.
- CONTRACTOR TO COORDINATE WITH MBTA FOR RELOCATING BUS STOPS AND ROUTE ROUTING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW PLOWING AND REMOVAL FROM ALL AREAS WITHIN THE PROJECT LIMITS. INCLUDING BUT NOT LIMITED TO, UNPAVED SURFACES, PARKED EQUIPMENT AREAS OR ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR STREET SWEEPING, SNOW REMOVAL FROM SIDEWALKS, TRASH REMOVAL, AND RECYCLABLE MATERIALS FROM ALL AREAS WHERE CONSTRUCTION RESTRICTS VEHICULAR, BICYCLE, OR PEDESTRIAN ACCESS TO STREETS OR SIDEWALKS AND WHERE CONTRACTORS PRESENCE INTERFERES WITH MUNICIPAL TRASH REMOVAL, STREET SWEEPING, OR SNOW PLOWING.
- THE CONTRACTOR SHALL VERIFY THAT THEIR TRENCH SUPPORTS ARE BELOW THE ROADWAY AT THE END OF EACH DAY FOR PLATING OF TRENCH TO MAINTAIN ACCESS TO ROADS AND DRIVEWAYS AFTER HOURS.
- THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES AS SPECIFIED, AND SHALL NOT COMMENCE CONSTRUCTION UNTIL THESE MEASURES HAVE BEEN INSTALLED AND APPROVED BY THE ENGINEER.
- AREAS WITHIN THIS CONTRACT, ARE SUBJECT TO THE MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.00 AND SECTIONS 02010 - SUBSURFACE INVESTIGATION, 02080 - SOIL AND WASTE MANAGEMENT, 02095 - TRANSPORTATION AND DISPOSAL OF SOIL AND FILL, OF THE SPECIFICATIONS. THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO ENVIRONMENTAL DATA (SOIL AND GROUNDWATER) FROM BORINGS AND MONITORING WELLS AS REPRESENTATIVE OF SUBSURFACE CONDITIONS IN URBAN AREAS. THE ENVIRONMENTAL DATA ARE APPENDED TO THE SPECIFICATIONS.
- FOR TEMPORARY PAVING (INTERIM CONDITIONS), ALL CATCH BASINS, MANHOLES, AND OTHER SUBSURFACE STRUCTURES SHALL MATCH EXISTING GRADES.
- FINISH GRADE OF ALL CATCH BASINS, MANHOLES, CASTINGS, AND OTHER SUBSURFACE STRUCTURES SHALL MATCH PROPOSED ROAD SURFACE GRADING SHOWN ON SHEETS GR-1 THROUGH GR-12. PROPOSED RIM ELEVATIONS TO BE PROVIDED TO CONTRACTOR DURING CONSTRUCTION.
- CONTRACTOR SHALL ADJUST THE ALIGNMENT OF DRAIN SERVICE LATERALS IN THE FIELD TO COORDINATE WITH EXISTING WATER, GAS, AND ELECTRIC SERVICES.
- THE CONTRACTOR SHALL NOT BE PERMITTED TO START-UP OR OPERATE EQUIPMENT BEFORE OR AFTER ESTABLISHED WORKING HOURS OF 7:00 AM TO 4:00 PM MONDAY THROUGH FRIDAY, WITHOUT WRITTEN APPROVAL OF THE OWNER, UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL ADHERE TO CONVERSATION COMMISSION ORDER OF CONDITIONS AND DCR CONSTRUCTION ACCESS PERMIT REQUIREMENTS FOR OUTFALL WORK AND WORK ON MEMORIAL DRIVE. THE ORDER OF CONDITIONS ARE APPENDED TO THE SPECIFICATIONS.
- CONTRACTOR SHALL SAW-CUT ALL EDGES OF PAVING WHERE PAVEMENT IS TO BE REMOVED AND WHERE A NEW PAVEMENT IS TO ABUT EXISTING PAVEMENT.
- CONTRACTOR SHALL PROVIDE EXPANSION JOINTS IN CONCRETE WALKS WHERE WALKS ABUT BUILDING WALLS AND/OR EXISTING WALLS.
- CONTRACTOR SHALL PROVIDE UNIFORM SLOPE BETWEEN SPOT GRADES AND CONTOURS.
- CONTRACTOR SHALL ADJUST ALL EXISTING AND NEWLY CONSTRUCTED CITY-OWNED UTILITY CASTINGS WITHIN LIMIT OF WORK TO LINE AND GRADE, UNLESS OTHERWISE NOTED.
- ALL PRIVATE UTILITY STRUCTURES SHALL BE ADJUSTED BY OTHERS AS REQUIRED. CONTRACTOR SHALL COORDINATE WORK BY OTHERS. COORDINATION WITH OTHERS IS CONSIDERED INCIDENTAL TO THE WORK.
- LABELED DIMENSIONS SHALL SUPERCEDE SCALED DIMENSIONS FOR ALL LAYOUT WORK.
- AT ALL LOCATIONS, STATION AND OFFSETS ARE GIVEN TO REVEAL SIDE OF CURB OR EDGE OF PAVEMENT AS APPROPRIATE.
- ALL LINES ARE PARALLEL OR PERPENDICULAR UNLESS OTHERWISE INDICATED.
- SIGNING REQUIRED FOR CONSTRUCTION ZONES AND CONSTRUCTION TRAFFIC MANAGEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). SIGNING AND OTHER TRAFFIC MANAGEMENT DEVICES SHALL BE MAINTAINED IN A CONDITION ACCEPTABLE TO THE ENGINEER THROUGHOUT CONSTRUCTION.
- THE LATERAL LIMIT OF WORK SHALL BE AT THE PROPERTY LINES UNLESS OTHERWISE REQUIRED BY THE CITY.
- ALL EXISTING GRANITE CURB WITHIN THE PROJECT LIMITS DESIGNATED BY THE ENGINEER AS SUITABLE FOR REUSE SHALL BE REMOVED AND RESET.
- IN ALL AREAS OF NEW SIDEWALK CONSTRUCTION OR SIDEWALK RECONSTRUCTION, THE CONTRACTOR SHALL REMOVE AND DISPOSE ALL EXISTING ASPHALT AND CEMENT CONCRETE PAVEMENT MATERIAL WITHIN THE PLAN LIMITS OF THE PROPOSED SIDEWALK OR AS OTHERWISE INTERFERES WITH THE PROPOSED WORK.
- EXACT DEPTHS OF PAVEMENT BASES AND SURFACE COURSES ARE NOT KNOWN AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. APPROXIMATE DEPTHS OF PAVEMENT BASES AND SURFACE COURSES ARE INDICATED IN THE BORING LOGS.
- EXISTING SANITARY SEWER SERVICES ARE, IN GENERAL, 6 INCHES IN DIAMETER, BUT LARGER OR SMALLER SERVICES MAY BE ENCOUNTERED. SANITARY SERVICES 6 INCHES IN DIAMETER AND SMALLER SHALL BE REPLACED WITH NEW 6-INCH DIAMETER PVC PIPE, AND SANITARY SERVICES LARGER THAN 6 INCHES IN DIAMETER SHALL BE REPLACED WITH AN EQUAL SIZE PVC SERVICE AS THE EXISTING.
- IT IS INTENDED THAT THE EXISTING SANITARY SERVICES BE UTILIZED. THE OWNER OR ENGINEER WILL DETERMINE, IN EACH CASE, IF THE EXISTING SANITARY SERVICE IS IN ACCEPTABLE CONDITION OR TO BE REPLACED TO PROPERTY LINE.
- PRIOR TO EXCAVATION, THE CONTRACTOR SHALL FIELD VERIFY THE FUNCTION (SANITARY SEWER OR STORM DRAIN) OF ALL EXISTING SERVICES, AND SHALL THEN CONNECT EACH SERVICE TO THE APPROPRIATE SANITARY SEWER OR STORM DRAIN. THE COST OF THIS VERIFICATION IS CONSIDERED INCIDENTAL TO THE COST OF THE CONTRACT AND NOT ELIGIBLE FOR SEPARATE PAYMENT.

- DIVERSION, BYPASS, AND CONTROL OF SANITARY SEWER, STORM DRAIN AND DEWATERING FLOWS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR'S INTENDED DIVERSION, BYPASS, AND CONTROL, AND DEWATERING PLANS SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR REVIEW PRIOR TO ANY EXCAVATION.
- CONTRACTOR SHALL REFER TO THE CAMBRIDGE WATER DEPARTMENT, CONSTRUCTION AND OPERATING PRACTICES IN THE CONTRACT SPECIFICATION FOR ADDITIONAL CONSTRUCTION DETAILS PERTAINING TO WATER MAIN INSTALLATION.
- ALL EXTERIOR SURFACES OF NEW CONCRETE STRUCTURES SHALL BE COATED IN ACCORDANCE WITH SPECIFICATION SECTION 07160 BITUMINOUS DAMPROOFING UNLESS OTHERWISE NOTED.
- WHEN INSTALLING GRANITE CURB OVER EXISTING UTILITIES, NOTCHING AND CUTTING OF THE CURB SHALL BE AT NO EXTRA COST TO THE CITY.
- CONTRACTOR SHALL INSTALL "DON'T DUMP TO CHARLES RIVER" PLACARDS ON ALL EXISTING-TO-REMAIN AND PROPOSED CATCH BASINS THAT ARE CONNECTED TO STORM DRAIN ON WESTERN AVENUE. PLACARDS WILL BE FURNISHED BY THE CITY AT NO COST TO THE CONTRACTOR.
- THE NORTH CURB ALIGNMENT ON WESTERN AVENUE IS PROPOSED TO BE SHIFTED FROM ITS EXISTING ALIGNMENT. THE CONTRACTOR SHALL MAINTAIN EXISTING AND/OR NEW CATCH BASINS TO ALLOW FOR STREET DRAINAGE DURING CONSTRUCTION.
- ALL EXISTING SEWER AND DRAIN PIPE REPLACED BY PROPOSED SEWER AND DRAIN PIPE SHALL BE REMOVED, UNLESS OTHERWISE INDICATED ON THE DRAWINGS TO BE ABANDONED. ALL EXISTING SEWER AND DRAIN STRUCTURES SHALL BE REMOVED OR ABANDONED AS INDICATED ON THE DRAWINGS. FOR INFRASTRUCTURE TO BE ABANDONED, REFER TO THE SPECIFICATIONS FOR DETAILED REQUIREMENTS.
- EXISTING CONDITIONS ARE SHOWN SCREENED.

SURVEY NOTES

- THIS PLAN IS BASED ON AN ON-THE-GROUND FIELD SURVEY PERFORMED BY WSP-SELLS BETWEEN MAY 20, 2009 AND NOVEMBER 8, 2010.
- ELEVATIONS ARE BASED UPON CAMBRIDGE CITY BASE.
- BASIS OF BEARINGS IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983, ADJUSTMENT OF 1996 (NAD 83/96) AS MONUMENTED BY THE HARVARD UNIVERSITY CONTROL SYSTEM.
- SIDELINES OF WESTERN AVENUE ARE SHOWN AS 66 FEET WIDE AS TAKEN FROM THE 1859 LAYOUT NO STR-03-13 ON FILE AT THE CITY ENGINEERS OFFICE. SIDE STREETS, PARCELS AND PARCEL INFORMATION ARE TAKEN FROM THE CITY OF CAMBRIDGE ASSESSORS DATABASE.

TREE PROTECTION NOTES

- ALL EXISTING TREES SHALL BE PRESERVED, UNLESS OTHERWISE NOTED OR REQUIRED BY THE ENGINEER SEE SPECIFICATIONS.
- THE CONTRACTOR SHALL PROVIDE ALL TREE PROTECTION MEASURES AND HAVE ALL PRECONSTRUCTION FERTILIZATION COMPLETED PRIOR TO COMMENCING EXCAVATION WORK.
- ALL TREES NOT IDENTIFIED FOR REMOVAL SHALL BE PROTECTED AGAINST CONSTRUCTION AND TRUCKING RELATED DAMAGE TO THEIR TRUNKS, ROOTS, AND LIMBS. TREES SHALL BE WRAPPED WITH 2X4'S AND SNOW FENCING. TREES SHALL BE PRUNED PROFESSIONALLY BY A CERTIFIED (ISA OR MCA) ARBORIST (IF NECESSARY). ALL TREES INCLUDING AFFECTED ROOTS AND BRANCH CANOPY WITHIN THE CONSTRUCTION ZONE SHALL BE PRUNED BY A CERTIFIED ARBORIST PRIOR TO START OF ANY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL REMOVE AND PRUNE TREES AND SHRUBS IN ACCORDANCE WITH THE TREE REMOVAL LOCATIONS SHOWN IN THE ROADWAY GENERAL DRAWINGS AND THE SPECIFICATION SECTIONS 32000. REPLACEMENT TREES SHALL BE PROVIDED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- FINES WILL BE IMPOSED THROUGH MGL CHAPTER 87.
- ANY EXPOSED ROOTS SHALL BE COVERED WITH SOIL AT THE END OF EACH WORK DAY.
- THE CONTRACTOR SHALL COORDINATE WITH DIG SAFE PRIOR TO REMOVING ANY STUMPS. DAMAGE TO EXISTING SIDEWALKS AND UTILITIES SHALL BE REPAIRED AS SPECIFIED AFTER REMOVING STUMPS.
- TREES AND STUMPS REMOVED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW TREES AS DIRECTED. STUMP REMOVAL SHALL BE SUFFICIENT TO ALLOW PLANTING OF NEW TREE.

RECORD DRAWING

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.

CONFORMED SET

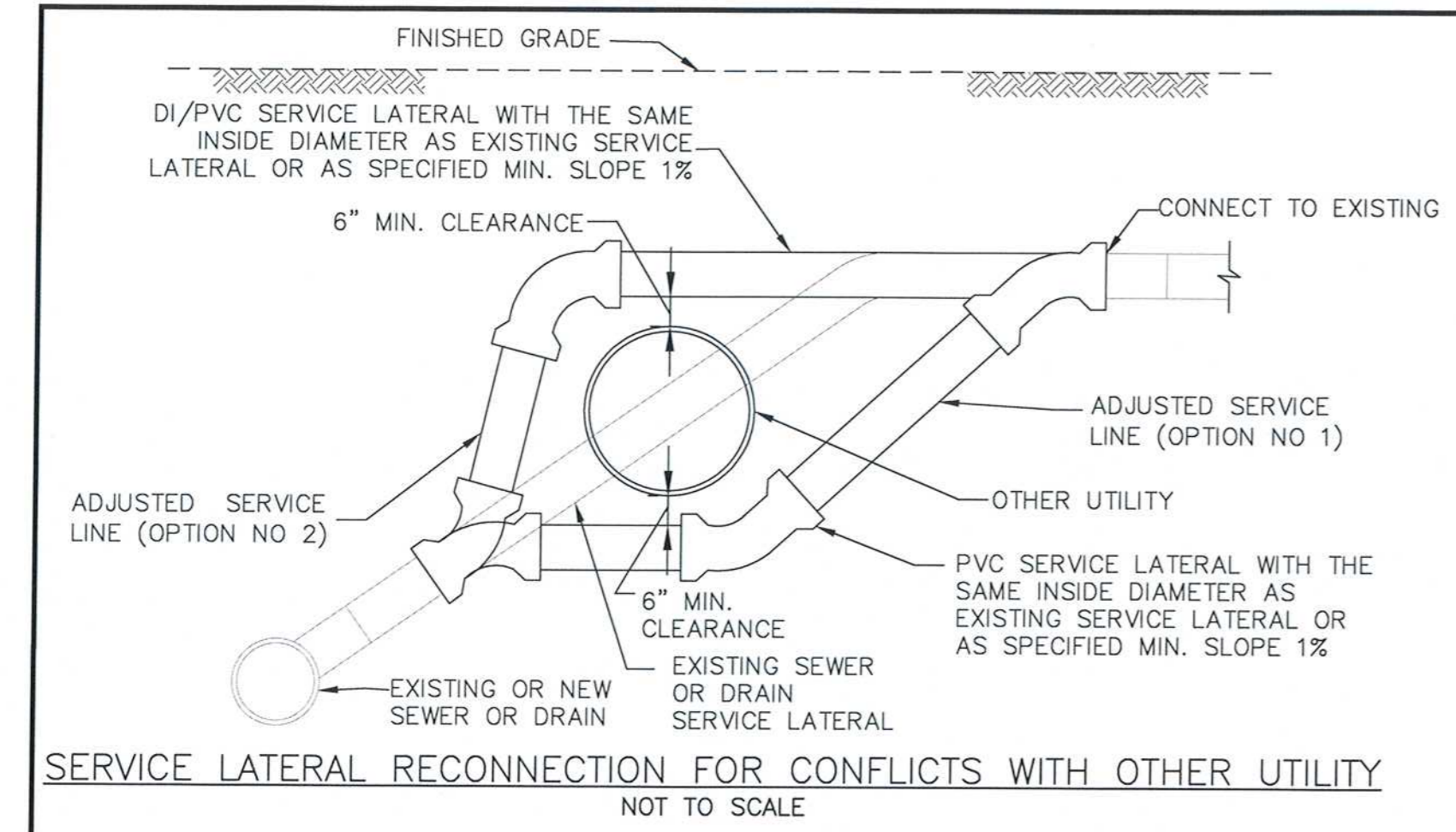


Scale	AS NOTED		
Date	APRIL 2017		
Job No.	2009143.01-A		
Designed by	CMC		
Drawn by	CMC		
Checked by	KEG	No.	Description
Approved by	JJS		REVISIONS

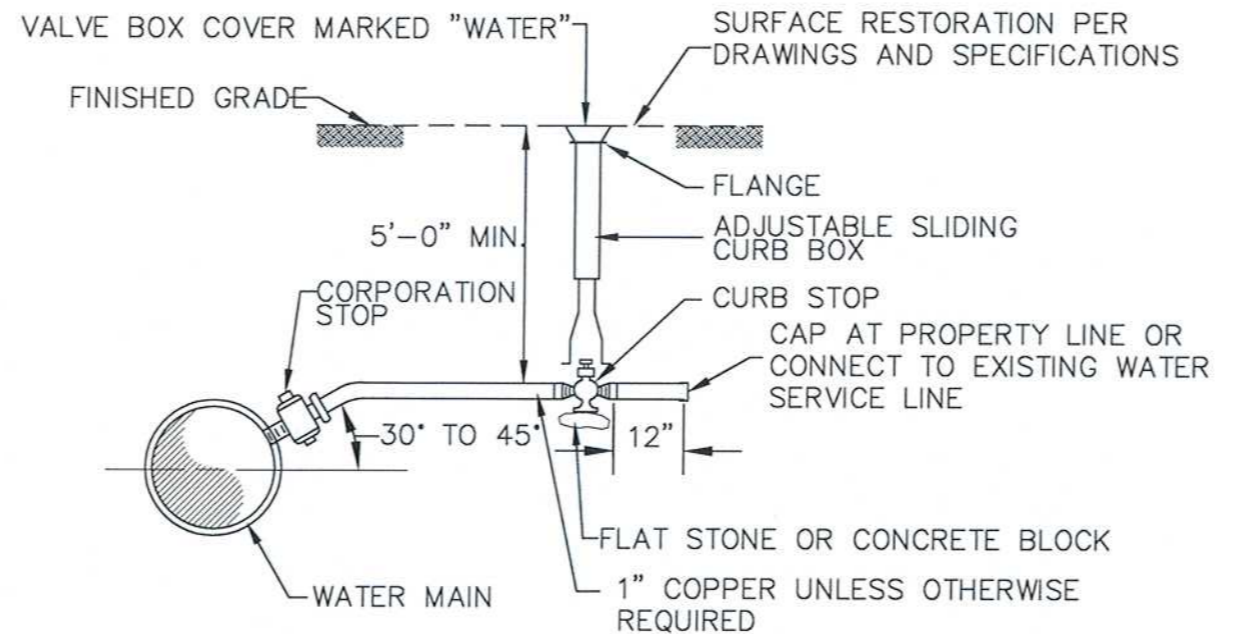


Client	CITY OF CAMBRIDGE, MA	Sheet	CG-1
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL GENERAL - GENERAL NOTES		

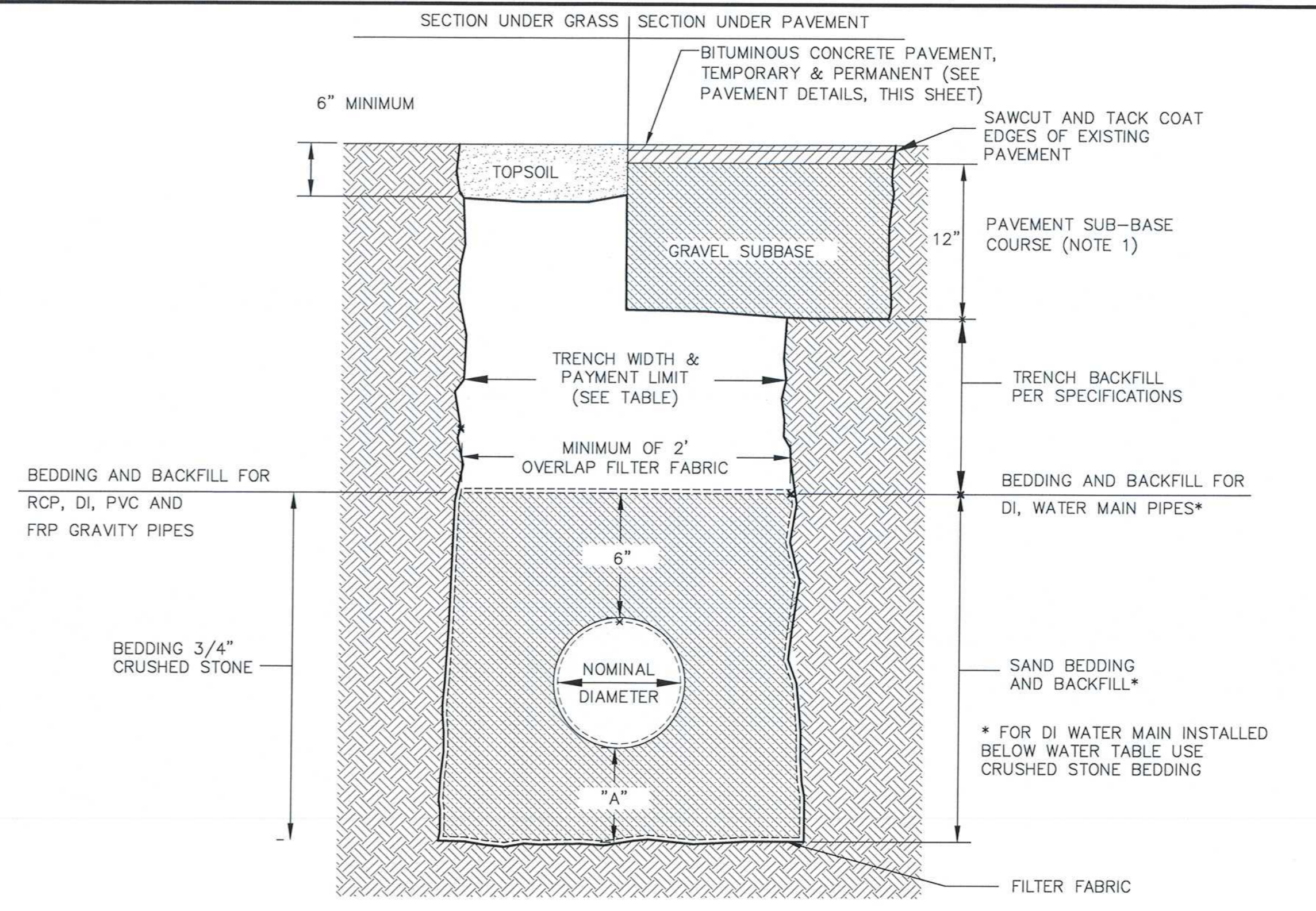
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SERVICE LATERAL RECONNECTION FOR CONFLICTS WITH OTHER UTILITY
NOT TO SCALE



NEW WATER SERVICE DETAIL



TRENCH PAY LIMIT TABLE FOR PIPES

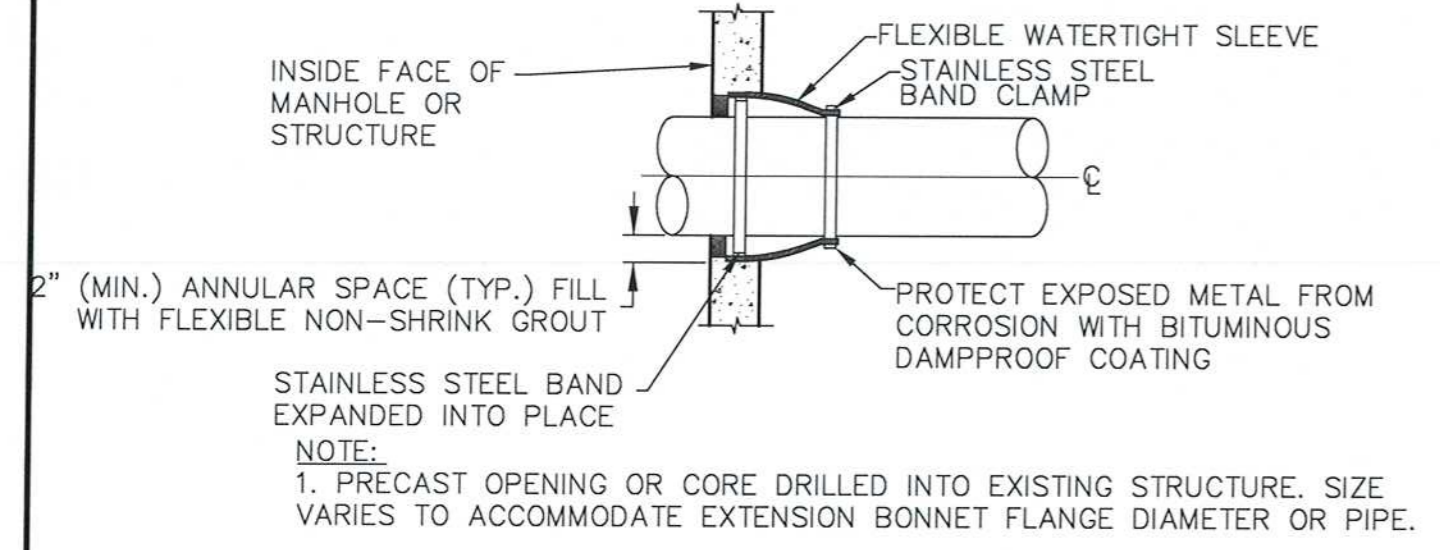
PIPE SIZE (DIA.)	TRENCH WIDTH	"A"
LESS THAN 2"	2'-0"	6"
2" TO 6"	3'-0"	6"
8" TO 22"	4'-0"	9"
24" & GREATER	I.D. + 2'-0"	12"

I.D. = INSIDE DIMENSION

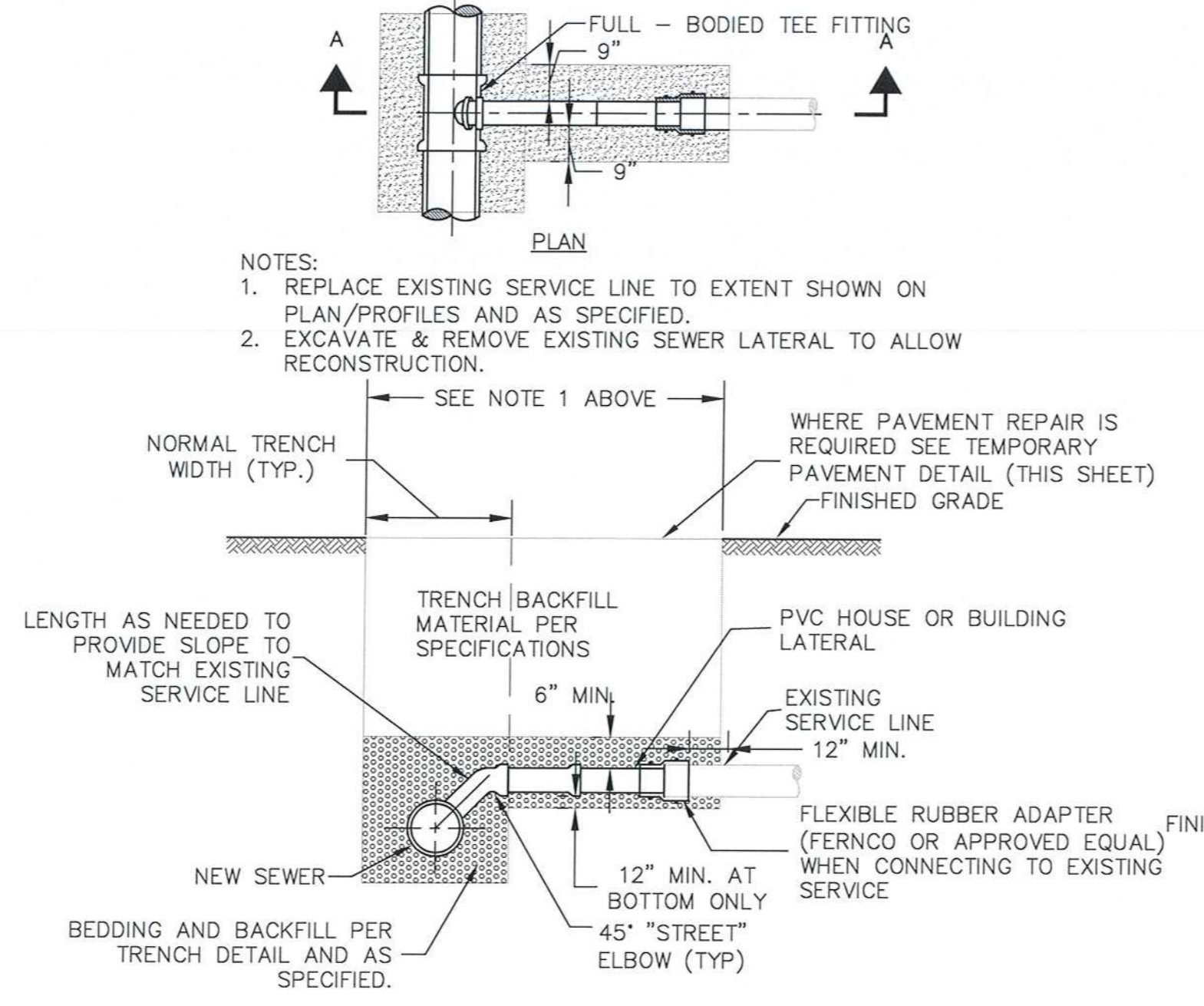
TRENCH PAY LIMIT TABLE FOR PRECAST STRUCTURES

WALL THICKNESS	TRENCH WIDTH	"A"
LESS THAN 6"	I.D. + 5'-0"	12"
6" TO 12"	I.D. + 6'-0"	12"
13" TO 18"	I.D. + 7'-0"	12"
19" & GREATER	O.D. + 6'-0"	12"

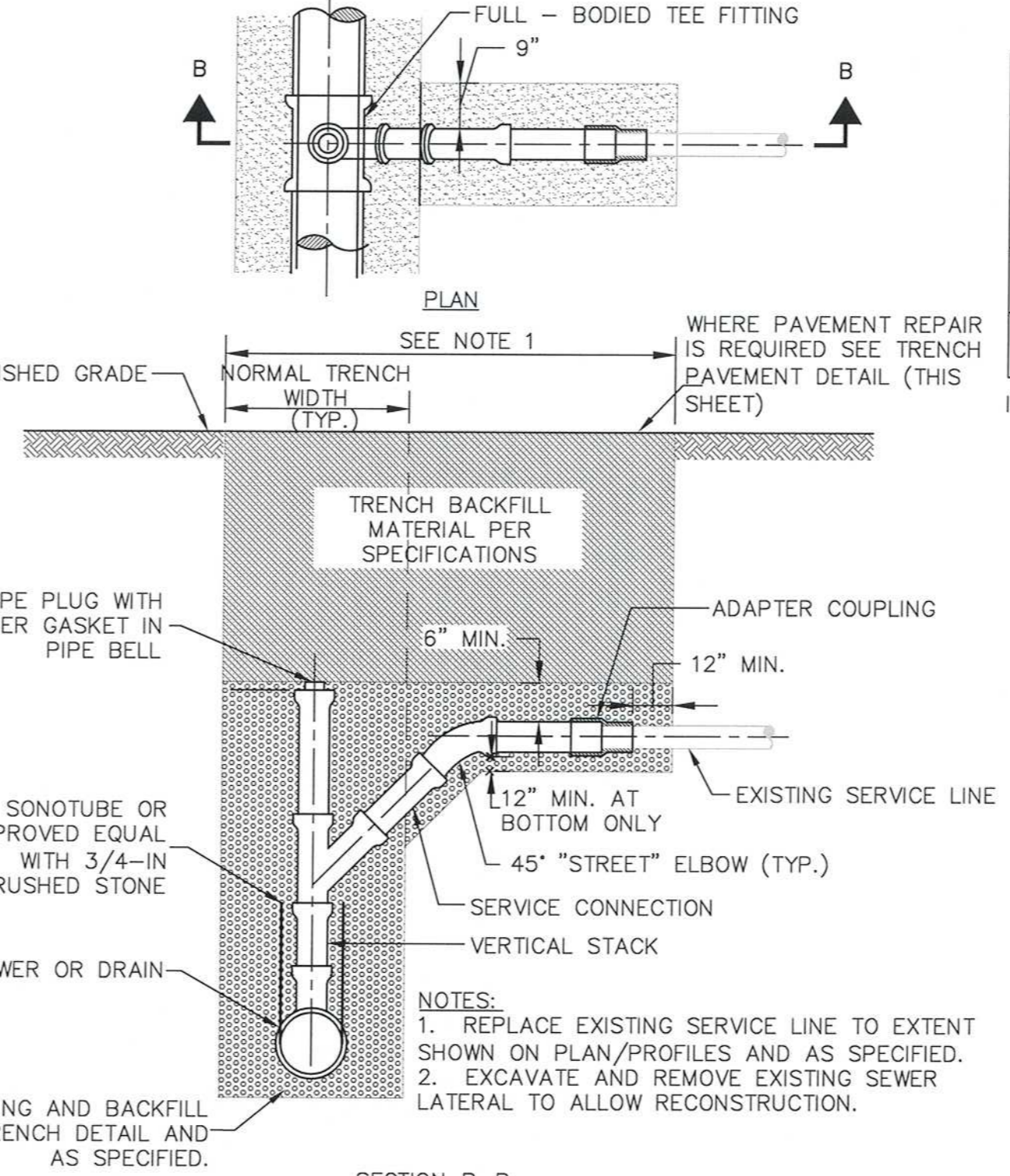
I.D. = INSIDE DIMENSION
O.D. = OUTSIDE DIMENSION



FLEXIBLE SLEEVE CONNECTION DETAIL

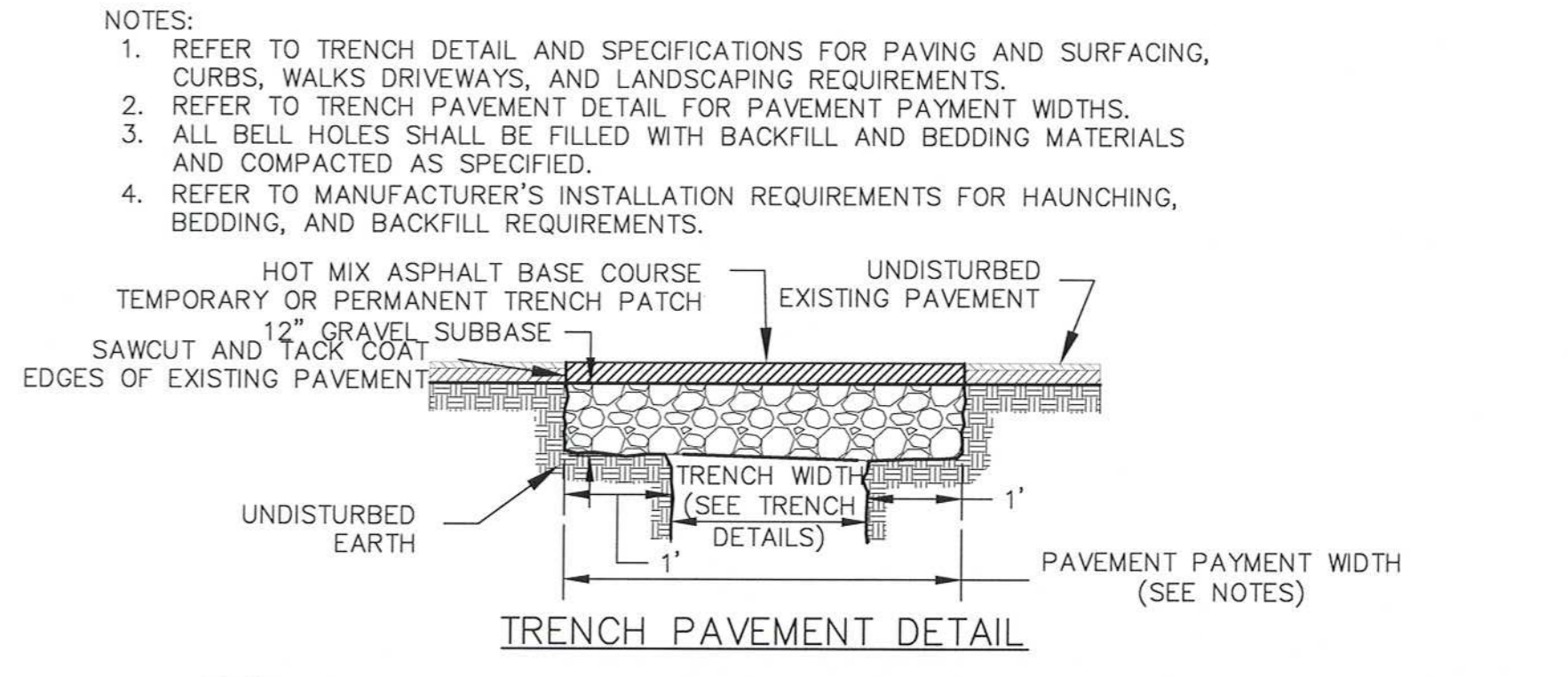


SEWER OR DRAIN SERVICE CONNECTION < 12' DEEP

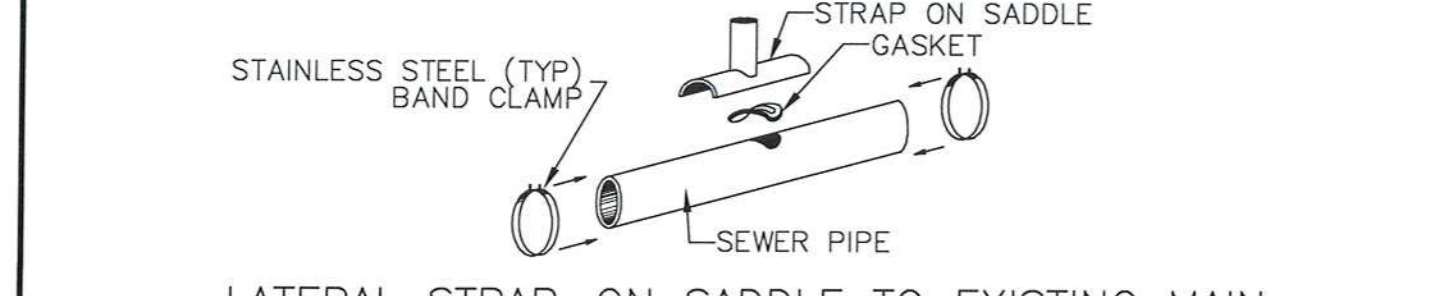


SEWER OR DRAIN SERVICE CONNECTION WITH CHIMNEY > 12' DEEP

TRENCH DETAIL FOR SEWER, DRAIN AND WATER PIPES
NOT TO SCALE

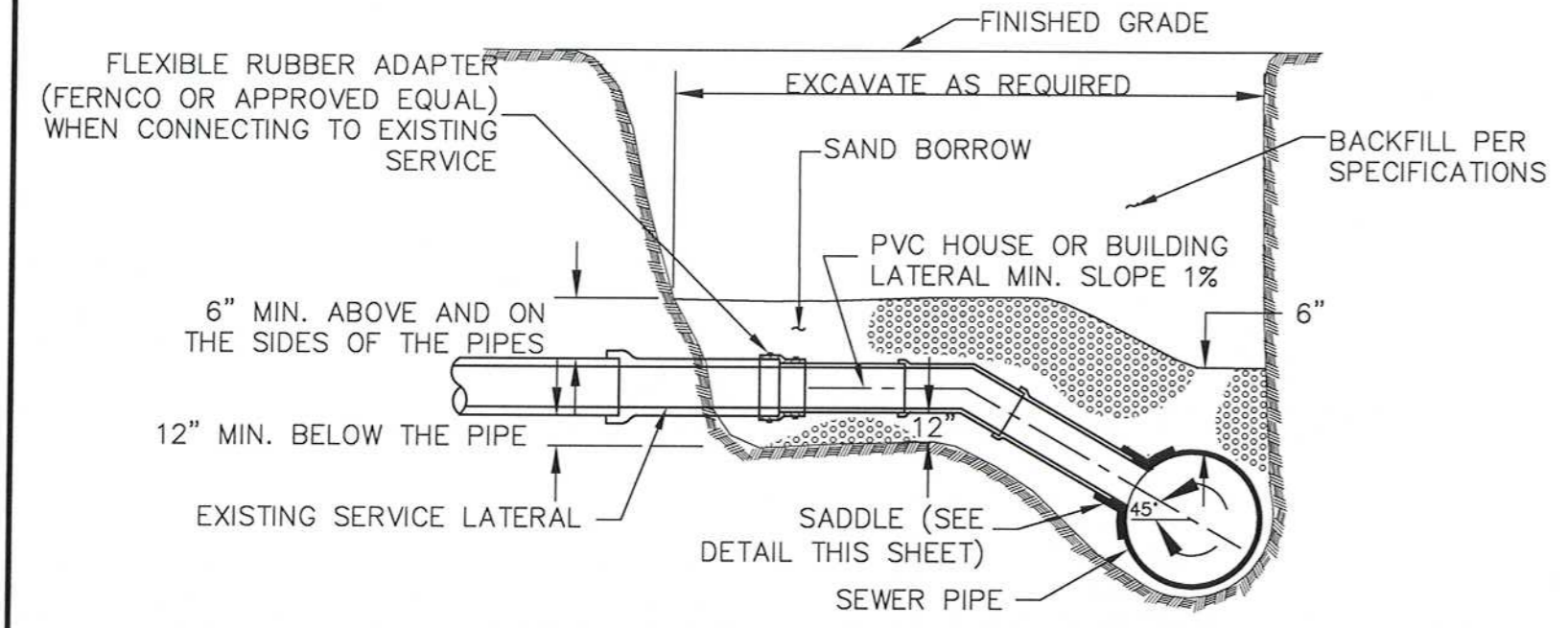


- NOTES:**
- REFER TO TRENCH DETAIL AND SPECIFICATIONS FOR PAVING AND SURFACING, CURBS, WALKS DRIVEWAYS, AND LANDSCAPING REQUIREMENTS.
 - REFER TO TRENCH PAVEMENT DETAIL FOR PAVEMENT WIDTHS.
 - ALL BELL HOLES SHALL BE FILLED WITH BACKFILL AND BEDDING MATERIALS AND COMPACTED AS SPECIFIED.
 - REFER TO MANUFACTURER'S INSTALLATION REQUIREMENTS FOR HAUNCHING, BEDDING, AND BACKFILL REQUIREMENTS.
- NOTES:**
- TEMPORARY TRENCH PATCH PAYMENT WIDTH SHALL BE EQUAL TO THE TRENCH PAYMENT LIMIT.
 - FOR TRENCHES GREATER THAN 5' DEEP, ADD MAX 3' TO PAYMENT WIDTH BASED ON ACTUAL TEMPORARY SUPPORT OF EXCAVATION WIDTH.
 - PERMANENT TRENCH PAYMENT WIDTH SHALL BE THE TRENCH PAYMENT LIMIT PLUS 2 FEET.
 - PERMANENT TRENCH PATCH DEPTH SHALL BE 6" ON STREETS TRIBUTARY TO WESTERN AVE WITHIN LIMITS OF COLD PLANE AND OVERLAY.
 - PERMANENT TRENCH PATCH DEPTH SHALL BE 9" ON MEMORIAL DRIVE.
 - TEMPORARY TRENCH PATCH DEPTH SHALL BE 4".
 - REMOVE AND DISPOSE ALL TEMPORARY PAVEMENT AS REQUIRED. RESTORE AND COMPACT SUBBASE AS REQUIRED PRIOR TO PERMANENT TRENCH PATCH.
 - REFER TO ROADWAY GENERAL DRAWINGS FOR FINAL PAVEMENT DETAILS.



LATERAL STRAP-ON SADDLE TO EXISTING MAIN

- NOTES:**
- GRAVITY LATERAL (SEWER OR DRAIN) SIZES 4", 6" AND 8"
 - GRAVITY MAINS (SEWER OR DRAIN) SIZES UP TO 94" O.D.
 - ONLY FOR USE CONNECTING TO EXISTING MAINS. CONNECTION TO NEW MAINS SHALL BE MADE WITH FULL BODY FITTING



SEWER SERVICE SADDLE CONNECTION FOR PIPE GREATER THAN 18" DIA. OR ODD SIZE

- NOTE:**
- REPLACE EXISTING SERVICE LINE TO EXTENT SHOWN ON PLAN/PROFILES AND AS SPECIFIED.

SOIL TYPE

	SILT OR CLAY	GRANULAR SOIL
ABOVE GROUND WATER	FILTER FABRIC NOT REQUIRED	FILTER FABRIC NOT REQUIRED
BELOW GROUND WATER	FILTER FABRIC REQUIRED	FILTER FABRIC NOT REQUIRED

FILTER FABRIC TYPE

EXISTING PIPE MATERIAL

	BRICK	RCP	DI	VC	PLASTIC
BRICK	1	1	1	1	1
RCP	1	1	1	1	1
DI	1	1	2	2	2
VC	1	1	2	2	2
PLASTIC	1	1	2	2	2

PIPE CONNECTION TABLE *

- TYPE 1 = CONCRETE COLLAR
TYPE 2 = TRANSITION COUPLING (DRESSER OR EQUAL)
* SERVICE LATERALS 8" OR LESS SHALL BE FERNCO-TYPE.

RECORD DRAWING

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RECORD SET

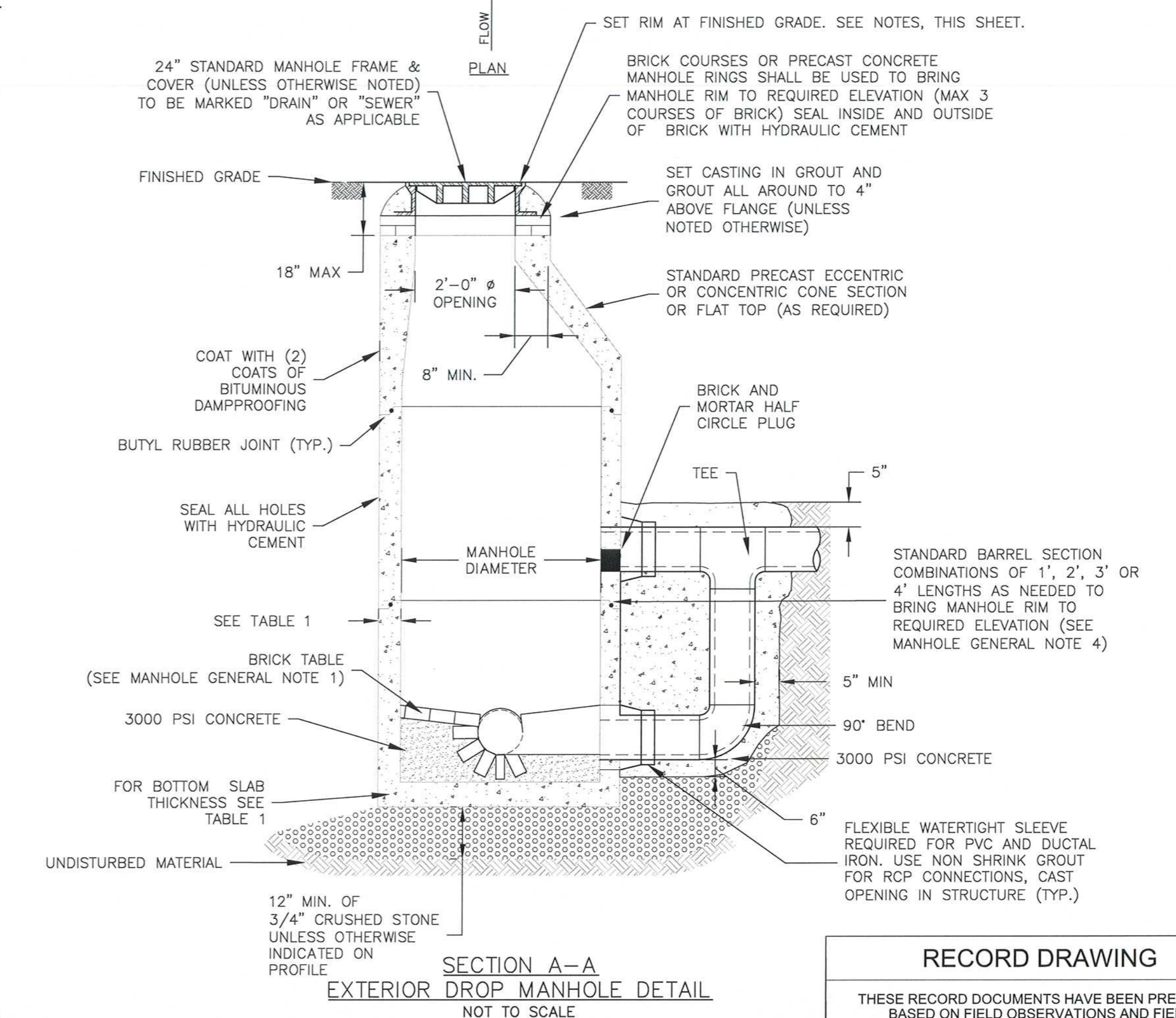
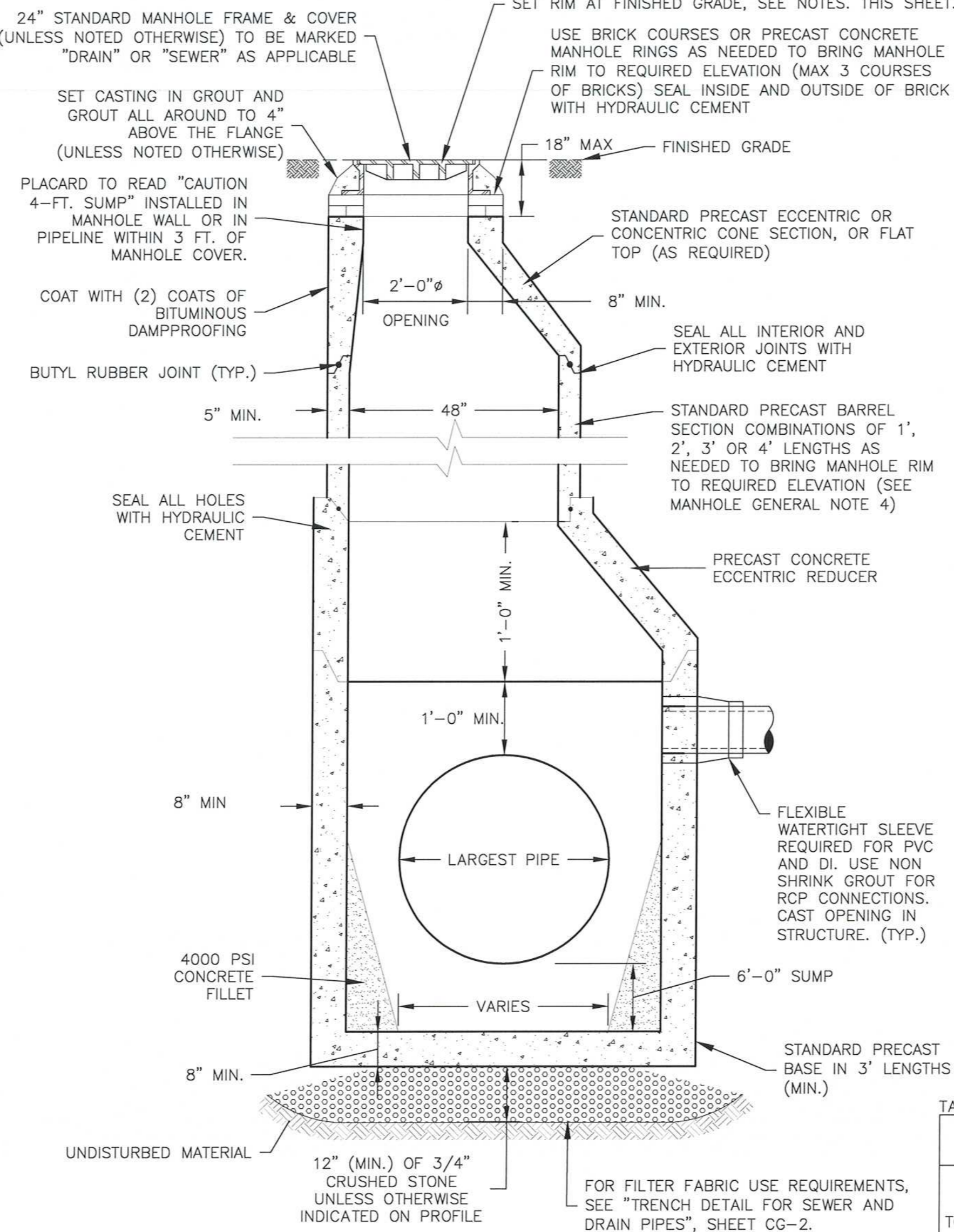
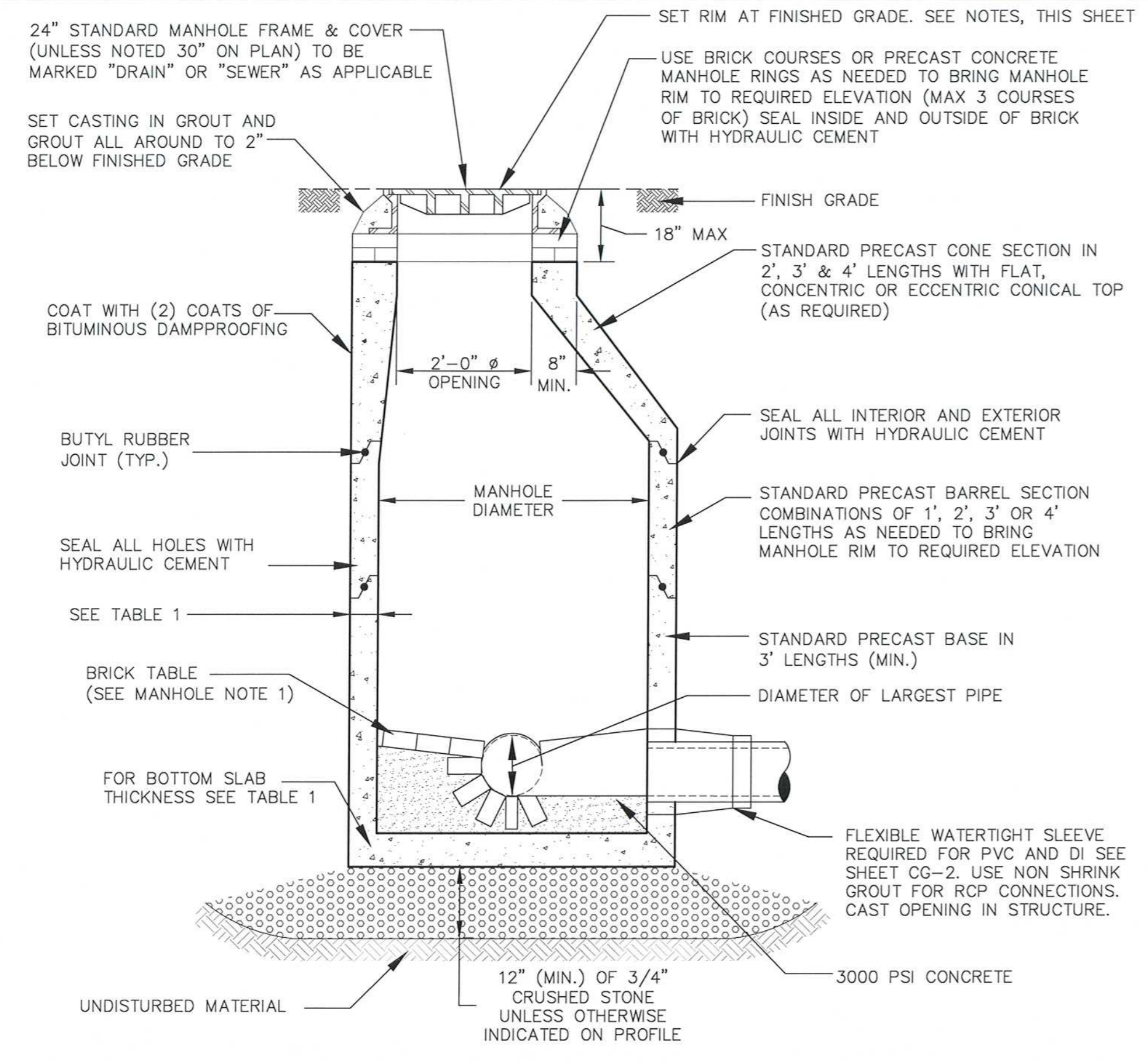
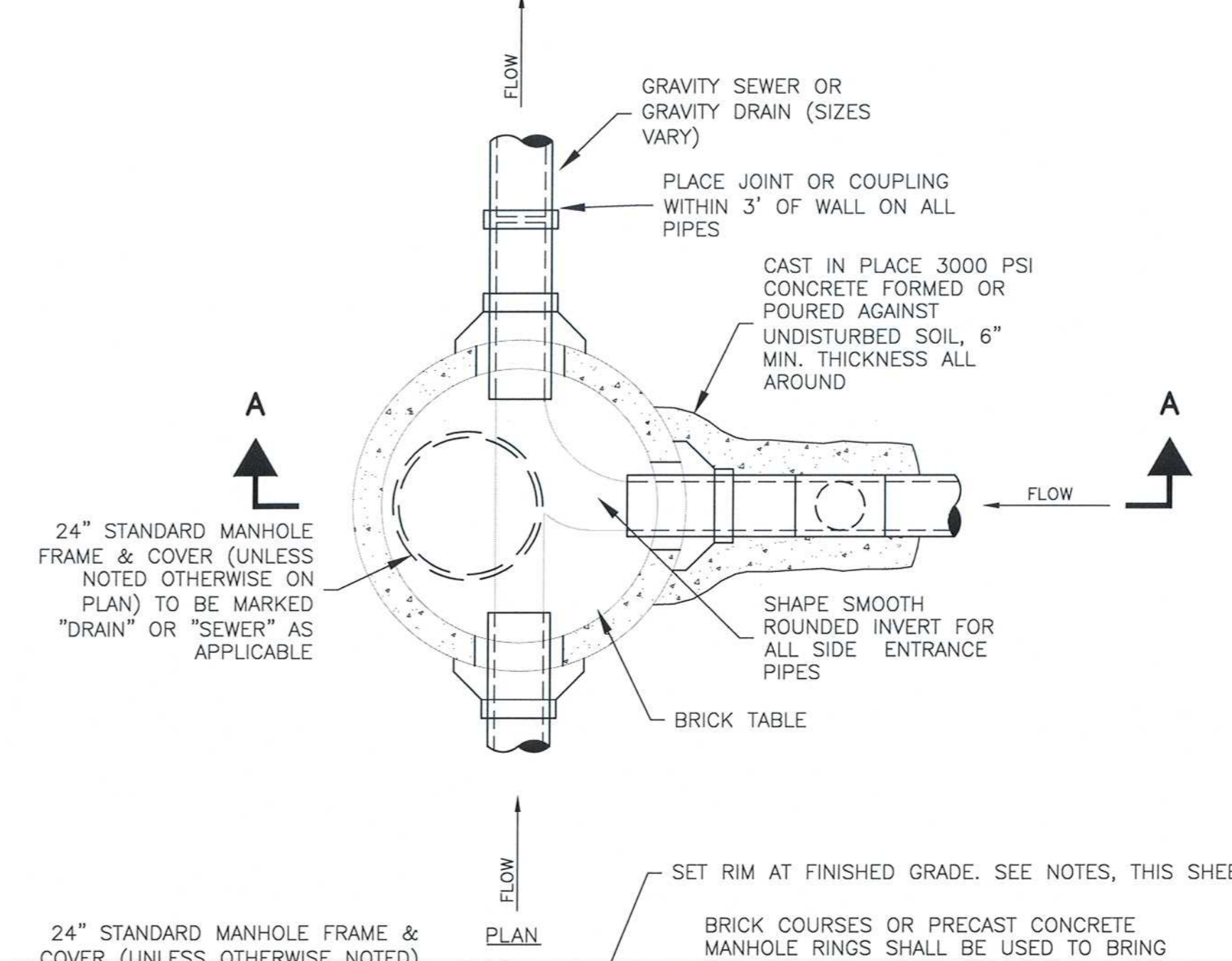
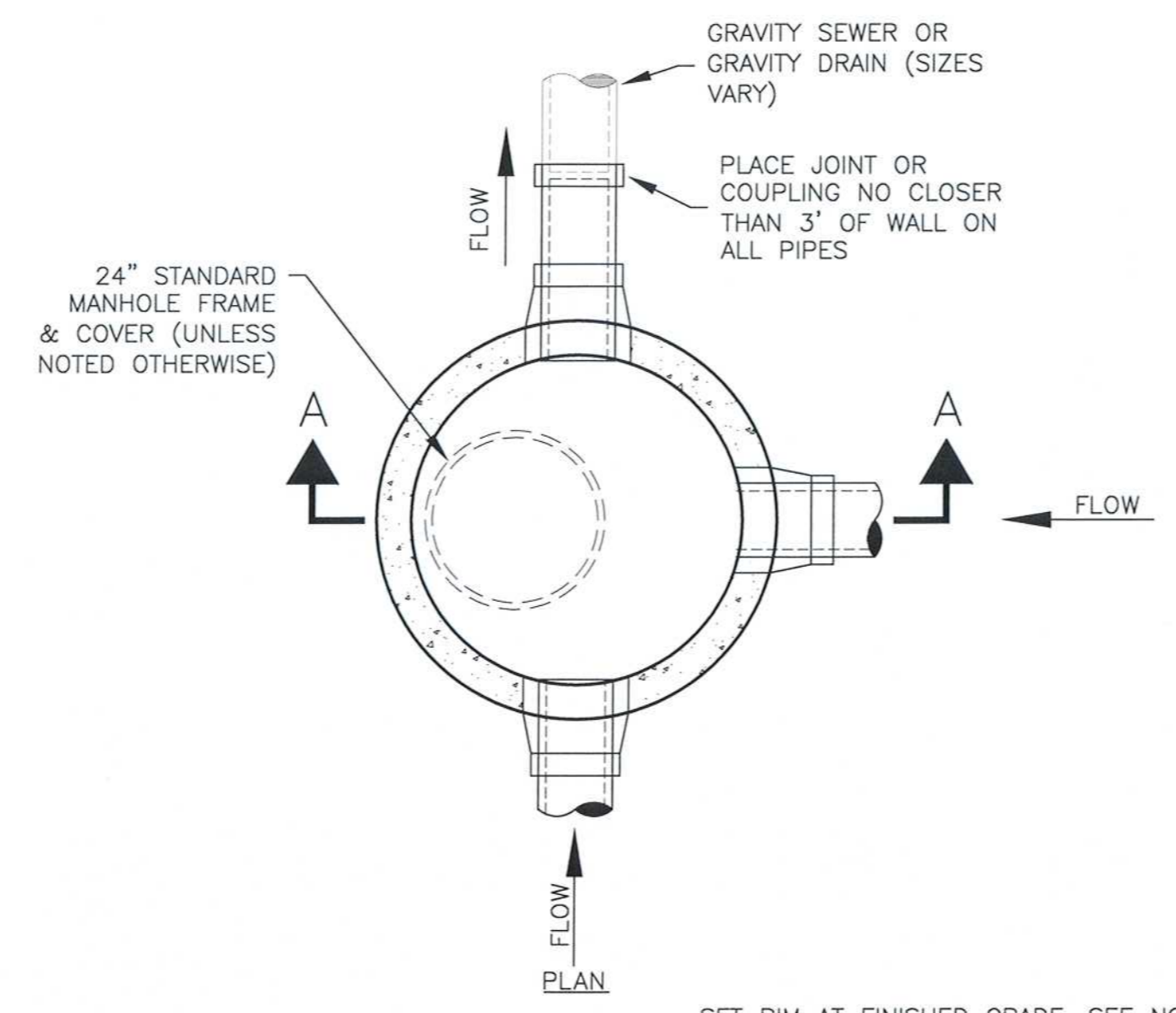
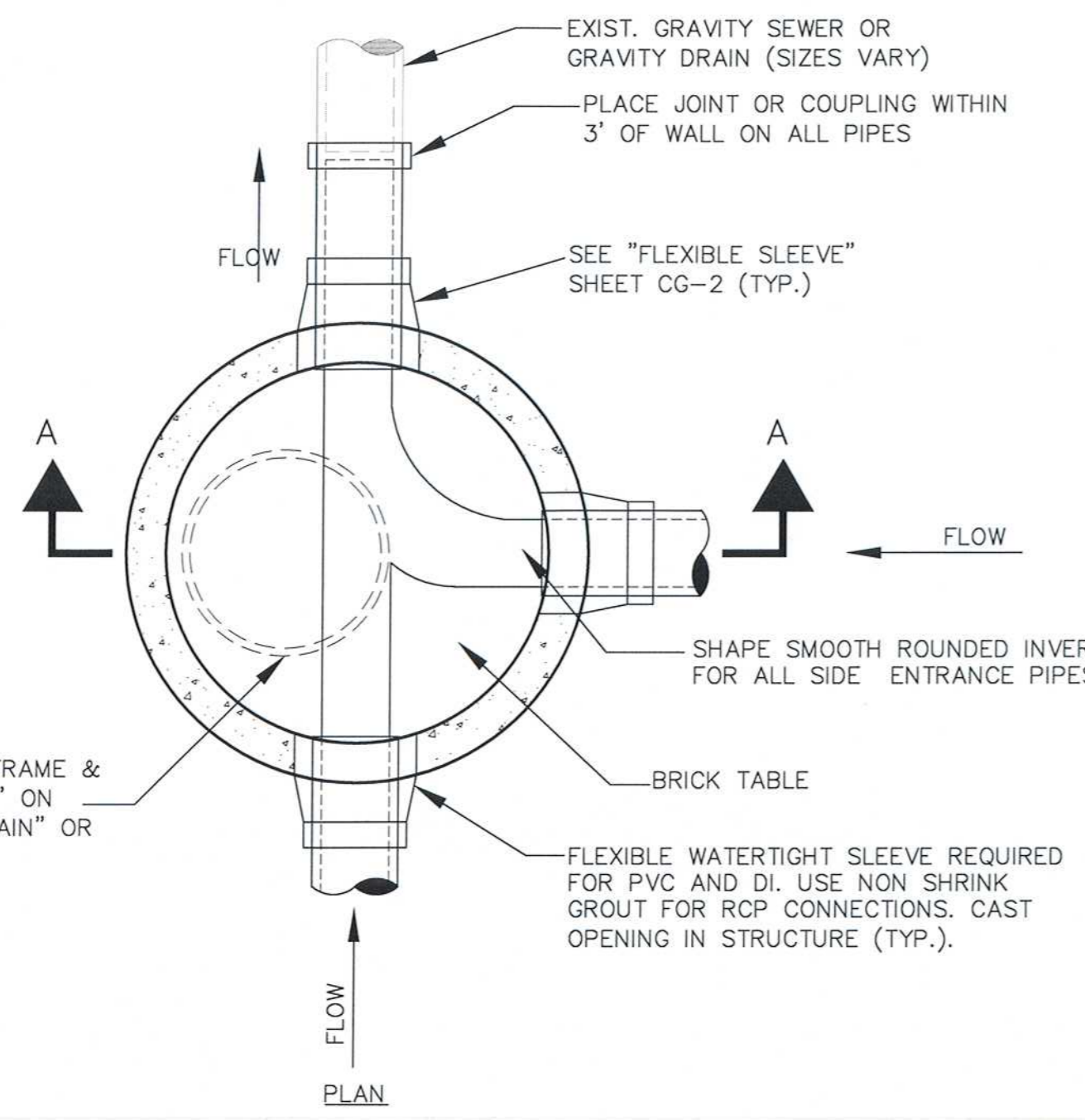


Scale	AS NOTED	Date	APRIL 2017	Job No.	2009143.01-A	Designed by	KJL	Drawn by	KJL	Checked by	KEG	No.	Description	Date
Approved by	JUS	REVISIONS												



Client	CITY OF CAMBRIDGE, MA	Sheet	CG-2
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL GENERAL - TRENCH, PIPE AND SERVICE CONNECTION DETAILS		

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SECTION "A-A"
MANHOLE DETAIL - TYPE 1
(STANDARD MANHOLE)
NOTE TO SCALE

SECTION A-A
SUMP MANHOLE DETAIL
NOT TO SCALE

SECTION A-A
EXTERIOR DROP MANHOLE DETAIL
NOT TO SCALE

RECORD DRAWING
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- MANHOLE GENERAL NOTES:**
- HIGHEST POINT OF BRICK TABLE AT MANHOLE WALL, TO BE AT ELEV OF CROWN OF PIPE. TABLE TO SLOPE AT 8.3%.
 - SEWER OR DRAIN MANHOLE DIAMETER SHALL BE 4', 5', 6', OR 8' AS SHOWN ON PLAN/PROFILE VIEWS.
 - DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO H20 LOADINGS, UNLESS OTHERWISE NOTED
 - PRECAST MANHOLES SHALL BE PRE-ORDERED WITH PENETRATIONS AT ELEVATIONS INDICATED ON CONTRACT DRAWINGS.
 - MANHOLES SHALL BE INSTALLED TO EXISTING GRADE AND ADJUSTED TO FINAL GRADE DURING SURFACE RESTORATION PORTION OF WORK.

TABLE 1:

	4' MANHOLE 5" WALL	5' MANHOLE 6" WALL	6' MANHOLE 7" WALL	8' MANHOLE 9" WALL	10' MANHOLE 11" WALL
MAX. PIPE O.D. STRAIGHT THRU TO 45° DEFLECTION	30" O.D. 24" R.C. PIPE	44" O.D. 36" R.C. PIPE	51" O.D. 42" R.C. PIPE	72" O.D. 60" R.C. PIPE	86" O.D. 72" R.C. PIPE
MAX. PIPE O.D. 90° DEFLECTION	23" O.D. 18" R.C. PIPE	33.5" O.D. 27" R.C. PIPE	37" O.D. 30" R.C. PIPE	51" O.D. 42" R.C. PIPE	72" O.D. 60" R.C. PIPE

RECORD SET

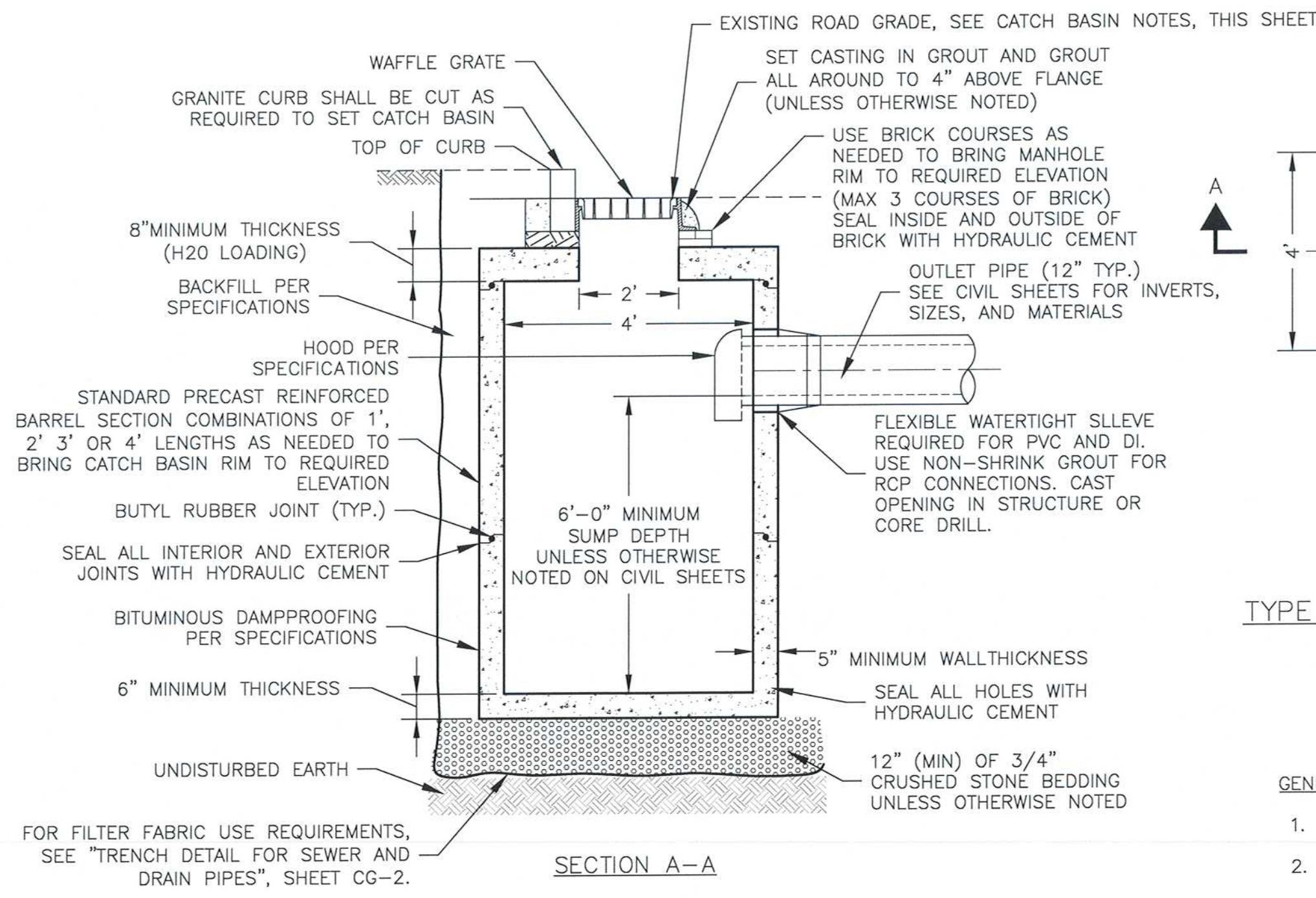


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Date	APRIL 2017			
Job No.	2009143.01-A			
Designed by	KJL			
Drawn by	KJL			
Checked by	KEG	No.	Description	Date
Approved by	JJS		REVISIONS	

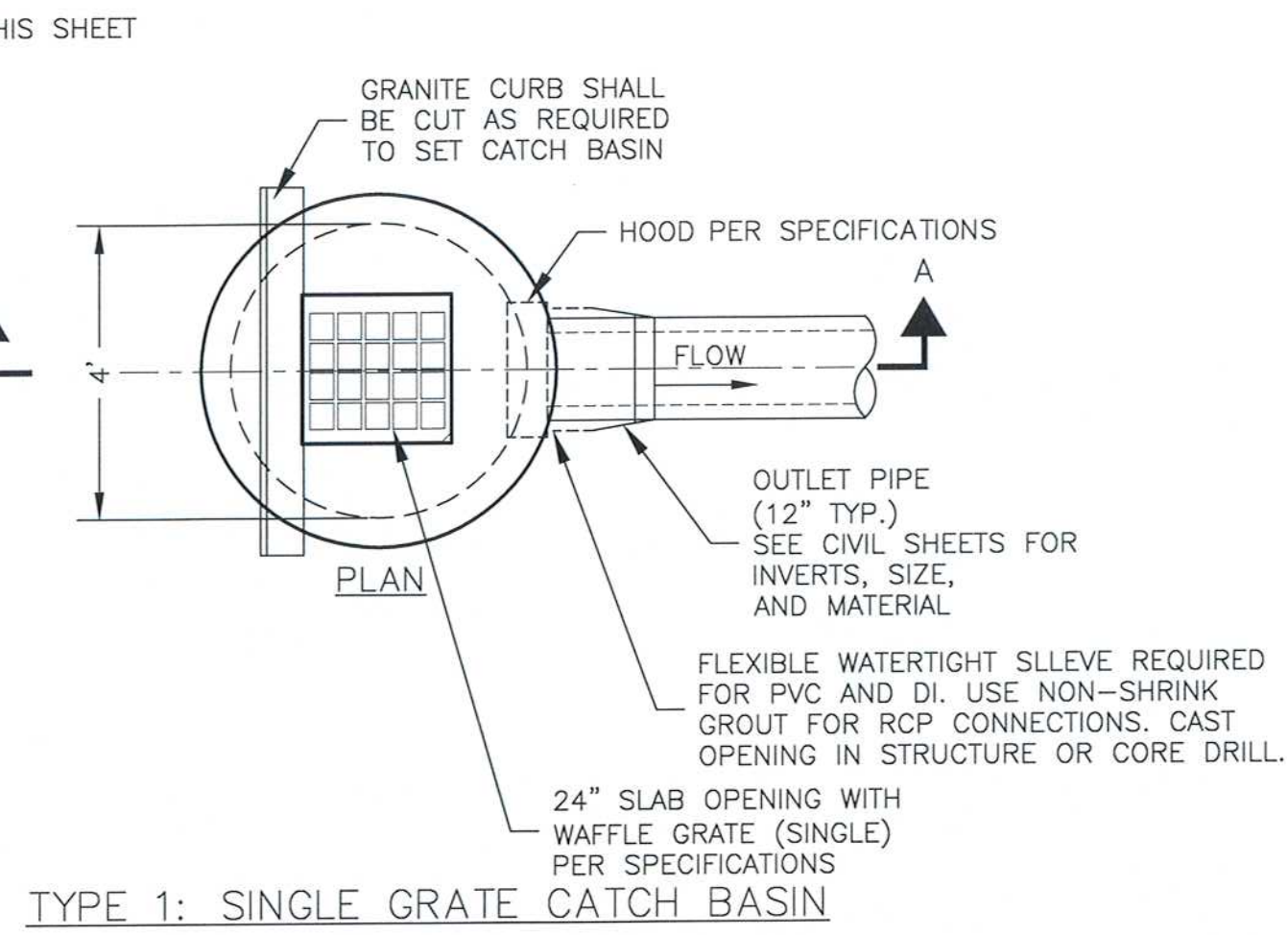


Client	CITY OF CAMBRIDGE, MA	Sheet	CG-3
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL GENERAL - MANHOLE DETAILS		

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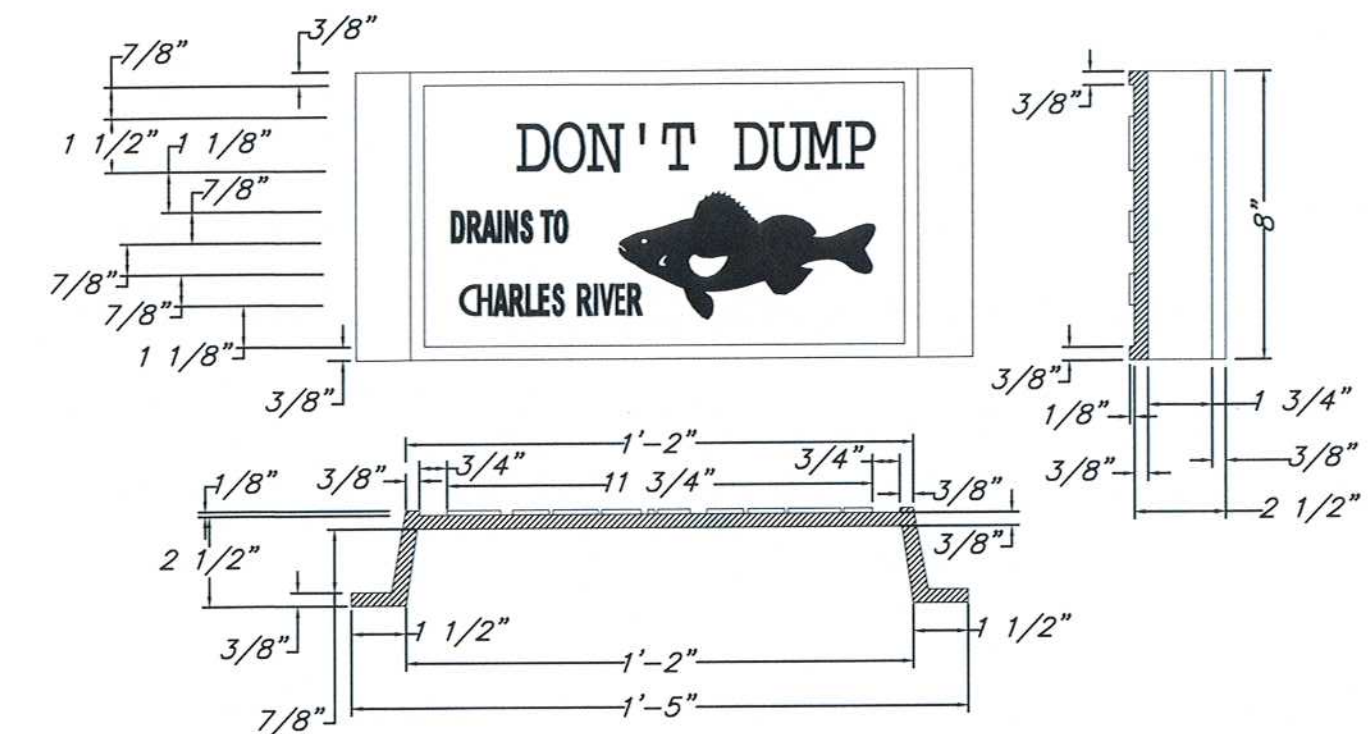
TYPE 1 CATCH BASIN (SINGLE GRATE)



TYPE 1: SINGLE GRATE CATCH BASIN

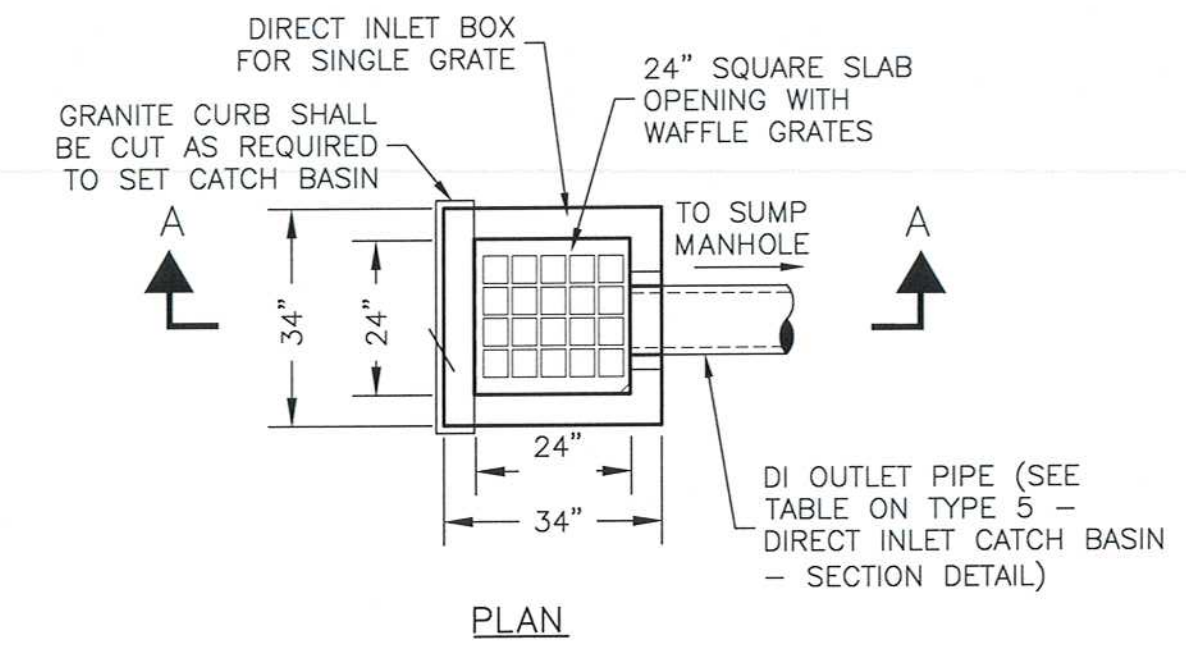
GENERAL CATCH BASIN NOTES:

1. FACE OF PIPE SHALL NOT PROJECT MORE THAN 4-INCHES FROM FACE OF WALL ALONG CENTERLINE OF PIPE.
2. FOR DESCRIPTION OF MATERIALS AND CONSTRUCTION METHOD, SEE SPECIFICATIONS.
3. DESIGN PRECAST SECTIONS WITH FRAME AND GRATE FOR AASHTO H20 LOADING.
4. GRATE OPENING CAN BE CENTERED OR OFFSET PERPENDICULAR TO THE CURB.
5. VANES SHALL BE INSTALLED IN DIRECTION TO RECEIVE FLOWS.
6. CATCH BASINS SHALL BE INSTALLED TO EXISTING GRADES AND ADJUSTED TO FINAL GRADES DURING SURFACE RESTORATION PORTION OF PROJECT.

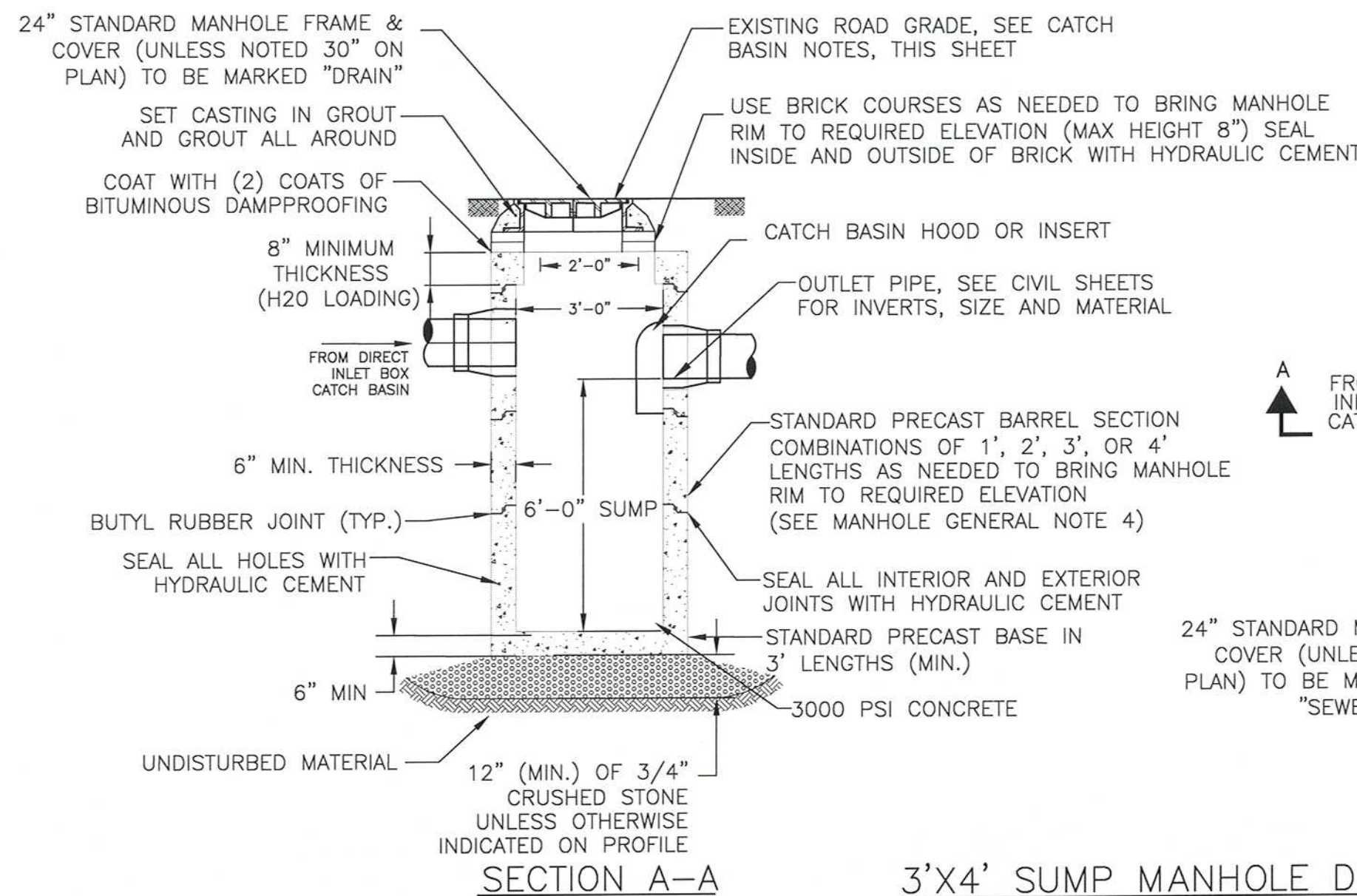


- CATCH BASIN CURB MARKER NOTES:
1. ALL CATCH BASINS CONNECTED TO STORM DRAIN ON WESTERN AVENUE SHALL HAVE "DON'T DUMP CURB MARKERS".

CATCH BASIN DON'T DUMP CURB MARKER



PLAN

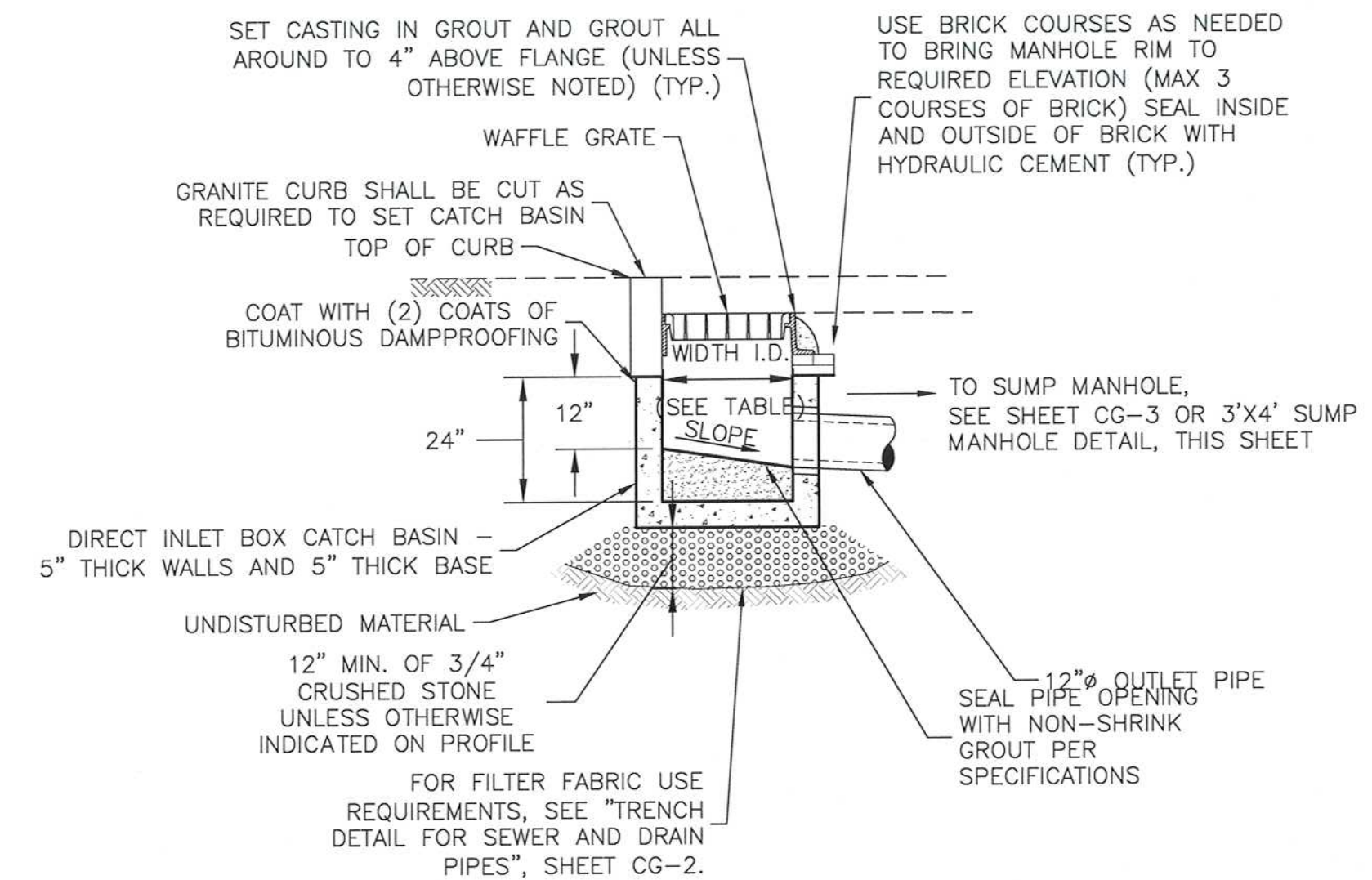
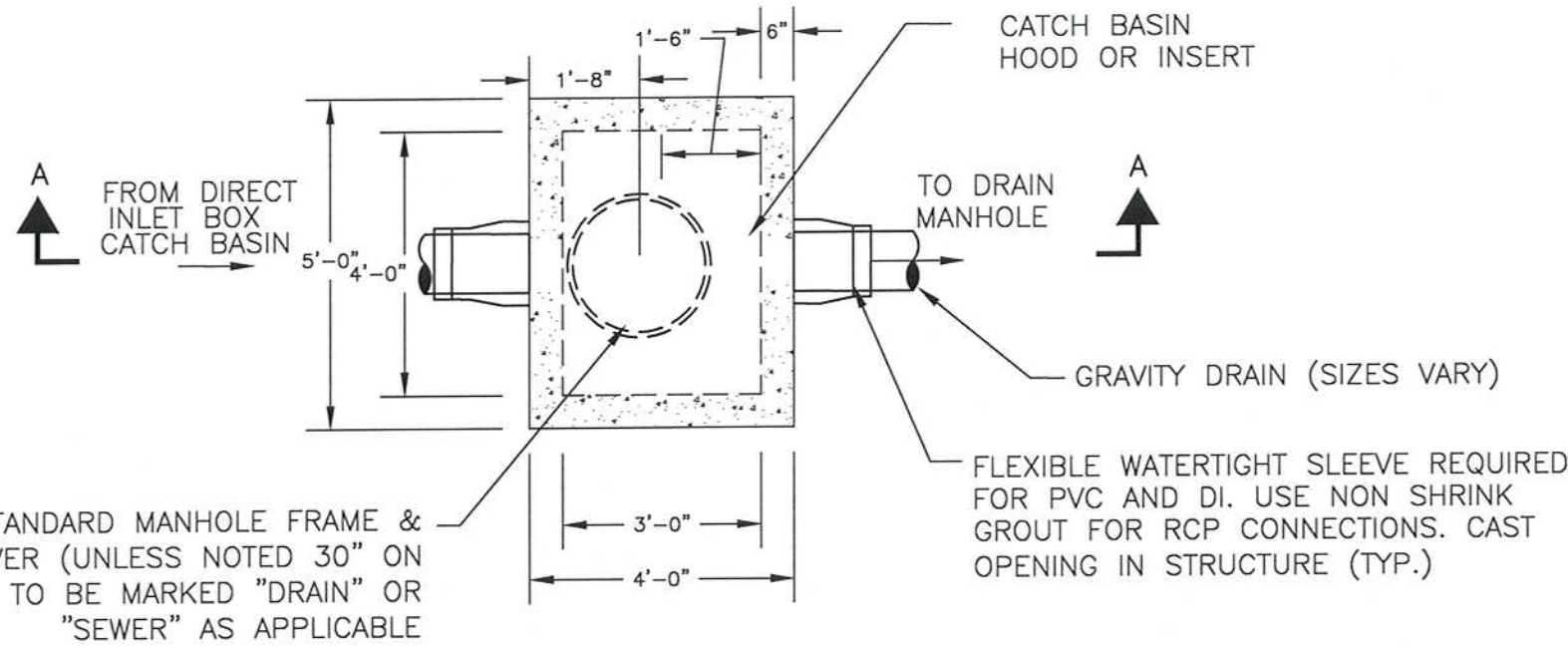


SECTION A-A

3'x4' SUMP MANHOLE DETAIL

NOTES:

1. DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO H20 LOADINGS.
2. FOR DESCRIPTION OF MATERIALS, SEE SPECIFICATIONS.



SECTION A-A

TYPE 5: DIRECT INLET CATCH BASIN

RECORD DRAWING

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RECORD SET



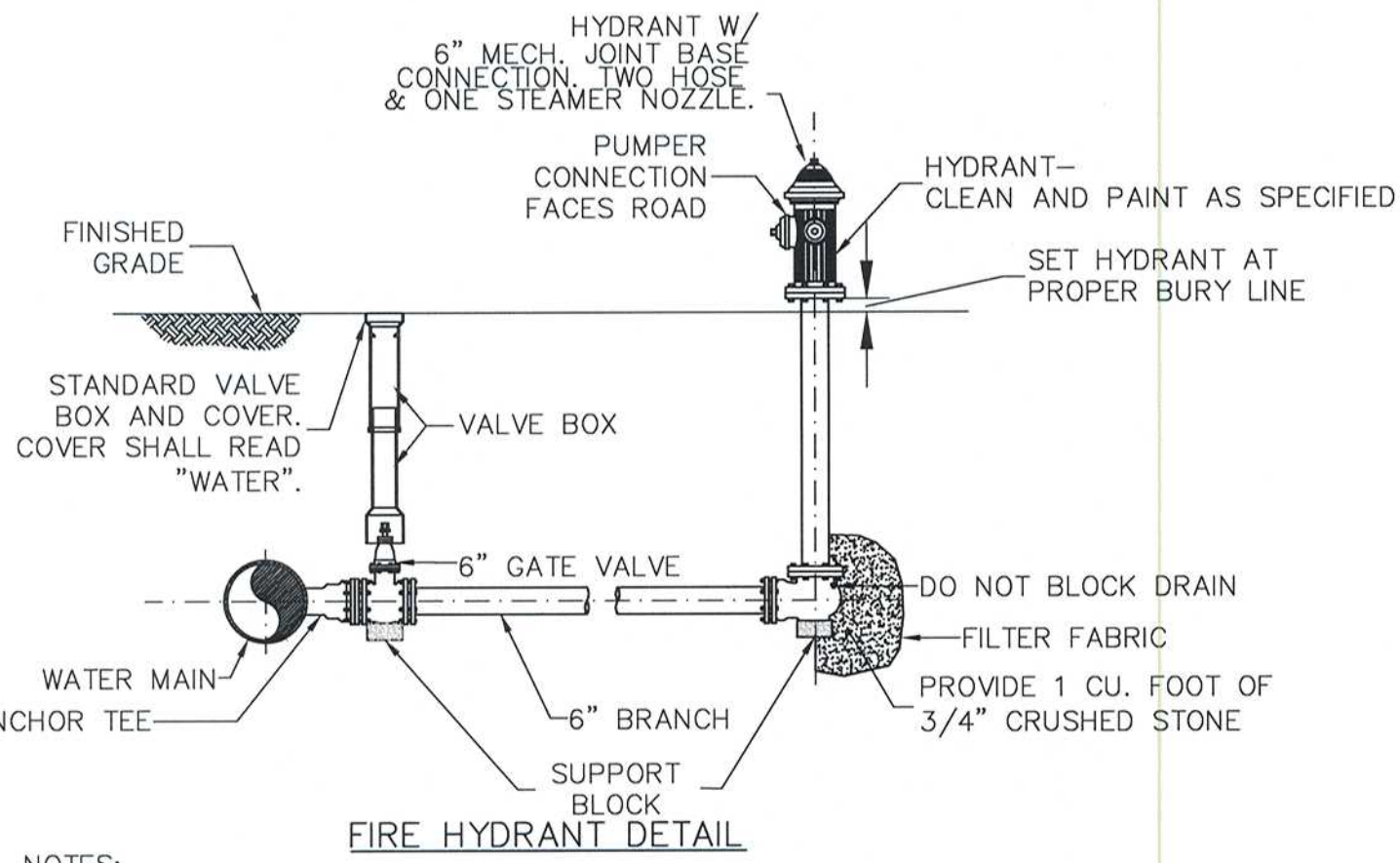
HDR ENGINEERING, INC.
695 ATLANTIC AVENUE, 2FL
BOSTON, MASSACHUSETTS 02111-2626
(617) 357-7700



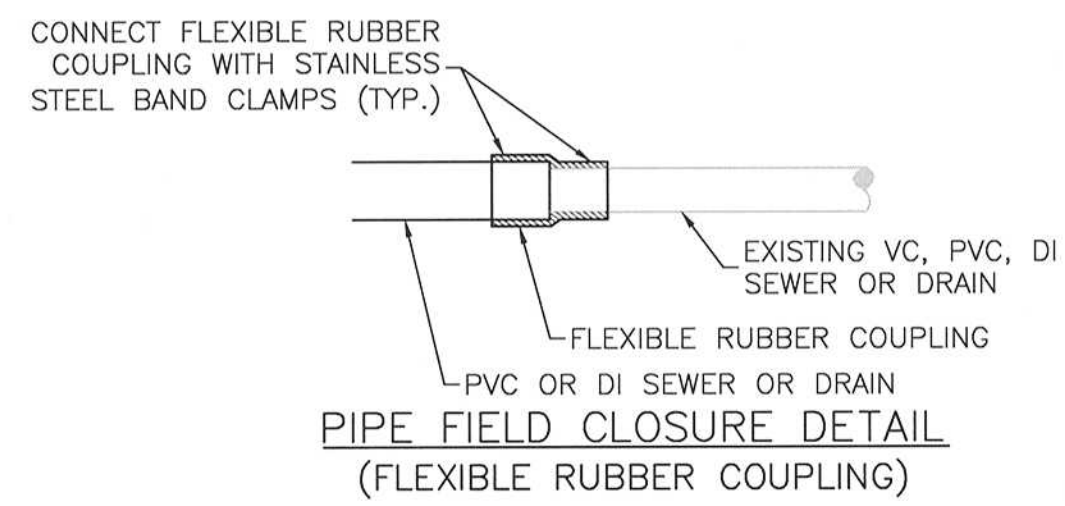
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Date	APRIL 2017		
Job No.	2009143.01-A		
Designed by	KJL		
Drawn by	KJL		
Checked by	KEG	No.	Description
Approved by	JJS		REVISIONS



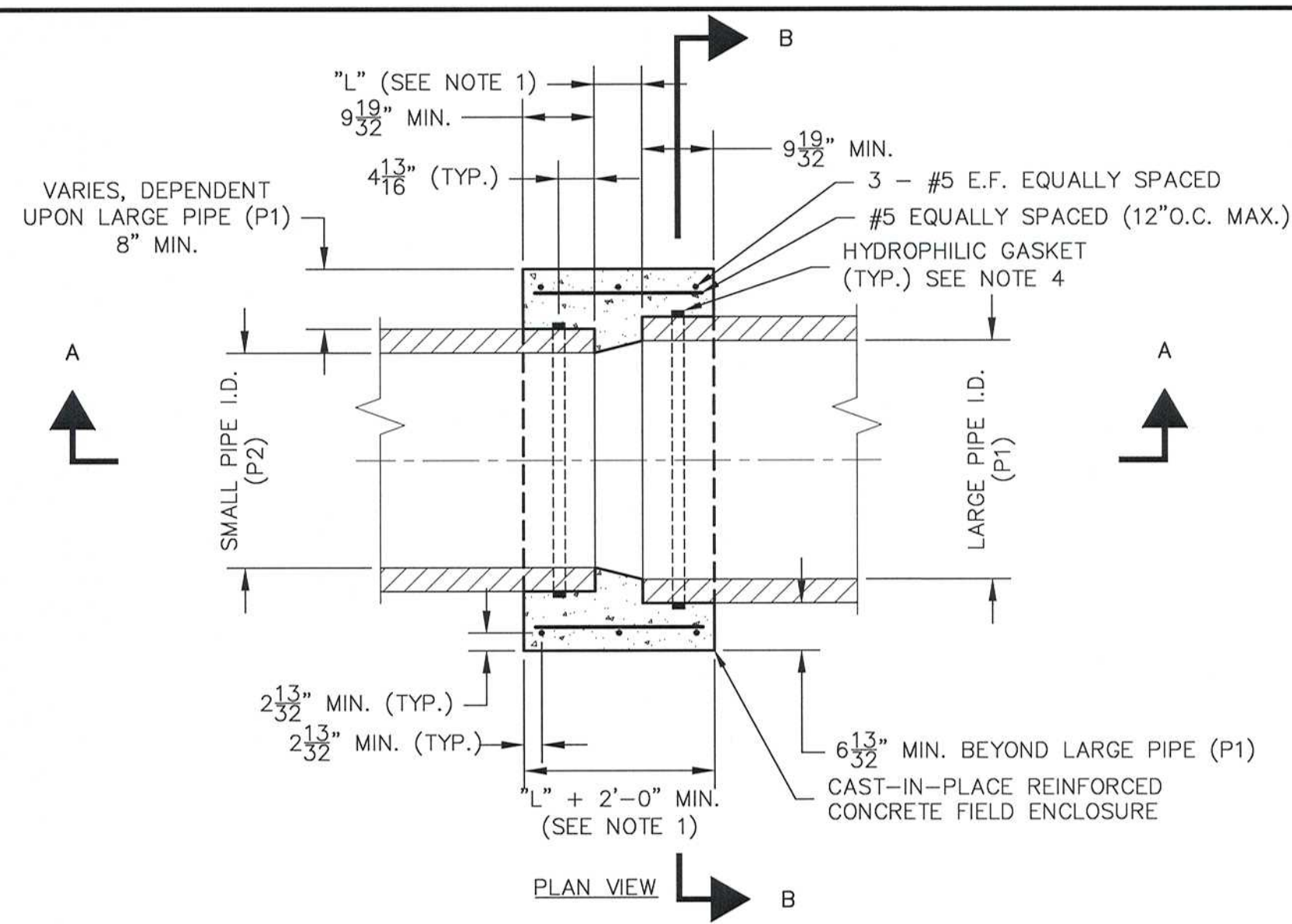
Client	CITY OF CAMBRIDGE, MA	Sheet	CG-4
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL GENERAL - MANHOLE AND CATCH BASIN DETAILS		



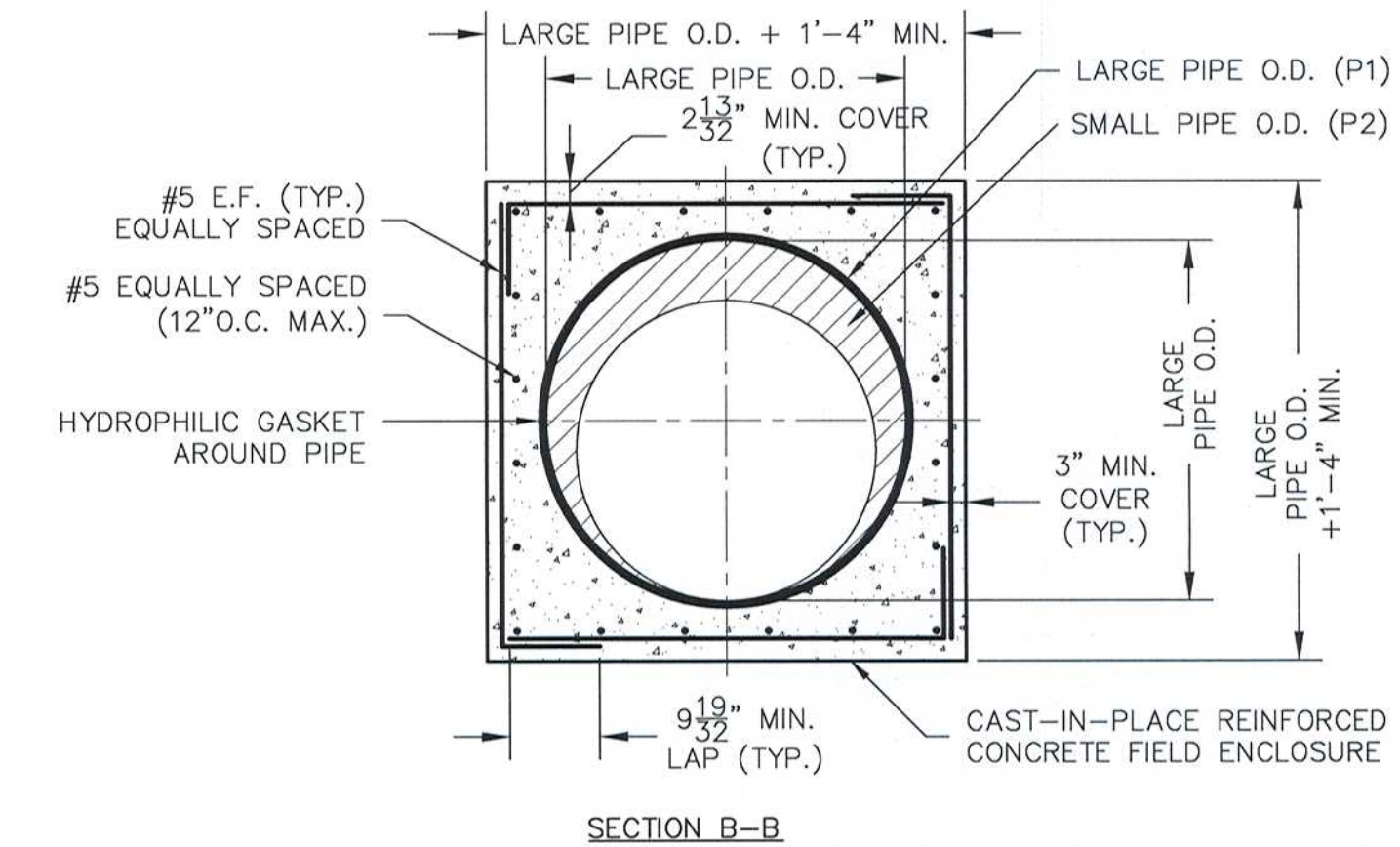
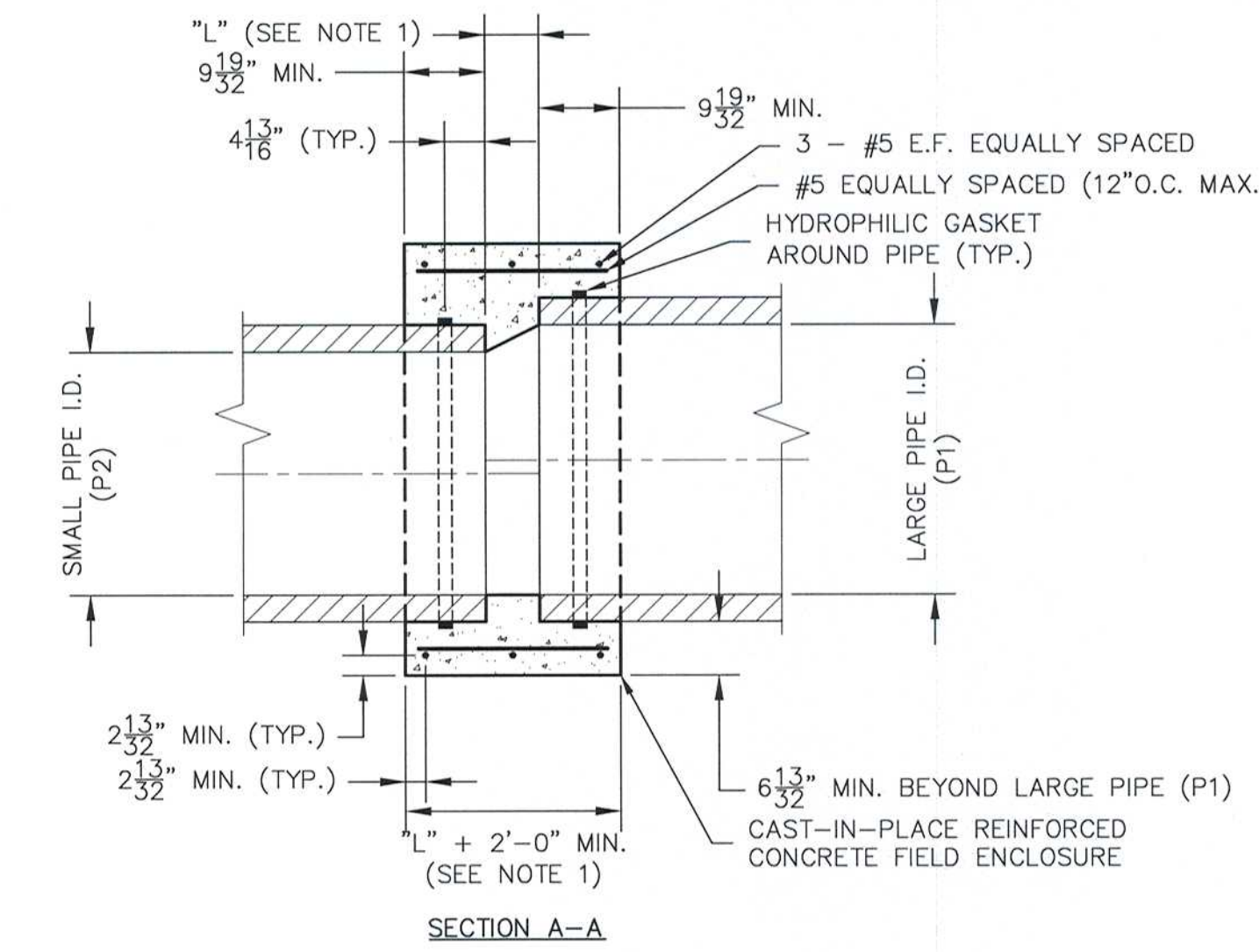
NOTES:
 1. PROVIDE HYDRANT AND VALVE JOINTS WITH APPROVED MECHANICAL JOINTS.
 2. SUPPORT BLOCKS TO BE PRESSURE TREATED WOOD OR CONCRETE MASONRY BLOCK.
 3. ALL VALVES OPEN LEFT.



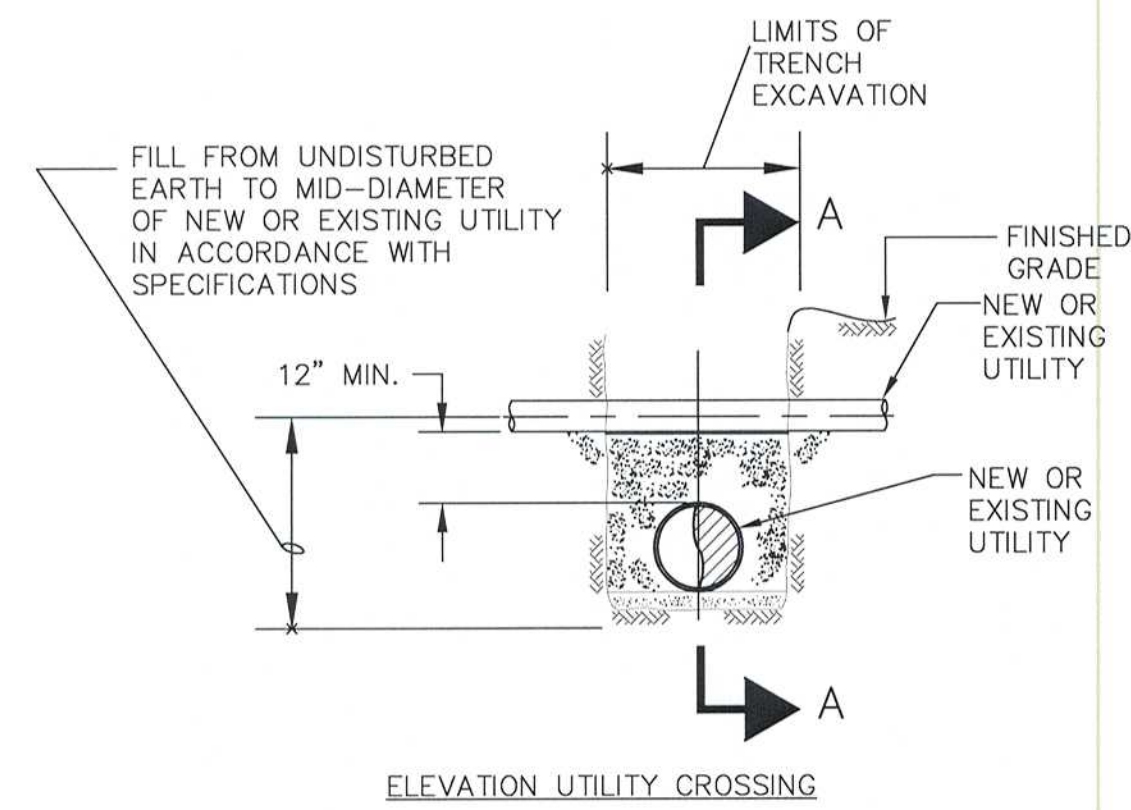
NOTES:
 1. FOR GRAVITY PIPES SIZES 4", 6", 8", 10" AND 12".
 2. SEE SPECIFICATIONS FOR MATERIALS AND REQUIREMENTS.
 3. FOR NON-PRESSURE PIPES OF DIFFERENT MATERIALS OR SIZES



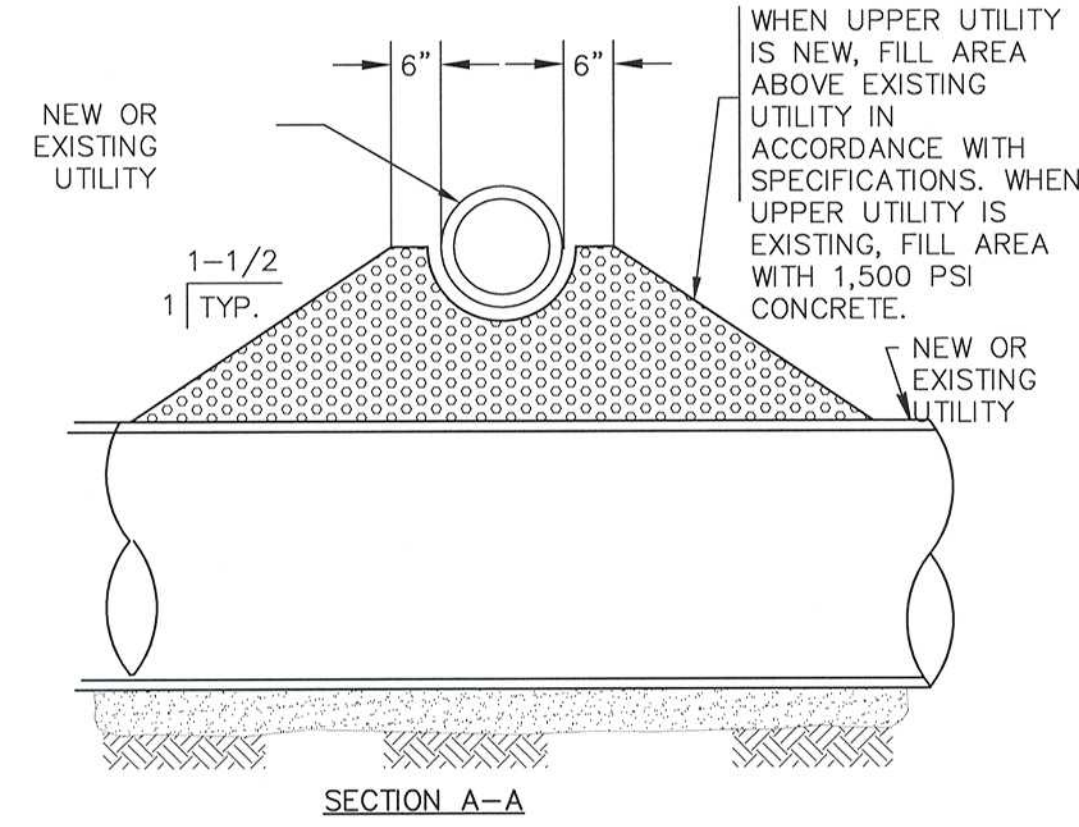
NOTES:
 1. SPACING BETWEEN PIPES (L) DEPENDS ON PIPE SIZES, FOR PIPES OF THE SAME SIZE USE 4". THE DISTANCE "L" EQUALS THE LARGE PIPE I.D. MINUS THE SMALL PIPE I.D. TIMES TWO [L=(P1-P2)x2] BUT NO LESS THAN 4".
 2. PROPOSED PIPE INVERT SHALL MATCH EXISTING PIPE INVERT UNLESS OTHERWISE NOTED.
 3. SAND BLAST EXISTING PIPE PERIMETER AND APPLY BONDING AGENT PRIOR TO CONCRETE ENCASEMENT.
 4. CONCRETE AND REBAR REQUIREMENTS SHALL CONFORM TO CAST-IN-PLACE CONCRETE.
 5. LOCATION OF FIELD ENCLOSURE SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.
 6. FOR NON-PRESSURE PIPES OF SAME OR DIFFERENT MATERIALS OR SIZES.
 7. THE CONTRACTOR SHALL LOCATE CAST-IN-PLACE FIELD ENCLOSURES ON AS-BUILT DRAWINGS WITH 3 TIES OR WITH GPS.



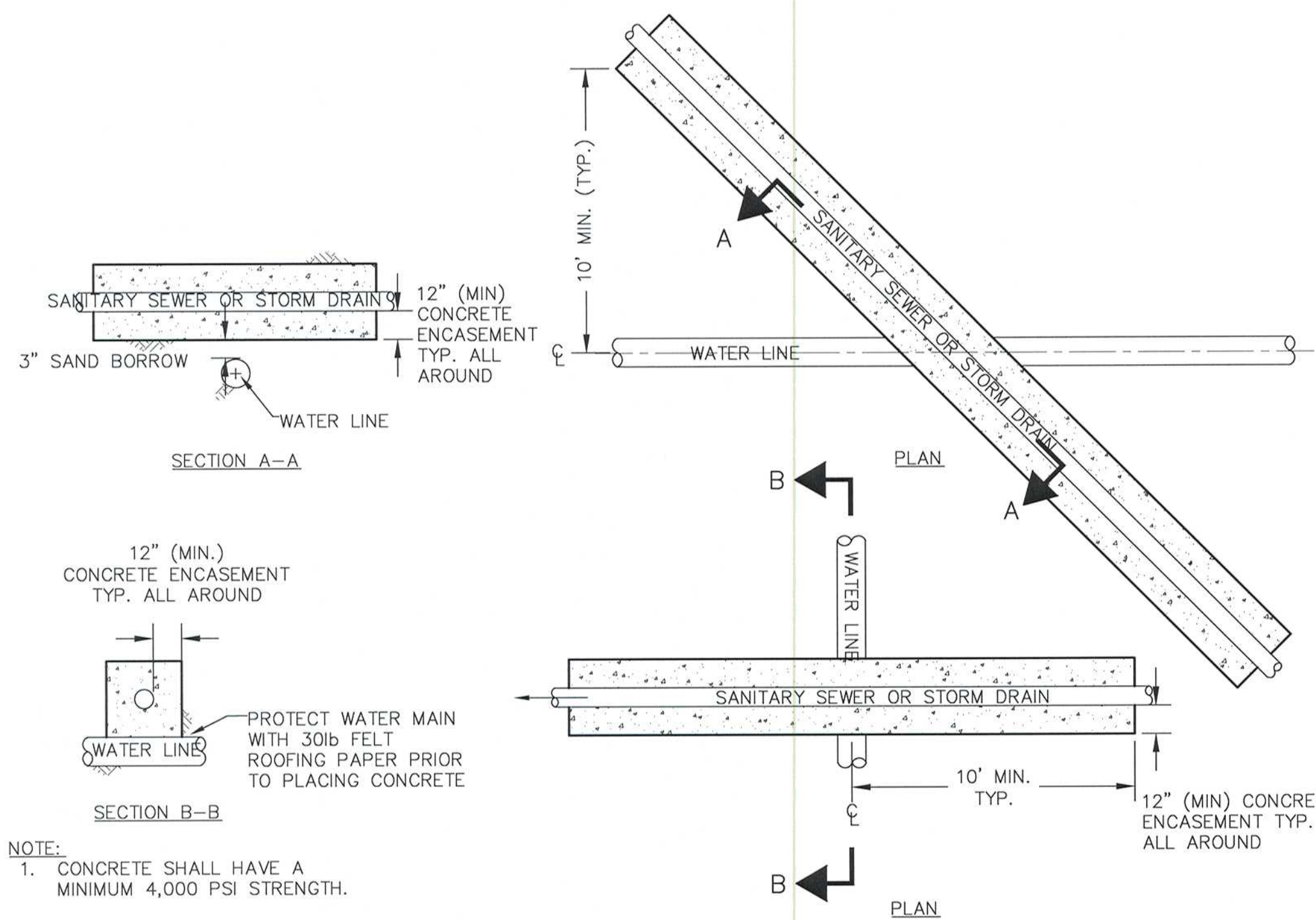
CAST-IN-PLACE CONCRETE FIELD ENCLOSURE



ELEVATION UTILITY CROSSING

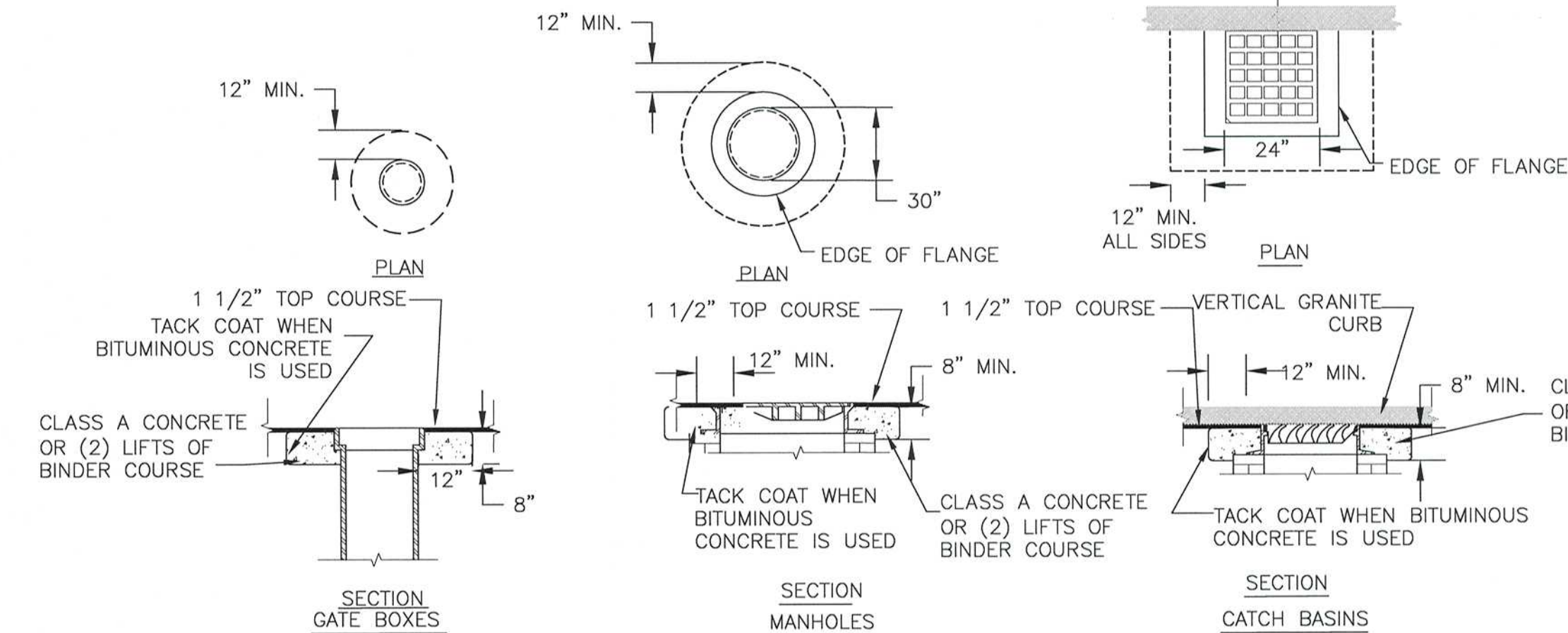


TYPICAL UTILITY CROSSING DETAIL



CONCRETE ENCASEMENT DETAIL

NOTE:
 1. CONCRETE SHALL HAVE A MINIMUM 4,000 PSI STRENGTH.

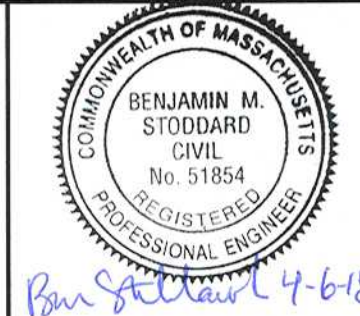


RAISING CASTINGS DETAIL

RECORD DRAWING
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RECORD SET

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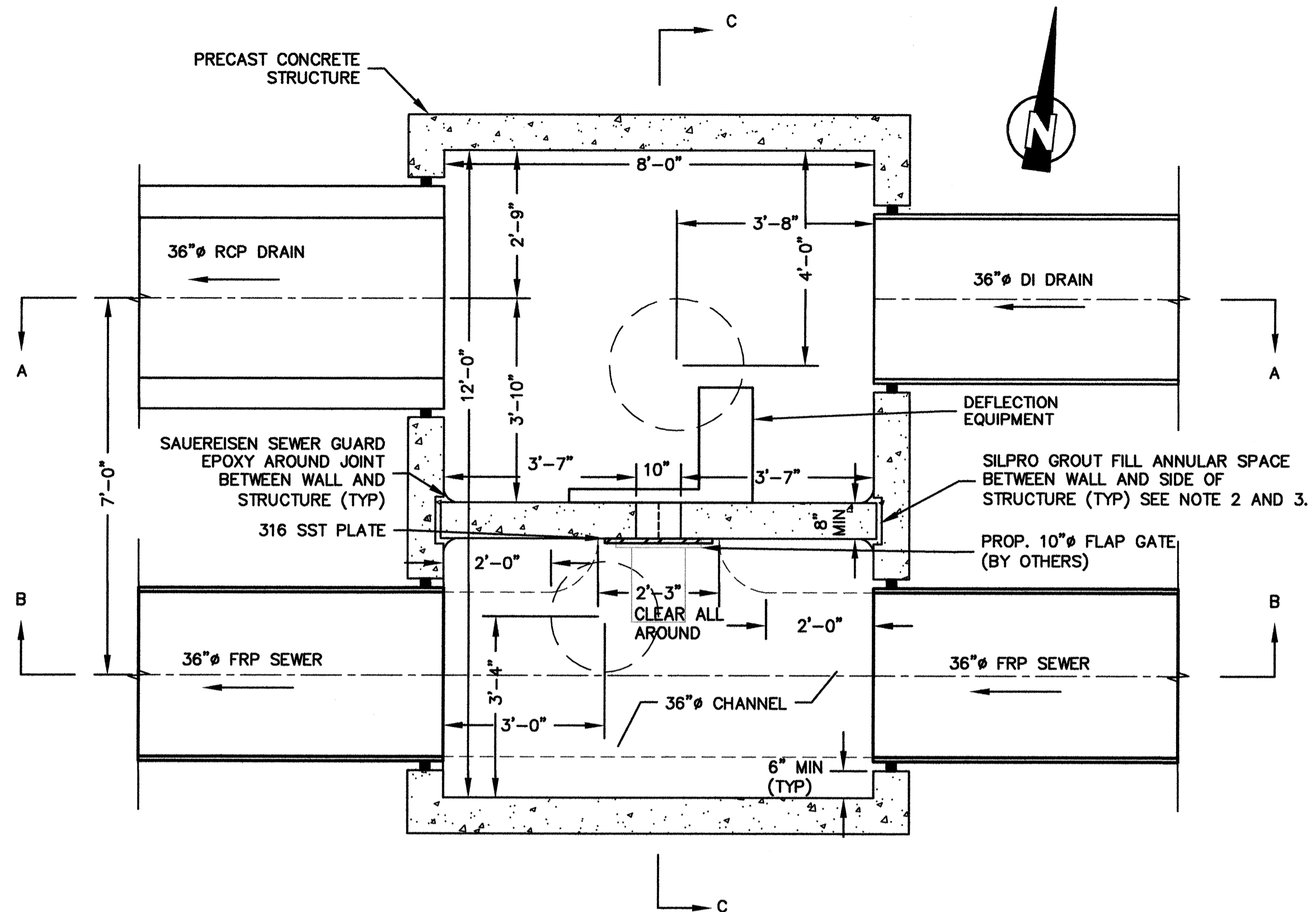


Scale	AS NOTED		
Date	APRIL 2017		
Job No.	2009143.01-A		
Designed by	KJL		
Drawn by	KJL		
Checked by	KEG	No.	Description
Approved by	JJS		REVISIONS

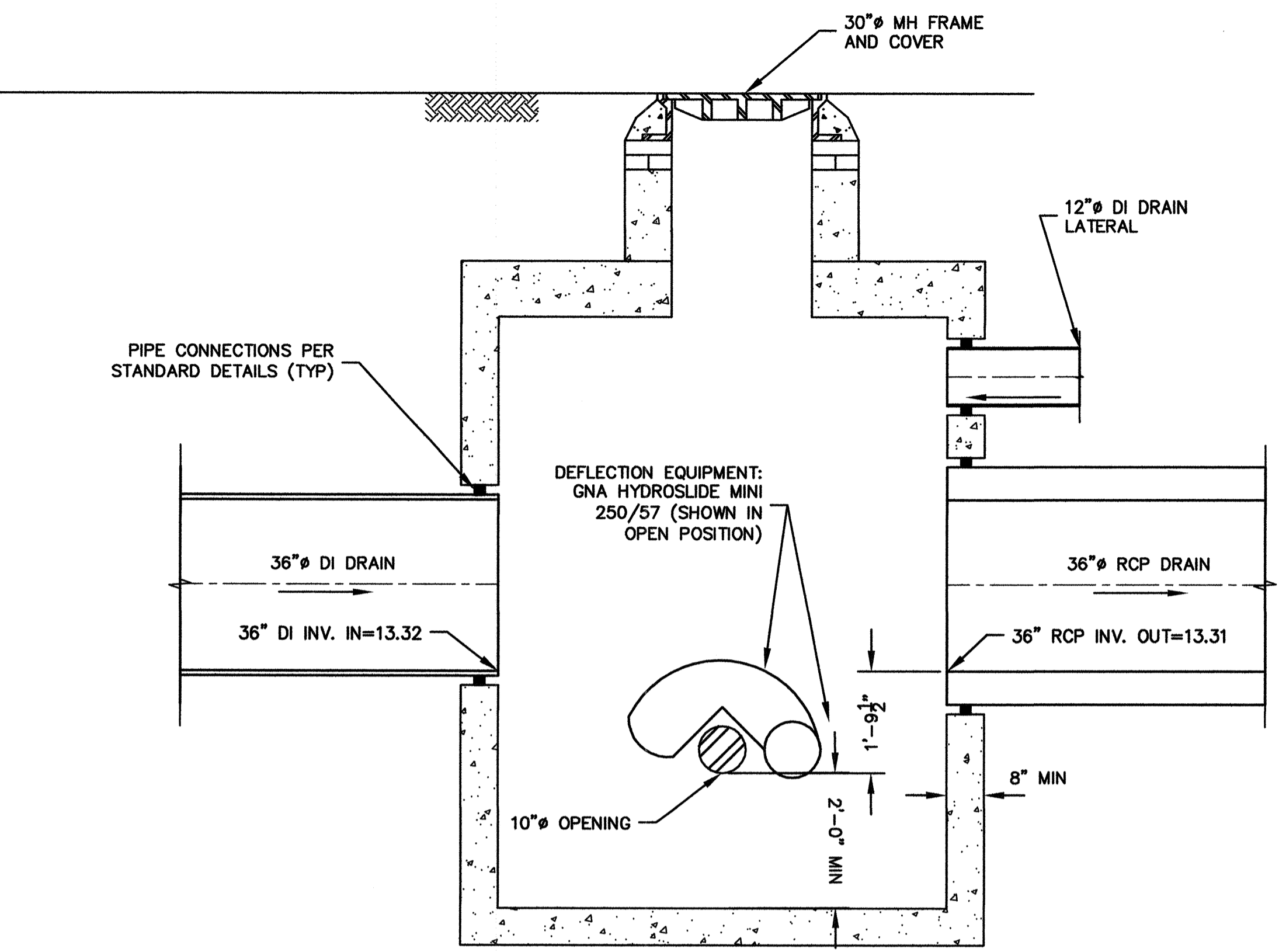


Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL GENERAL - MISCELLANEOUS DETAILS

Sheet	CG-5
File No.	



PLAN AT MIDDLE OF STRUCTURE
SCALE: 1/2" = 1'-0"

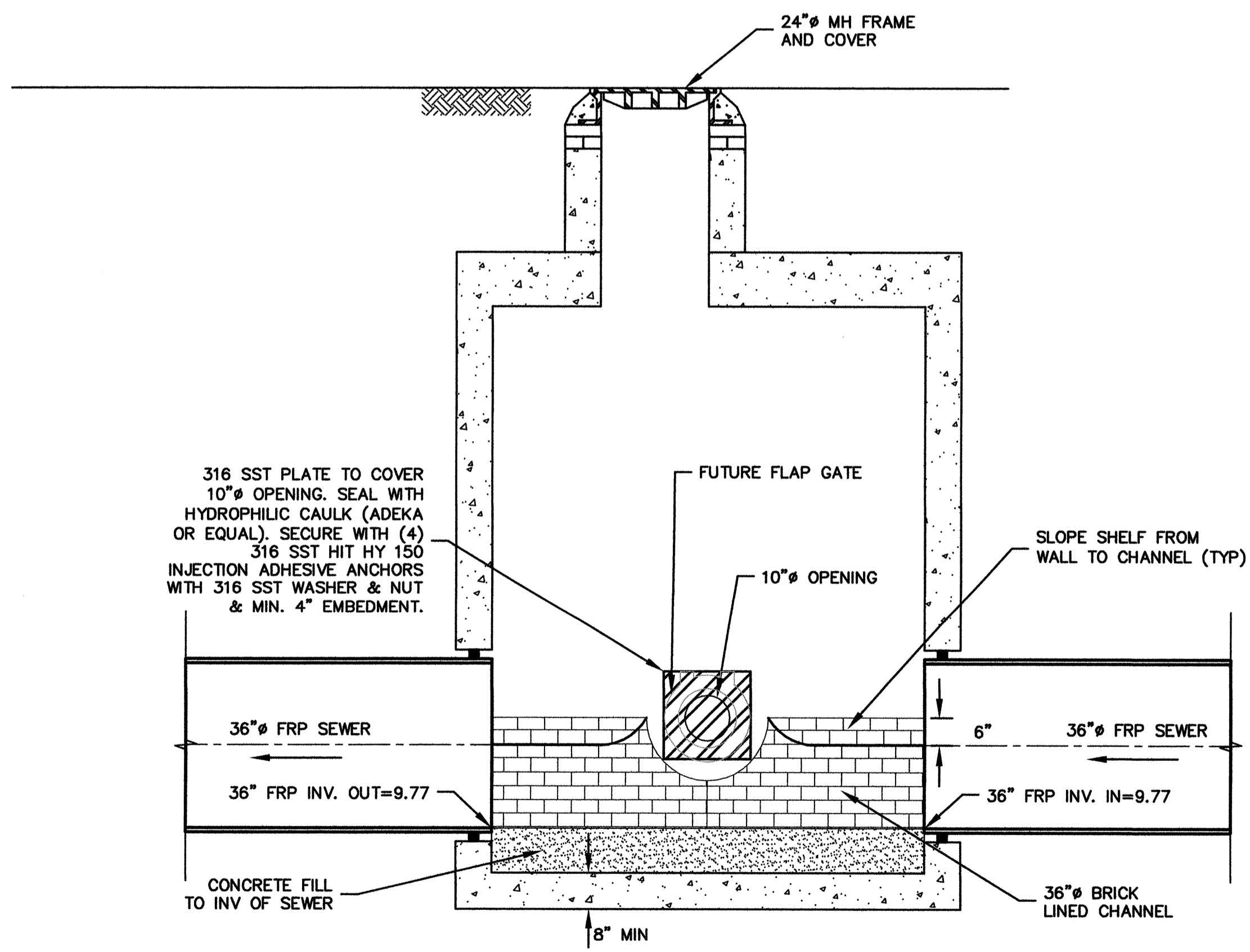


SECTION A-A
SCALE: 1/2" = 1'-0"

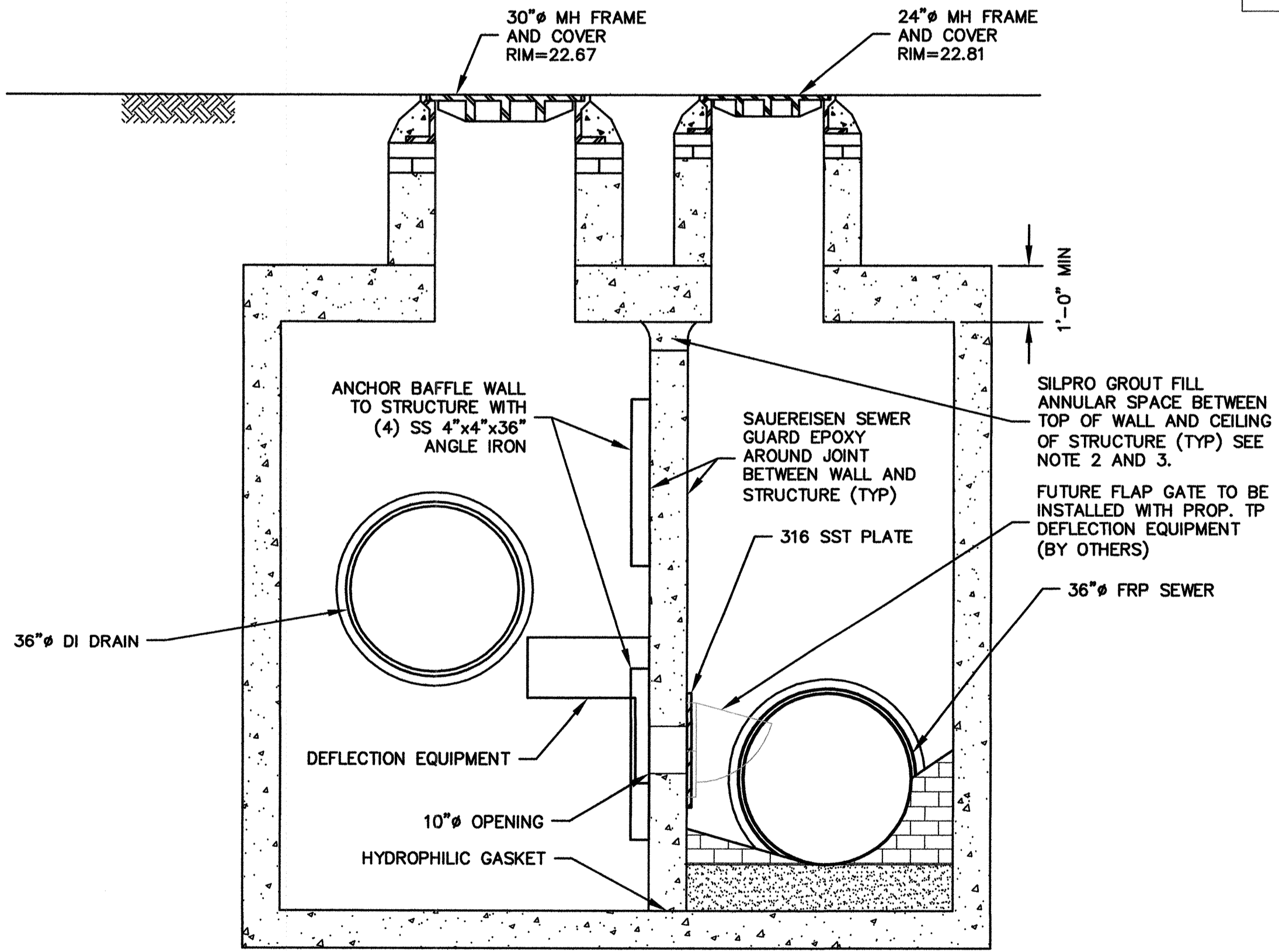
- NOTES:**
1. REFER TO SHEET C-4 FOR INVERT ELEVATIONS SHOWN ON THIS SHEET.
 2. FILLED ALL BUG HOLES AND VOIDS WITH SAUERISEN NO. 208 RESTOKRETE.
 3. APPLIED A MINIMUM OF 125 MILS OF SAUERISEN SEWERGARD EPOXY TO ALL GROUT SURFACES. EXTENDED PRODUCT 6" EITHER SIDE OF JOINT.

RECORD DRAWING

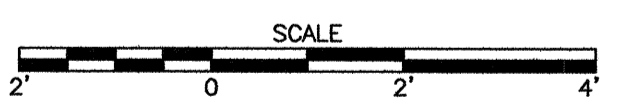
THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.



SECTION B-B
SCALE: 1/2" = 1'-0"

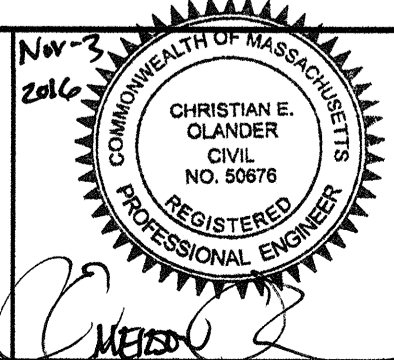


SECTION C-C
SCALE: 1/2" = 1'-0"



RECORD SET

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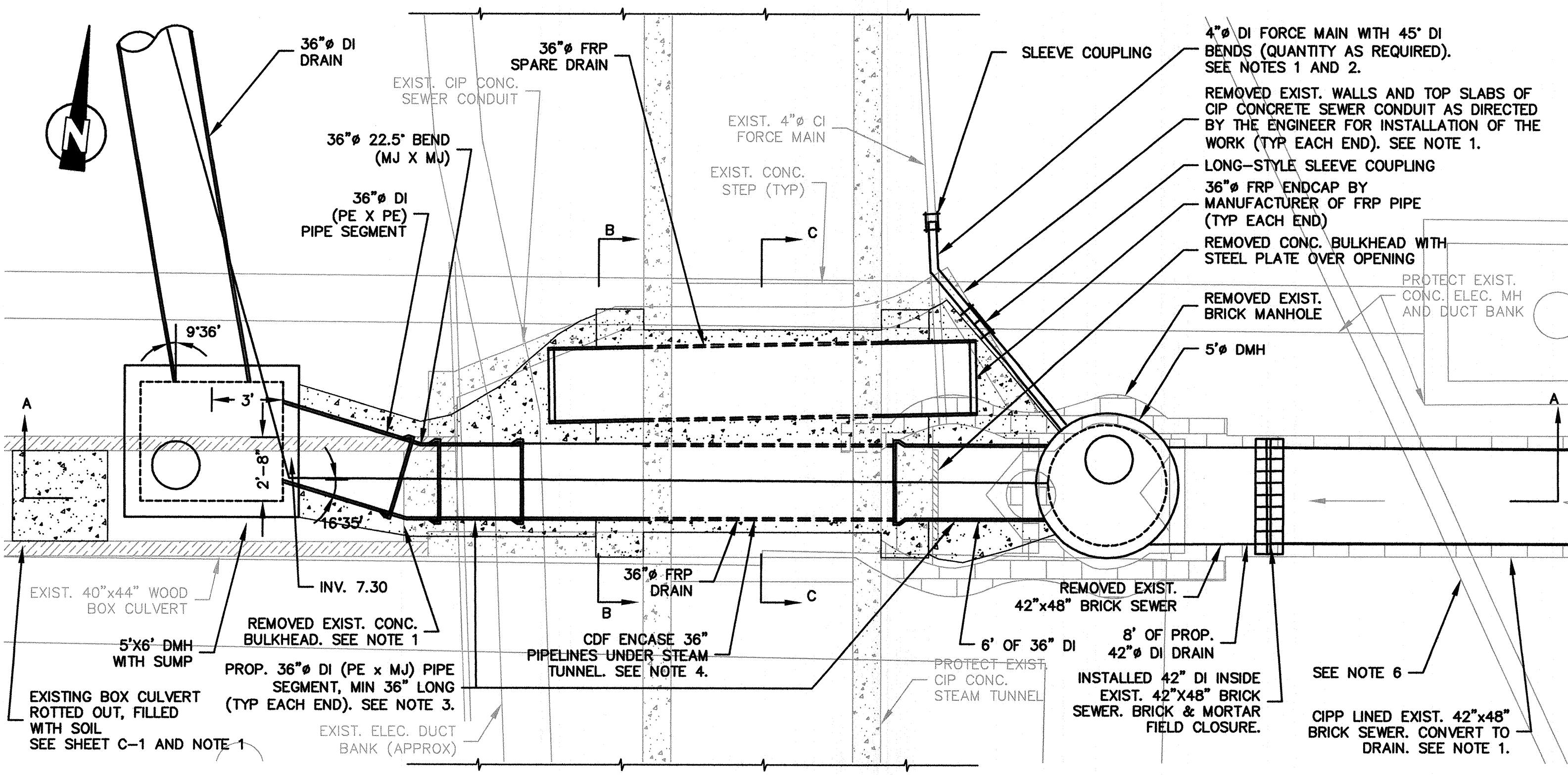
Scale	AS NOTED
Date	NOVEMBER 2016
Job No.	2009143.01-A
Designed by	KWG
Drawn by	MTS
Checked by	EO
Approved by	EO



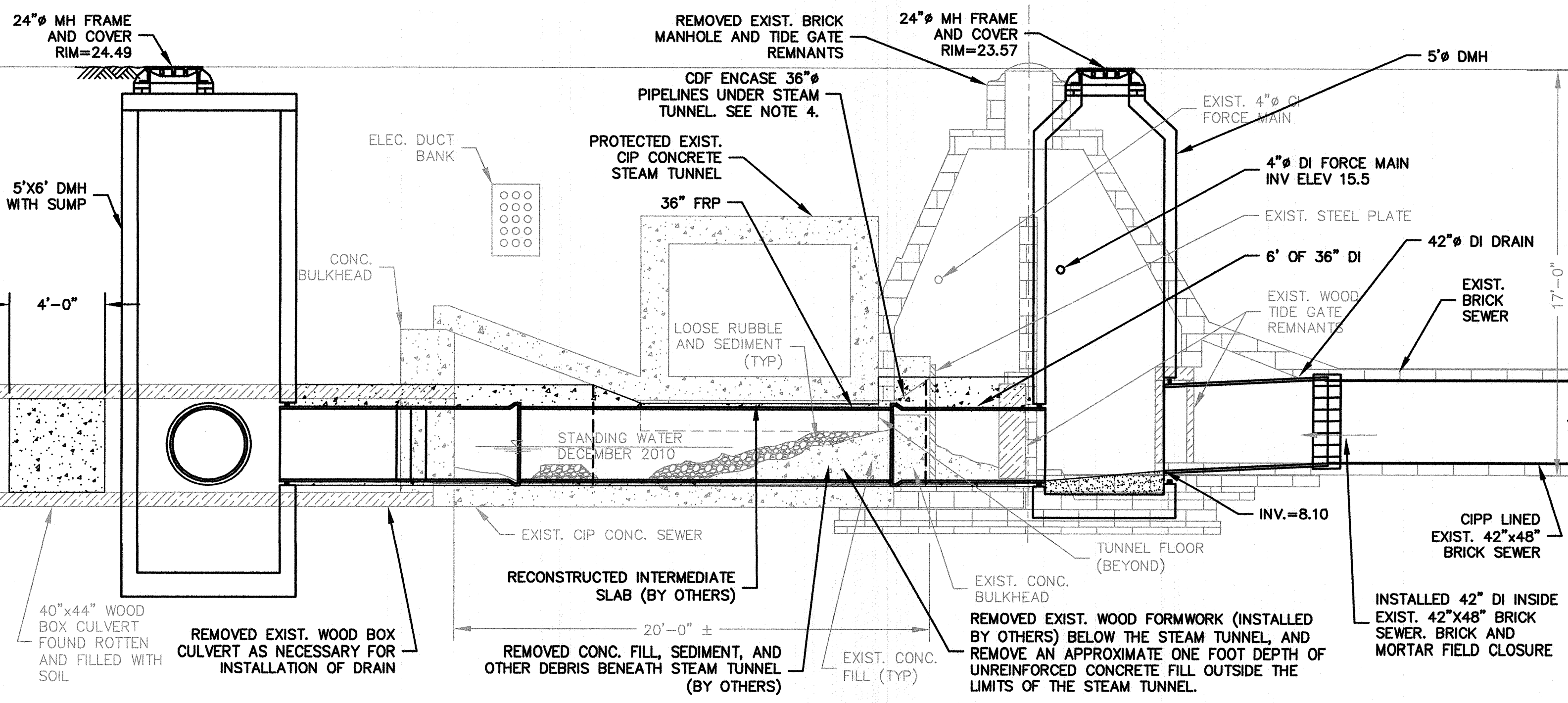
Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL GENERAL TOTAL PHOSPHOROUS DEFLECTION STRUCTURE

Sheet	CG-6
File No.	

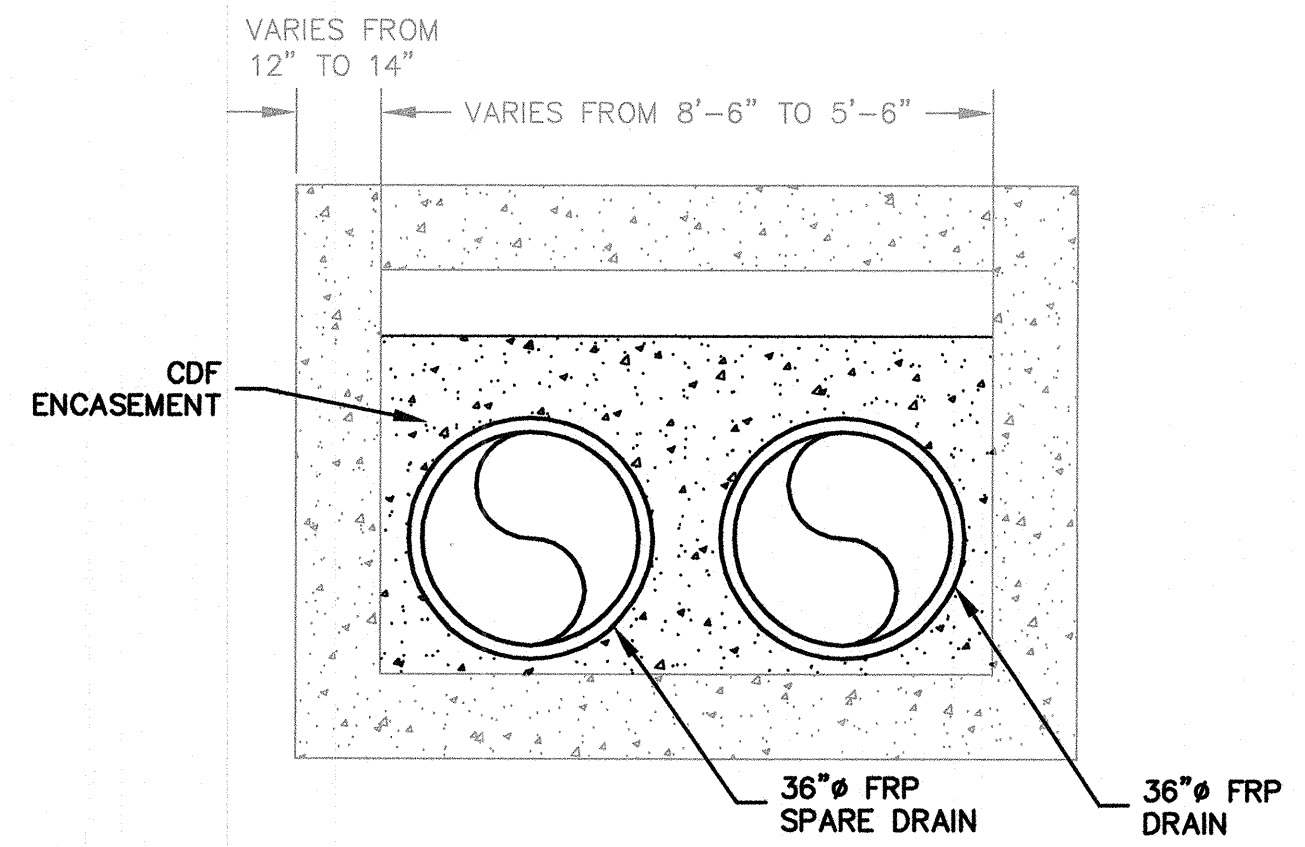
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 PLOT DATE: 11/20/16 2:17:22 PM



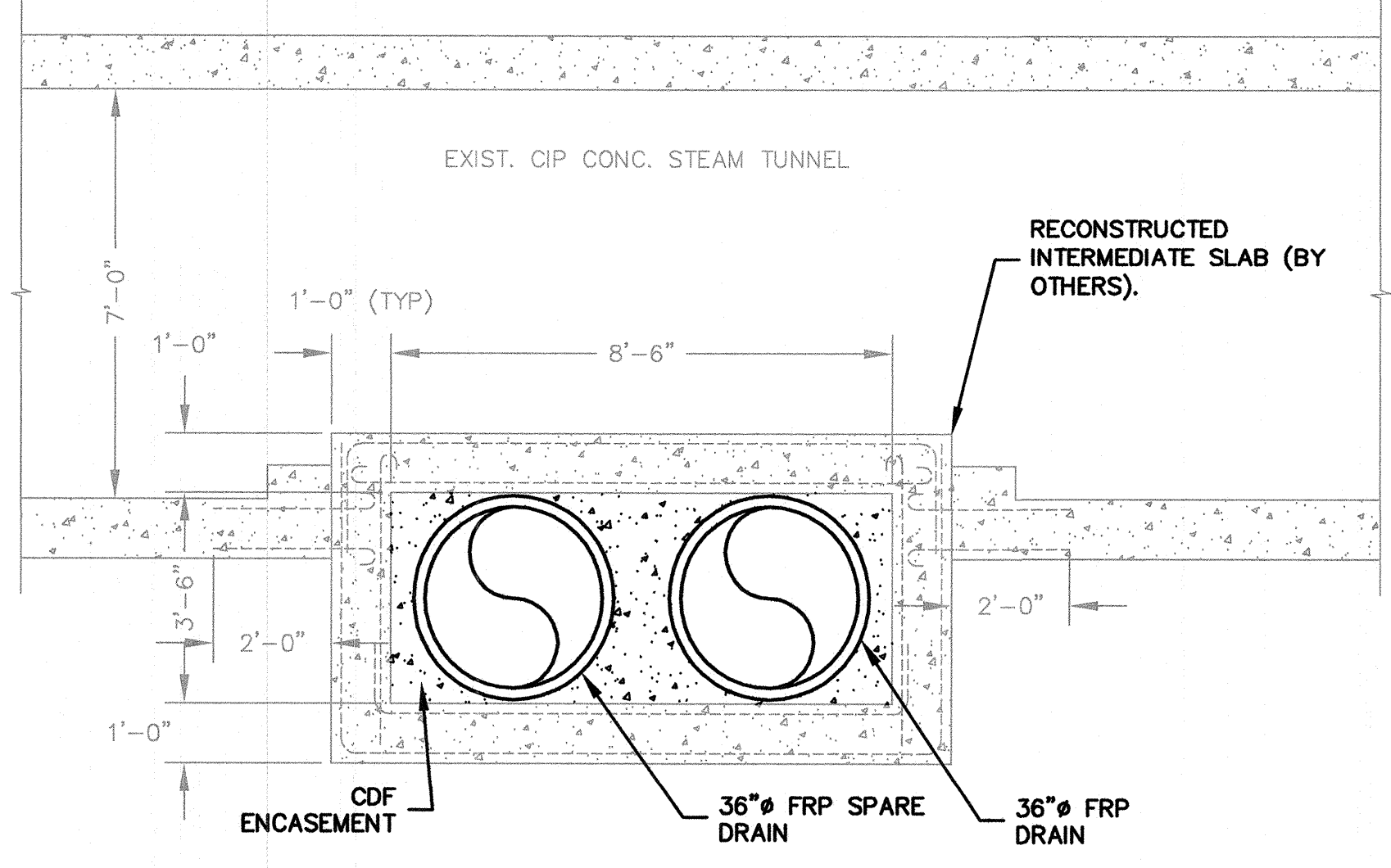
PLAN
SCALE: 1/4" = 1'-0"



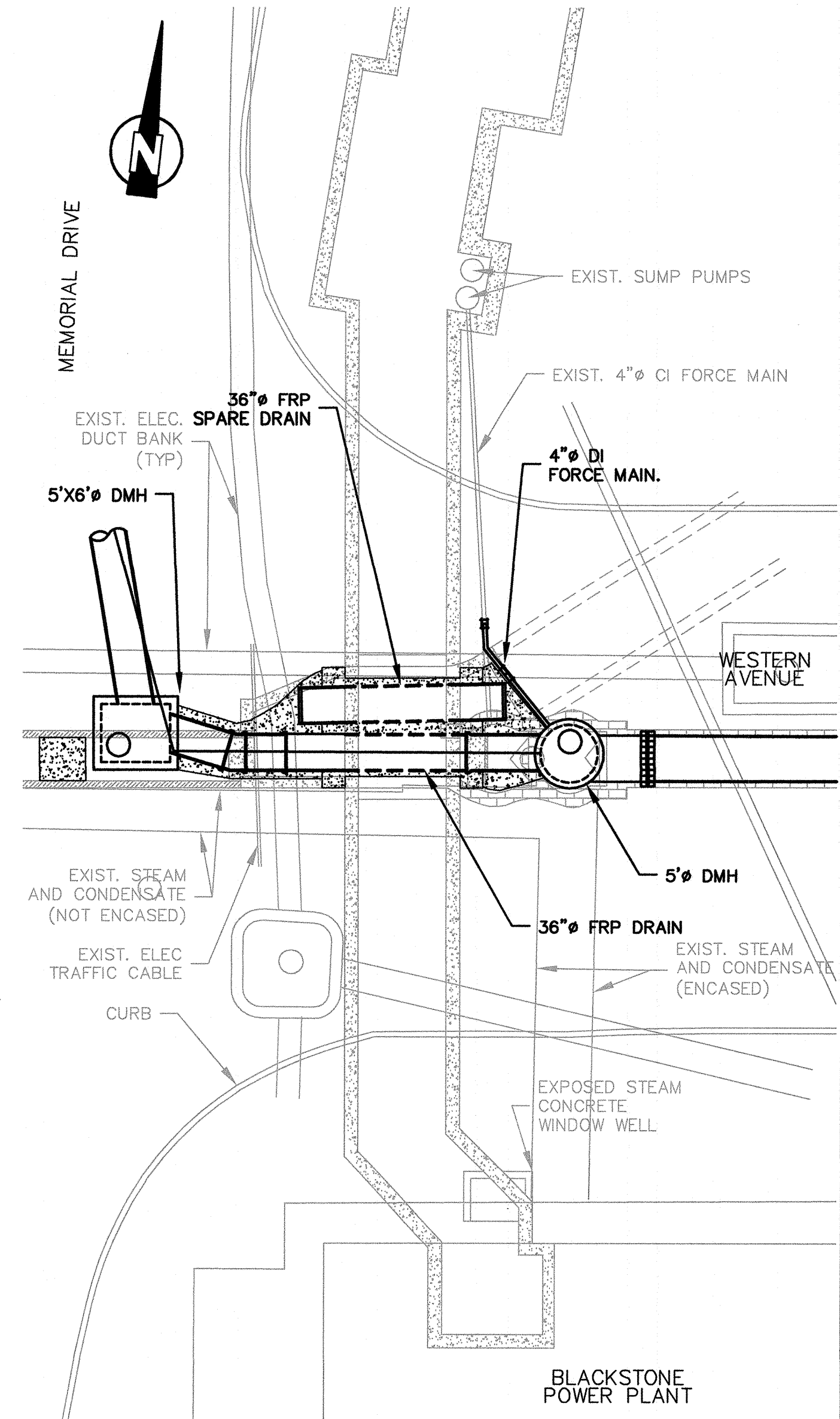
SECTION A-A
SCALE: 1/4" = 1'-0"



SECTION B-B
SCALE: 3/8" = 1'-0"



SECTION C-C
SCALE: 3/8" = 1'-0"



SITE PLAN
SCALE: 1" = 10'

SEQUENCE OF CONSTRUCTION:

1. PROVIDE TEMP. BYPASS OF 4" FORCE MAIN (STEAM TUNNEL SUMP PUMPS) TO COMBINED SEWER AND VERIFY THAT EXIST. 42"x48" BRICK SEWER AND SERVICE LATERALS UPSTREAM OF SEWER CONDUIT ARE INACTIVE. SEE NOTE 2 SHEET C-1.
2. INSTALL DEWATERING SYSTEM. INSTALL PROP. BULKHEAD IN WOODEN BOX CULVERT DOWNSTREAM OF SEWER CONDUIT.
3. EXCAVATE AND PERFORM SELECTIVE DEMOLITION OF EXIST. STRUCTURES AS INDICATED. VERIFY INTEGRITY OF NEW BULKHEAD IN WOODEN BOX CULVERT AND DEWATERING SYSTEM PRIOR TO REMOVAL OF EXIST. DOWNSTREAM BULKHEAD WITHIN SEWER CONDUIT.
4. INSTALL (2) 36" FRP DRAINS AND CDF ENCASEMENT. INSTALL (2) 8' DMH AND (2) 36" DI SEGMENTS. INSTALL 4" DI FORCE MAIN.
5. BACKFILL EXCAVATIONS AND RESTORE WITH ASPHALT PATCH.

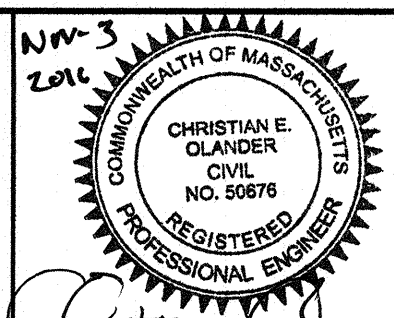
NOTES:

1. COORD. DEMOLITION AT THE STEAM TUNNEL WITH HARVARD UNIVERSITY FOR INSPECTION BY STRUCTURAL ENGR.
2. INSTALL 4" DI FORCE MAIN IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS FOR DI WATER MAIN.
3. CONNECT 36" DI SEGMENTS TO 36" FRP DRAIN WITH MECHANICAL JOINT TO ALLOW MIN 5 DEGREE DEFLECTION UNDER DIFFERENTIAL SETTLEMENT OF STRUCTURES.
4. INJECT CDF SLURRY TO FILL ALL VOIDS BELOW 36" FRP DRAINS AND DISPLACE ALL AIR AT CEILING OF SEWER CONDUIT.
5. REFER TO SHEET C-1 FOR ALL INVERT ELEVATIONS SHOWN ON THIS SHEET.
6. RELOCATE EXIST. WATER MAIN PRIOR TO INSTALLATION OF DMH. SEE SHEET C-10

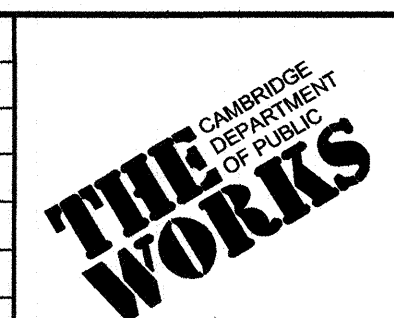
RECORD DRAWING

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.

RECORD SET

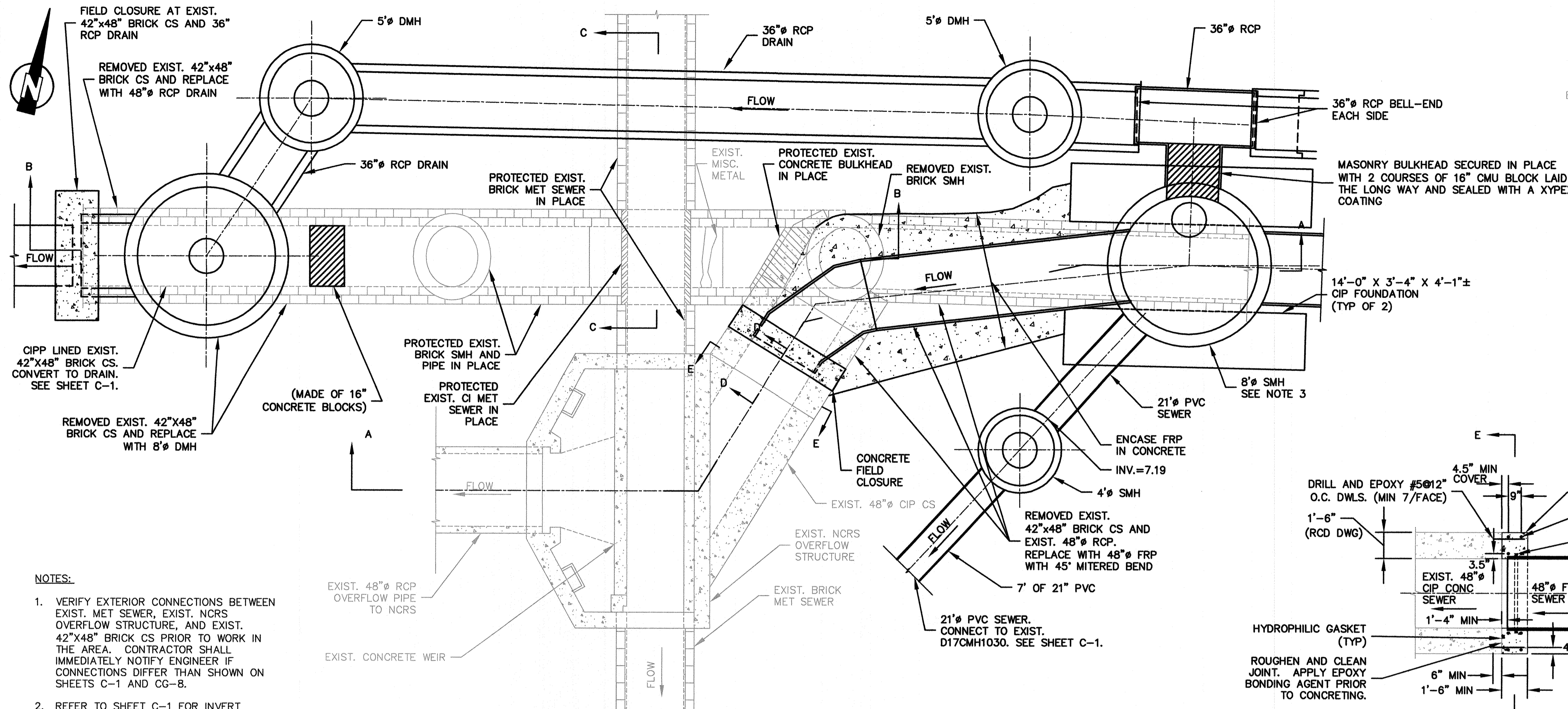


Scale	AS NOTED
Date	NOVEMBER 2016
Job No.	2009143.01-A
Designed by	KWG
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Approved by	EO



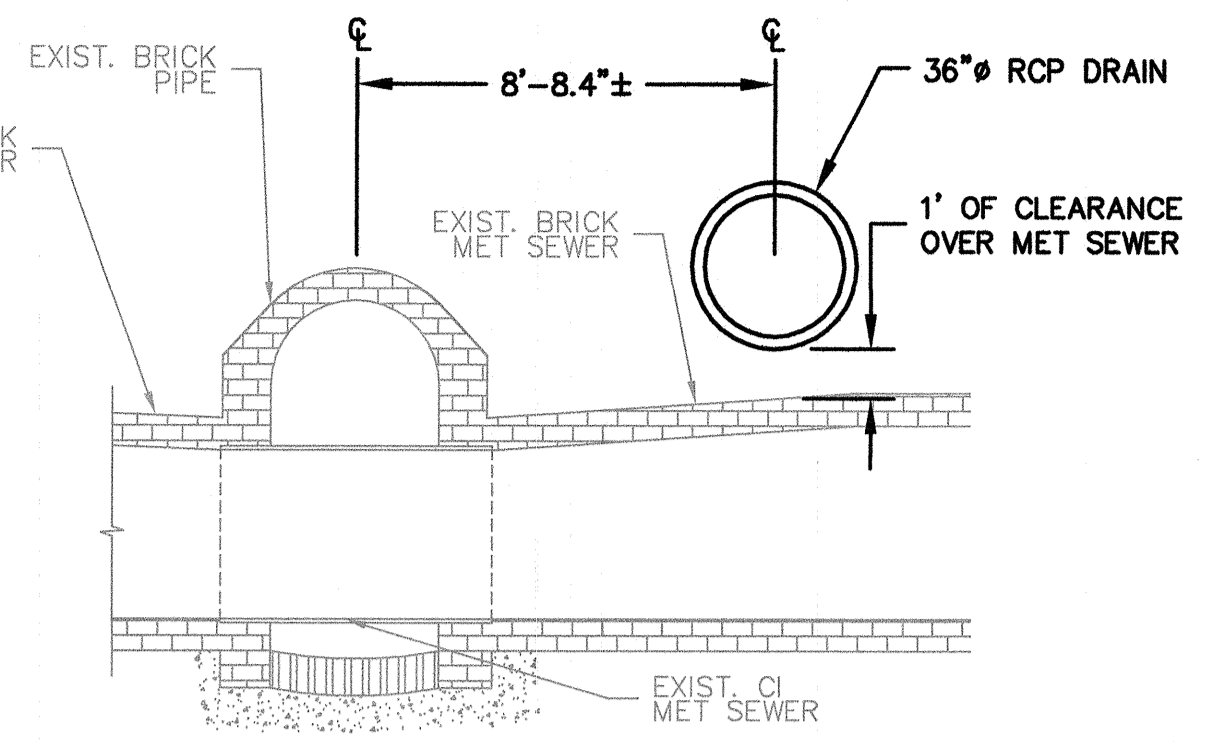
Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL GENERAL - HARVARD STEAM TUNNEL CROSSING PLAN AND SECTIONS

Sheet	CG-7
File No.	



PLAN
SCALE: 1/4" = 1'-0"

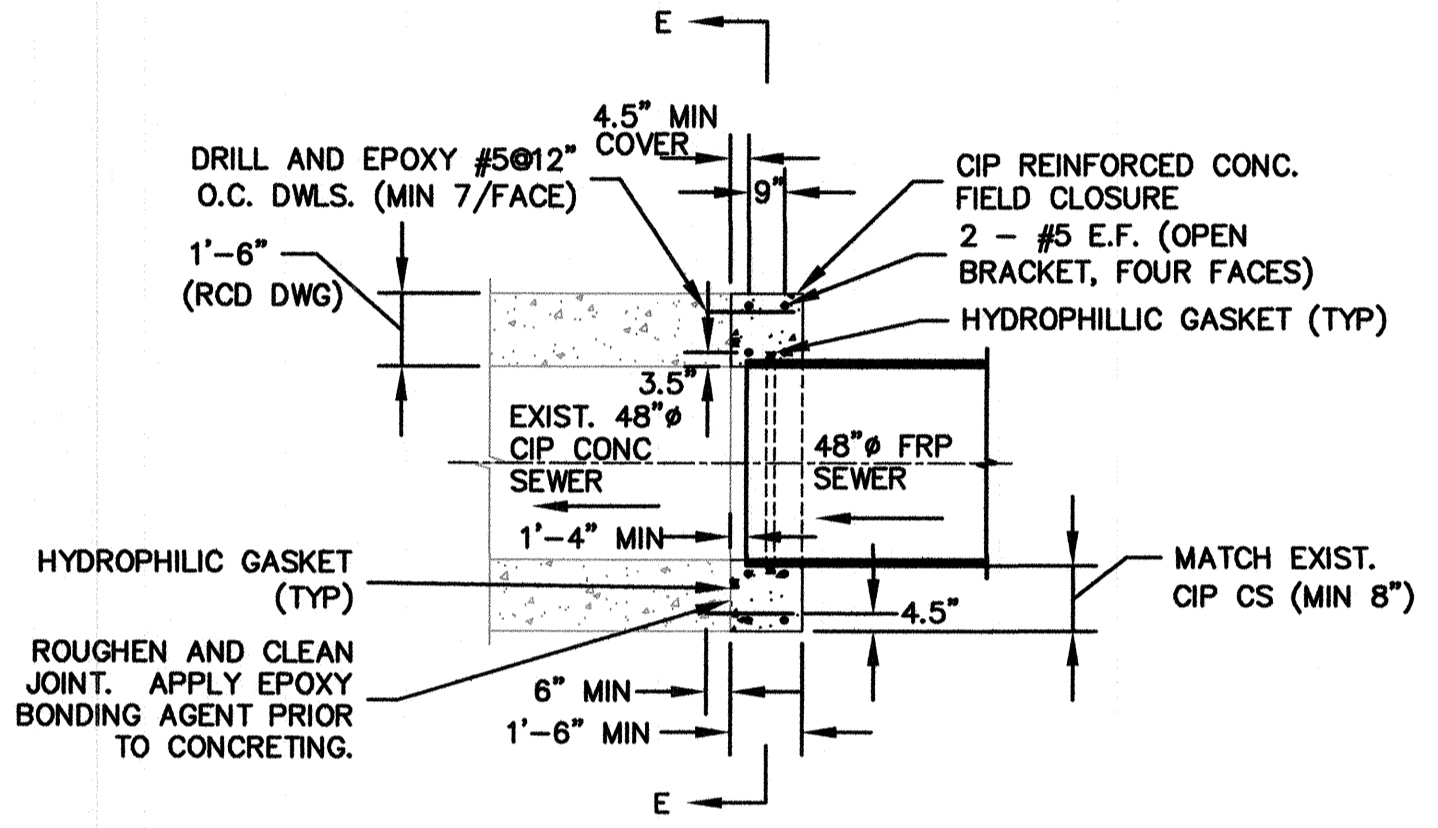
- NOTES:**
- VERIFY EXTERIOR CONNECTIONS BETWEEN EXIST. MET SEWER, EXIST. NCRS OVERFLOW STRUCTURE, AND EXIST. 42"x48" BRICK CS PRIOR TO WORK IN THE AREA. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER IF CONNECTIONS DIFFER THAN SHOWN ON SHEETS C-1 AND CG-8.
 - REFER TO SHEET C-1 FOR INVERT ELEVATIONS SHOWN ON THIS SHEET.
 - REFER TO SHEET CG-15 FOR DOGHOUSE MANHOLE DETAILS.



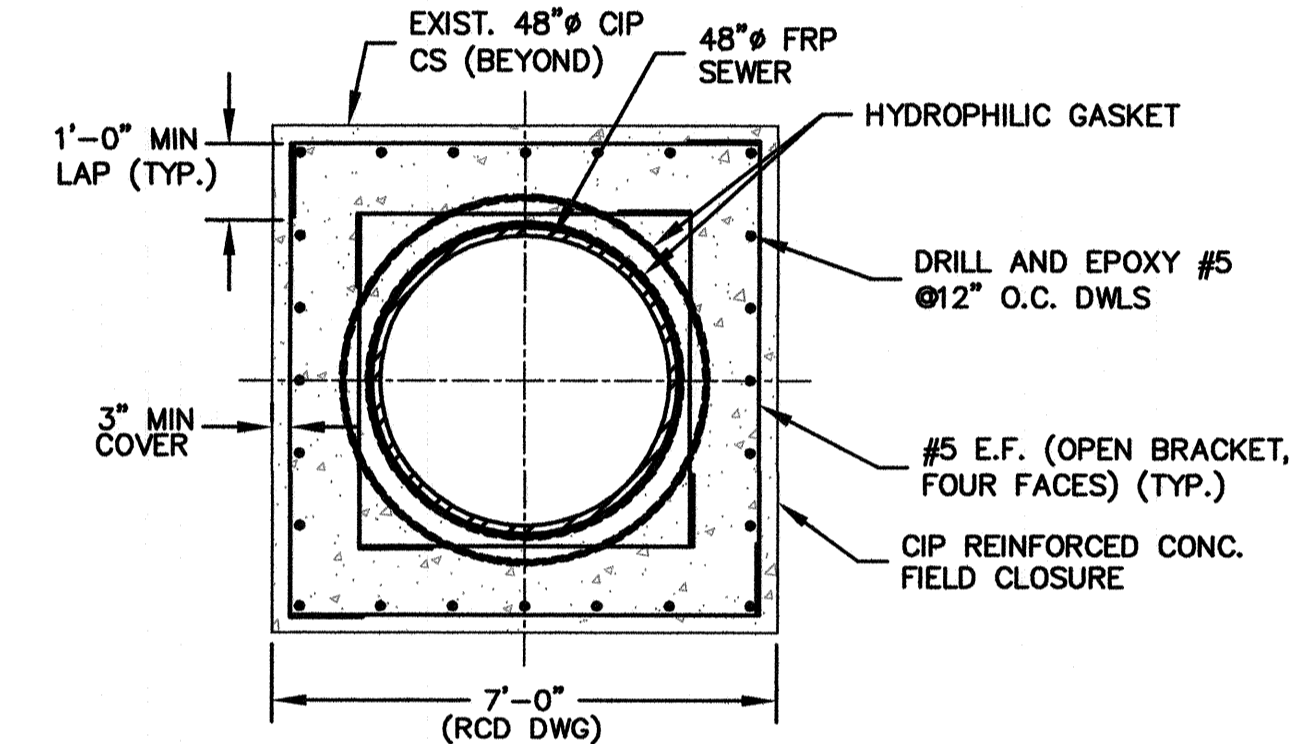
SECTION C-C
SCALE: NTS

RECORD DRAWING

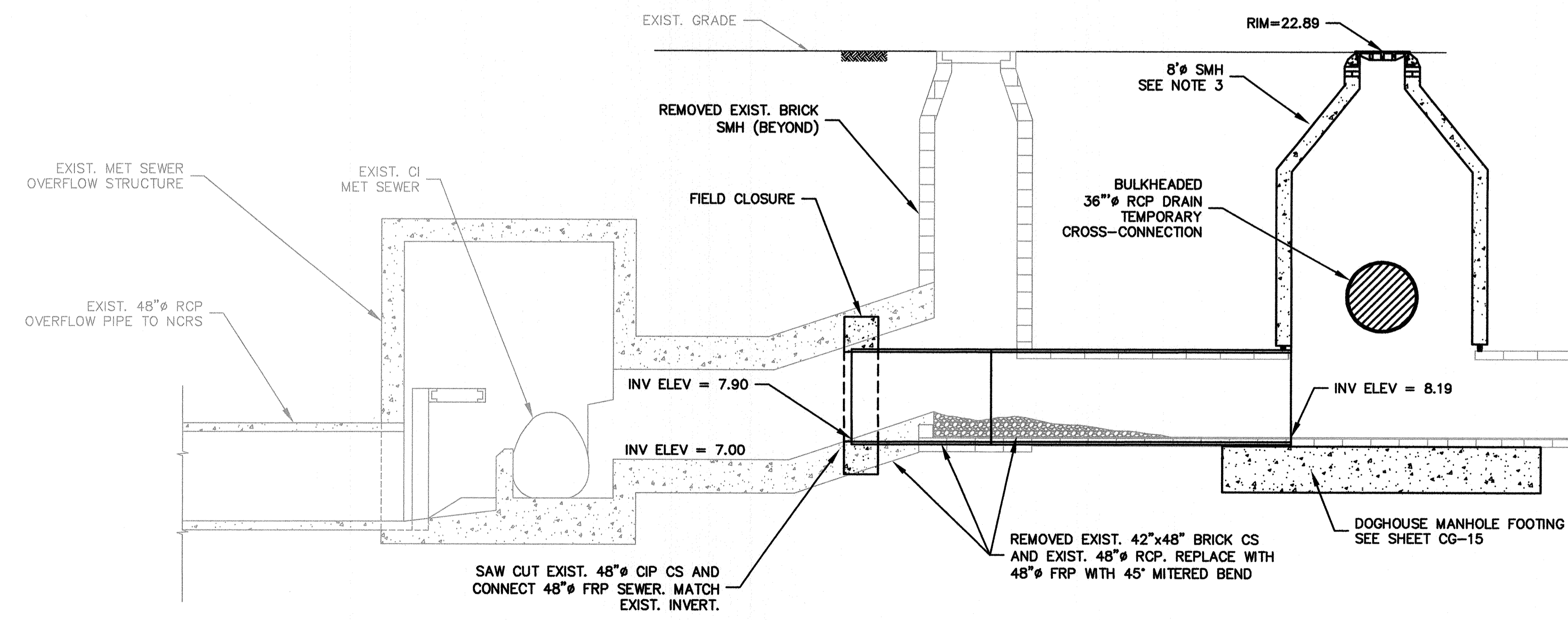
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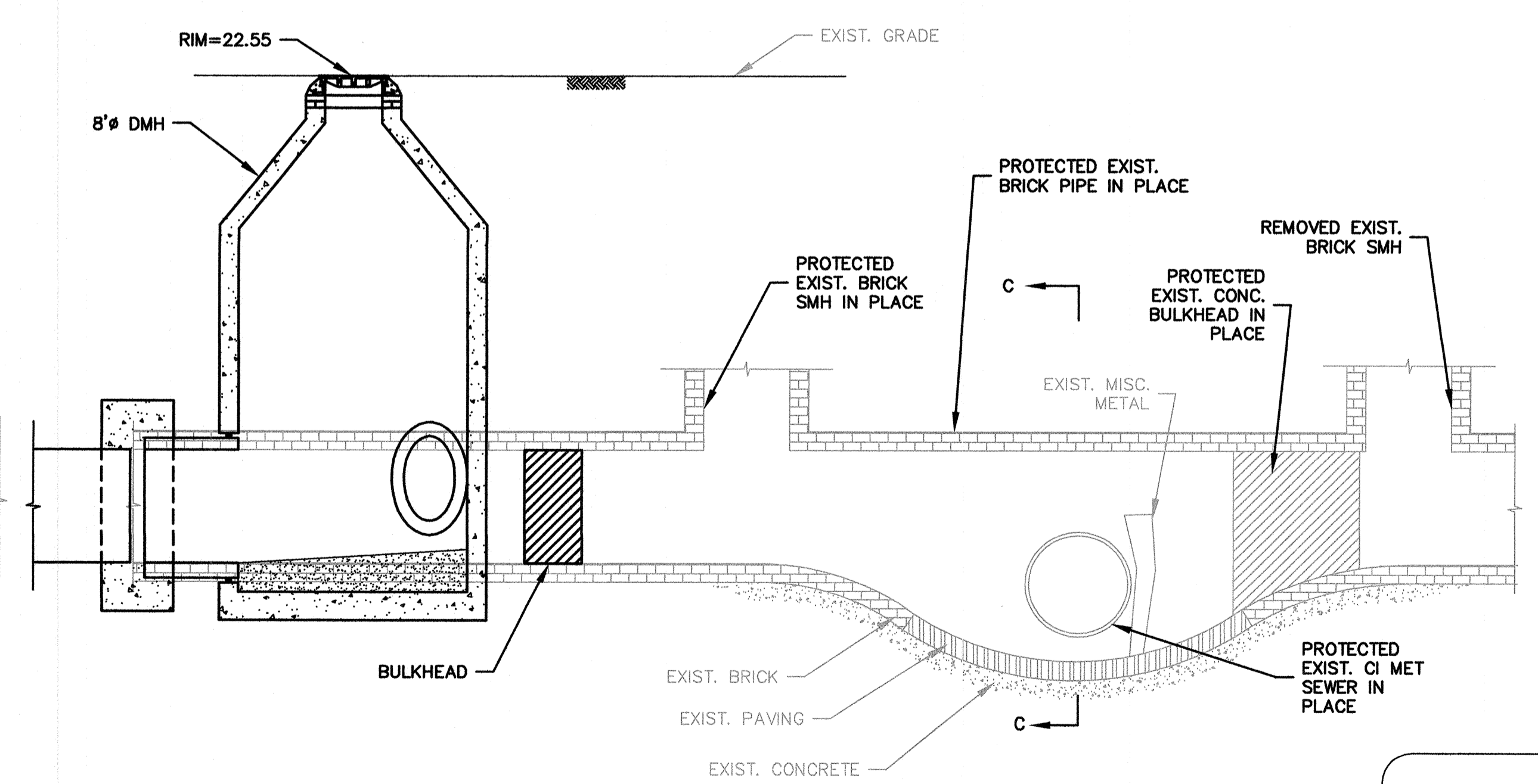
SECTION D-D
SCALE: NTS



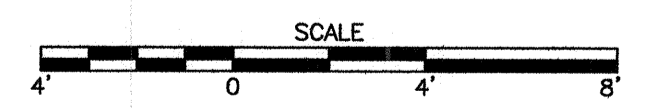
SECTION E-E
SCALE: NTS



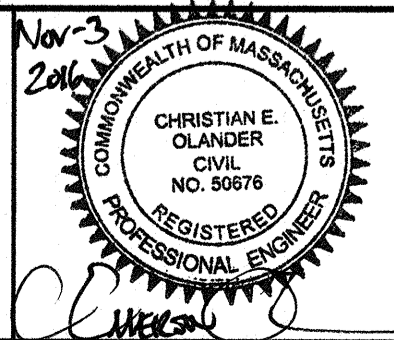
SECTION A-A
SCALE: 1/4" = 1'-0"



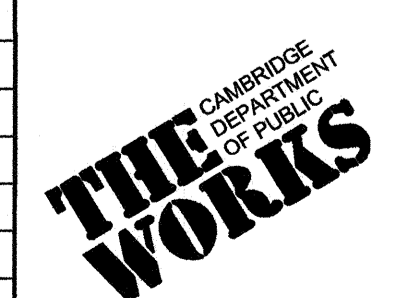
SECTION B-B
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RECORD SET



Scale	AS NOTED
Date	NOVEMBER 2016
Job No.	2009143.01-A
Designed by	KWG
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Checked by	EO
Approved by	EO



Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL GENERAL - COMBINED SEWER CONNECTION TO MWRA MET SEWER DETAILS

Sheet	CG-8
File No.	

PLOT DATE: 11/20/16 2:20:38 PM USER: MICHAEL SULLIVAN FILENAME: \\US051502\Cad\Proj\Cam\Western_Ave\CONSTRUCTION\FINAL RECORD DRAWINGS OCTOBER 2016\WESTERN CG-8.dwg

SEQUENCE OF CONSTRUCTION

1. CHECK AND REPLACE AS NECESSARY WETLAND FLAGGING.
2. HAYBALES, SILTATION FENCE, AND CHAIN LINK FENCING SHALL BE PLACED AND STAKED. THE ENTIRE LIMITS OF CONSTRUCTION SHALL BE ISOLATED AND A LOCKED GATE INSTALLED. ADDITIONAL HAYBALES AND SILTATION FENCE SHALL BE STOCKPILED ONSITE AND BE AVAILABLE AT ALL TIMES. A SILT CURTAIN AND FLOATING BOOM SHALL BE POSITIONED AROUND THE SITE IN THE RIVER. CONTRACTOR TO MAINTAIN SPILL KIT ON-SITE.
3. THE EXISTING BIKE PATH SHALL BE DETOURED BETWEEN THE JOHN WEEKS PEDESTRIAN BRIDGE AND THE WESTERN AVENUE BRIDGE. APPROPRIATE SIGNAGE AND JERSEY BARRIERS SHALL BE PROVIDED TO DETOUR PEDESTRIAN AND BICYCLE TRAFFIC.
4. TEMPORARY DOUBLE FLOATING CURTAINS SHALL BE ERECTED IN THE CHARLES RIVER.
5. A TEMPORARY STEEL SHEETING COFFERDAM SHALL BE INSTALLED. THE AREA WITHIN THE UPSTREAM PORTION OF THE COFFERDAM SHALL BE FILLED WITH CRUSHED STONE OF SUFFICIENT THICKNESS AS NEEDED TO CREATE A WORKING PAD FOR EQUIPMENT. A RAMP SHALL BE CONSTRUCTED OF CRUSHED STONE TO CREATE EQUIPMENT ACCESS TO THE INTERIOR OF THE COFFERDAM. TEMPORARY CUT AND FILL SHALL OCCUR WITHIN THE EMBANKMENT ADJACENT TO THE CHARLES RIVER AND RESTORED TO EXISTING GRADES UPON COMPLETION OF THE OUTFALL WORK.
6. INSTALL DEWATERING SYSTEM AND EXCAVATE WITHIN COFFERDAM TO REQUIRED SUBGRADES. DEWATERING PUMPS SHALL DISCHARGE TO THE RIVER WITHIN THE FLOATING CURTAINS AND BE OF SUFFICIENT CAPACITY TO MAINTAIN DRY CONDITIONS. ALL EXCESS DREDGED MATERIAL SHALL BE DISPOSED OF OFFSITE.
7. SUBGRADE CRUSHED STONE SHALL BE INSTALLED BEFORE PLACING PRECAST AND ANCILLARY MATERIALS.
8. THE FLARED END HEAD WALL, BOX CULVERT, ISOLATION GATE STRUCTURE, RIPRAP, AND STONE STABILIZATION WITHIN THE COFFERDAM WILL BE INSTALLED. THE ENTIRE INSTALLATION DOWNSTREAM OF THE ISOLATION GATE STRUCTURE SHALL BE COMPLETED, BACKFILLED, COMPACTED, AND THE DEWATERING OPERATION STOPPED BEFORE INSTALLATION OF THE STORM DRAIN PIPE UPSTREAM OF THE ISOLATION GATE STRUCTURE.
9. THE COFFERDAM SHALL BE REMOVED. ONCE THE COFFERDAM IS REMOVED, RESTORE HAYBALES AND SILTATION FENCE. REMOVE BARRICADES, CHAINLINK FENCE AND ACCESS GATE.
10. THE STORM DRAIN PIPE UPSTREAM OF THE ISOLATION GATE STRUCTURE SHALL BE INSTALLED USING TEMPORARY SUPPORT OF EXCAVATION WITH DEWATERING.
11. RESTORATIVE GRADING, TOPSOIL RESTORATION, PLANTING, AND SEEDING OF THE WORK ZONE WITHIN THE EMBANKMENT SHALL BE COMPLETED. REFER TO LANDSCAPE DESIGN FOR ADDITIONAL SURFACE IMPROVEMENTS.
12. THE BIKE PATH, CURBING, AND GRASS STRIP SHALL BE RESTORED AFTER PIPE IS INSTALLED, BACKFILLED, AND COMPACTED.
13. THE STORM DRAIN PIPE AND MANHOLE ON MEMORIAL DRIVE SHALL BE INSTALLED, BACKFILLED, COMPACTED AND RESTORED WITH A PERMANENT ASPHALT PATCH.
14. THE ENVIRONMENTAL CONTROLS (FLOATING CURTAINS, SILTATION FENCE AND HAYBALES) SHALL REMAIN IN PLACE UNTIL THE CONSTRUCTION SITE IS STABILIZED. THE CONTRACTOR SHALL CHECK AND MAINTAIN THE ENVIRONMENTAL CONTROLS DAILY. UPON STABILIZATION AND GROWTH OF VEGETATED COVER, THE ENVIRONMENTAL CONTROLS SHALL BE REMOVED AND DISPOSED.

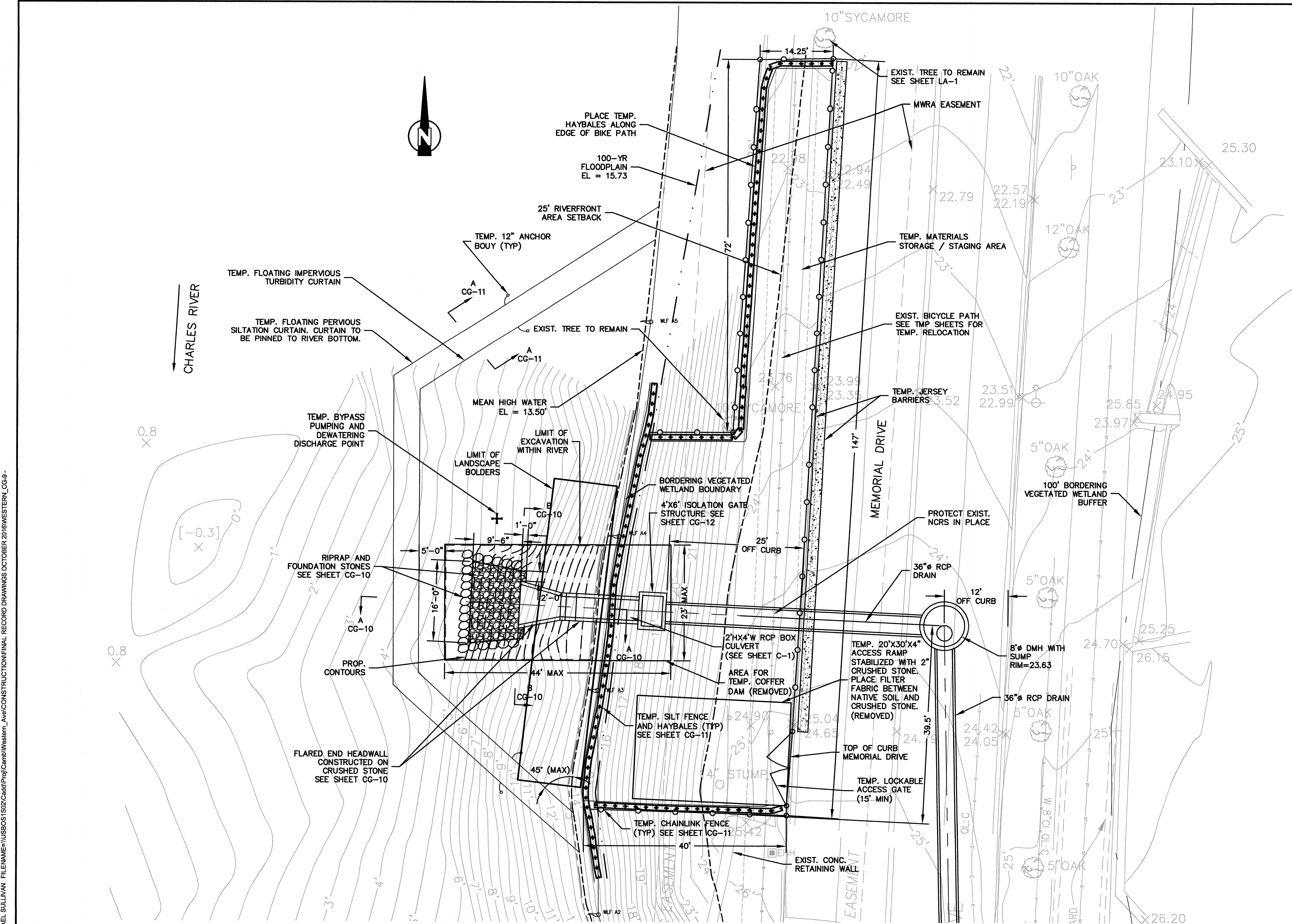
LIMIT OF WORK

1. LIMIT OF SUBSURFACE WORK IS APPROXIMATELY DEFINED BY THE TEMPORARY CHAINLINK FENCE, TEMPORARY FLOATING PERVIOUS SILTATION CURTAIN, AND 25' ON EITHER SIDE OF THE CENTERLINE OF THE PROP. 36" RCP DRAIN.
2. SEE SHEET C-1 FOR LIMIT OF SURFACE RESTORATION.

RECORD DRAWING

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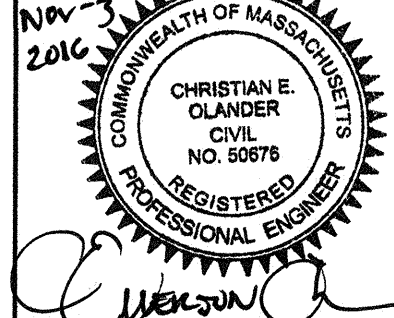
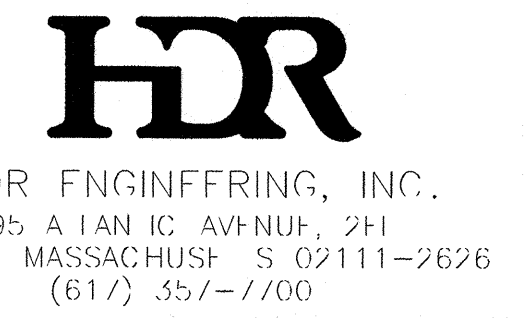


PLAN

SCALE: 1" = 10'



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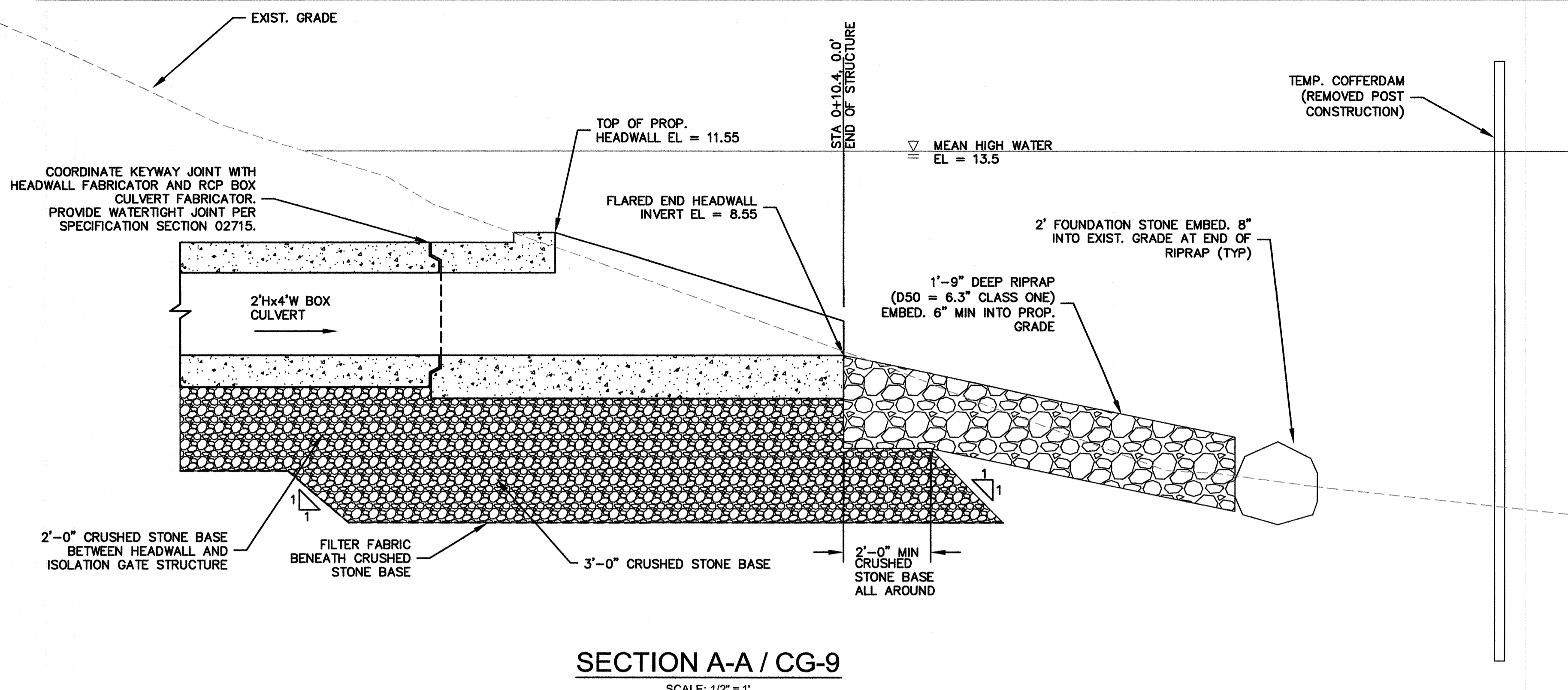


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Date	NOVEMBER 2016		
Job No.	2009143.01-A		
Designed by	KWG		
Drawn by	MTS		
Checked by	EO	No.	Description
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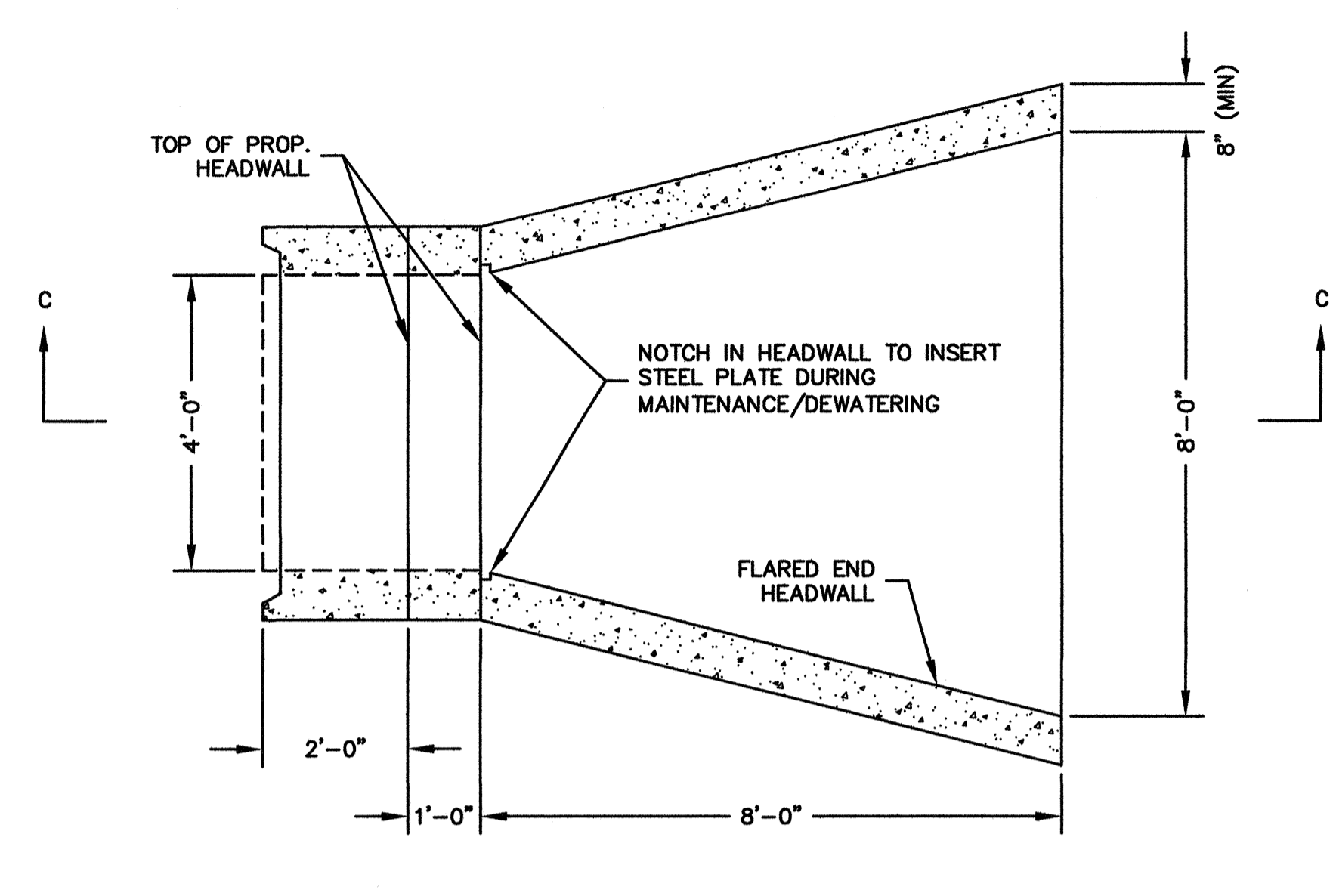


Client	CITY OF CAMBRIDGE, MA	Sheet	CG-9
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL GENERAL - WESTERN AVENUE OUTFALL DETAIL PLAN		

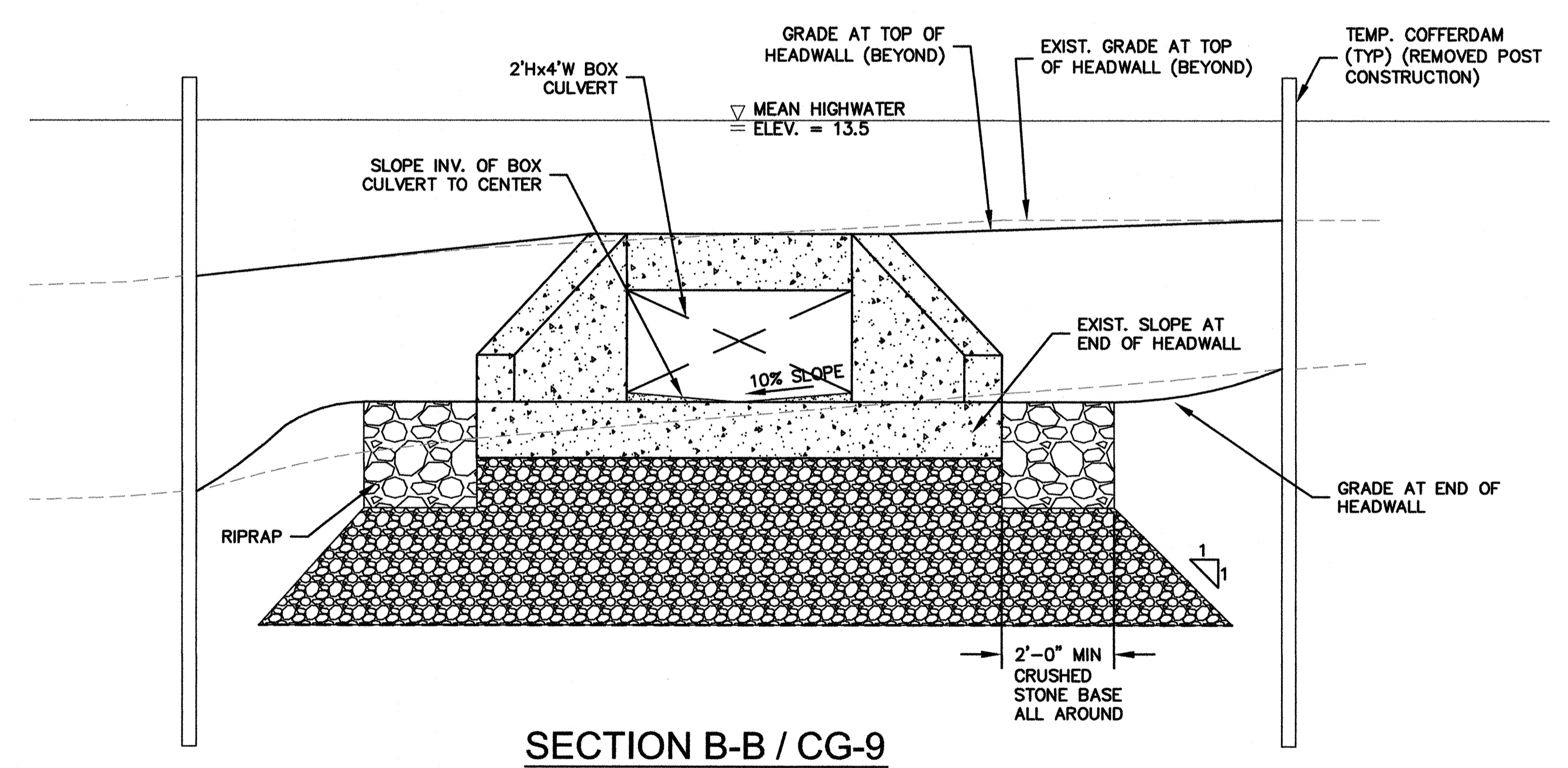
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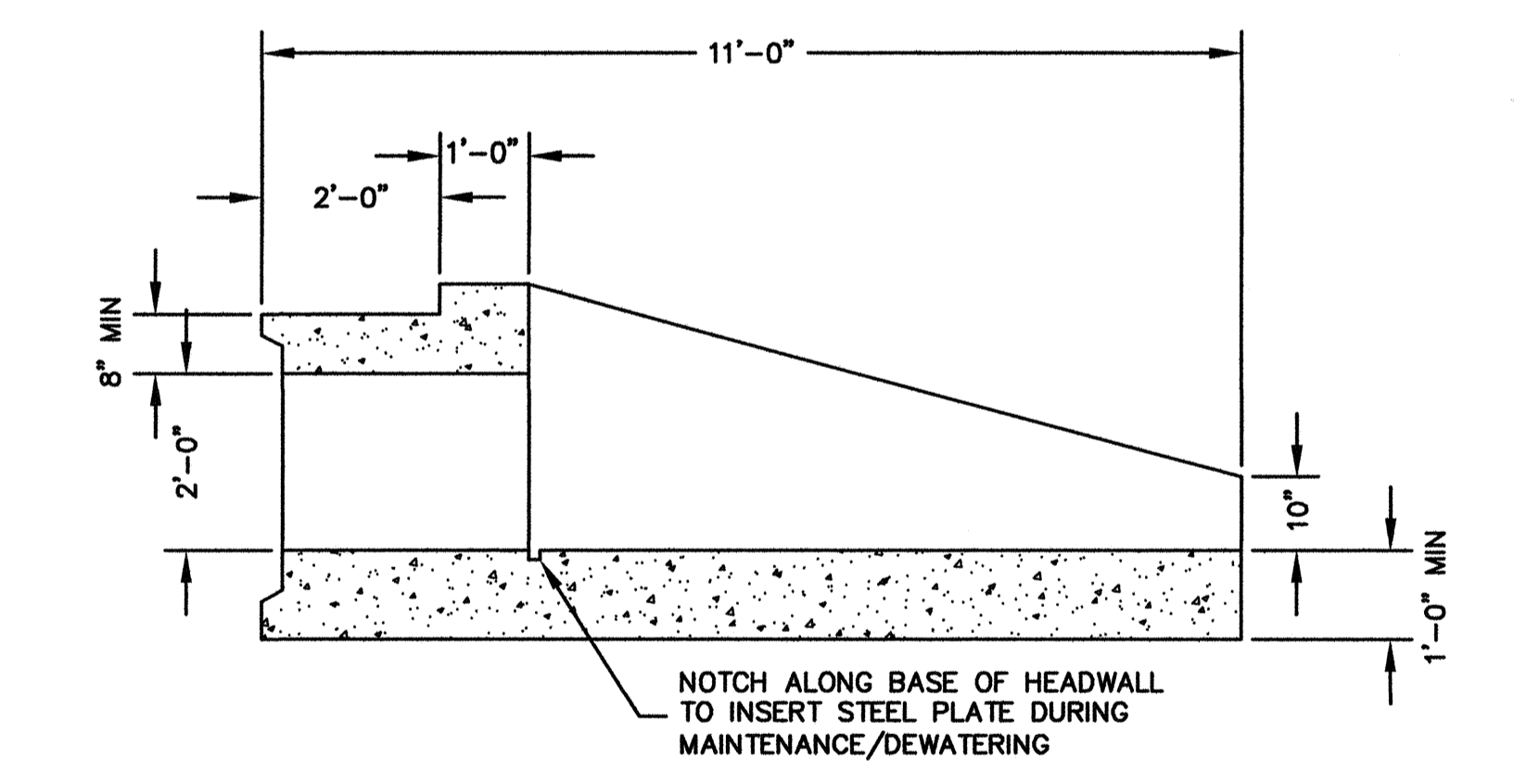
SECTION A-A / CG-9
SCALE: 1/2" = 1'



PLAN
SCALE: 1/2" = 1'



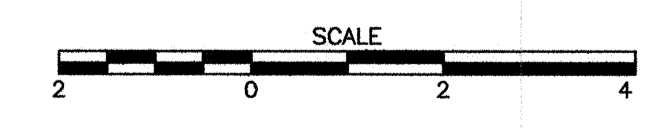
SECTION B-B / CG-9
SCALE: 1/2" = 1'



SECTION C-C
SCALE: 1/2" = 1'

FLARED END HEADWALL DETAIL

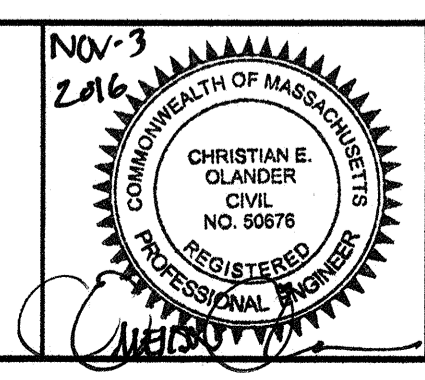
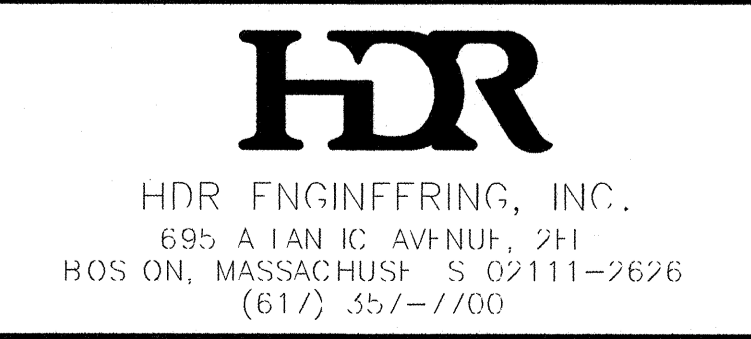
WESTERN AVENUE OUTFALL



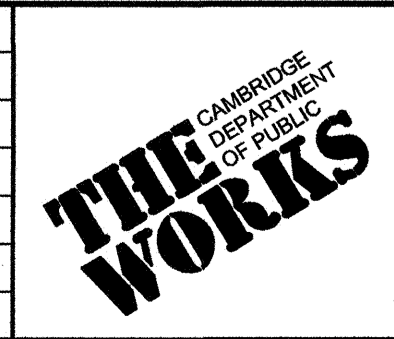
RECORD DRAWING

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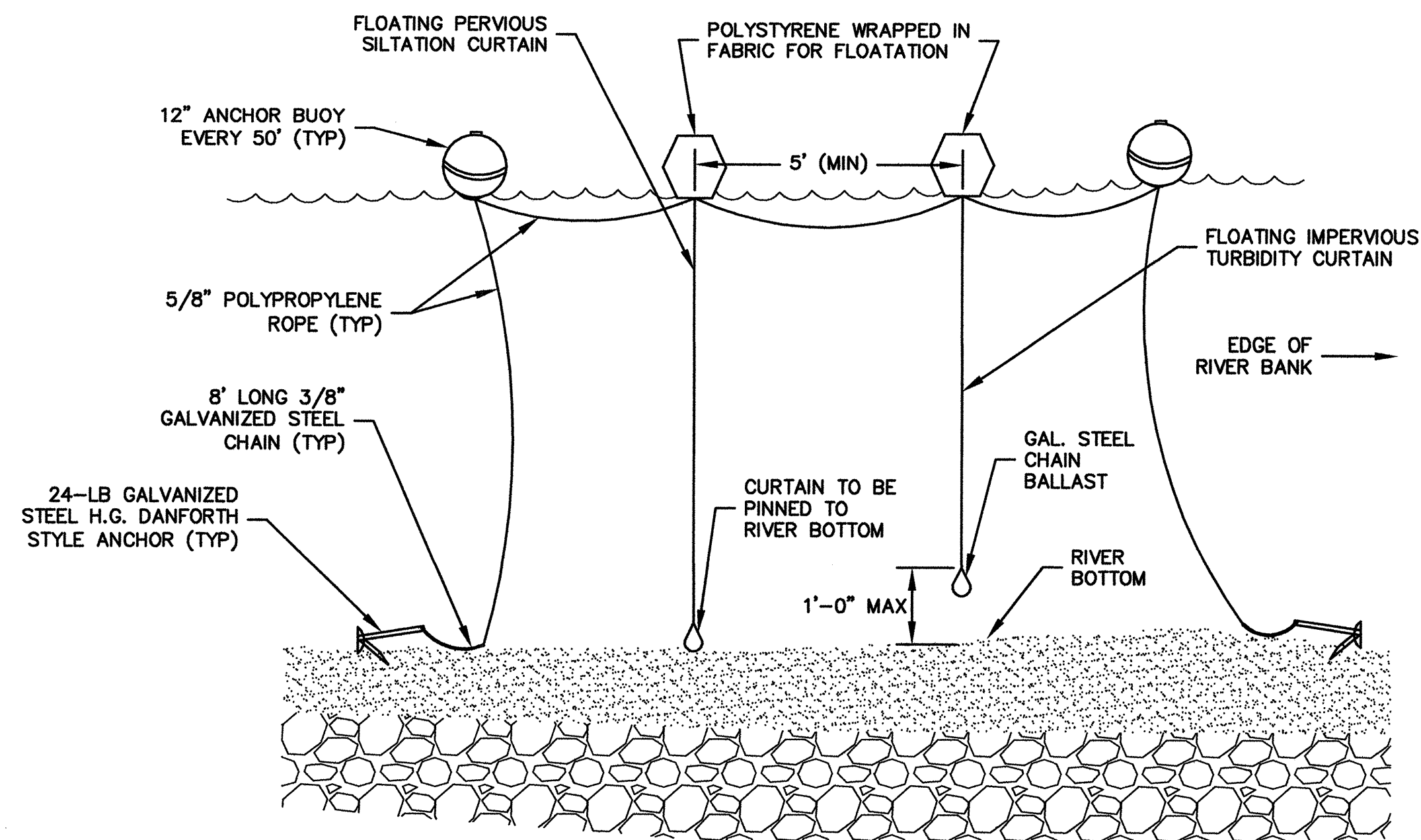


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Designed by	KWG		
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Approved by	EO		Date
			REVISIONS

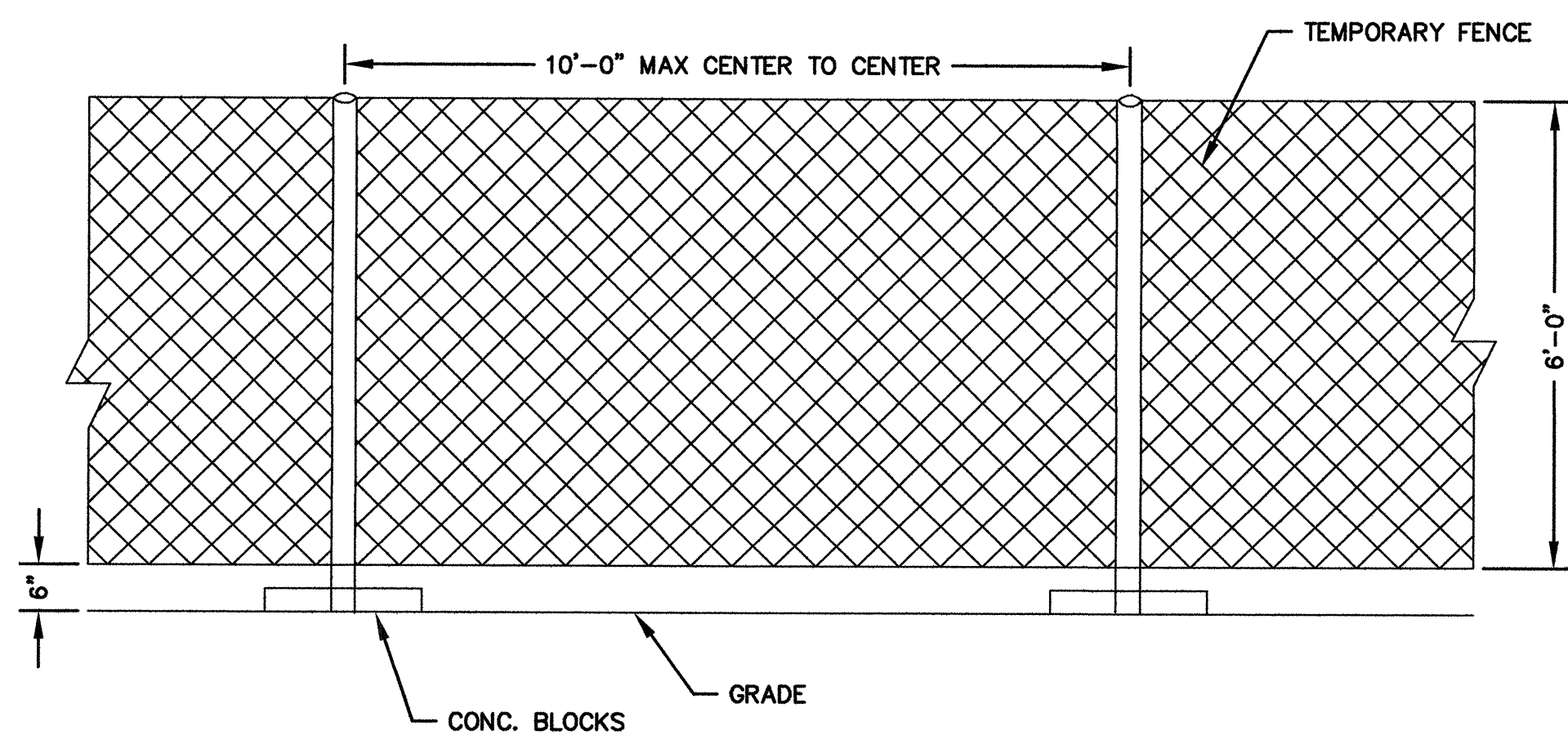


Client	CITY OF CAMBRIDGE, MA	Sheet	CG-10
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL GENERAL- WESTERN AVENUE OUTFALL SECTIONS AND PROFILES		

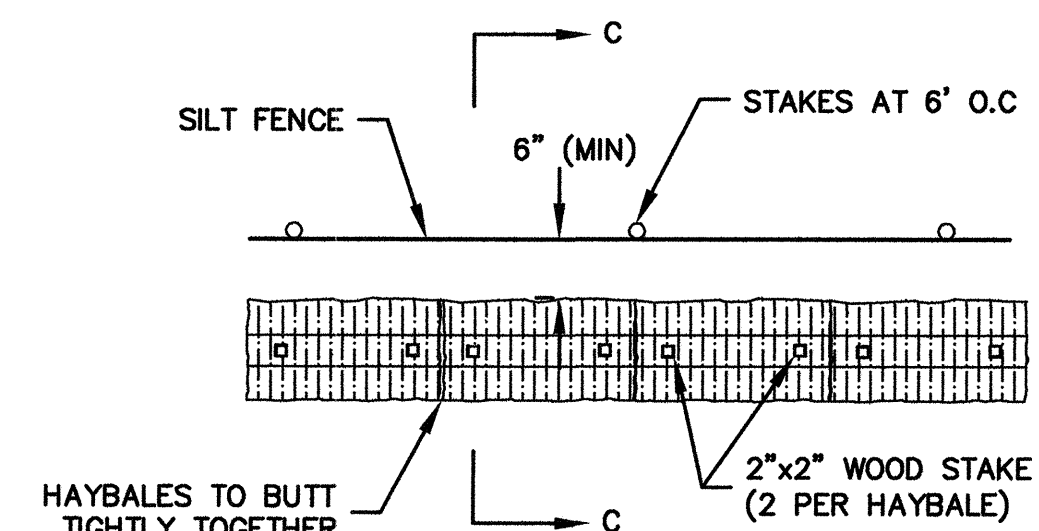
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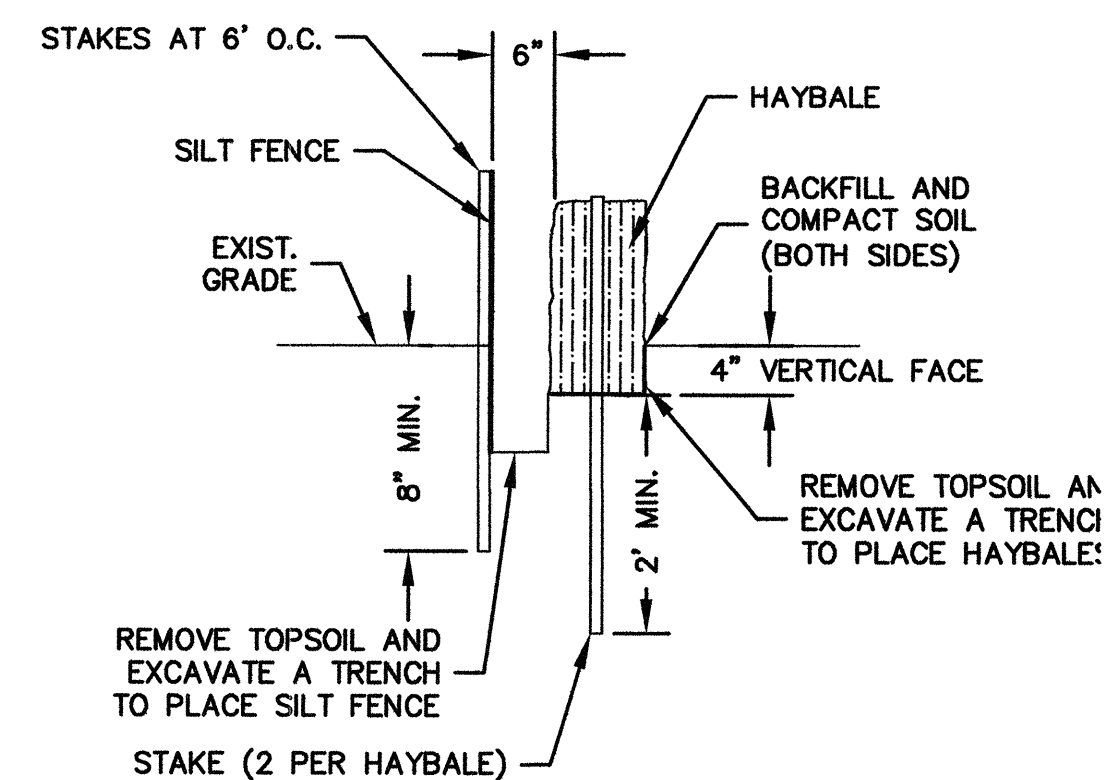
SECTION A-A / CG-9
TEMPORARY FLOATING SILTATION AND TURBIDITY CURTAINS
 SCALE: NTS



SECTION B-B / CG-9
TEMPORARY CHAINLINK FENCE
 SCALE: NTS



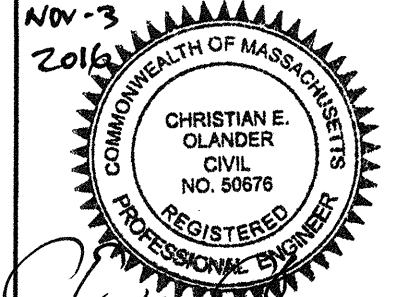
PLAN
 SCALE: NTS



SECTION C-C
 SCALE: NTS
TEMPORARY HAYBALES AND SILT FENCE DETAIL

RECORD DRAWING
 THESE RECORD DOCUMENTS HAVE BEEN PREPARED
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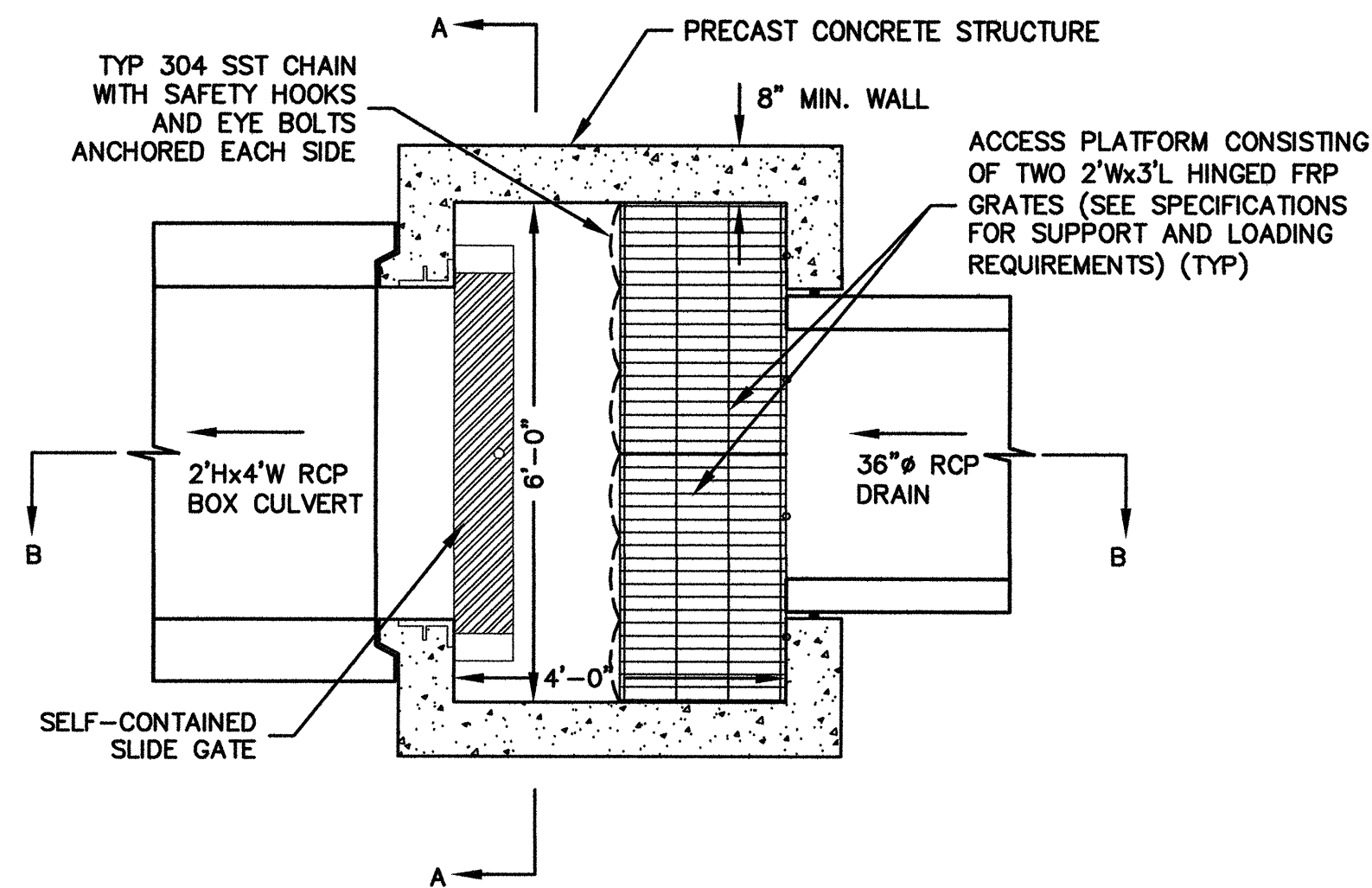


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Approved by	EO		REVISIONS

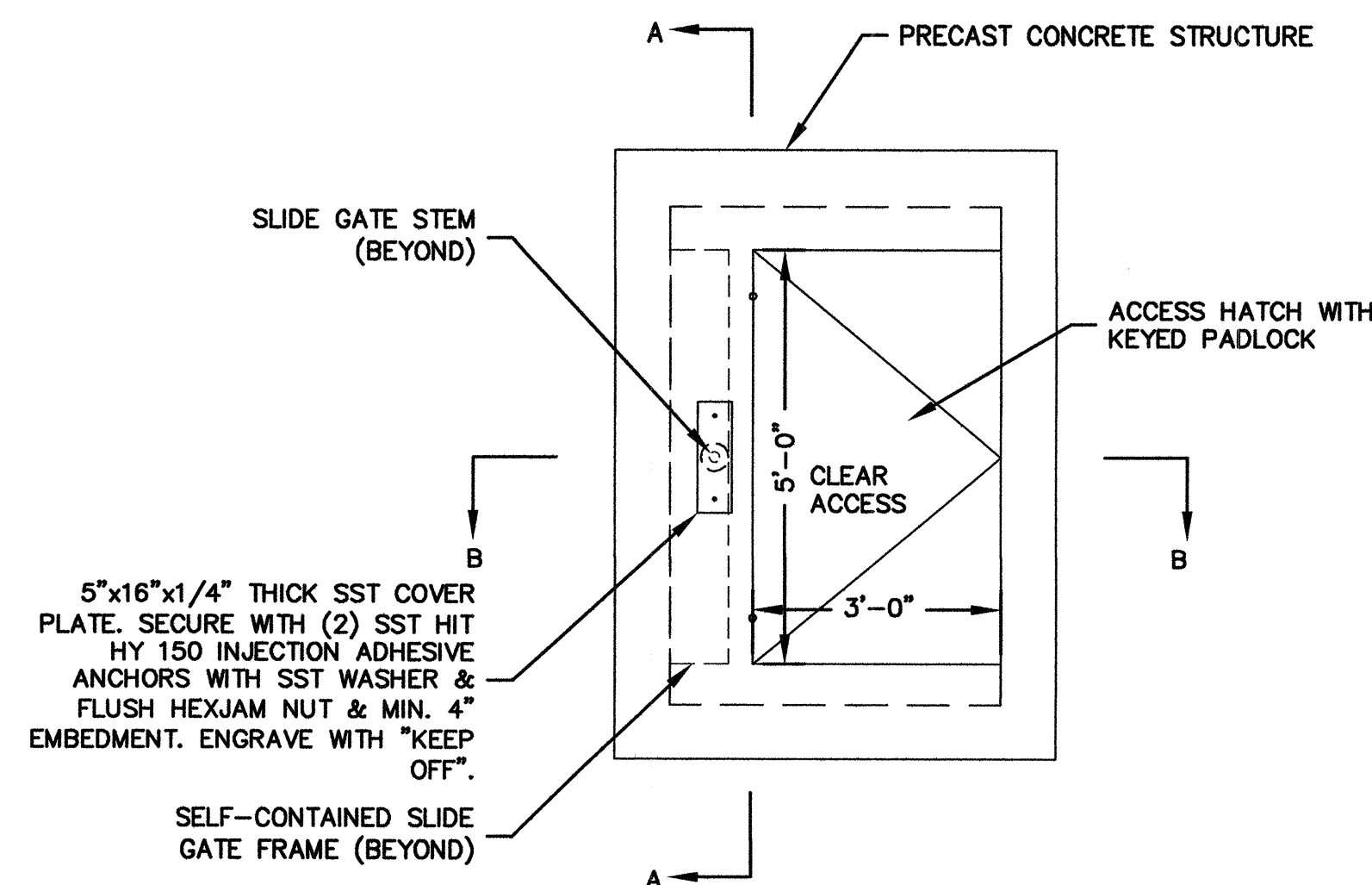


Client	CITY OF CAMBRIDGE, MA	Sheet	CG-11
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL GENERAL - WESTERN AVENUE OUTFALL MISCELLANEOUS DETAILS		

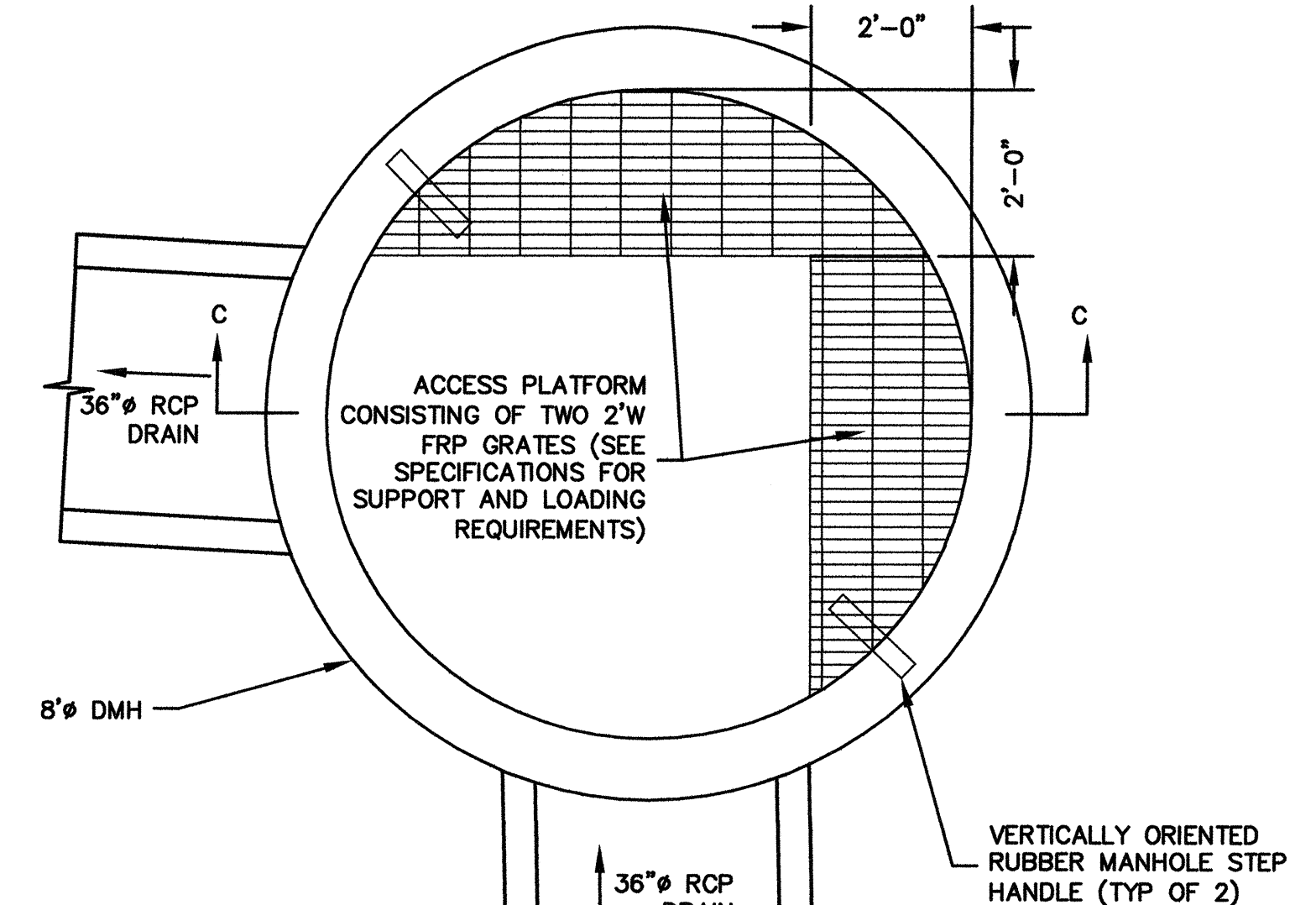
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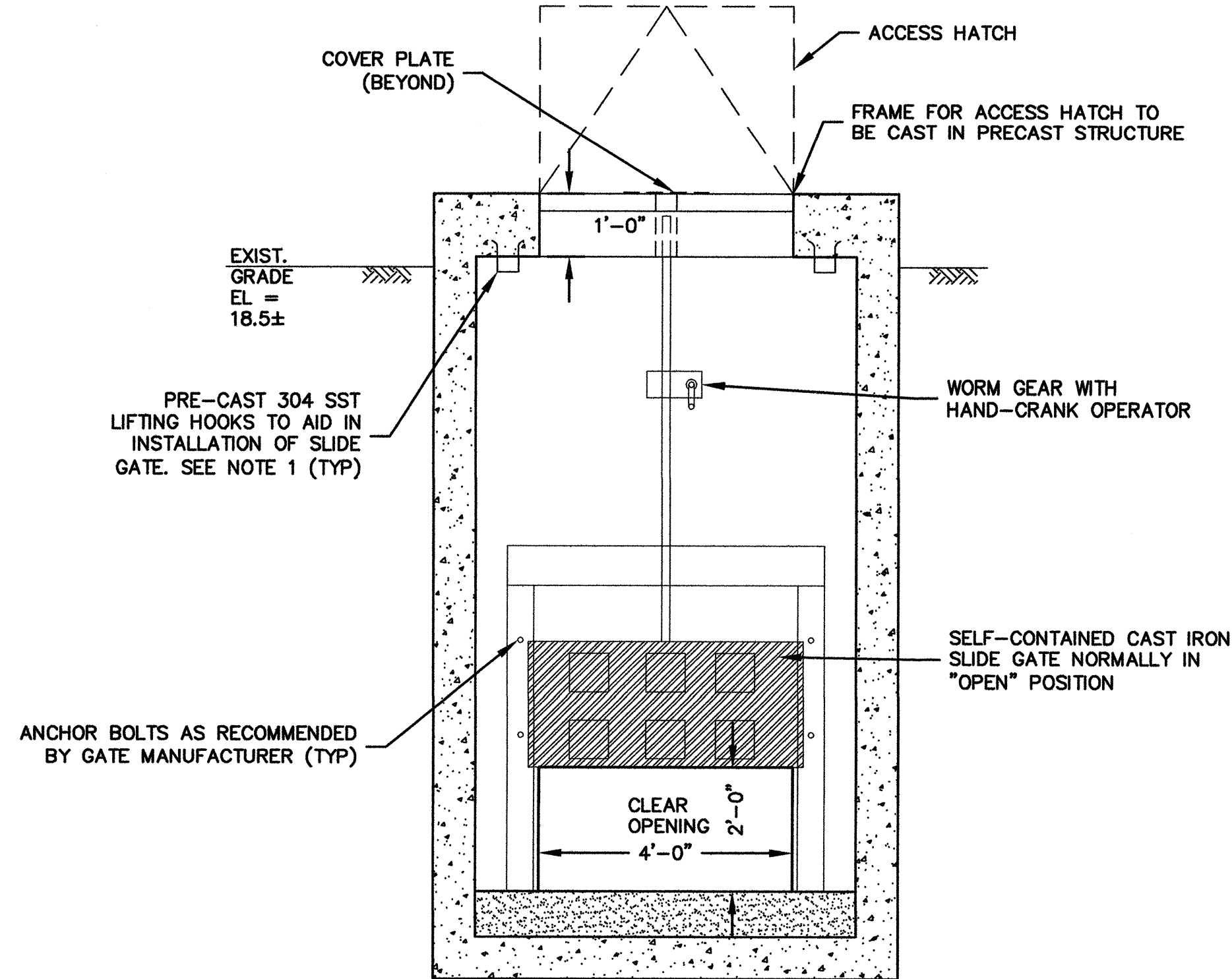
PLAN VIEW
SCALE: 1/2" = 1'-0"



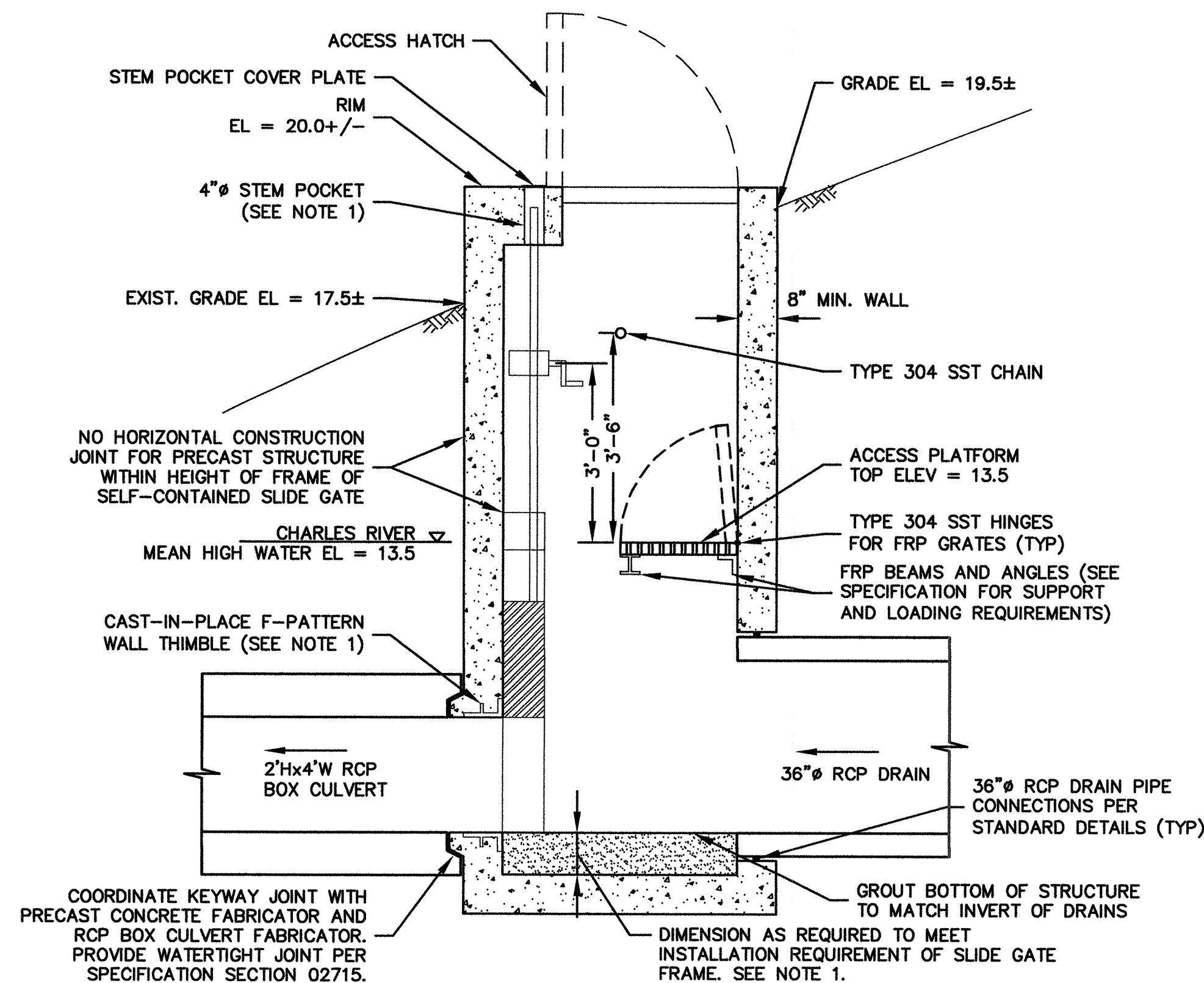
TOP VIEW
SCALE: 1/2" = 1'-0"



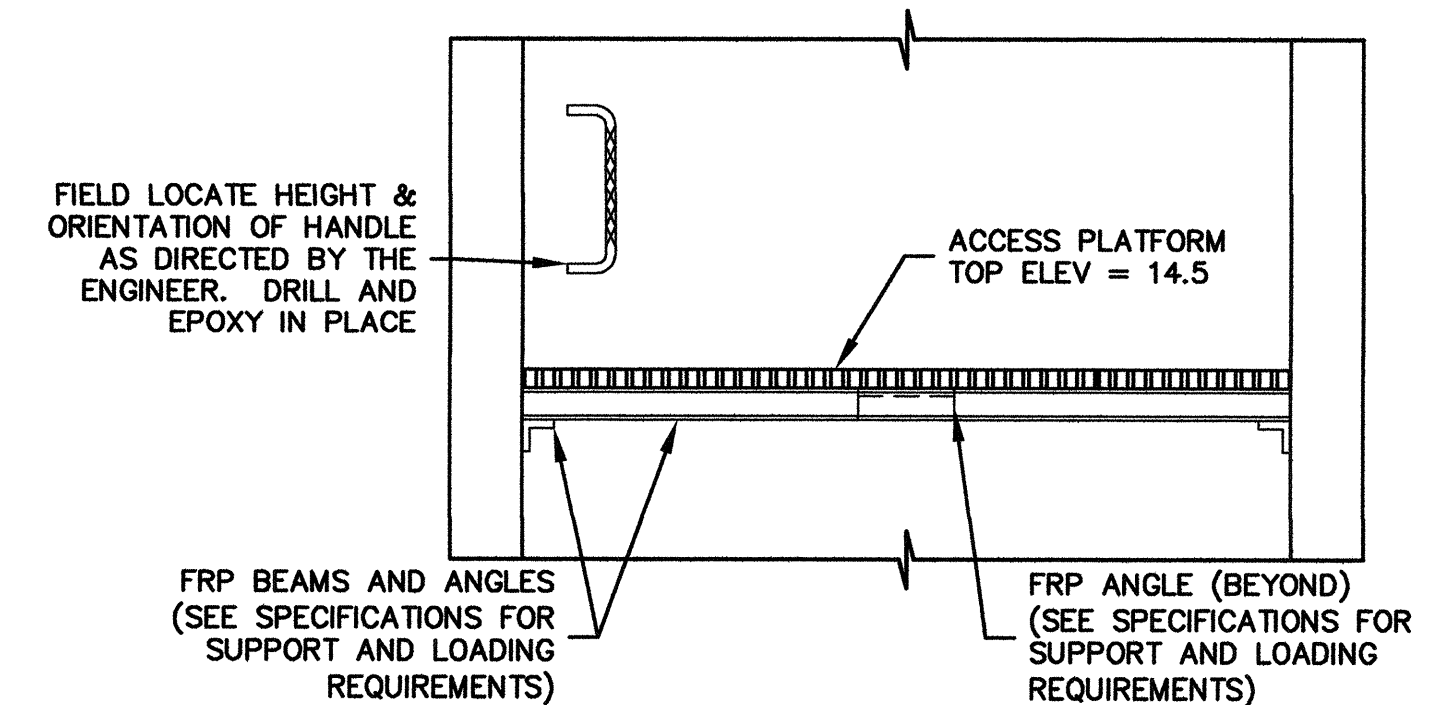
PLAN
SCALE: 1/2" = 1'-0"



SECTION A-A
SCALE: 1/2" = 1'-0"



SECTION B-B
SCALE: 1/2" = 1'-0"



SECTION C-C
SCALE: 1/2" = 1'-0"

ISOLATION GATE STRUCTURE

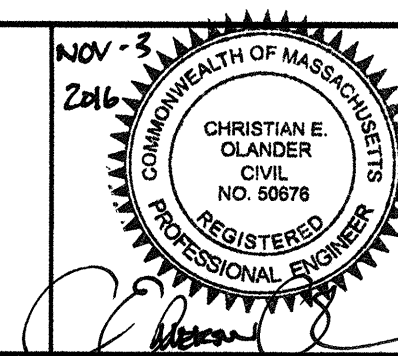
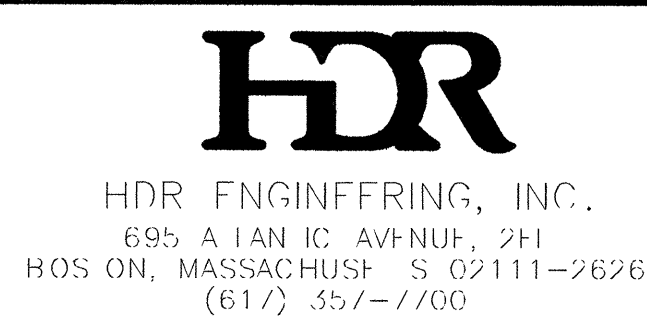
ROUND MANHOLE ACCESS PLATFORM DETAIL STATION 100+93

- NOTES:
- COORDINATED ALL ASPECTS OF THE SLIDE GATE, ACCESS HATCH AND FRP PLATFORM INSTALLATION BETWEEN THE PRECAST FABRICATOR AND MANUFACTURER/SUPPLIER OF THE RESPECTIVE PRODUCTS.
 - REFER TO SHEET C-1 FOR INVERT ELEVATIONS SHOWN ON THIS SHEET.

RECORD DRAWING

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.

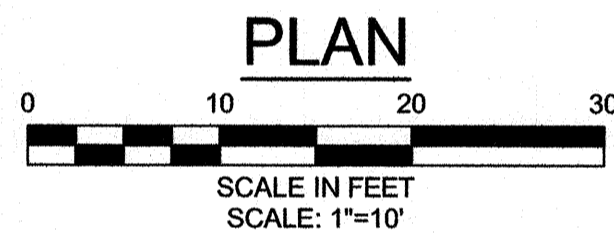
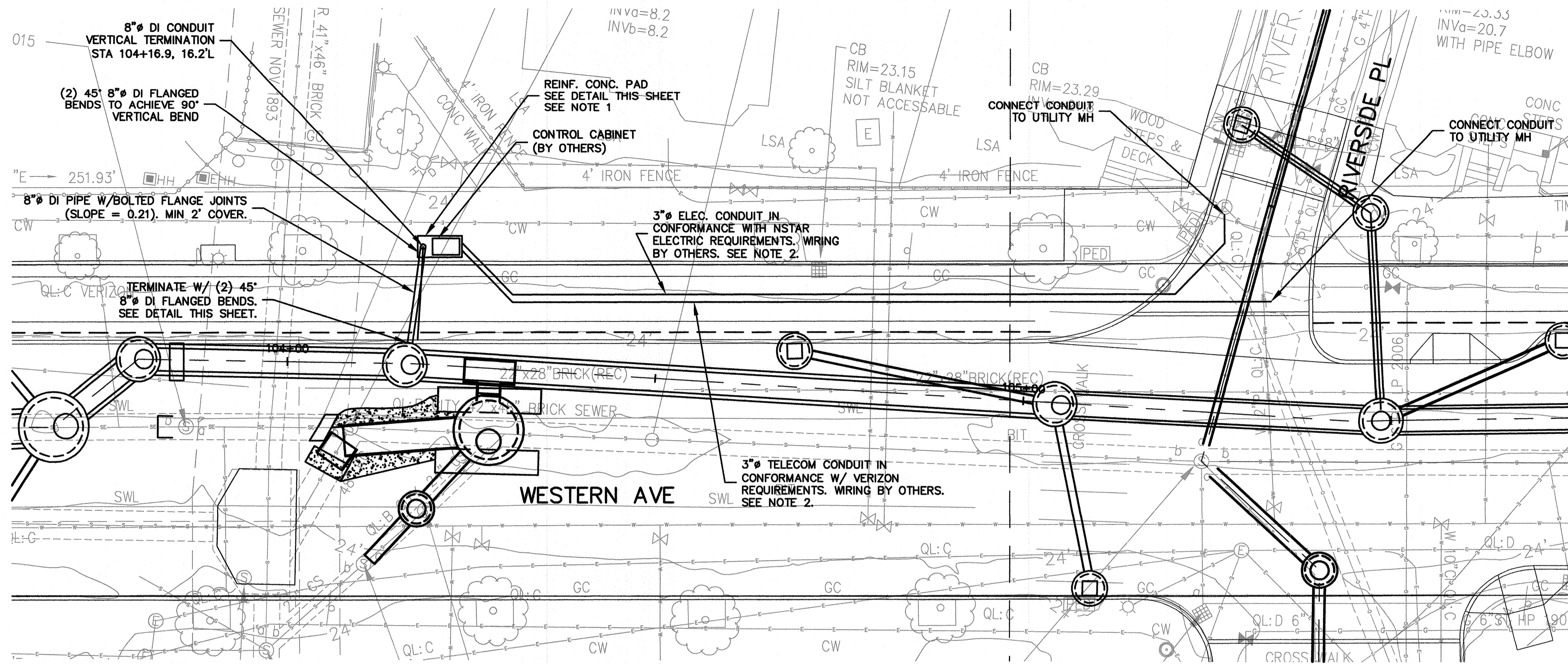
RECORD SET



Scale	AS NOTED		
Date	NOVEMBER 2016		
Job No.	2009143.01-A		
Designed by	KWG		
Drawn by	MTS		
Checked by	EO	No.	Description
Approved by	EO		REVISIONS



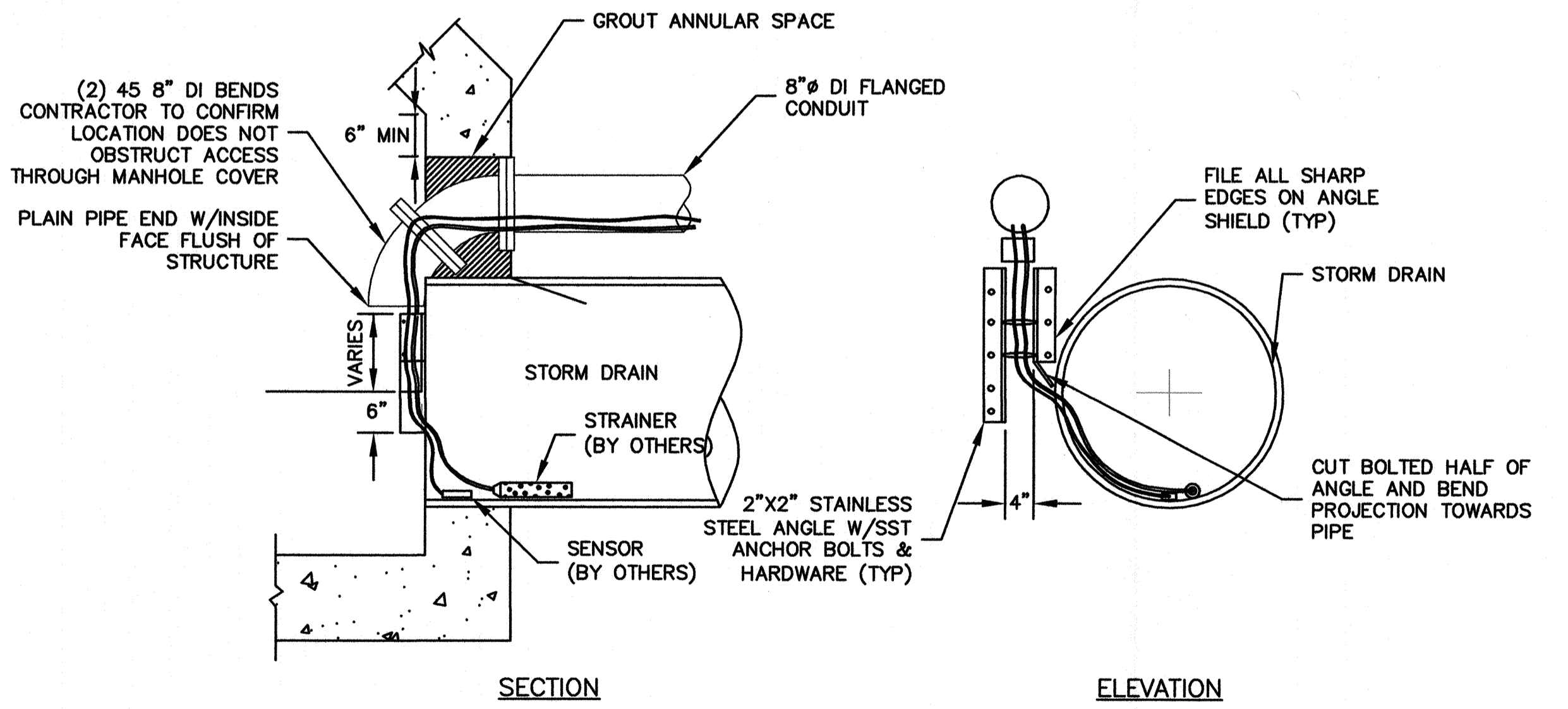
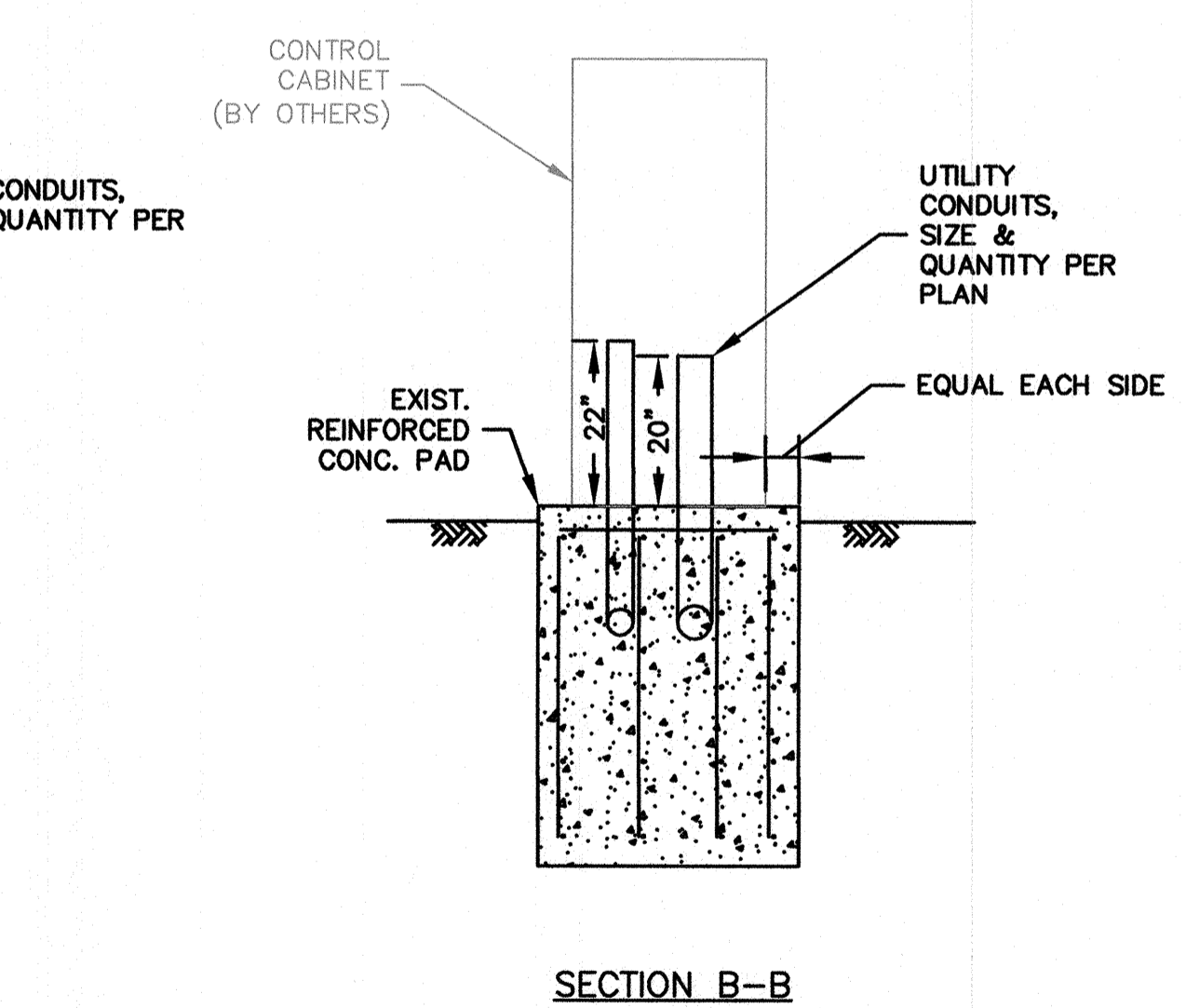
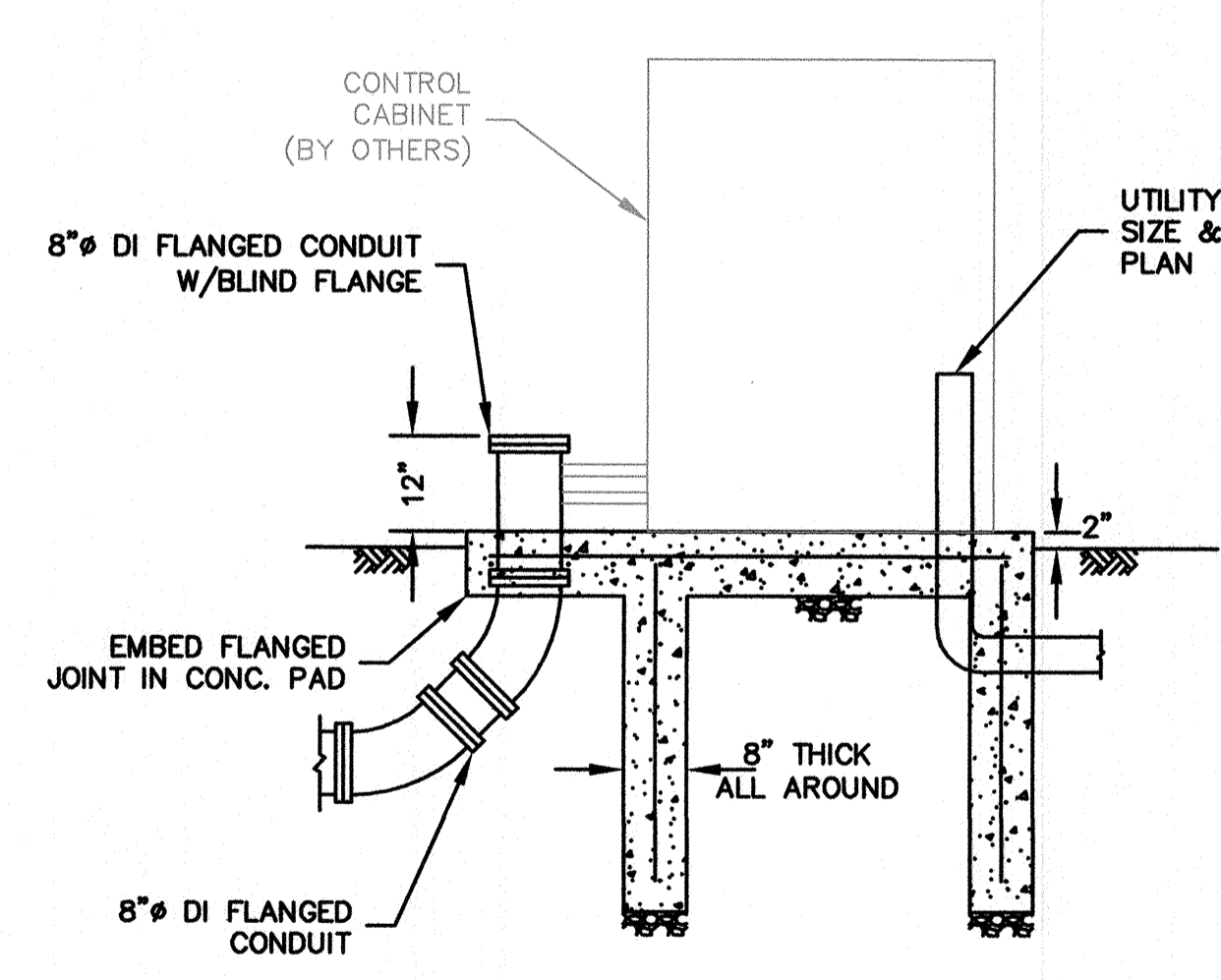
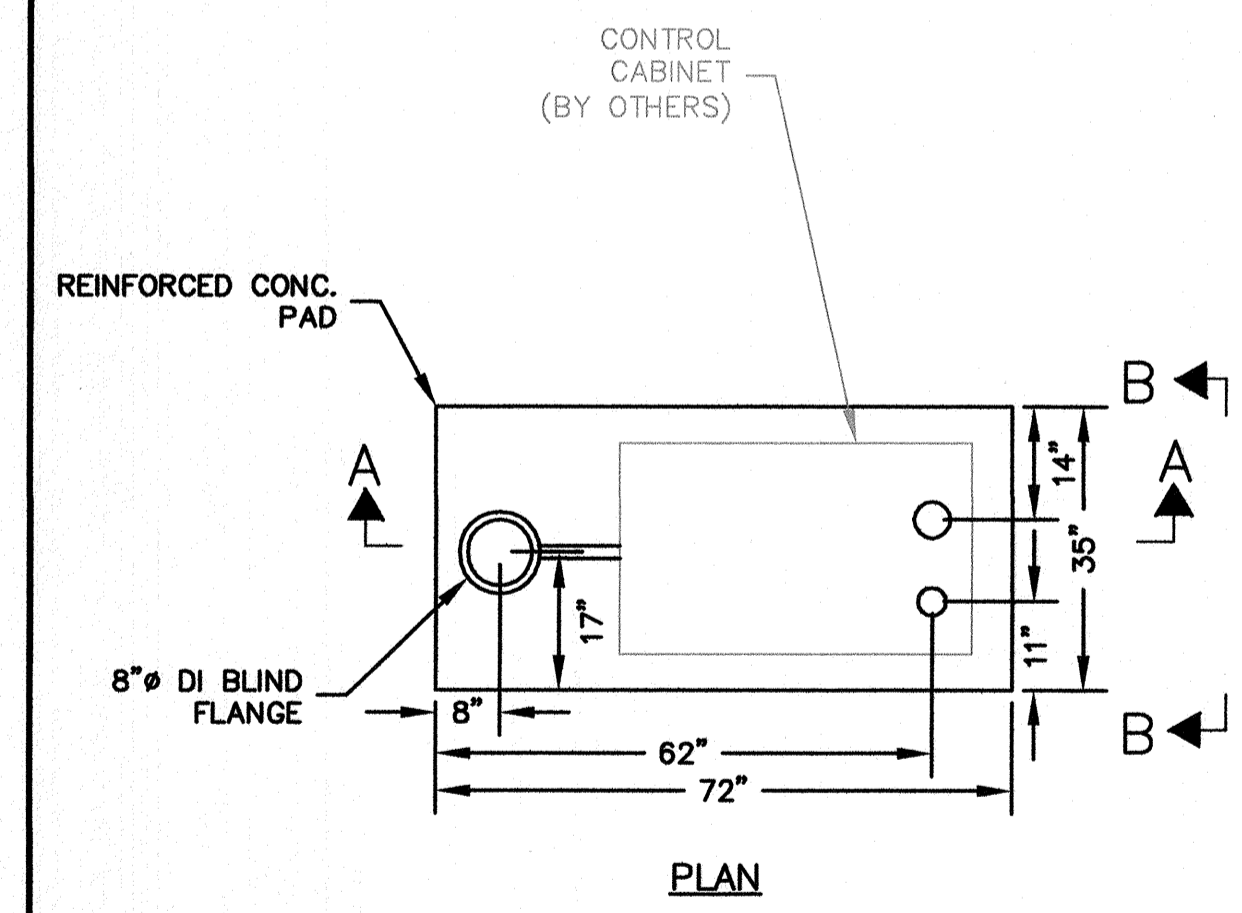
Client	CITY OF CAMBRIDGE, MA	Sheet	CG-12
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL GENERAL - ISOLATION GATE STRUCTURE AND ROUND MANHOLE ACCESS PLATFORM DETAILS		



- NOTES:**
1. INCORPORATE INSTALLATION OF REINF. CONC. PAD WITH SURFACE IMPROVEMENTS. SEE ROADWAY DESIGN.
 2. CONTRACTOR SHALL INITIATE AND COORDINATE NEW ELECTRICAL AND TELECOM CONDUITS W/ THE UTILITIES. ELECTRICAL AND TELECOM WIRING AND SERVICES BY OTHERS.

RECORD DRAWING

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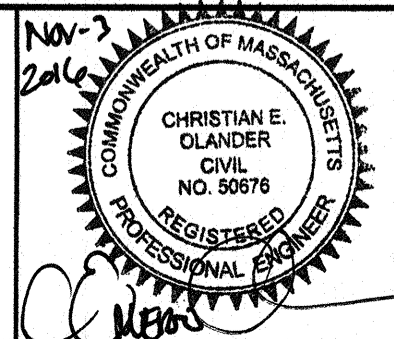
WQSS REINFORCED CONCRETE PAD DETAIL

SCALE: 1/2"=1'-0"

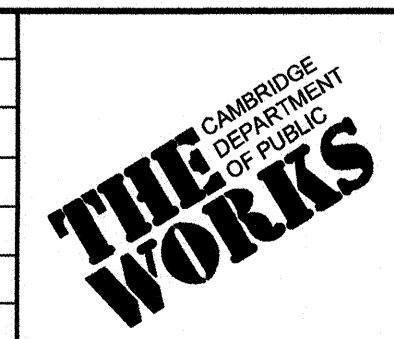
STORMWATER QUALITY SAMPLING CONDUIT TERMINATION AT DMH

RECORD SET

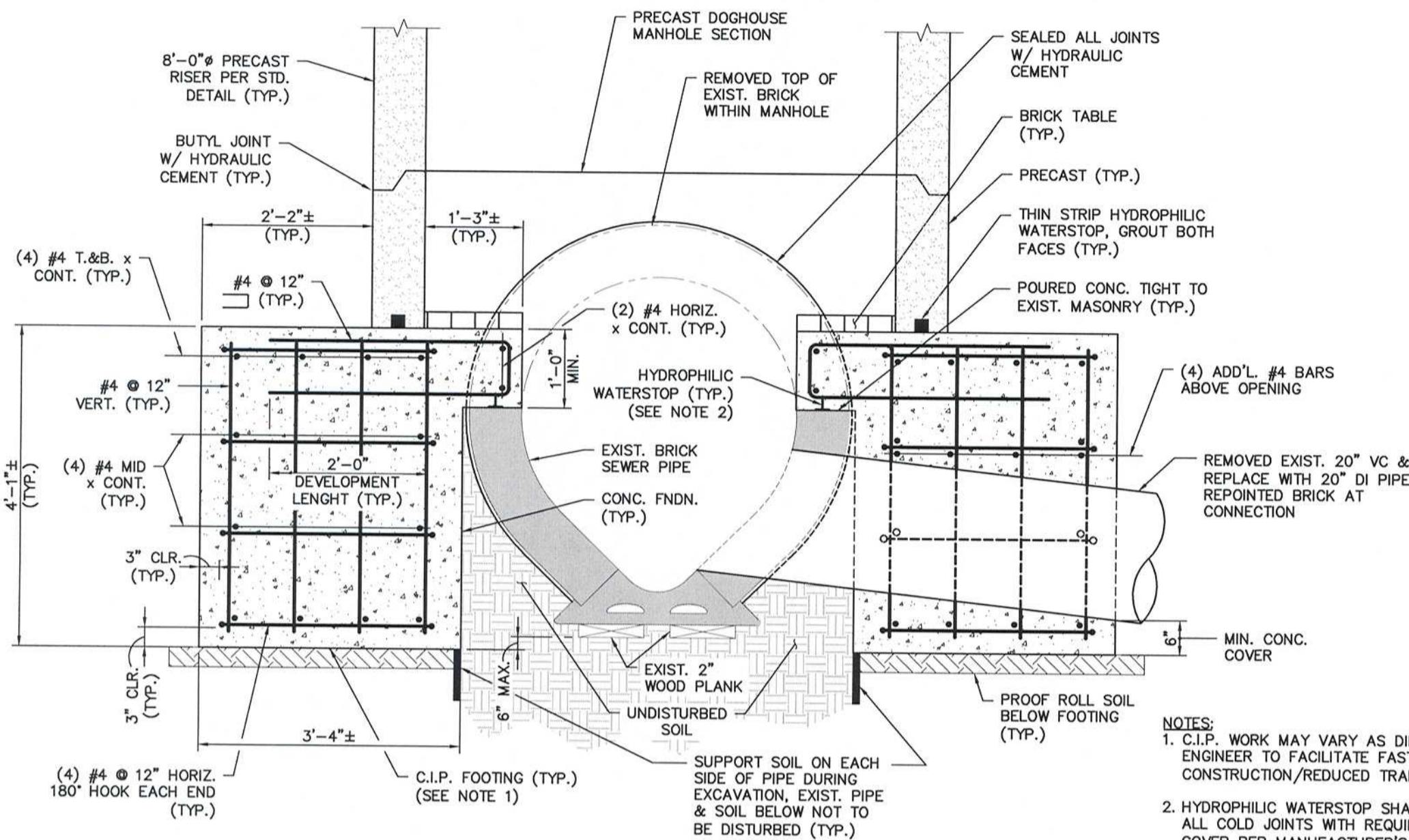
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Scale	AS NOTED			
Date	NOVEMBER 2016			
Job No.	2009143.01-A			
Designed by	KWG			
Drawn by	MTS			
Checked by	EO	No.	Description	Date
Approved by	EO		REVISIONS	



Client	CITY OF CAMBRIDGE, MA	Sheet	CG-13
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL GENERAL - WATER QUALITY SAMPLING STATION PLAN AND DETAILS		

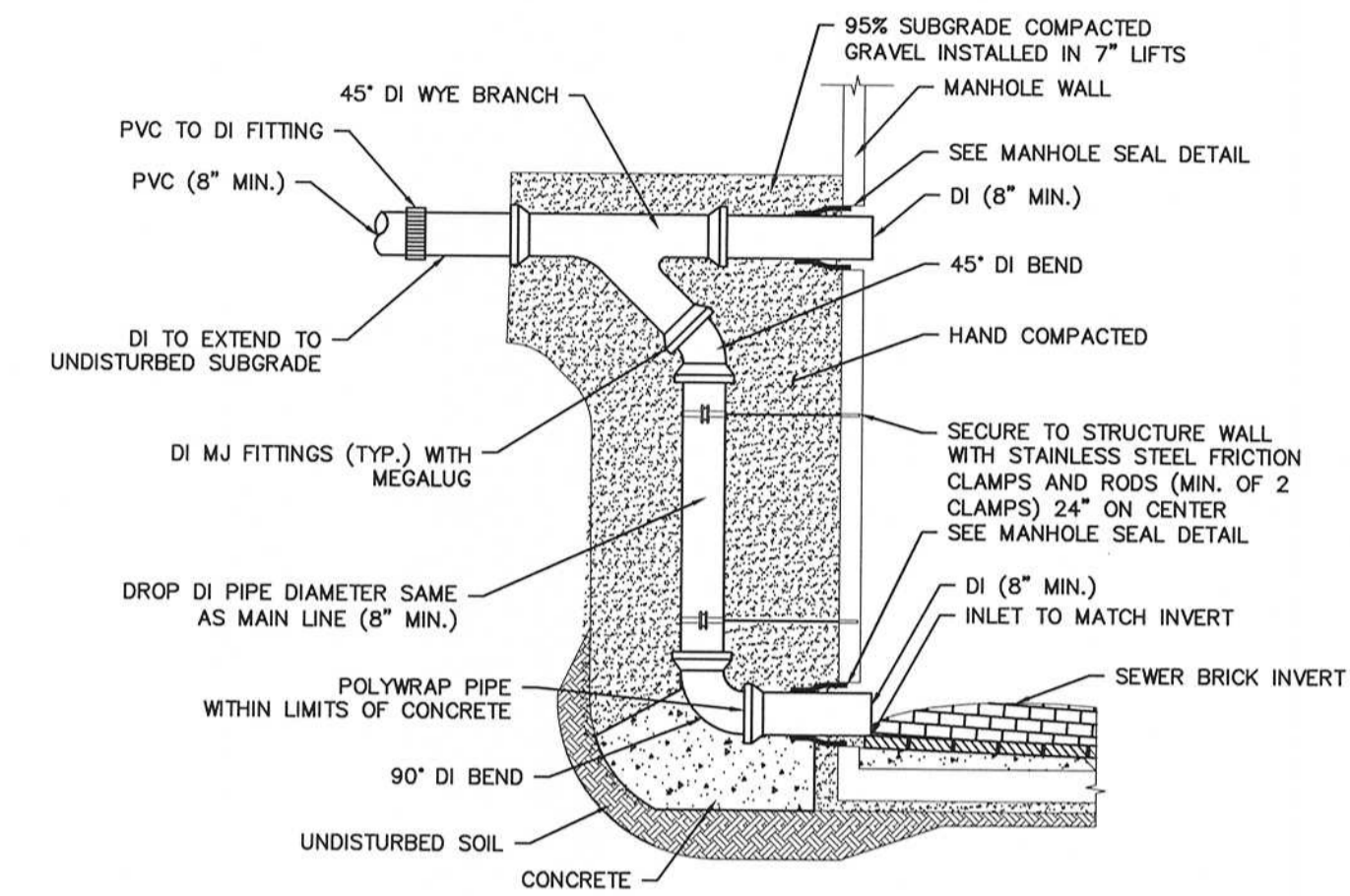


SECTION 1
SK6-2
Scale: 3/4"=1'-0"

DOGHOUSE MANHOLE STA 104+27, 8.2' R

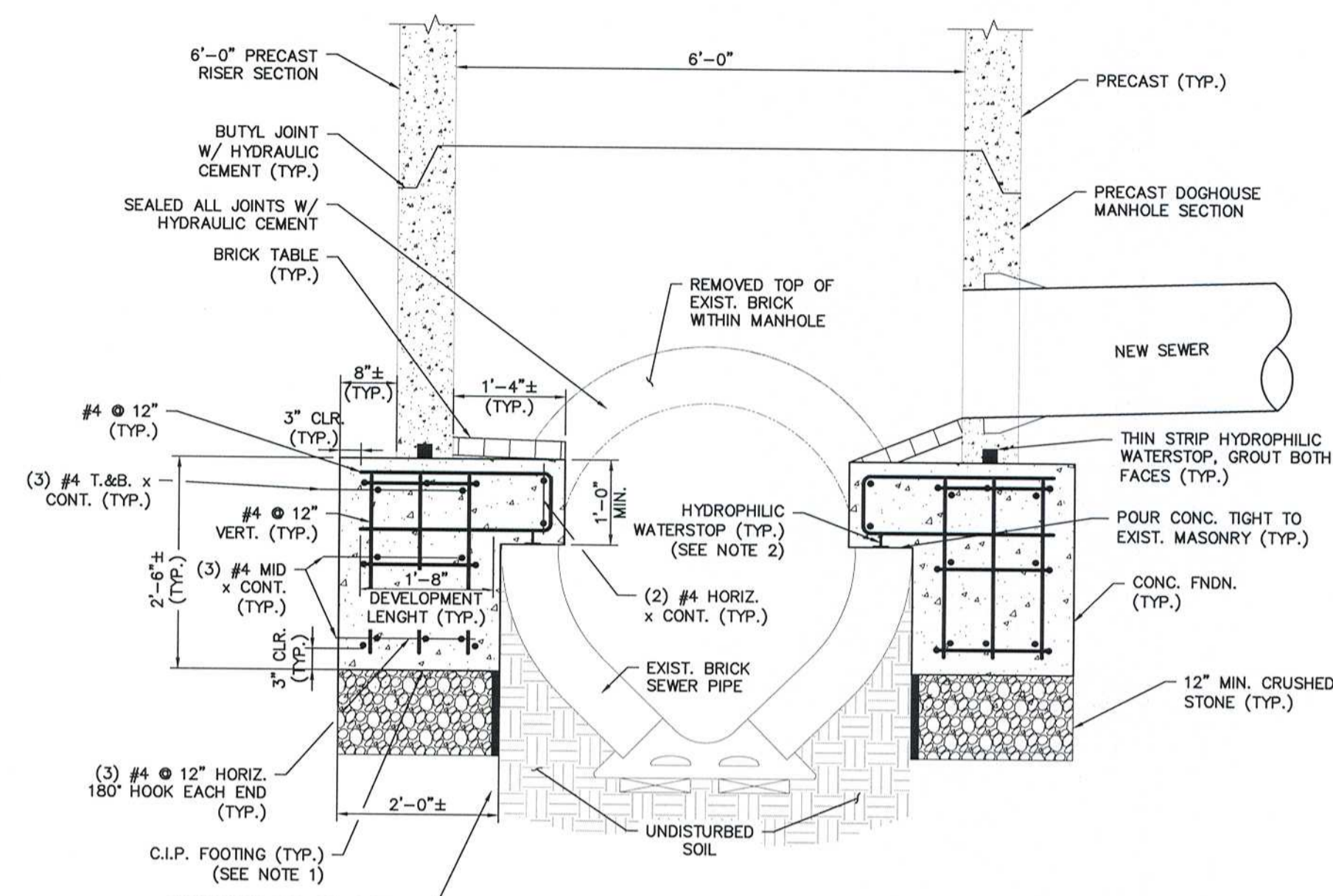
Scale: 3/4"=1'-0"

- NOTES:
 1. C.I.P. WORK MAY VARY AS DIRECTED BY THE ENGINEER TO FACILITATE FASTER CONSTRUCTION/REDUCED TRAFFIC IMPACT.
 2. HYDROPHILIC WATERSTOP SHALL BE PLACED AT ALL COLD JOINTS WITH REQUIRED CONCRETE COVER PER MANUFACTURER'S INSTRUCTIONS AND AS DIRECTED BY THE ENGINEER.



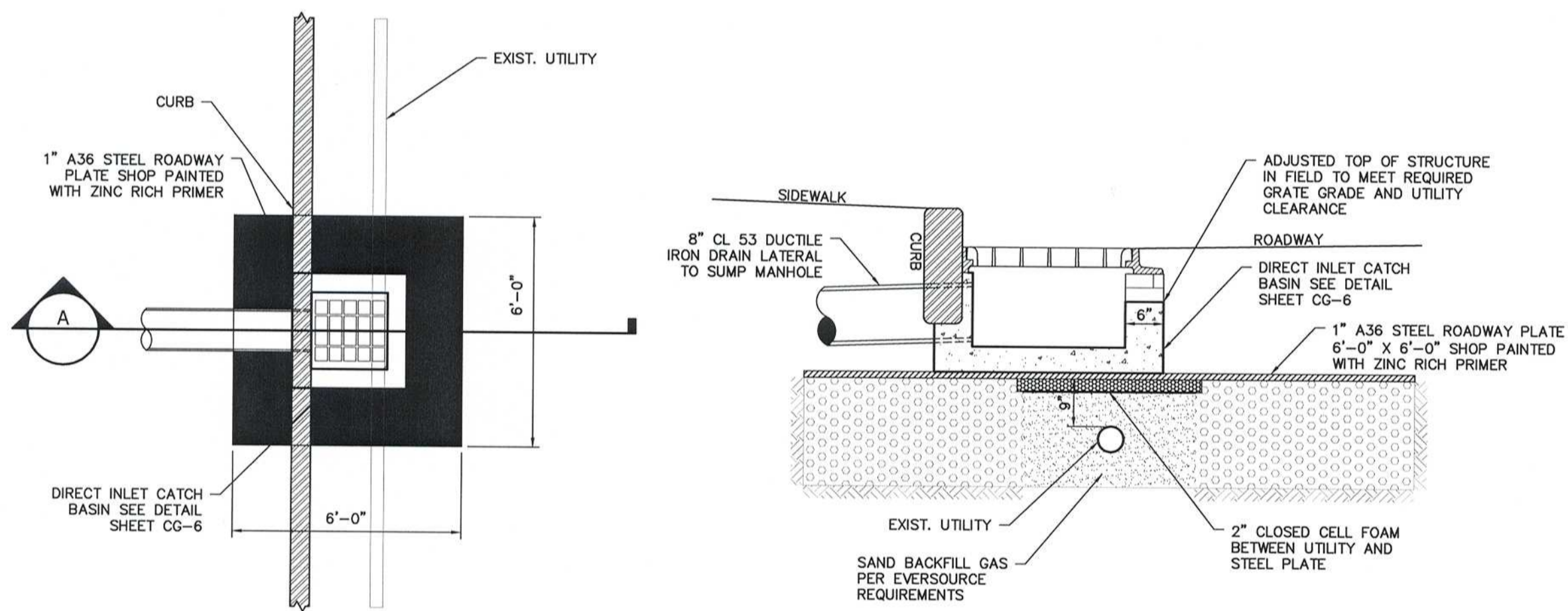
DUCTILE IRON EXTERIOR DROP MANHOLE

SCALE: N.T.S.



SECTION 1
SK6-5
Scale: 3/4"=1'-0"

- NOTES:
 1. C.I.P. WORK MAY VARY AS DIRECTED BY THE ENGINEER TO FACILITATE FASTER CONSTRUCTION/REDUCED TRAFFIC IMPACT.
 2. HYDROPHILIC WATERSTOP SHALL BE PLACED AT ALL COLD JOINTS WITH REQUIRED CONCRETE COVER PER MANUFACTURER'S INSTRUCTIONS AND AS DIRECTED BY THE ENGINEER.



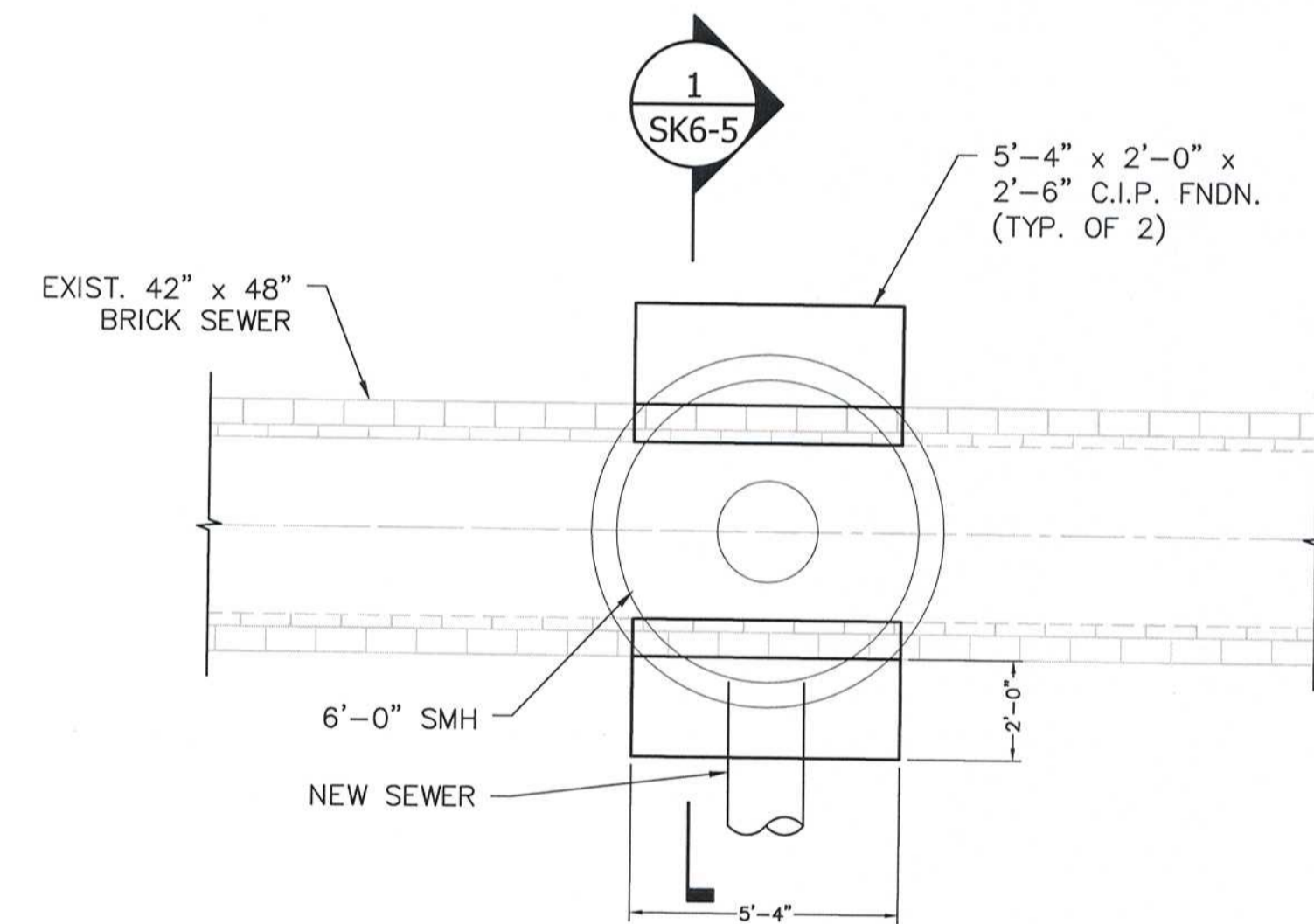
PLAN
Scale: 1/2"=1'-0"

SECTION A
Scale: 3/4"=1'-0"

STEEL PLATE SUPPORT OVER EXIST. SHALLOW UTILITY

NOTES:

1. CONTRACTOR TO NOTIFY EVERSOURCE GAS INSPECTOR 48-HOURS PRIOR TO EXCAVATING TO INSTALL DIRECT INLET CATCH BASIN OVER EXISTING EVERSOURCE GAS AND PRIOR TO BACKFILLING.
 2. REFER TO C SHEET DRAWINGS FOR LOCATIONS OF THIS DETAIL.



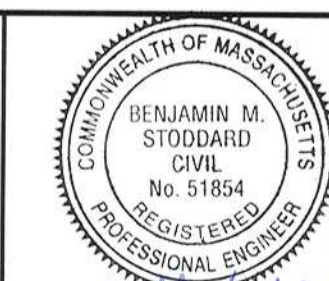
DOGHOUSE MANHOLE STA 105+43, 6.3' R

Scale: 1/4"=1'-0"

RECORD DRAWING

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RECORD SET



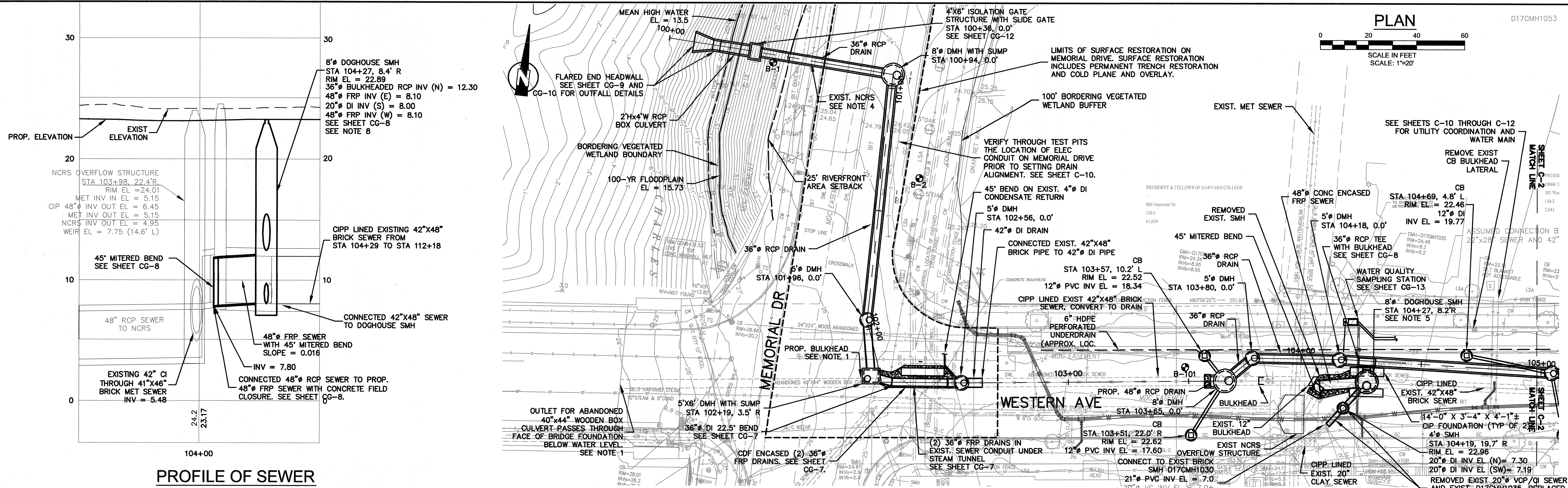
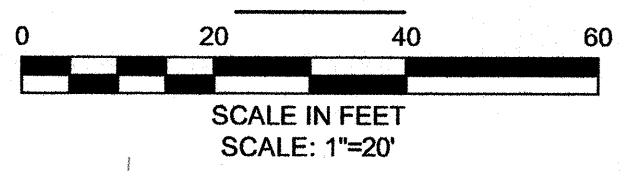
Scale	AS NOTED			
Date	APRIL 2017			
Job No.	2009143.01-A			
Designed by	KJL			
Drawn by	KJL			
Checked by	KEG	No.	Description	Date
Approved by	JJS		REVISIONS	



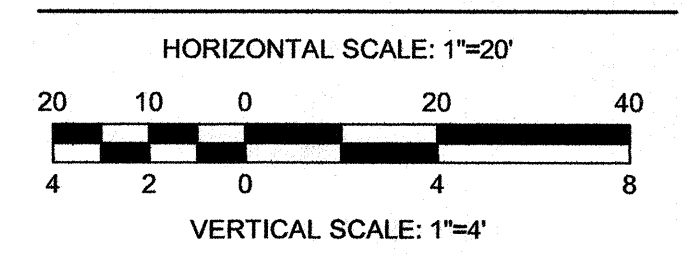
Client	CITY OF CAMBRIDGE, MA	Sheet	CG-14
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL GENERAL - MISCELLANEOUS DETAILS		

PLOT DATE=4/6/2017 5:09:56 PM USER=BEN STODDARD FILENAME=G:\clients\Cambridge MA\2009143.01-A - Western Avenue\Construction_Temp_Folder\17 - Drawings\Record Drawing\CIVIL DETAILS SHEETS Record Drawings.dwg

PLAN



PROFILE OF SEWER

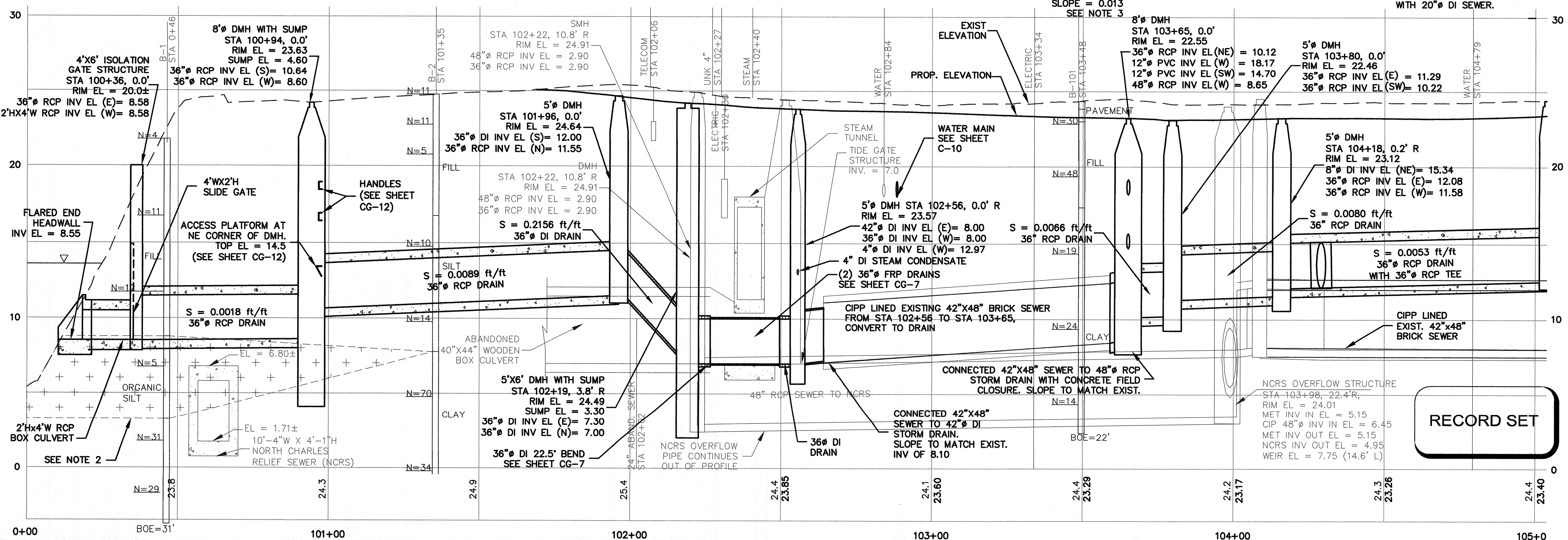
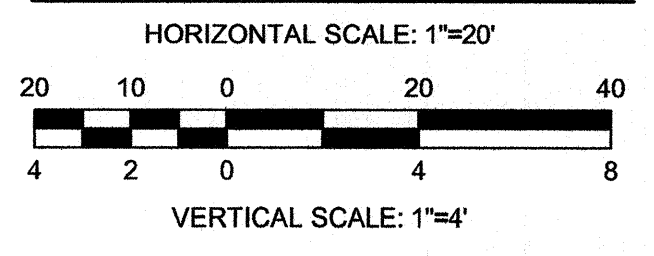


- NOTES:**
1. ABANDONED 40"x44" WOODEN BOX CULVERT WAS FOUND TO BE FILLED SOIL AND HAD NO FLOW THEREFORE NO CONCRETE BULKHEAD WAS NEEDED, SEE SHEET CG-7.
 2. APPROXIMATE LIMITS OF ORGANIC SILT. CONTRACTOR OVEREXCAVATED ORGANIC MATERIALS FROM APPROX. STA. 100+00 TO 101+00 BENEATH PROPOSED DRAIN ALIGNMENT OR AS REQUIRED BY THE ENGINEER. OVEREXCAVATED SOIL TO BE REPLACED WITH COMPACTED STRUCTURAL FILL.
 3. REMOVED EXIST. 20" CI CHANNEL/OUTLET AND CI/BRICK RESTRICTION AT INLET IN EXIST. BRICK D17CMH1030. RECONSTRUCT PROP. 21" PVC INLET AND CHANNEL WITH BRICK AND MORTAR AND FILL VOID SPACE AT INLET.
 4. CUT AND REMOVED ABANDONED SHEETING WITHIN EXCAVATION FROM HISTORICAL NCRS CONSTRUCTION.
 5. REFER TO SHEET CG-15 FOR DOGHOUSE MANHOLE DETAILS.

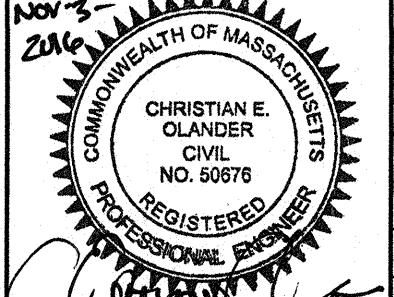
RECORD DRAWING

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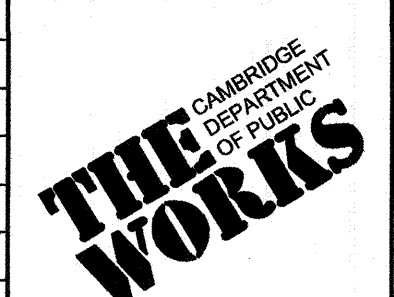
PROFILE OF DRAIN



RECORD SET



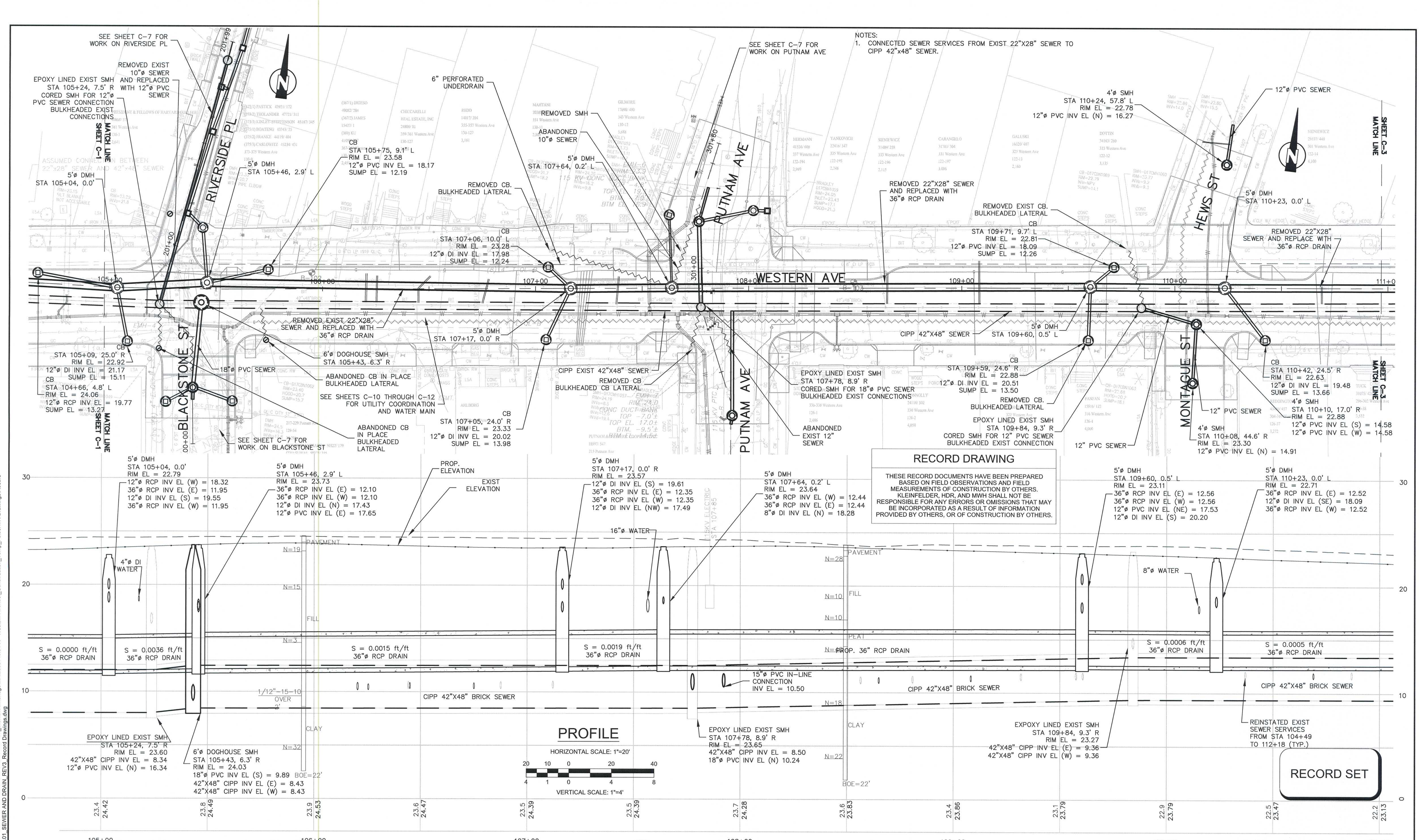
Scale	AS NOTED
Date	NOVEMBER 2016
Job No.	2009143.01-A
Designed by	KWG
Drawn by	MTS
Checked by	EO
Approved by	EO



Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL-WESTERN AVE PLAN AND PROFILE STA 100+00 TO 105+00

Sheet	C-1
File No.	

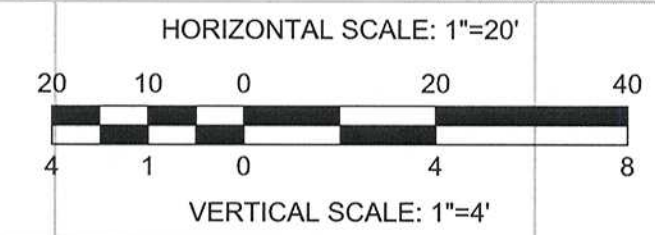
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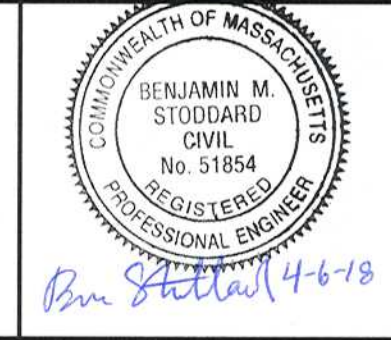
NOTES:
 1. CONNECTED SEWER SERVICES FROM EXIST 22"x28" SEWER TO CIPP 42"x48" SEWER.

RECORD DRAWING
 THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.

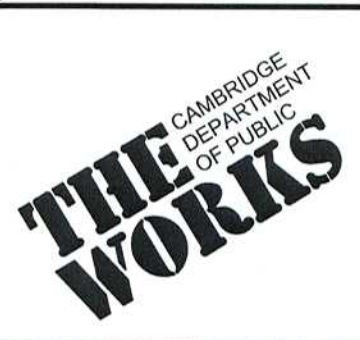
PROFILE



RECORD SET



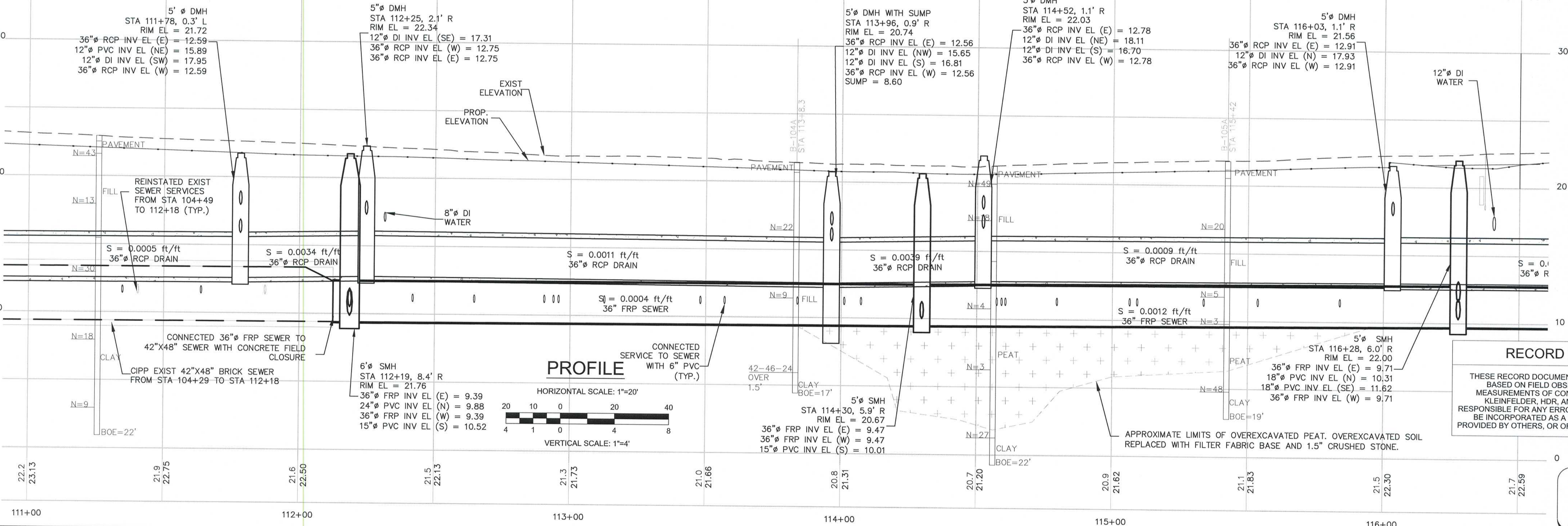
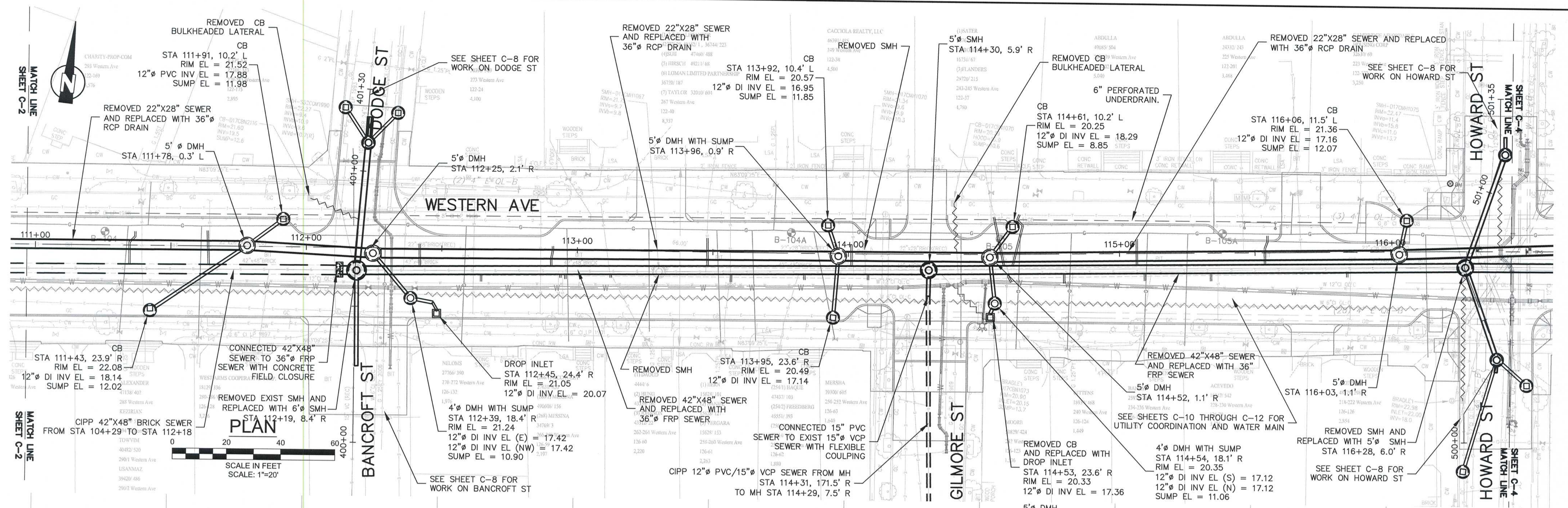
Scale	AS NOTED			
Date	APRIL 2017			
Job No.	2009143.01-A			
Designed by	CMC			
Drawn by	CMC			
Checked by	KEG	No.	Description	Date
Approved by	JJS		REVISIONS	



Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL - WESTERN AVE PLAN AND PROFILE STA 105+00 TO 111+00

Sheet	C-2
File No.	

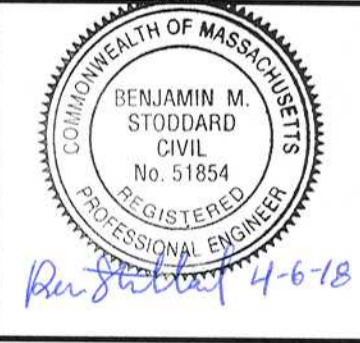
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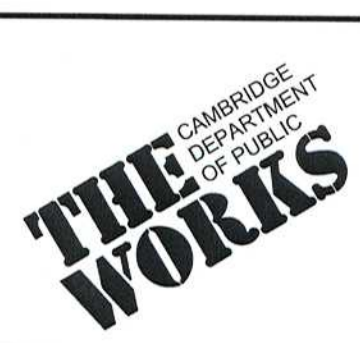
RECORD DRAWING

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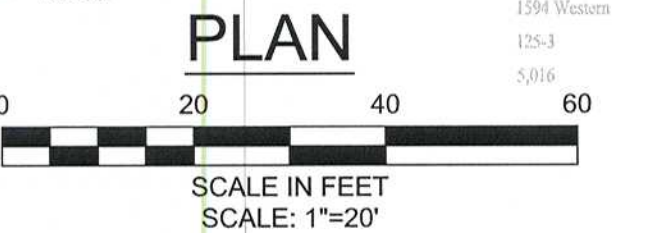
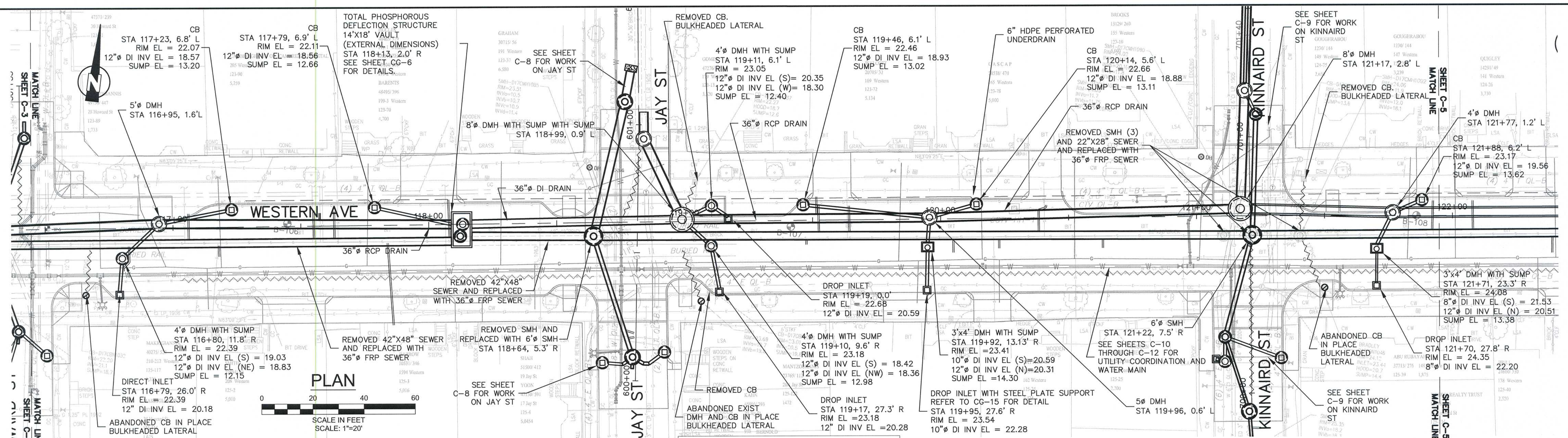
RECORD SET



Scale	AS NOTED			
Date	APRIL 2017			
Job No.	2009143.01-A			
Designed by	CMC			
Drawn by	CMC			
Checked by	KEG	No.	Description	Date
Approved by	JJS		REVISIONS	

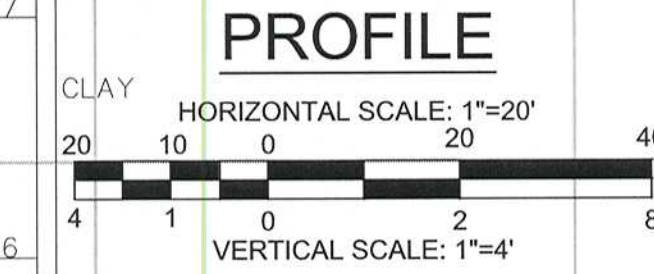
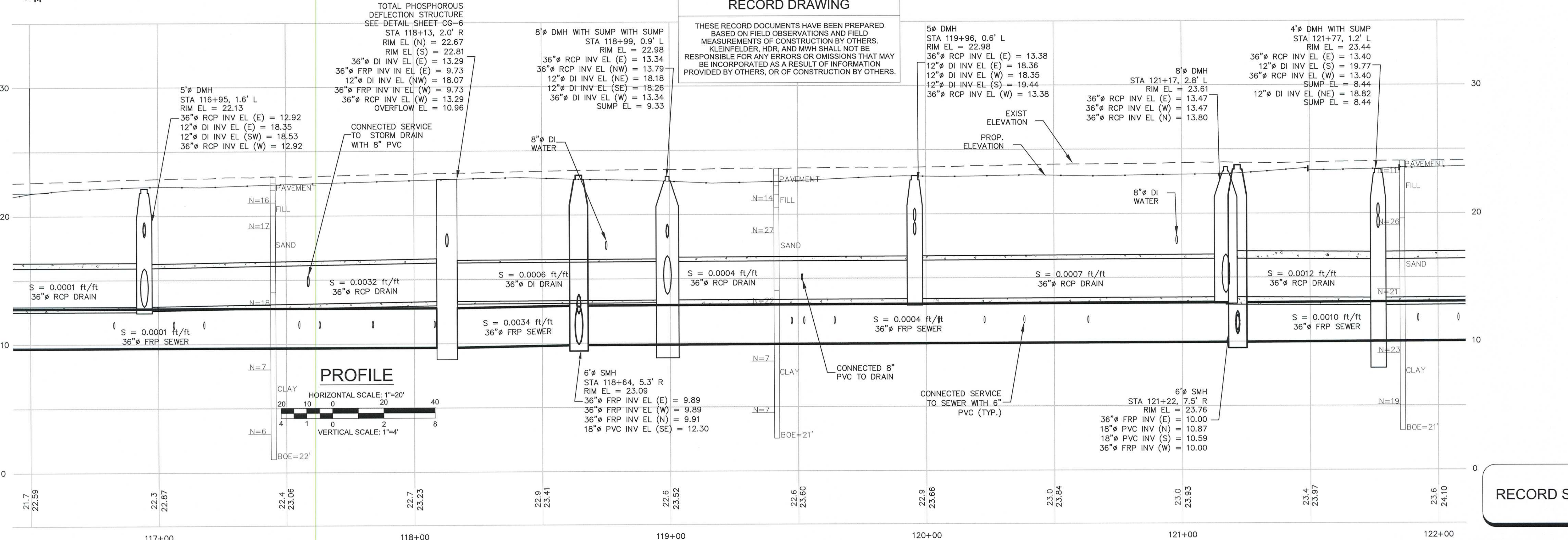


Client	CITY OF CAMBRIDGE, MA	Sheet	C-3
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL - WESTERN AVE PLAN AND PROFILE STA 111+00 TO 116+50		



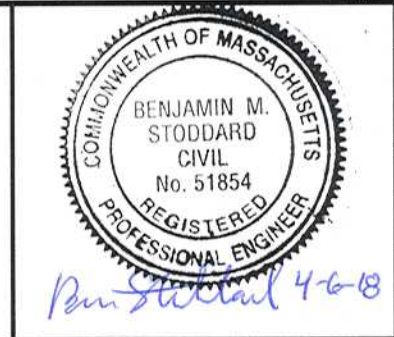
RECORD DRAWING

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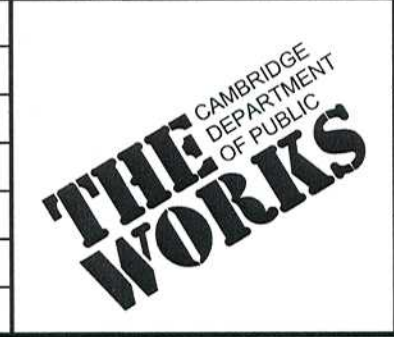


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Scale	AS NOTED
Date	APRIL 2017
Job No.	2009143-01-A
Designed by	CMC
Drawn by	CMC
Checked by	KEG
Approved by	JJS



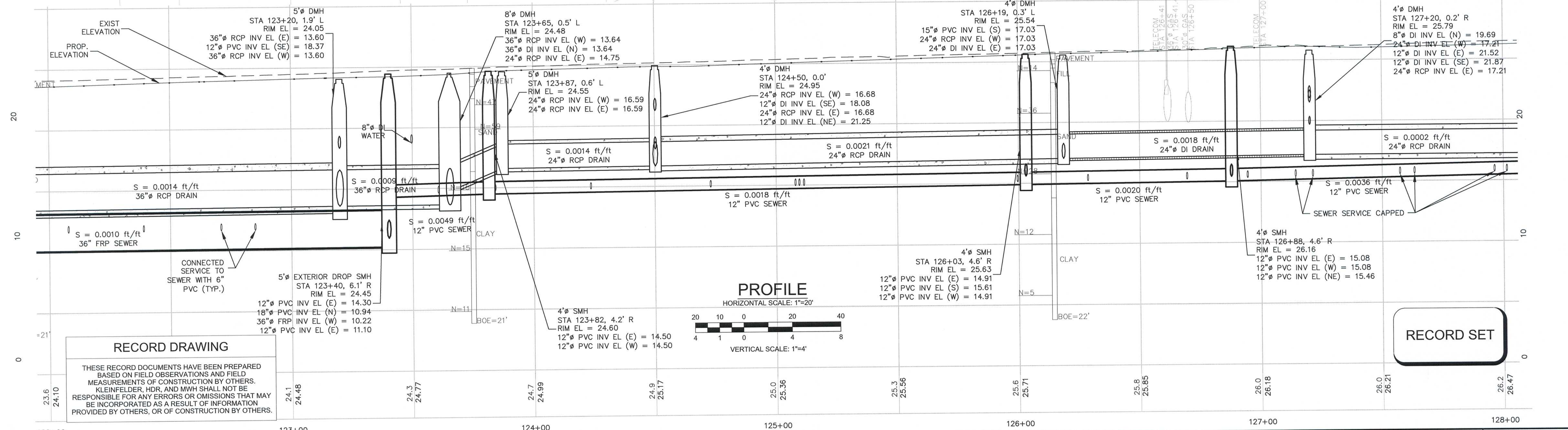
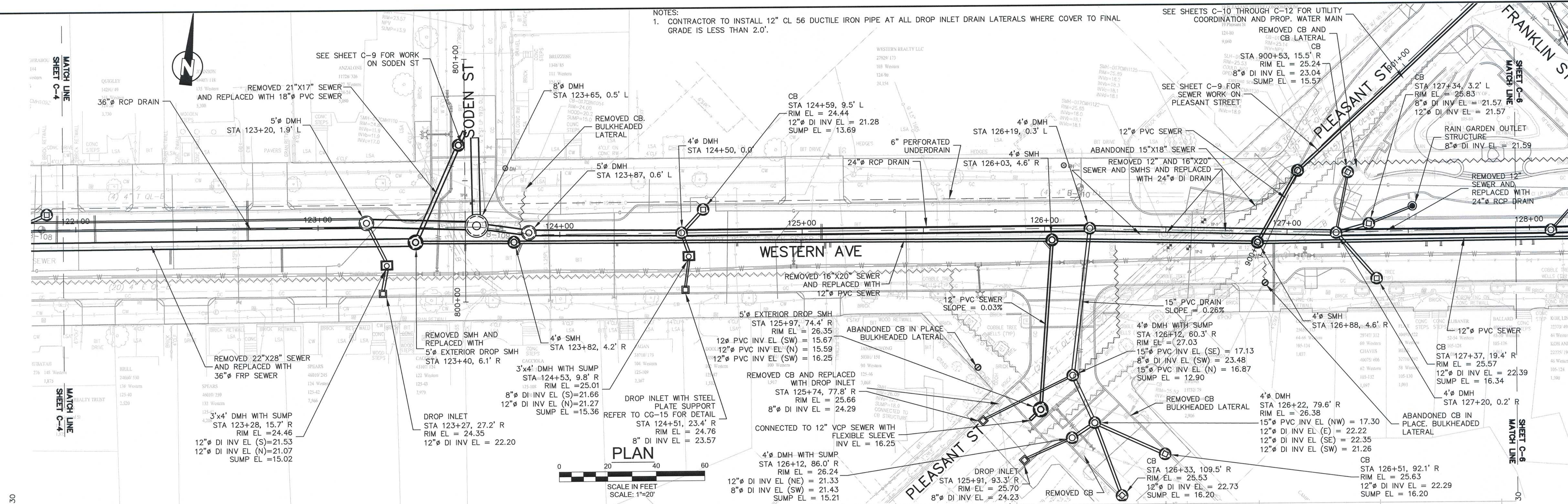
Project	CITY OF CAMBRIDGE, MA WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL - WESTERN AVE PLAN AND PROFILE STA 116+50 TO 122+00

Sheet	C-4
File No.	

PLOT DATE: 4/18/2017 7:10:56 PM USER: BEN STODDARD FILENAME: G:\clients\Cambridge\MA2009143.01-A - Western Avenue_Construction_Temp_Folder17_Drawings\Record Drawings_2012.10.12_2009143.01_SEWER AND DRAIN_REV3_Record Drawings.dwg

NOTES:
 1. CONTRACTOR TO INSTALL 12" CL 56 DUCTILE IRON PIPE AT ALL DROP INLET DRAIN LATERALS WHERE COVER TO FINAL GRADE IS LESS THAN 2.0'.

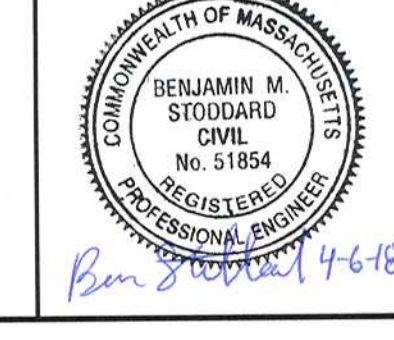
SEE SHEETS C-10 THROUGH C-12 FOR UTILITY COORDINATION AND PROP. WATER MAIN



RECORD DRAWING

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.

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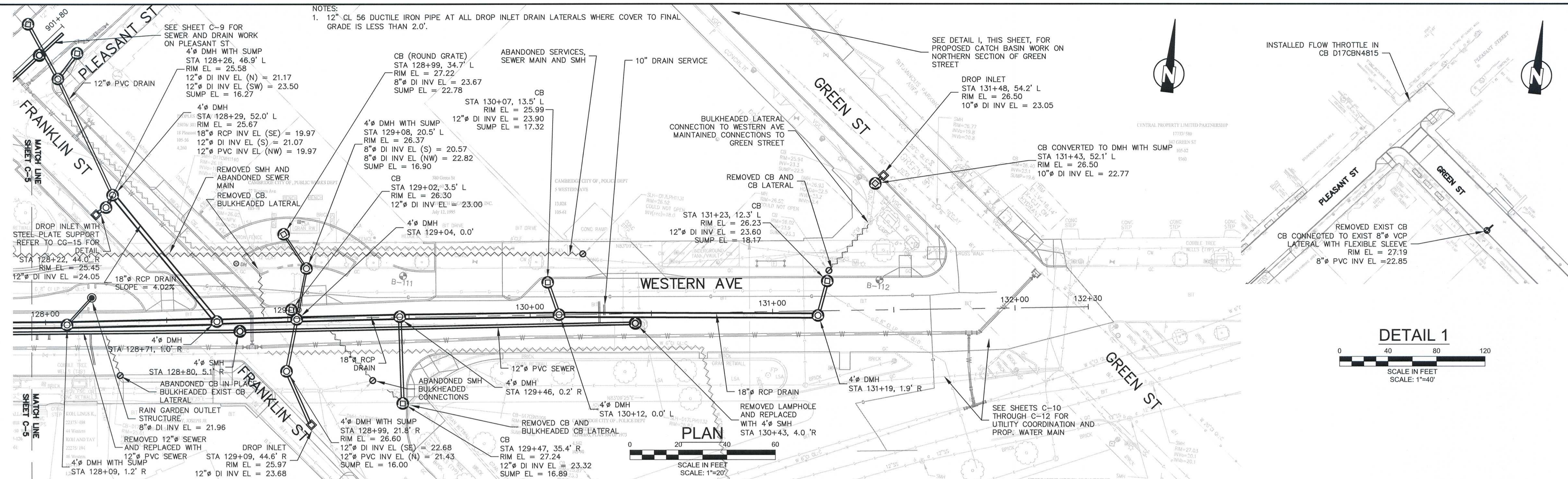


Scale	AS NOTED		
Date	APRIL 2017		
Job No.	2009143.01-A		
Designed by	CMC		
Drawn by	CMC		
Checked by	KEG	No.	Description
Approved by	JUS		REVISIONS

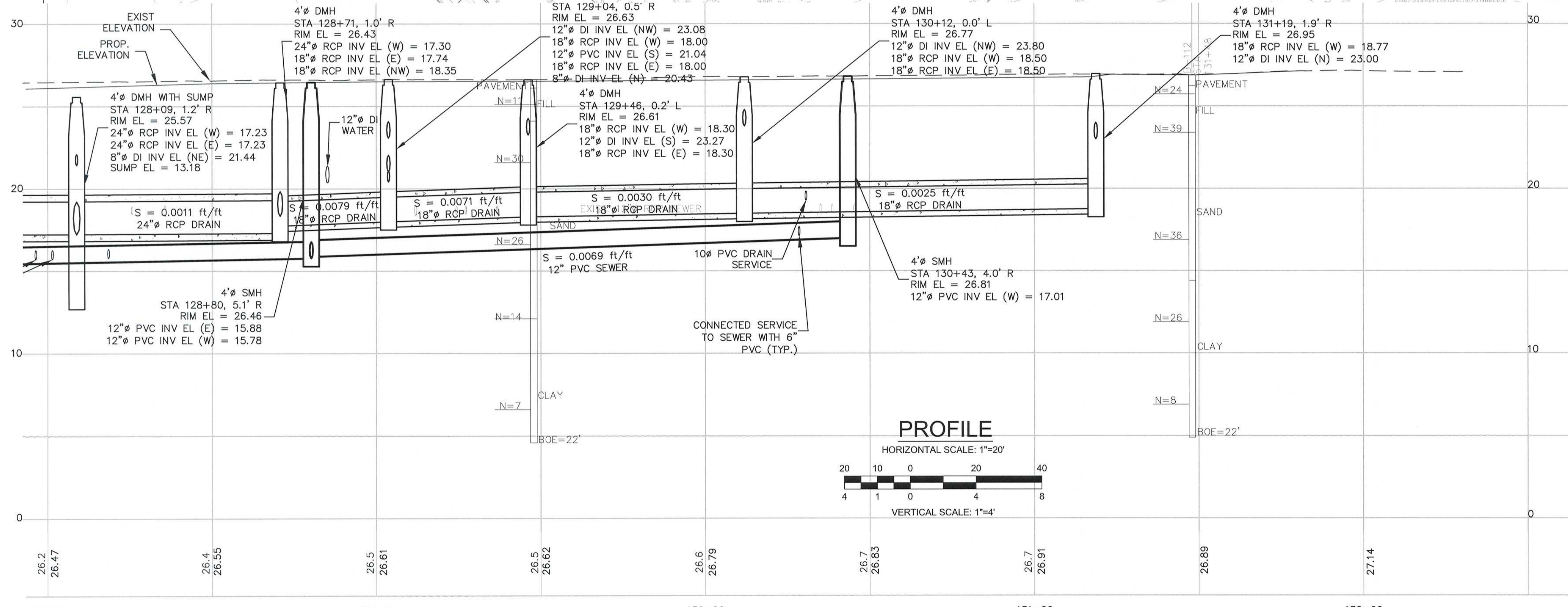


Client	CITY OF CAMBRIDGE, MA	Sheet	C-5
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL - WESTERN AVE PLAN AND PROFILE STA 122+00 TO 128+00		

NOTES:
 1. 12" CL 56 DUCTILE IRON PIPE AT ALL DROP INLET DRAIN LATERALS WHERE COVER TO FINAL GRADE IS LESS THAN 2.0'.



PLAN
 SCALE IN FEET
 SCALE: 1"=20'



PROFILE
 HORIZONTAL SCALE: 1"=20'
 VERTICAL SCALE: 1"=4'

DETAIL 1
 SCALE IN FEET
 SCALE: 1"=40'

RECORD DRAWING
 THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.

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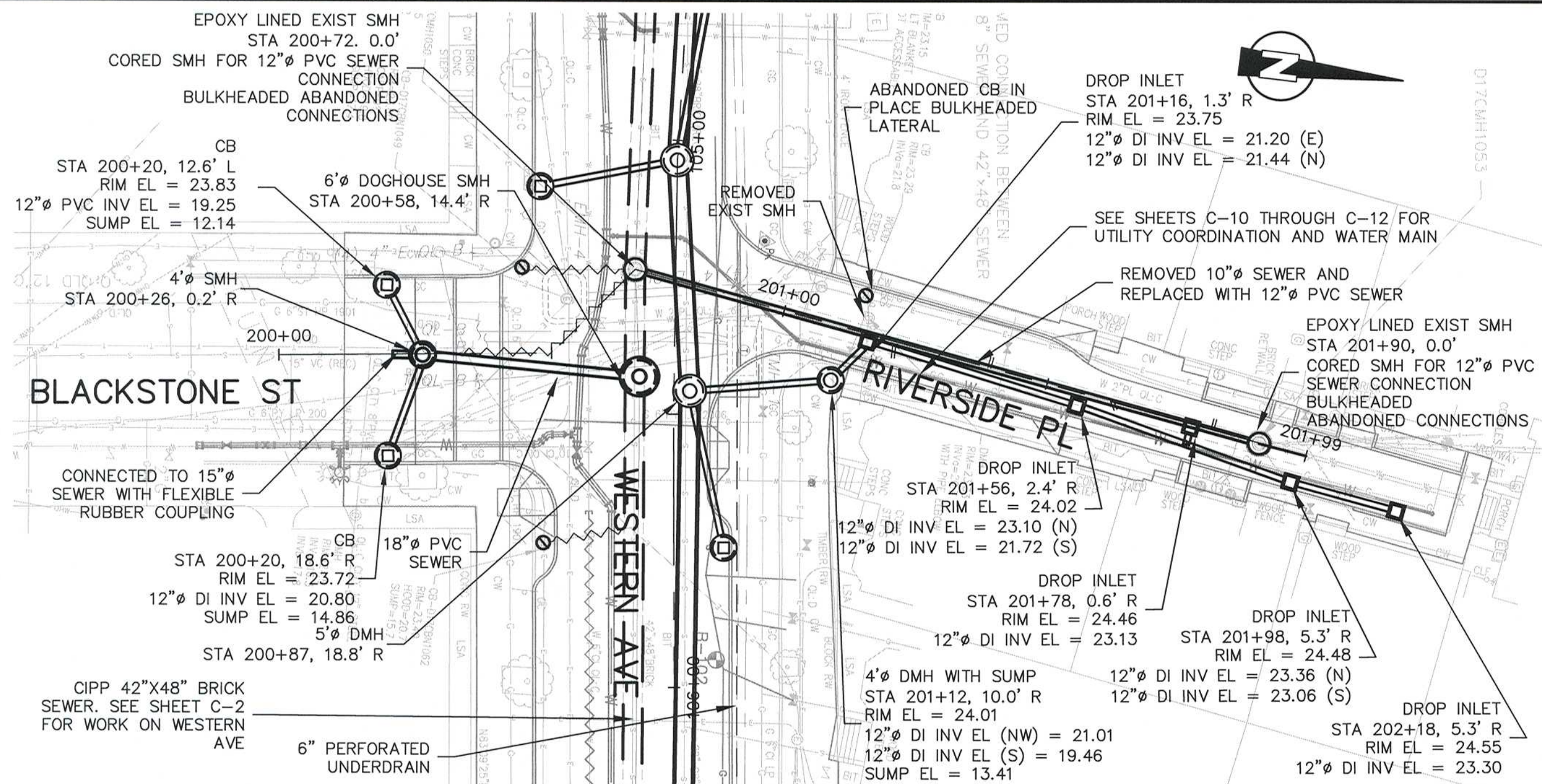


Scale	AS NOTED		
Date	APRIL 2017		
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Designed by	CMC		
Drawn by	CMC		
Checked by	KEG	No.	Description
Approved by	JJS		Date

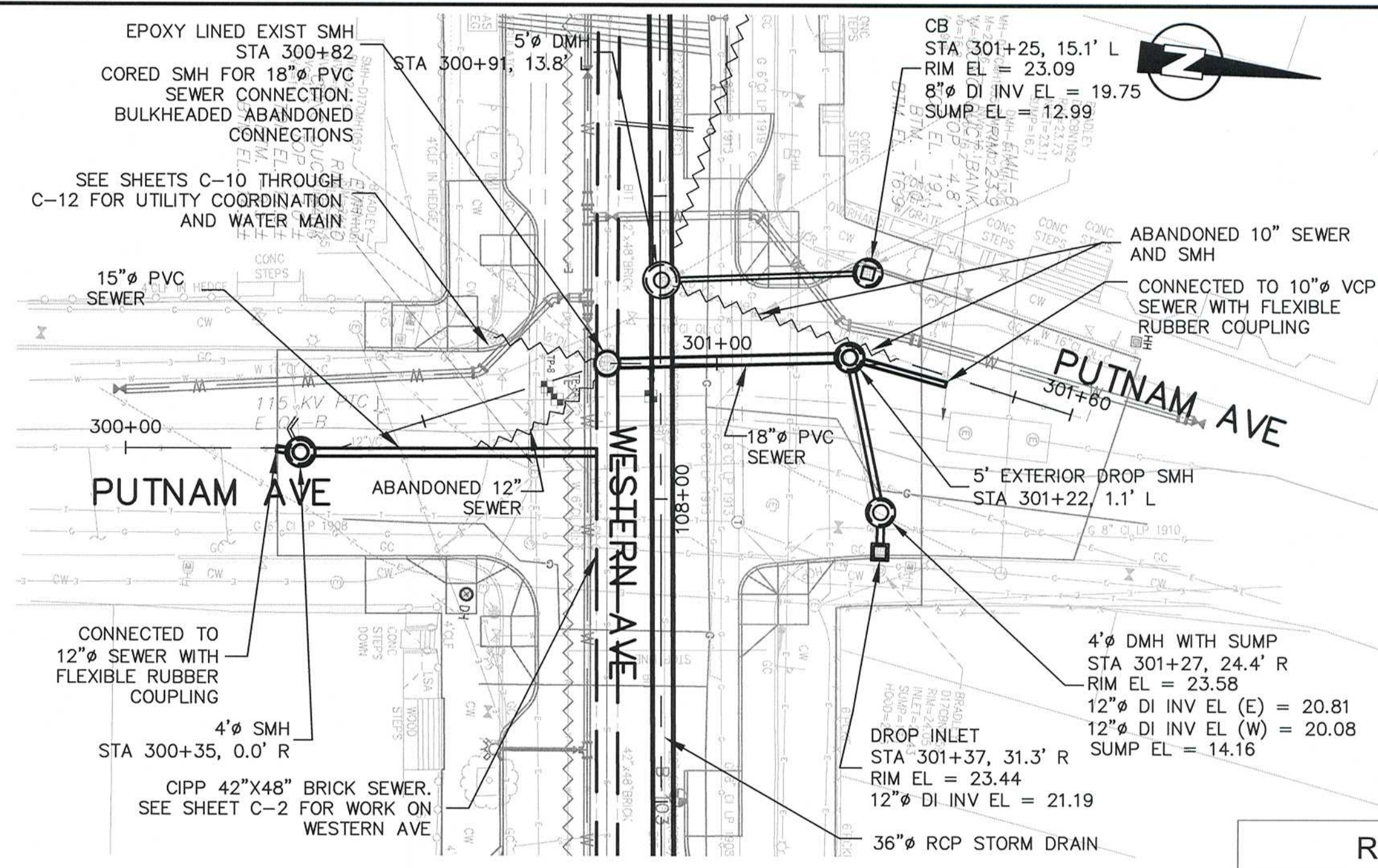


Client	CITY OF CAMBRIDGE, MA	Sheet	C-6
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL - WESTERN AVE PLAN AND PROFILE STA 128+00 TO 132+30		

PLOT DATE=4/6/2017 7:11:37 PM USER=BEN.STODDARD FILENAME=C:\clients\Cambridge MA\2009143.01-A - Western Avenue Infrastructure\Drawings\Record Drawings\2017.10.12.2009143.01 SEWER AND DRAIN REV3 Record Drawings.dwg



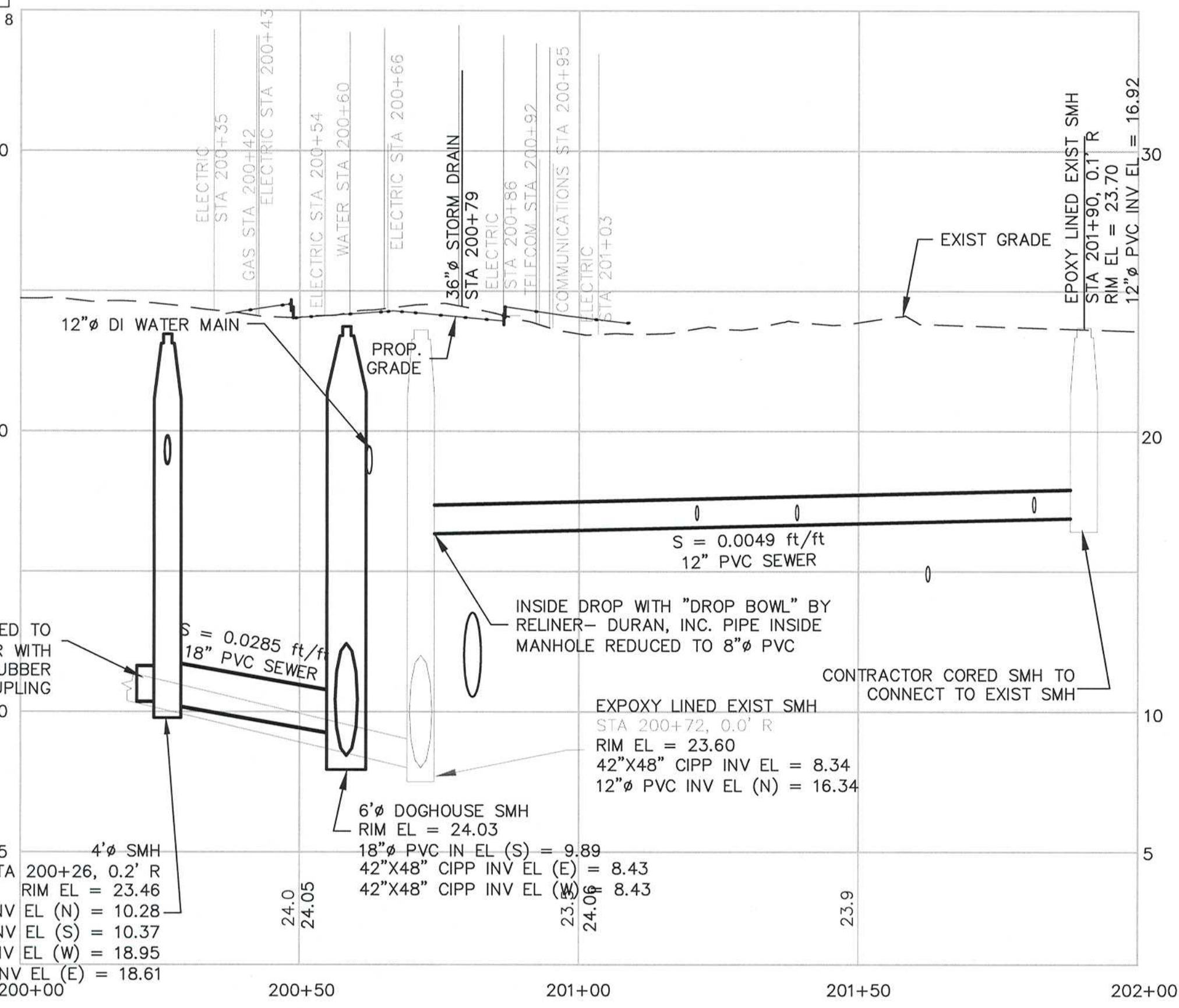
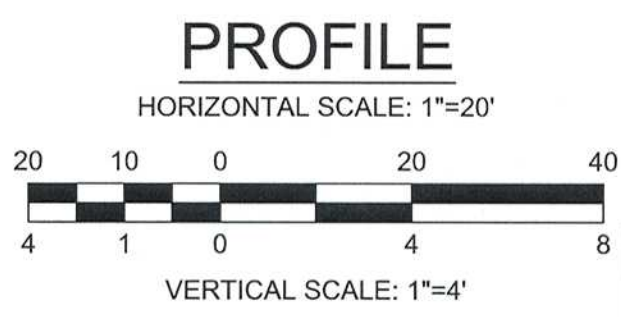
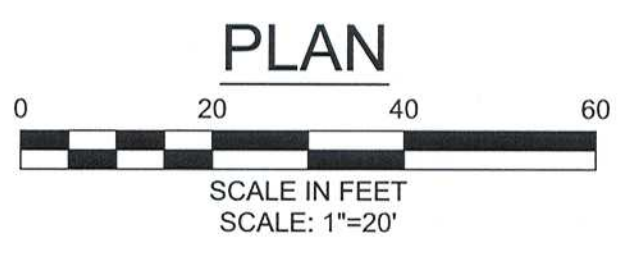
BLACKSTONE ST AND RIVERSIDE PL PLAN



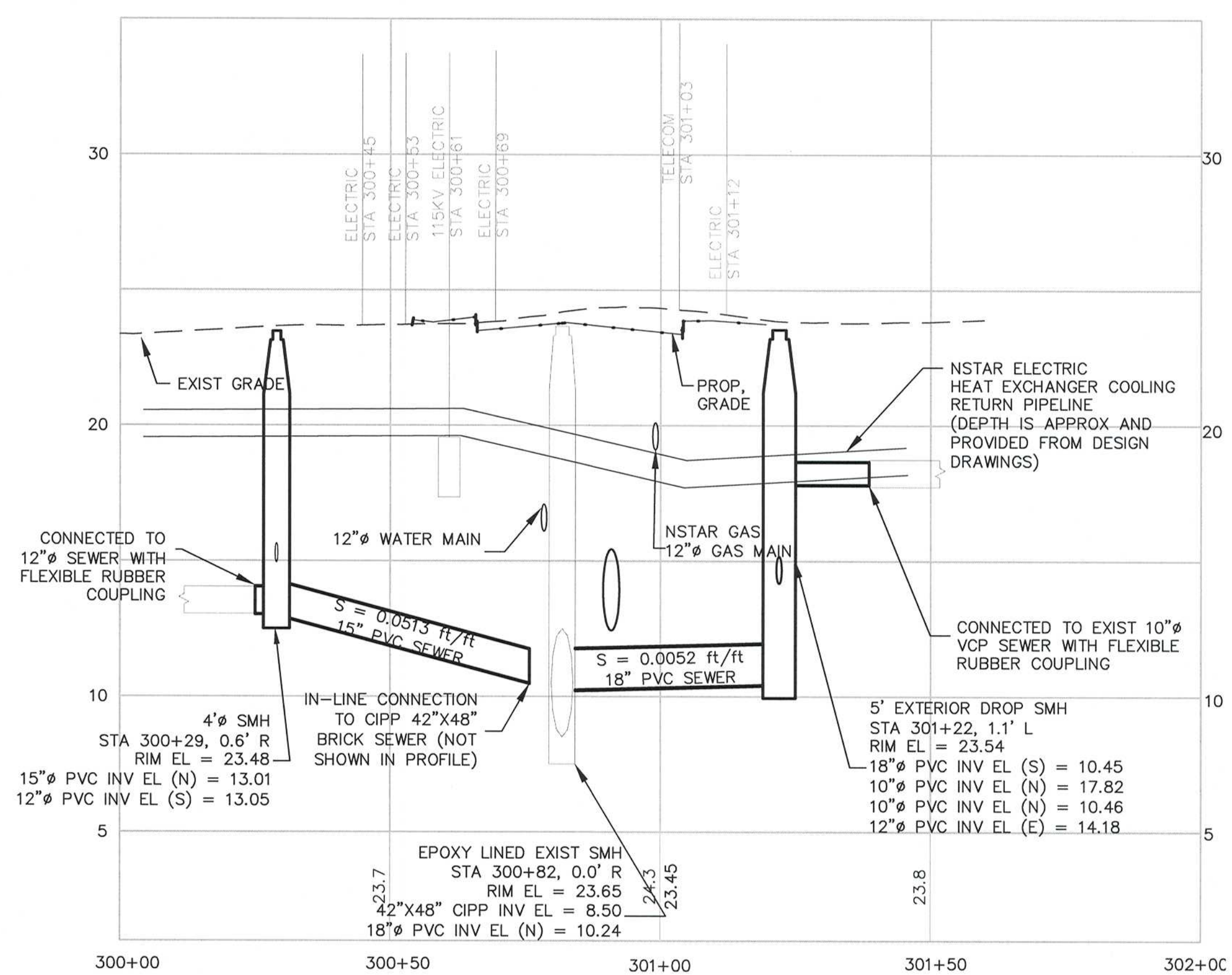
PUTNAM AVE PLAN

RECORD DRAWING

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.



BLACKSTONE ST AND RIVERSIDE PL PROFILE

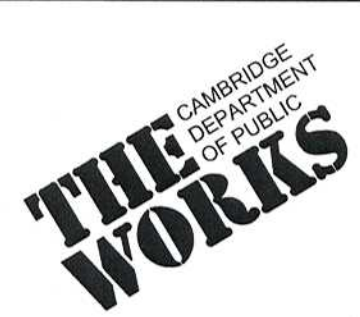


PUTNAM AVE PROFILE

RECORD SET



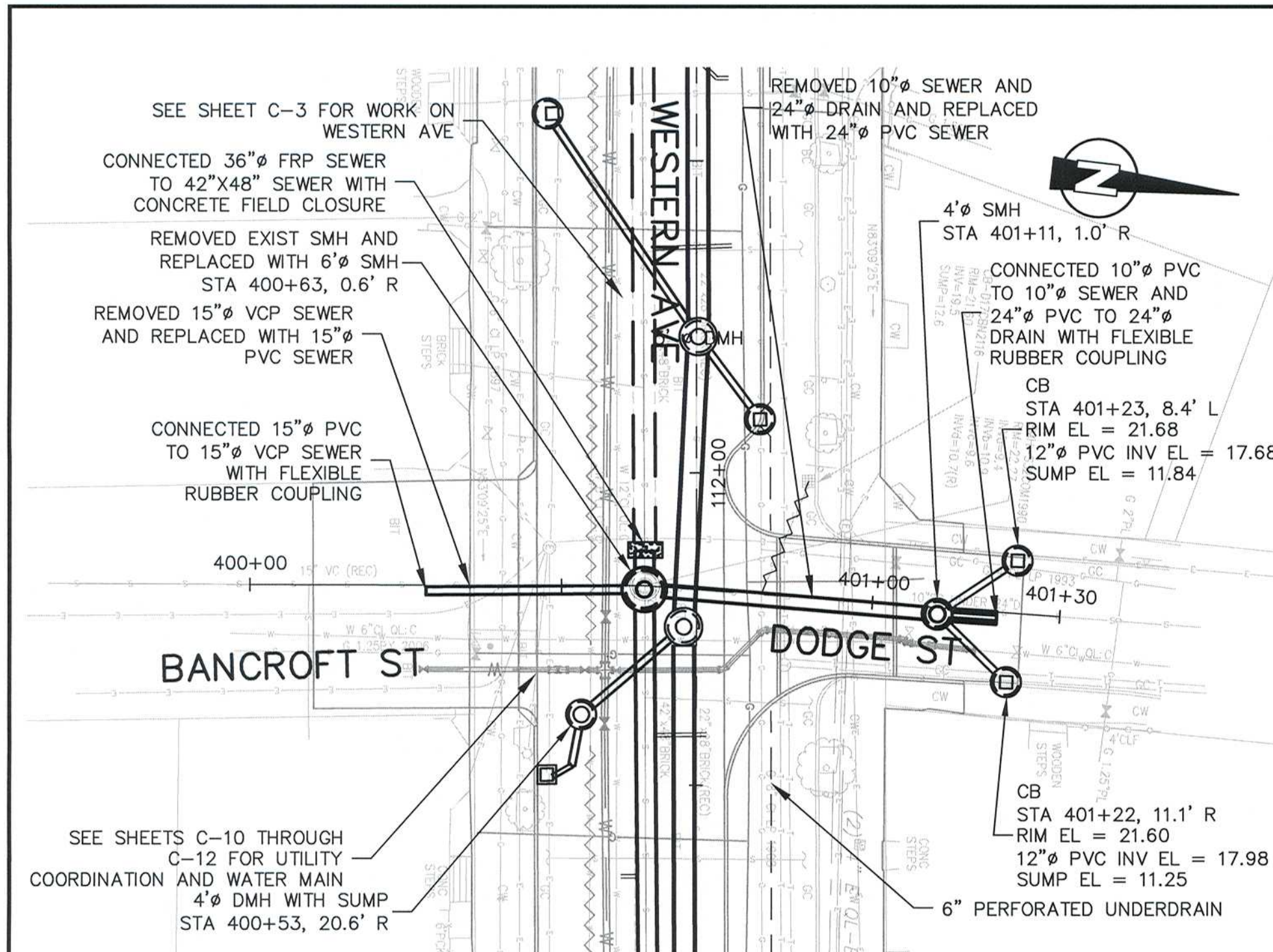
Scale	AS NOTED
Date	APRIL 2017
Job No.	2009143.01-A
Designed by	CMC
Drawn by	CMC
Checked by	KEG
Approved by	JJS



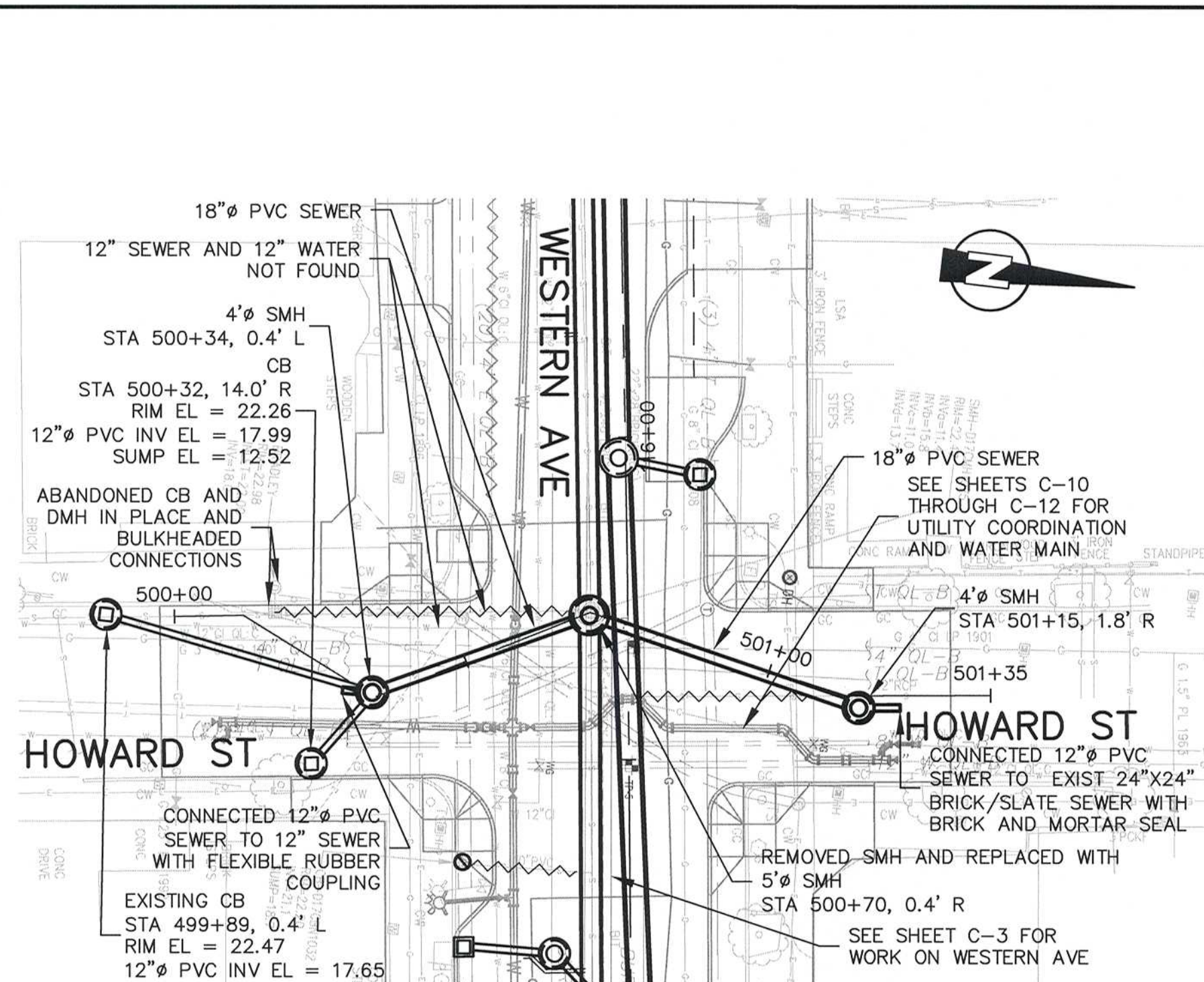
Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL - BLACKSTONE ST, RIVERSIDE PL, AND PUTNAM AVE PLANS AND PROFILES - STA 200+00 TO 202+00 AND 300+00 TO 301+60

Sheet	C-7
File No.	

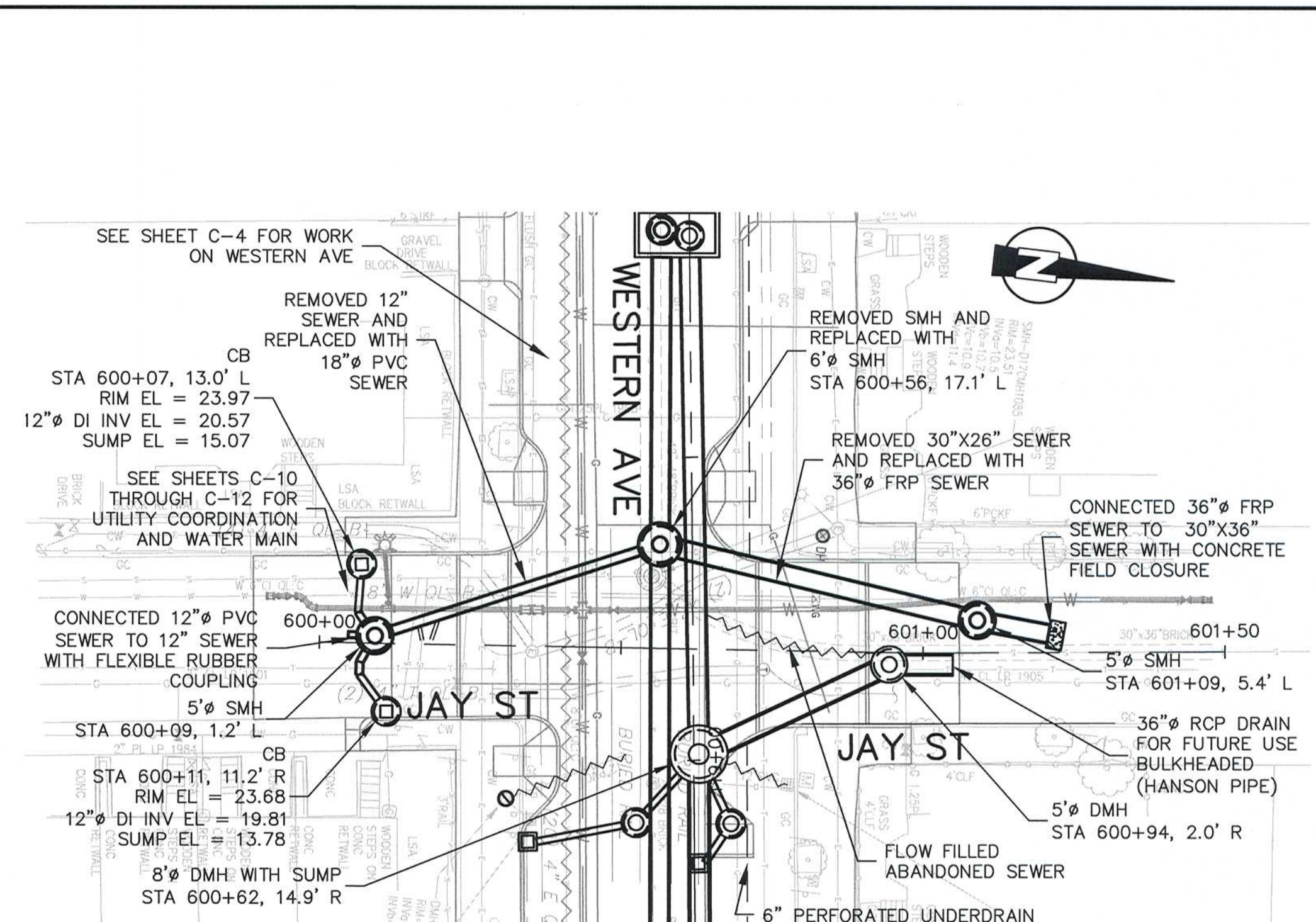
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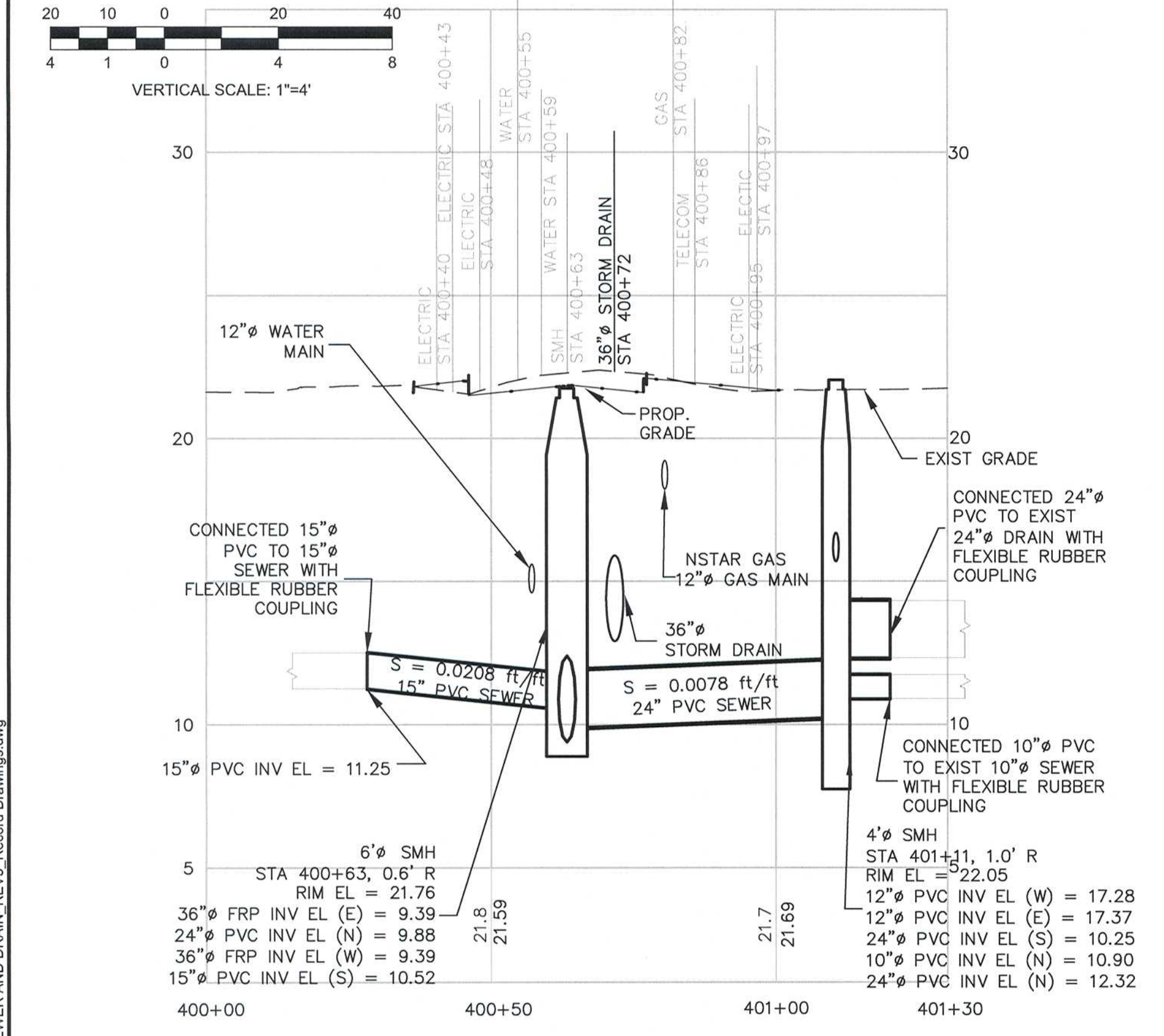
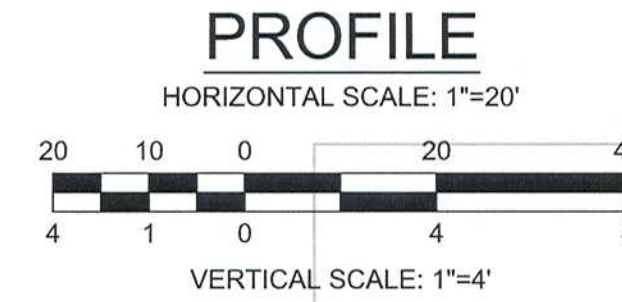
DODGE ST PLAN



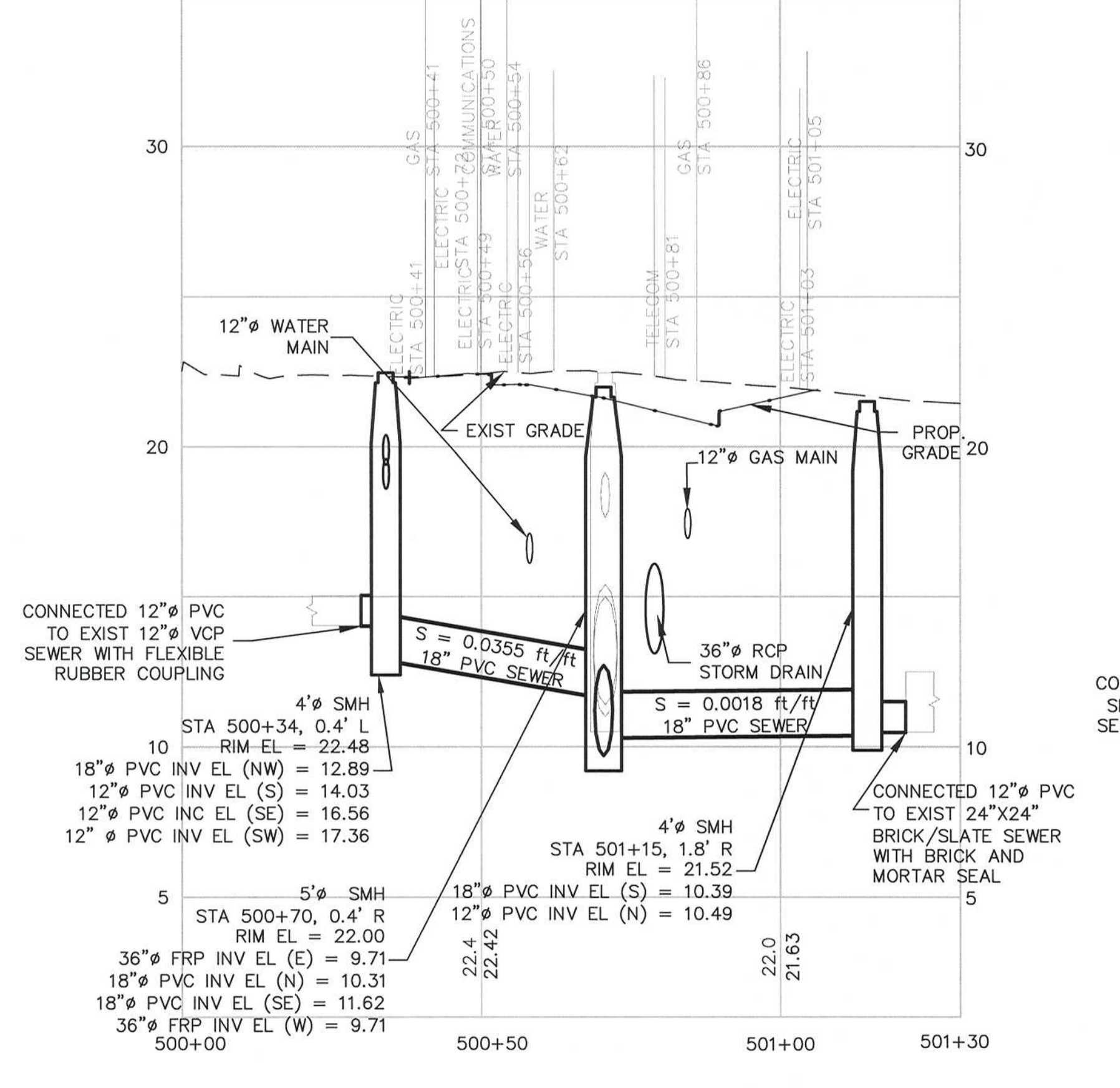
HOWARD ST PLAN



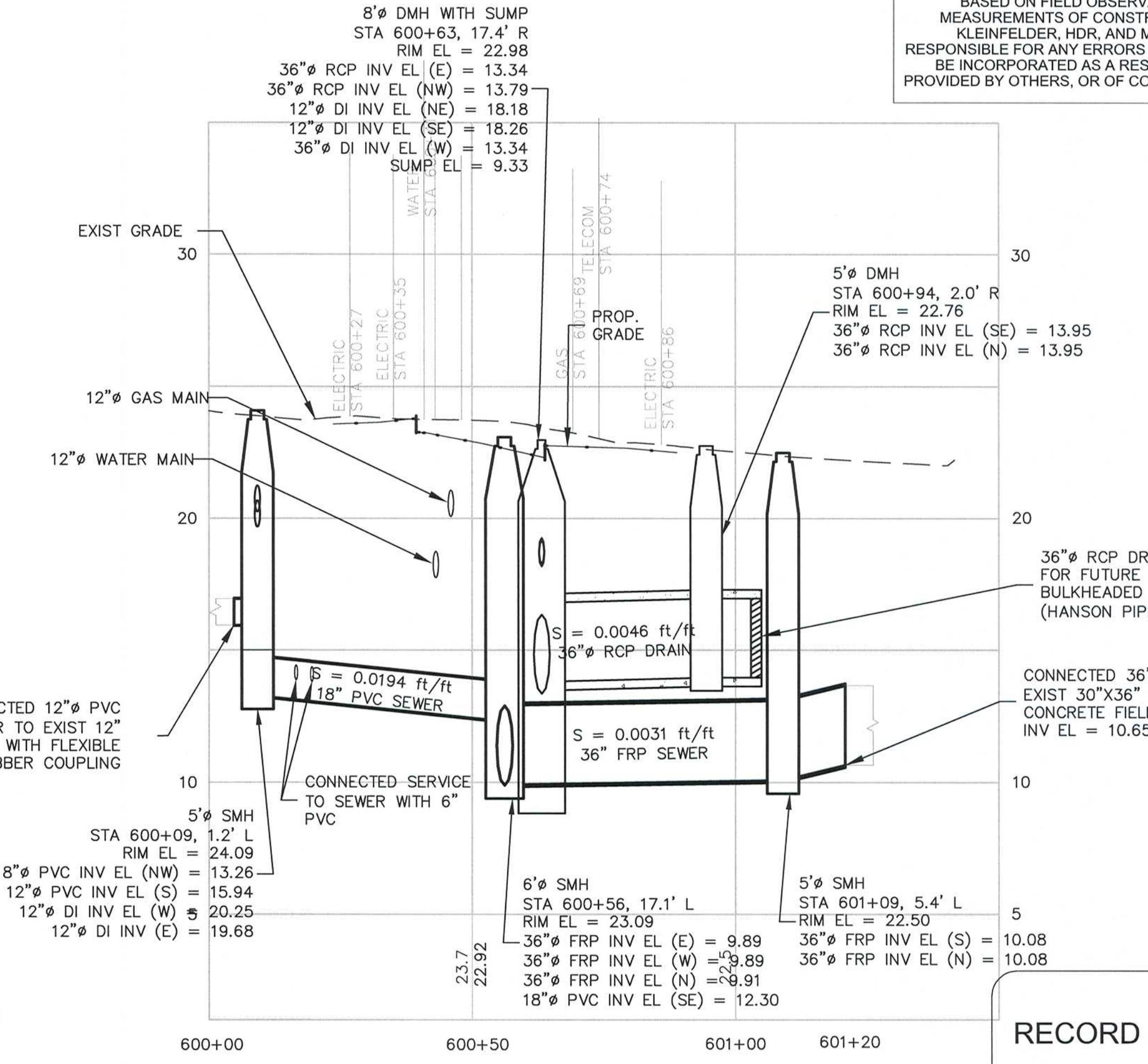
JAY ST PLAN



DODGE ST PROFILE



HOWARD ST PROFILE



JAY ST PROFILE

RECORD DRAWING

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.

RECORD SET



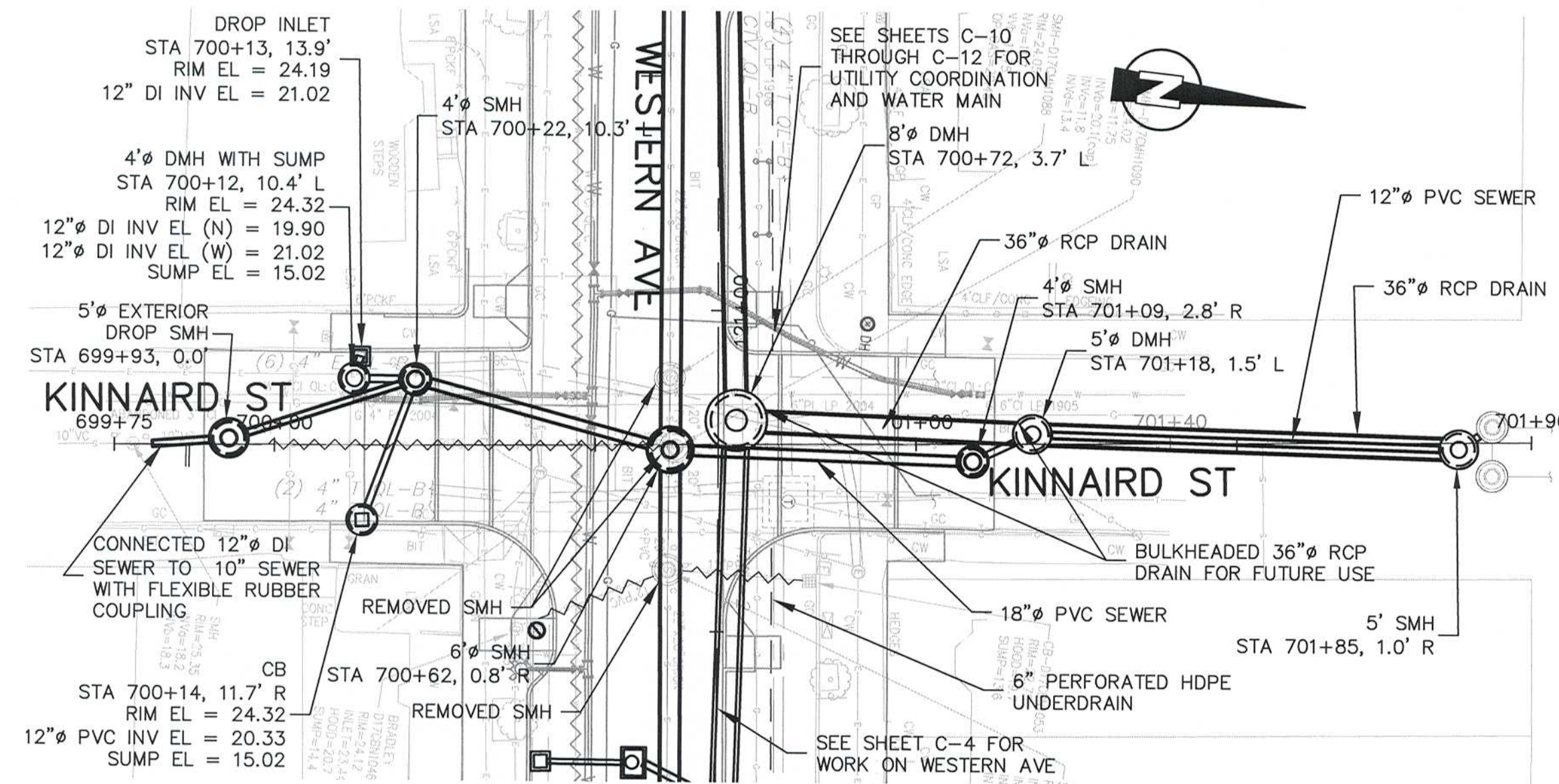
Scale	AS NOTED			
Date	APRIL 2017			
Job No.	2009143.01-A			
Designed by	CMC			
Drawn by	CMC			
Checked by	KEG	No.	Description	Date
Approved by	JJS		REVISIONS	



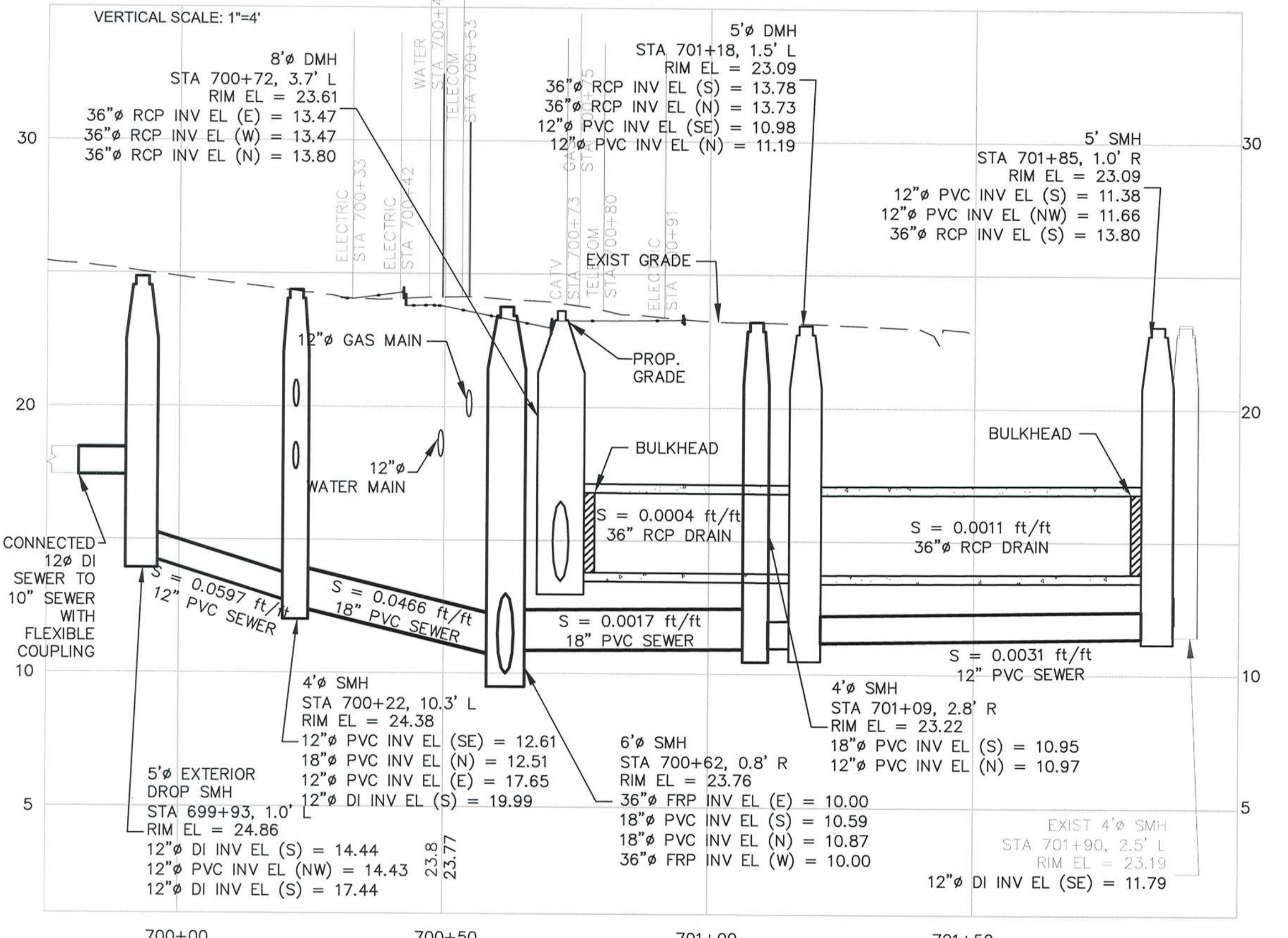
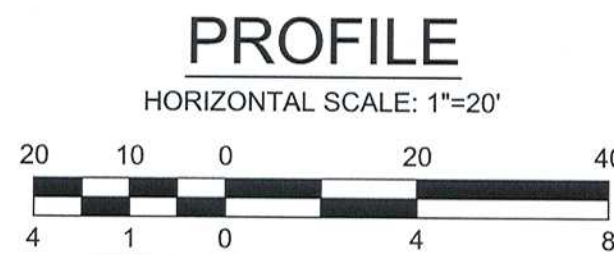
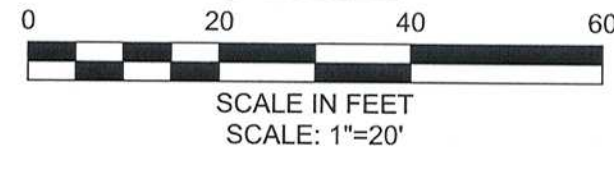
Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL - DODGE ST, HOWARD ST, AND JAY ST PLANS AND PROFILES - STA 400+00 TO 401+30, 500+00 TO 501+30, AND 600+00 TO 601+00

Sheet	C-8
File No.	

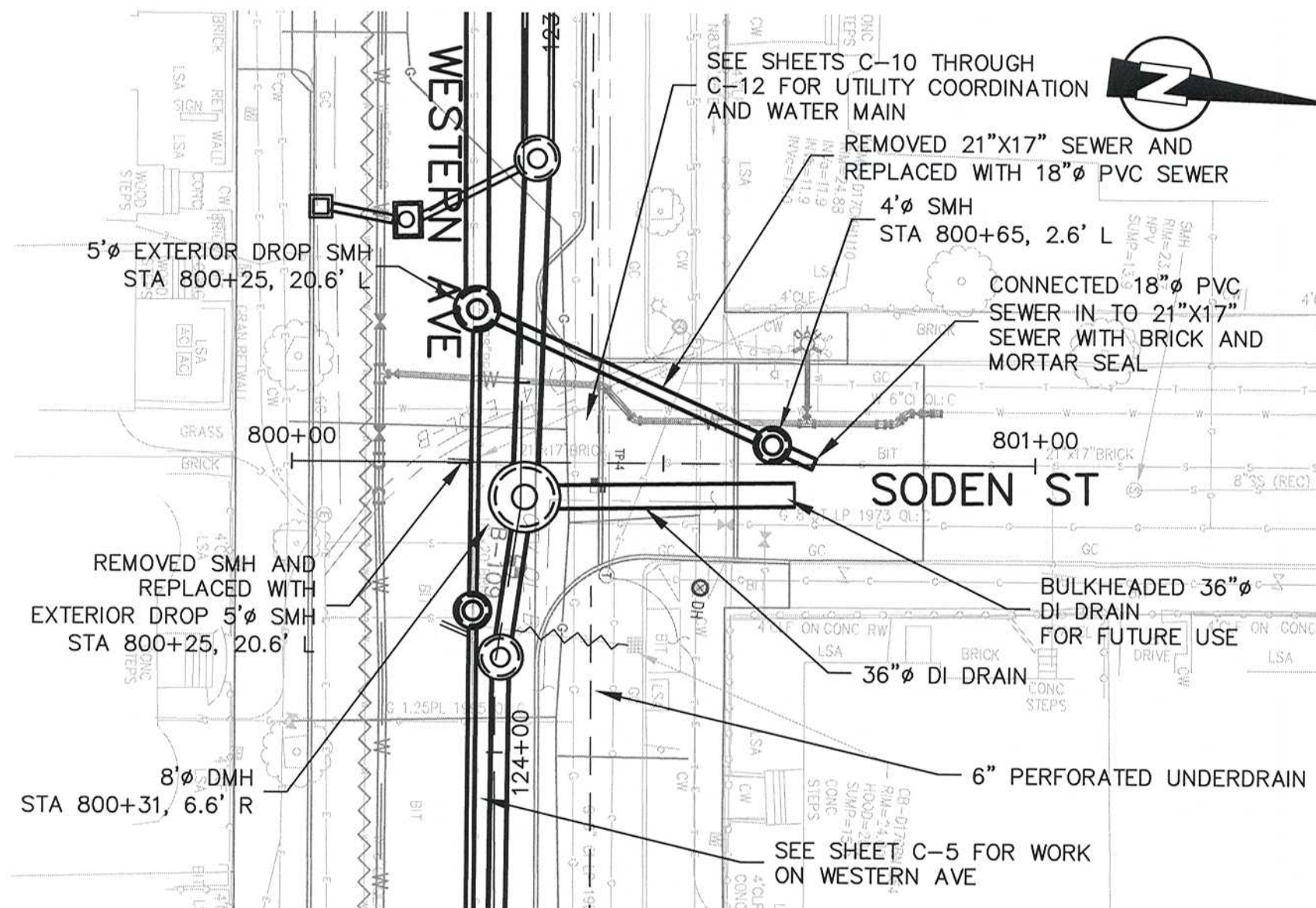
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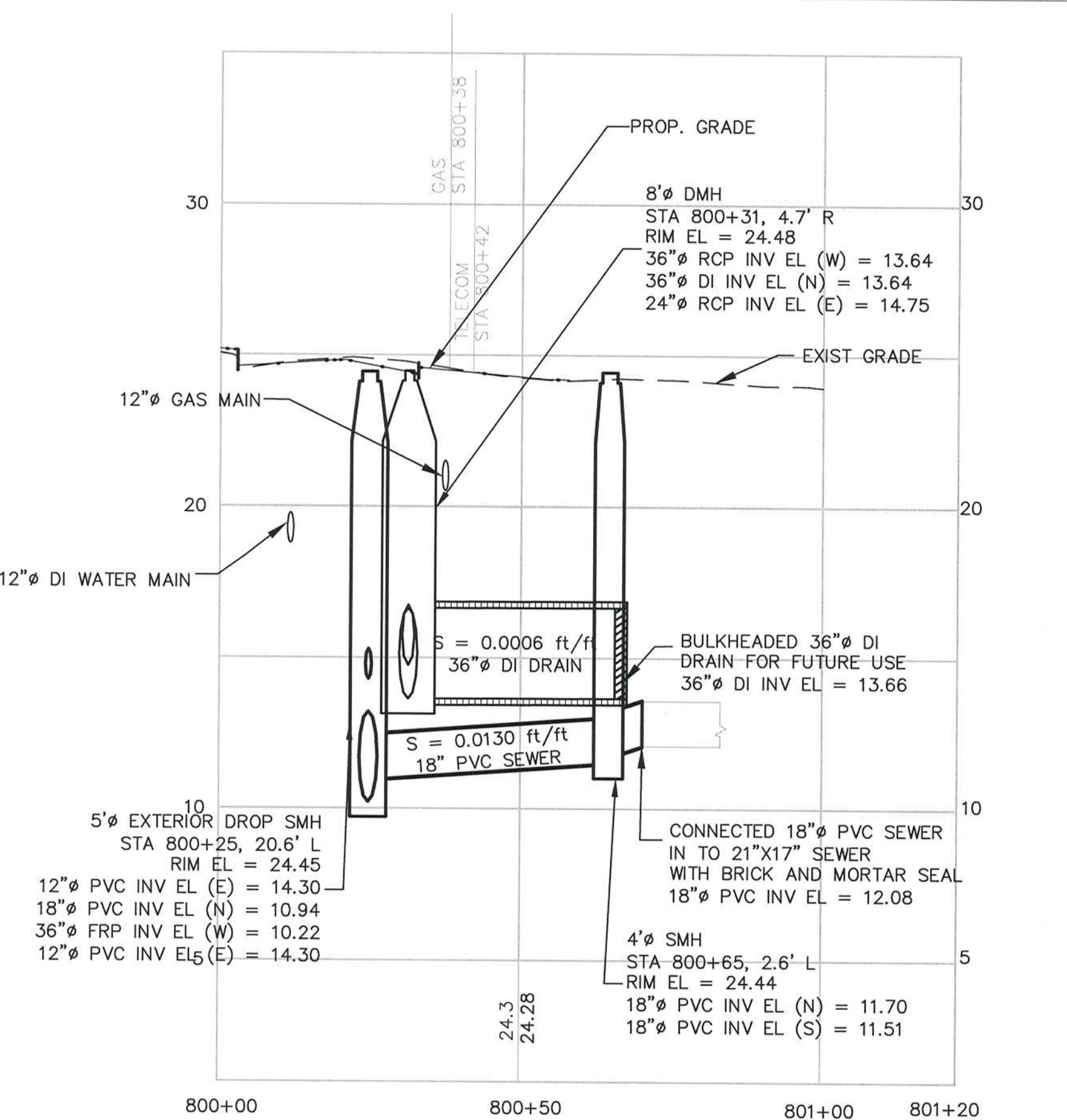
PLAN
KINNAIRD ST PLAN



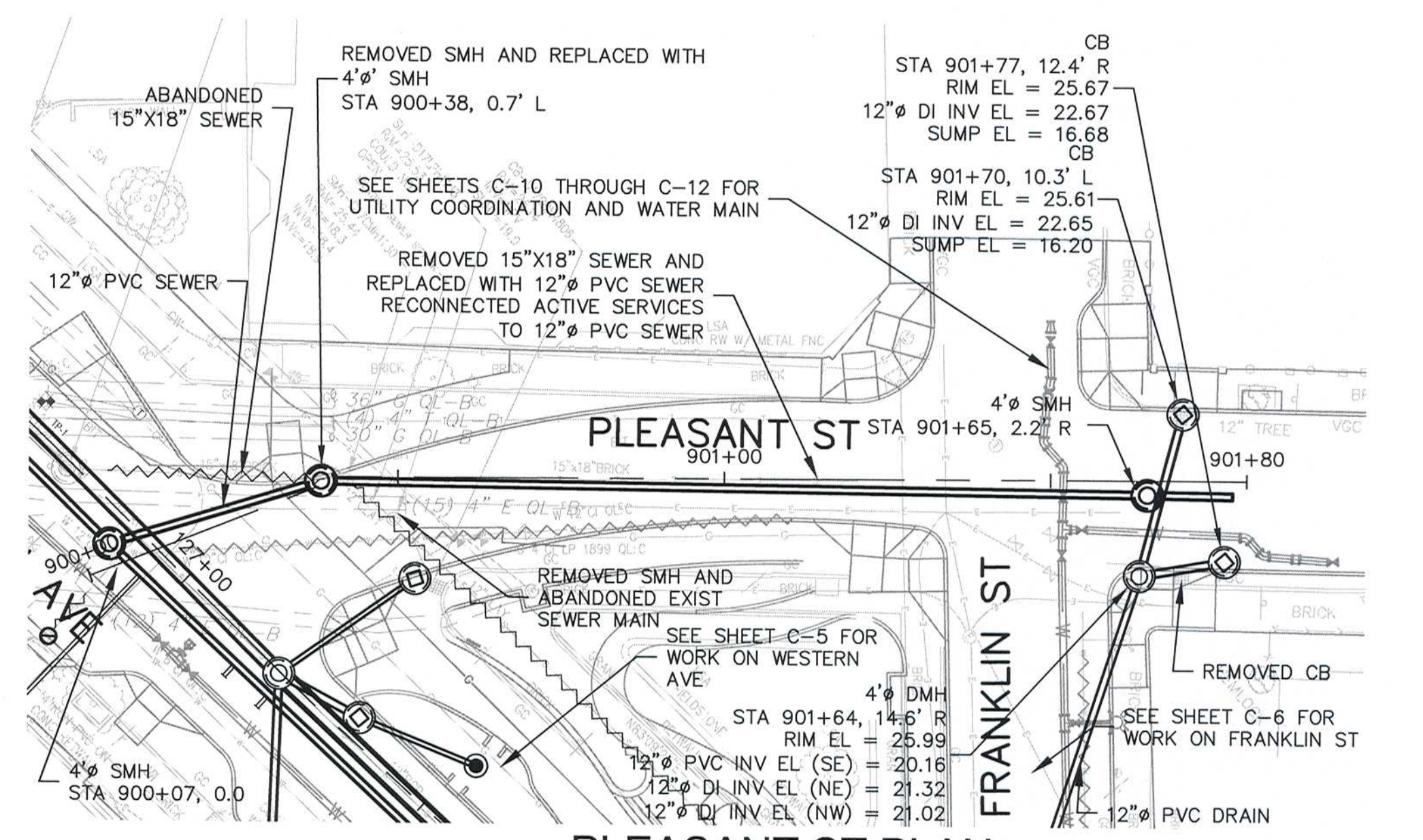
PROFILE
KINNAIRD ST PROFILE



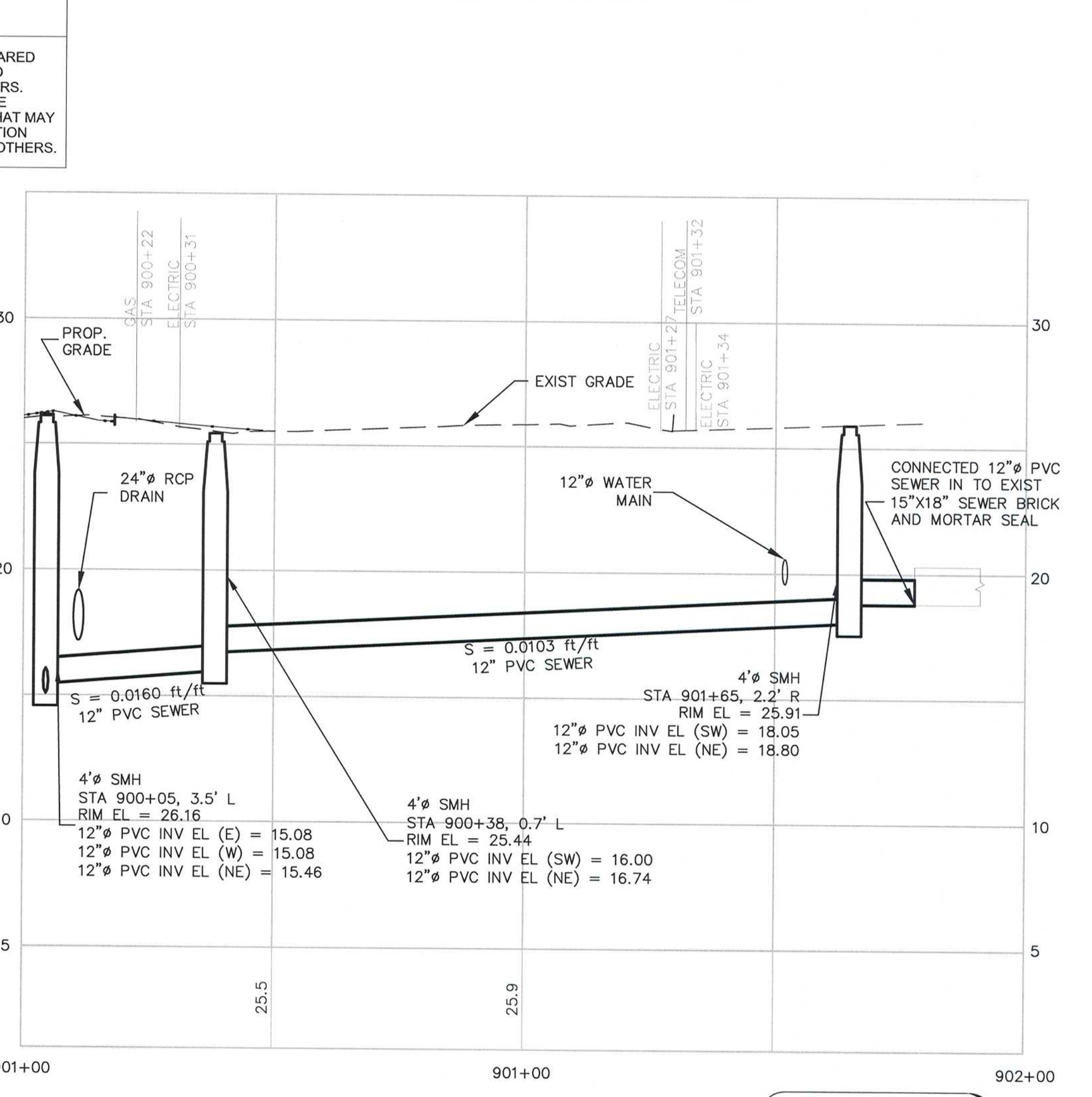
PLAN
SODEN ST PLAN



PROFILE
SODEN ST PROFILE



PLAN
PLEASANT ST PLAN



PROFILE
PLEASANT ST PROFILE

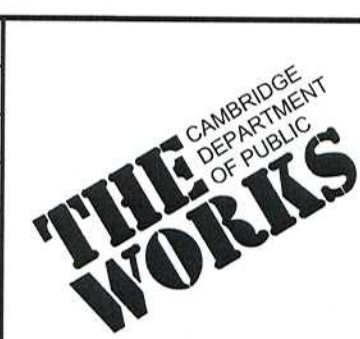
RECORD DRAWING

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RECORD SET

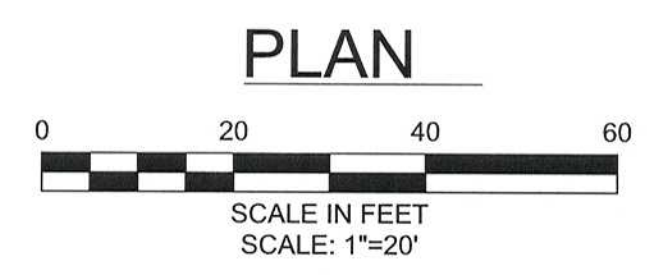
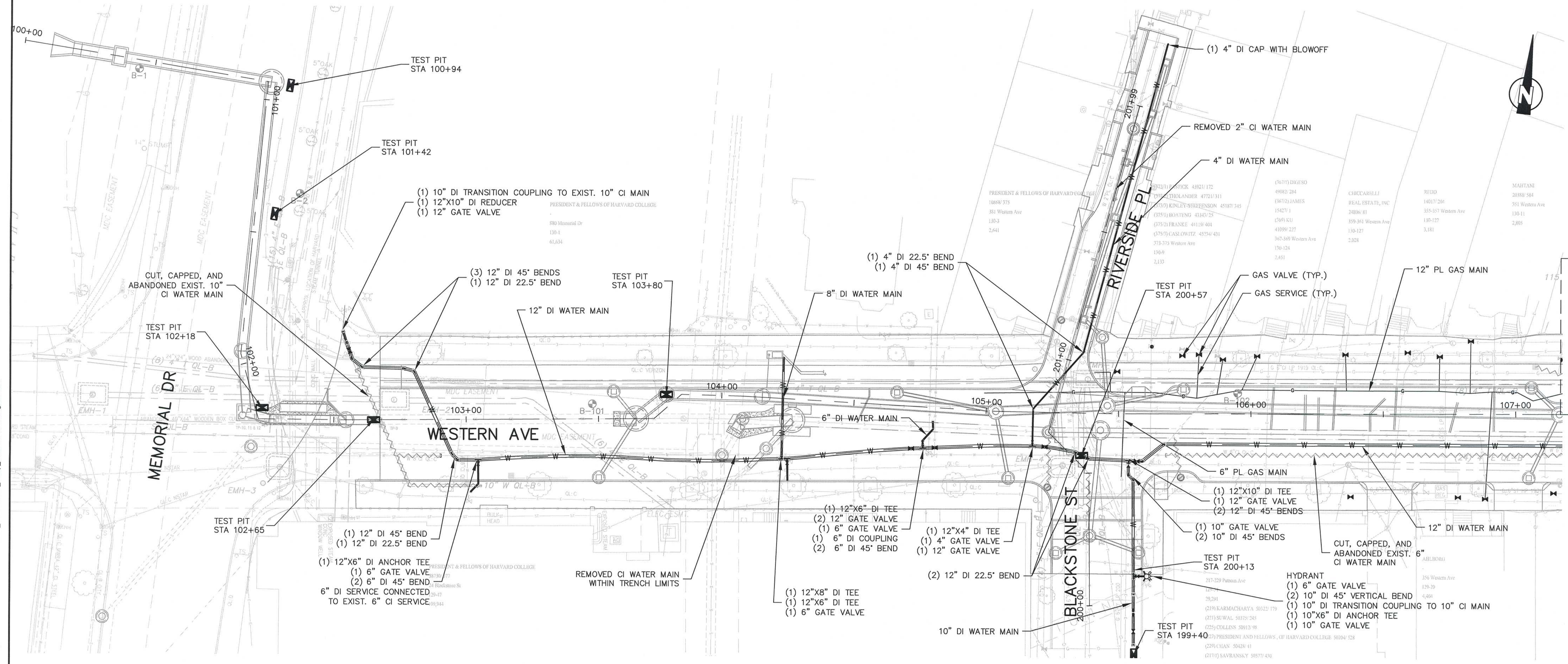


Scale	AS NOTED		
Date	APRIL 2017		
Job No.	2009143.01-A		
Designed by	CMC		
Drawn by	CMC		
Checked by	KEG	No.	Description
Approved by	JJS		REVISIONS



Client	CITY OF CAMBRIDGE, MA	Sheet	C-9
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL - KINNAIRD ST, SODEN ST, AND PLEASANT ST PLANS AND PROFILES - STA 700+00 TO 701+40, 800+00 TO 801+20, AND 900+00 TO 901+70		

- NOTES:
1. WATER SERVICES CONNECTED TO NEW WATER MAIN. WATER SERVICES NOT SHOWN ON RECORD DRAWING.
 2. EXISTING LEAD SERVICES REMOVED AND REPLACED TO THE METER. SERVICES UNDER 1" IN DIAMETER REPLACED TO THE BACK OF THE SIDEWALK.
 3. FOR WATER SERVICES GREATER THAN 1.5" IN SIZE, CONTRACTOR INSTALLED GATE VALVE AT MAIN.
 4. IN AREAS WHERE NEW OR RECENTLY INSTALLED GAS OR WATER ARE EXPOSED OR ADJACENT TO SEWER OR DRAIN TRENCH, SAND BACKFILL PLACED FOR UTILITY SUPPORT.
 5. EVERSOURCE GAS ALIGNMENT INFORMATION HAS BEEN PREPARED BASED ON SURVEYED BACKFILLED TRENCH FOLLOWING INSTALLATION. CONTACT EVERSOURCE GAS TO OBTAIN THEIR OFFICIAL RECORD INFORMATION.



RECORD DRAWING

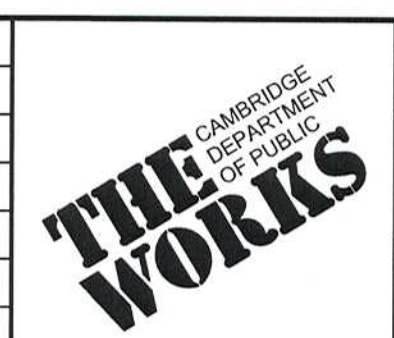
THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.

RECORD SET

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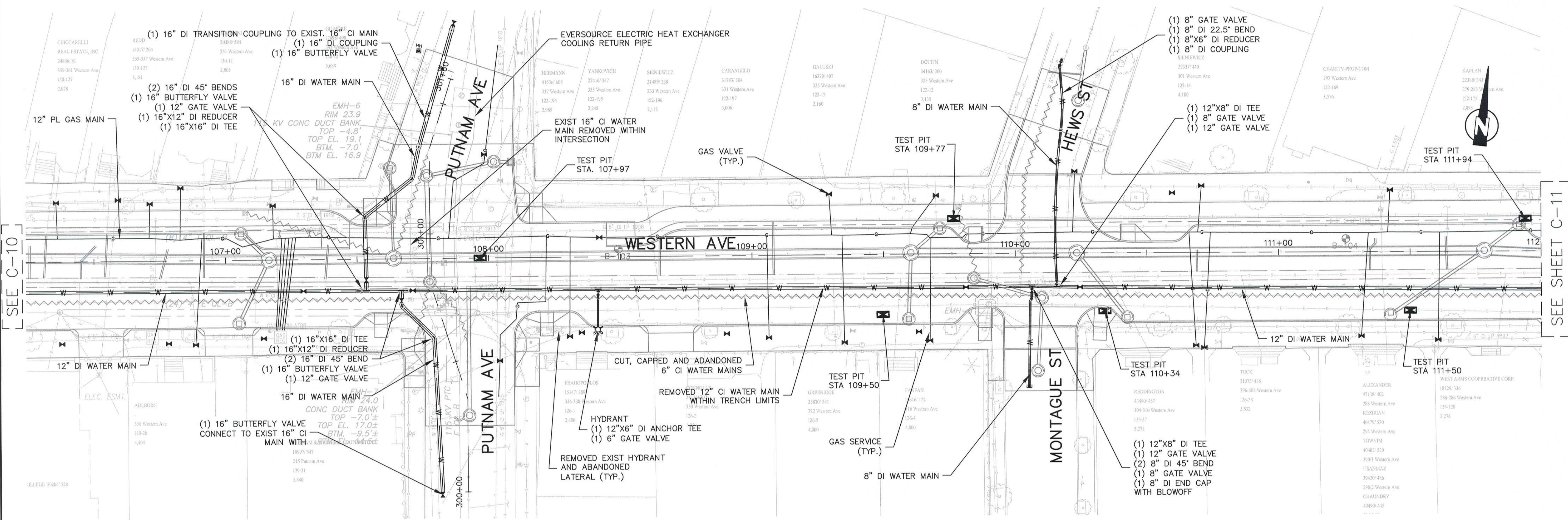


Scale	AS NOTED			
Date	APRIL 2017			
Job No.	2009143.01-A			
Designed by	KJL			
Drawn by	KJL			
Checked by	KEG	No.	Description	Date
Approved by	JJS		REVISIONS	



Client	CITY OF CAMBRIDGE, MA	Sheet	C-10
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL - UTILITY COORDINATION STA 100+00 TO 111+50		

- NOTES:
1. WATER SERVICES CONNECTED TO NEW WATER MAIN. WATER SERVICES NOT SHOWN ON RECORD DRAWINGS.
 2. EXISTING LEAD SERVICES REMOVED AND REPLACED TO THE METER. SERVICES UNDER 1" IN DIAMETER REPLACED TO THE BACK OF SIDEWALK.
 3. FOR WATER SERVICES GREATER THAN 1.5" IN SIZE, CONTRACTOR INSTALLED GATE VALVE AT MAIN.
 4. IN AREAS WHERE NEW OR RECENTLY INSTALLED GAS OR WATER ARE EXPOSED OR ADJACENT TO SEWER OR DRAIN TRENCH, SAND BACKFILL PLACED FOR UTILITY SUPPORT.
 5. EVERSOURCE GAS ALIGNMENT INFORMATION HAS BEEN PREPARED BASED ON SURVEYED BACKFILLED TRENCH FOLLOWING INSTALLATION. CONTACT EVERSOURCE GAS TO OBTAIN THEIR OFFICIAL RECORD INFORMATION.

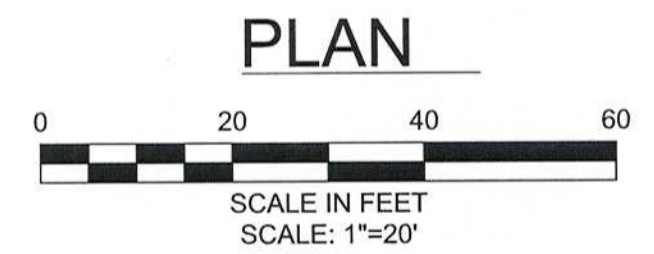


SEE C-10

SEE SHEET C-11

RECORD DRAWING

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Scale	AS NOTED		
Date	APRIL 2017		
Job No.	2009143.01-A		
Designed by	KJL		
Drawn by	KJL		
Checked by	KEG	No.	Description
Approved by	JJS		Date
REVISIONS			



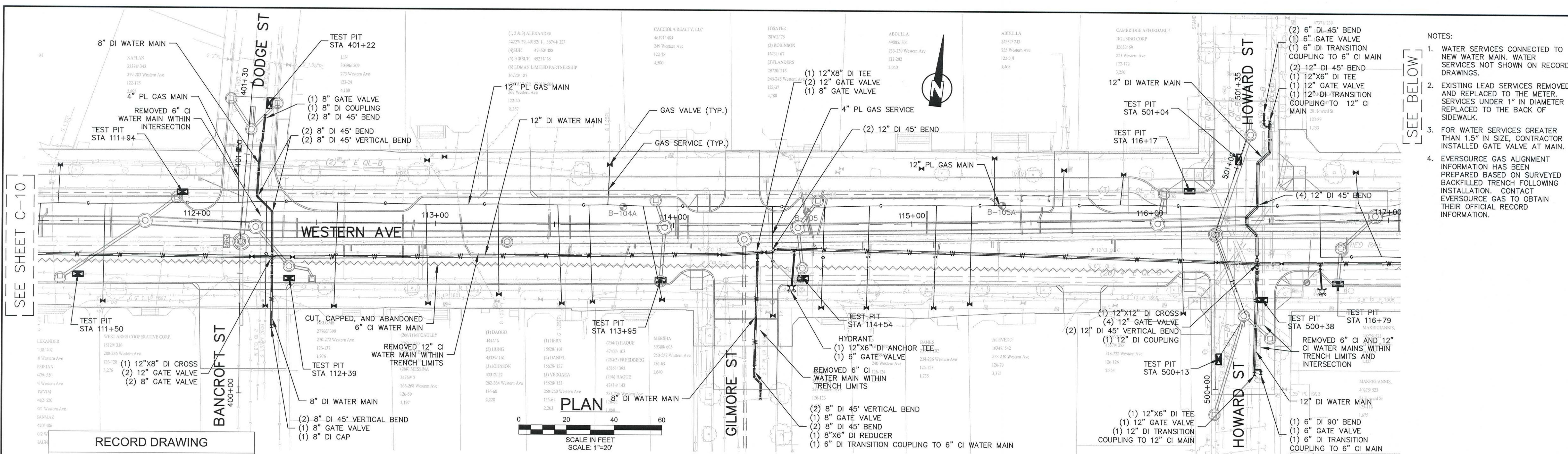
Client	CITY OF CAMBRIDGE, MA	Sheet	C-10A
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL - UTILITY COORDINATION STA 100+00 TO 111+50		

SEE SHEET C-10

SEE ABOVE

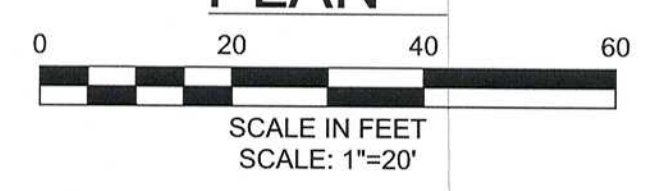
SEE BELOW

SEE SHEET C-12



PLAN

PLAN



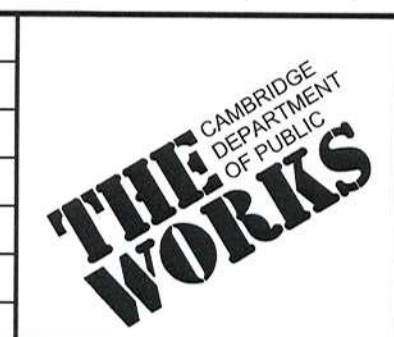
RECORD DRAWING

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- NOTES:
1. WATER SERVICES CONNECTED TO NEW WATER MAIN. WATER SERVICES NOT SHOWN ON RECORD DRAWINGS.
 2. EXISTING LEAD SERVICES REMOVED AND REPLACED TO THE METER. SERVICES UNDER 1" IN DIAMETER REPLACED TO THE BACK OF SIDEWALK.
 3. FOR WATER SERVICES GREATER THAN 1.5" IN SIZE, CONTRACTOR INSTALLED GATE VALVE AT MAIN.
 4. EVERSOURCE GAS ALIGNMENT INFORMATION HAS BEEN PREPARED BASED ON SURVEYED BACKFILLED TRENCH FOLLOWING INSTALLATION. CONTACT EVERSOURCE GAS TO OBTAIN THEIR OFFICIAL RECORD INFORMATION.



Scale	AS NOTED
Date	APRIL 2017
Job No.	2009143.01-A
Designed by	KJL
Drawn by	KJL
Checked by	KEG
Approved by	JJS
No.	
Description	REVISIONS
Date	



Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL - UTILITY COORDINATION STA 111+50 TO 122+00

Sheet	C-11
File No.	

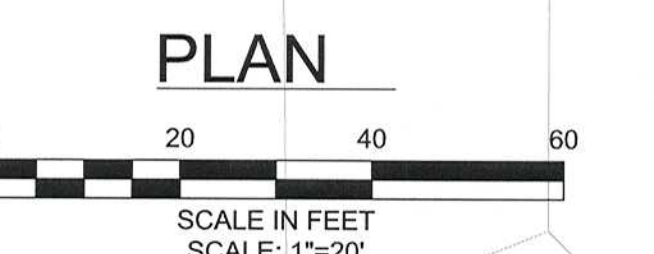
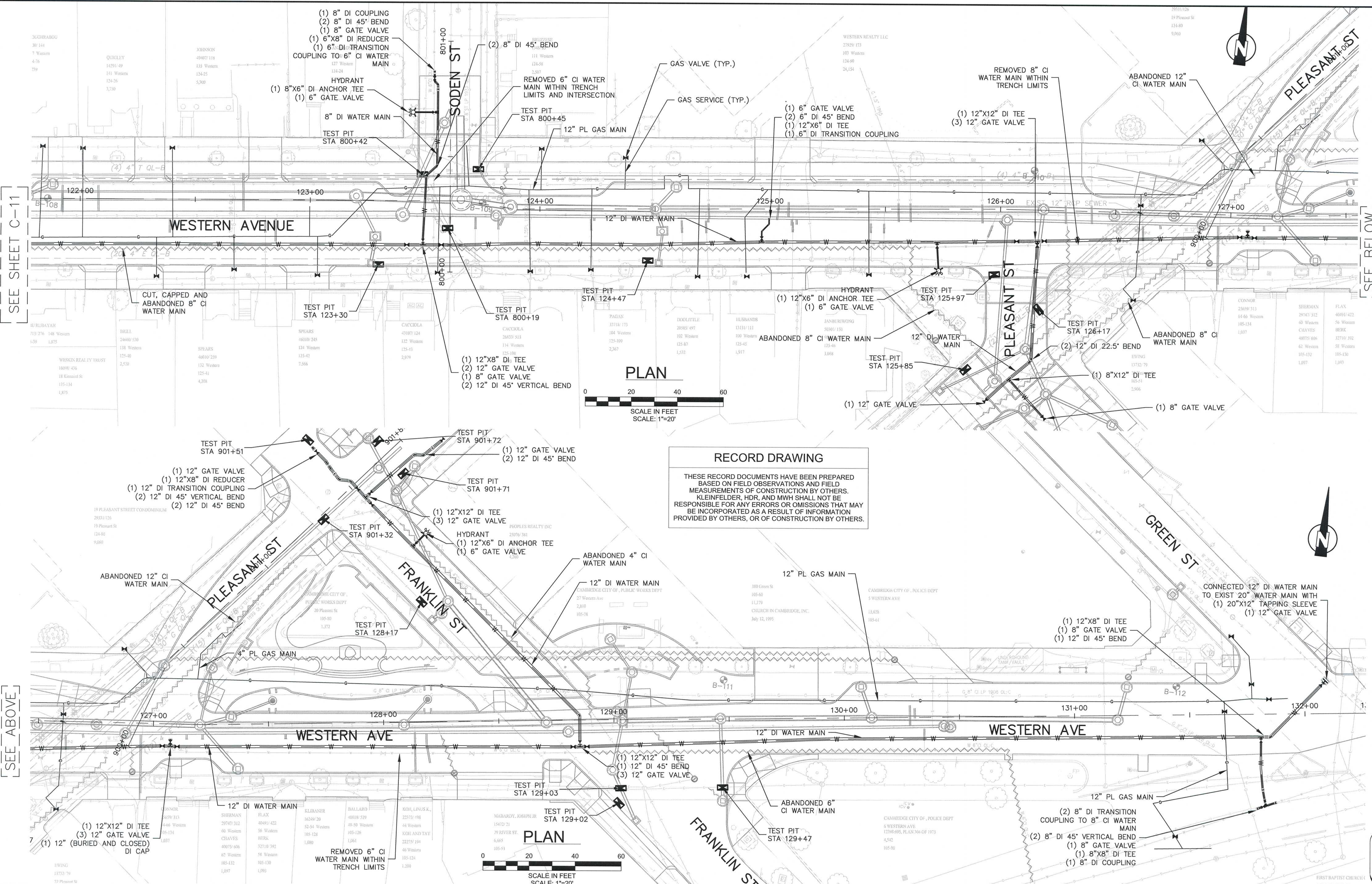
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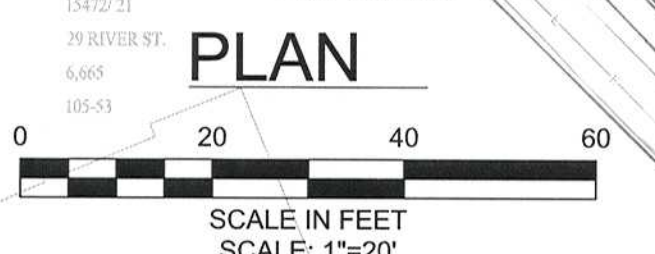
SEE SHEET C-11

SEE BELOW



RECORD DRAWING

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- NOTES:**
1. WATER SERVICES CONNECTED TO NEW WATER MAIN, WATER SERVICES NOT SHOWN ON RECORD DRAWINGS.
 2. EXISTING LEAD SERVICES REMOVED AND REPLACED TO THE METER. SERVICES UNDER 1" IN DIAMETER REPLACED TO THE BACK OF SIDEWALK.
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 5. EVERSOURCE GAS ALIGNMENT INFORMATION HAS BEEN PREPARED BASED ON SURVEYED BACKFILLED TRENCH FOLLOWING INSTALLATION. CONTACT EVERSOURCE GAS TO OBTAIN THEIR OFFICIAL RECORD INFORMATION.

SEE ABOVE

RECORD SET



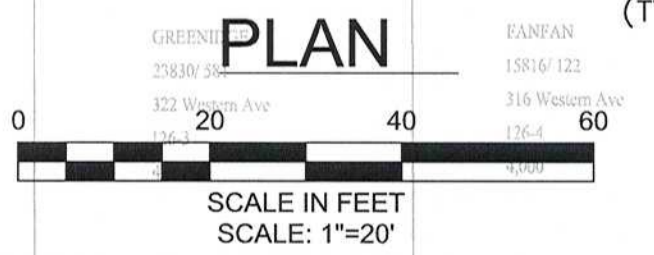
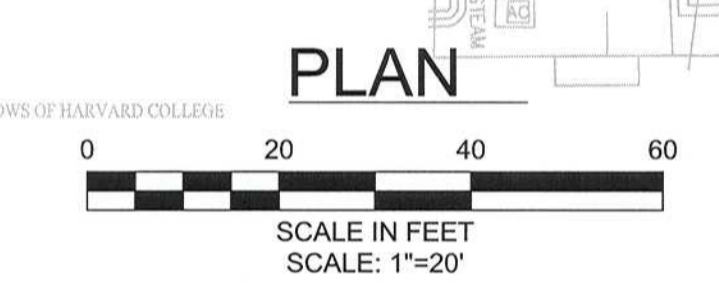
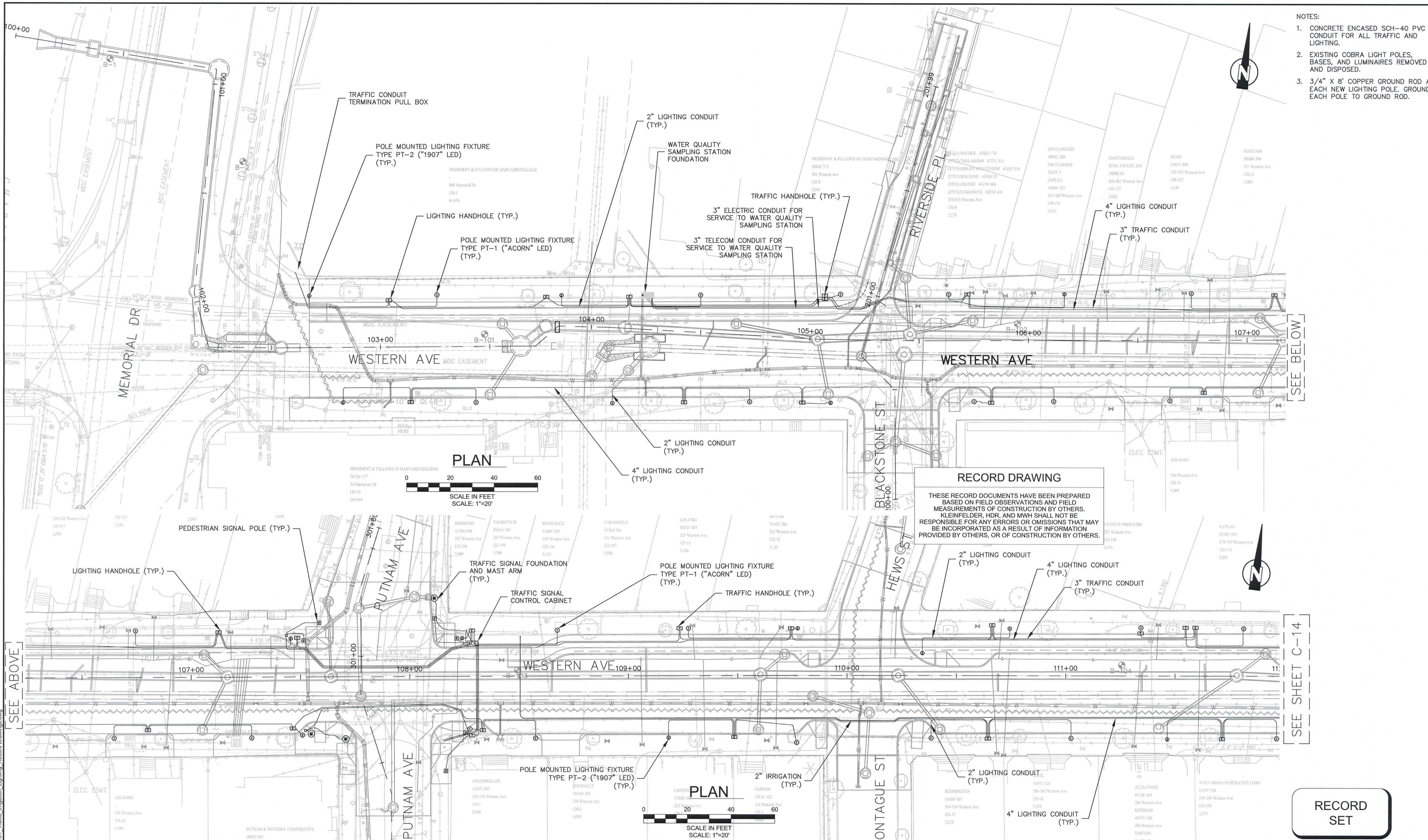
Scale	AS NOTED
Date	APRIL 2017
Job No.	2009143.01-A
Designed by	KJL
Drawn by	KJL
Checked by	KEG
Approved by	JJS



Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL - UTILITY COORDINATION STA 122+00 TO 132+30

Sheet	C-12
File No.	

- NOTES:
1. CONCRETE ENCASED SCH-40 PVC CONDUIT FOR ALL TRAFFIC AND LIGHTING.
 2. EXISTING COBRA LIGHT POLES, BASES, AND LUMINAIRES REMOVED AND DISPOSED.
 3. 3/4" X 8' COPPER GROUND ROD AT EACH NEW LIGHTING POLE. GROUNDED EACH POLE TO GROUND ROD.



RECORD DRAWING

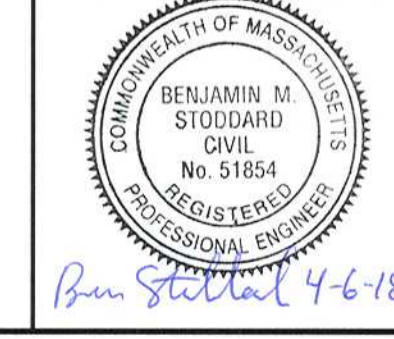
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SEE SHEET C-14

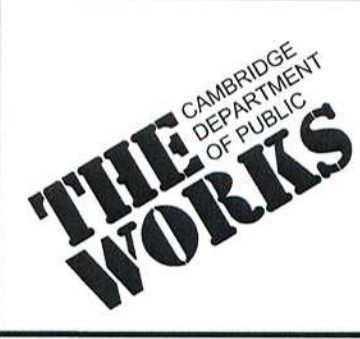
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Scale	AS NOTED
Date	APRIL 2017
Job No.	2009143.01-A
Designed by	KJL
Drawn by	KJL
Checked by	KEG
Approved by	JJS



Client	CITY OF CAMBRIDGE, MA
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
Drawing	CIVIL - TRAFFIC, LIGHTING, IRRIGATION STA 100+00 TO 111+50

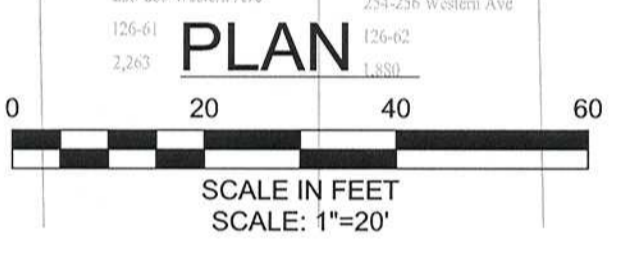
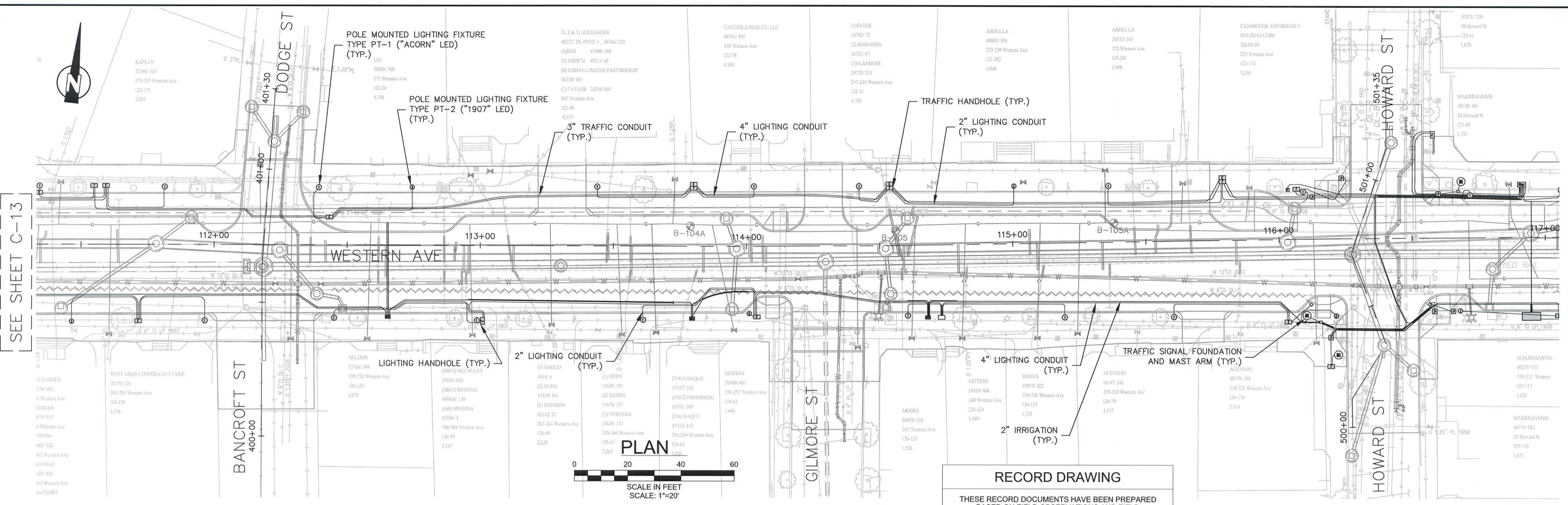
Sheet	C-13
File No.	

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SEE SHEET C-13

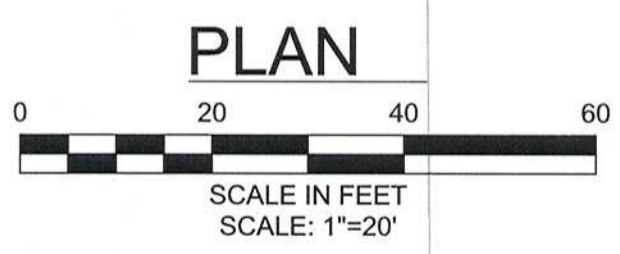
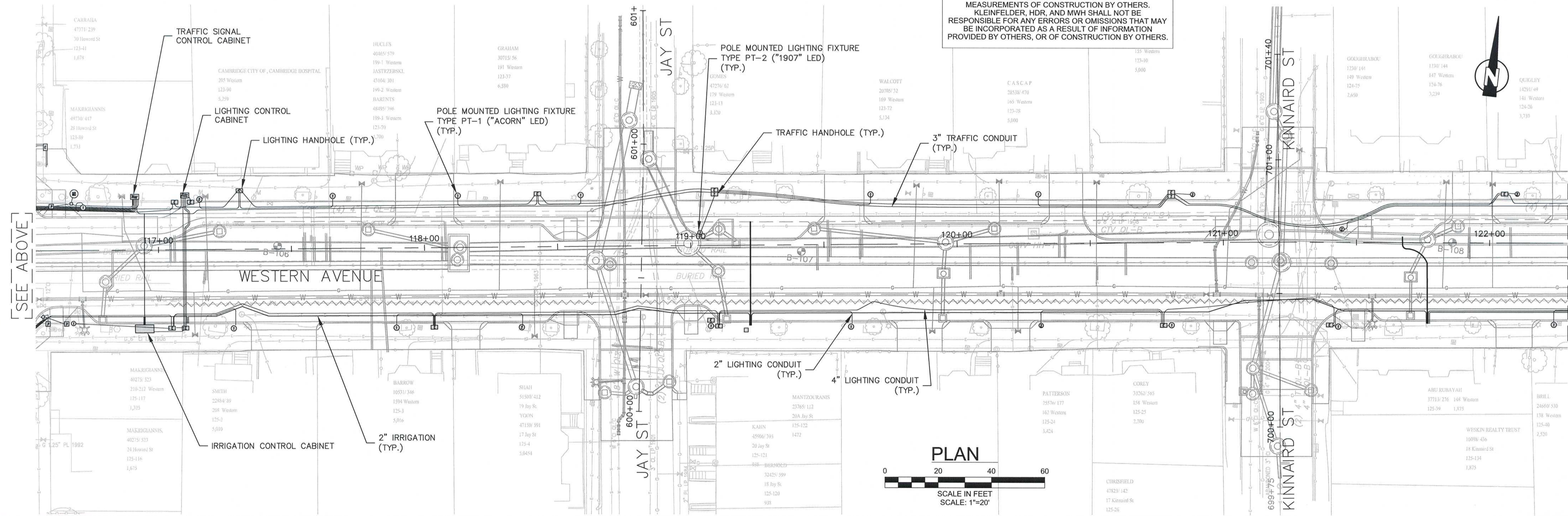
SEE ABOVE

- NOTES:
1. CONCRETE ENCASED SCH-40 PVC CONDUIT FOR ALL TRAFFIC AND LIGHTING.
 2. EXISTING COBRA LIGHT POLES, BASES, AND LUMINAIRES REMOVED AND DISPOSED.
 3. 3/4" X 8' COPPER GROUND ROD AT EACH NEW LIGHTING POLE. GROUND EACH POLE TO GROUND ROD.



RECORD DRAWING

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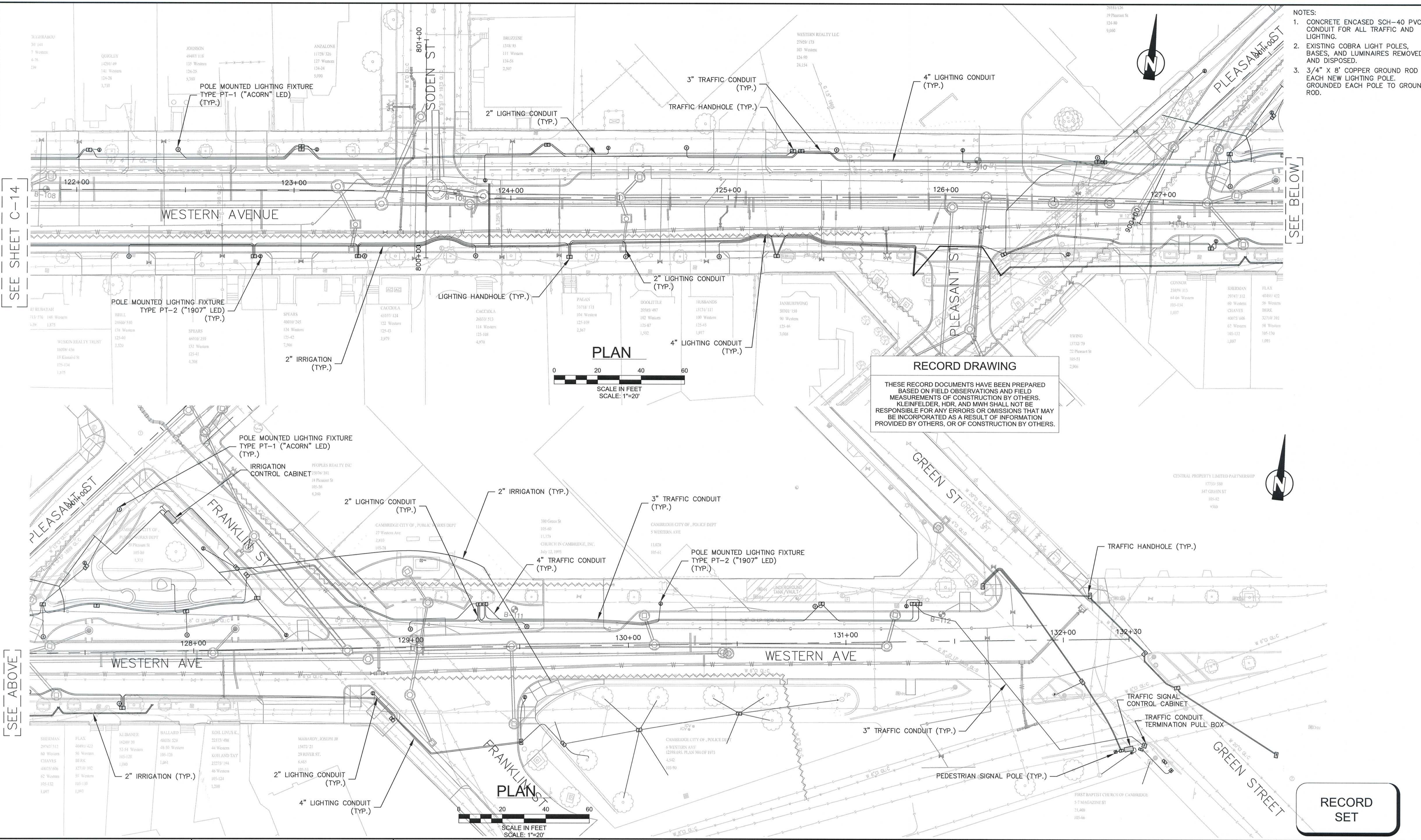


Date	AS NOTED			
Date	APRIL 2017			
Job No.	2009143.01-A			
Designed by	KJL			
Drawn by	KJL			
Checked by	KEG	No.	Description	Date
Approved by	JJS		REVISIONS	



Client	CITY OF CAMBRIDGE, MA	Sheet	C-14
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL - TRAFFIC, LIGHTING, IRRIGATION STA 111+50 TO 122+00		

PLOT DATE=4/6/2017 8:52:13 PM USER=BEN STODDARD FILENAME=C:\clients\Cambridge\Construction\Temp\Folder17\Drawings\Record\Drawings\2012.10.12_2009143.01_Traffic_Irrigation_Lighting_Record\Drawings.dwg



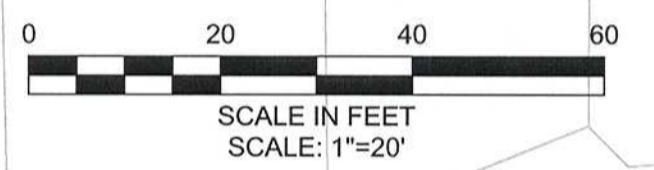
- NOTES:
1. CONCRETE ENCASED SCH-40 PVC CONDUIT FOR ALL TRAFFIC AND LIGHTING.
 2. EXISTING COBRA LIGHT POLES, BASES, AND LUMINAIRES REMOVED AND DISPOSED.
 3. 3/4" X 8' COPPER GROUND ROD AT EACH NEW LIGHTING POLE. GROUNDED EACH POLE TO GROUND ROD.

SEE SHEET C-14

SEE BELOW

SEE ABOVE

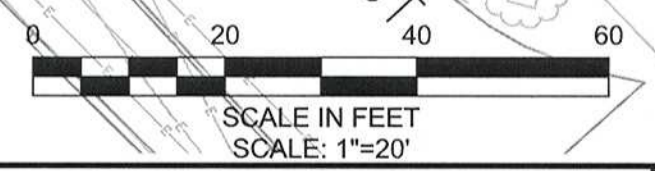
PLAN



RECORD DRAWING

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PLAN



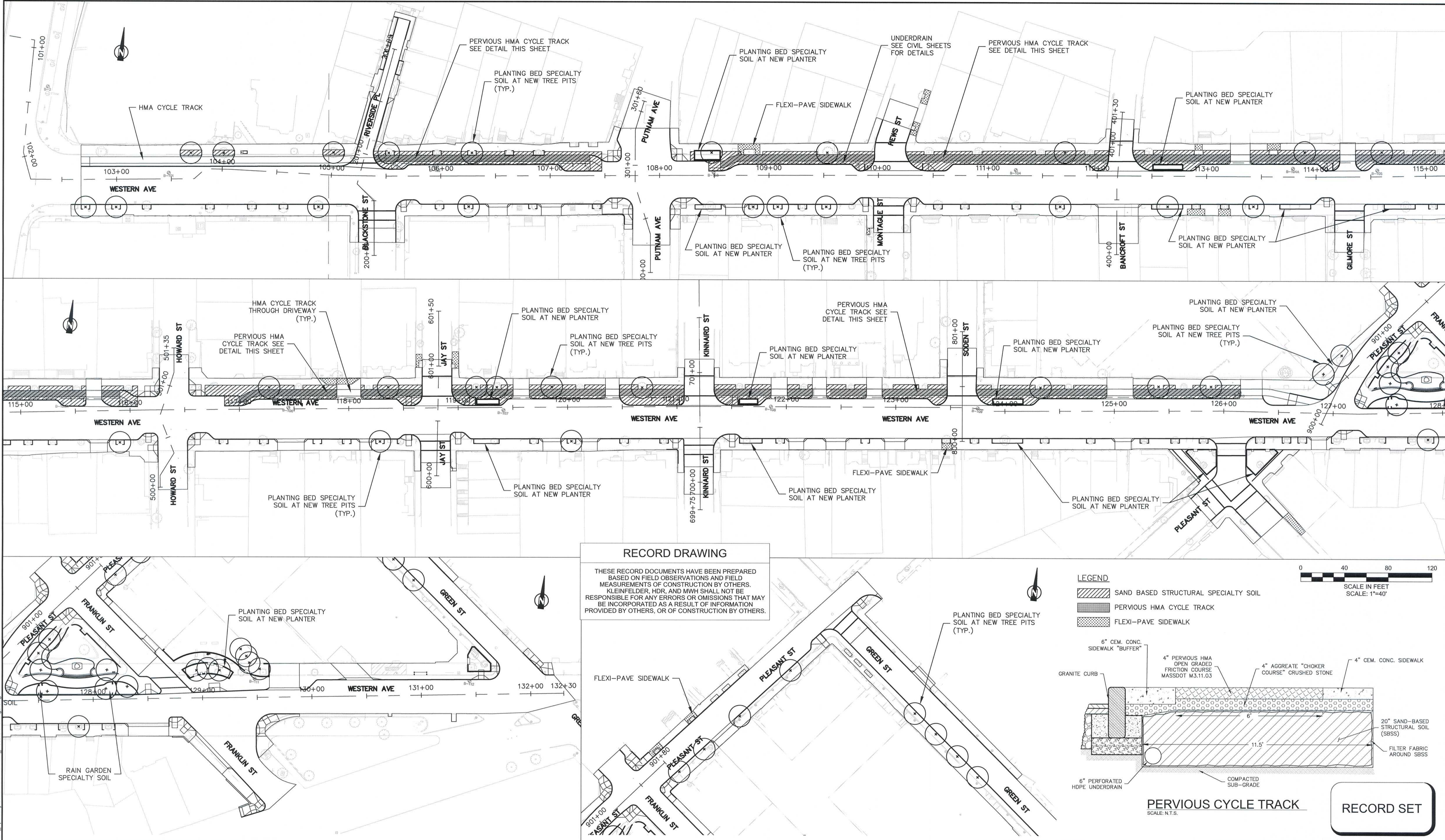
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Scale	AS NOTED			
Date	APRIL 2017			
Job No.	2009143.01-A			
Designed by	KJL			
Drawn by	KJL			
Checked by	KEG	No.	Description	Date
Approved by	JJS		REVISIONS	

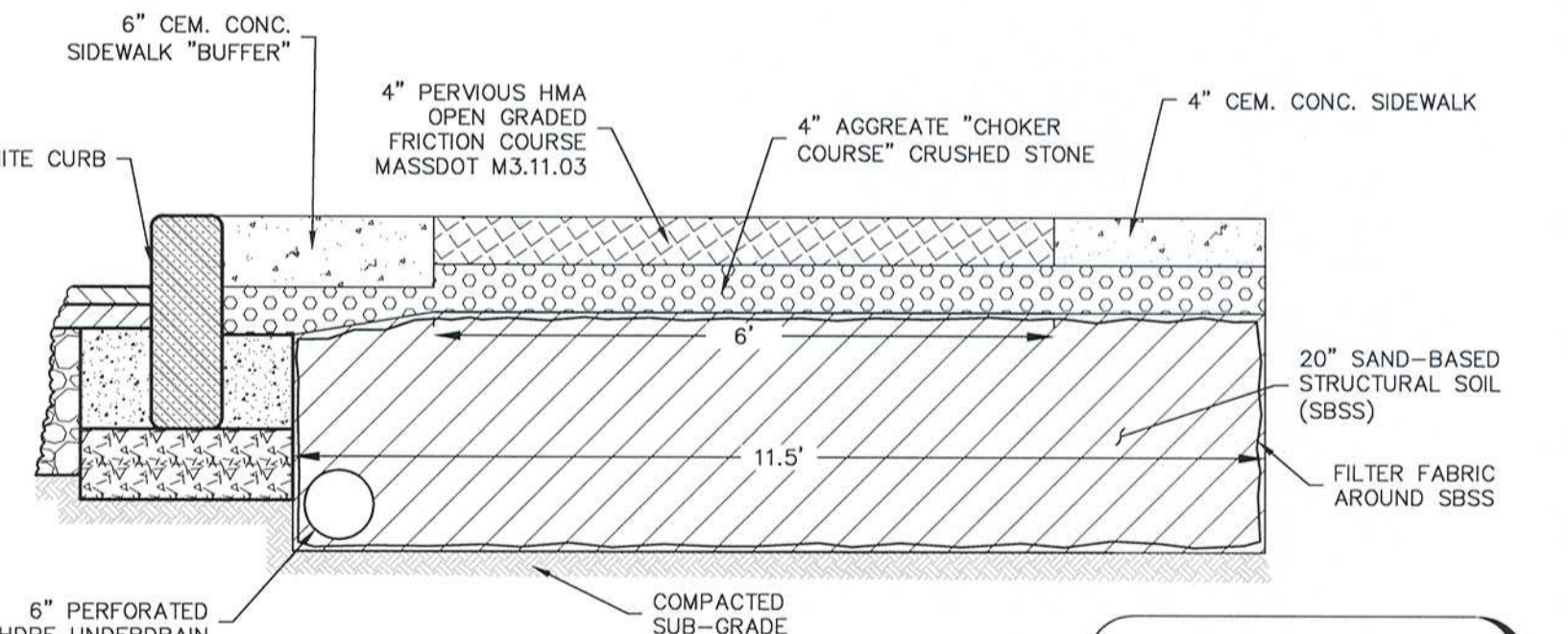


Client	CITY OF CAMBRIDGE, MA	Sheet	C-15
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	CIVIL - TRAFFIC, LIGHTING, IRRIGATION STA 122+00 TO 132+30		



RECORD DRAWING

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD OBSERVATIONS AND FIELD MEASUREMENTS OF CONSTRUCTION BY OTHERS. KLEINFELDER, HDR, AND MWH SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF INFORMATION PROVIDED BY OTHERS, OR OF CONSTRUCTION BY OTHERS.



RECORD SET



Scale	AS NOTED			
Date	APRIL 2017			
Job No.	2009143.01-A			
Designed by	CMC			
Drawn by	CMC			
Checked by	KEG	No.	Description	Date
Approved by	JJS		REVISIONS	



Client	CITY OF CAMBRIDGE, MA	Sheet	RG-10
Project	WESTERN AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT	File No.	
Drawing	ROADWAY GENERAL SPECIALTY SOILS, FLEXI-PAVE, AND PERVIOUS HMA PROJECT PLAN		

PLOT DATE=4/6/2017 8:09:47 PM USER=BEN STODDARD FILENAME=G:\clients\Cambridge MA\2009143.01-A - Western Avenue Construction_Temp_Folder17_Drawings\Record Drawings\2012.10.12.2009143.01_Specialty Soils and Flexi-Pave_Record Drawings.dwg