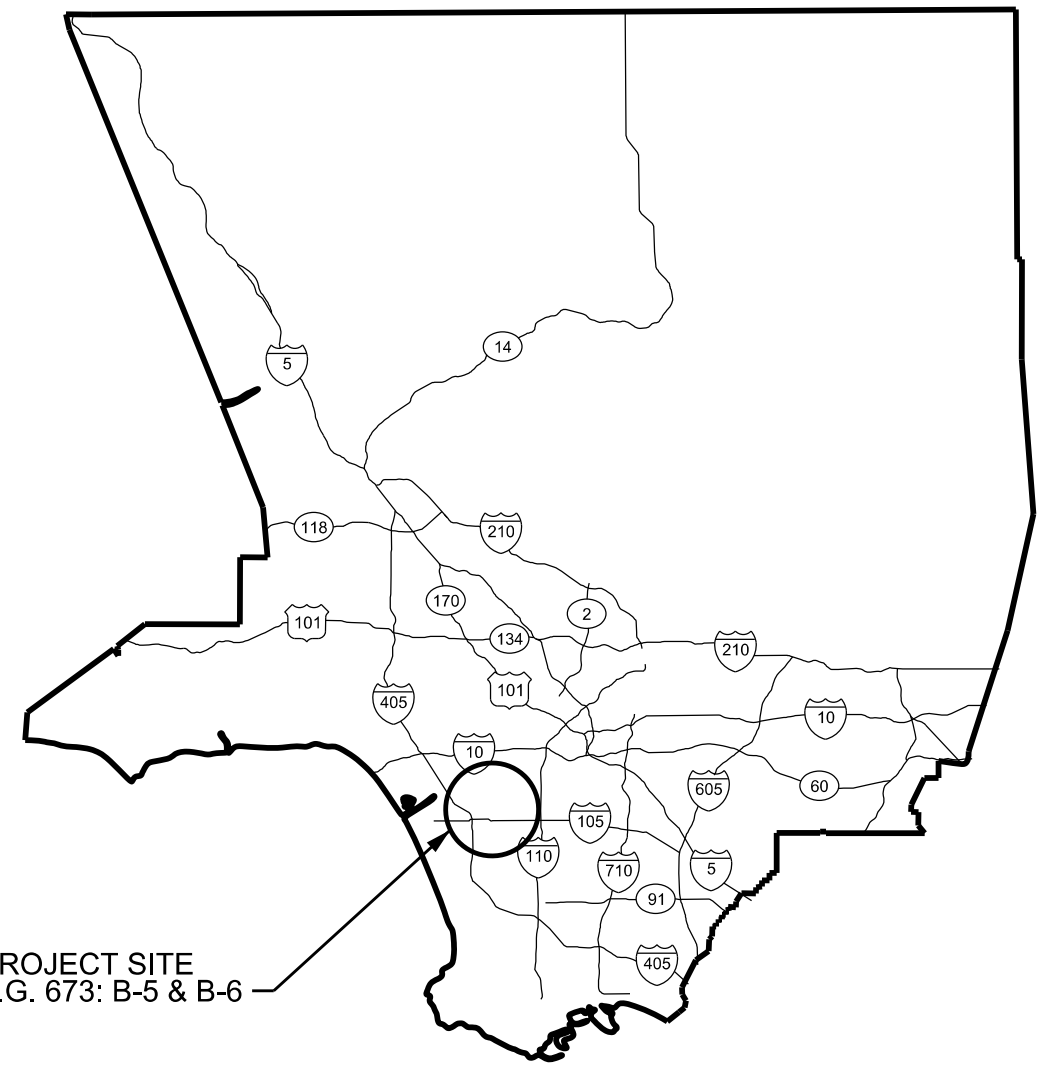


COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK STORMWATER IMPROVEMENTS



VICINITY MAP

PLAN LS		LANDSCAPE PLANS
16	LS-0.00	TITLE SHEET
17	LS-1.00	CONSTRUCTION PLAN, NOTES, AND LEGEND
18	LS-1.01	SHADE STRUCTURE
19	LS-1.02	CONSTRUCTION DETAILS
20	LS-1.03	CONSTRUCTION DETAILS
21	LS-2.00	IRRIGATION PLAN AND LEGEND
22	LS-2.01	IRRIGATION DETAILS
23	LS-2.02	IRRIGATION DETAILS AND NOTES
24	LS-3.00	PLANTING PLAN AND LEGEND
25	LS-3.01	PLANTING NOTES AND DETAILS
PLAN ME		MECHANICAL PLANS
26	M-1	PROJECT SITE PLAN
27	M-2	FLOW METER AND 24" SLIDE GATE VALVE DETAILS
28	M-3	BEVEL GEAR SUPPORT DETAILS
29	M-4	CONDUIT AND TRENCHING DETAILS
30	M-5	MONITORING WELL INSTRUMENTATION
31	M-6	FLOW METER DETAILS
32	M-7	SPLITTER WELL AND PROCESSED WATER STORAGE TANK
33	M-8	MONITORING AND DRY WELL PRESSURE TRANSDUCER DETAILS
34	M-9	WATER HARVESTING DIAGRAM
35	M-10	GREYWATER TREATMENT SKID OUTER ENCLOSURE DIMENSIONS

STORMWATER QUALITY INFORMATION

PLAN E	ELECTRICAL PLANS
36	GENERAL NOTES, SYMBOLS, SHEET INDEX
37	85TH PERCENTILE CAPTURE VOLUME
38	DRAINAGE DETAILS
39	85TH PERCENTILE PEAK FLOW
40	NO. OF DRYWELLS
41	ONE-LINE DIAGRAM NOTES, PANEL SCHEDULES
42	110 AC SITE PLAN
43	10.2 CFS
44	20
45	TELEMETRY & PLC BLOCK DIAGRAMS

PLAN MISC.		LOG OF BORINGS
43		
PLAN TC		TRAFFIC CONTROL PLANS
1 TO 3		TRAFFIC CONTROL PLANS - NOT TO BE INCLUDED IN AS-BUILT PLANS

UTILITIES

WATER: METROPOLITAN WATER DISTRICT
CALIFORNIA AMERICAN WATER

POWER: CITY OF LOS ANGELES DEPARTMENT OF WATER AND POWER
SOUTHERN CALIFORNIA EDISON

GAS: SOUTHERN CALIFORNIA GAS COMPANY

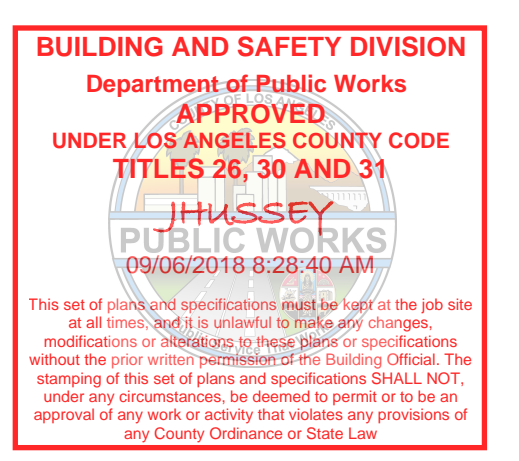
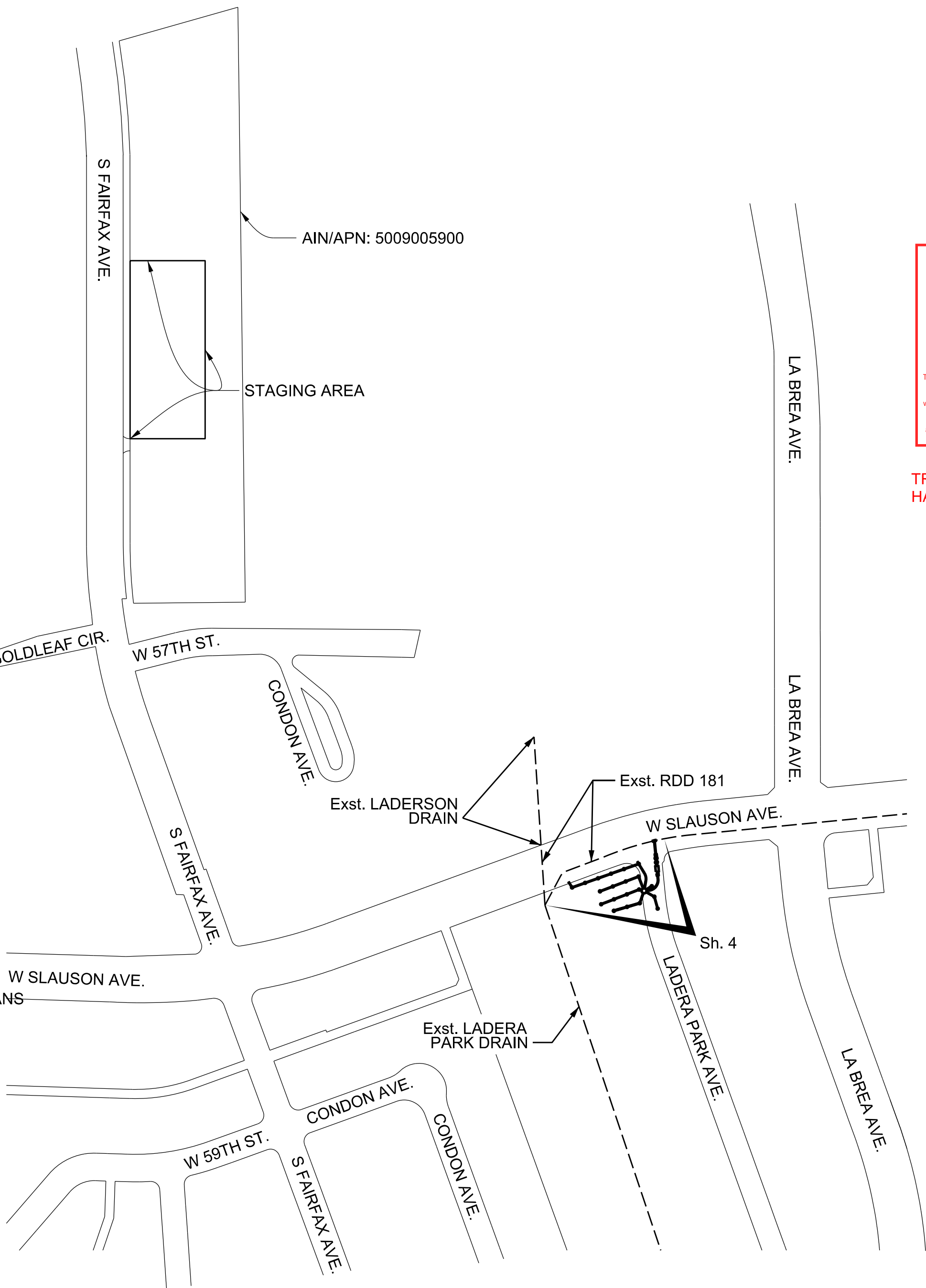
TELEPHONE: AT&T NORTH

SEWER: LA COUNTY SEWER

STREET LIGHTS: SOUTHERN CALIFORNIA EDISON

GENERAL PLAN

NOT TO SCALE



TRELLIS AND WATER HARVESTING ANCHORAGE ONLY

INDEX TO PROJECT PLANS

SH. NO.	PLAN NO.	DESCRIPTION
PLAN DR		
1	DR-1	DRAINAGE PLANS
2	DR-2	TITLE SHEET
3	DR-3	GENERAL NOTES AND INDEX TO STANDARD PLANS
4	DR-4	SITE DEMOLITION PLAN AND RESURFACING SCHEDULE
5	DR-5	PLAN
6	DR-6	PROFILE LINE A - STA. 1+07.75 TO STA. 2+37.37, RDD 181 DIVERSION STRUCTURE DETAILS
7	DR-7	PROFILE LINE B1 - STA. 3+00.00 TO STA. 3+52.75
8	DR-8	PROFILE LINE B2 - STA. 2+50.00 TO STA. 2+69.55
9	DR-9	PROFILE LINE C - STA. 4+00.00 TO STA. 4+87.33
10	DR-10	PROFILE LINE D - STA. 5+06.52 TO STA. 6+15.42
11	DR-11	PROFILE LINE E - STA. 7+00.00 TO STA. 8+23.50, RECONSTRUCTED CATCH BASIN DETAILS
12	DR-12	PROFILE LINE F - STA. 9+02.59 TO STA. 11+37.51
13	DR-13	PROFILE LINE WH - STA. 14+08.36 TO STA. 15+41.56, SPLITTER DETAILS
14	DR-14	DRYWELL DETAILS
15	DR-15	PRE TREATMENT DEVICE DETAILS
16	DR-16	STRUCTURAL NOTES, DETAILS, AND SECTIONS
17	DR-17	SLIDE GATE DETAILS
18	DR-18	CROSS GUTTER DETAILS
19	DR-19	PVC PIPE INLET DETAILS
20	DR-20	SPLITTER STRUCTURE DETAILS
21	DR-21	GREYWATER TREATMENT SKID CONCRETE PAD
22	DR-22	RESURFACING SCHEDULE
PLAN LS		
18	LS-0.00	LANDSCAPE PLANS
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44	E-7	SITE PLAN
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PLAN MISC.		
45		LOG OF BORINGS

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GAS: SOUTHERN CALIFORNIA GAS COMPANY

TELEPHONE: AT&T

SEWER: LA COUNTY SEWER

STREET LIGHTS: SOUTHERN CALIFORNIA EDISON

PD053138

PRIME CONTRACTOR LICENSE REQUIRED: CLASS A

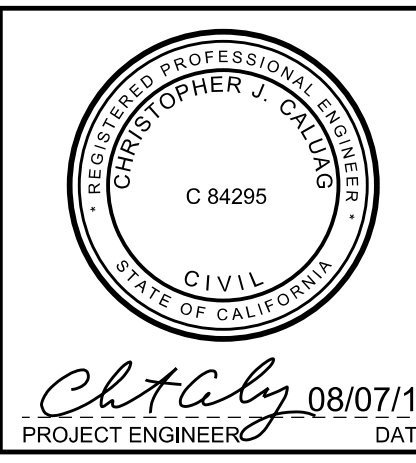
CADD PROJECT FILE NAME: DES0002980 - Ladera Park Stormwater Capture Project - DR-1
 CHECKER: R. LUI
 DESIGNER: C. CALUAG



DRAWING NUMBER:	AS-BUILT RECEIVED ON:	APPROVED BY MARK PESTRELLA, DIRECTOR OF PUBLIC WORKS
(MARK AS-BUILT HERE)	DATE	08/07/2018
DATE	AS-BUILT RECEIVED FROM:	DEPUTY DIRECTOR
	CON / PDD / RMD / OTHER	08/08/2018
	AS-BUILT:	RECOMMENDED BY: Hector J. Bordas
		ASSISTANT DEPUTY DIRECTOR
		08/08/2018
		DATE
		DATE
		DATE

DATE	DATE	DATE

DATE	DATE	DATE



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS	
LADERA PARK	
STORMWATER IMPROVEMENTS	
TITLE SHEET	
CAPITAL PROJECT NO. 69786	
PROJECT ID NO. SWQ000003	
PROJECT ENGINEER: C. CALUAG	DATE: 08/07/18
PCA: P97027AC	DWG: 181-271-D4
SHEET: 1	OF: 45

AS BUILT DRAWINGS

GENERAL NOTES

- Elevations shown are in feet based on the Rivera 2005 adjustment, NAVD 88
- Stations shown on the plans are along center line of conduit or on a line normal to center line of conduit.
- All pipe in open trench shall be bedded according to LACDPW Standard Plan 3080, case III, except bell and spigot pipe which shall be case II bedding, unless otherwise shown. "W" values shall be as specified on Standard Plan 3080 for case II bedding, notes (A), (B), and (C). If the "W" value at the top of the pipe is exceeded, the bedding shall be modified, and/or pipe of additional strength shall be provided. The proposed modification shall be approved by the Agency.
- Concrete backfill shall be provided around pipe 21 inches in diameter or less where the cover is equal to or less than 2'-0", around pipe greater than 21 inches in diameter but less than 39 inches where the cover is less than 1'-3", and for pipe 39 inches or greater where the cover is less than 1'-0". The concrete backfill shall be as specified on LACDPW standard plan 3080-3, Note 4.
- All existing utilities shown on the plans are the property of the owners listed on Sheet 1, unless otherwise noted.
- Existing utilities shall be maintained in place by the contractor, unless otherwise noted, and all utilities crossing the trench shall be temporarily supported to the satisfaction of the owner.
- Where the utilities are indicated on the plans to be supported, said supports shall be in accordance with SPPWC Standard Plan 224-2, unless otherwise indicated.
- All resurfacing, curbs, gutters, sidewalks, driveways and other existing improvements to be reconstructed shall be constructed at the same elevation and location as the existing improvements, unless otherwise noted.
- Existing trees and tree stumps shall be removed only if so designated by the symbol (⊗). Those trees not interfering with construction shall be protected in place.
- Manhole covers and frames shall use the SPPWC 630-4 or 633-4 for the "Manhole Frame and Cover" and 635-3 for the "standard drop step".
- All manhole shafts shall have a round stainless steel manhole security barrier below the manhole cover. The security barrier shall have the ability to place agency approved locks and work independently of the manhole cover. It shall contain an odor controlling seal and have minimal demolition to the manhole shaft for installation
- Manhole cover (both concrete and cast iron) for drywells shall be engraved with the line letter and drywell number (e.g. "F18" for Drywell #18 for Line F) as shown on Sheet 4 and Sheet 11.
- High voltage overhead utility lines are in near proximity of the project and not shown on the project plans which may impact the contractor's operations. Prospective bidders are advised to visit the project site before preparing a bid.
- All field book references are to Los Angeles County Department of Public Works field books, unless otherwise noted.

STANDARD PLANS

Standard Plans for Public Works Construction, 2012 Edition

112-2	Curb and Sidewalk Joints
120-2	Curb and Gutter - Barrier
122-2	Cross and Longitudinal Gutters
224-2	Support for Conduits Across Trenches
225-2	Blanket Protection for Pipes
300-3	Curb Opening Catch Basin
310-3	Catch Basin Face Plate Assembly and Protection Bar
313-3	Local Depressions at Catch Basins
321-2	Manhole Pipe to Pipe (One or Both MainLine ID's 33" or Smaller)
323-2	Manhole - Concrete Box Storm Drain
324-2	Manhole Shaft with Eccentric Reducer
326-2	Manhole Shaft - 36" without Reducer
331-3	Junction Structure - Pipe to Pipe
333-2	Junction Structure - Pipe to RCB
342-2	Transition Structure RCB to Pipe
630-4	24" Manhole Frame and Cover
633-4	36" Manhole Frame and Cover
635-3	Steel Step

LACDPW Standard Plans, 2000 Edition

3080-3	Pipe Bedding in Trenches
3090-1	Criteria For the Design of Shoring for Excavations
3091-1	Sample Sheet for Use as a Guide in Preparing Calculations for Shoring of Excavations
3093-1	Unified Soil Classification System
6002-1	Portable Security Fence for Open Trenches
6008-1	Minimum Public Safety Requirements for Open Excavations

REFERENCES

Survey Field Notes: PWFB 1017, PG 1302 - 1312

Los Angeles County Road Department: Slauson Ave, Proj No. 2827, RDD 181, Sh. 10 of 11, DWG# 42220-42230

Los Angeles County Architect/Engineer Facilities Management Department: Ladera Park General Improvements 1989 Sh 8 - Construction Details

NON-STANDARD ABBREVIATIONS

ABBREVIATION	WORD OR WORDS
AC	Asphalt Concrete
AIN	Assessor Identification Number
APN	Assessor Parcel Number
BM	Bench Mark
CL	Center Line
CLF	Chain Link Fence
CMP	Corrugated Metal Pipe
CONST	Construct, Construction
CPS	Connector Pipe Screen
CPT	Cone Penetration Test
CY	Cubic Yard
Dia.	Diameter
D/S	Downstream
DWG	Drawing
EC	End Of Curve
EI	Elevation
ELC	Electrical Conduit
Exst.	Existing
FL	Flow Line
GC	Grade Change
HORIZ	Horizontal
INT	Intersection
INV	Invert
JS	Junction Structure
L	Length
LF	Linear Feet
LACDPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
Long.	Longitudinal
MH	Manhole
Mod.	Modified
PVMT	Pavement
R/W	Right Of Way
RC	Reinforced Concrete
RDD	Road Department Drain
Sch.	Schedule
S	Slope
SD	Storm Drain
SF	Square Foot
Sh.	Sheet
SPECS	Specifications
ST	Street
SS	Stainless Steel
SWR	Sanitary Sewer
Sta.	Station
STD	Standard
Typ.	Typical
U/S	Upstream
VERT	Vertical
W	Width/Water

CONVENTIONAL SYMBOLS

	EXISTING TOPOGRAPHY	PROPOSED IMPROVEMENTS
CURB		
RC WALKWAY CURB		
CURB AND GUTTER		
GUTTER		
CURB RAMP		
FIRE HYDRANT		
PIPE		
CONNECTOR PIPE		
MAIN LINE		
POLE		
PROPERTY LINE		
R/W LINE		
PULL BOX		
SIGN		
STREET LIGHT		
PALM TREE		
OAK TREE		
OTHER TREE		
VALVE		
VAULT		
MONITORING WELL		
BORING HOLE		
CPT		

CADD PROJECT FILE NAME: DES0002980 - Ladera Park Stormwater Capture Project - DR-2
 CHECKER: R. LUI
 DESIGNER: C. CALUAG

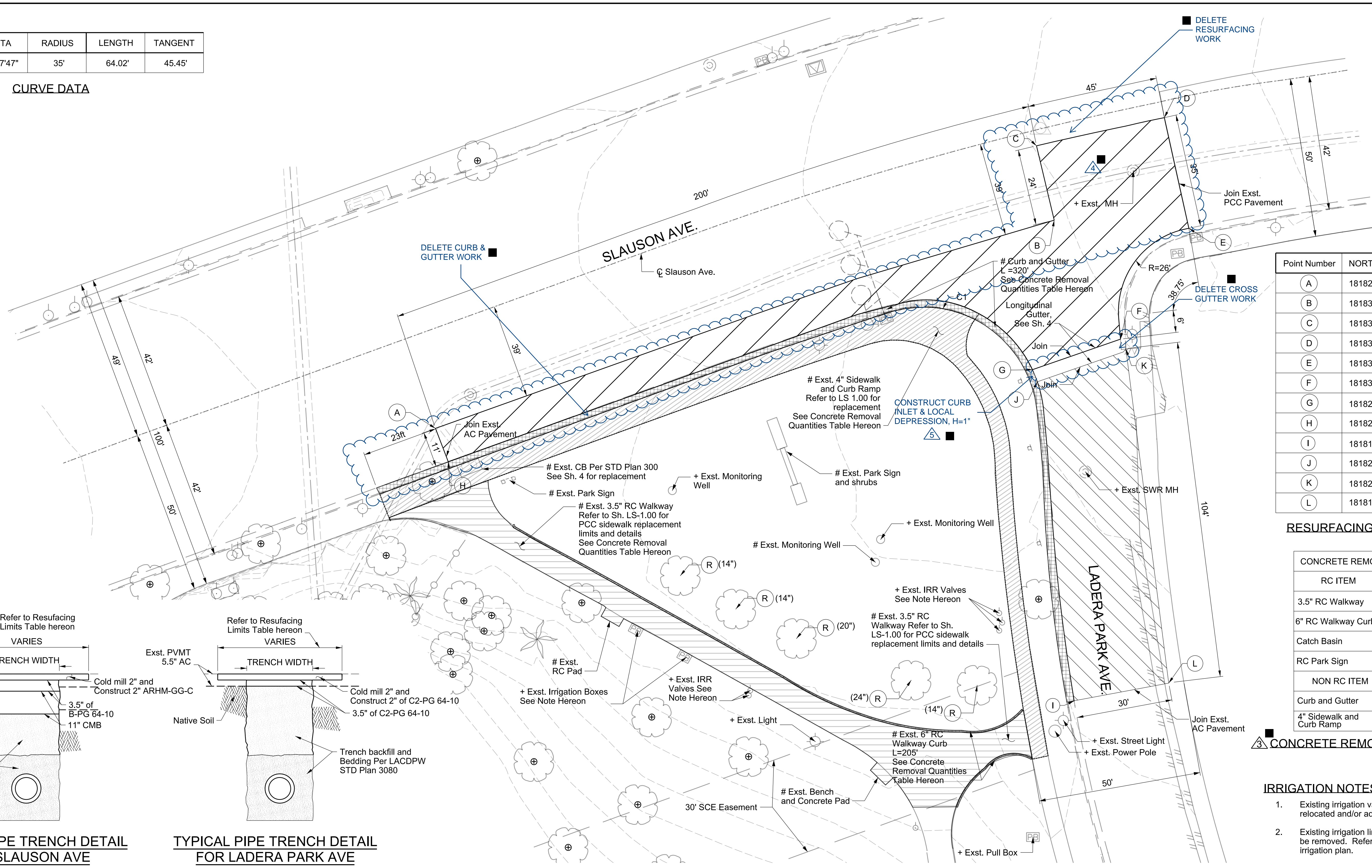
PD053138

DRAWING NUMBER:					COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS	
(MARK AS-BUILT HERE)					LADERA PARK STORMWATER IMPROVEMENTS GENERAL NOTES AND INDEX TO STANDARD PLANS PROJECT ID NO. SWQ0000003 DR-2	
DATE	MK	DESCRIPTION		PROJECT ENGINEER: <i>C. Caluag</i> 08/07/18	PCA P97027AC	DWG 181-271-D4
REVISIONS				DATE	SHEET 2	OF 45

AS BUILT DRAWINGS

CURVE	DELTA	RADIUS	LENGTH	TANGENT
C1	104°47'47"	35'	64.02'	45.45'

CURVE DATA



Point Number	NORTHING	EASTING
(A)	1818273.05	6452458.35
(B)	1818336.97	6452648.29
(C)	1818359.80	6452642.85
(D)	1818367.88	6452682.22
(E)	1818334.49	6452689.63
(F)	1818300.45	6452668.64
(G)	1818291.08	6452641.60
(H)	1818262.83	6452462.28
(I)	1818189.42	6452654.41
(J)	1818287.37	6452643.12
(K)	1818297.43	6452670.28
(L)	1818194.84	6452683.44

RESURFACING LIMITS TABLE

CONCRETE REMOVAL QUANTITIES	
RC ITEM	QUANTITY (CY)
3.5" RC Walkway	24
6" RC Walkway Curb	9
Catch Basin	3
RC Park Sign	6
NON RC ITEM	
Curb and Gutter	23
4" Sidewalk and Curb Ramp	27

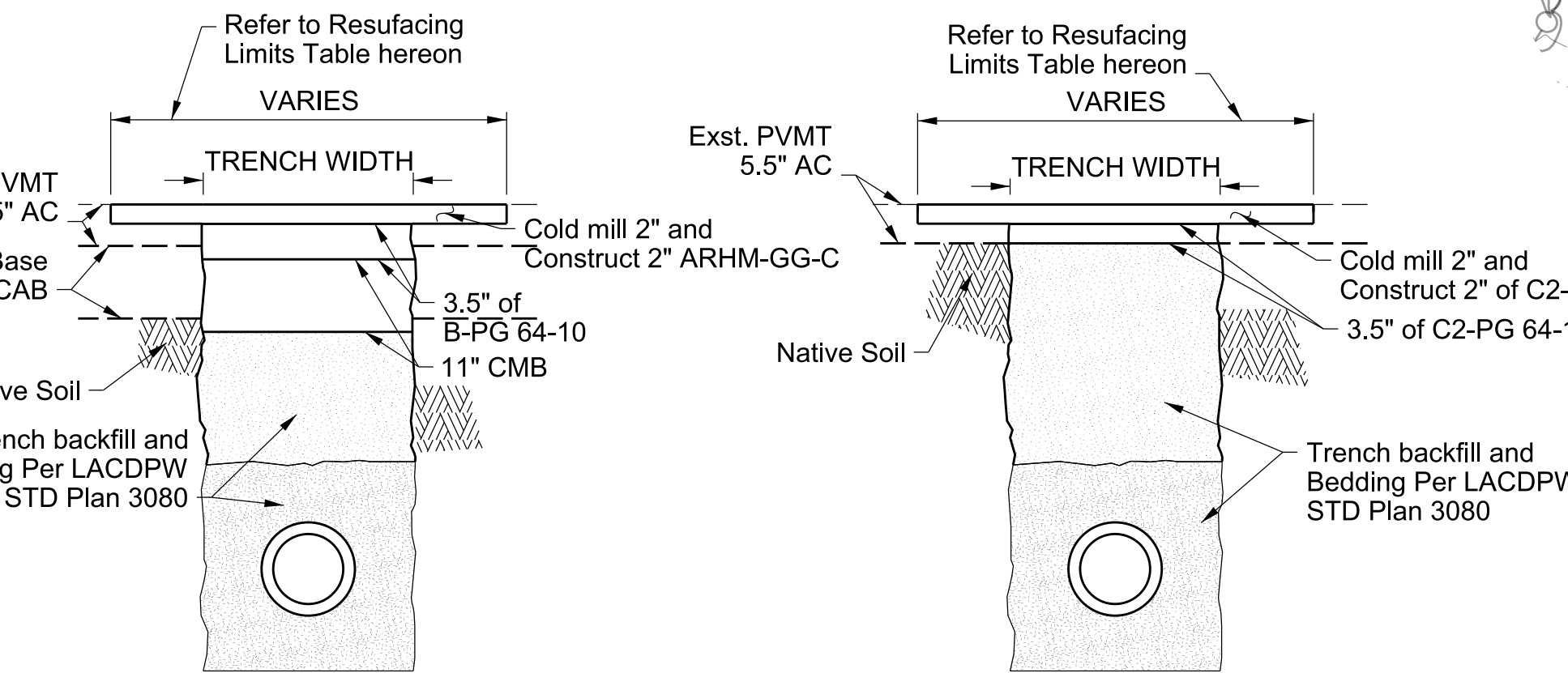
CONCRETE REMOVAL QUANTITIES

IRRIGATION NOTES:

- Existing irrigation valves and pull boxes relocated and/or adjusted per LS plan.
- Existing irrigation lines within project limits to be removed. Refer to LS 2.00 for proposed irrigation plan.

PD053138

CADD PROJECT FILE NAME: DES0002980 - Ladera Park Stormwater Capture Project - DR-3
 CHECKER: R. LUI
 DESIGNER: C. CALUAG



TYPICAL PIPE TRENCH DETAIL FOR SLAUSON AVE
NOT TO SCALE

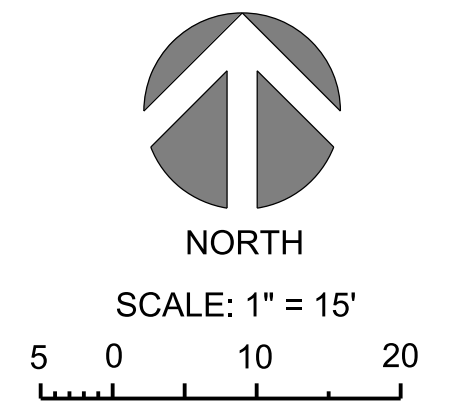
TYPICAL PIPE TRENCH DETAIL FOR LADERA PARK AVE
NOT TO SCALE

RESURFACING NOTES:

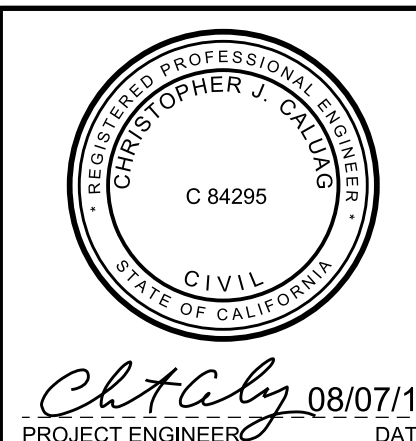
- Thickness of pavements shown in the resurfacing schedule apply only within the limits of the hatched areas above. The contractor is responsible for damage to pavement outside of the limits these limits.

RESURFACING SCHEDULE	
SYMBOL	RESURFACING PAVEMENT
	Cold Mill 2" and Construct 2" of ARHM-GG-C
	Cold Mill 2" and Construct 2" of C2-PG 64-10

LEGEND	DESCRIPTION OF WORK
#	Remove existing
+	Protect in place existing utilities and structures
⊕	Protect in place existing trees



DATE	MK	DESCRIPTION
11/21/18	N.L.	CHANGES TO RC AND NON-RC QUANTITIES
6/4/20	N.L.	DELETE ROAD RESURFACING, CURB & GUTTER, AND CROSS GUTTER
6/4/20	N.L.	CONSTRUCT CURB INLET AND LOCAL DEPRESSION, H=1"



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

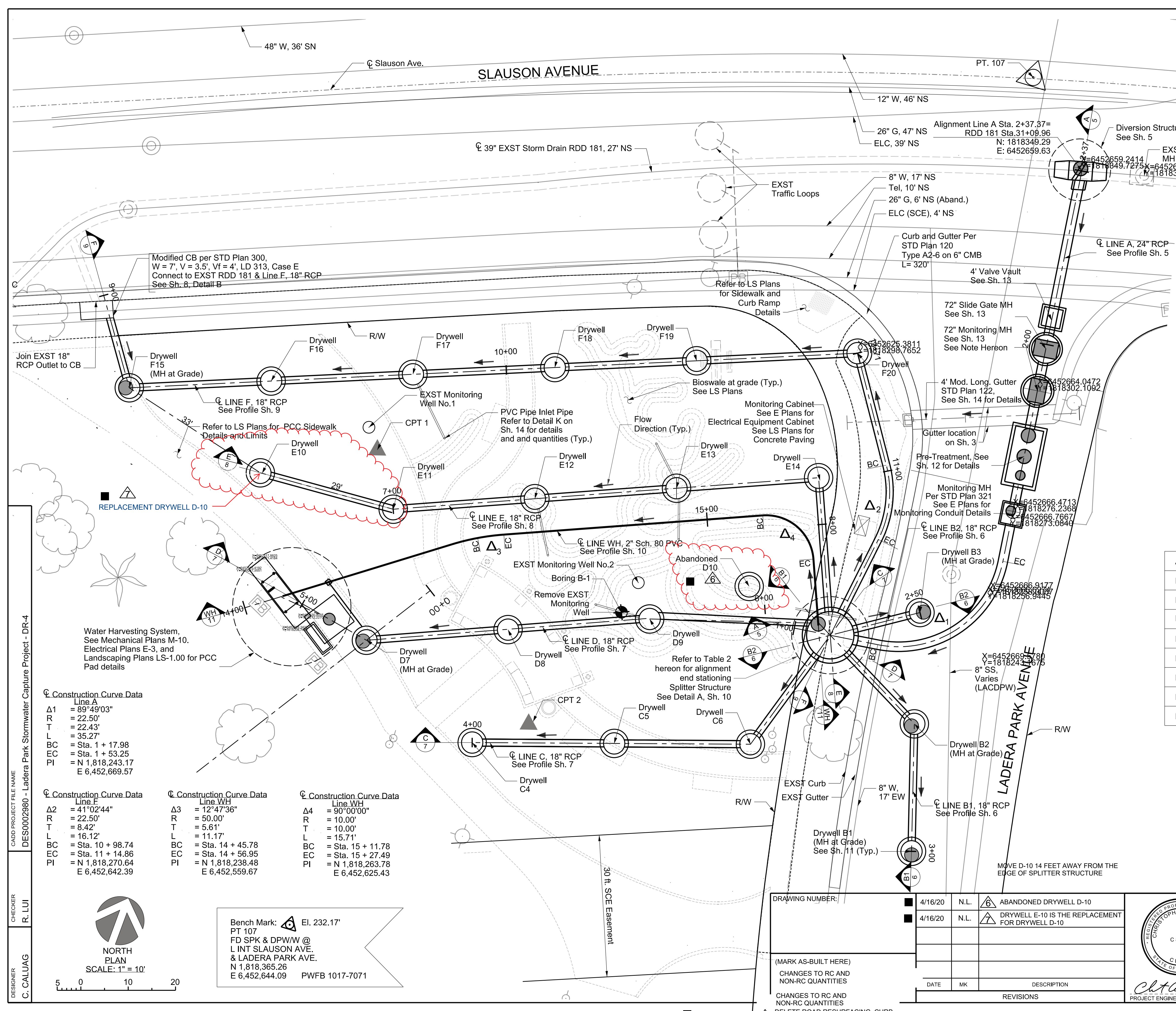
LADERA PARK
STORMWATER IMPROVEMENTS
SITE DEMOLITION PLAN AND
RESURFACING SCHEDULE

PROJECT ID NO. SWQ000003

DR-3

DATE: 08/07/18
PROJECT ENGINEER: C. CALUAG

PCA P97027AC DWG 181-271-D4 SHEET 3 OF 45



DRY WELL C	NORTHING	EASTING	STATION	DRY WELL C	NORTHING	EASTING	STATION
B1	1818201.26	6452666.67	3+00.00	E11	1818238.88	6452540.97	7+00.00
B2	1818227.22	6452659.47	3+26.94	E12	1818249.64	6452568.99	7+30.02
B3	1818250.09	6452653.83	2+50.00	E13	1818260.40	6452596.99	7+60.02
C4	1818196.48	6452571.17	4+00.00	E14	1818271.18	6452625.09	7+90.12
C5	1818204.97	6452599.95	4+30.00	F15	1818247.35	6452480.18	9+20.25
C6	1818213.11	6452627.56	4+58.79	F16	1818257.36	6452508.46	9+50.25
D7	1818210.73	6452543.55	5+15.56	F17	1818267.38	6452536.74	9+80.25
D8	1818221.52	6452571.54	5+45.56	F18	1818277.39	6452565.02	10+10.25
D9	1818232.30	6452699.53	5+75.56	F19	1818287.41	6452593.30	10+40.25
E10	1818238.13	6452511.88	6+71.00	F20	1818298.77	6452625.38	10+74.29
STRUCTURE C	NORTHING	EASTING	LINE A STATION				
Diversion	1818349.29	6452659.63	2+37.37				
Valve Vault	1818317.79	6452662.58	2+05.77				
72" Slide Gate MH	1818311.07	6452663.21	1+99.02				
72" Monitoring MH	1818302.11	6452664.05	1+90.02				
Pre-Treatment	1818288.02	6452665.37	1+75.87				
Monitoring MH 321	1818276.24	6452666.47	1+64.03				
10" Splitter Structure	1818240.02	6452637.06	1+07.75				
Splitter Structure MH	1818241.57	6452633.94	1+04.79				

TABLE 1: DRYWELL/STRUCTURE LOCATIONS

Alignment	Begin STA	End STA	Begin Structure C	End Structure C
Line A	1+07.75	2+37.41	Splitter	Diversion
Line B1	3+00.00	3+52.75	Dry Well B1	Splitter
Line B2	2+50.00	2+69.55	Dry Well B3	Splitter
Line C	4+00.00	4+88.79	Dry Well C4	Splitter
Line D	5+06.52	6+15.42	WH MH Cistern	Splitter
Line E	7+00.00	8+23.50	Dry Well E11	Splitter
Line F	9+02.59	11+37.51	Catch Basin	Splitter
Line WH	14+08.56	15+35.25	Water Harvesting Skid	Splitter MH

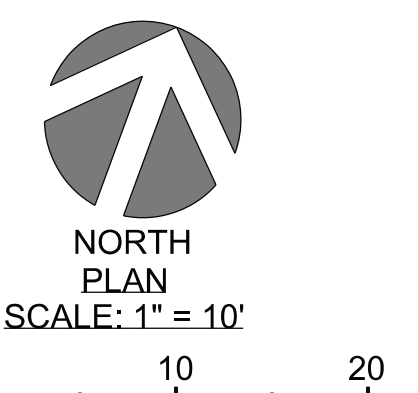
TABLE 2: HORIZONTAL ALIGNMENT

- NOTES:
- A. Elevations shown to be field verified at final grade
 - B. Provisions shall be made for contributory drainage at all times.
 - C. Owner will maintain drainage devices and keep free of debris.
 - D. Borings Logs and CPT, See Sh. 43

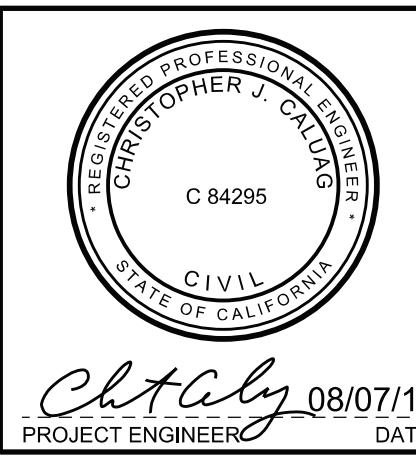
PD053138

<p>Construction Curve Data Line A</p> <p>Δ1 = 89°49'03" R = 22.50' T = 22.43' L = 35.27' BC = Sta. 1 + 17.98 EC = Sta. 1 + 53.25 PI = N 1,818,243.17 E 6,452,669.57</p>	<p>Construction Curve Data Line F</p> <p>Δ2 = 41°02'44" R = 22.50' T = 8.42' L = 16.12' BC = Sta. 10 + 98.74 EC = Sta. 11 + 14.86 PI = N 1,818,270.64 E 6,452,642.39</p>	<p>Construction Curve Data Line WH</p> <p>Δ3 = 12°47'36" R = 50.00' T = 5.61' L = 11.17' BC = Sta. 14 + 45.78 EC = Sta. 14 + 56.95 PI = N 1,818,238.48 E 6,452,559.67</p>	<p>Construction Curve Data Line WH</p> <p>Δ4 = 90°00'00" R = 10.00' T = 10.00' L = 15.71' BC = Sta. 15 + 11.78 EC = Sta. 15 + 27.49 PI = N 1,818,263.78 E 6,452,625.43</p>
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Bench Mark: El. 232.17'
PT 107
FD SPK & DPWW @
L INT SLAUSON AVE.
& LADERA PARK AVE.
N 1,818,365.26
E 6,452,644.09 PWF 1017-7071



DRAWING NUMBER:	4/16/20	N.L.		ABANDONED DRYWELL D-10
	4/16/20	N.L.		DRYWELL E-10 IS THE REPLACEMENT FOR DRYWELL D-10
(MARK AS-BUILT HERE) CHANGES TO RC AND NON-RC QUANTITIES	DATE	MK	DESCRIPTION	REVISIONS
CHANGES TO RC AND NON-RC QUANTITIES DELETE ROAD RESURFACING, CURB, & GUTTER, AND CROSS GUTTER	6/4/20	N.L.		DELETE ROAD RESURFACING, CURB, & GUTTER, AND CROSS GUTTER
CHANGES TO RC AND NON-RC QUANTITIES CONSTRUCT CURB INLET AND LOCAL DEPRESSION, H=1"	6/4/20	N.L.		CONSTRUCT CURB INLET AND LOCAL DEPRESSION, H=1"



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

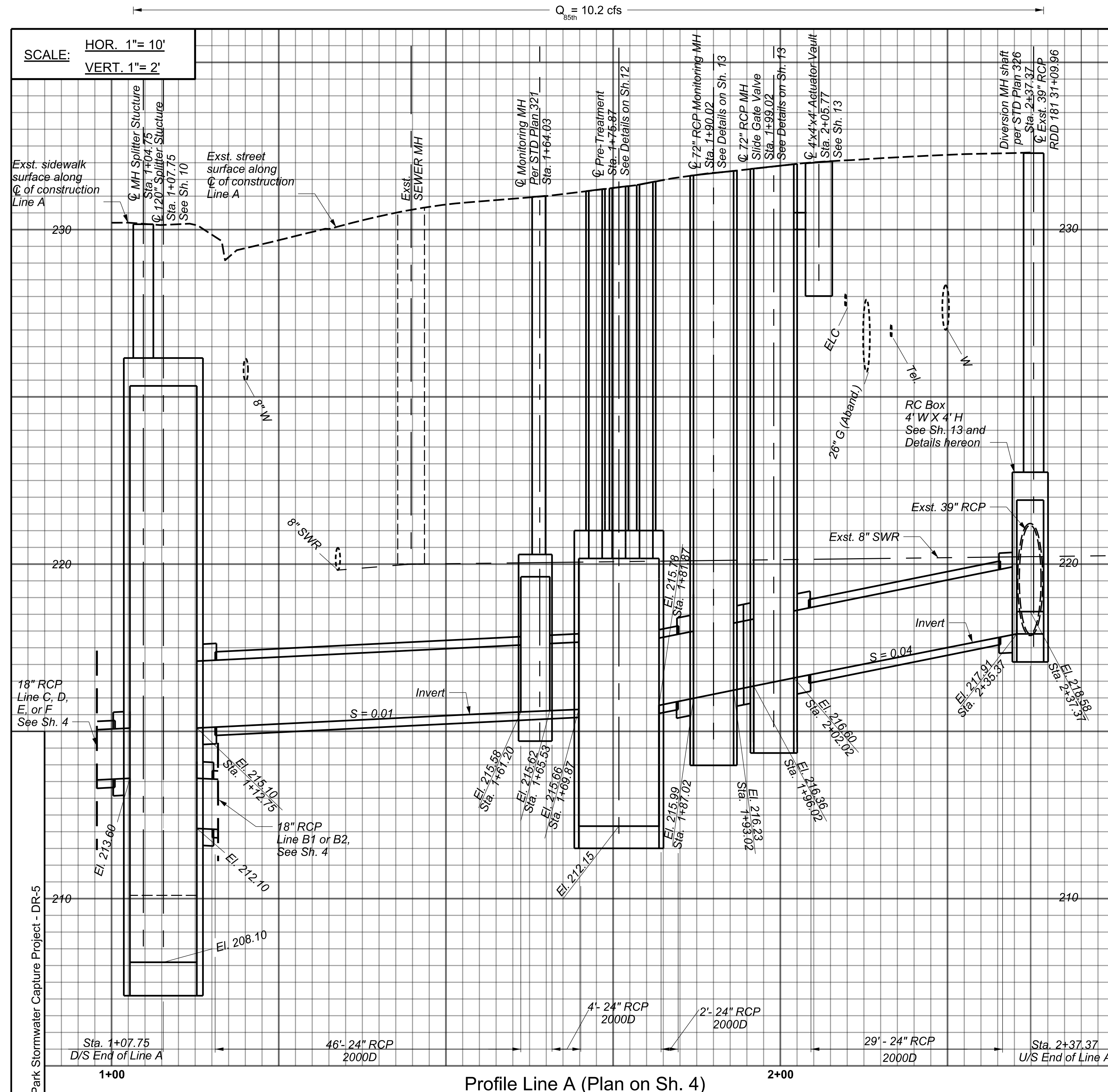
LADERA PARK
STORMWATER IMPROVEMENTS
PLAN

PROJECT ID NO. SWQ000003 **DR-4**

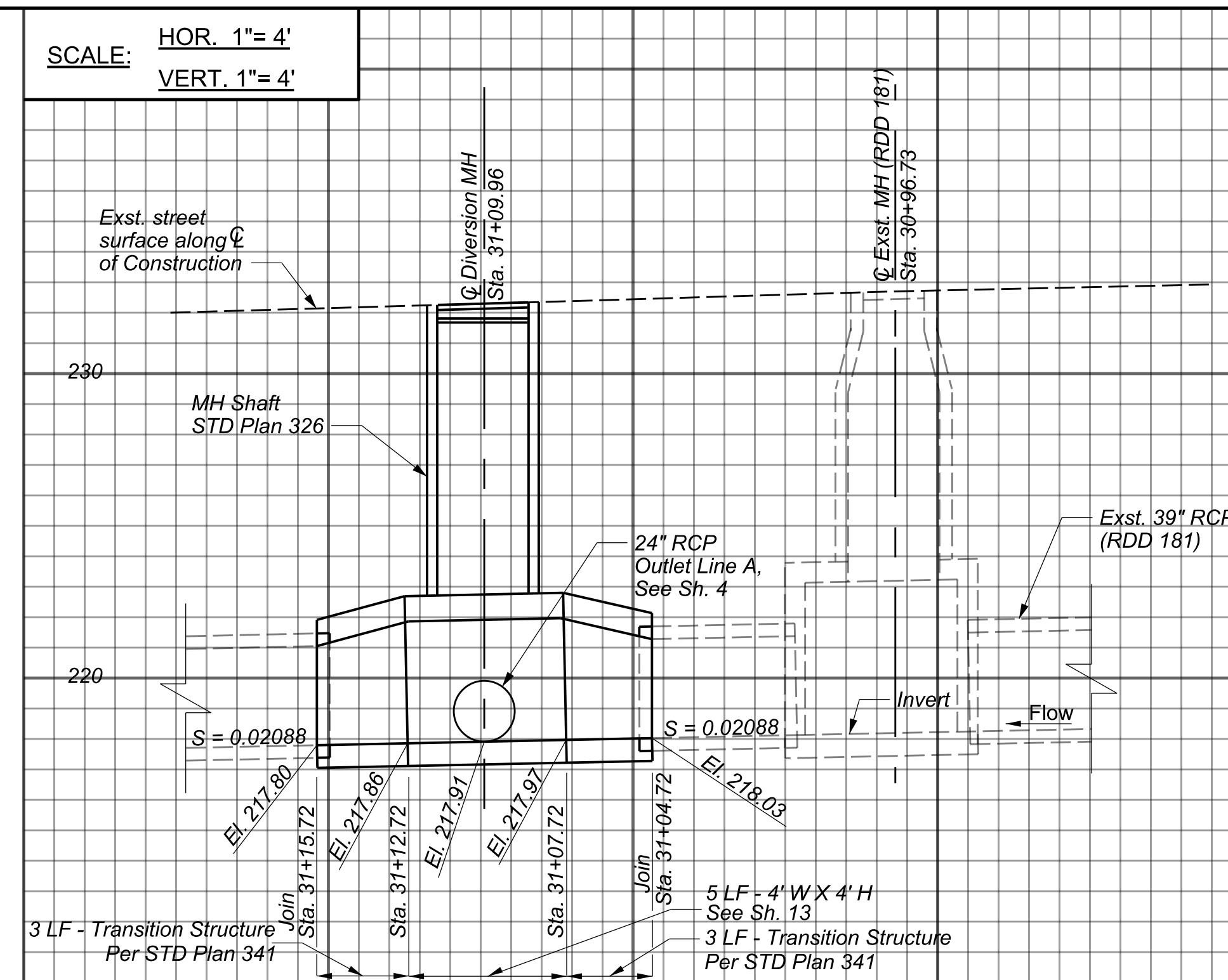
DATE: 08/07/18
PROJECT ENGINEER: [Signature]
DATE: 08/07/18

PCA P97027AC DWG 181-271-D4 SHEET 4 OF 45

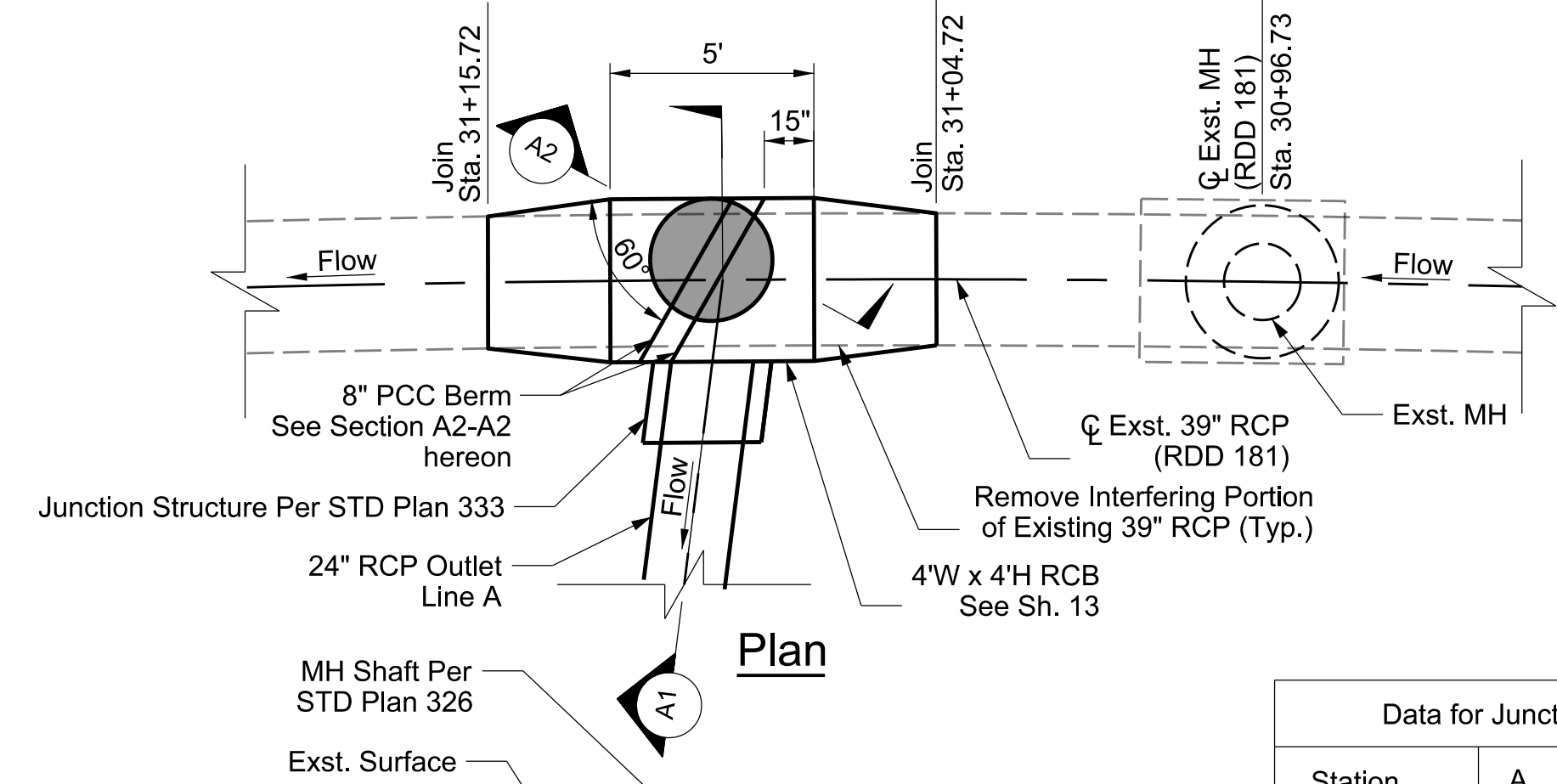
AS BUILT DRAWINGS



Profile Line A (Plan on Sh. 4)



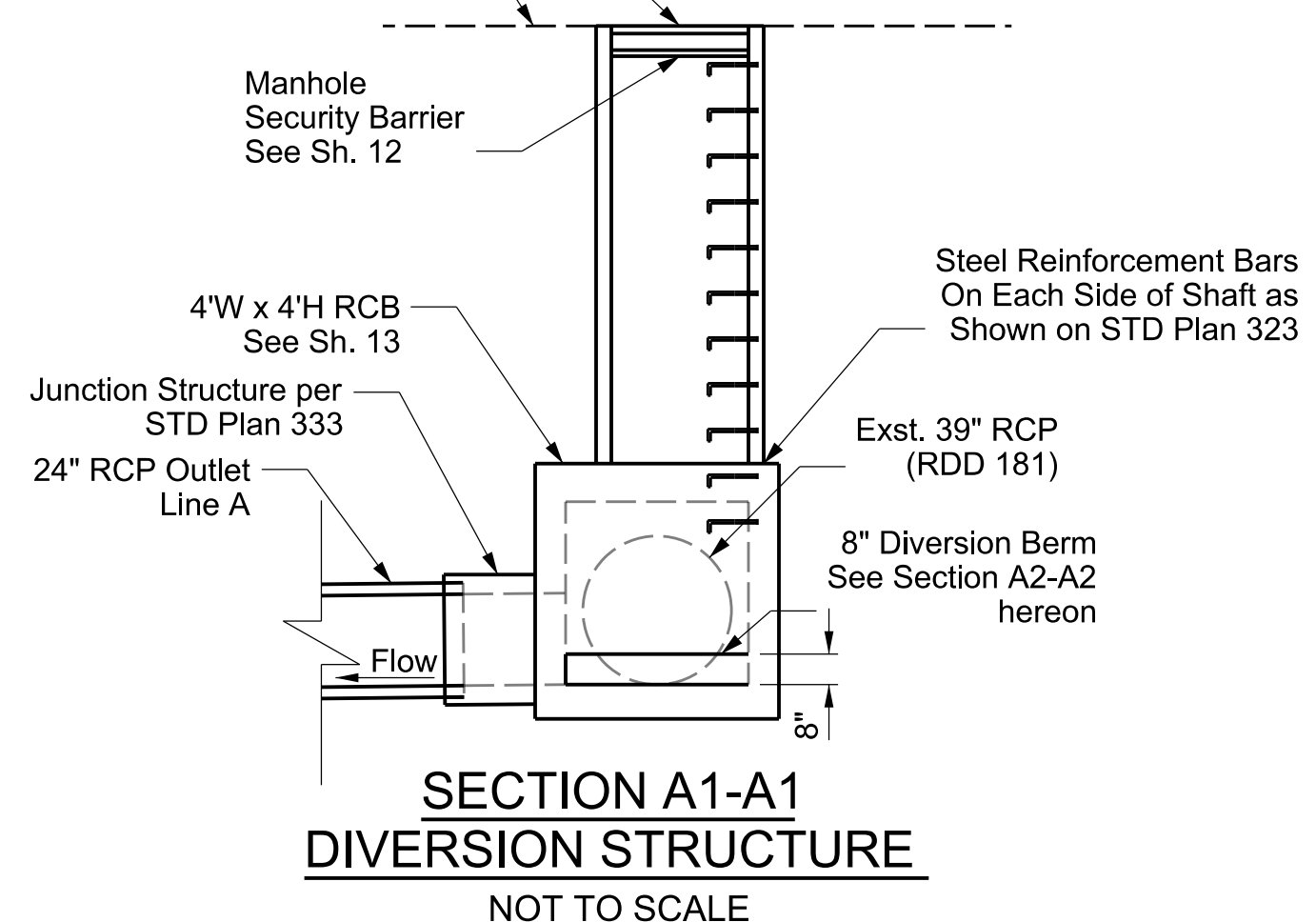
DIVERSION STRUCTURE PROFILE



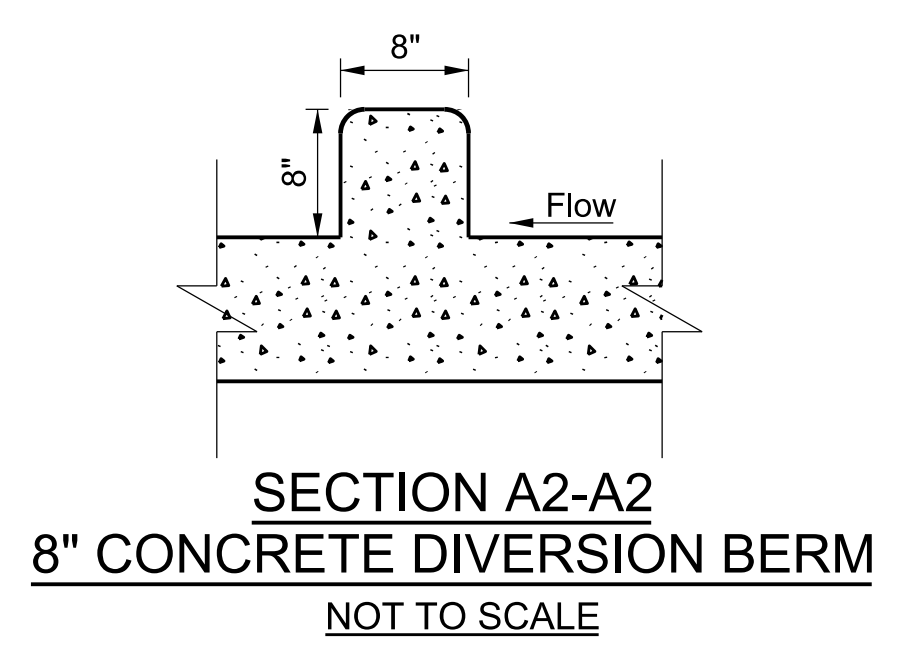
Plan

Data for Junction Structure Per STD Plan 333

Station	A	B	C	EI. S	EI. R
31+09.96	82°	24"	2'	217.91	217.81



SECTION A1-A1
DIVERSION STRUCTURE
NOT TO SCALE



SECTION A2-A2
8" CONCRETE DIVERSION BERM
NOT TO SCALE

CADD PROJECT FILE NAME
DES0002980 - Ladera Park Stormwater Capture Project - DR-5

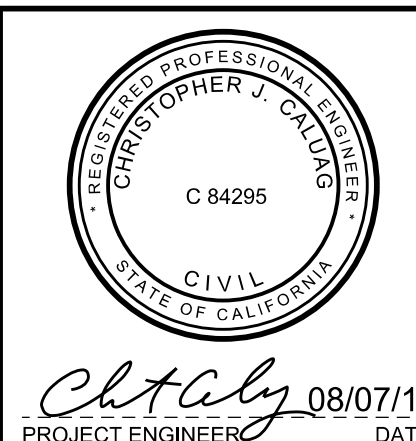
CHECKER
R. LUI

DESIGNER
C. CALUAG

DRAWING NUMBER:

(MARK AS-BUILT HERE)

DATE	MK	DESCRIPTION



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK
STORMWATER IMPROVEMENTS
PROFILE LINE A AND
RDD181 DIVERSION STRUCTURE DETAILS

PROJECT ID NO. SWQ000003

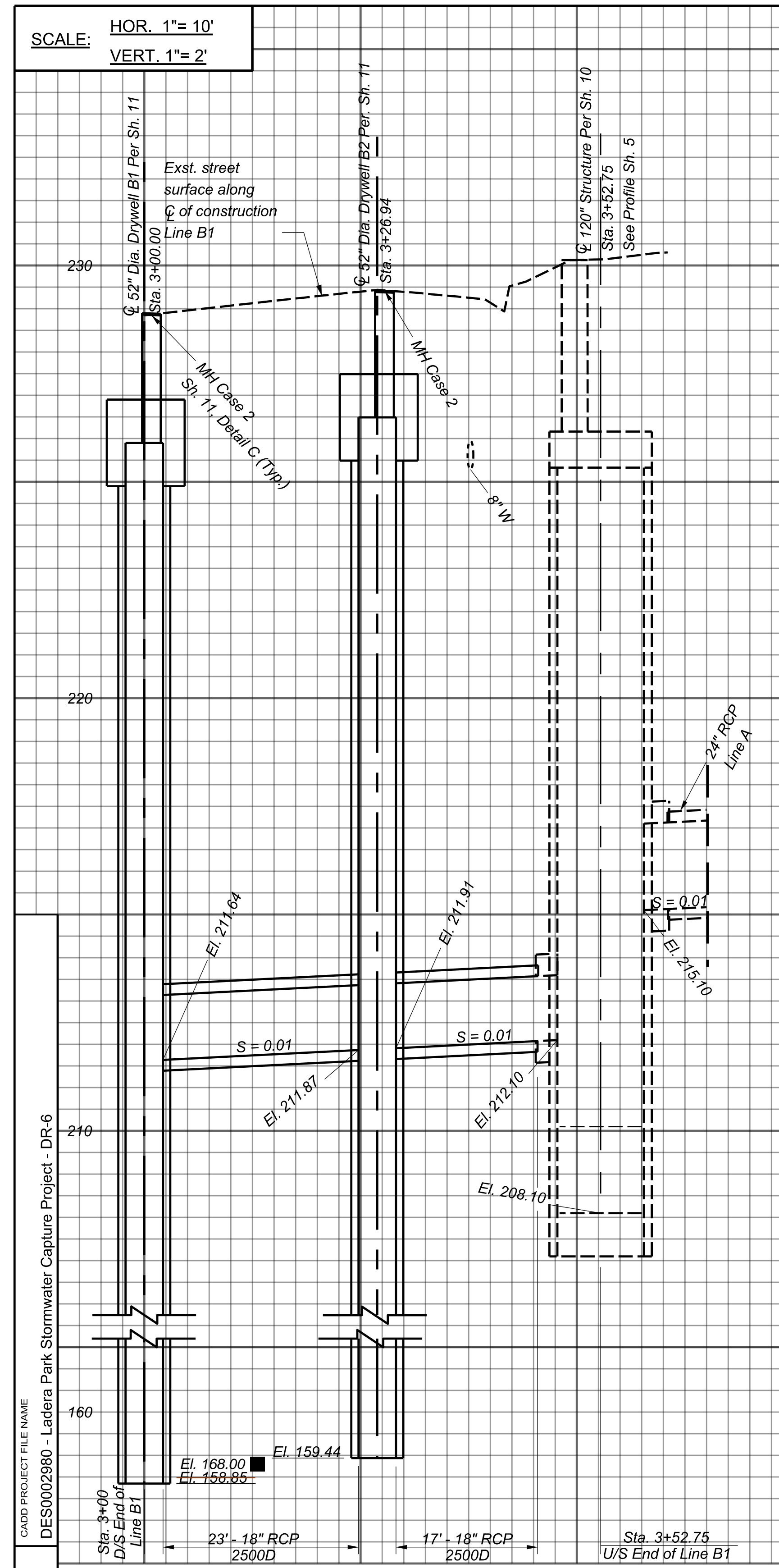
DR-5

DATE: 08/07/18
PROJECT ENGINEER: C. Caluag
PCA: P97027AC
DWG: 181-271-D4
SHEET: 5 OF 45

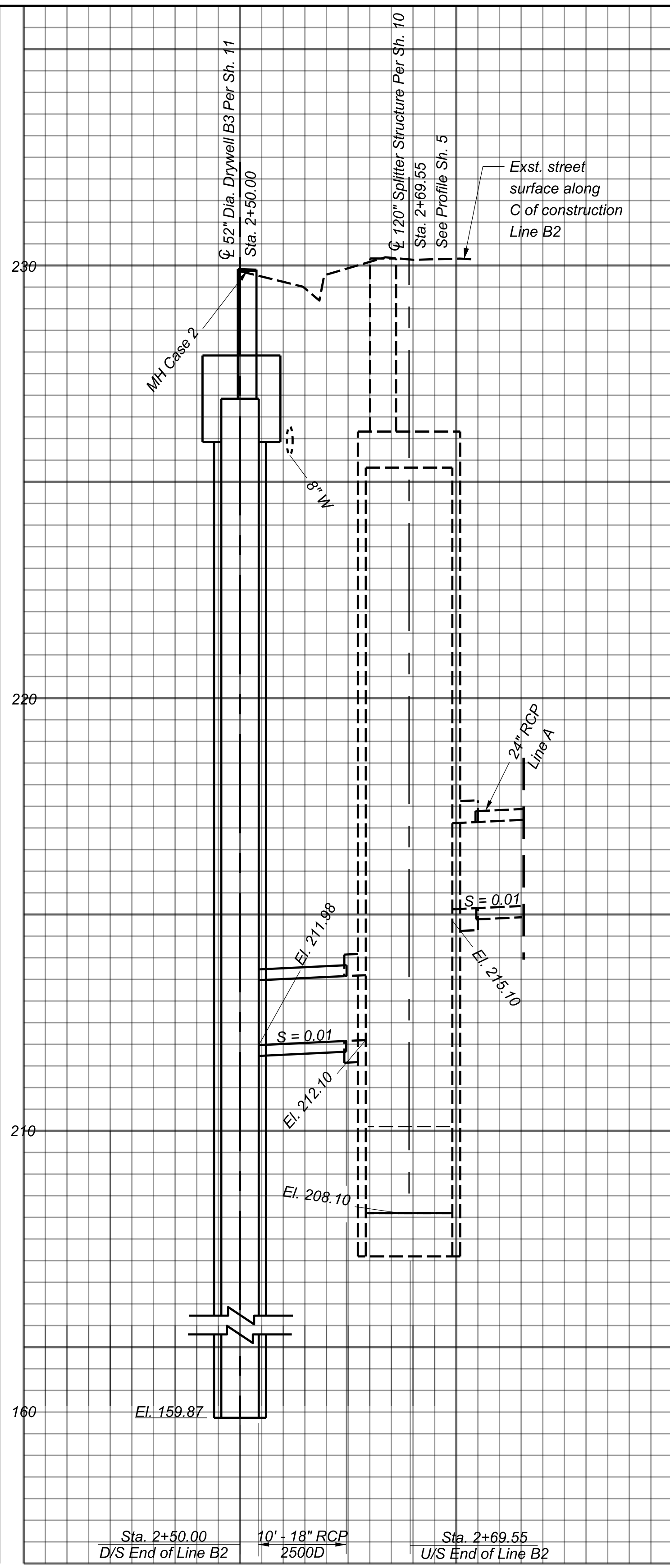
PD053138

AS BUILT DRAWINGS

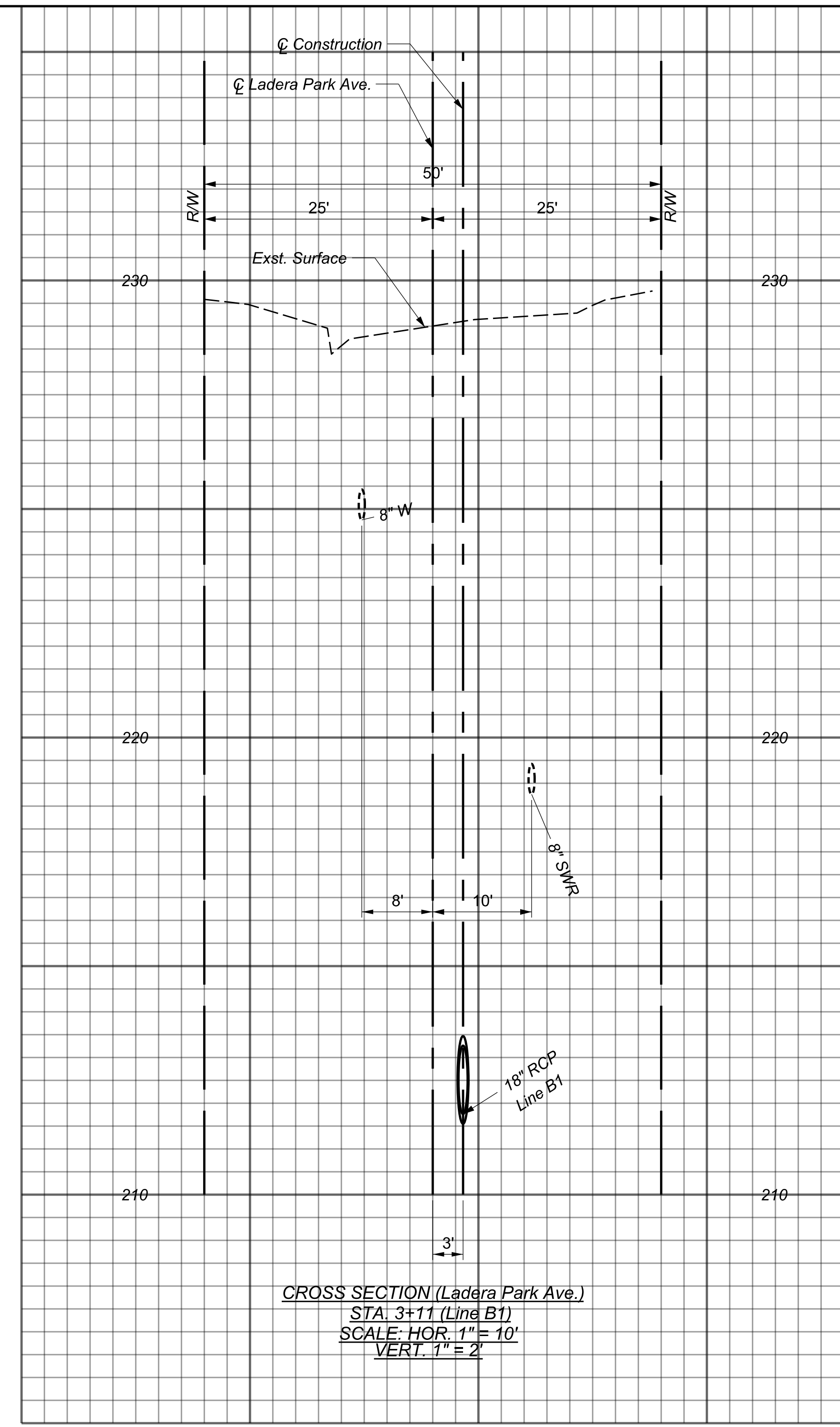
SCALE: HOR. 1"= 10'
VERT. 1"= 2'



Profile Line B1 (Sh. 4)



Profile Line B2 (Sh. 4)



CROSS SECTION (Ladera Park Ave.)
STA: 3+11 (Line B1)
SCALE: HOR. 1"= 10'
VERT. 1"= 2'

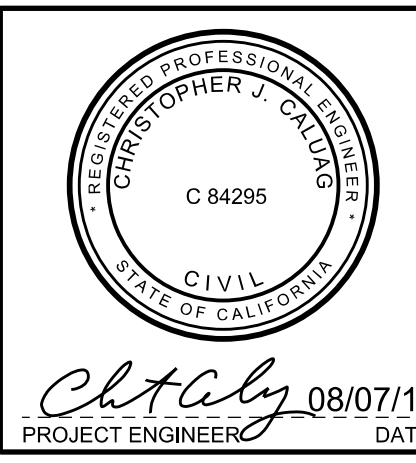
CADD PROJECT FILE NAME
DES0002980 - Ladera Park Stormwater Capture Project - DR-6

CHECKER
R. LUI

DESIGNER
C. CALUAG

PD053138

DRAWING NUMBER:			
(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
REVISIONS			



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK
STORMWATER IMPROVEMENTS
PROFILE LINE B1, B2 AND
BIOSWALE OVERFLOW DETAILS

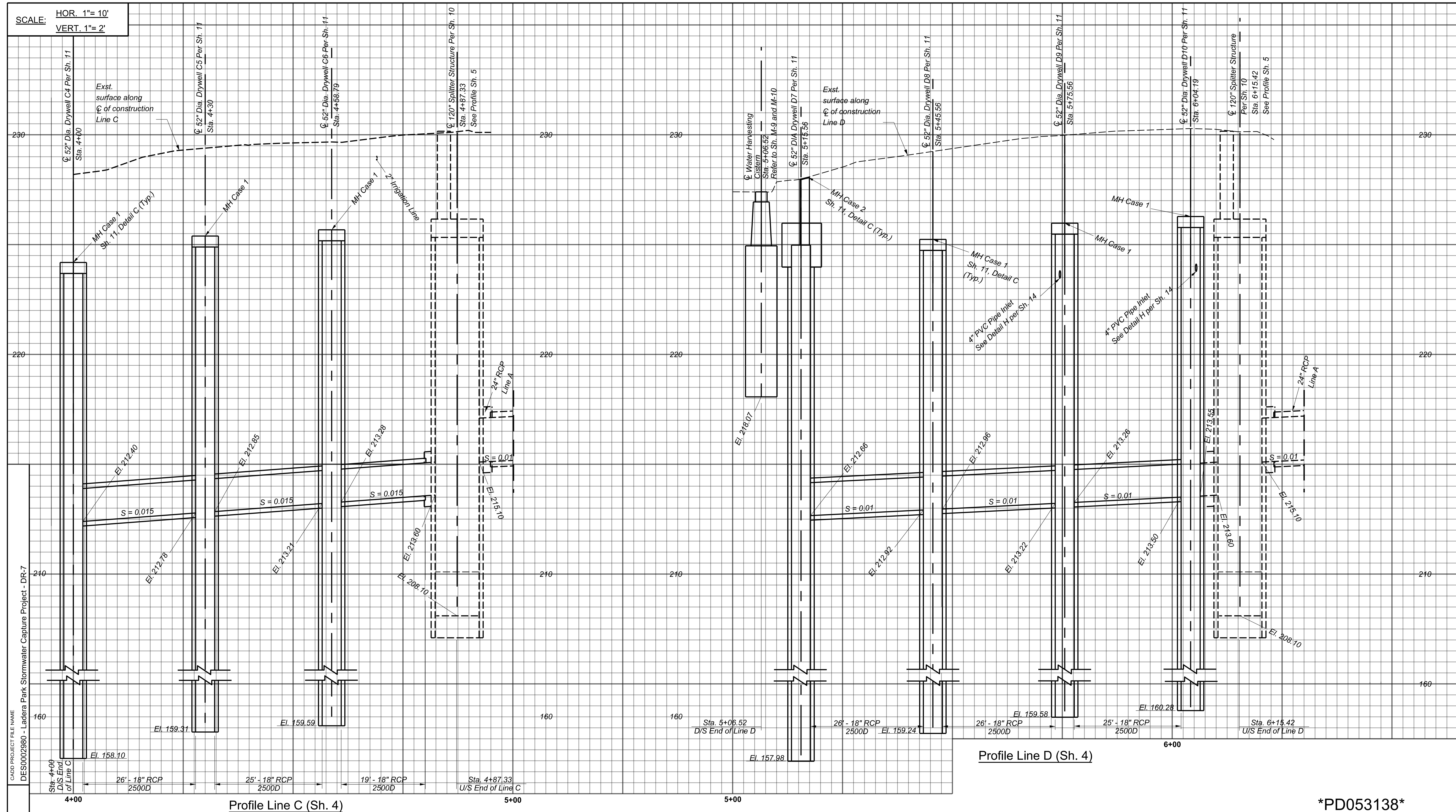
PROJECT ID NO. SWQ000003

DR-6

DATE: 08/07/18
PROJECT ENGINEER: C. CALUAG
PCA: P97027AC
DWG: 181-271-D4
SHEET: 6 OF 45

AS BUILT DRAWINGS

SCALE: HOR. 1"= 10'
VERT. 1"= 2'



CADD PROJECT FILE NAME
DES0002980 - Ladera Park Stormwater Capture Project - DR-7

CHECKER
R. LUI

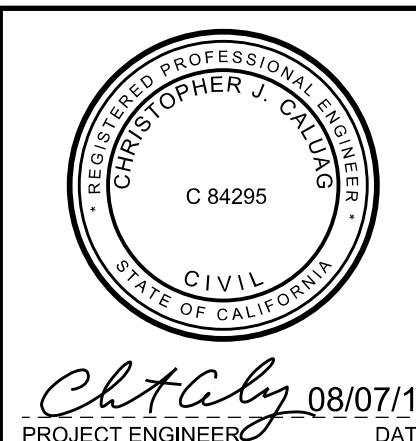
DESIGNER
C. CALUAG

Profile Line C (Sh. 4)

Profile Line D (Sh. 4)

PD053138

DRAWING NUMBER:			
(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
		REVISIONS	



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

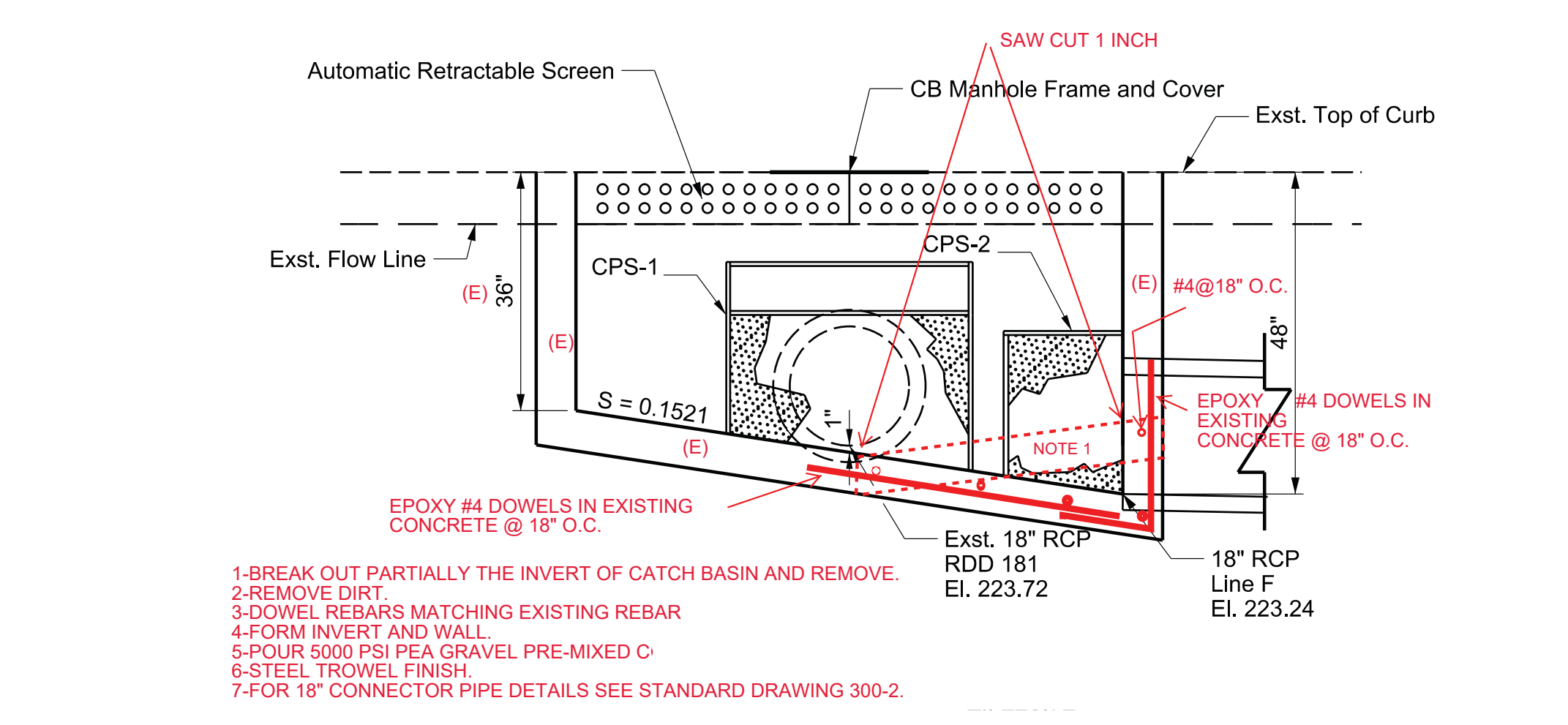
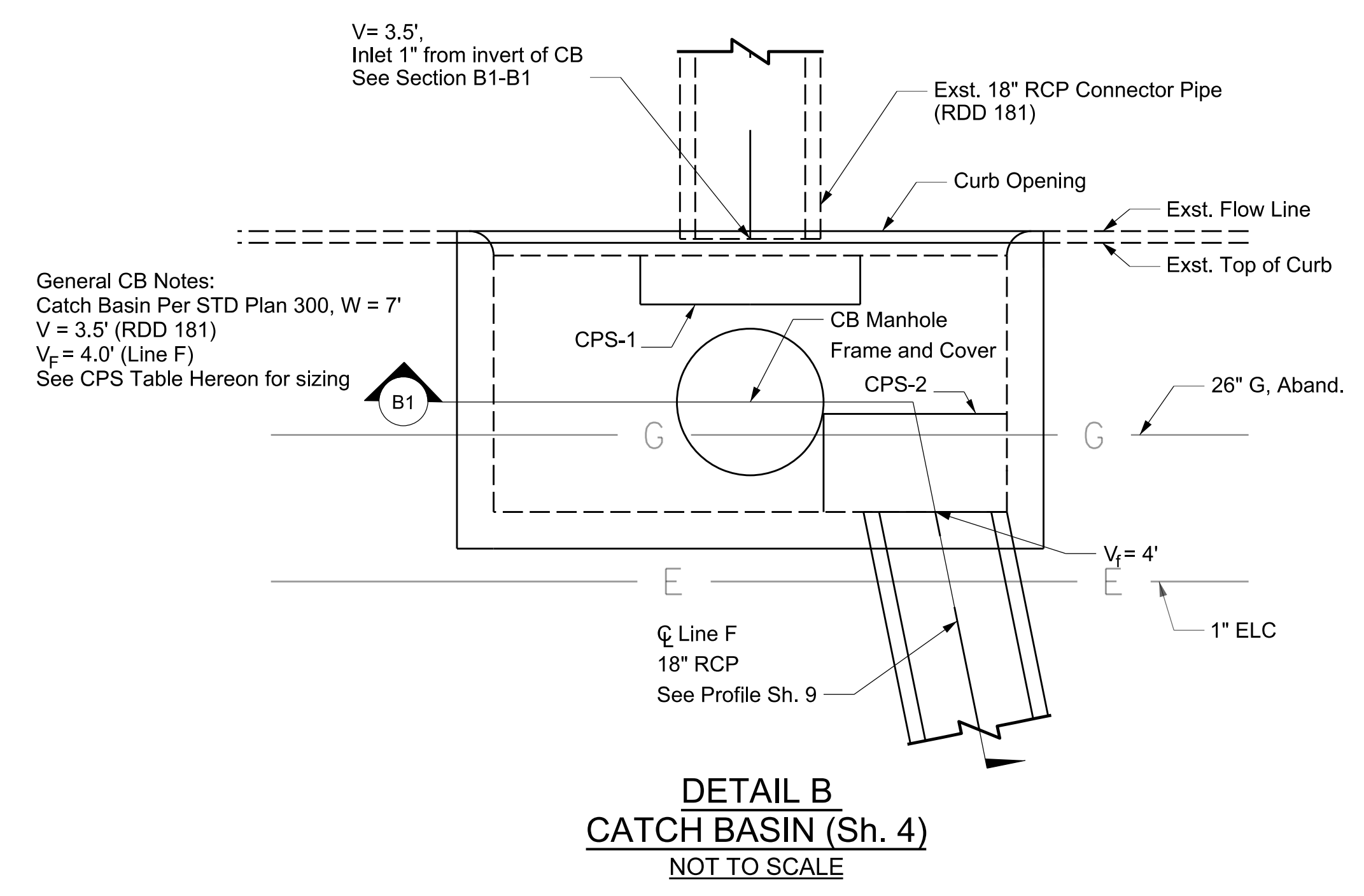
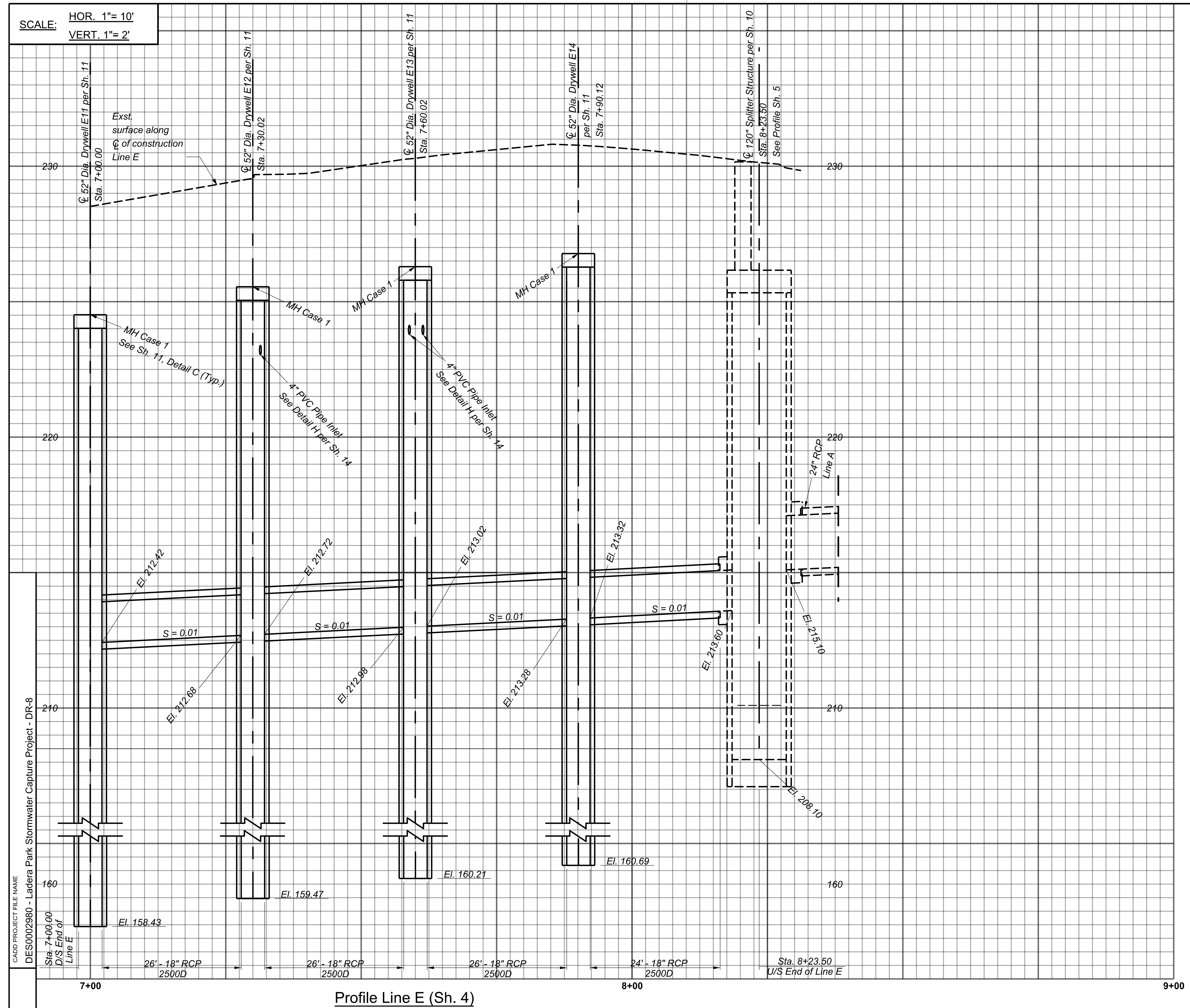
LADERA PARK
STORMWATER IMPROVEMENTS
PROFILE LINE C & D

PROJECT ID NO. SWQ000003

DR-7

PROJECT ENGINEER: C. CALUAG 08/07/18
DATE: 08/07/18
PCA: P97027AC
DWG: 181-271-D4
SHEET: 7 OF 45

AS BUILT DRAWINGS



CONNECTOR PIPE SCREEN SIZING

CPS	Bypass Height H_b (in)	Screen Height H_s (in)	Screen Length L (ft)	G (in)
CPS-1	8	18	4	6
CPS-2	None	20	4	6

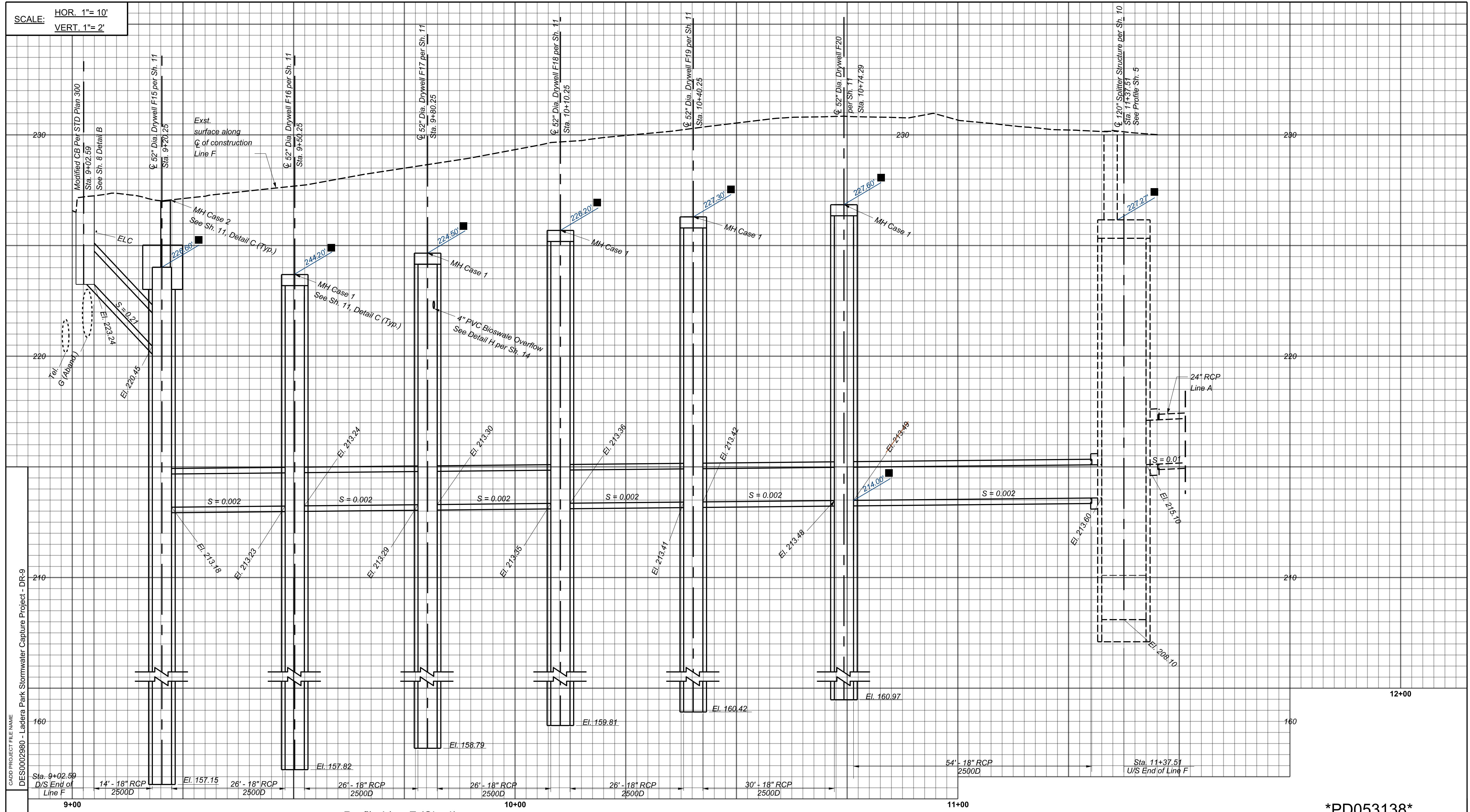
Profile Line E (Sh. 4)

PD053138

DRAWING NUMBER:	12/05/19	N.L.	MODIFIED CATCH BASIN		COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS LADERA PARK STORMWATER IMPROVEMENTS PROFILE LINE E AND RECONSTRUCTED CATCH BASIN DETAILS PROJECT ID NO. SWQ0000003
	(MARK AS-BUILT HERE)				
DESIGNER:	DATE:	MK:	DESCRIPTION:	PROJECT ENGINEER:	PROJECT ID NO. SWQ0000003
C. CALUAG	08/07/18			PCA	DR-8
CHECKER:	REVISIONS:			DATE:	SHEET 8 OF 45
R. LUI				08/07/18	

AS BUILT DRAWINGS

SCALE: HOR. 1" = 10'
VERT. 1" = 2'



CADD PROJECT FILE NAME
DES0002980 - Ladera Park Stormwater Capture Project - DR-9
CHECKER
R. LUI
DESIGNER
C. CALUAG

Profile Line F (Sh. 4)

PD053138

DRAWING NUMBER:			
(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
		REVISIONS	



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

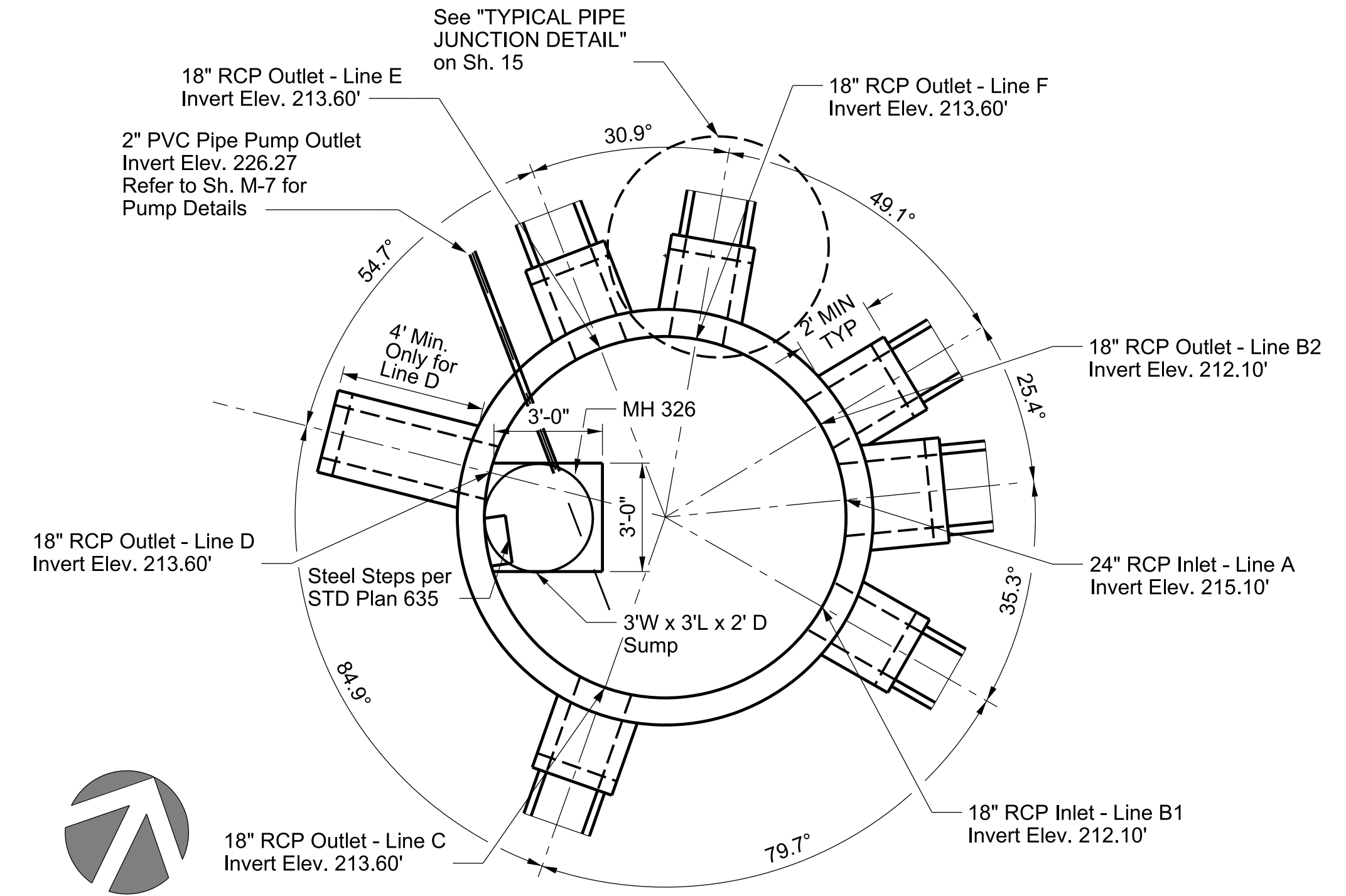
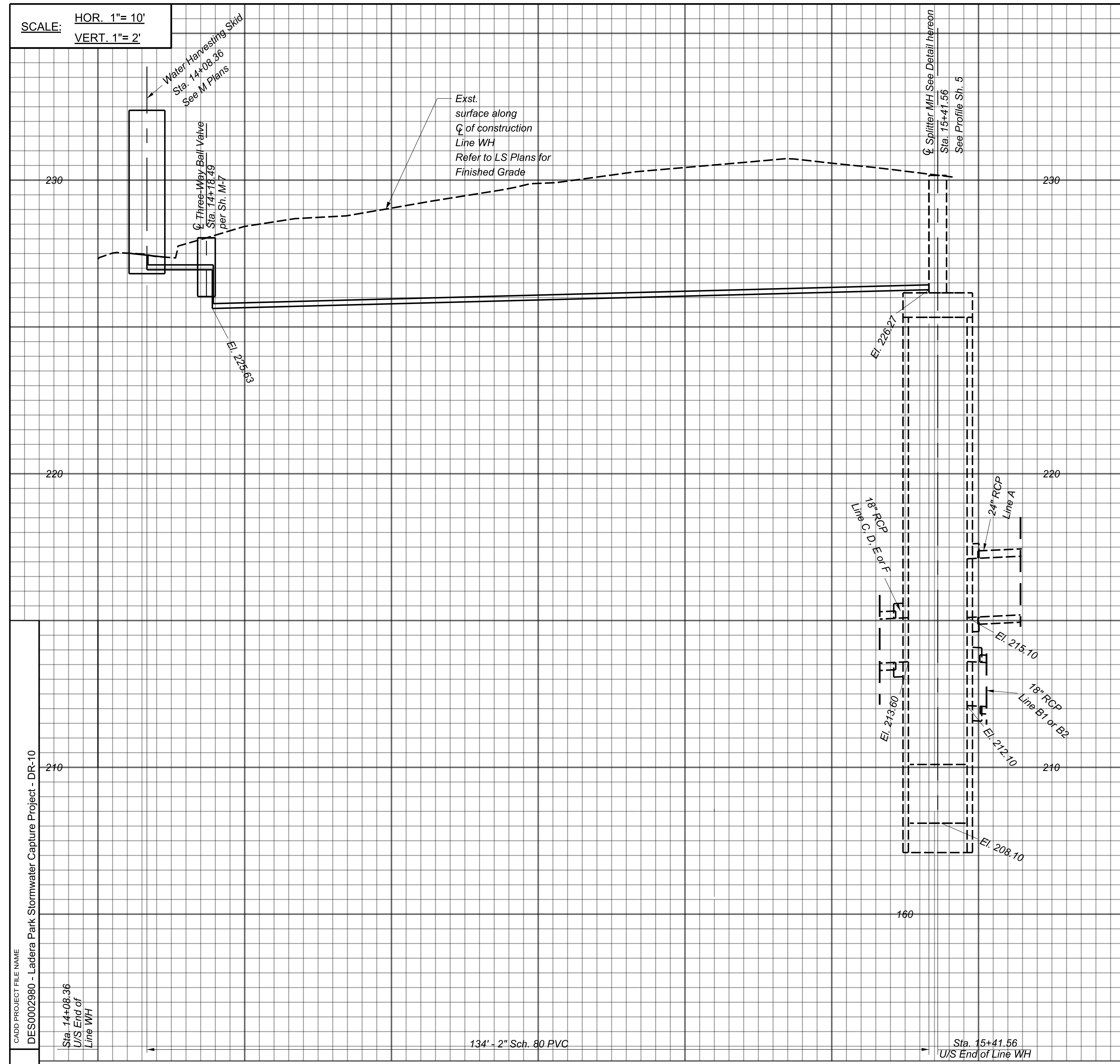
LADERA PARK
STORMWATER IMPROVEMENTS
PROFILE LINE F

PROJECT ID NO. SWQ000003

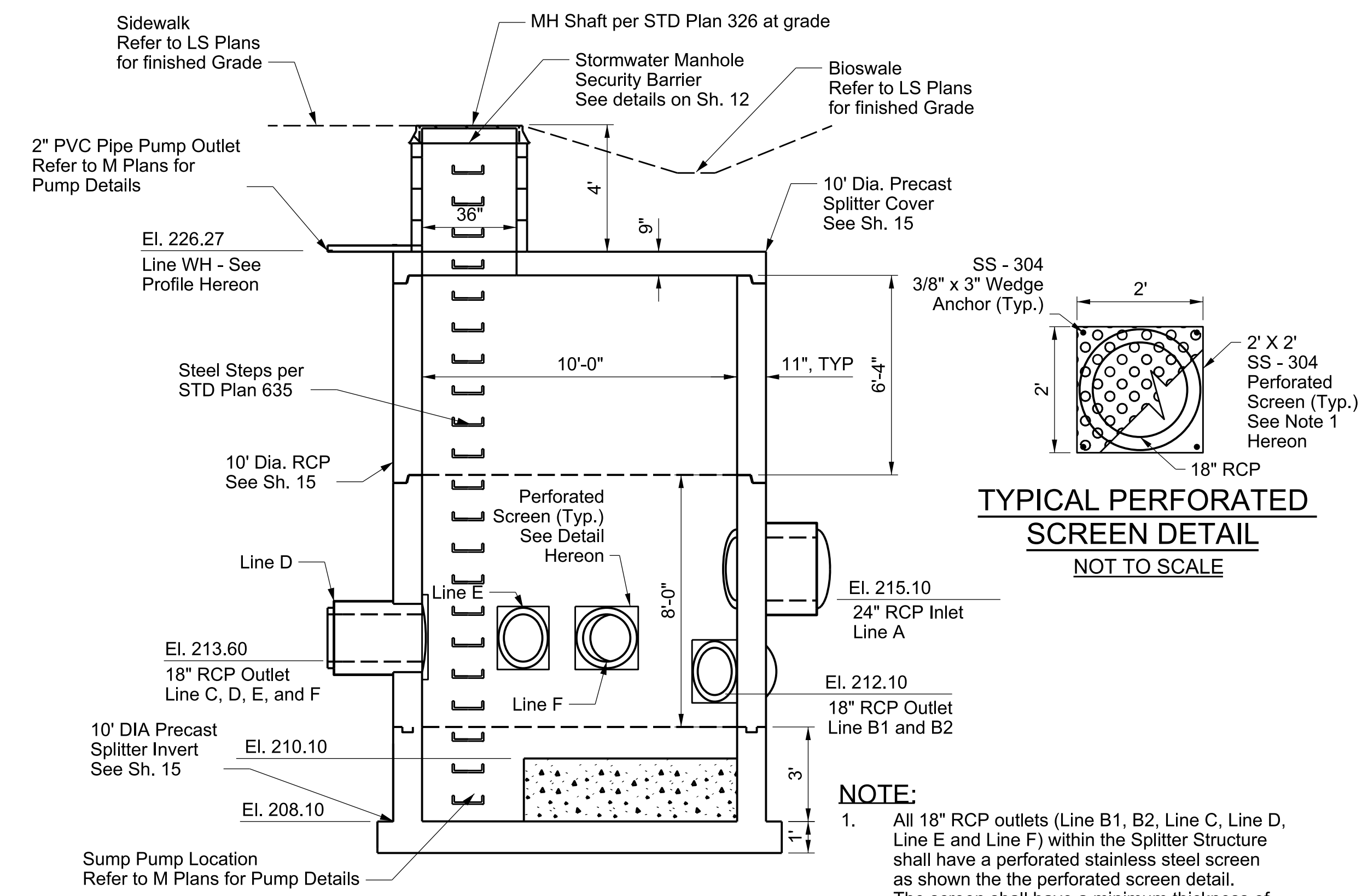
DR-9

DATE: 08/07/18
PROJECT ENGINEER: C. CALUAG
PCA: P97027AC
DWG 181-271-D4
SHEET 9 OF 45

AS BUILT DRAWINGS

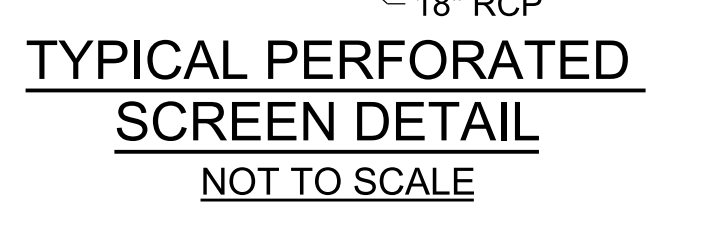


DETAIL A
PLAN - 120" DIA. SPLITTER STRUCTURE (Sh. 4)
 NOT TO SCALE



SECTION - SPLITTER STRUCTURE
 NOT TO SCALE

NOTE:
 1. All 18" RCP outlets (Line B1, B2, Line C, Line D, Line E and Line F) within the Splitter Structure shall have a perforated stainless steel screen as shown in the perforated screen detail. The screen shall have a minimum thickness of 14 gauge (0.0781 inches) and the geometrical opening shall have a diameter of 5 mm (0.197 inches). The screen material shall have at least 45% open area and the edges shall be chamfered.



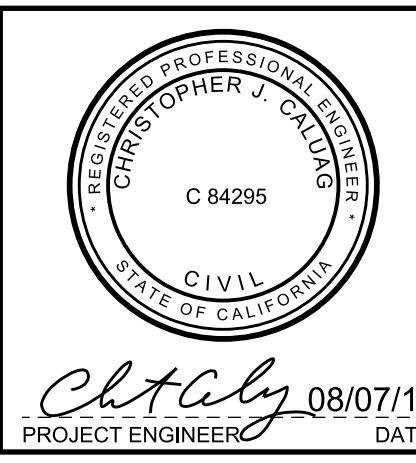
TYPICAL PERFORATED SCREEN DETAIL
 NOT TO SCALE

IRRIGATION NOTE:
 1. All water conveyance pipelines, and water valves shall be labeled with continuous pipeline identification tape and approved identification tags respectively. See Alternate Water Source Notes on LS -2.02 for information on the labeling, inspection, testing, and approval on the irrigation system and water conveyance piping.

CADD PROJECT FILE NAME
 DES0002980 - Ladera Park Stormwater Capture Project - DR-10
 CHECKER
 R. LUI
 DESIGNER
 C. CALUAG

Profile Line WH (Sh. 4)

DRAWING NUMBER:		
(MARK AS-BUILT HERE)		
DATE	MK	DESCRIPTION
REVISIONS		

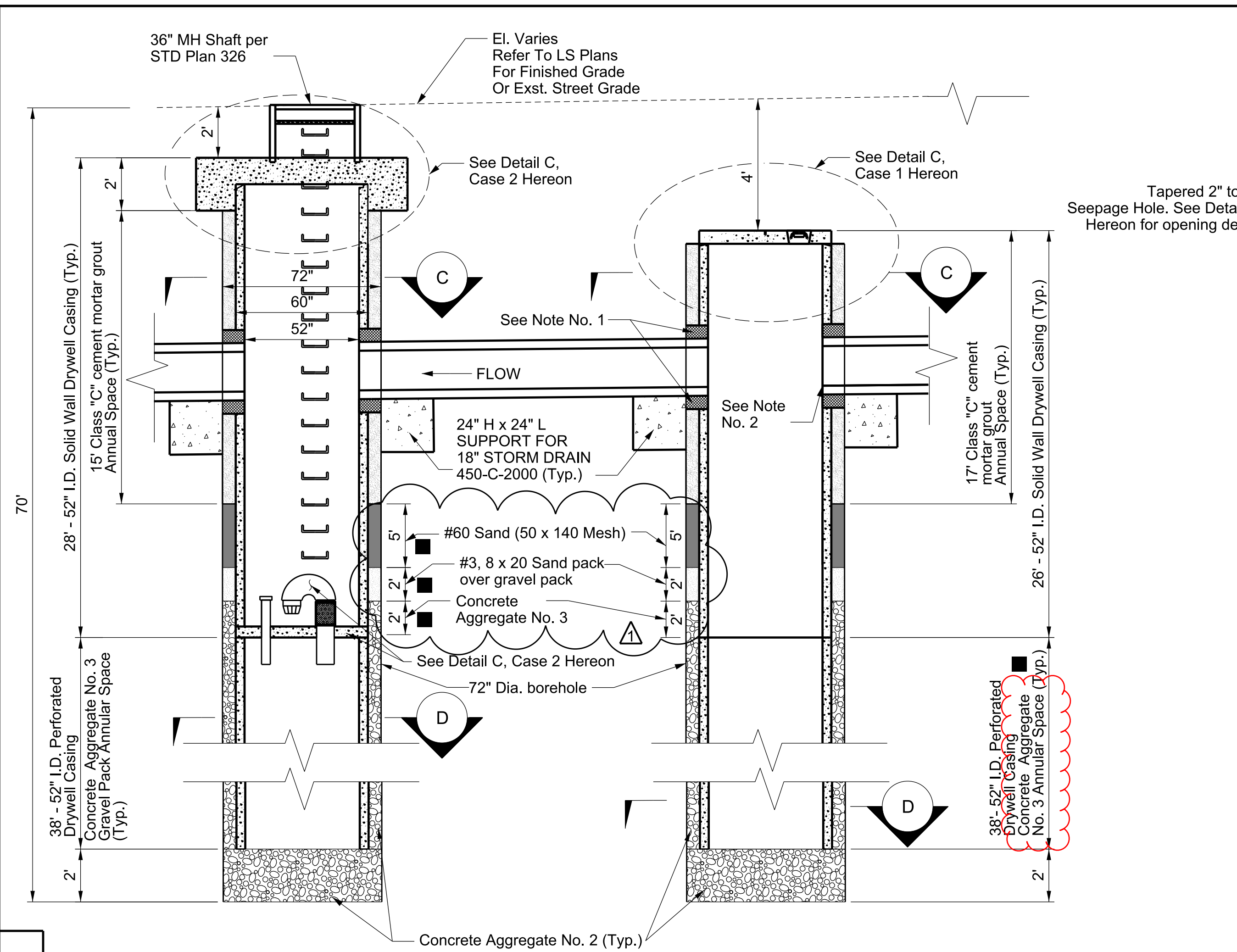


COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

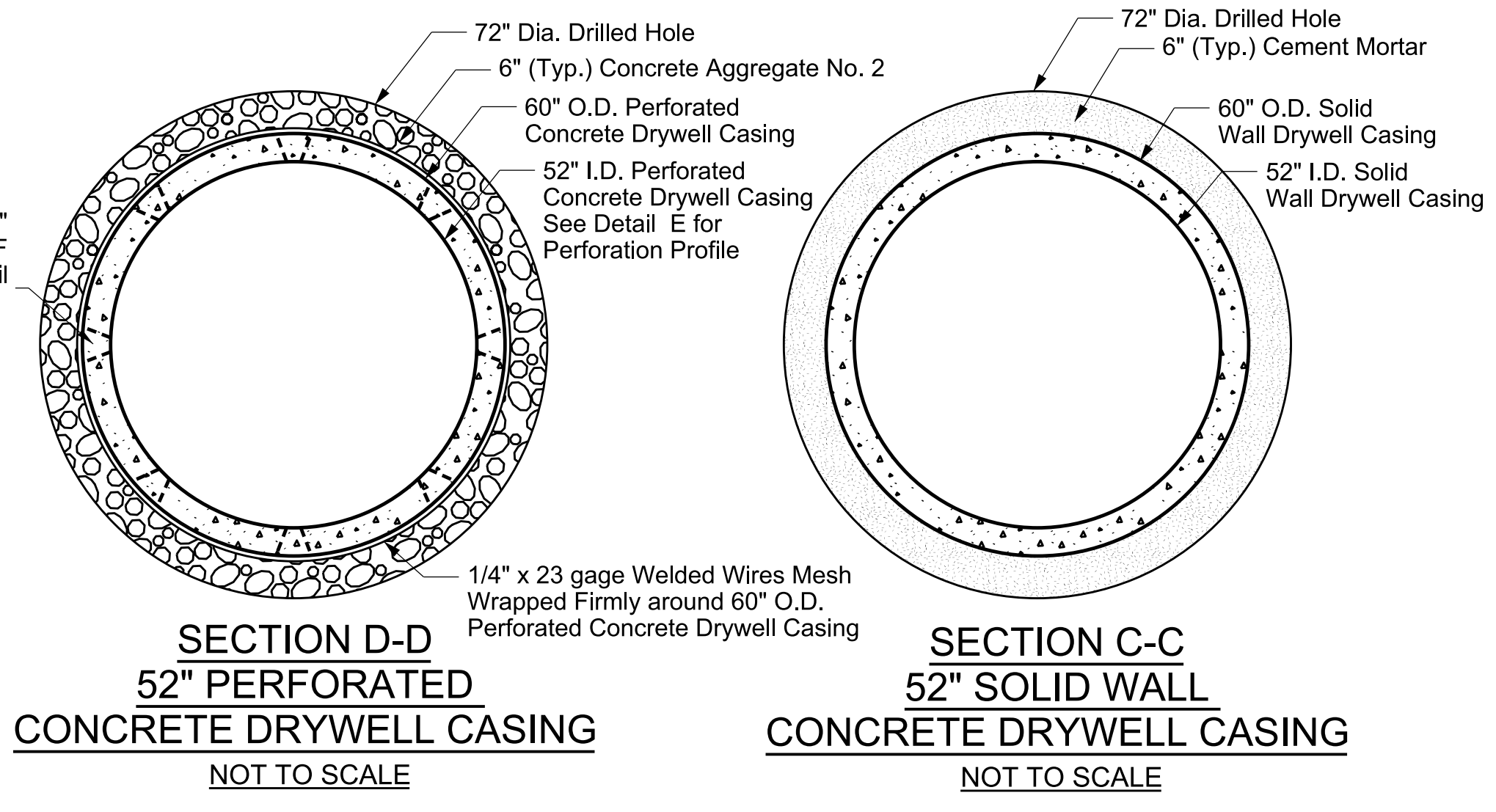
LADERA PARK
 STORMWATER IMPROVEMENTS
 PROFILE LINE WH & SPLITTER DETAILS

PROJECT ID NO. SWQ000003 DR-10

PROJECT ENGINEER: C. CALUAG DATE: 08/07/18
 PCA P97027AC DWG 181-271-D4 SHEET 10 OF 45

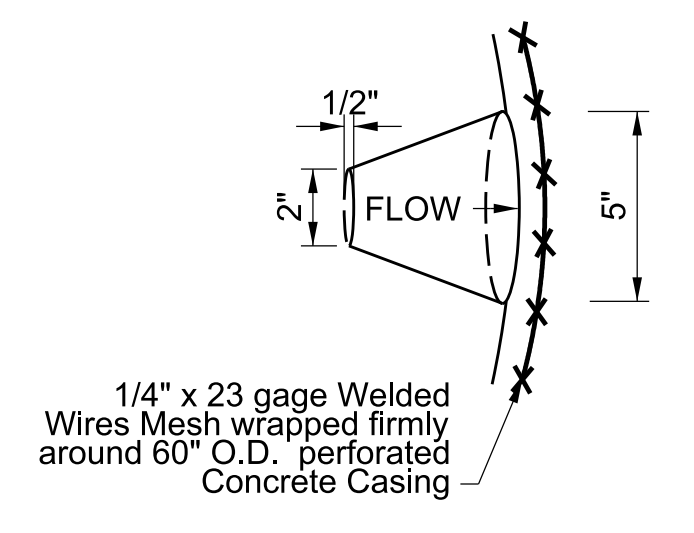


TYPICAL 52" DRYWELL SECTION (SH. 4)
NOT TO SCALE

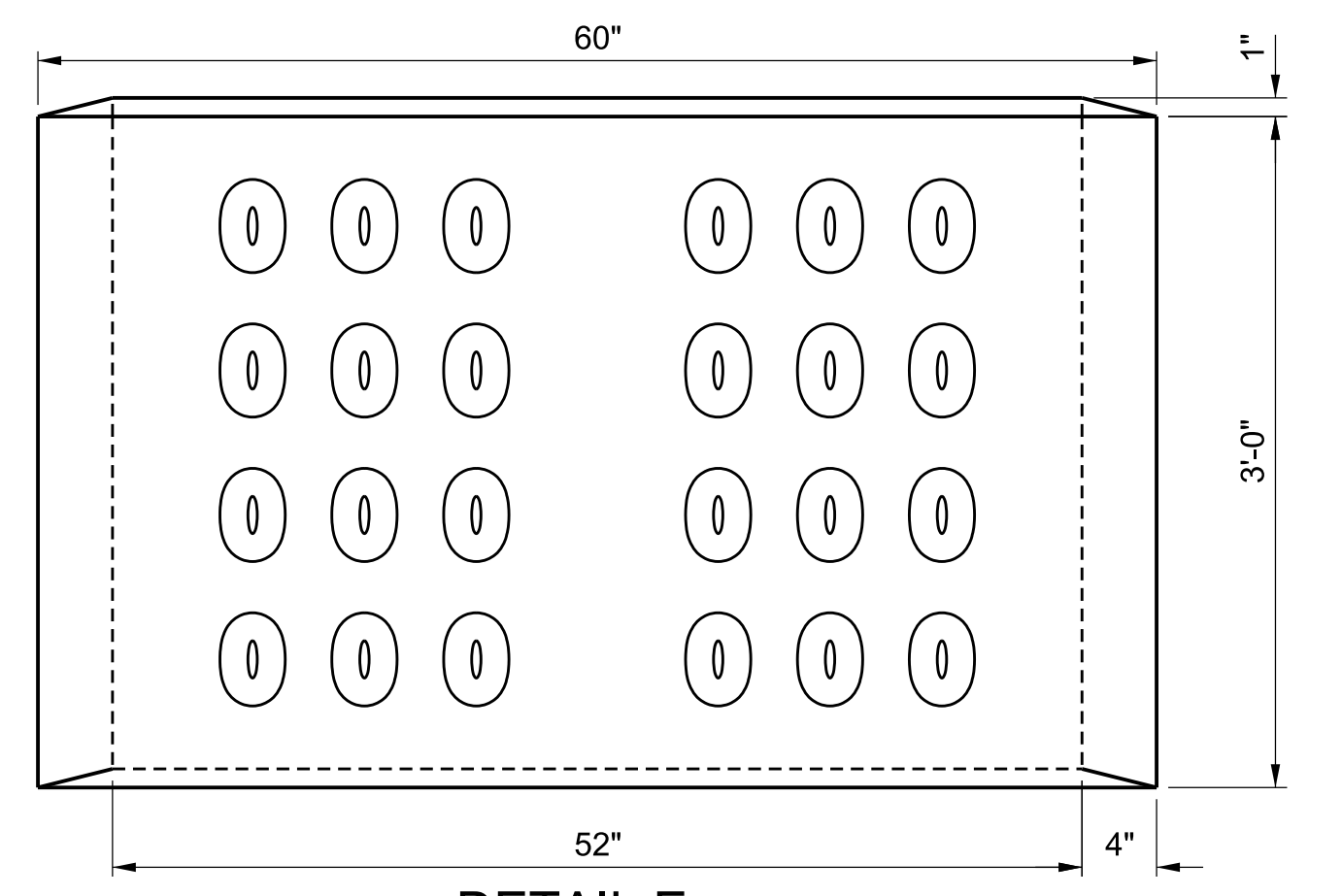


SECTION D-D
52" PERFORATED
CONCRETE DRYWELL CASING
NOT TO SCALE

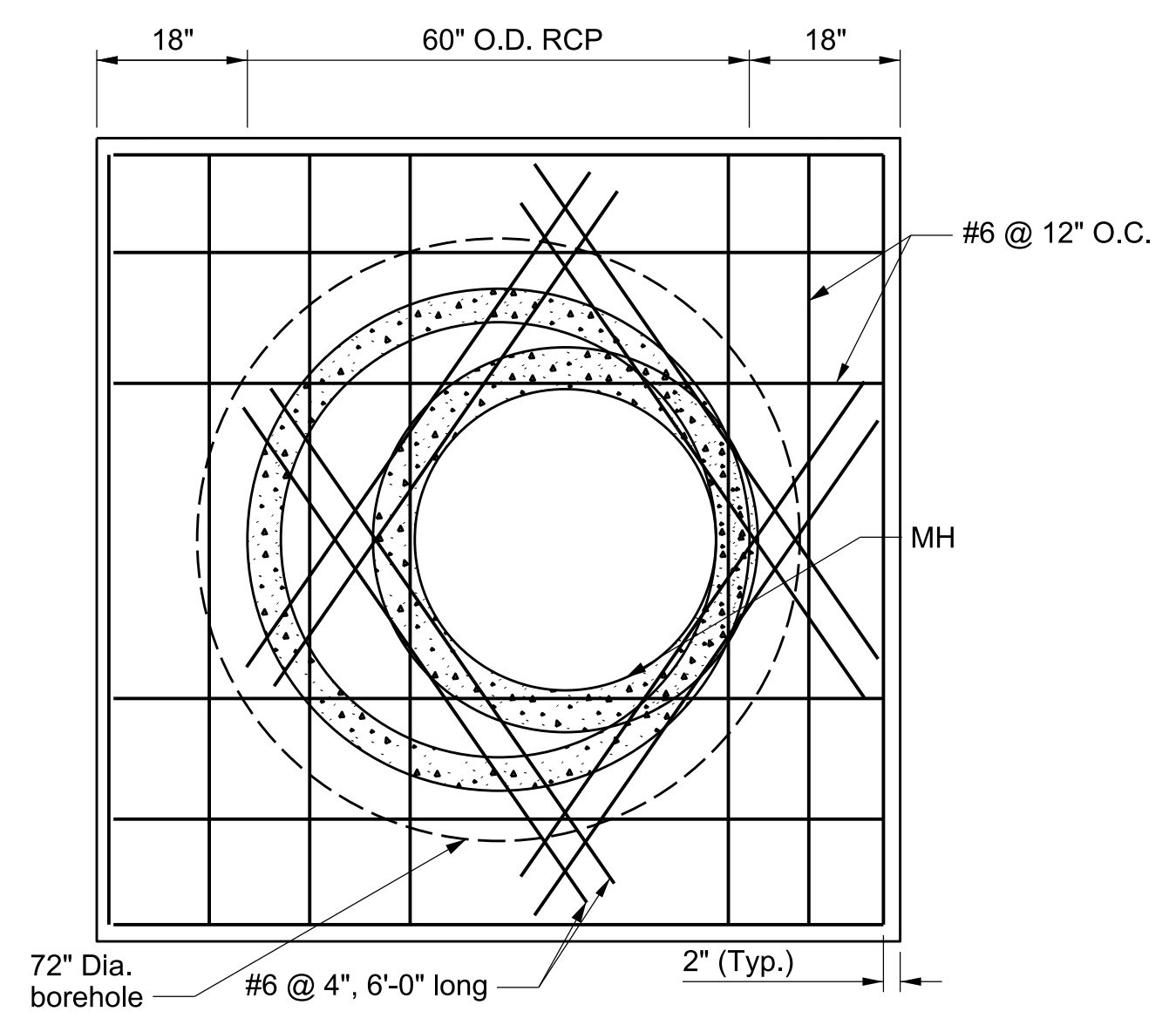
SECTION C-C
52" SOLID WALL
CONCRETE DRYWELL CASING
NOT TO SCALE



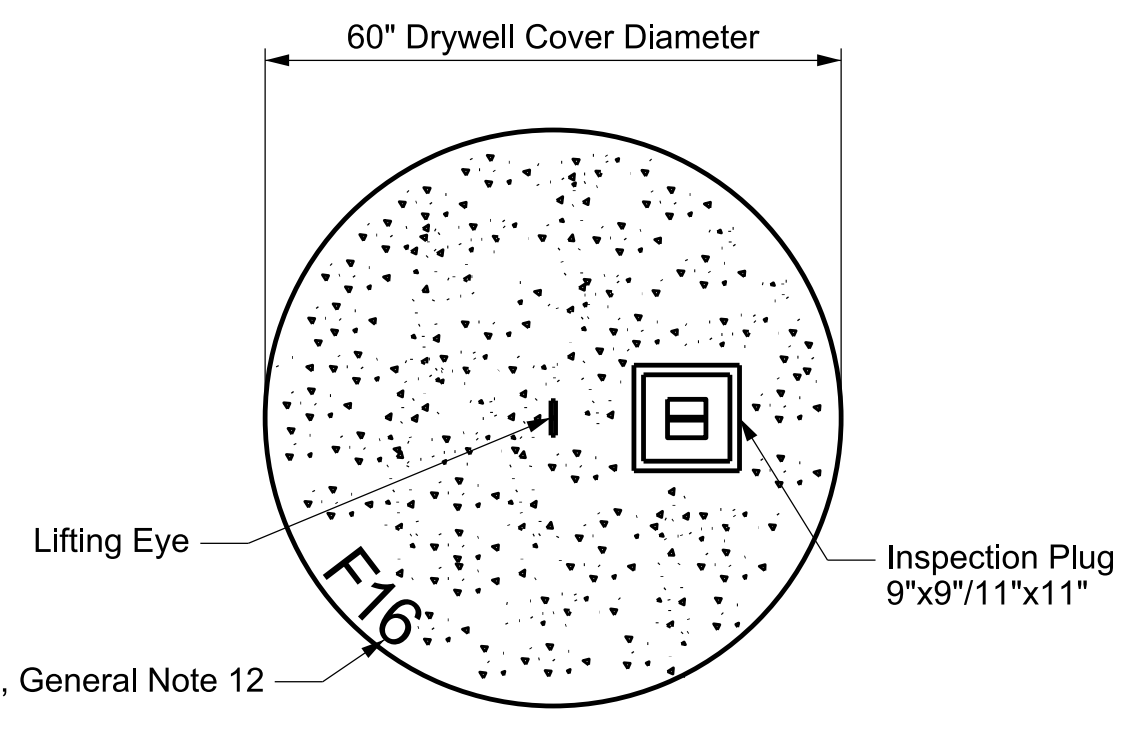
DETAIL F
NOT TO SCALE



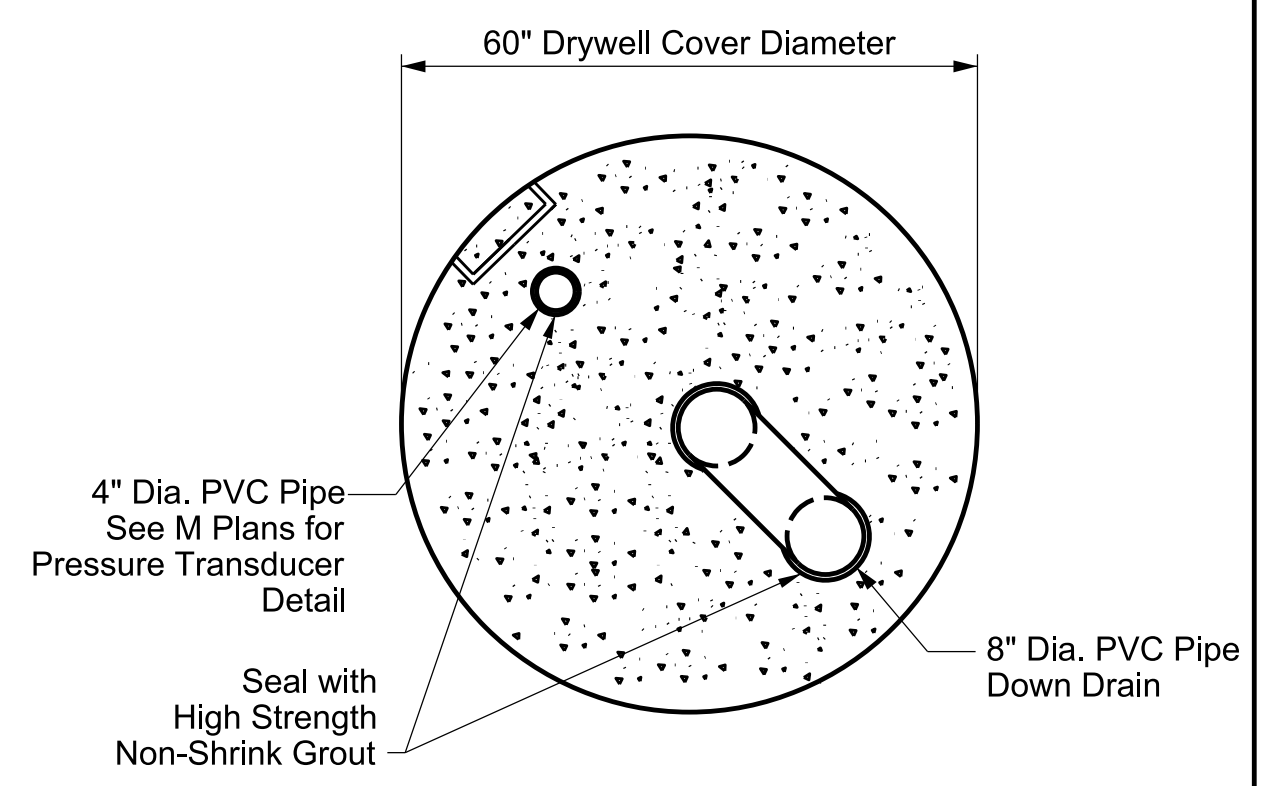
DETAIL E
52" PERFORATED CONCRETE
DRYWELL CASING DETAIL
NOT TO SCALE



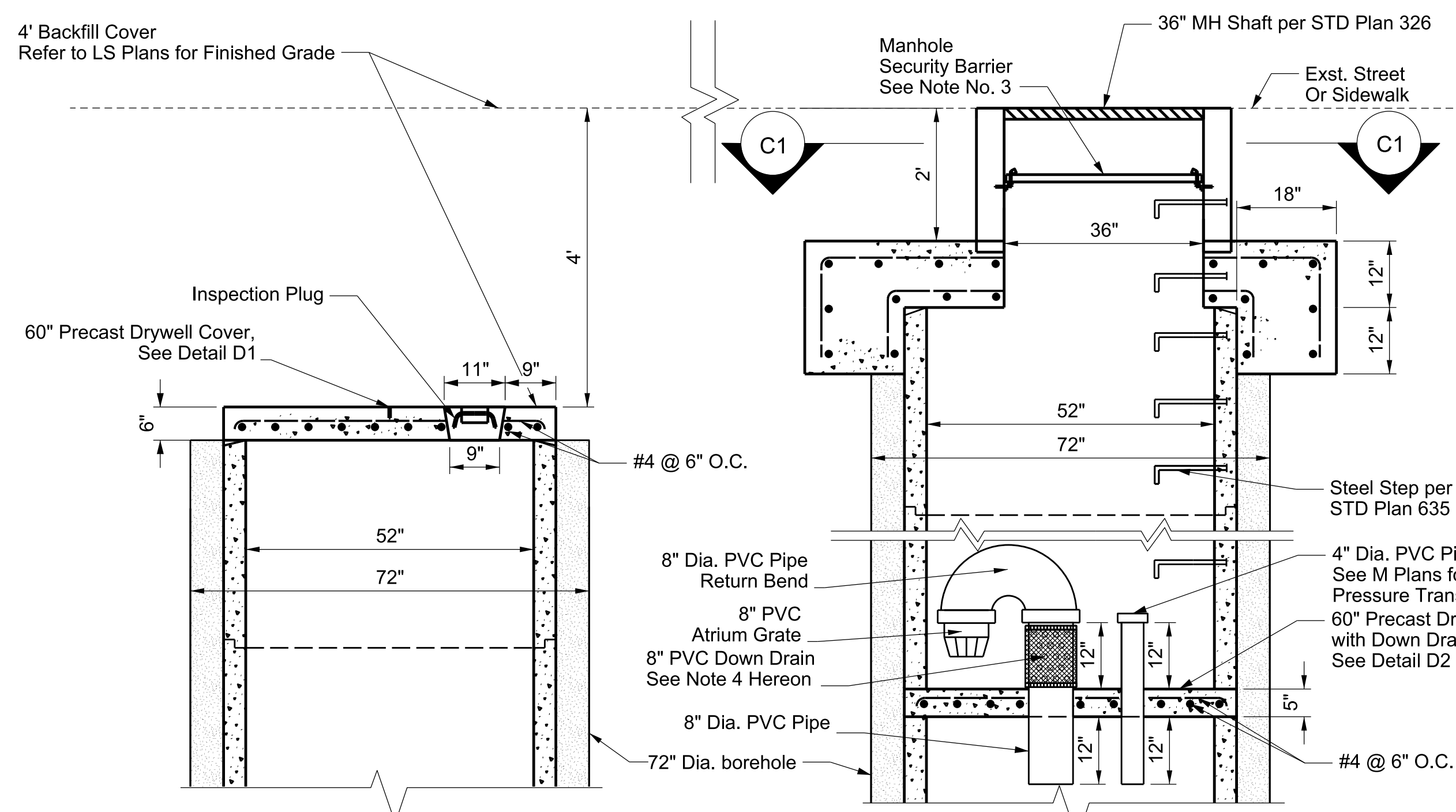
SECTION C1-C1
60" DRYWELL COVER
(DRYWELL B1, B2, B3, D7 & F15)
NOT TO SCALE



DETAIL D1
60" PRECAST BELOW GRADE
DRYWELL PIT COVER DETAIL
NOT TO SCALE



DETAIL D2
60" PRECAST DOWN DRAIN
DRYWELL PIT COVER DETAIL
NOT TO SCALE



CASE 1

CASE 2

DETAIL C
ELEVATION
52" DRYWELL
NOT TO SCALE

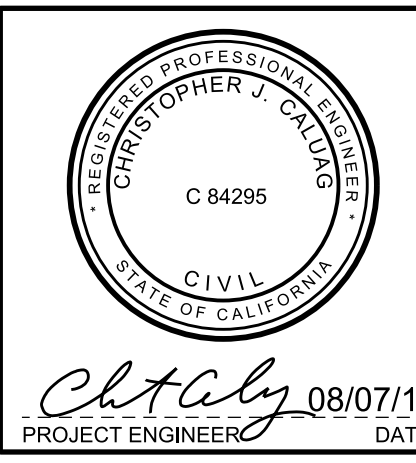
NOTE:

- To connect the 18" RCP to the drywells, core out an opening through the 52" RCP casing. Place the 18" RCP through the wall flush with the interior surface and watertight seal the annular space with high strength non-shrink grout (Typ.)
- All Connector Pipes to be 18" 2500D RCP Elevations as shown on profiles Sh. 6 to Sh. 9 (Typ.)
- All manholes shall be installed with a manhole stainless steel security barrier locked with Agency approved locks. See Sheet 12 for Details.
- 8" Dia. PVC Pipe with 1" perforations drilled @ 2" O.C. Wrap perforated section with filter fabric secured with stainless steel pipe clamps. PVC down drain fittings shall be serviceable.

PD053138

CADD PROJECT FILE NAME: DES0002980 - Ladera Park Stormwater Capture Project - DR-11
 CHECKER: R. LUI
 DESIGNER: C. CALLUAG

DRAWING NUMBER:	5/6/19	Changes to the Drywell section
(MARK AS-BUILT HERE)		
DATE	MK	DESCRIPTION
		REVISIONS



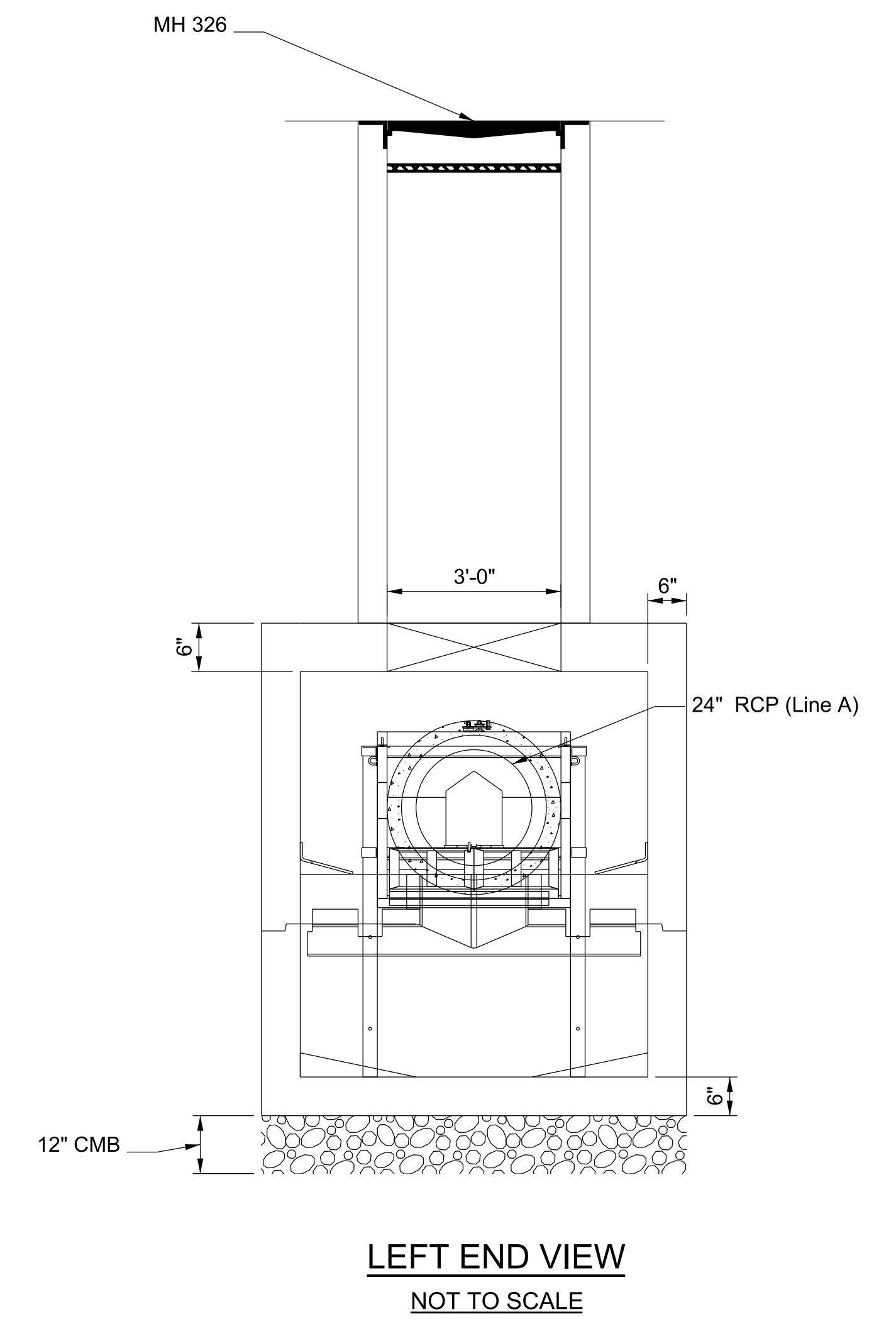
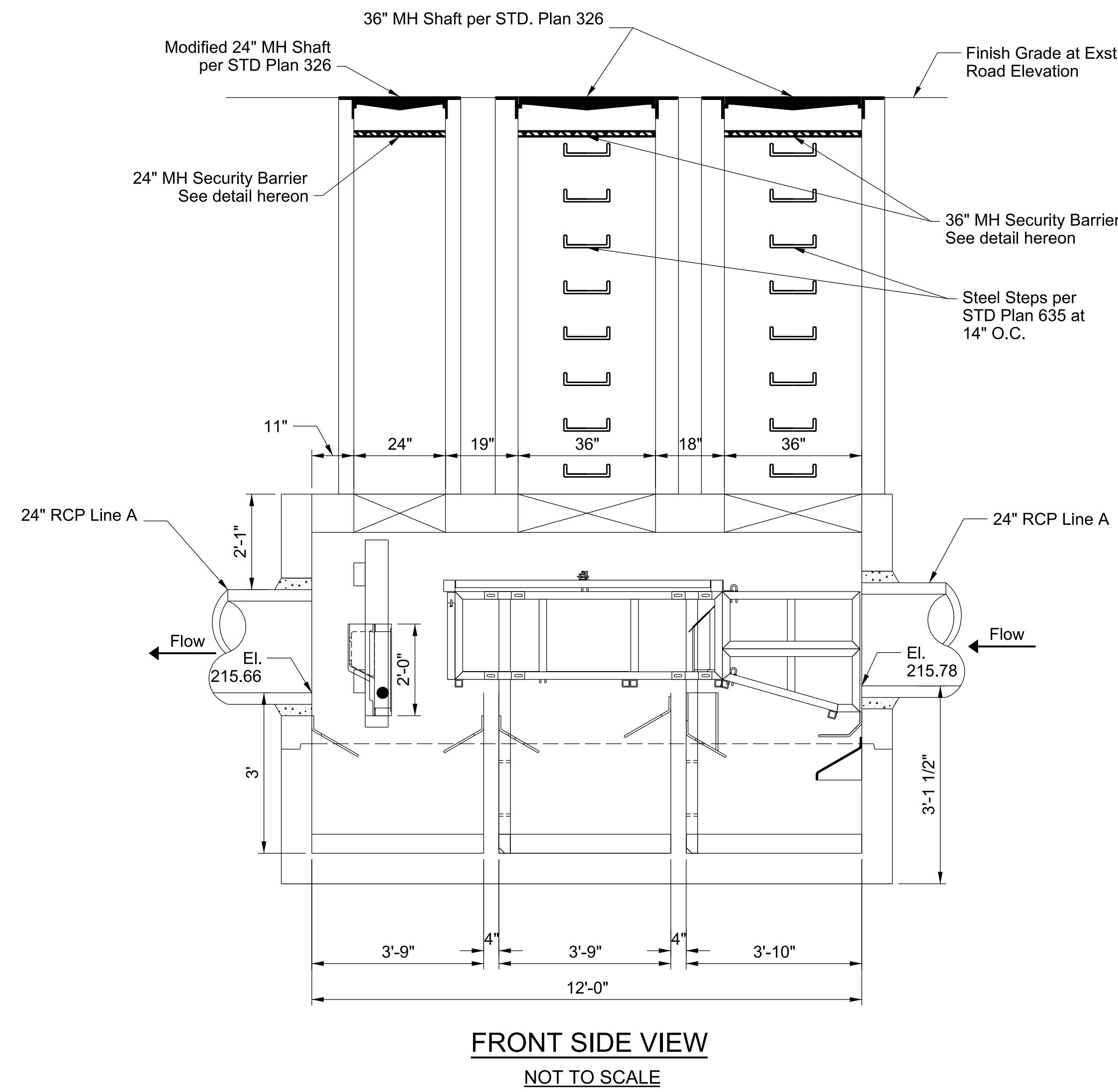
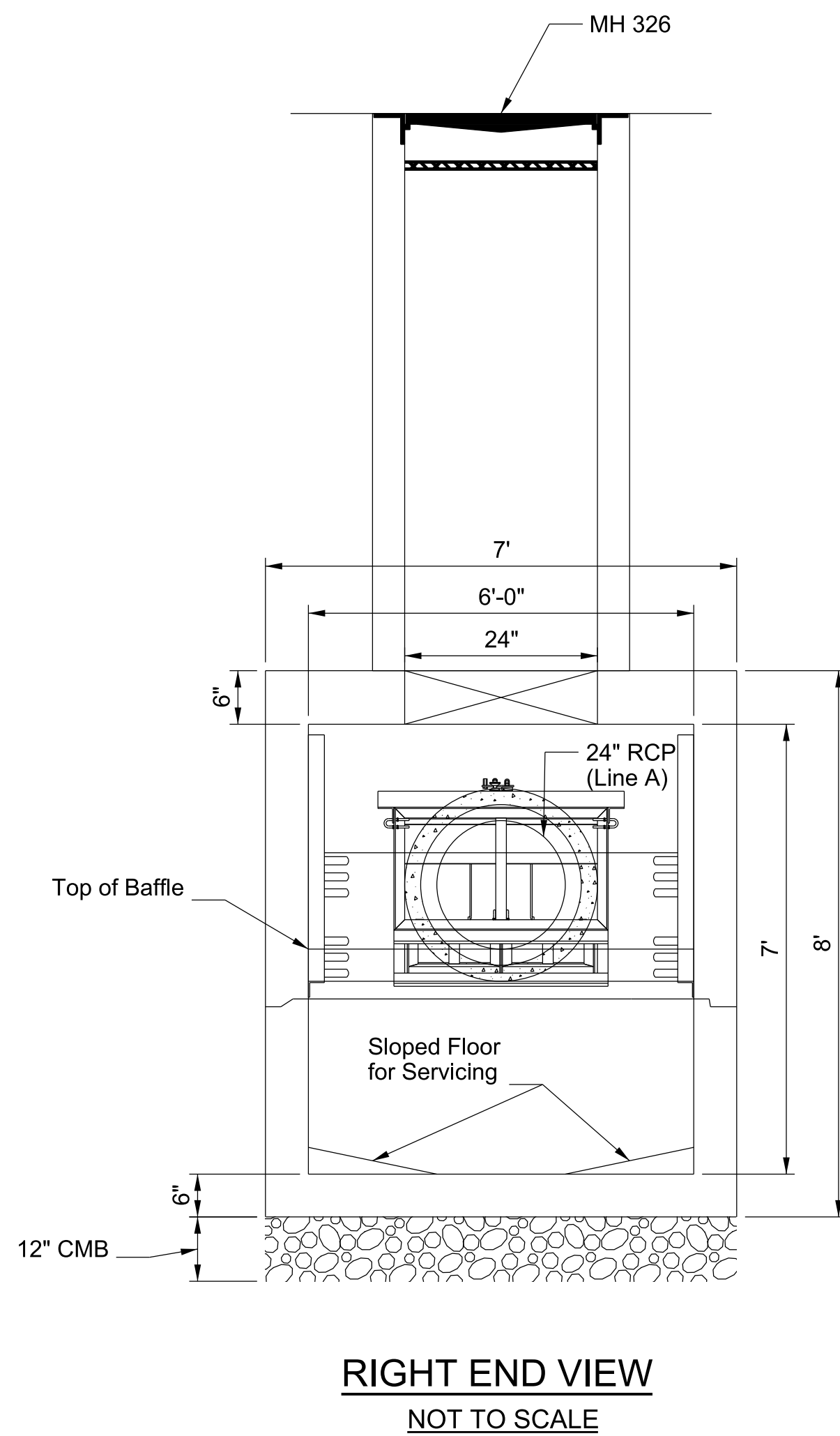
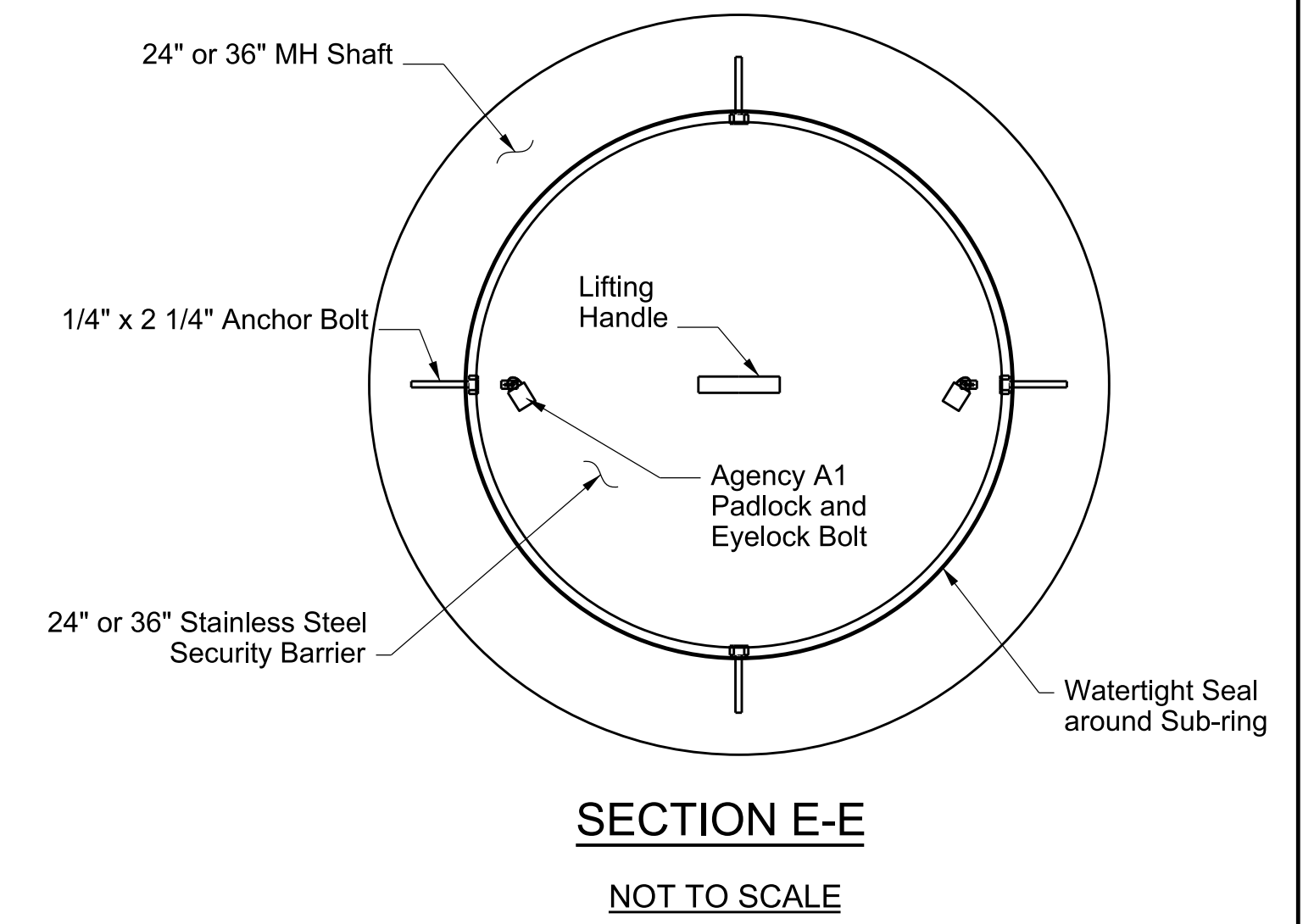
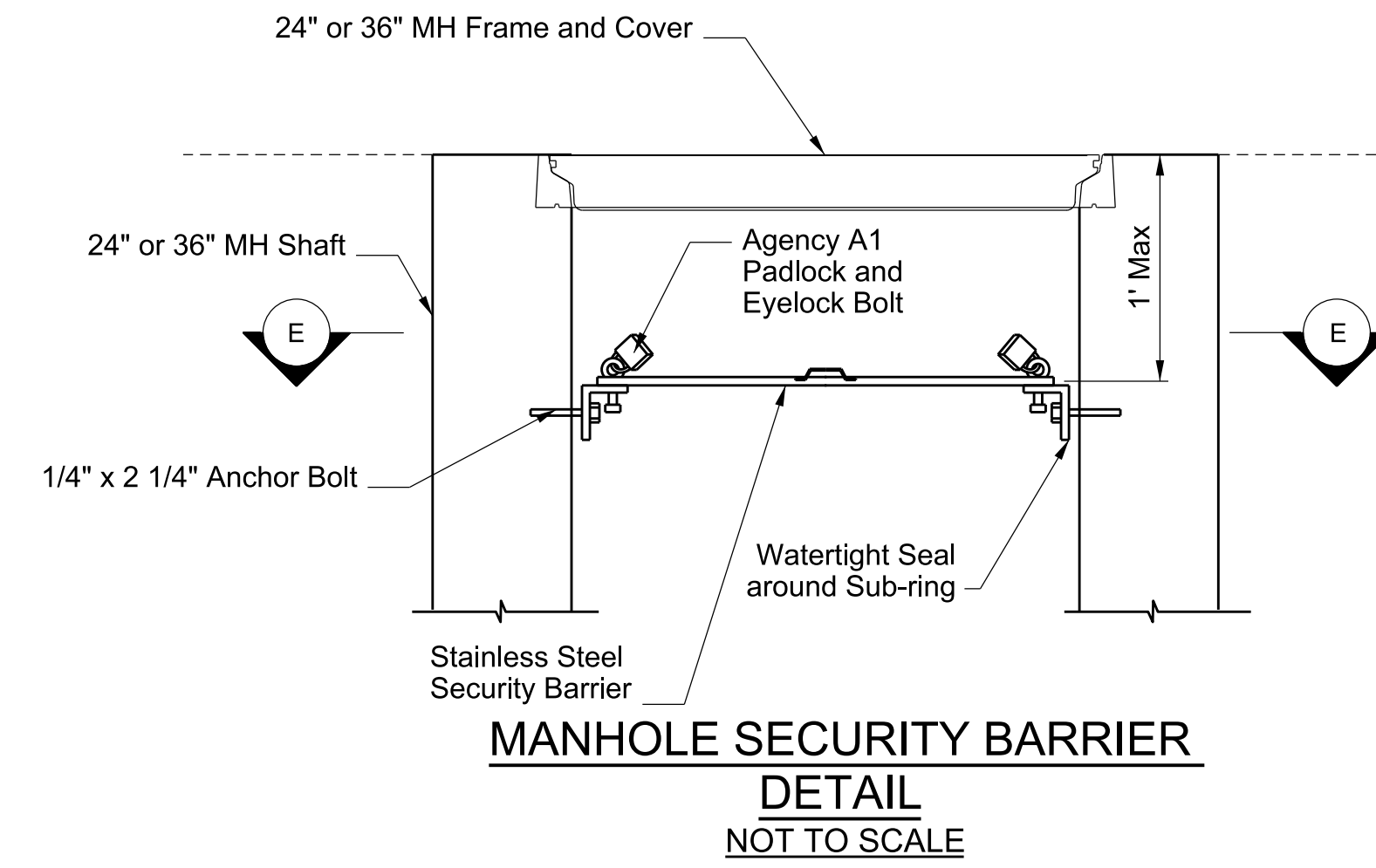
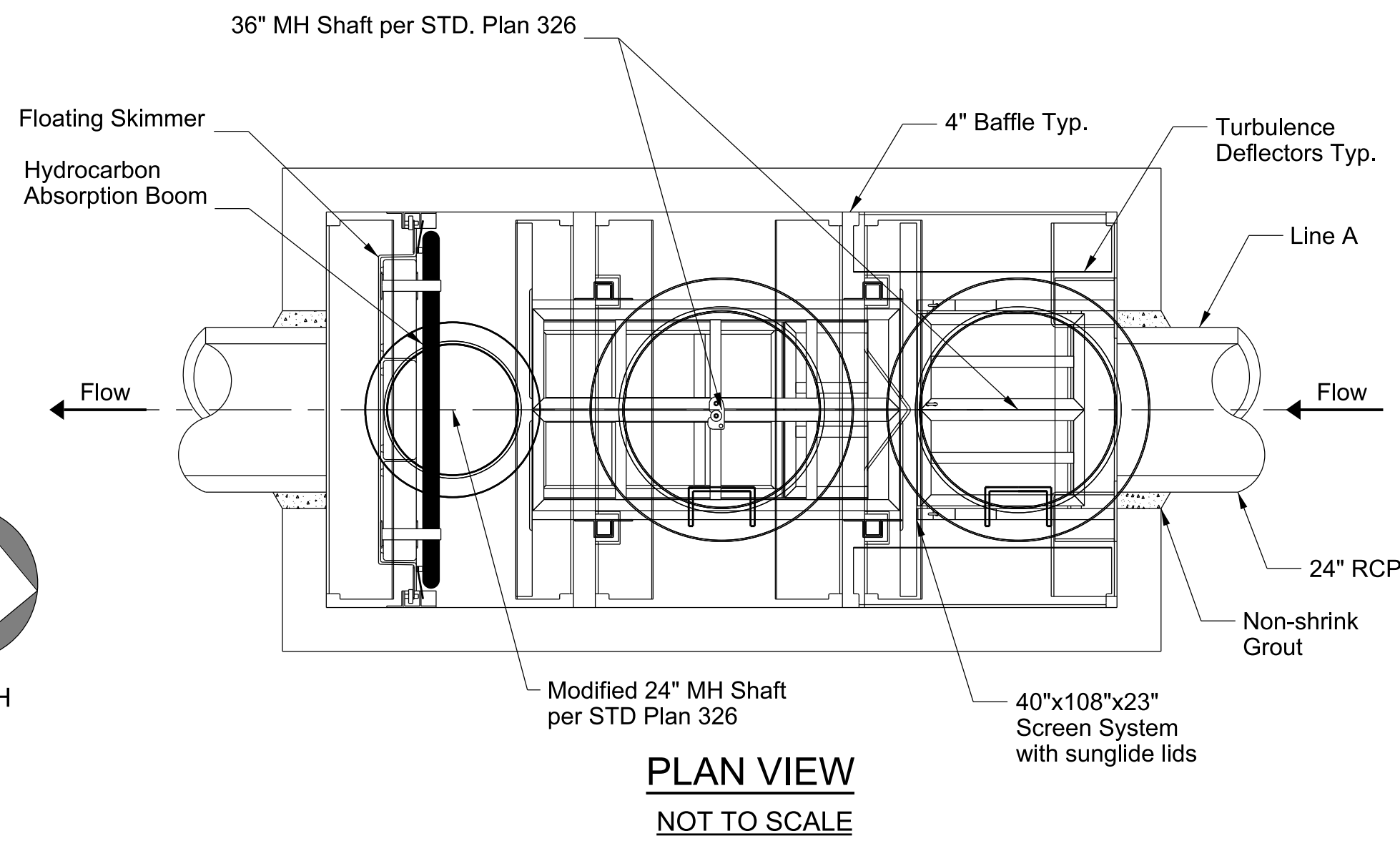
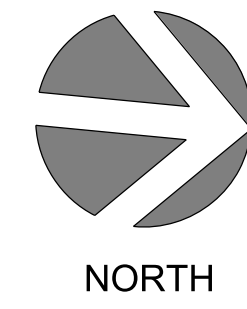
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK
STORMWATER IMPROVEMENTS
DRYWELL DETAILS

PROJECT ID NO. SWQ0000003

DR-11

DATE: 08/07/18
PROJECT ENGINEER: C. Calluag
PCA: P97027AC
DWG: 181-271-D4
SHEET: 11 OF 45



CADD PROJECT FILE NAME: DES0002980 - Ladera Park Stormwater Capture Project - DR-12

CHECKER: R. LUI

DESIGNER: C. CALLUAG

PD053138

DRAWING NUMBER:			
(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
		REVISIONS	



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

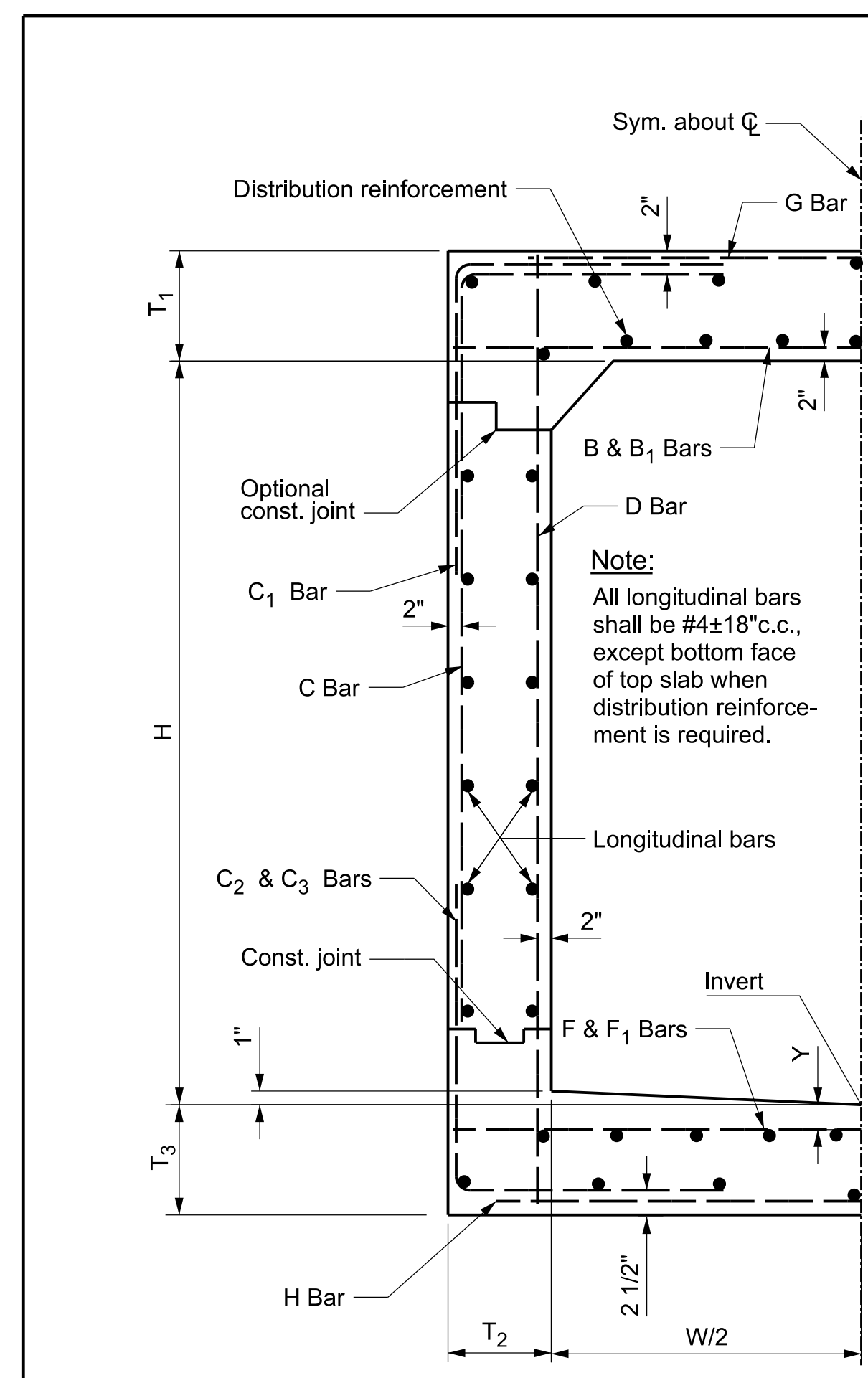
LADERA PARK
STORMWATER IMPROVEMENTS
PRE TREATMENT DEVICE DETAILS

PROJECT ID NO. SWQ0000003

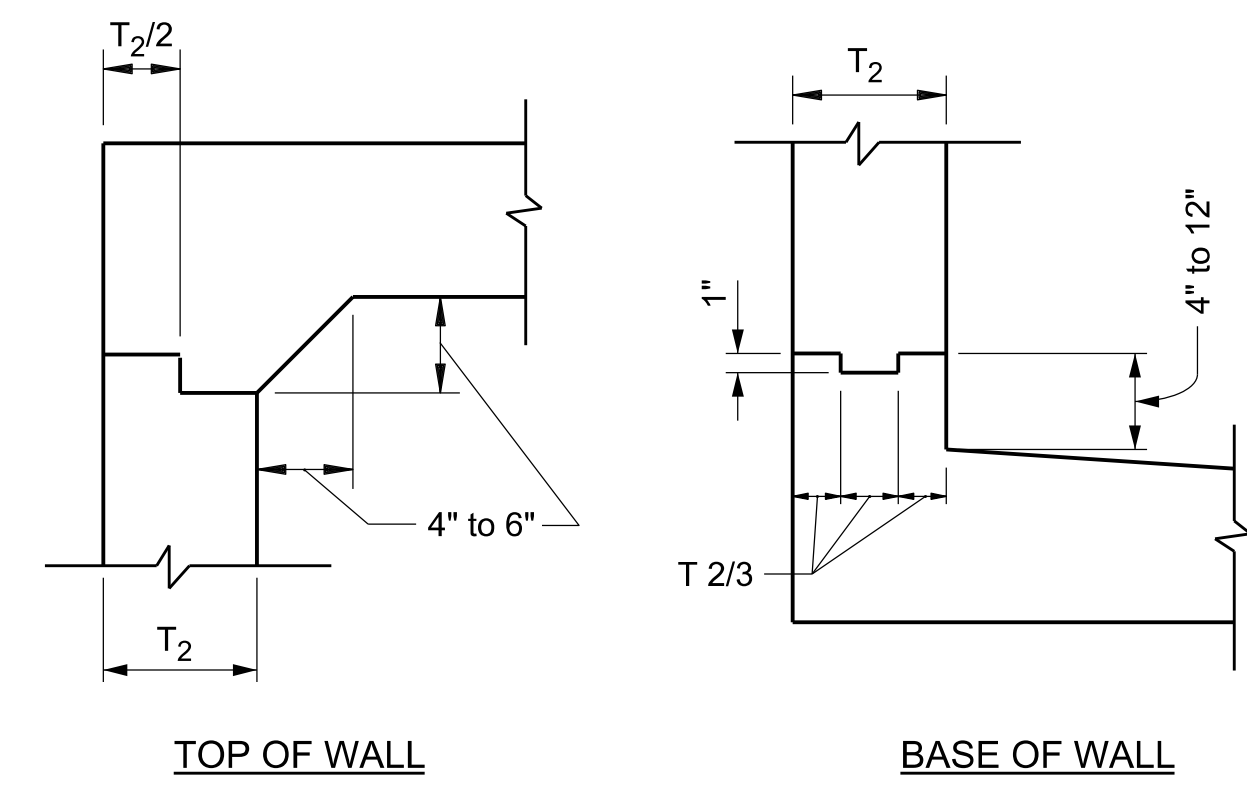
DR-12

DATE: 08/07/18
PROJECT ENGINEER: C. Calluag
PCA: P97027AC
DWG: 181-271-D4
SHEET: 12 OF 45

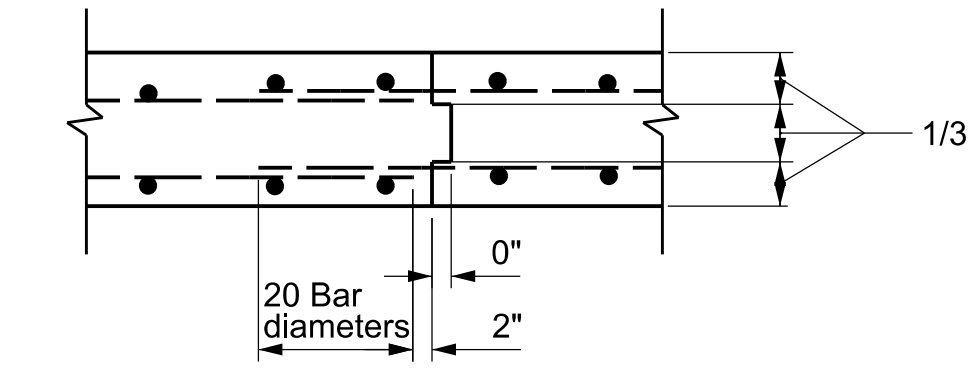
AS BUILT DRAWINGS



TYPICAL RC BOX SECTION
NOT TO SCALE



LONGITUDINAL JOINT



TRANSVERSE JOINT
CONSTRUCTION JOINT DETAILS
NOT TO SCALE

STRUCTURAL NOTES

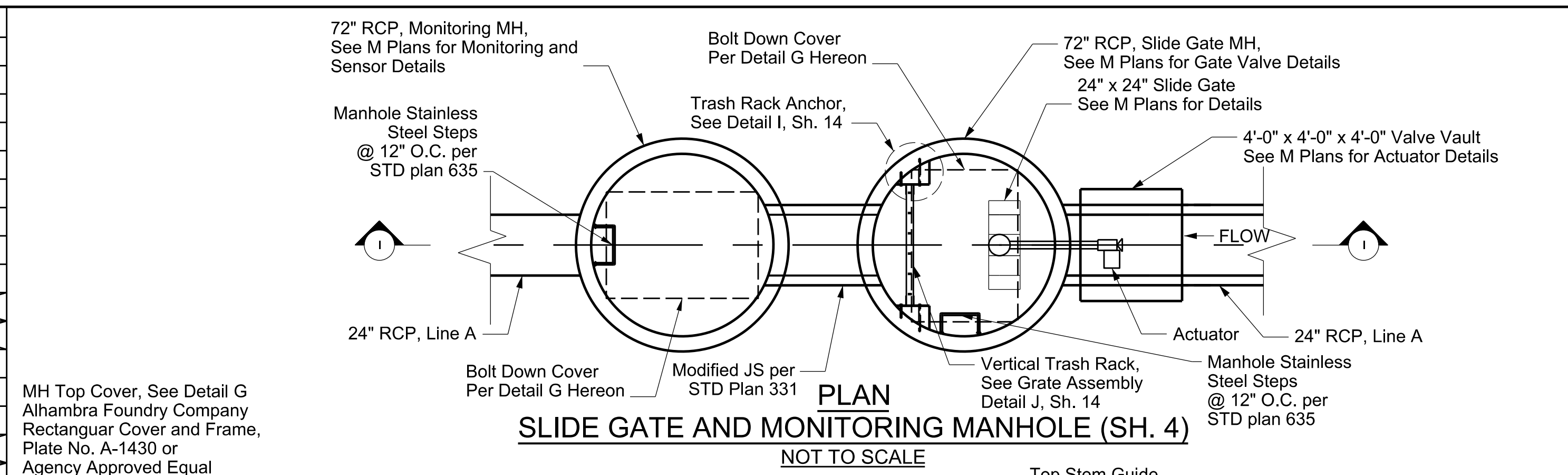
- DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE CLEAR DISTANCE BETWEEN FACE OF CONCRETE AND FACE OF REINFORCEMENT TO CENTER OF BAR, UNLESS OTHERWISE SHOWN.
- CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO CENTERLINE OF CONDUIT ON THE PLAN EXCEPT AS OTHERWISE SHOWN.
- ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318)", LATEST EDITION, SECTION 7.2.
- TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE OR JUNCTION STRUCTURE OPENINGS.
- TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION.
- THE TRANSVERSE REINFORCING BARS SHALL TERMINATE ONE AND ONE-HALF INCHES FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DETAILS.
- EXPOSED SURFACES OF CONCRETE MEMBERS SHALL BE ROUNDED OR BEVELED.
- NO SPLICES IN TRANSVERSE BARS REINFORCEMENT WILL BE PERMITTED OTHER THAN SHOWN ON THE DRAWING WITHOUT APPROVAL OF THE ENGINEER. NO MORE THAN TWO SPLICES WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
- LONGITUDINAL BARS SHALL BE LAPPED 20 BAR DIAMETERS AT SPLICES. TRANSVERSE BARS SHALL BE LAPPED 30 BAR DIAMETERS AT SPLICES.
- LONGITUDINAL BARS SHALL BE CONTINUOUS AND EXTEND THROUGH ALL CONSTRUCTION JOINTS.
- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, TRANSVERSE CONSTRUCTION JOINTS (IN BOTH SLABS AND WALLS), SHALL BE PLACED AT THE END OF EACH POUR, BUT THE SPACING THEREOF SHALL NOT EXCEED 50 FEET NOR BE LESS THAN 10 FEET.
- AT THE BEGINNING AND ENDING OF ALL POURS, A CURTAIN OF REINFORCEMENT COMPOSED OF B, C, C2, D, F, G, AND H BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
- D BARS MAY BE SPLICED 20 BAR DIAMETERS AT THE LOWER LONGITUDINAL CONSTRUCTION JOINT, AT CONTRACTOR'S OPTION.
- IN ALL SECTIONS LAP C AND C2 BARS. THE VERTICAL LENGTH OF C AND C2 HAS BEEN CALCULATED FOR A FOUR-INCH STARTER WALL. IF THE HEIGHT OF THE STARTER WALL IS VARIED, THE VERTICAL LENGTH OF THE C AND C2 BARS SHALL BE VARIED CORRESPONDINGLY SO AS TO MAINTAIN A 30 DIAMETER LAP BETWEEN THE TWO BARS. THE LAPS SHALL BE BASED ON THE SMALLER BARS.
- CONCRETE QUANTITIES ARE BASED ON A SIX-BY-SIX INCH FILLET AND STEEL QUANTITIES DO NOT INCLUDE ANY OPTIONAL SPLICES.
- IF WALL THICKNESS IS SIX INCHES, PLACE REINFORCEMENT AT THE CENTERLINE OF THE WALL.

STRUCTURAL DESIGN CRITERIA
L.A.C.F.C.D. STRUCTURAL DESIGN MANUAL
DATED APRIL 1982

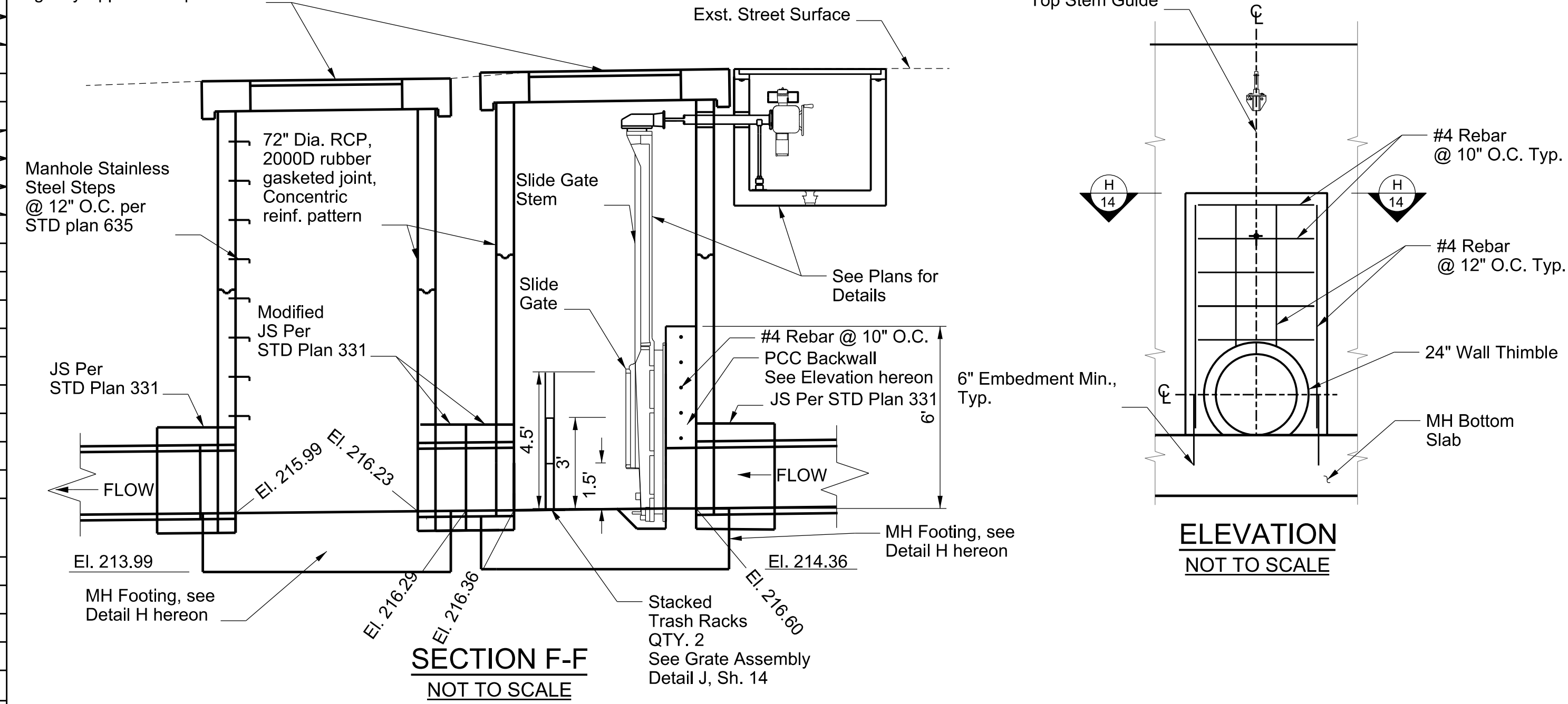
- LIVE LOAD**
HS 20-44 unless otherwise noted
- DEAD LOAD**
Earth load $w = 110$ pcf
 B_d = Outside width of box plus 3 feet
Side earth 32 psf per foot of depth
Internal water pressure: 62.4 psf per foot of depth
Weight of concrete: 150 pcf
- ALLOWABLE STRESSES**
 $f_c = 4000$ psi at 28 days
 $f_c = 1800$ psi
 $f_s = 24,000$ psi
 $n = 8$
Shear and bond stresses per A.C.I. 318-63

BOX SECTION		1
Design Cover		9.5'
Width	W	4'
Height	H	4'
Top Slab Thickness	T ₁	10"
Side Wall Thickness	T ₂	8"
Bottom Slab Thickness	T ₃	9"
Concrete Cover (3") Min.	Y	3.5"
B Bars	Bar No. & Spacing	#6@18"
	Length	5'
B ₁ Bars	Bar No. & Spacing	
	Length	
C Bars	Bar No. & Spacing	#6@18"
	Hor. Length	1'-8"
	Vert. Length	3'-9"
C ₁ Bars	Bar No. & Spacing	
	Hor. Length	
	Vert. Length	
C ₂ Bars	Bar No. & Spacing	#6@18"
	Hor. Length	1'-4"
	Vert. Length	4'-2"
C ₃ Bars	Bar No. & Spacing	
	Hor. Length	
	Vert. Length	
D Bars	Bar No. & Spacing	#5@15"
	Length	5'-3"
F Bars	Bar No. & Spacing	#5@18"
	Length	5'
F ₁ Bars	Bar No. & Spacing	#4@18"
	Length	5'
G Bars	Bar No. & Spacing	#6@18"
	Length	5'
H Bars	Bar No. & Spacing	#6@18"
	Length	5'
NUMBER OF LONGITUDINAL REINFORCEMENT # 4 BARS		
Top Slab (includes distribution reinforcement)		10
Bottom Slab		10
Side Walls		8
TOTAL		28
QUANTITIES		
Concrete Cu. Yds./Lin. Ft.		0.51
Steel Lbs./Lin. Ft.		36.0

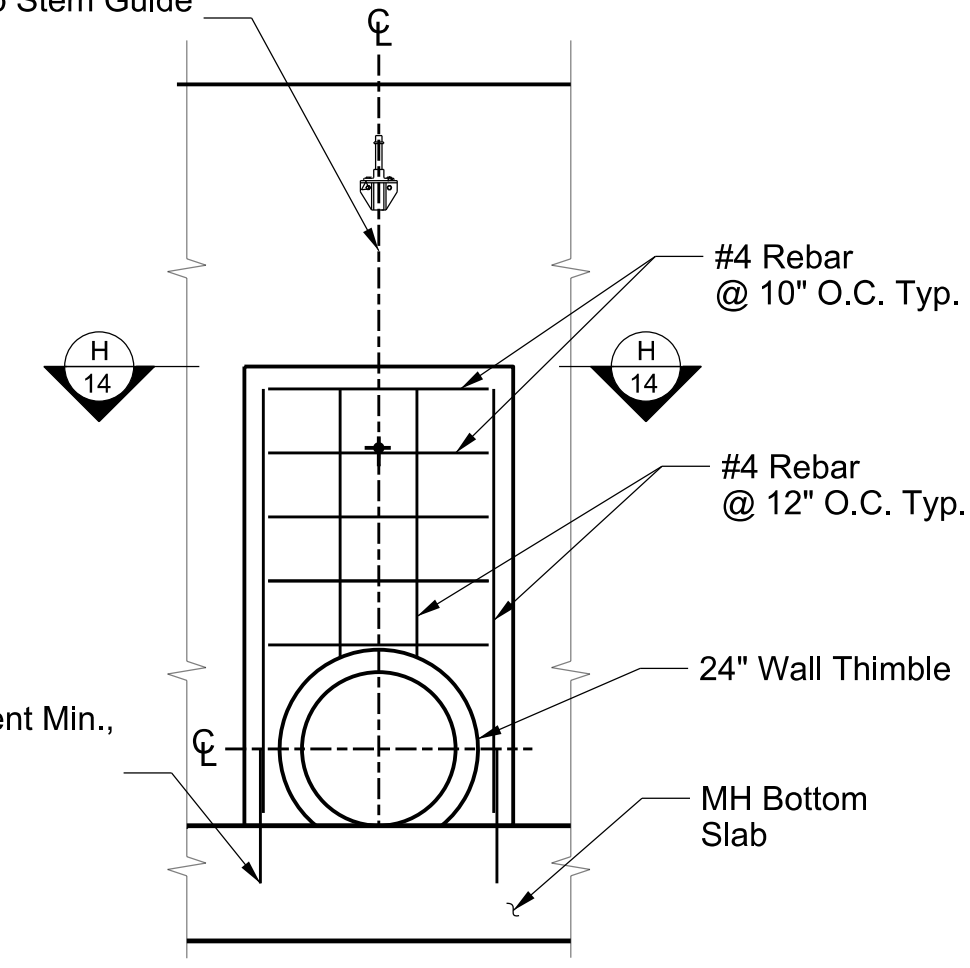
JS 331					
Station	A	B	C	Elev. S	Elev. R
2+02.02	90°	24"	2'	216.60	217.70
1+87.02	90°	24"	2'	215.99	215.88
MOD JS 331					
Station	A	B	C	Elev. S	Elev. R
1+77.24	90°	24"	18"	216.36	216.29
1+76.05	90°	24"	18"	216.23	216.29



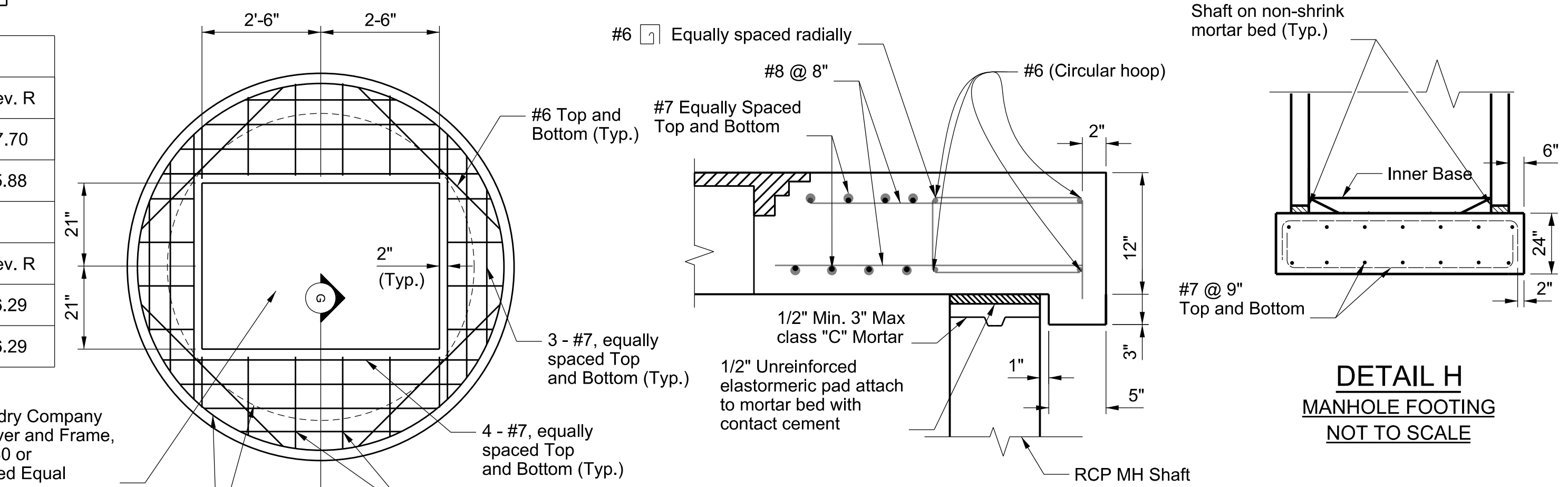
SLIDE GATE AND MONITORING MANHOLE (SH. 4)
NOT TO SCALE



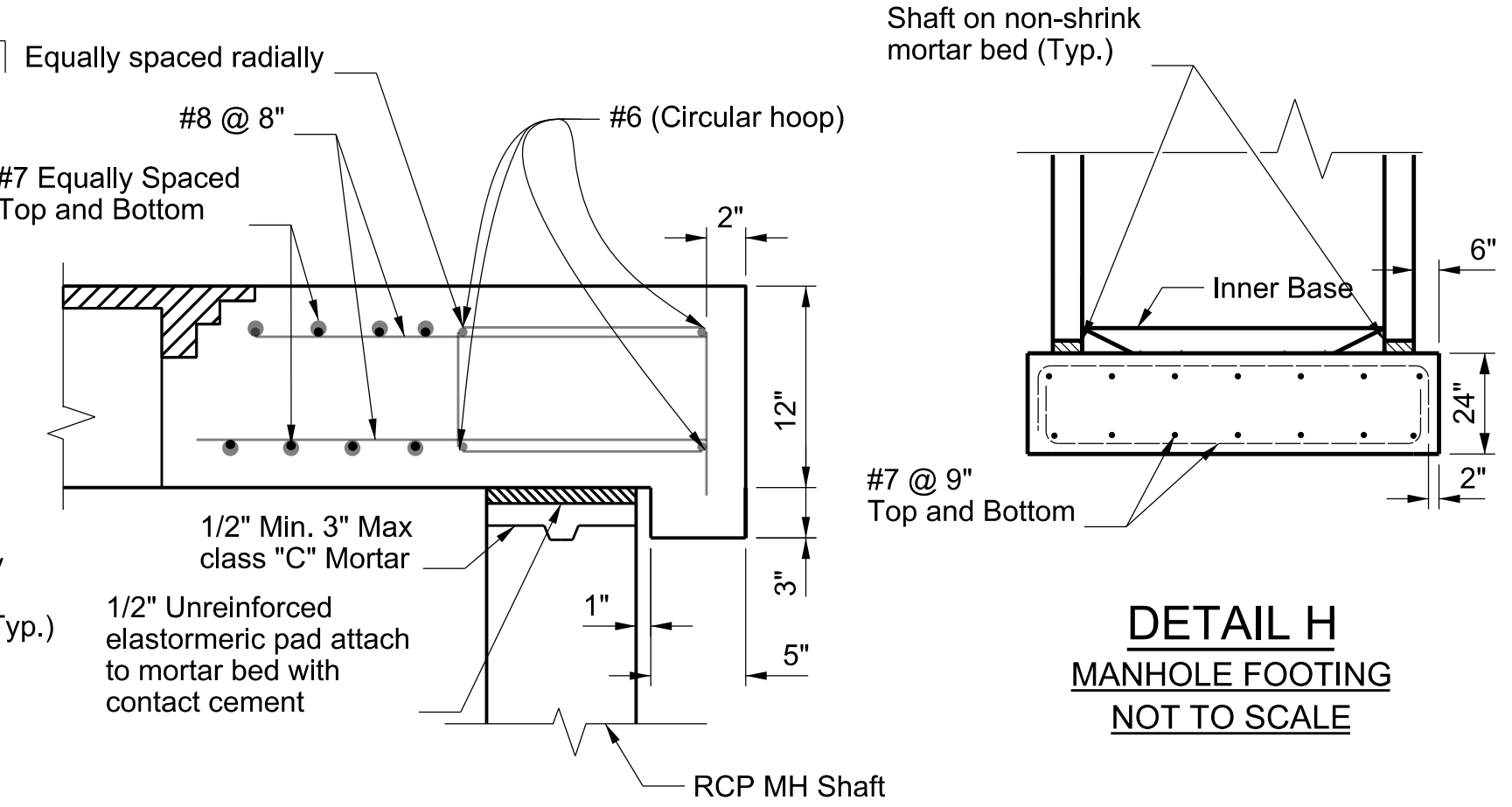
SECTION F-F
NOT TO SCALE



ELEVATION
NOT TO SCALE



DETAIL G
REINFORCEMENT OF TOP COVER
NOT TO SCALE



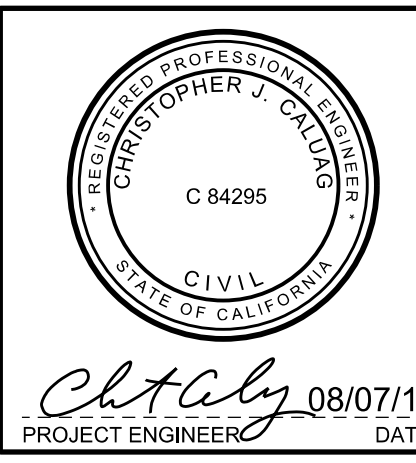
SECTION G-G
NOT TO SCALE

DETAIL H
MANHOLE FOOTING
NOT TO SCALE

PD053138

CADD PROJECT FILE NAME: DES0002980 - Ladera Park Stormwater Capture Project - DR-13
CHECKER: R. LUI
DESIGNER: C. CALUAG

DRAWING NUMBER:	
(MARK AS-BUILT HERE)	
DATE	MK
DESCRIPTION	
REVISIONS	



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

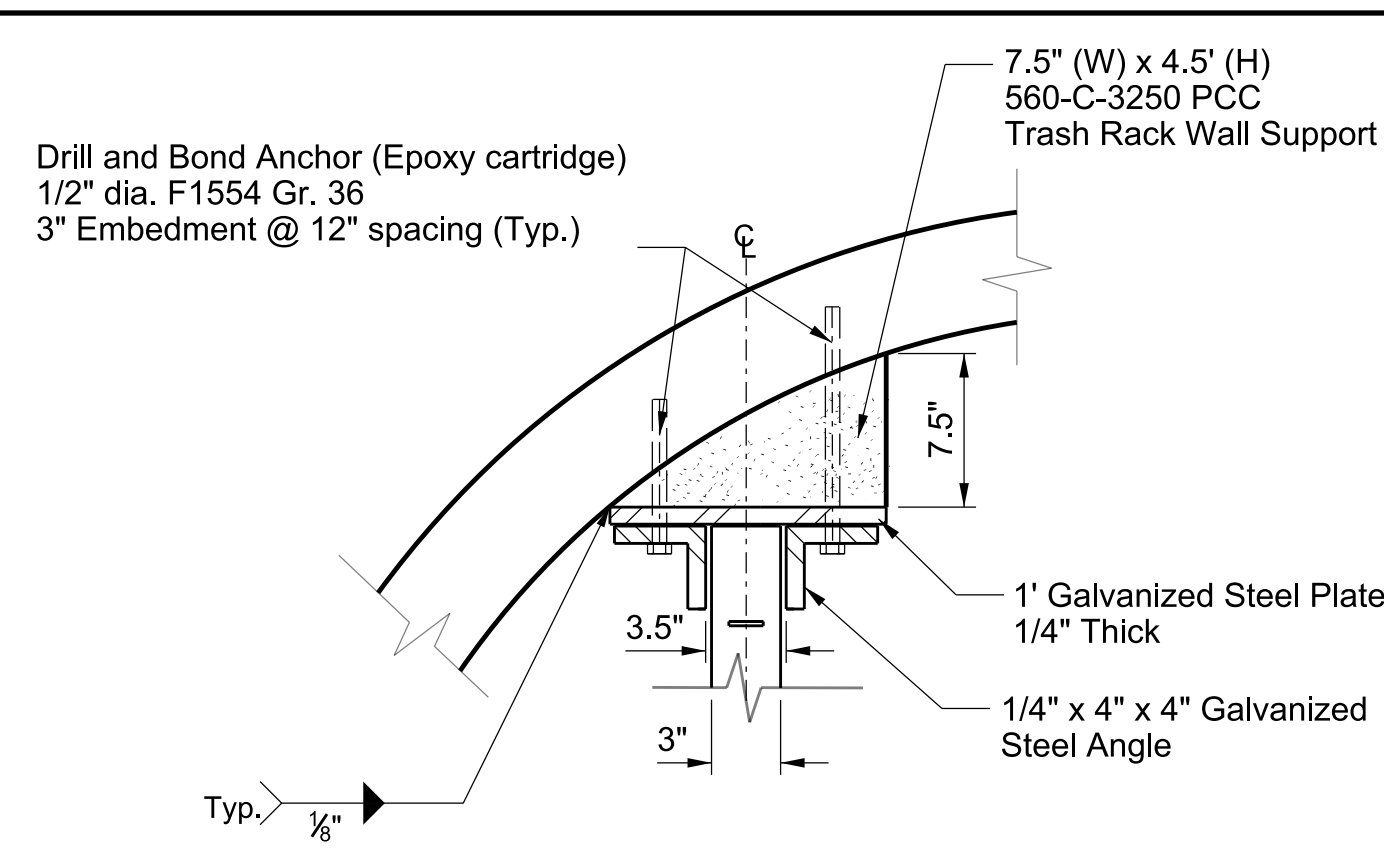
LADERA PARK
STORMWATER IMPROVEMENTS

STRUCTURAL NOTES, DETAILS AND SECTIONS

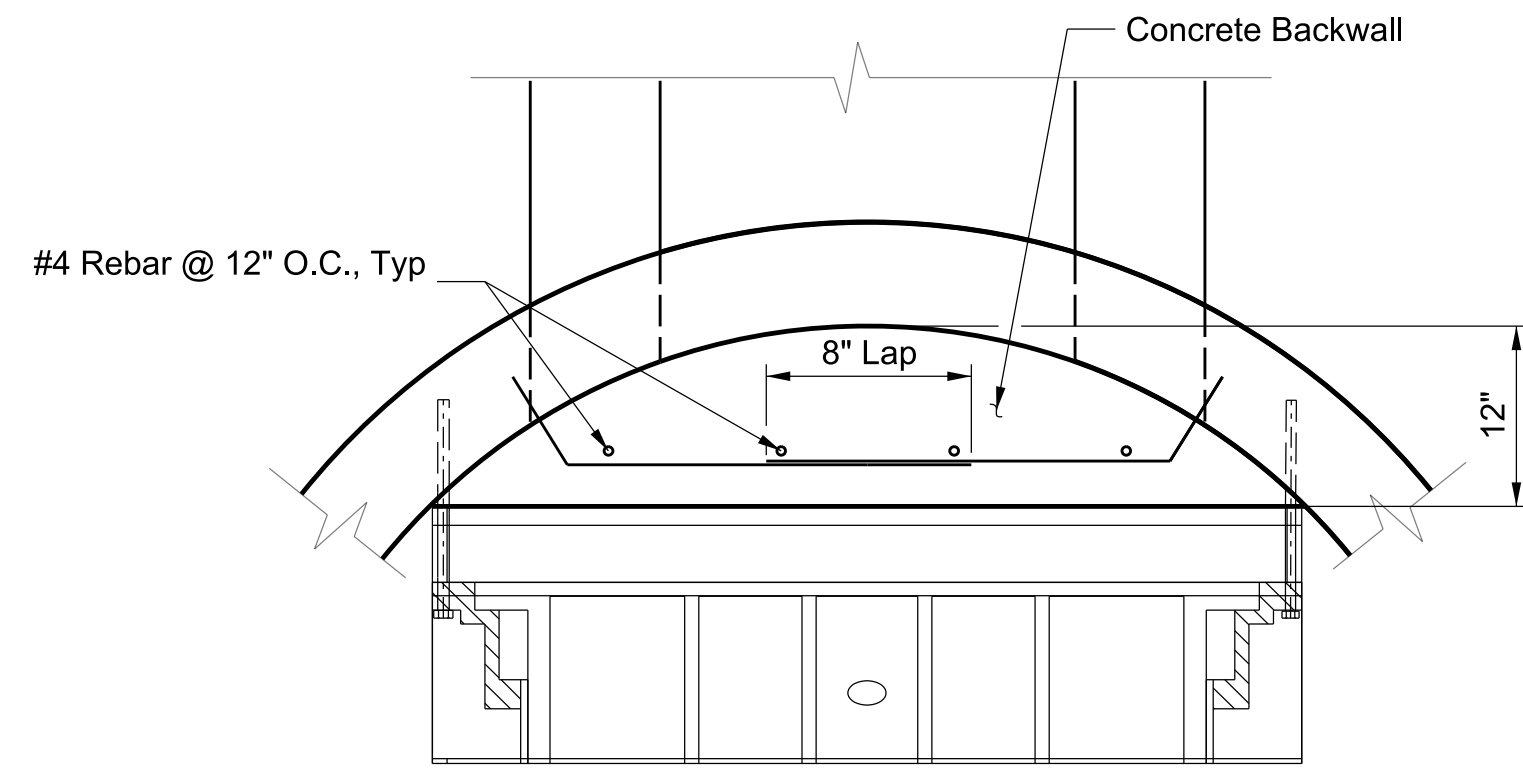
PROJECT ID NO. SWQ000003

DR-13

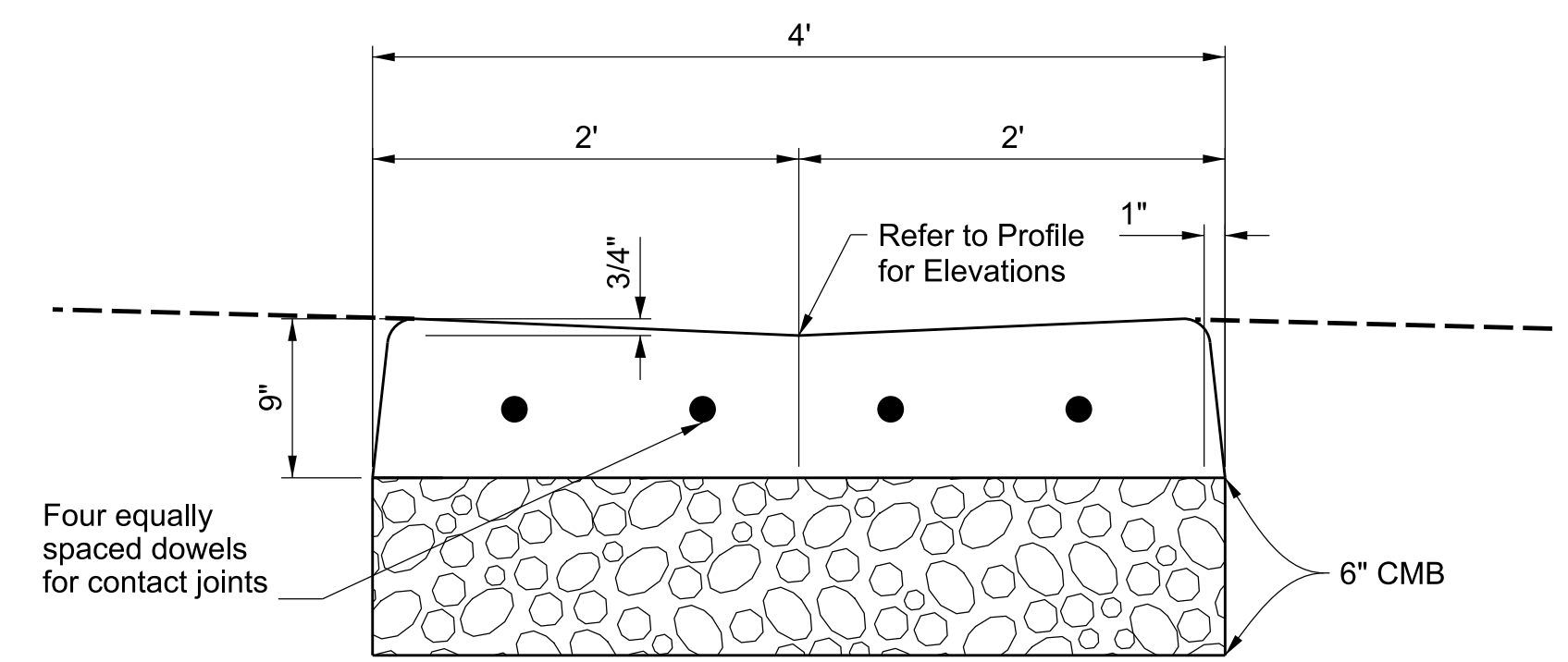
DATE: 08/07/18
PROJECT ENGINEER: C. Caluag
PCA: P97027AC
DWG: 181-271-D4
SHEET: 13 OF 45



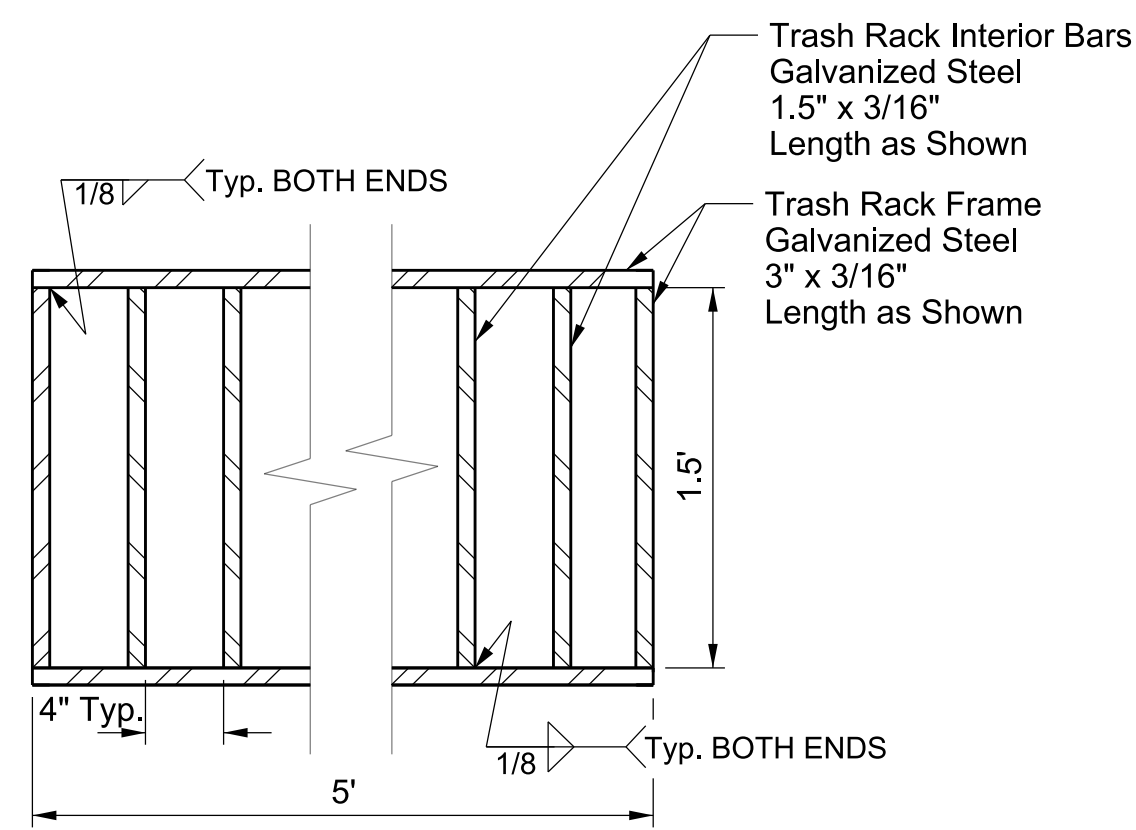
DETAIL I (Sh. 13)
NOT TO SCALE



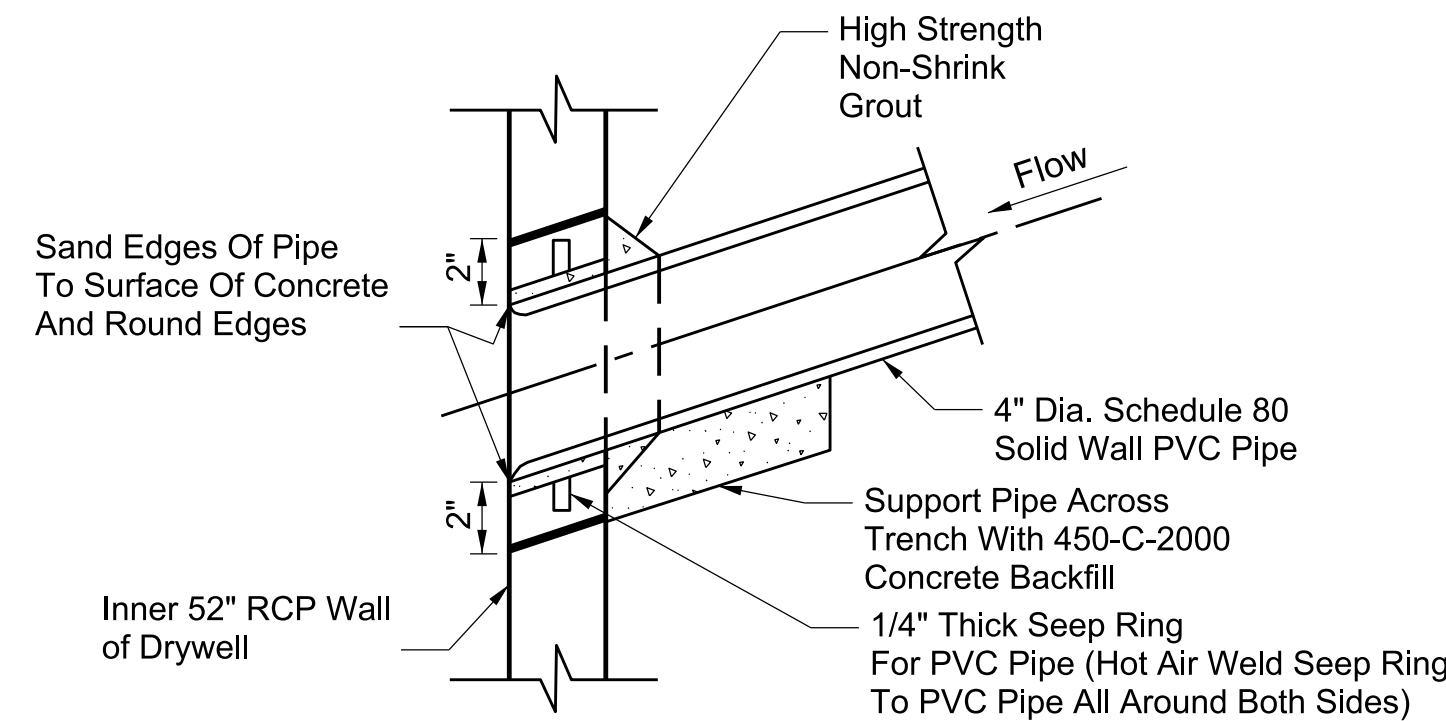
SECTION H-H (Sh. 13)
CONCRETE BACK WALL
AND THIMBLE PLACEMENT
NOT TO SCALE



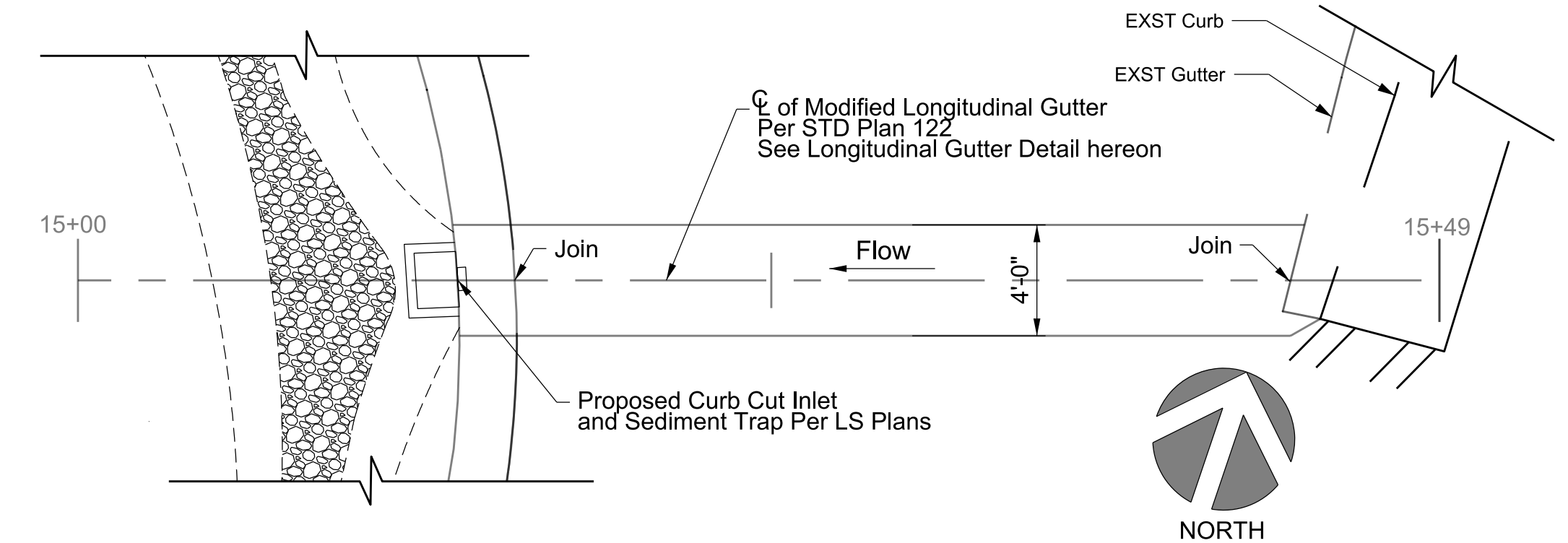
LONGITUDINAL GUTTER DETAIL
NOT TO SCALE



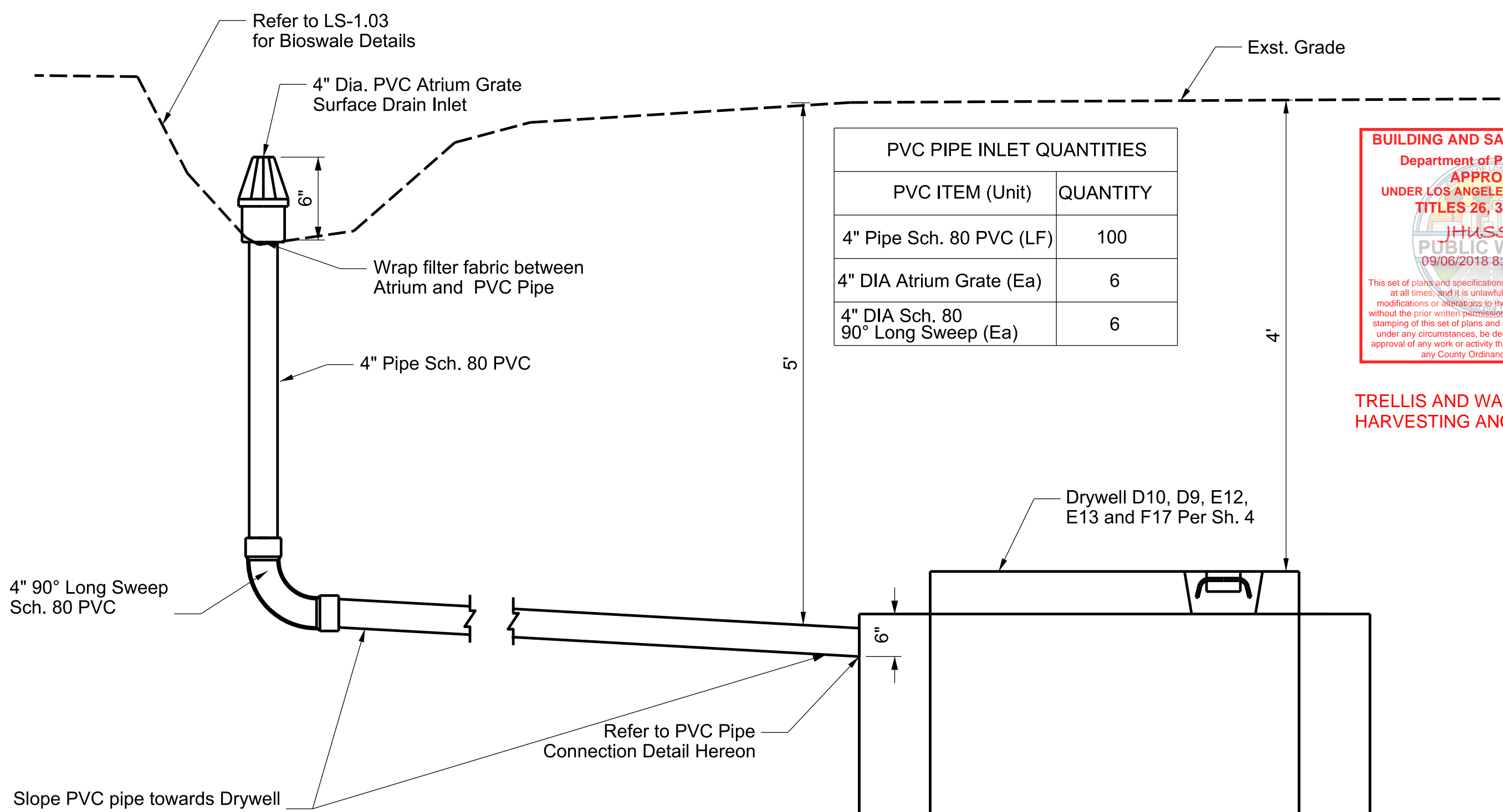
DETAIL J (Sh. 13)
GRATE ASSEMBLY
NOT TO SCALE



PVC PIPE CONNECTION DETAIL
NOT TO SCALE



LONGITUDINAL GUTTER PLAN (Sh. 4)

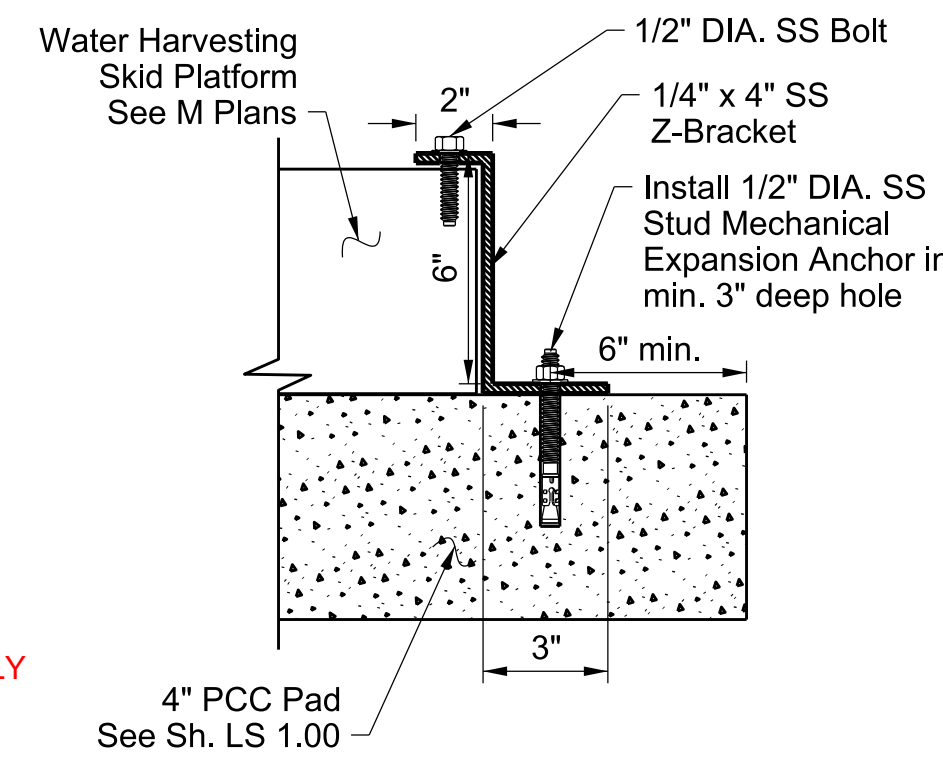


DETAIL H (Sh. 4)
PVC PIPE INLET (Typ.)
NOT TO SCALE

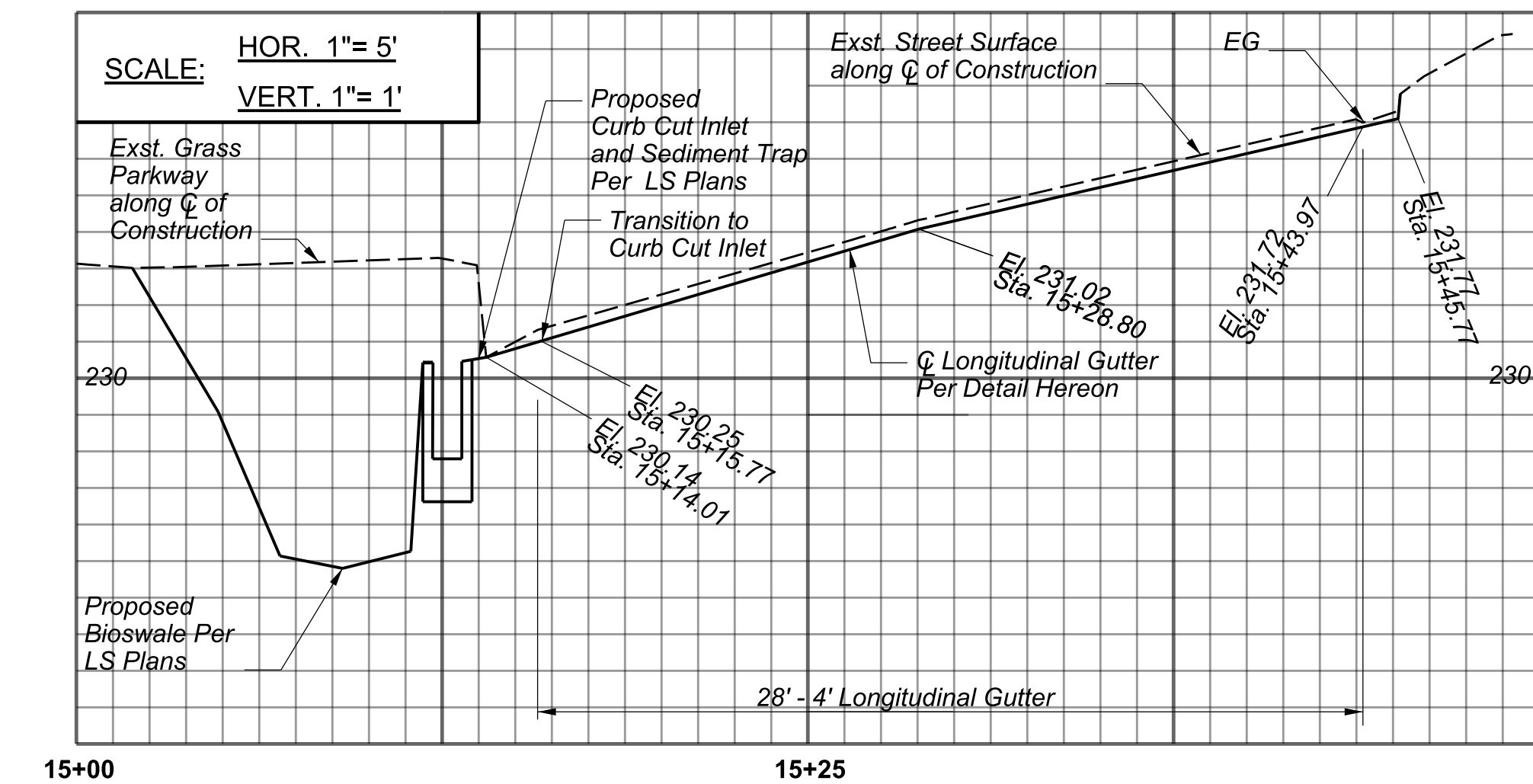
PVC PIPE INLET QUANTITIES	
PVC ITEM (Unit)	QUANTITY
4" Pipe Sch. 80 PVC (LF)	100
4" DIA Atrium Grate (Ea)	6
4" DIA Sch. 80 90° Long Sweep (Ea)	6



TRELLIS AND WATER HARVESTING ANCHORAGE ONLY



WATER HARVESTING SKID BRACKET AND ANCHOR
NOT TO SCALE



LONGITUDINAL GUTTER PROFILE (Sh. 4)

PD053138

CADD PROJECT FILE NAME: DES0002980 - Ladera Park Stormwater Capture Project - DR-14
 CHECKER: R. LUJ
 DESIGNER: C. CALLUAG

DRAWING NUMBER:			
(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
		REVISIONS	



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK
STORMWATER IMPROVEMENTS
SLIDE GATE DETAILS
CROSS GUTTER DETAILS
PVC PIPE INLET DETAILS
PROJECT ID NO. SWQ0000003

DR-14

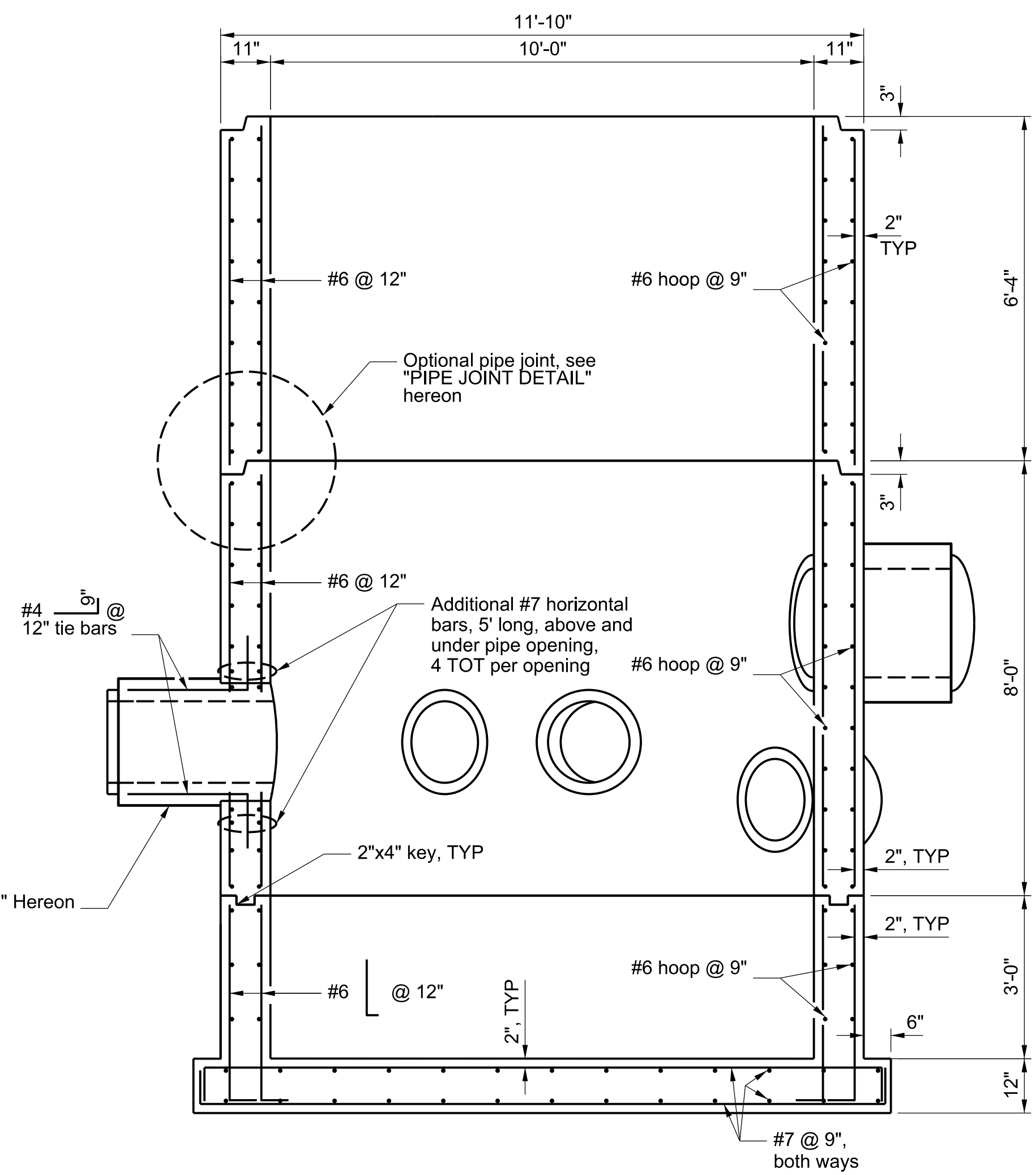
DATE: 08/07/18
PROJECT ENGINEER: C. Calluag
PCA: P97027AC
DWG: 181-271-D4
SHEET: 14 OF 45

AS BUILT DRAWINGS

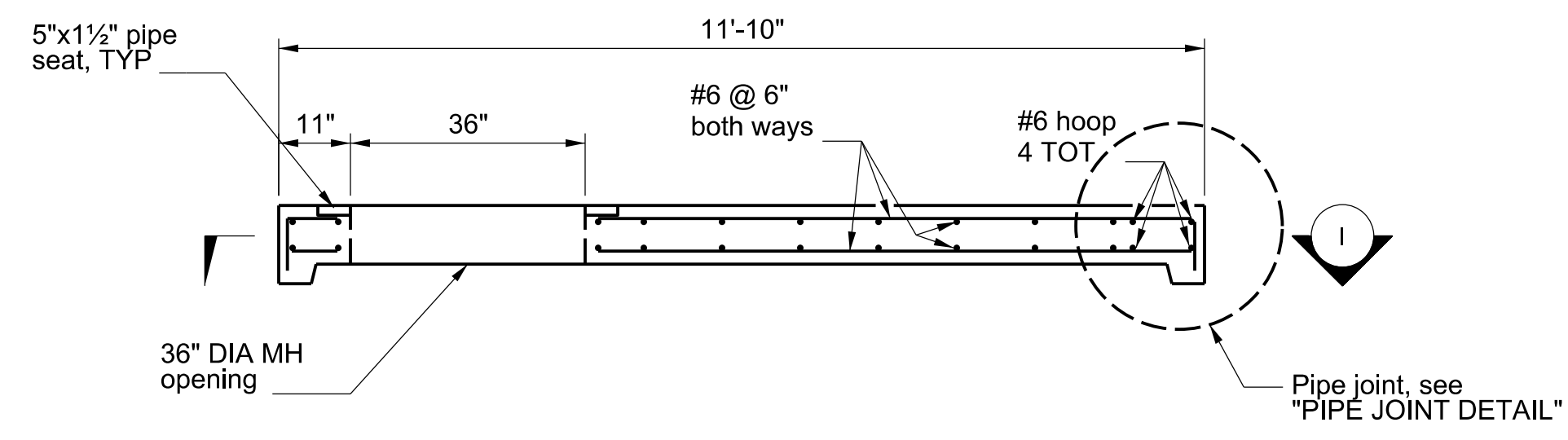
CADD PROJECT FILE NAME
DES0002980 - Ladera Park Stormwater Capture Project - DR-15

CHECKER
R. LUI

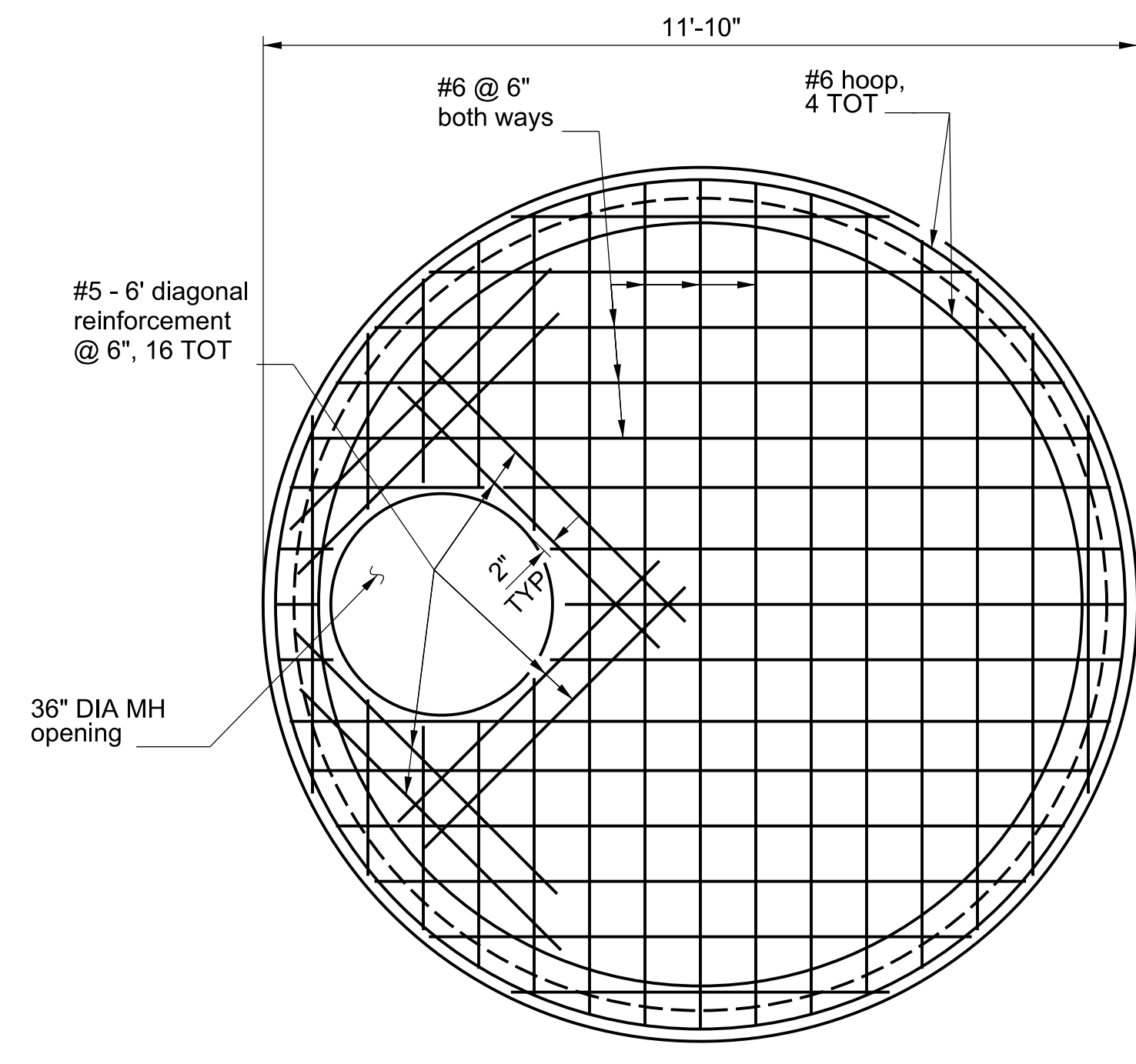
DESIGNER
J. LU



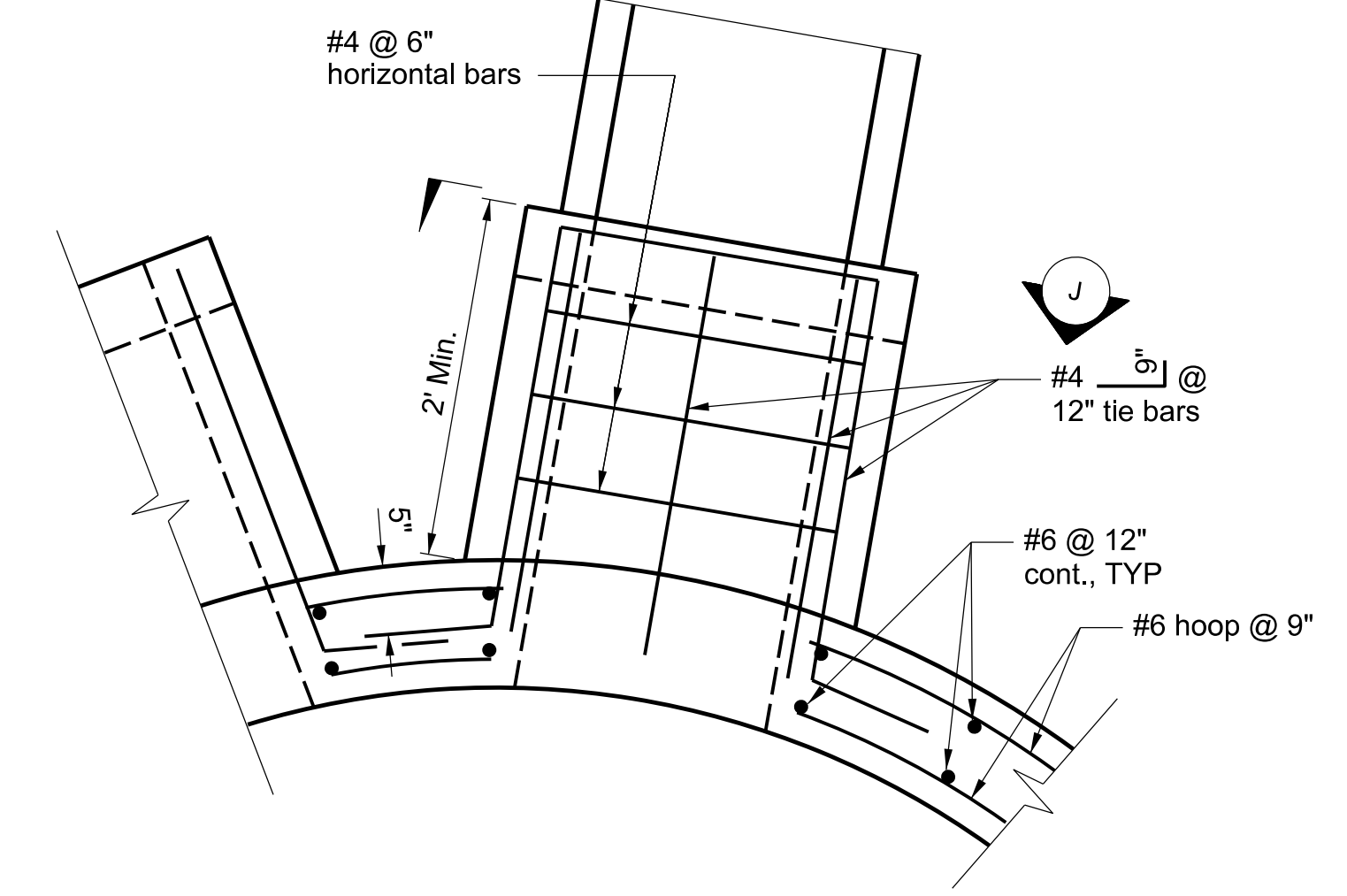
120' DIA CAST IN PLACE SPLITTER STRUCTURE
NOT TO SCALE



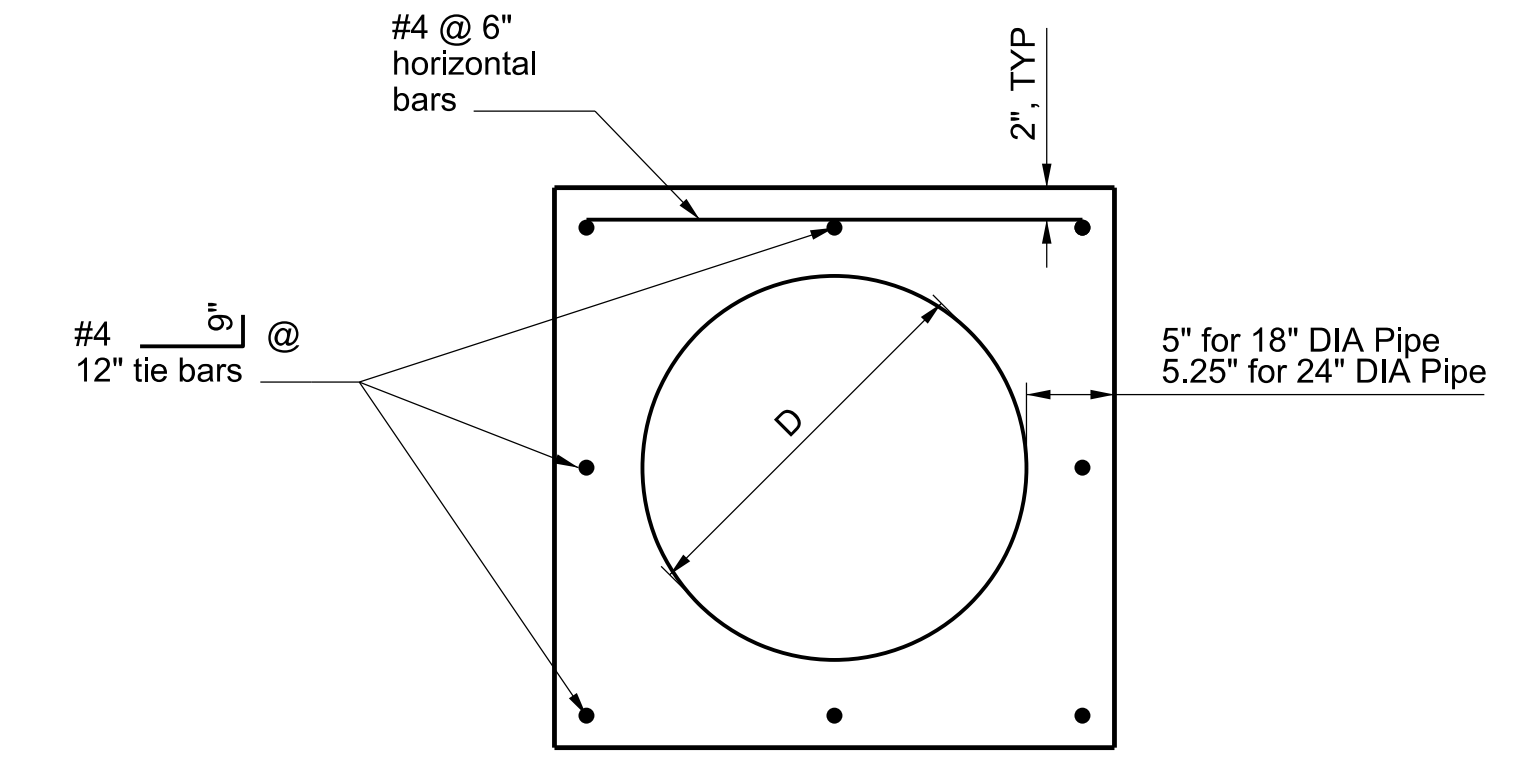
10' DIA SPLITTER COVER
NOT TO SCALE



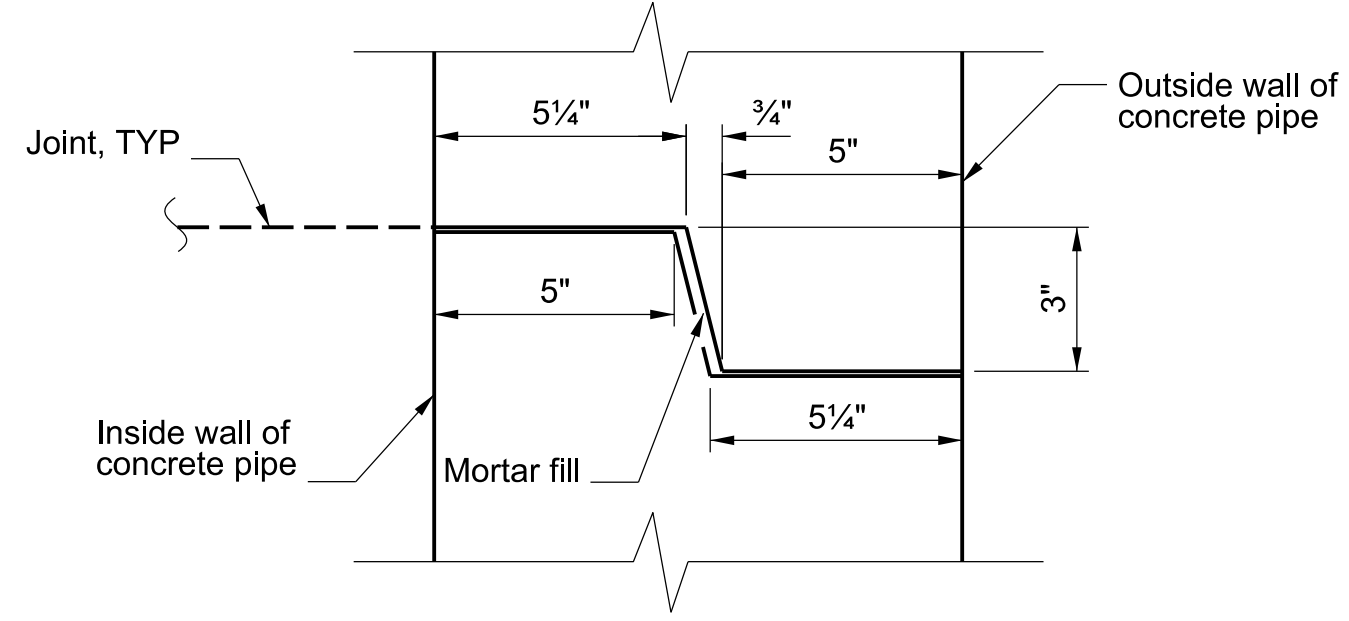
SECTION I-I
NOT TO SCALE



TYPICAL PIPE JUNCTION DETAIL
NOT TO SCALE



SECTION J-J
NOT TO SCALE

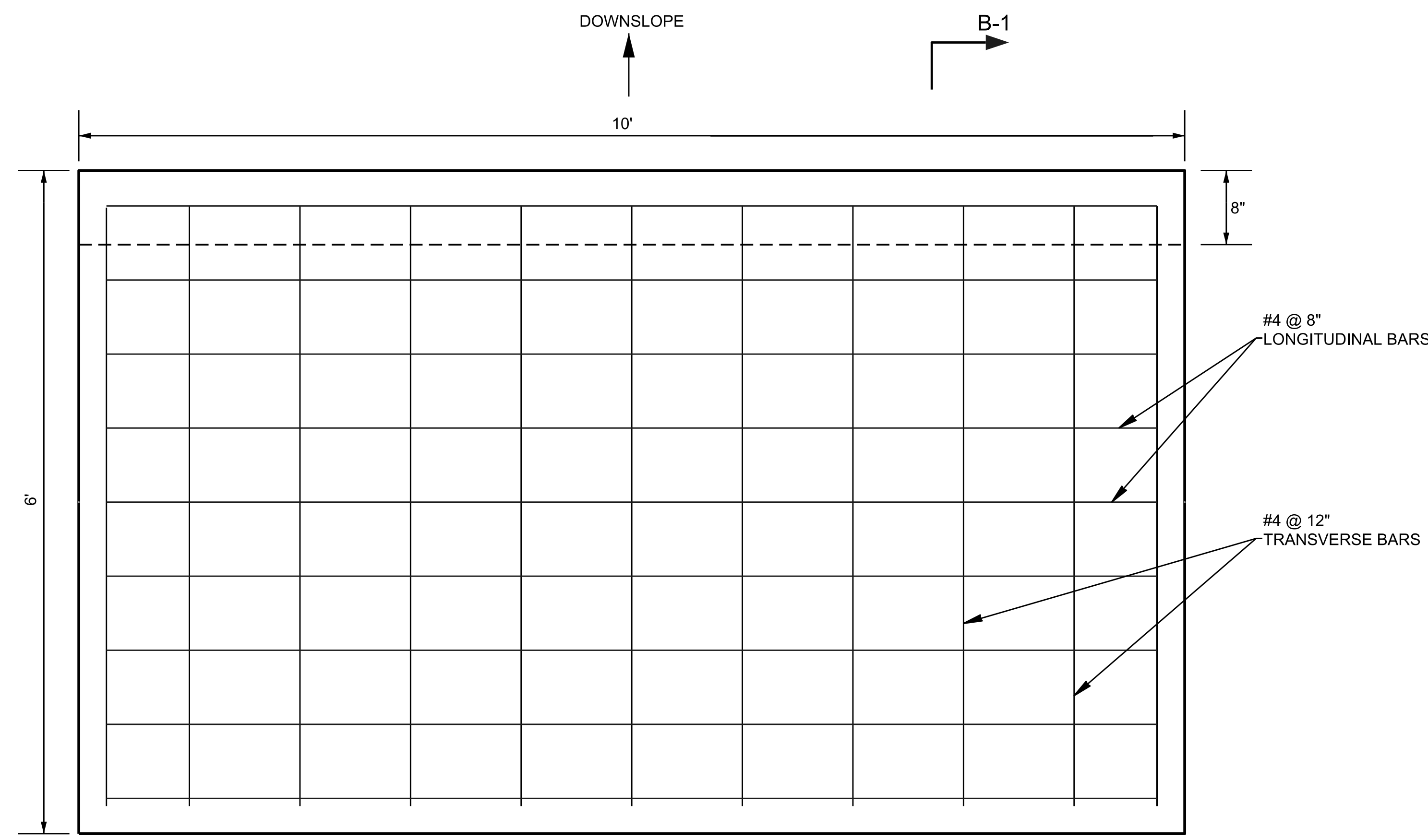


PIPE JOINT DETAIL
NOT TO SCALE

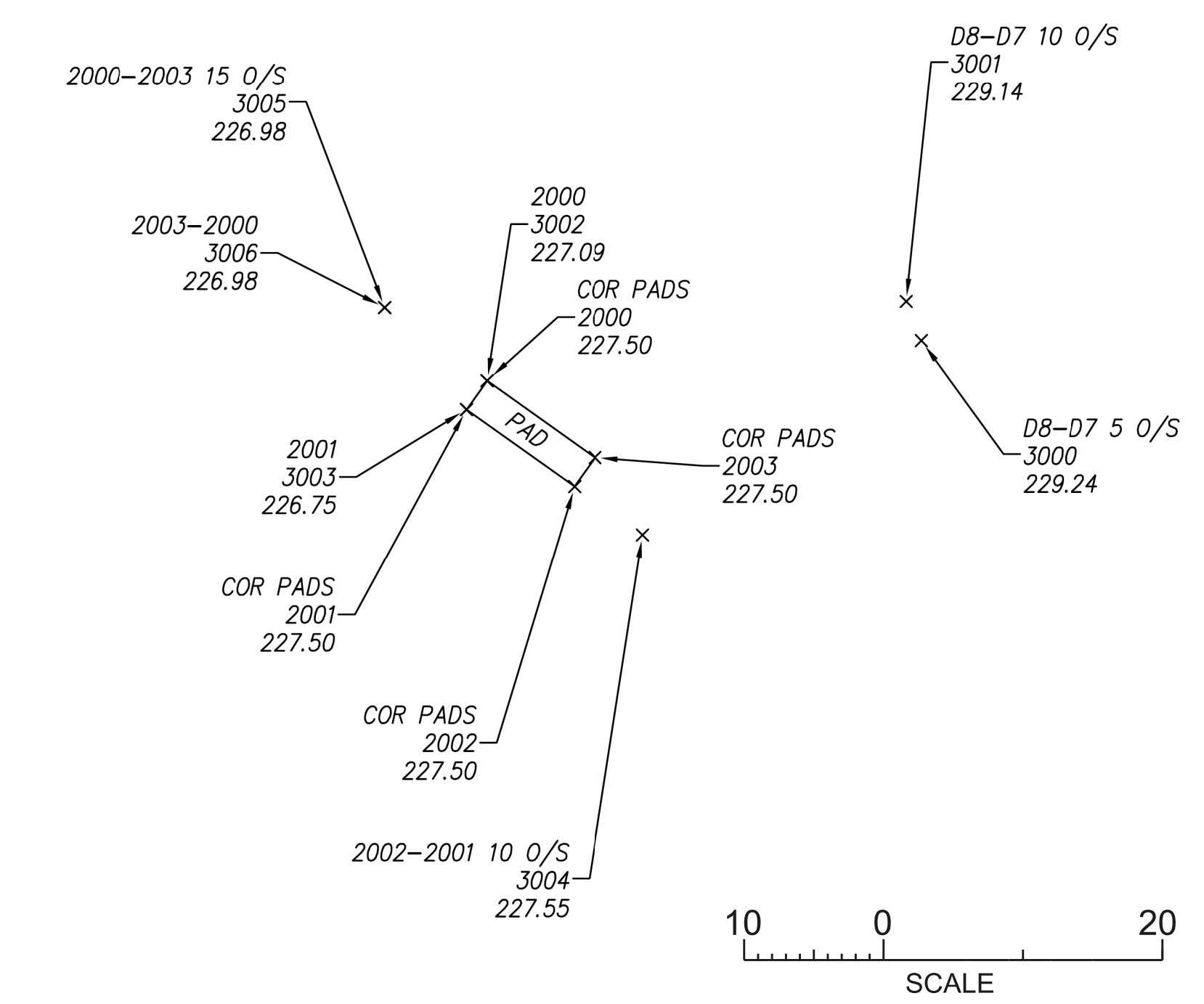
PD053138

DRAWING NUMBER:						COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS	
(MARK AS-BUILT HERE)						LADERA PARK STORMWATER IMPROVEMENTS SPLITTER STRUCTURE DETAILS PROJECT ID NO. SWQ0000003	
DATE	MK	DESCRIPTION		PROJECT ENGINEER	DATE		
REVISIONS				PROJECT ENGINEER	DATE	PCA	P97027AC
						DWG	181-271-D4
						SHEET	15 OF 45

AS BUILT DRAWINGS



PLAN
GREY WATER TREATMENT SKID
CONCRETE PAD
 NOT TO SCALE

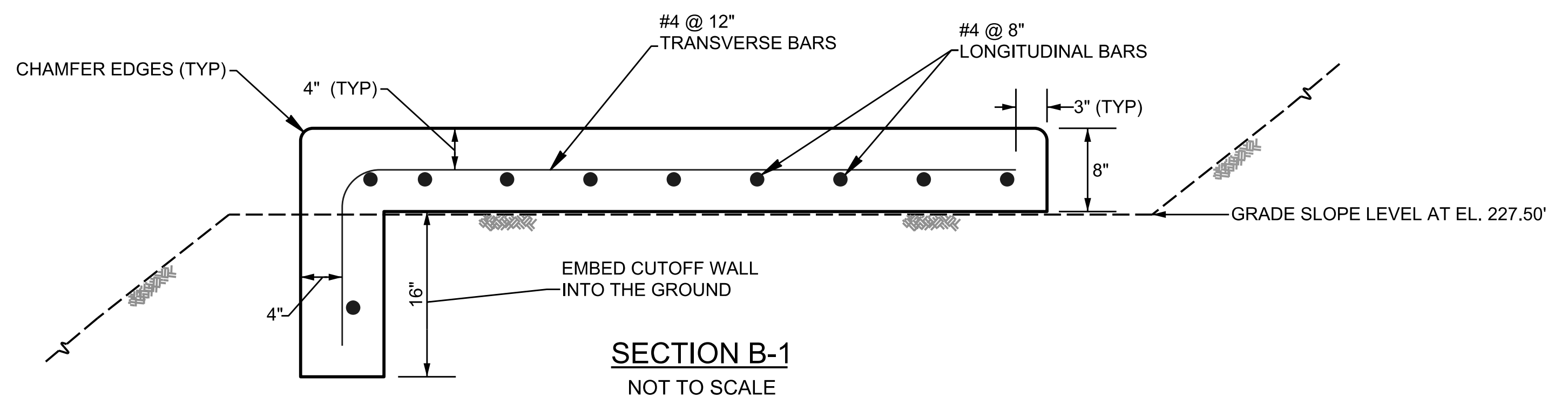


Point Listing made Mon Apr 13 16:57:13 2020

Page 1 of 1

Drawing Name: ladera
 Project Name: ladera
 Project Path: C:\ladera\
 Username: Matt

Number	Northing	Easting	Elevation	Raw Desc	Full Desc
3002	8221.4100	517.8710	227.09	set60d	set60d
3003	8217.9600	515.4110	226.75	set60d	set60d
3004	8202.9590	536.5080	227.55	SET 60D	SET 60D
3006	8230.1370	505.6350	226.98	SET 60D	SET 60D



SECTION B-1
 NOT TO SCALE

CADD PROJECT FILE NAME
 PROJECT ID NO. SWQ0000003.DGN
 CHECKER
 D. RADLE
 DESIGNER
 NOLI LASAO

PD053138

DRAWING NUMBER:	5/6/19	N.L.	ADDED THIS SHEET FOR THE GREY WATER CONCRETE PAD		COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS LADERA PARK STORMWATER IMPROVEMENTS GREY WATER TREATMENT SKID CONCRETE PAD PROJECT ID NO. SWQ0000003
(MARK AS-BUILT HERE)					DR-16
DATE	MK		DESCRIPTION	PROJECT ENGINEER	PCA P9702TAC
REVISIONS				DATE	DWG 181-271-D35
					SHEET 16 OF 45

AS BUILT DRAWINGS

SLAUSON AVE

N 1,818,335.26
E 6,452,545.31

N 1,818,295.97
E 6,452,559.55

CL POST
N 1,818,370.87
E 6,452,643.55

BC
N 1,818,308.75
E 6,452,597.72

N 1,818,279.81
E 6,452,673.21

N 1,818,191.73
E 6,452,682.75

N 1,818,156.01
E 6,452,691.15

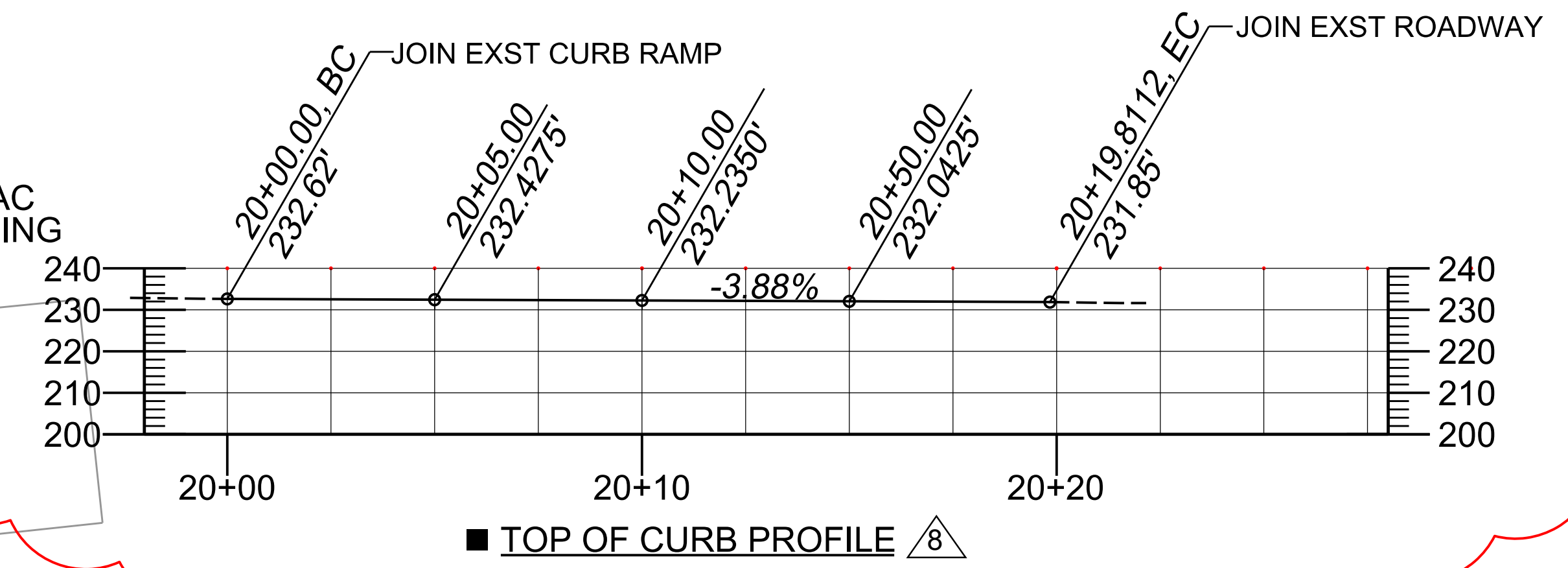
N 1,818,118.62
E 6,452,702.88

C & G Curve Data
 $\Delta 1 = 104^\circ 47' 56''$
 $R = 35.00'$
 $T = 45.45'$
 $L = 64.02'$
 $BC = \text{Sta. } 0 + 40.25$
 $EC = \text{Sta. } 1 + 04.27$
 $PI = N 1,818,322.33$
 $E 6,452,641.09$

Curb Curve Data
 $\Delta 4 = 26^\circ 05' 17''$
 $R = 43.5105'$
 $T = 10.0804'$
 $L = 19.8112'$
 $BC = \text{Sta. } 20 + 00.0000$
 $EC = \text{Sta. } 20 + 19.8112$
 $PI = N 1,818,307.3298$
 $E 6,452,669.1347$

BC: N 1,818,307.3298
E 6,452,669.1347

EC: N 1,818,307.3298
E 6,452,669.1347



4" PCC CURB RAMP PER
CALTRANS STD PLAN
RSP A88A (CASE A),
PCC CURB ON 6" CMB

CURB & GUTTER, TYPE A2-8
OVER 8" CMB

EXTEND AC
RESURFACING

EXST
BUILDING

REMOVE & REPLACE
CONC QUARTER PANEL

EXTEND AC
RESURFACING

RESURFACING SCHEDULE	
SYMBOL	RESURFACING PAVEMENT
	Cold Mill 2" and Construct 2" of C2-PG 64-10

QUANTITIES:
 AC PAVEMENT = 106 TONS
 CONCRETE = 24 CUBIC YARDS
 CMB = 9 CUBIC YARDS

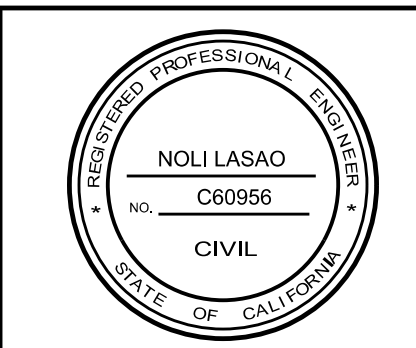
PD053138

PLAN
SCALE: 1" = 20'



CAD PROJECT FILE NAME: DES0002980 - Ladera Park Stormwater Capture Project - DR3
 CHECKER: NOLI LASAO
 DESIGNER: NOLI LASAO
 DRAFTER: NOLI LASAO

DATE	MK	DESCRIPTION
6/4/20	N.L.	C&G ROAD RESURFACING WORK
REVISIONS		



LOS ANGELES COUNTY PUBLIC WORKS

LADERA PARK

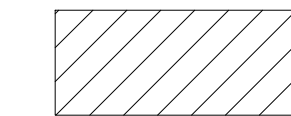
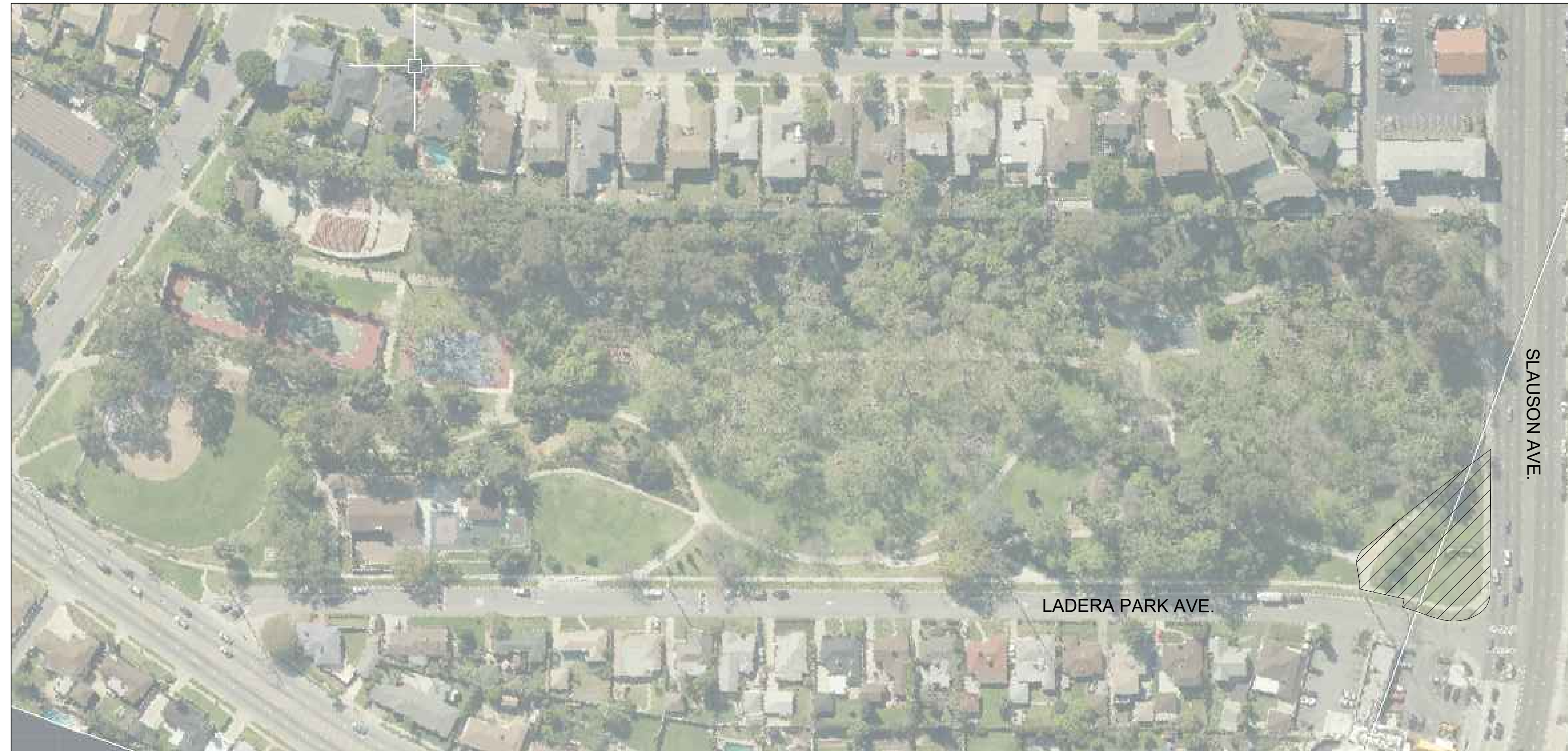
STORMWATER IMPROVEMENTS
RESURFACING SCHEDULE

PROJECT ID NO. SWQ0000003

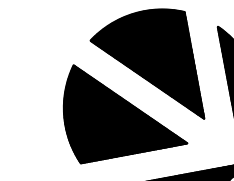
DR-17

DATE: 5/5/2020
PROJECT ENGINEER: [Signature]
PCA P9702TAC DWG 181-271-D4 SHEET 17 OF 45

AS BUILT DRAWINGS



PROJECT SITE



NORTH

KEY MAP
NTS

SEE SHEET LS-1.00 FOR GRADING INFORMATION.
GRADING IMPACTED AREA: 784 SF
CUT DEPTH: 0.5 FEET
CUT VOLUME: 14.5 CY

SYMBOLS

	MANHOLE COVER		FIRE HYDRANT		EXISTING WALL
	ROAD SIGN - SINGLE POST		TRAFFIC SIGNAL		EXISTING FENCE
	ROAD SIGN - DOUBLE POST		STREET LIGHT		RIGHT OF WAY (COUNTY)
	UTILITY POLE		TRAFFIC SIGNAL		CITY / COUNTY BOUNDARY LINE
	GUY WIRE		GUARD RAIL		ROAD CENTERLINE

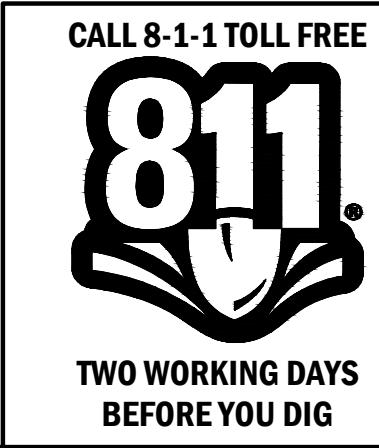
ABBREVIATION / ACRONYM LEGEND

AND	AT	CENTERLINE	DIAMETER	NUMBER OR POUNDS	EA.	EACH	E.J.	EXPANSION JOINT	ELEV.	ELEVATION	ELEC.	ELECTRICAL	EQ.	EQUAL, EQUALLY	EQUIP.	EQUIPMENT	N	NORTH	N.I.C.	NOT IN CONTRACT	NO.	NUMBER	NOM.	NOMINAL	N.T.S.	NOT TO SCALE	ST.	STREET	SYM.	SYMBOL	T.	TREADS	T.C.	TOP OF CURB	T.O.D.	TOP OF DRAIN	TEL.	TELEPHONE	TEMP.	TEMPORARY	T.G.	TOP OF GRADE	T & G.	TONGUE AND GROOVE	T.P.	TOP OF PAVEMENT	T.W.	TOP OF WALL	TYP.	TYPICAL	U.O.N.	UNLESS OTHERWISE NOTED	U.P.R.R.	UNION PACIFIC RAILROAD	V.	VALVE	V.B.	VALVE BOX	VERT.	VERTICAL	V.I.F.	VERIFY IN FIELD	VOL.	VOLUME	W.	WEST OR WIDE	W/	WITH	WD.	WOOD	W.H.	WEEP HOLE	W.I.	WROUGHT IRON	W.M.	WATER METER	WP.	WATERPROOF (ING)	WT.	WEIGHT	W.W.F.	WOVEN WIRE FABRIC	W.W.M.	WELDED WIRE MESH	NOTE:	SOME ABBREVIATIONS ON THE DRAWINGS MAY NOT HAVE PERIODS AS PART OF THE ABBREVIATION, DELETION OF PERIOD SHALL NOT ALTER MEANING.																																																											
AC	ASPHALTIC CONCRETE	AD	AREA DRAIN	AGG.	AGGREGATE	ALT.	ALTERNATIVE	ARCH.	ARCHITECT	ASPH.	ASPHALT	AVE.	AVENUE	B.C.	BOTTOM OF CURB OR BEGINNING OF CURVE	BLDG.	BUILDING	BLVD.	BOULEVARD	B.M.	BENCH MARK	B.W.	BOTH WAYS	C.B.	CATCH BASIN	C.J.	CONTROL JOINT	C.L.	CHAIN LINK	CLR.	CLEAR	C.M.U.	CONCRETE MASONRY UNIT	C.O.	CLEAN OUT	CONC.	CONCRETE	CONT.	CONTINUOUS, CONTINUED	DEPT.	DEPARTMENT	DET.	DETAIL	D.F.	DOUGLAS FIR	D.G.	DECOMPOSED GRANITE	DIA.	DIAMETER	DIM.	DIMENSION	DPW.	DEPARTMENT OF PUBLIC WORKS	DWG.	DRAWING	DWP.	DEPARTMENT OF WATER AND POWER	E.	EAST	EXIST.	EXISTING	EA.	EACH	E.J.	EXPANSION JOINT	ELEV.	ELEVATION	ELEC.	ELECTRICAL	EQ.	EQUAL, EQUALLY	EQUIP.	EQUIPMENT	N	NORTH	N.I.C.	NOT IN CONTRACT	NO.	NUMBER	NOM.	NOMINAL	N.T.S.	NOT TO SCALE	O.C.	ON CENTER	O.D.	OUTSIDE DIAMETER	P.A.	PLANT AREA	P.B.	PULL BOX	PERF.	PERFORATED	P.L.	PROPERTY LINE	P.LYWD.	PLYWOOD	P.O.C.	POINT OF CONNECTION	P.P.	POWER POLE	PREFAB.	PREFABRICATED	PROP.	PROPERTY	P.T.	PRESSURE TREATED	PVMT.	PAVEMENT	Q.C.	QUICK COUPLER	R.	RISERS OR RADIUS	RAD.	RADIUS	R.C.V.	REMOTE CONTROL VALVE	R.D.	ROAD	REINF.	REINFORCED	REV.	REVISED OR REVISION	R.O.W.	RIGHT OF WAY	RWD.	REDWOOD	S.	SOUTH	SCE.	SOUTHERN CALIFORNIA EDISON	SCH.	SCHEDULE	S.D.	STORM DRAIN	SEC.	SECTION	SHT.	SHEET	SIM.	SIMILAR	SPEC.	SPECIFICATION	SQ.	SQUARE

SHEET INDEX

SHEET	TITLE
LS-0.00	TITLE SHEET
LS-1.00	CONSTRUCTION PLAN, NOTES, AND LEGEND
LS-1.01	SHADE STRUCTURE
LS-1.02	CONSTRUCTION DETAILS
LS-1.03	CONSTRUCTION DETAILS
LS-2.00	IRRIGATION PLAN AND LEGEND
LS-2.01	IRRIGATION DETAILS
LS-2.02	IRRIGATION DETAILS AND NOTES
LS-3.00	PLANTING PLAN AND LEGEND
LS-3.01	PLANTING NOTES AND DETAILS

PD053138



DATE	MK	DESCRIPTION

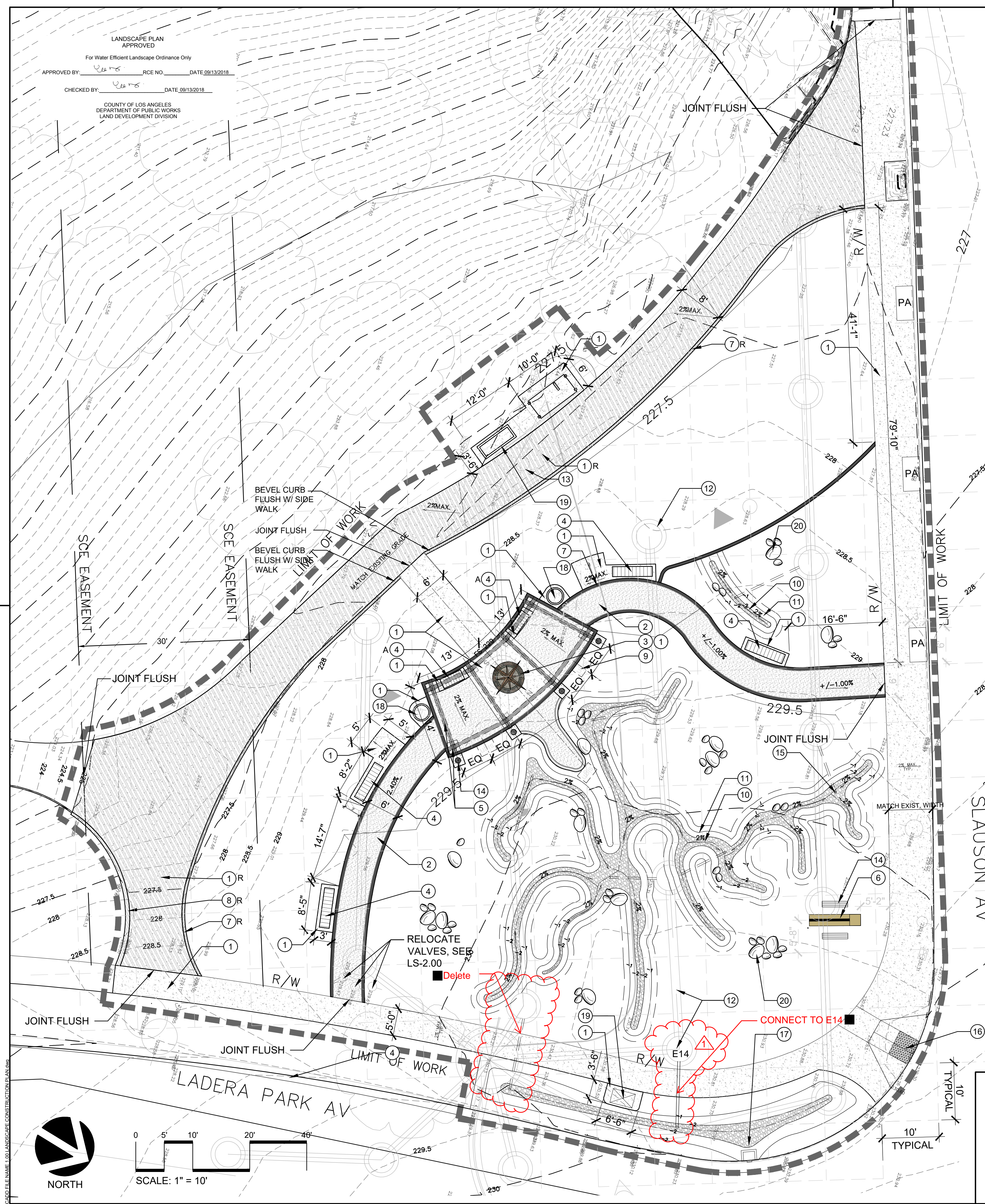


COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**LADERA PARK
STORMWATER IMPROVEMENTS
LANDSCAPE IMPROVEMENTS**
PROJECT ID NO. SWQ0000003

TITLE SHEET LS-0.00

PROJECT LANDSCAPE ARCHITECT	DATE	PCA	P97027AC	DWG	181-271-D4	SHEET	18	OF	45
-----------------------------	------	-----	----------	-----	------------	-------	----	----	----



CONSTRUCTION MATERIAL LEGEND

SYMBOL	NUMBER	DESCRIPTION	TYPE / MODEL NUMBER	SIZE	COLOR	FINISH	MANUFACTURER / NOTES	DETAIL
	1	CONCRETE PAVING	CONCRETE	4" THICK	NATURAL GRAY	MEDIUM BROOM FINISH	---	DET H / LS-1.03
	1R	CONCRETE SIDEWALK RESTORATION	MATCH EXISTING CONCRETE SIDEWALK	---	MATCH EXISTING	MATCH EXISTING	MATERIAL RESTORATION: EDISON COATINGS, INC. SPECTRA COMPANY. GRISWOLD CONSERVATION	DET B LS-1.03
	2	DECOMPOSED GRANITE PAVING	DECOMPOSED GRANITE PAVING W/ BINDER/STABILIZER.	---	"CALIFORNIA GOLD"	---	REFER TO SPECIAL PROVISIONS	DET D / LS-1.03
	3	COMPASS ROSE STAMPED CONCRETE MEDALLION	STAMPED CONCRETE	---	EARTH TONE BROWN	SAND FINISH	---	DET A / LS-1.02
	4	6' LONG PARK BENCH	TRADITIONAL RECYCLED PLASTIC PARK BENCH W/ BACKREST AND METAL FRAME, SECURE TO CONCRETE BASE	6'	PLANK: DARK BROWN FRAME: GREEN	POWDER COATED FRAME	REFER TO SPECIAL PROVISIONS	DET C / LS-1.02
	4A	4' LONG PARK BENCH	TRADITIONAL RECYCLED PLASTIC PARK BENCH W/ BACKREST AND METAL FRAME, SECURE TO CONCRETE BASE	4'	PLANK: DARK BROWN FRAME: GREEN	POWDER COATED FRAME	REFER TO SPECIAL PROVISIONS	DET C / LS-1.02
	5	SHADE STRUCTURE	PRESSURE TREATED WOOD MEMBERS	---	BROWN	PAINT	---	DET A / LS-1.01
	6	PARK MONUMENT SIGN	ALUMINUM POST/FRAME AND SIGN GRAPHIC PANEL	---	BROWN	POWDER COATED	REFER TO SPECIAL PROVISIONS	DET B / LS-1.02
	7	CONCRETE HEADER	CONCRETE	6"W X 12"D	NATURAL GRAY CONCRETE	LIGHT BROOM FINISH	---	DET E / LS-1.03
	7R	CONCRETE CURB RESTORATION	CONCRETE	6"W X 12"D	MATCH EXISTING	MATCH EXISTING	---	DET B / LS-1.03
	8R	CONCRETE CURB RESTORATION	CONCRETE	6"W X 18"D	MATCH EXISTING	MATCH EXISTING	---	DET B / LS-1.03
	9	INTERPRETIVE SIGNAGE	SIGNAGE INCLUDES 2'x3' EXTERIOR GRAPHIC PANEL - FUSED POLYCARBONATE (FPC) MOUNTED TO ALUMINUM POST FRAME. ALUMINUM POST FRAME COLOR: BLACK	2' X 3'	BLACK	---	REFER TO SPECIAL PROVISIONS	DET A / LS-1.03
	10	RIVER ROCK PAVING	"SIERRA COBBLE"	4"-8" DIA.	WHITE W/BLACK STRIATA, GRANITIC ORIGIN	---	REFER TO SPECIAL PROVISIONS	DET F / LS-1.03
	11	VEGETATED BIO-SWALE						DET C & F / LS-1.03
	12	BELOW GRADE DRY WELL AND ASSOCIATED DRAINAGE PIPE	REFER TO PLAN DR					
	13	CISTERN SYSTEM AND ASSOCIATED STRUCTURES	REFER TO PLAN DR, PLAN E, PLAN ME					
	14	UPLIGHT	REFER TO PLAN E					
	15	DRAIN INLET IN BIOSWALE	REFER TO PLAN DR					
	16	ADA RAMP W/ TRUNCATED DOME	CASE "A" PER CALTRANS REVISED STANDARD PLAN RSP A88A (DATED 7-21-17)					
	17	BIOSWALE IN PARKWAY						DET F & G / LS-1.03
	18	TRASH RECEPTACLE	LASER CUT SAWGRASS GALV. STEEL WITH RAIN CAP, HDPE LINER, ANCHORING HARDWARE TO SECURE TO CONCRETE BASE	40 GALLON	BROWN	POWDER COATED	REFER TO SPECIAL PROVISIONS	DET J / LS-1.03
	19	UTILITY CABINETS	REFER TO PLAN DR, PLAN E, PLAN ME					
	20	DECORATIVE BOULDERS	DECORATIVE BOULDERS	12"-30" DIA.	WHITE W/BLACK STRIATA, GRANITIC ORIGIN		REFER TO SPECIAL PROVISIONS	

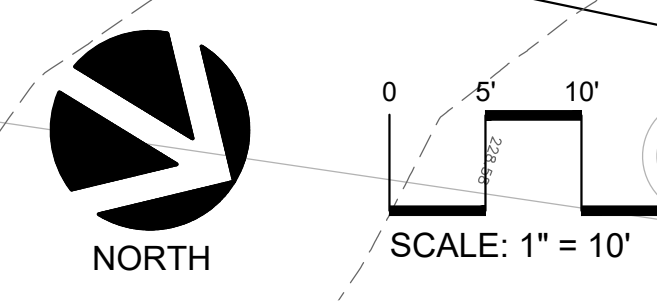
GENERAL CONSTRUCTION AND REMOVAL NOTES:

- THE CONTRACTOR SHALL LAY OUT FLATWORK FORMS, MARK LOCATIONS FOR SITE IMPROVEMENTS, AND OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.
- ALL SITE FURNISHINGS SHALL BE SURFACE MOUNTED ON CONCRETE PADS AS SHOWN AND PER MANUFACTURER'S RECOMMENDATIONS USING VANDAL/TAMPER PROOF STAINLESS STEEL HARDWARE. AFTER APPROVAL FROM THE ENGINEER, SECURE ALL ANCHOR BOLTS BY TACK WELDING.
- SAW CUT AND DEMOLISH EXISTING CONCRETE AS DESIGNATED PER PLAN.
- INTERPRETIVE SIGNAGE AND PARK MONUMENT SIGN.
 - ARTWORK SHALL BE PROVIDED BY THE AGENCY AS A FILE IN JPG, ILLUSTRATOR, OR PHOTOSHOP DIGITAL FORMAT. SIGN AND GRAPHIC PANEL SHALL BE FABRICATED AND INSTALLED BY THE CONTRACTOR.
 - CONTRACTOR TO PROVIDE SHOP DRAWING FOR REVIEW AND APPROVAL BY THE AGENCY PRIOR TO FABRICATION AND INSTALLATION. CONTRACTOR SHALL PROVIDE A 8" X 8" SAMPLE OF THE PANEL MATERIAL SHOWING A PORTION OF THE COLORED ARTWORK GRAPHIC PROVIDED BY THE AGENCY TO THE CONTRACTOR, FOR REVIEW BY THE AGENCY PRIOR TO FINAL FABRICATION AND INSTALLATION.
 - FRAME MATERIAL. WELD JOINTS SHALL BE GROUND SMOOTH AND ALL METAL SHALL BE POWDERCOAT FINISHED, COLOR AND MATERIAL PER CONSTRUCTION MATERIAL LEGEND AND DETAIL.
 - PANEL MATERIAL. REFER TO SPECIAL PROVISIONS. FOR FUSED POLYCARBONATE: VINYL INKJET PRINT FUSED BETWEEN TWO SHEETS OF UV RESISTANT POLYCARBONATE (FPCS). FOR ALUMINUM: SURFACE SHALL BE PREPARED PRIOR TO APPLYING PAINT. GRAPHIC SHALL BE PAINTED DIRECTLY ON ALUMINUM.
- CONTRACTOR SHALL MAINTAIN AN ACCURATE "AS-BUILT" RECORD SET OF PLANS FOR ALL WORK PERFORMED UNDER THIS CONTRACT. THESE "AS-BUILT" PLANS SHALL SHOW ALL CHANGES MADE TO THE ORIGINAL PLANS AND SPECIFICATIONS, INCLUDING EXACT "AS-BUILT" LOCATIONS, SIZES AND KINDS OF EQUIPMENT/ MATERIALS PROVIDED. THE FINAL "AS-BUILT" RECORD SET OF PLANS SHALL BE SUBMITTED TO THE AGENCY AT THE COMPLETION OF WORK, PRIOR TO THE START OF THE PLANT ESTABLISHMENT PERIOD.

PD053138

BUILDING AND SAFETY DIVISION
 Department of Public Works
 APPROVED
 UNDER LOS ANGELES COUNTY CODE
 TITLES 26, 30 AND 31
 J. HUSSEY
 PUBLIC WORKS
 08/08/2018 8:28:45 AM
This set of plans and specifications shall be subject to change or modification at all times. Such is intended to include any changes, modifications or omissions to these plans and specifications without the prior written permission of the Building Official. The stamping of this set of plans and specifications shall NOT be an approval of any work or activity that does not comply with any provisions of any County Ordinance or the Law.

TRELLIS AND WATER HARVESTING ANCHORAGE ONLY



CALL 8-1-1 TOLL FREE

TWO WORKING DAYS BEFORE YOU DIG

5/28/20	N.L.	Relocate drain pipe to DW E14
DATE	MK	DESCRIPTION
REVISIONS		



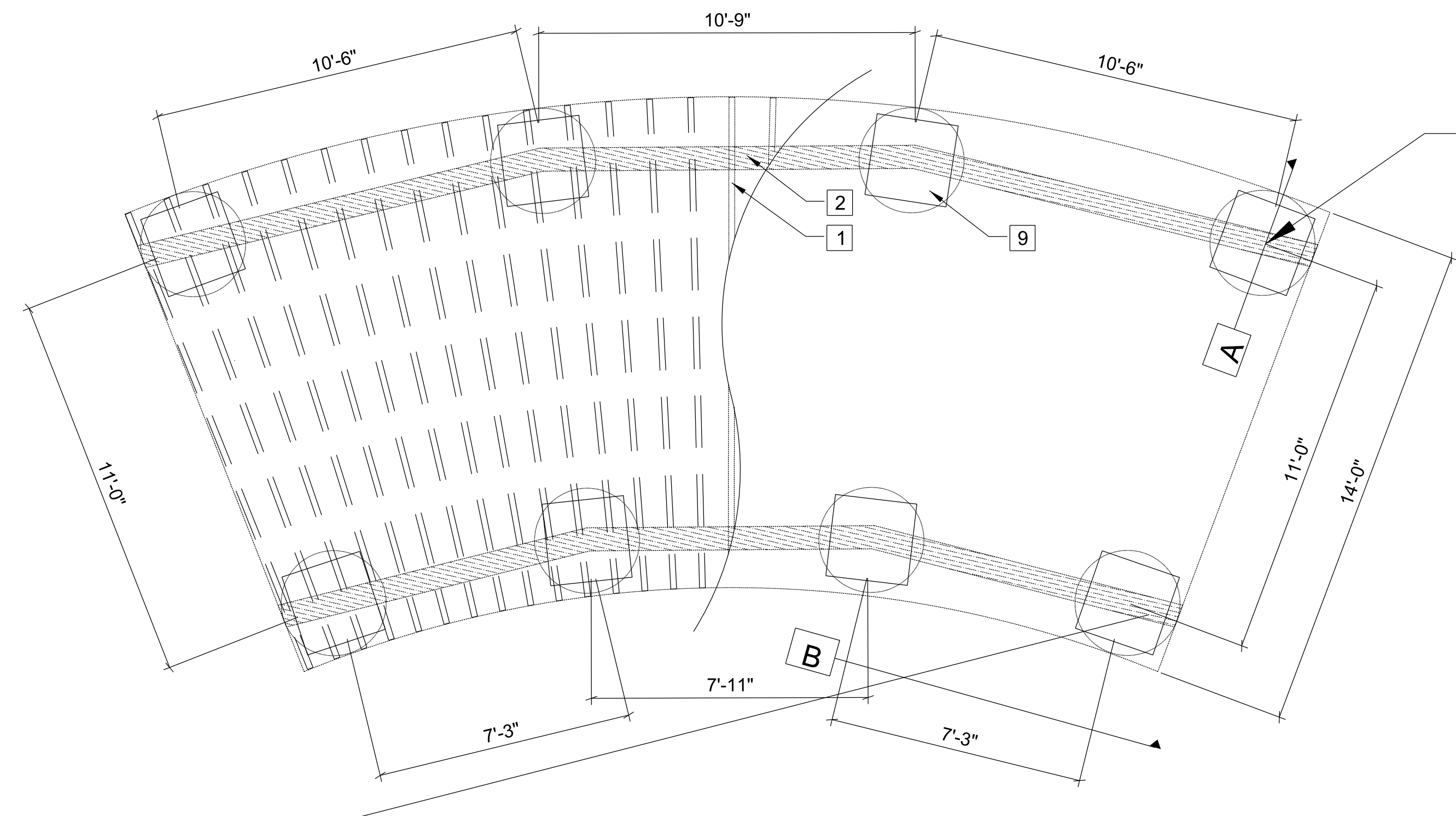
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**LADERA PARK
 STORMWATER IMPROVEMENTS
 LANDSCAPE IMPROVEMENTS
 PROJECT ID NO. SWQ0000003**

CONSTRUCTION PLAN, NOTES, AND LEGEND

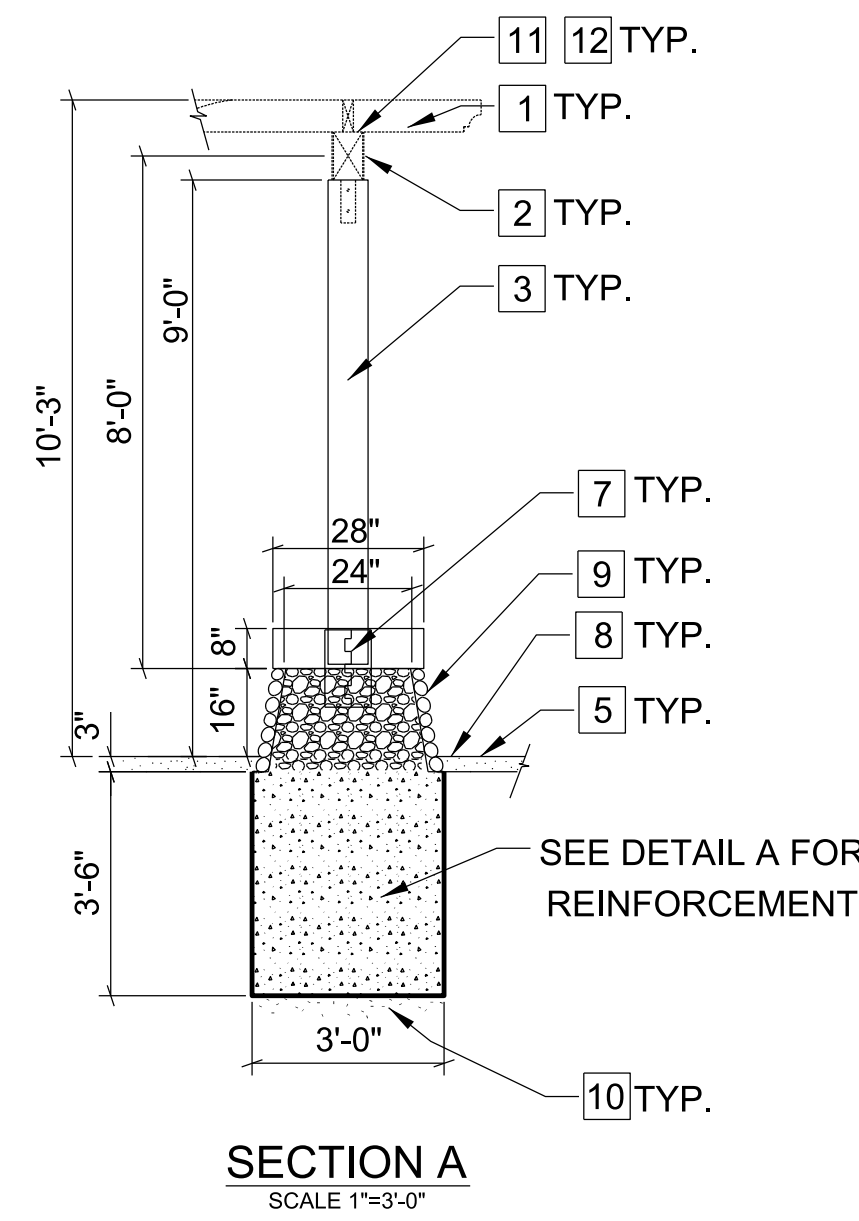
LS-1.00

DATE: PCA P97027AC DWG 181-271-D4 SHEET 19 OF 45

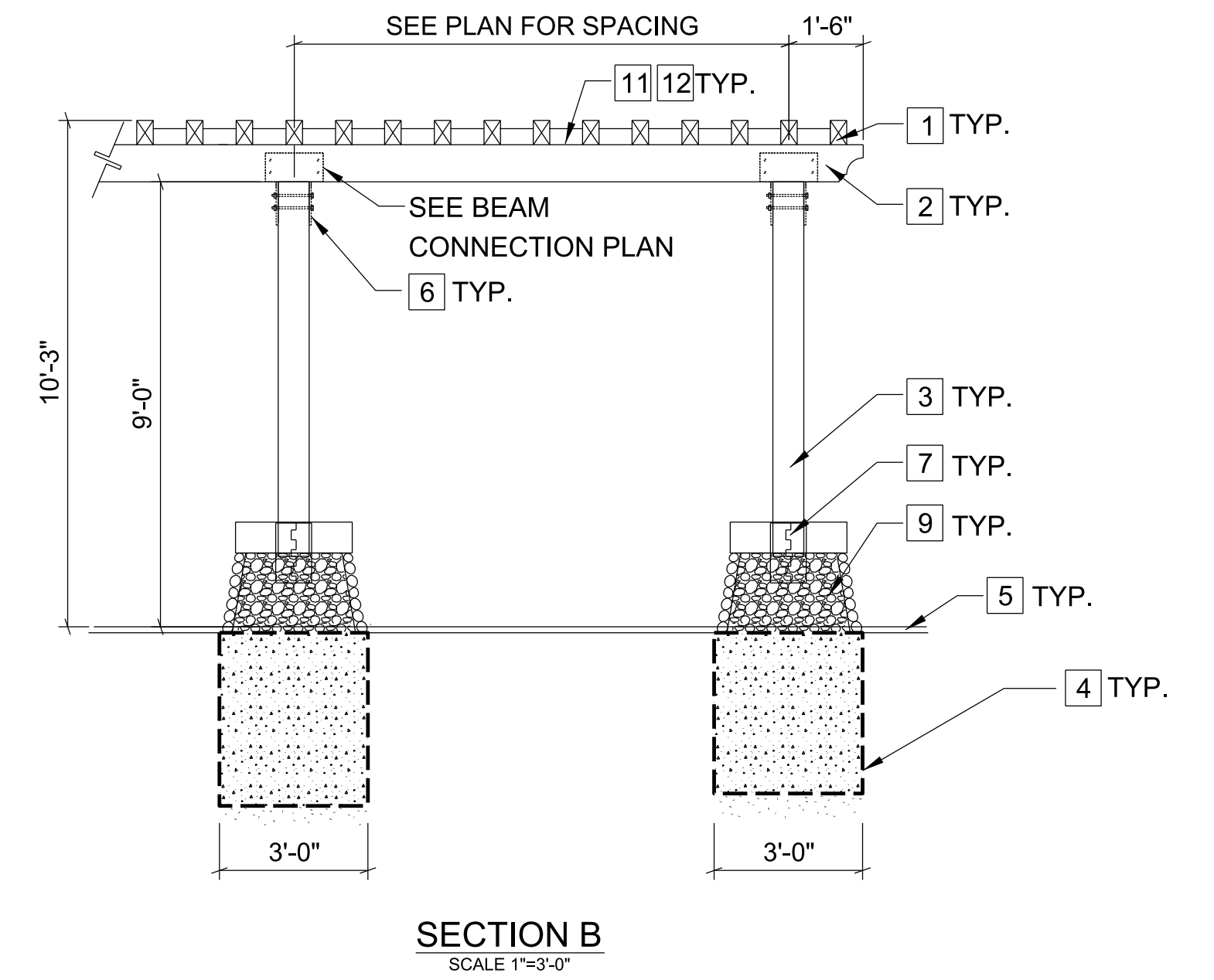


PLAN VIEW
SCALE 1"=3'-0"

SEE SECTION A
AND DETAIL A, TYP.



SECTION A
SCALE 1"=3'-0"



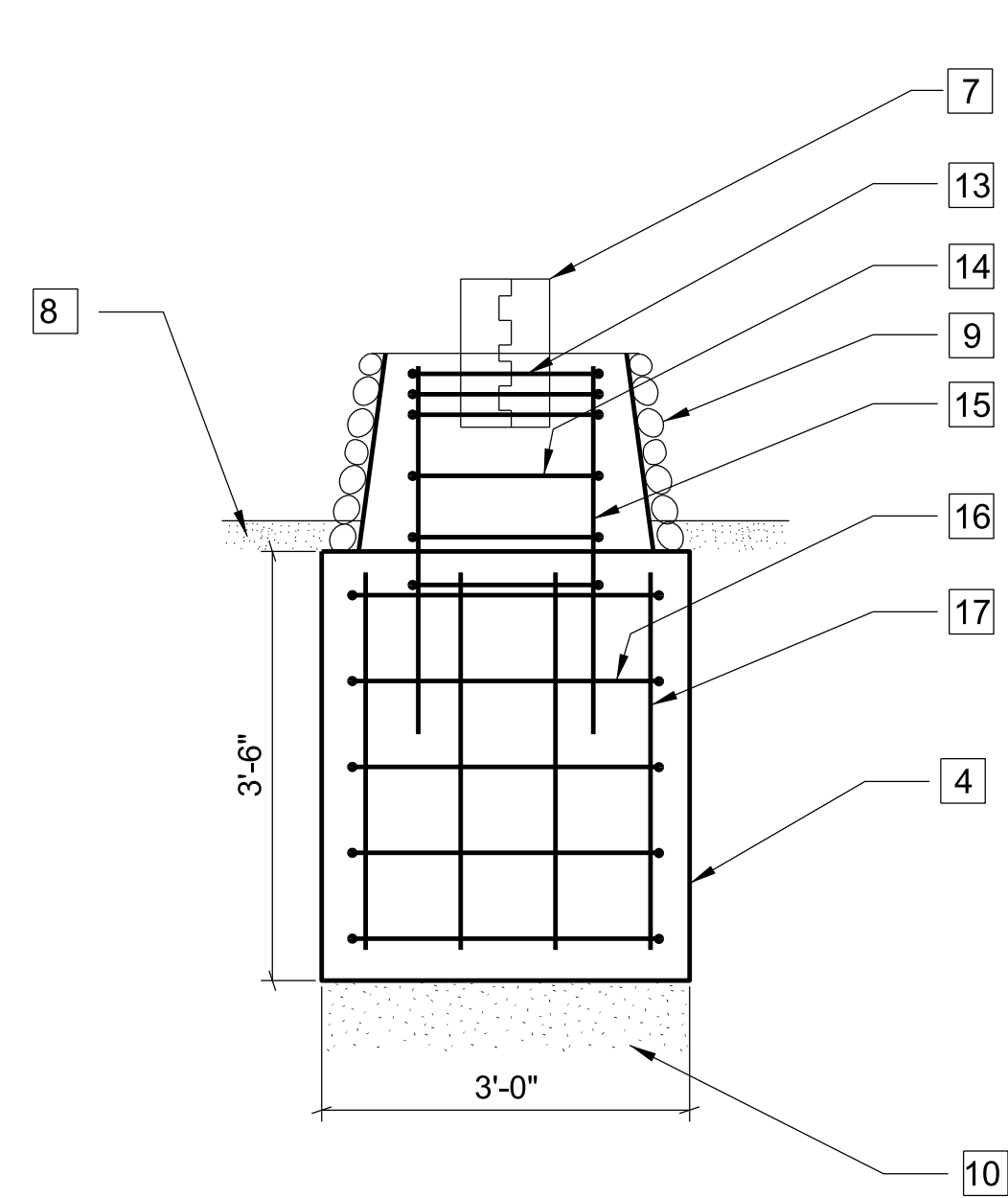
SECTION B
SCALE 1"=3'-0"

LEGEND:

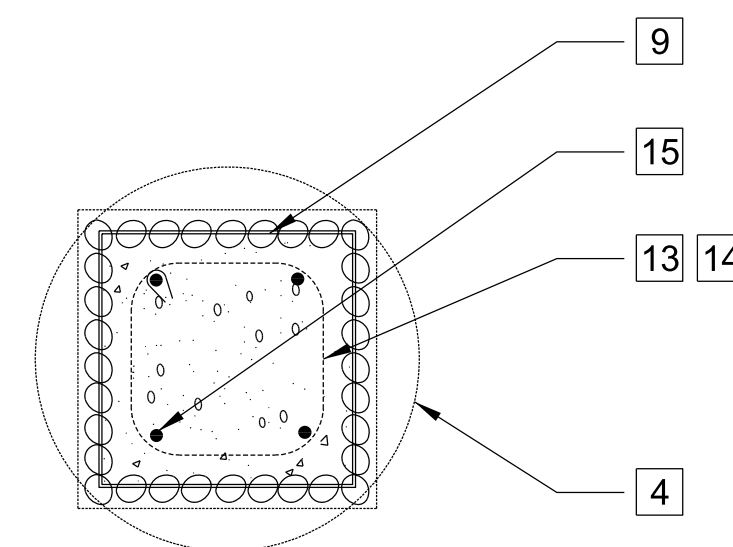
- 1 4" X 6" PRESSURE TREATED D.F. LATTICE SET ON TOP OF 8" X 10" BEAM @ 12" O.C.
- 2 8" X 8" PRESSURE TREATED D.F. BEAMS ATTACHED TO POST W/ SIMPSON CC68 BEAM TO POST HARDWARE
- 3 8" X 8" RE/S D.F. POST.
- 4 PCC FOUNDATION, 560-C-3250
- 5 ADJ. PAVING PER PLAN
- 6 5/8" ASTM A307 THREADED RODS INSTALL WITH SIMPSON SET-XP EPOXY, WASHERS AND NUTS
- 7 HOT DIP GALVANIZED MPB88Z MOMENT POST BASE FOR 8x8 POST
- 8 FINISH GRADE
- 9 PCC POST BASE W/ RIVER ROCK VENEER AND 8" CAP
- 10 UNDISTURBED SUB-GRADE
- 11 STRONG TIE A35 CONNECTING BLOCKING TO BEAM
- 12 4X6 BLOCKING AT 4' OC TOE NAILED WITH THREE (3) 16D NAILS EA SIDE OF BLOCKING
- 13 THREE (3) #4 TIES AT 2" SPACING
- 14 FOUR (4) #4 TIES 4" SPACING
- 15 FOUR (4) #5 VERTICAL BARS AT 36" LONG
- 16 SIX (6) #4 TIES AT 9" SPACING
- 17 SIX (6) #5 VERTICAL BARS

NOTES:

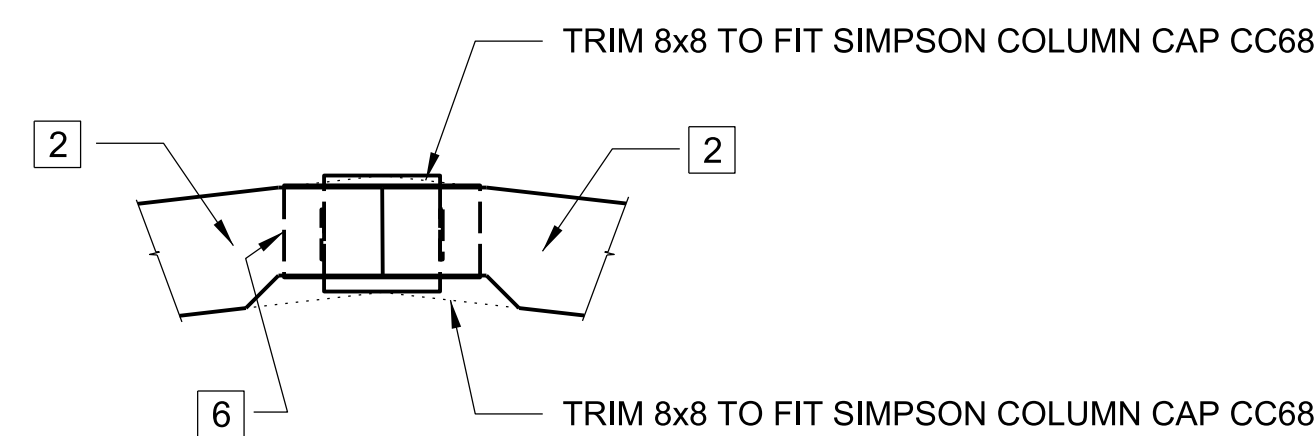
- 1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
- 2. BOLT HEADS, WASHERS & NUTS SHALL BE COUNTERBORED FLUSH WHERE APPLICABLE. ALL OPEN ENDS TO BE WELDED CLOSE WITH PLATE STEEL.
- 3. ALL EXPOSED SAWCUT EDGES TO BE GROUND SMOOTH.
- 4. ALL WOOD MEMBERS SHALL BE CLEANED, PRIMERED AND PAINTED (TWO (2) COATS). PAINT TO BE EXTERIOR TYPE. COLOR TO BE DARK BROWN, MATTE FINISH.
- 5. RIVER ROCK COBBLE W/ MIN. 50% OF THEIR RESPECTIVE DIA SET IN "COARSE MASONRY GROUT" PER STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION TABLE: 201-1.1.2(A).
- 6. COBBLE TO BE PREDOMINANTLY TANS AND GRAYS. CONTRACTOR TO SUBMIT SAMPLE FOR APPROVAL BY ENGINEER.
- 7. PROVIDE 3" CLEAR TO THE REINFORCEMENT FOR CONCRETE EMBEDDED IN SOIL, OTHERWISE USE 2" CLEAR DISTANCE TO REINFORCEMENT
- 8. PROVIDE 1/2" GAP BETWEEN MPBZ AND PCC CAP, APPLY SILICONE SEALANT AT THE GAP BETWEEN THE POST AND THE CAP USE BACKER ROD. PROVIDE UNGROUTED SEGMENTS WHEN ATTACHING PCC CAP TO ALLOW DRAINAGE OF ANY WATER AT THE POST.
- 9. USE ALL SPECIFIED FASTENERS; SEE SIMPSON STRONG TIE GENERAL NOTES
- 10. INSTALL MPB88Z BEFORE CONCRETE IS PLACED USING EMBEDMENT LEVEL INDICATORS AND FORM BOARD ATTACHMENT HOLES.



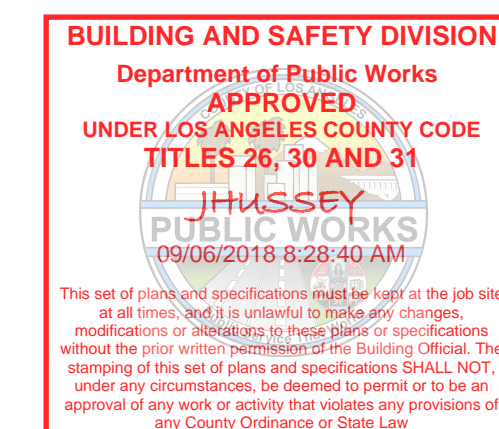
DETAIL A
SCALE 1"=1'-6"



POST BASE PLAN
SCALE 1"=6'-0"



BEAM CONNECTION PLAN
SCALE 1"=1'-0"

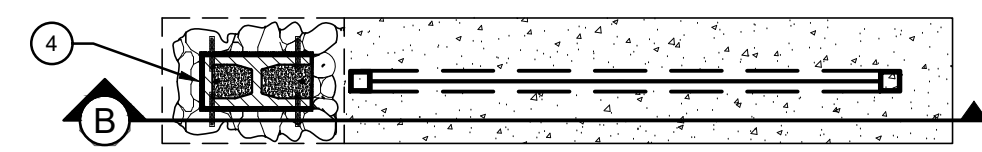


TRELLIS AND WATER
HARVESTING ANCHORAGE ONLY

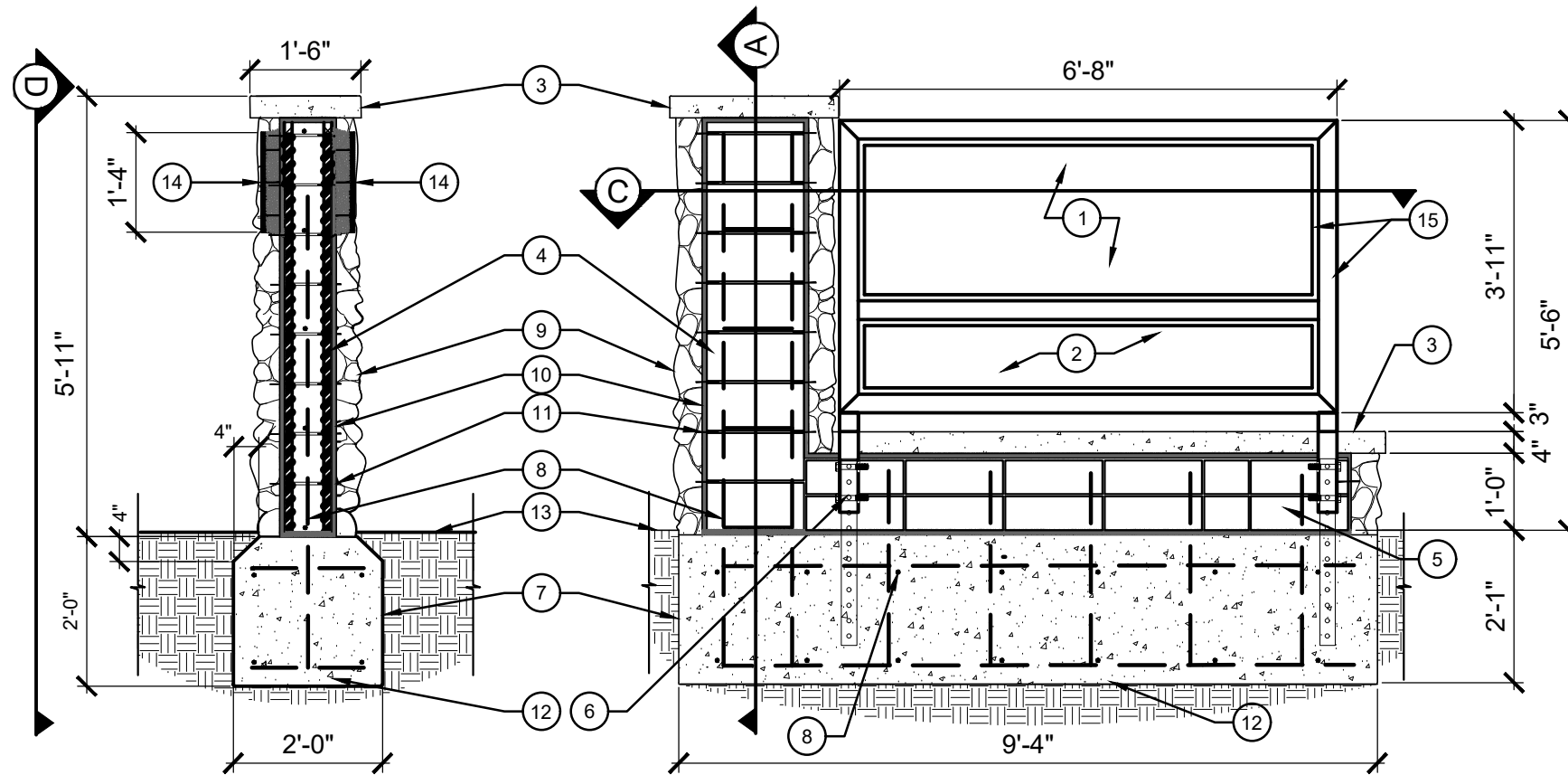
PD053138

CALL 8-1-1 TOLL FREE TWO WORKING DAYS BEFORE YOU DIG	DATE	MK	DESCRIPTION	 PROJECT ENGINEER: <i>J. Hussey</i> 7-26-18	COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS LADERA PARK STORMWATER IMPROVEMENTS LANDSCAPE IMPROVEMENTS SHADE STRUCTURE PROJ ID NO. SWQ0000003			LS-1.01
	REVISIONS				PCA P97027AC DWG 181-271-D4 SHEET 20 OF 45			

AS BUILT DRAWINGS

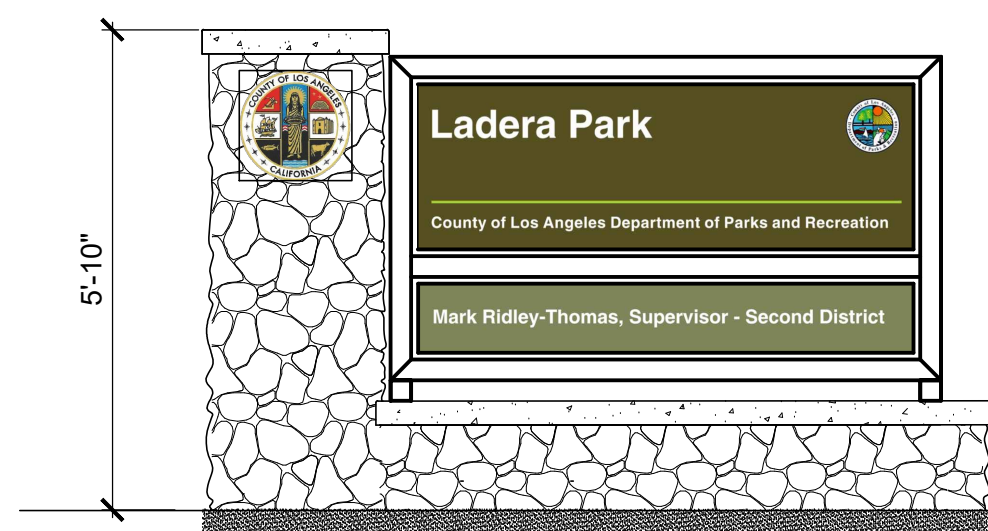


TOP SECTION C

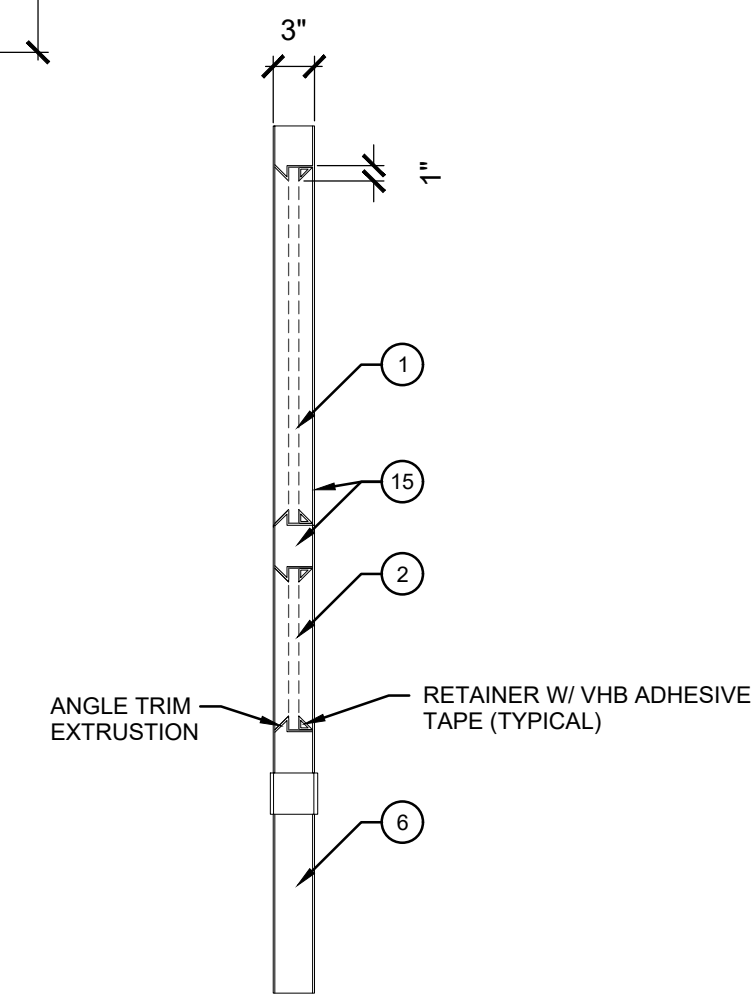


SIDE SECTION A

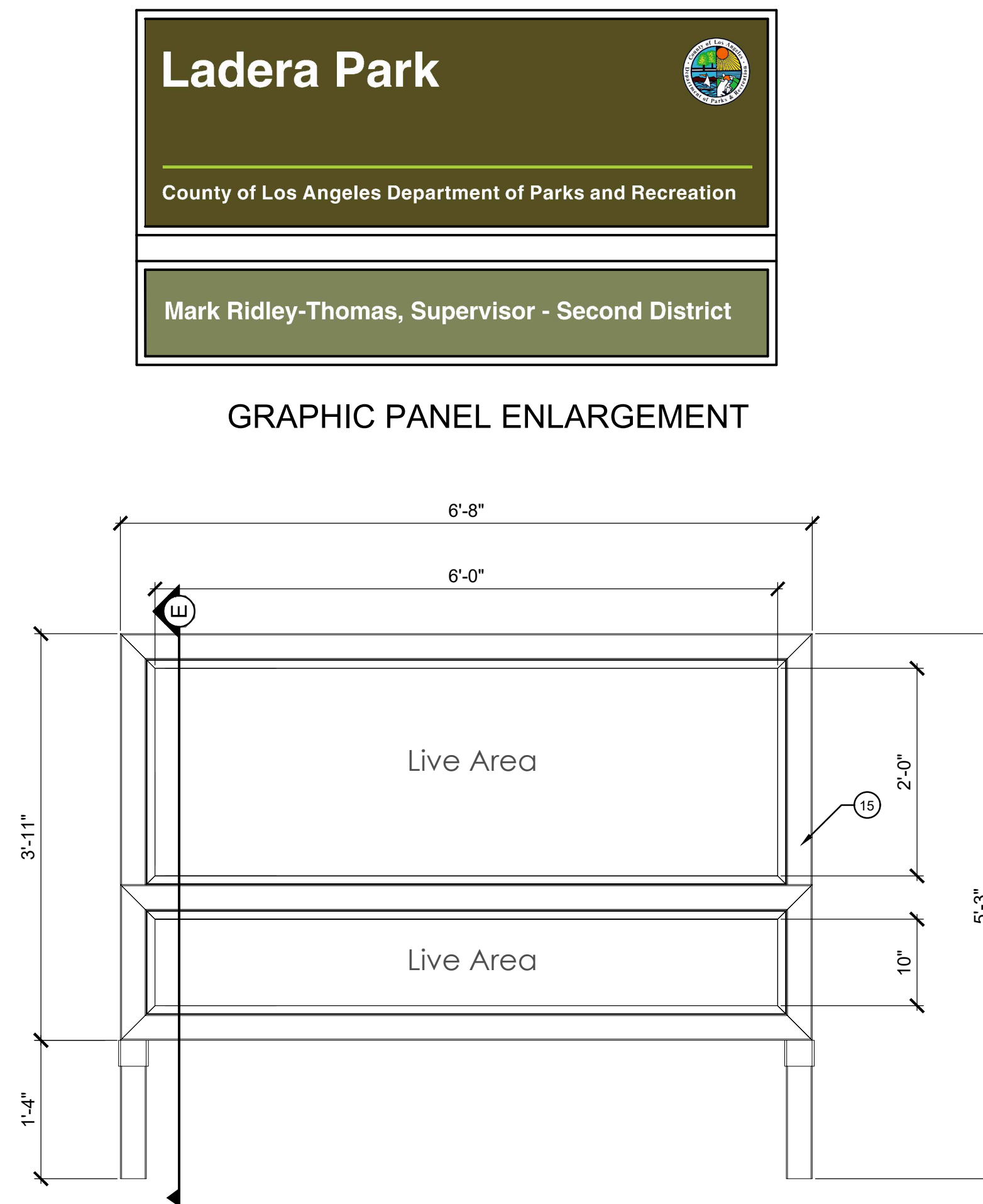
FRONT SECTION B



FRONT ELEVATION D



POST/FRAME INTERIOR SECTION E



GRAPHIC PANEL ENLARGEMENT

POST/FRAME ELEVATION



LEGEND

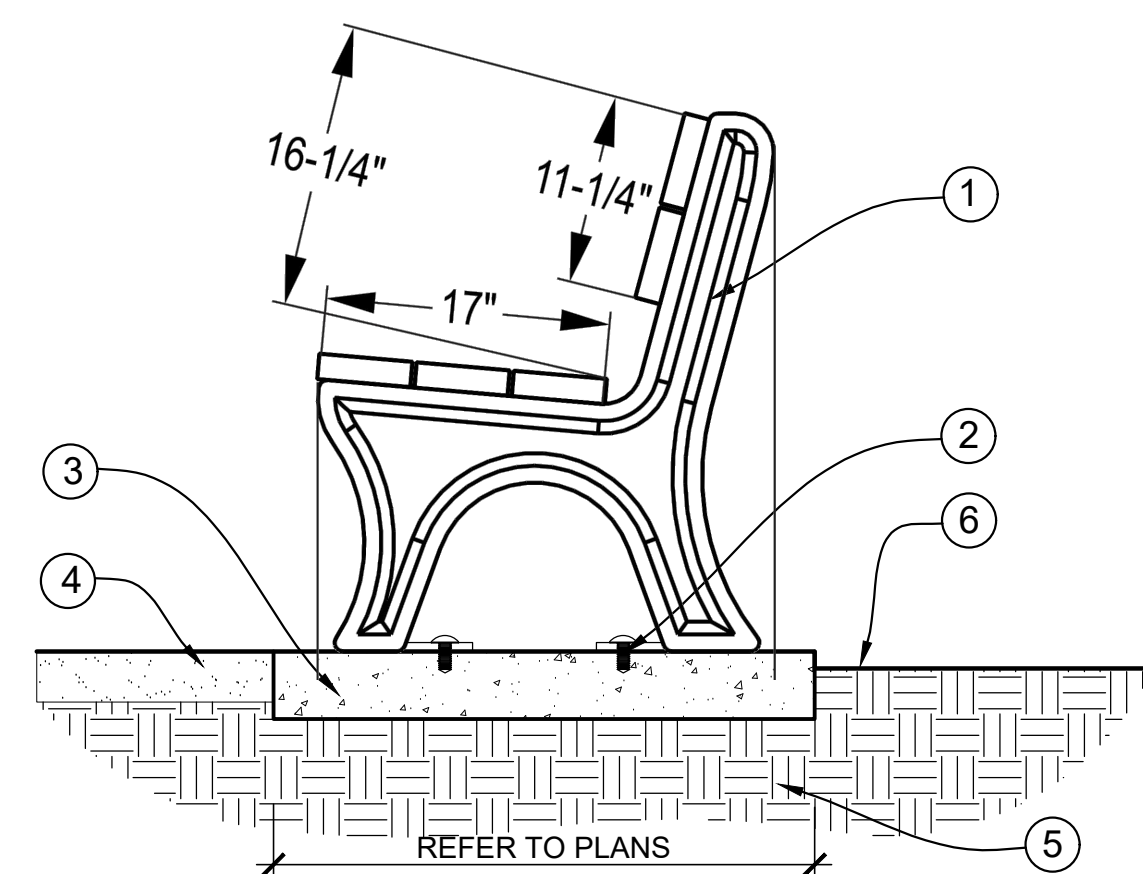
- ① 1/4" THICK SIGN GRAPHIC PANEL PRINTED BOTH SIDES. LIVE AREA OF SIGN IS 72" X 24". REFER TO SPECIAL PROVISION.
- ② 1/4" THICK ALUMINUM SIGN GRAPHIC RIDER PANEL WITH DISTRICT SUPERVISOR'S NAME PRINTED BOTH SIDES, LIVE AREA OF SIGN IS 72" X 10". REFER TO SPECIAL PROVISION.
- ③ 3 1/2" POURED IN PLACE CONCRETE CAP, 1" CANTILEVER BEYOND RIVER ROCK VENEER, 3/4" RADIUS EDGE, NATURAL COLOR, LIGHT SAND FINISH.
- ④ 8 X 8 X 16 CMU, GROUT ALL CELLS SOLID.
- ⑤ 8 X 6 X 16 CMU, GROUT ALL CELLS SOLID.
- ⑥ 2 3/4" X 2 1/2" X 30" 12 GA GALVANIZED STEEL TELESAR TUBE FITTED INSIDE FRAME POST. BOLTED TO FRAME POST WITH (2) 3/8" STAINLESS STEEL HEX BOLTS.
- ⑦ PCC FOOTING, 560-C-3250
- ⑧ #4 REBAR @ 16" O.C. BOTH WAYS
- ⑨ 2"- 4" THICK BY 4" - 8" FACE RIVER ROCK FLAT.
- ⑩ 1" TYPE S MORTAR. COLOR TO BE NATURAL GRAY.
- ⑪ 7/8" WIDE X 22 GA. MILL OR HOT DIP GALVANIZED CORRUGATED WALL TIE
- ⑫ SUBGRADE, 95% RELATIVE COMPACTION.
- ⑬ FINISH GRADE.
- ⑭ LOS ANGELES COUNTY SEAL, 2 - 16"Ø DIA. X 1/4" THICK ALUMINUM PANEL GRAPHIC PRINTED ONE SIDE WITH 3" STAND-OFF EMBEDDED INTO 3" THICK MORTAR BASE. REFER TO SPECIAL PROVISIONS.
- ⑮ 3" SQ. X 12 GA. TUBE ALUMINUM FRAME W/ 1" ANGLE TRIM ON ONE SIDE AND RETAINERS ON THE OPPOSITE SIDE. AFFIX RETAINERS ON FRAME W/ 10 MIL. VHB ADHESIVE DOUBLE SIDED TAPE. FRAMES SHALL BE POWDERCOATED W/ BROWN COLOR.

NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
2. THE AGENCY WILL PROVIDE ARTWORK IN PHOTOSHOP OR PDF FILE TO THE CONTRACTOR FOR PRODUCTION/FABRICATION AND INSTALLATION.
3. CONTRACTOR TO PROVIDE PHYSICAL SAMPLE OF THE GRAPHIC SIGN PANEL TO CONVEY FINAL PRODUCT FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO FINAL FABRICATION AND INSTALLATION.
4. RIVER ROCK COBBLE W/ MIN. 50% OF THEIR RESPECTIVE DIA. SET IN "COARSE MASONRY GROUT" PER STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION TABLE: 201-1.1.2.

② PARK MONUMENT SIGN

NTS

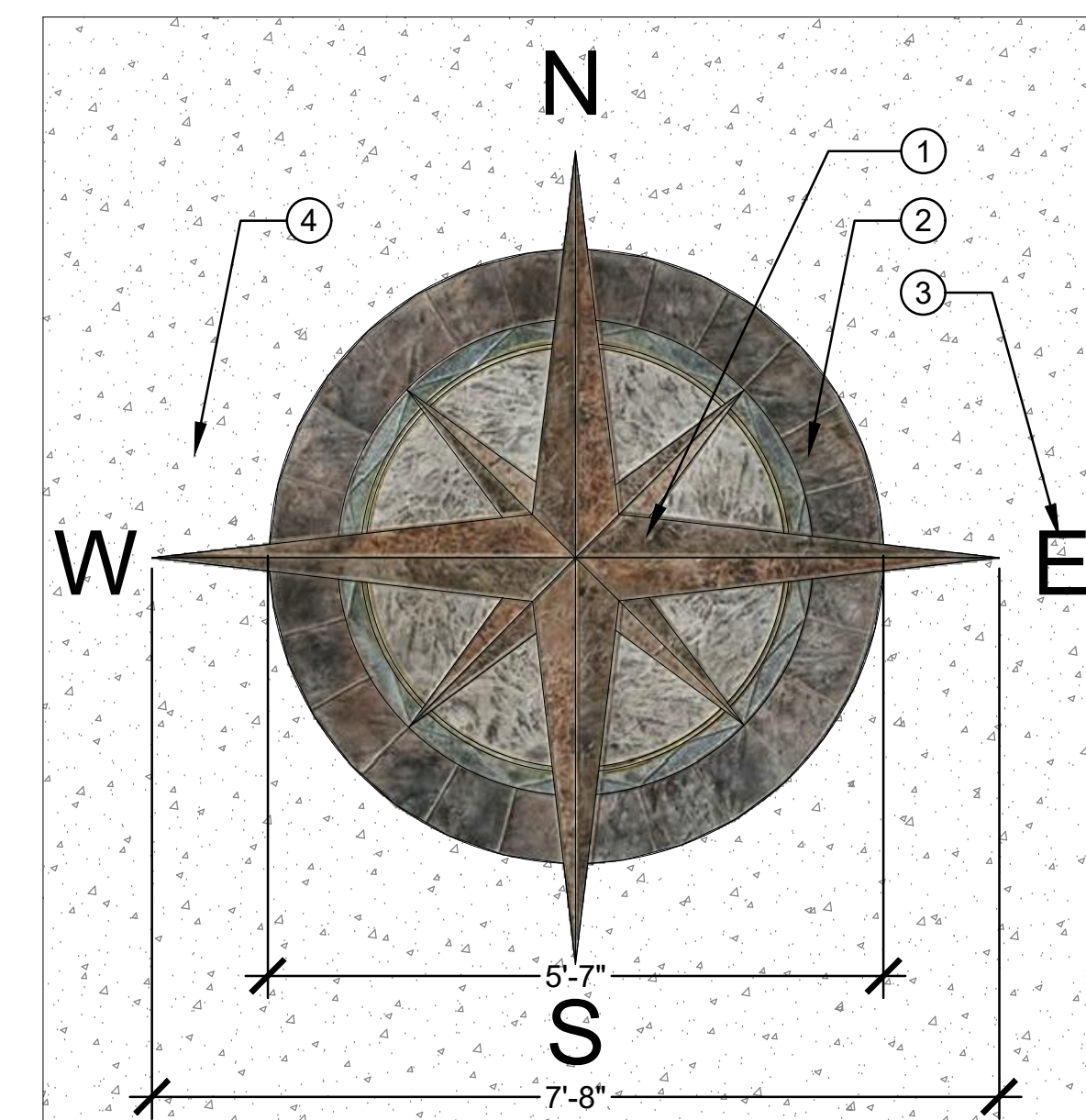


LEGEND:

- | | |
|---|---|
| ① PARK BENCH. REFER TO MATERIALS LEGEND | ④ ADJACENT SURFACING |
| ② ATTACH TO CONCRETE SLAB OR FOOTING PER MANUFACTURER'S RECOMMENDATION. | ⑤ COMPACTED SUBGRADE, 90% RELATIVE COMPACTION |
| ③ CONCRETE SLAB (520-C-2500). REFER TO PLAN AND MATERIALS LEGEND. | ⑥ FINISH GRADE OF ADJACENT PLANTING AREA |

③ PARK BENCH

NTS



LEGEND:

- ① STAMPED CONCRETE WITH OLD WORLD COMPASS ROSE.
- ② APPLY WATER-BASE STAIN WITH MANUFACTURER'S ANTIQUING COLOR SYSTEM.
- ③ CONCRETE TEXT INSERTS: 7" HT. ARIAL FONT. SET TEXT FLUSH WITH CONCRETE SURFACE. APPLY EPOXY AS NECESSARY TO AVOID TEXT FROM DISPLACING.
- ④ NATURAL GRAY CONCRETE WITH SAND FINISH PER PLAN.

PD053138

① COMPASS ROSE STAMPED CONCRETE MEDALLION - NTS

CALL 8-1-1 TOLL FREE



TWO WORKING DAYS BEFORE YOU DIG

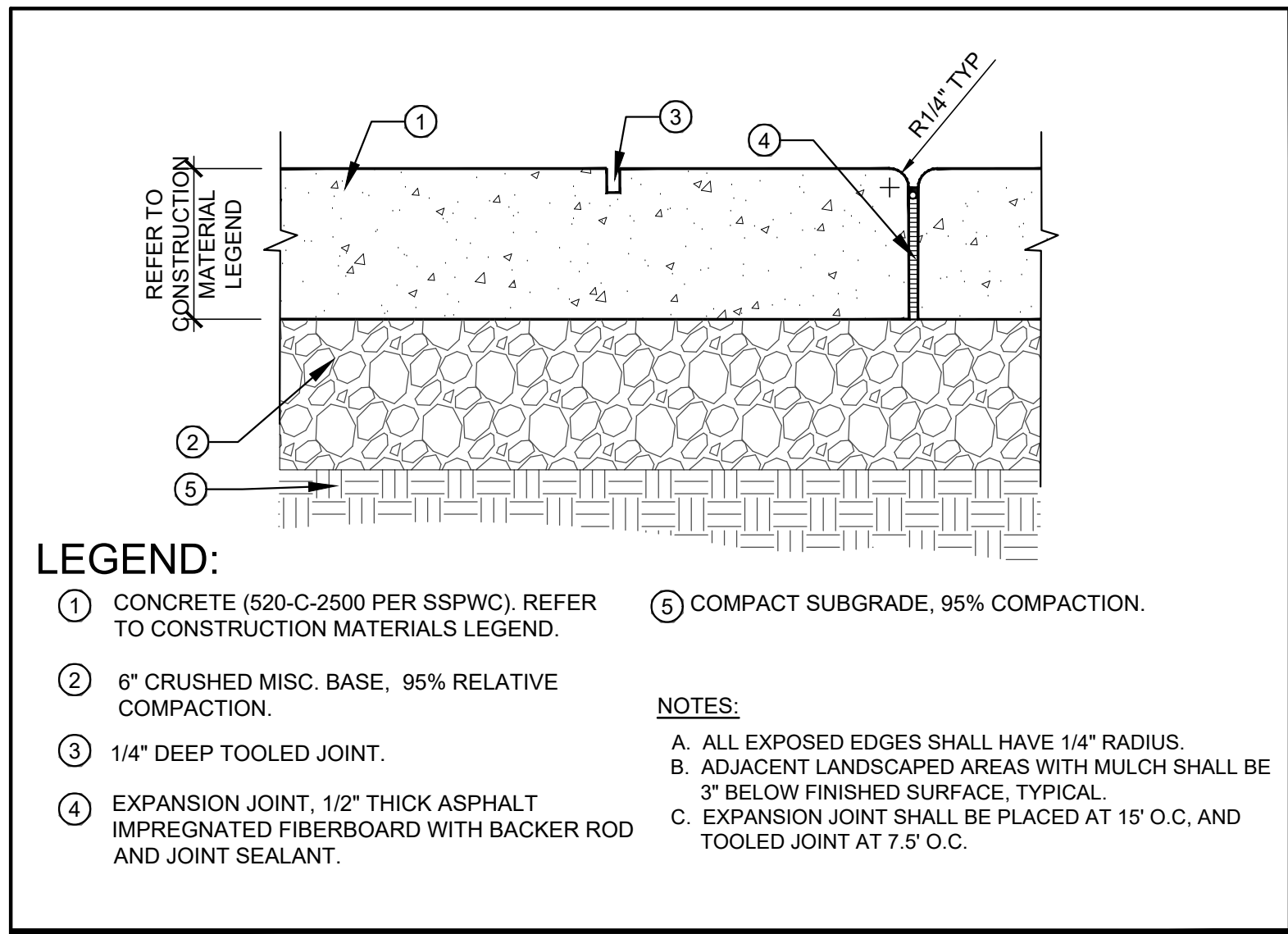
DATE	MK	DESCRIPTION



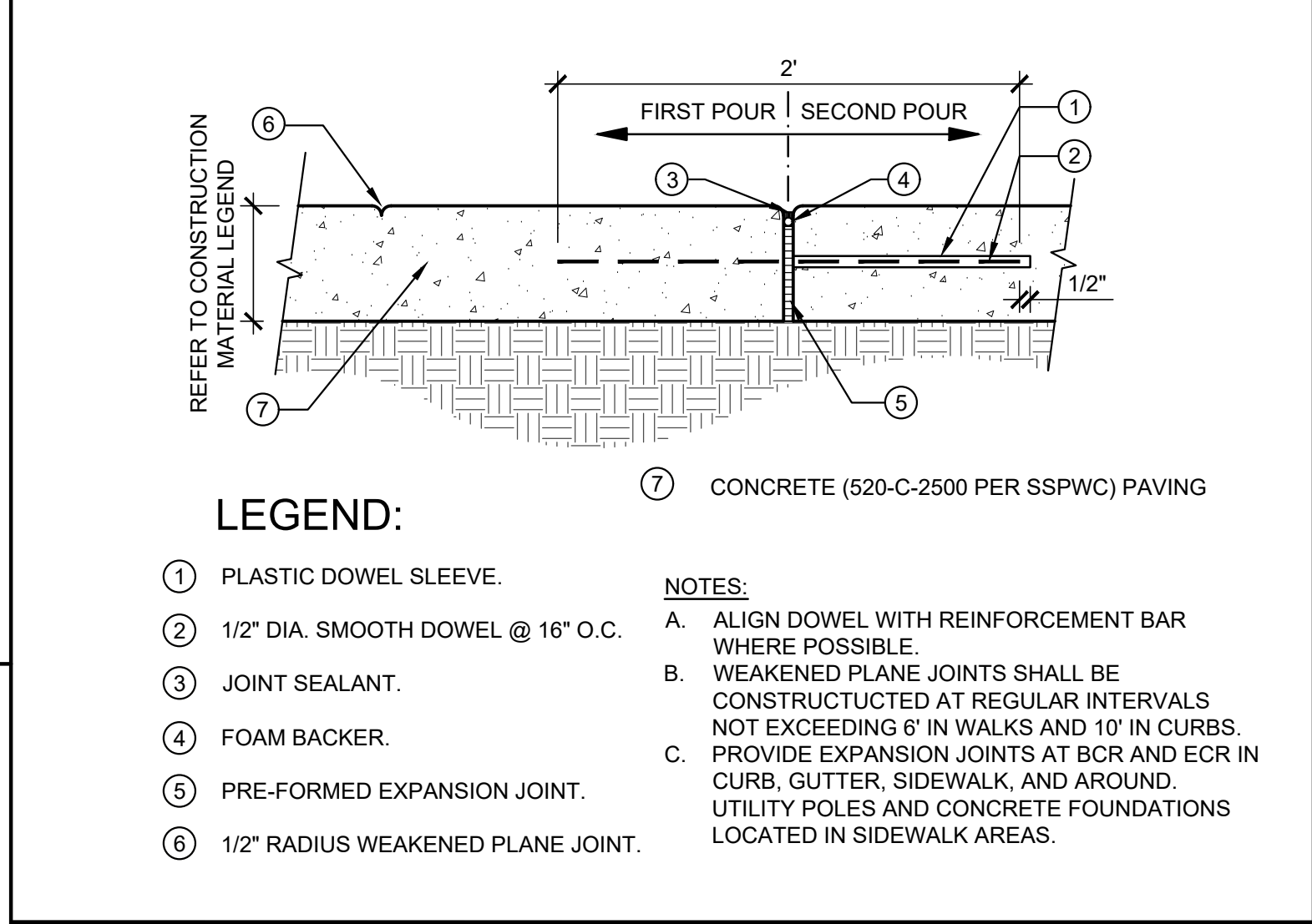
PROJECT LANDSCAPE ARCHITECT DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS			
LADERA PARK STORMWATER IMPROVEMENTS LANDSCAPE IMPROVEMENTS PROJECT ID NO. SWQ0000003 CONSTRUCTION DETAILS			
PCA	P97027AC	DWG 181-271-D4	SHEET 21 OF 45

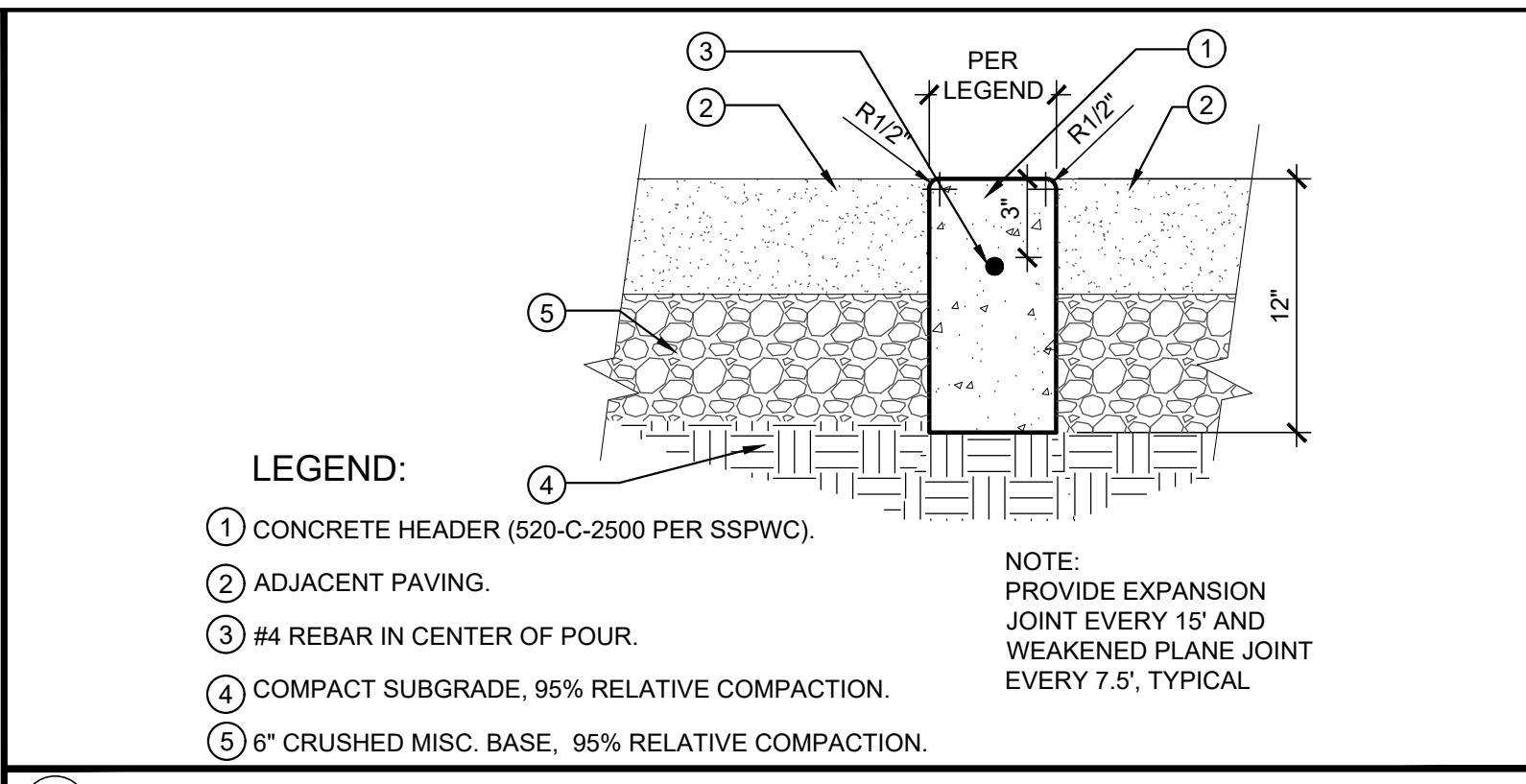
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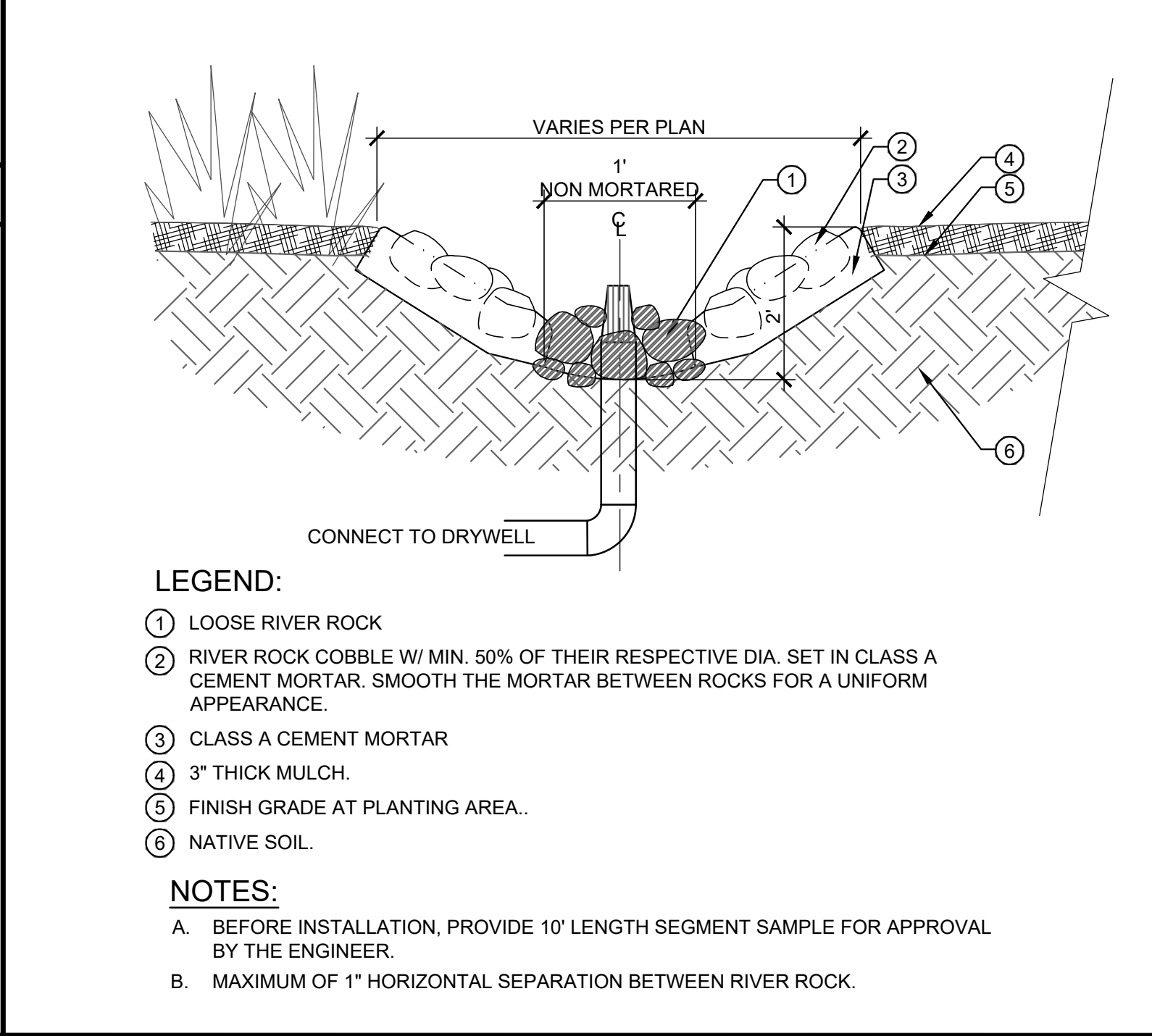
(H) CONCRETE PAVING NTS



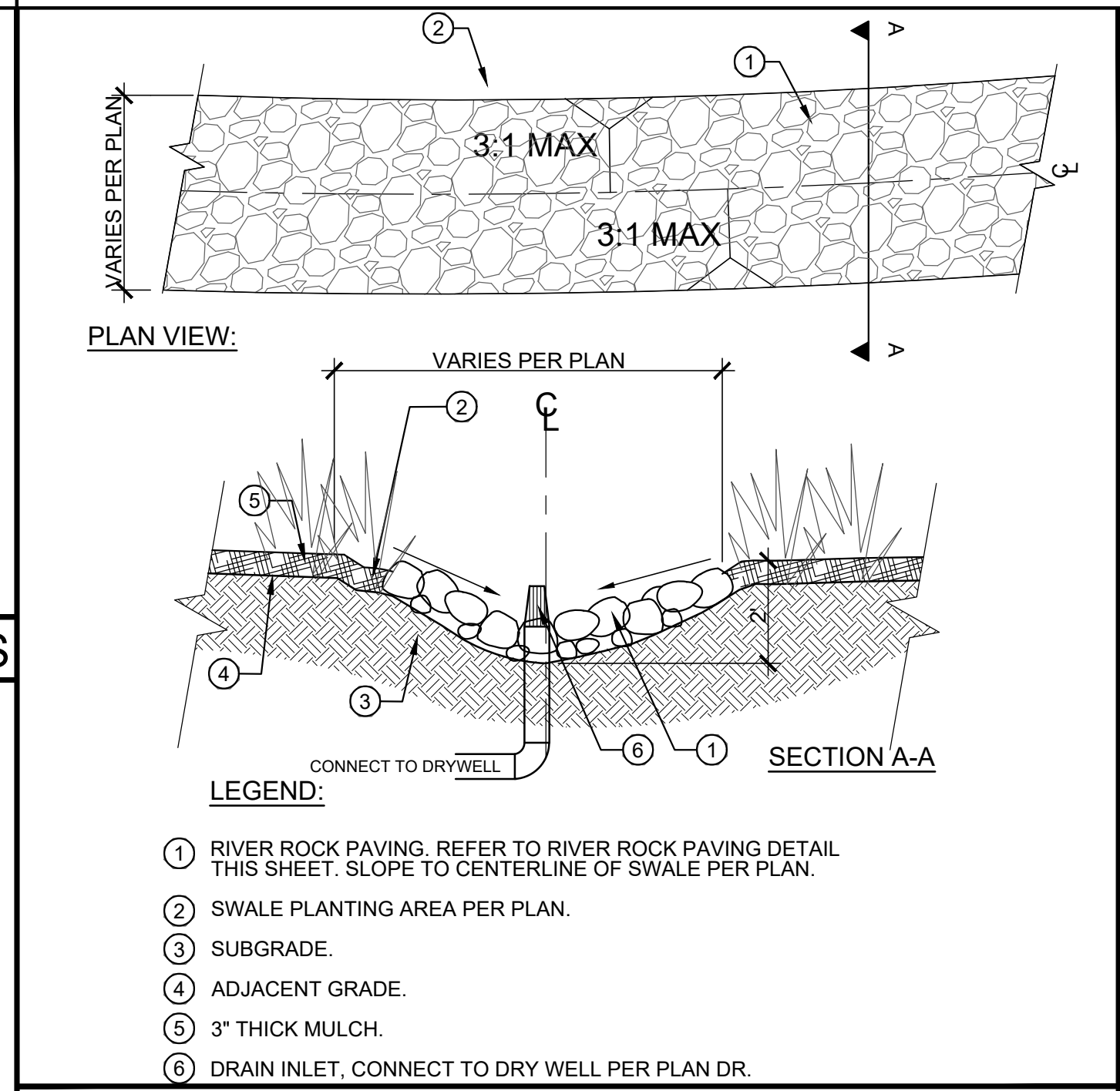
(I) PAVING JOINT NTS



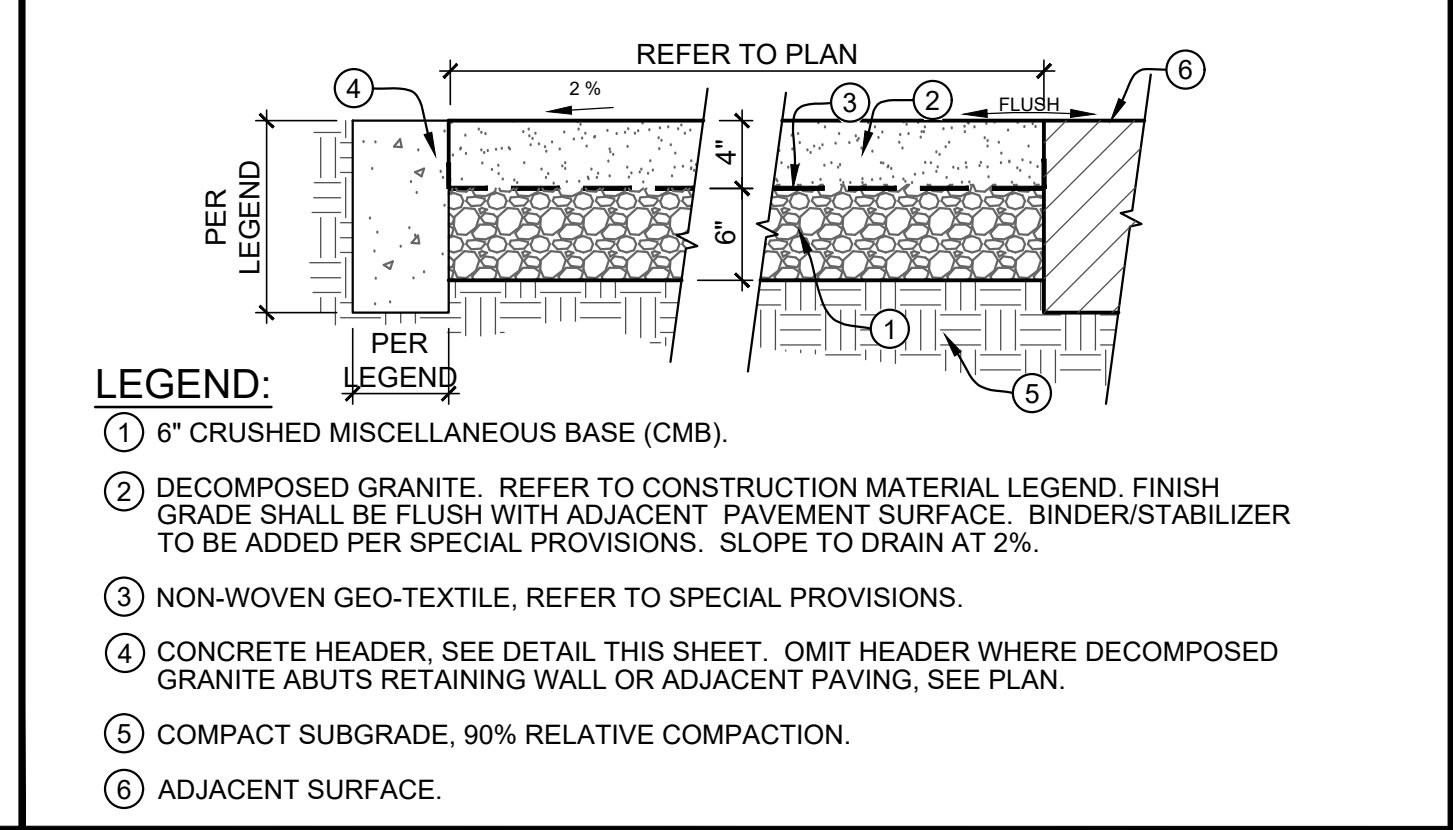
(E) CONCRETE HEADER NTS



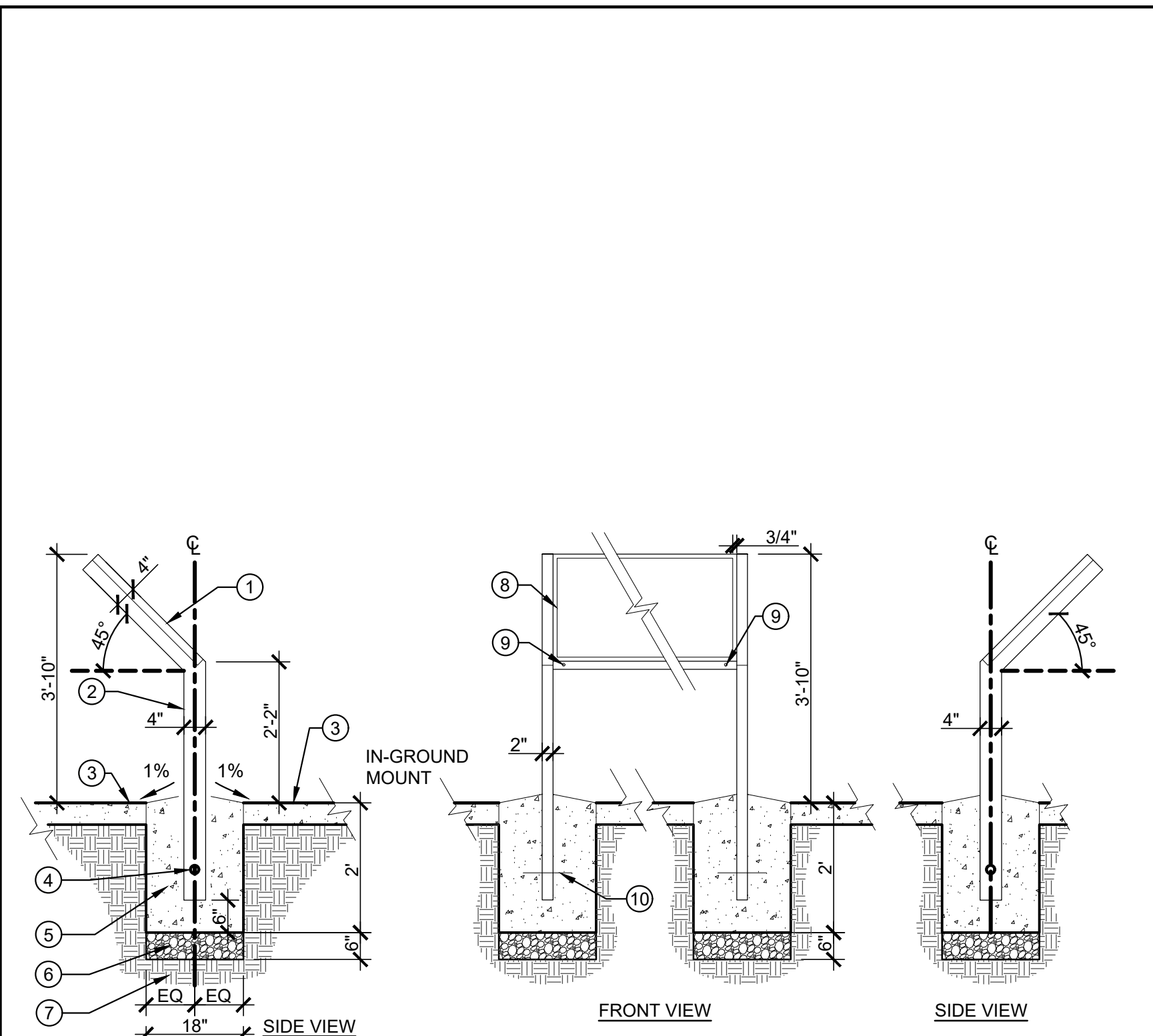
(F) RIVER ROCK PAVING NTS



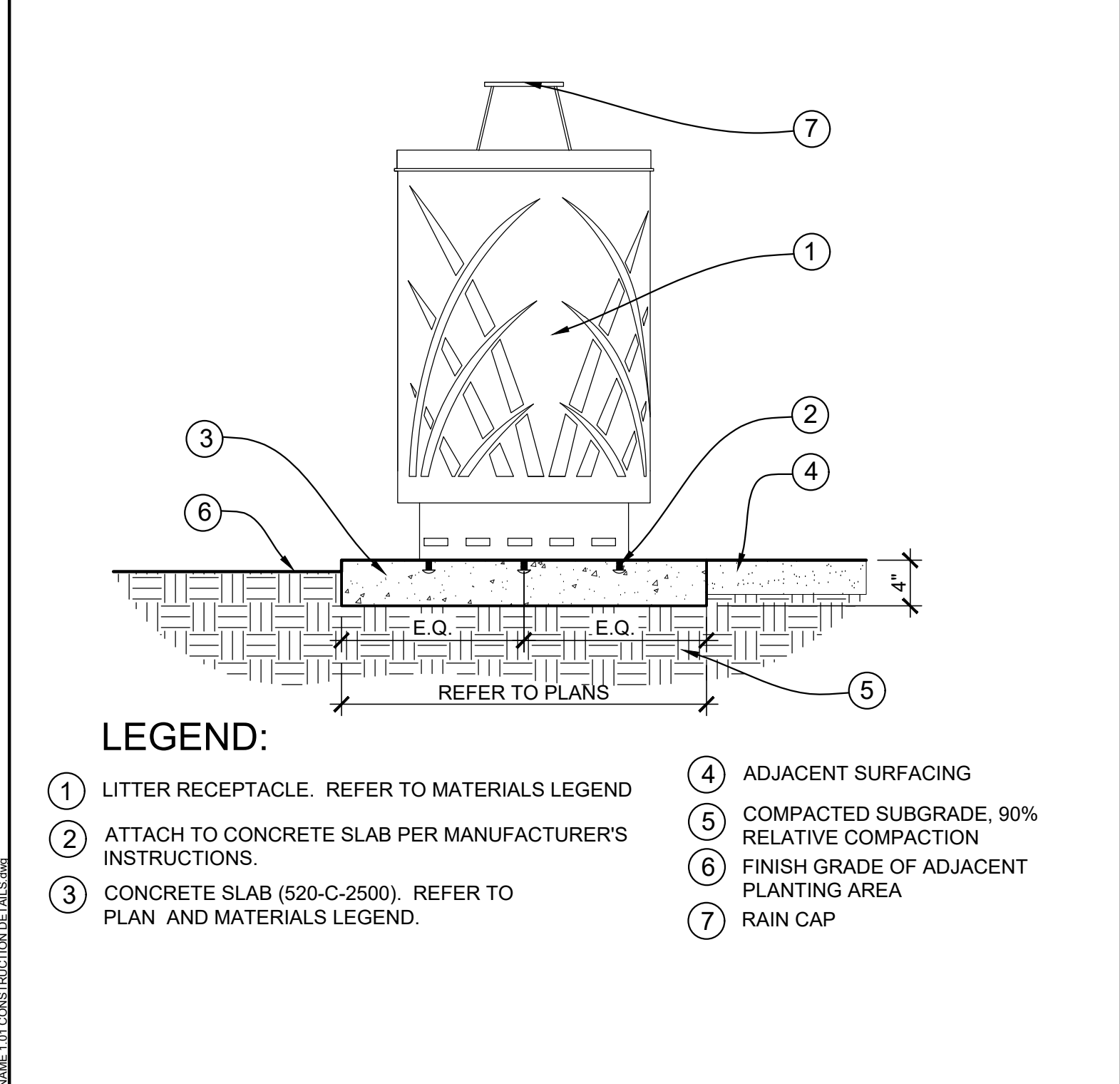
(C) VEGETATED BIO-SWALE NTS



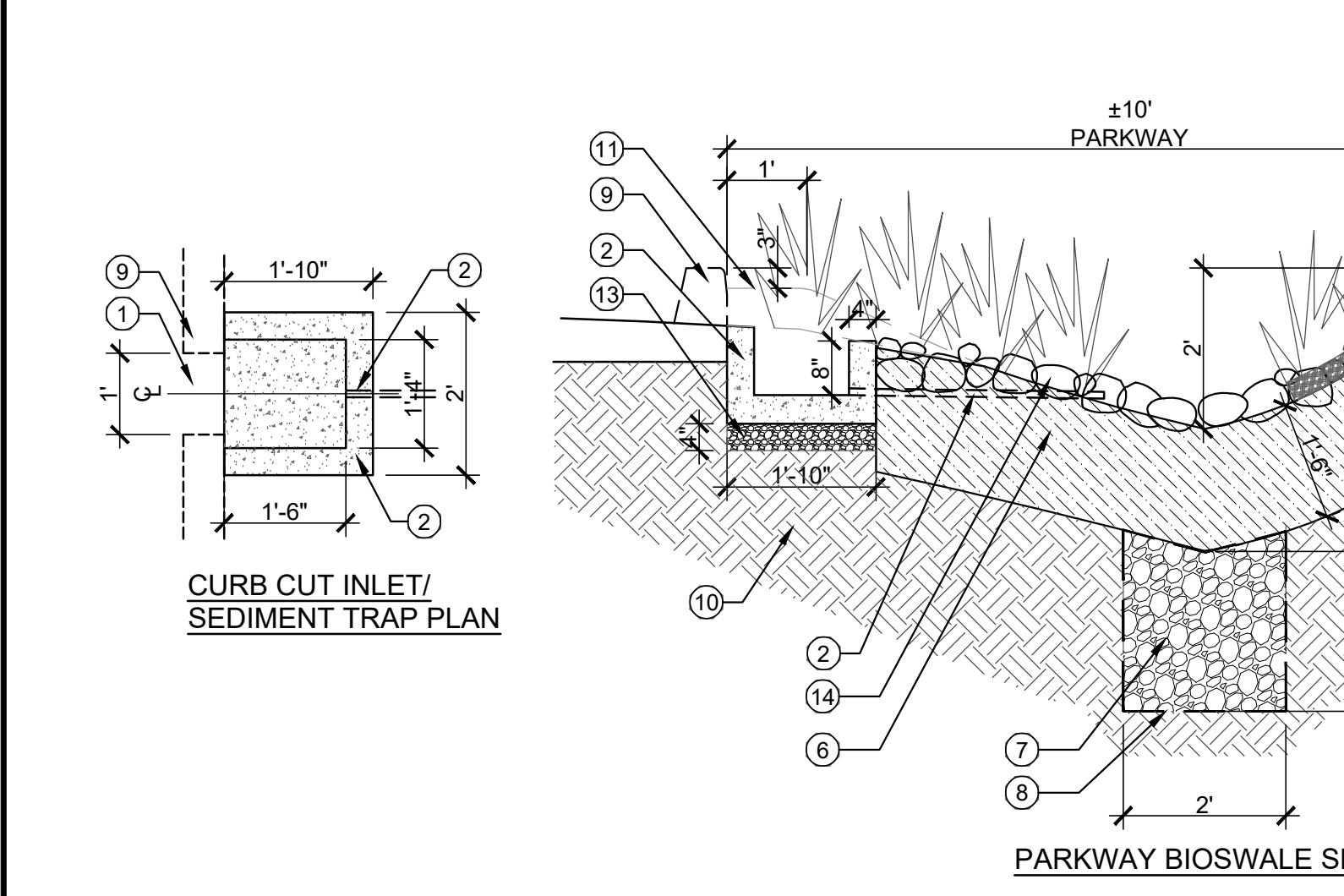
(D) DECOMPOSED GRANITE PAVING NTS



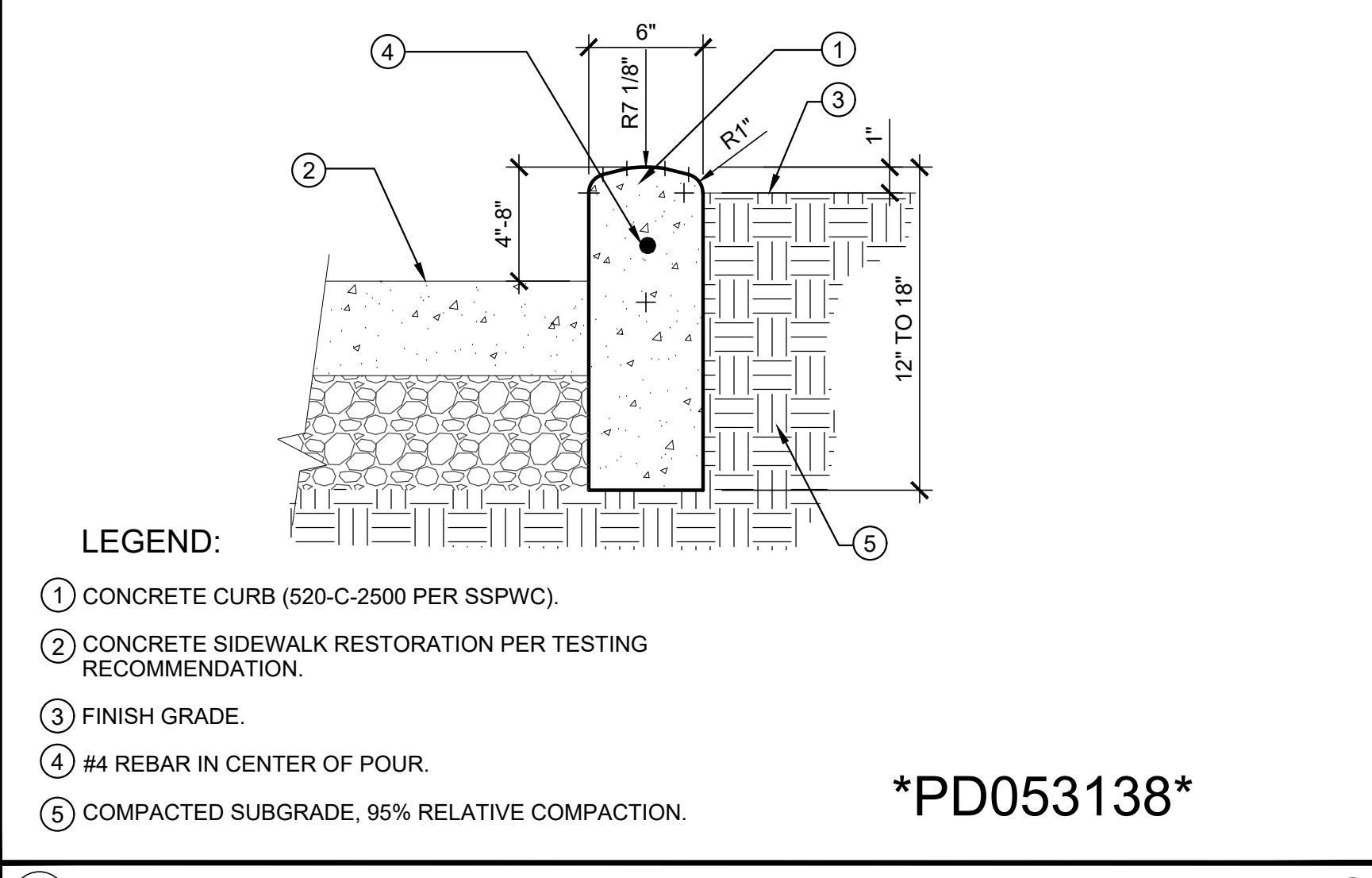
(A) INTERPRETIVE SIGNAGE NTS



(J) TRASH RECEPTACLE NTS



(G) BIOSWALE AT PARKWAY NTS



(B) CONCRETE SIDEWALK AND CURB RESTORATION NTS

CALL 8-1-1 TOLL FREE

TWO WORKING DAYS BEFORE YOU DIG

DATE	MK	DESCRIPTION
REVISIONS		

PROJECT LANDSCAPE ARCHITECT DATE PCA P97027AC DWG 181-271-D4 SHEET 22 OF 45

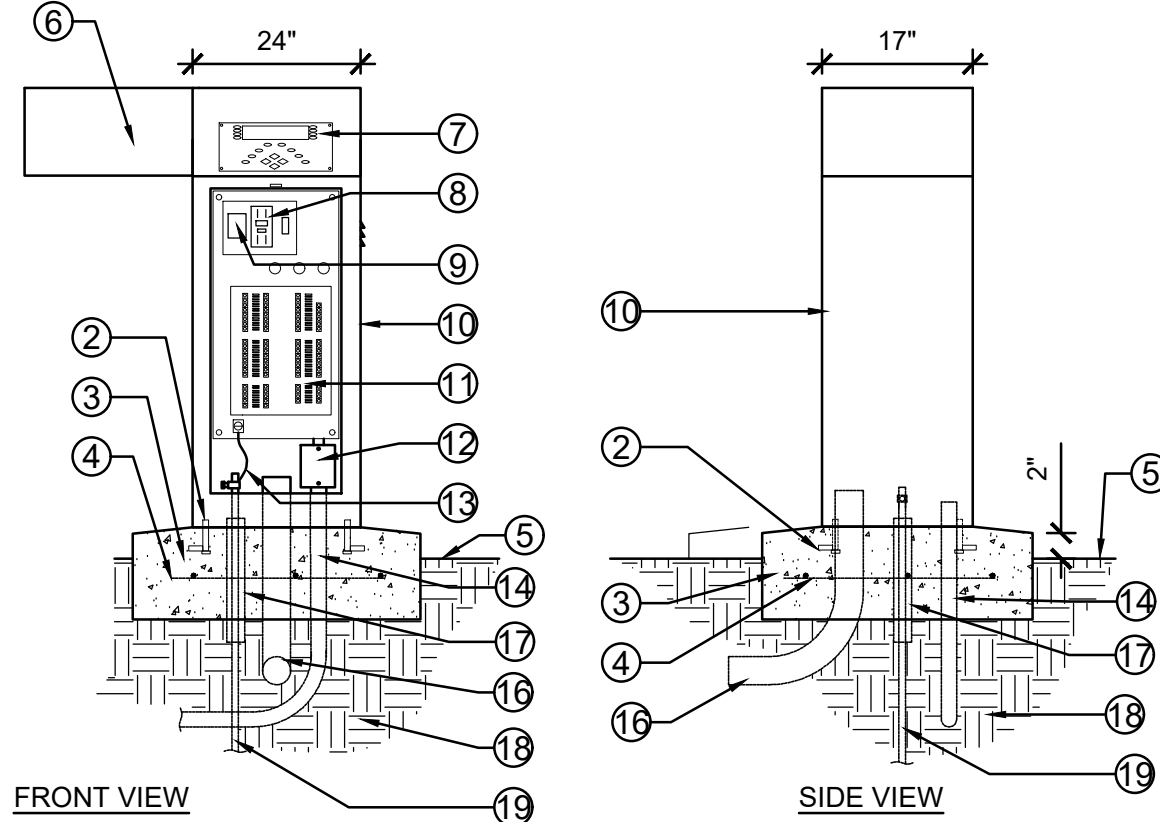
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK STORMWATER IMPROVEMENTS LANDSCAPE IMPROVEMENTS PROJECT ID NO. SWQ0000003 CONSTRUCTION DETAILS

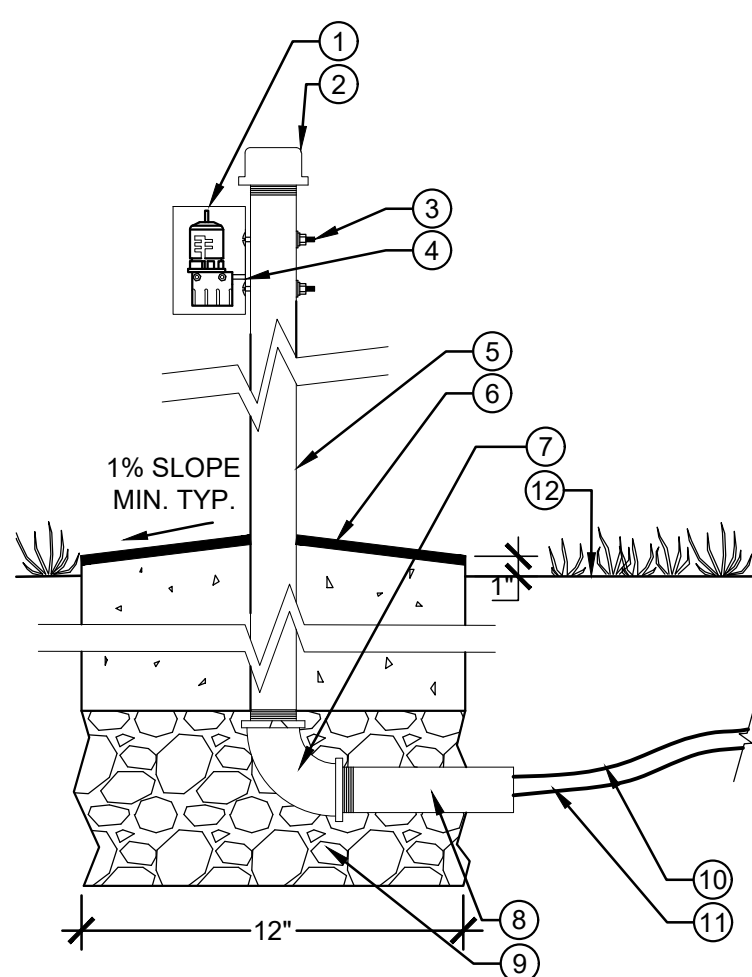
AS BUILT DRAWINGS

- LEGEND**
- 1 NOT USED
 - 2 MOUNTING BOLTS. BOLTS AND TEMPLATE SUPPLIED BY MANUFACTURER.
 - 3 CONCRETE BASE 26" X 24" X 8" DEEP.
 - 4 #4 REBAR @ 12" O.C. BOTH WAYS, CENTERED IN SLAB
 - 5 FINISH GRADE 2" BELOW TOP OF CONCRETE FOUNDATION (560-C-3250)
 - 6 FLIP TOP IN OPEN POSITION
 - 7 CONTROLLER PANEL MOUNTED FLUSH ON FACE OF ENCLOSURE
 - 8 GFI OUTLET & SWITCH
 - 9 NOT USED
 - 10 CONTROLLER & ENCLOSURE, REFER TO IRRIGATION LEGEND
 - 11 NOT USED
 - 12 120 VAC JUNCTION BOX
 - 13 #6 AWG GROUNDING WIRE CONNECTED TO GROUND LUG
 - 14 SCH 40 ELECTRICAL SWEEP ELL FOR 120 VAC POWER
 - 15 NOT USED
 - 16 3" DIA. SCH 40 ELECTRICAL SWEEP ELL FOR LOW VOLTAGE CONTROL WIRES
 - 17 PVC SLEEVE FOR GROUNDING ROD
 - 18 COMPACTED SUBGRADE
 - 19 3/4" DIA. X 8' LONG COPPER CLAD STEEL GROUNDING ROD
 - 20 NOT USED
 - 21 #8 BARE COPPER GROUND WIRE. PROVIDE CONNECTION AS REQUIRED

- NOTES:**
- A. THE FINAL LOCATION / ORIENTATION OF THE CONTROL PEDESTAL SHALL BE DETERMINED BY THE AGENCY.
 - B. ENCLOSURE MUST COMPLY WITH EUSERC 308.

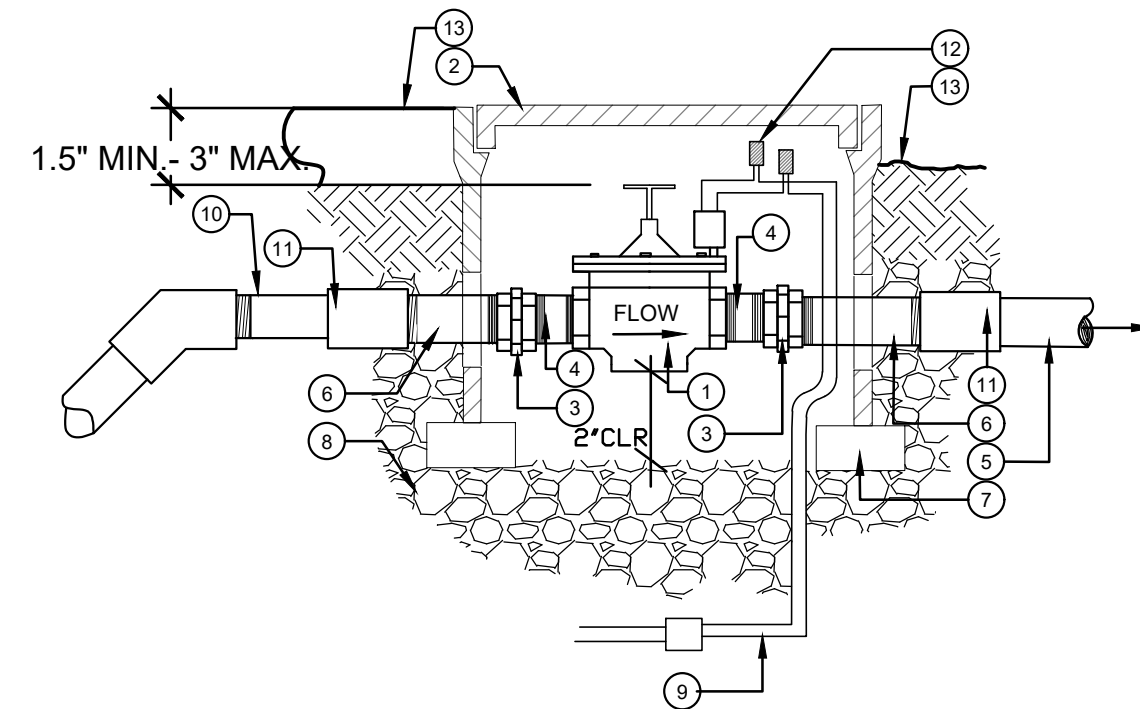


(H) CONTROLLER NTS



- LEGEND**
- 1 RAIN SENSOR AND STAINLESS STEEL ENCLOSURE, REFER TO SPECIAL PROVISIONS
 - 2 GALVANIZED STL PIPE CAP
 - 3 STAINLESS STEEL HARDWARE
 - 4 SECURE PER MANUFACTURER'S RECOMMENDATIONS.
 - 5 1.5" GALVANIZED PIPE 10 FEET HIGH.
 - 6 12" DIAMETER BY 18" MINIMUM DEEP FOOTING. TOP OF FOOTING SHALL BE 2" ABOVE ADJACENT GRADE.
 - 7 1.5" PIPE ELBOW.
 - 8 1.5" NIPPLE.
 - 9 3/4" CRUSHED ROCK, 8" DEEP.
 - 10 NORMALLY CLOSED WIRE FROM SENSOR.
 - 11 COMMON WIRE FROM SENSOR.
 - 12 FINISH GRADE.

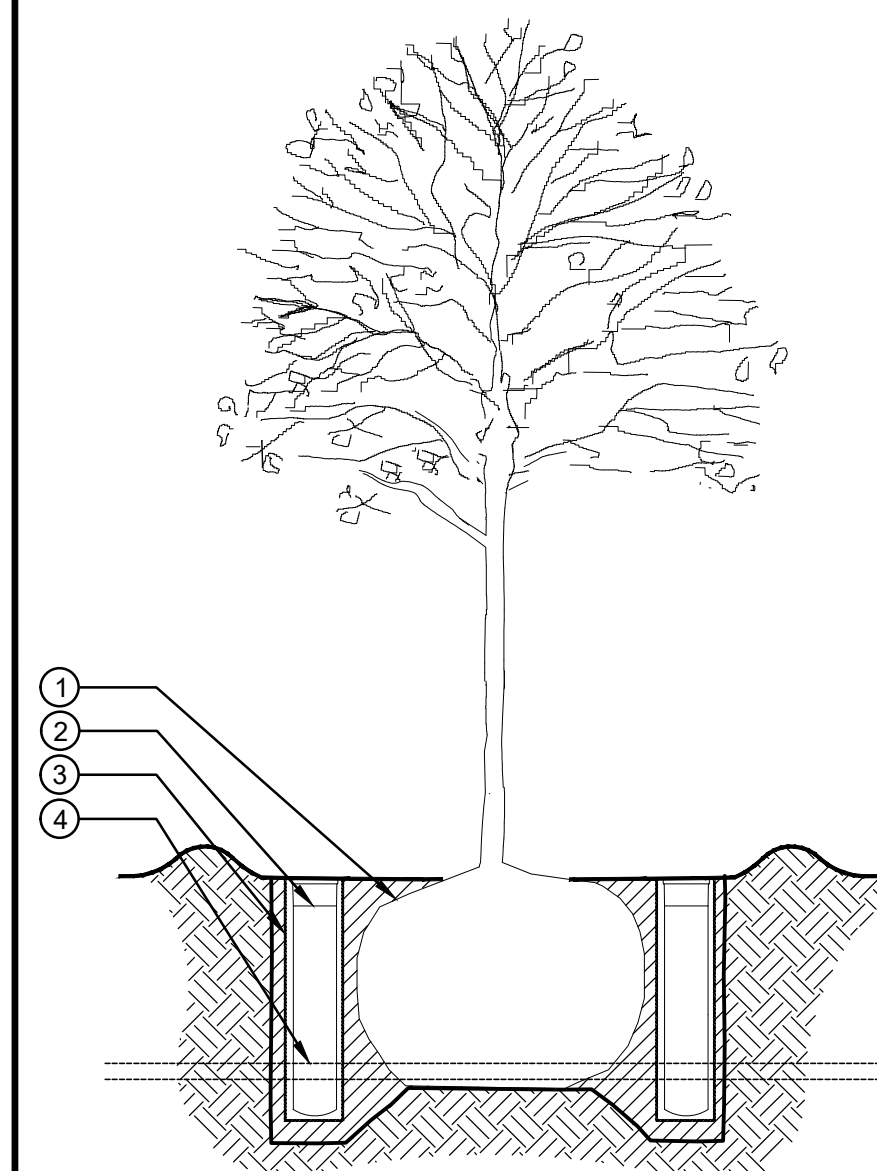
(I) RAIN SENSOR WITH ENCLOSURE & MOUNTED ON POLE NTS



- LEGEND:**
- 1 ELECTRIC CONTROL VALVE. SEE SPECIAL PROVISIONS.
 - 2 VALVE BOX. SHALL BE PLASTIC, GREEN IN COLOR AND PER DPR REQUIREMENTS.
 - 3 UNION (TYP.)
 - 4 PVC SCHEDULE 80 T.O.E. NIPPLE (TREADED TWO END)
 - 5 PVC PIPE TO IRRIGATION HEADS. ANGLE PIPE TO SPECIFIED DEPTH WITH 45 DEGREE ELBOWS.
 - 6 6" BRASS THREAD NIPPLE
 - 7 COMMON RED BRICK, ONE AT EACH CORNER (4 REQUIRED) (TYP.)
 - 8 3/4" CRUSHED ROCK - 8" DEEP AND 2" CLEAR BELOW VALVE.
 - 9 CONTROL COMMON WIRES FROM CONTROLLER.
 - 10 PVC MAIN LINE. PVC FEMALE ADAPTER.
 - 11 WIRE CONNECTOR PER SPECIAL PROVISIONS (TYP.)
 - 12 WATERPROOF CONNECTIONS.
 - 13 ADJACENT FINISH GRADE (TOP OF BOX TO BE 1" ABOVE GRADE FOR LAWN, 2" ABOVE GRADE FOR GROUND COVER/SHRUB AREA) OR WHERE APPLICABLE, ADJACENT FINISH SURFACE OF PAVEMENT. TOP OF BOX TO BE FLUSH W/ PAVEMENT.

- NOTES:**
1. WHEN VALVE BOXES ARE CLUSTERED, PROVIDE 1" MIN. CLEARANCE BETWEEN BOXES.
 2. PROVIDE VALVE WITH SEPARATE CONNECTION TO MAINLINE. INSTALL NO MULTIPLE ASSEMBLIES.
 3. INSTALL VALVE BOX WITH HINGED COVER "OPENING TOWARD" DOWNSTREAM OF VALVE IN ORDER TO PROVIDE ACCESS TO FLOW CONTROL FEATURE OF CONTROL VALVE.
 4. ALL VERTICAL CHANGES IN MAINLINE PIPE DIRECTION SHALL BE DONE WITH THE USE OF 45 DEGREE ELBOWS.
 5. INSTALL GALVANIZED WOVEN MESH (1/4" SIEVE SIZE) BETWEEN RCV BOX AND CRUSHED ROCK. WRAP FABRIC UP SIDE OF BOX (3" MIN.)

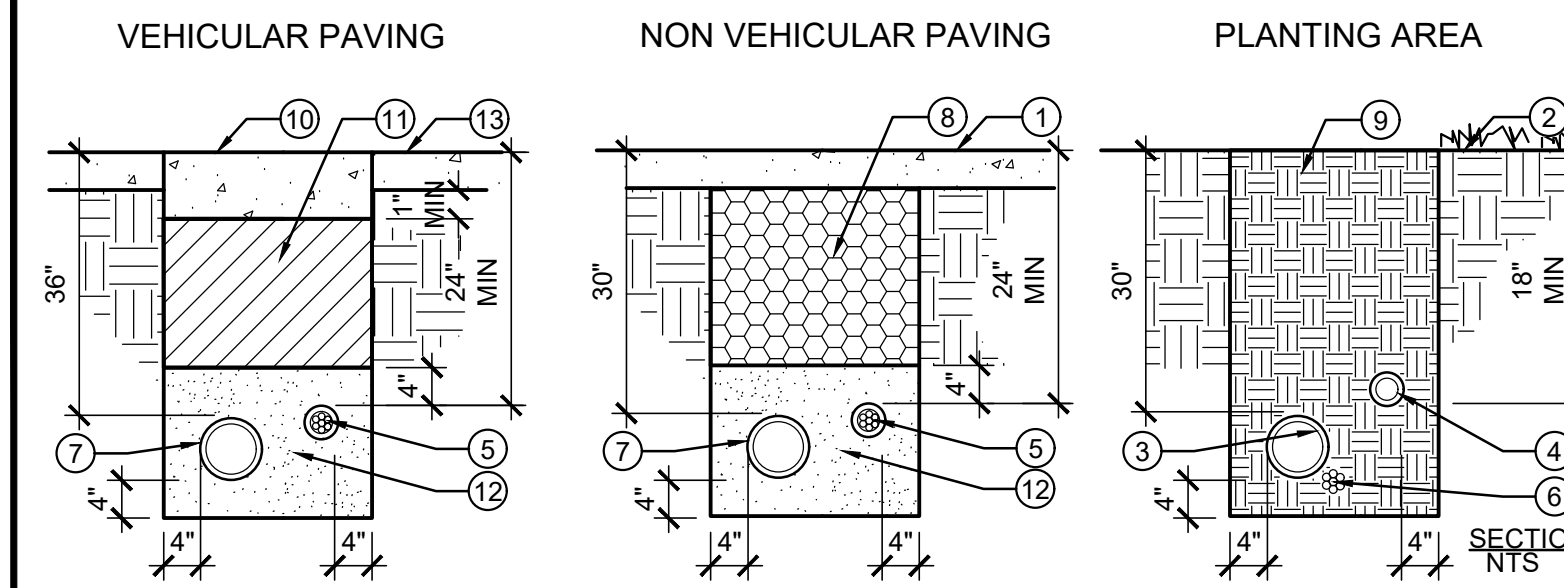
(F) REMOTE CONTROL VALVE NTS



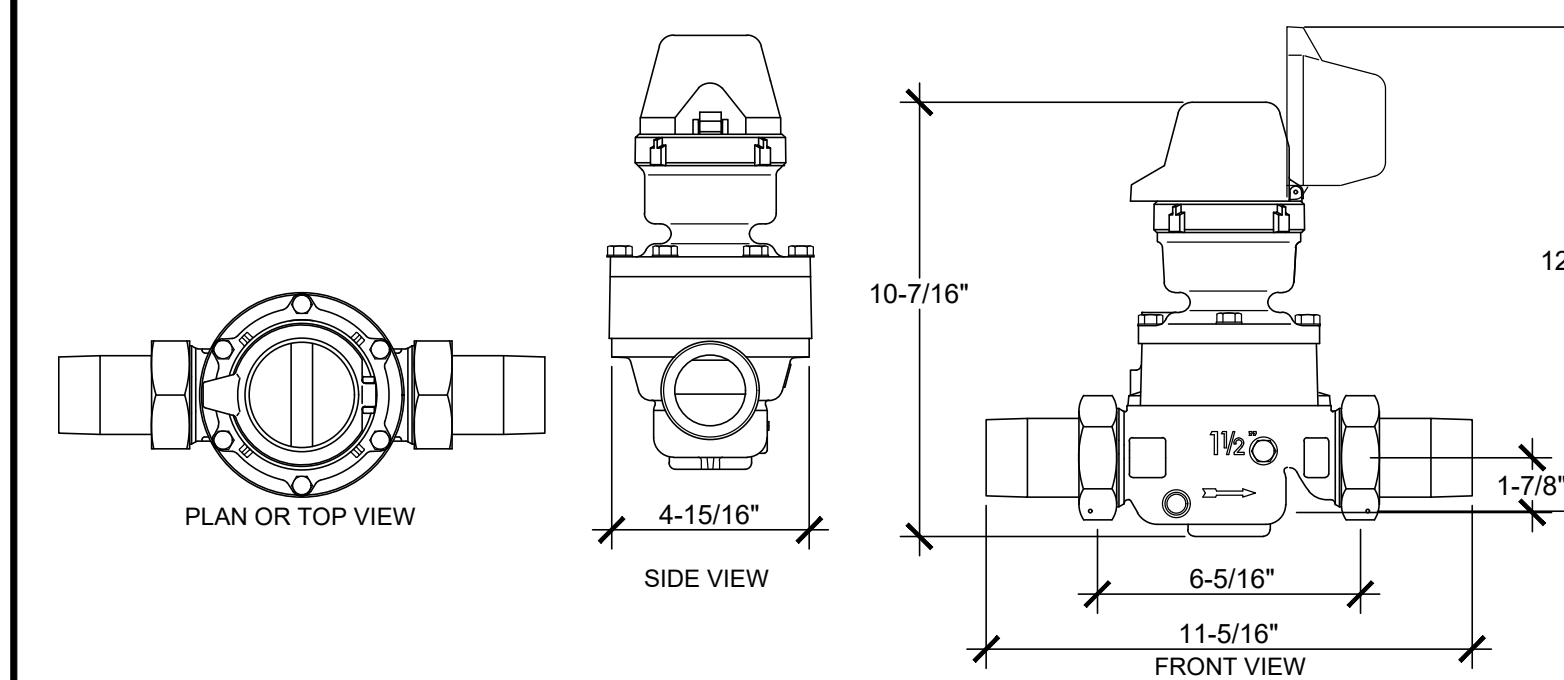
- LEGEND:**
- 1 FINISH GRADE
 - 2 ROOT WATERING SYSTEM BY RAINBIRD OR EQUAL
 - 3 LANDSCAPE FABRIC.
 - 4 LATERAL LINE

- NOTES:**
1. USE 2 UNITS PER TREE
 2. POSITION UNITS EVENLY SPACED AROUND ROOT BALL
 3. SET TOP OF CAP 1" ABOVE FINISH GRADE
 4. USE PURPLE CAP FOR NON-POTABLE WATER

(G) TREE ROOT WATERING SYSTEM NTS

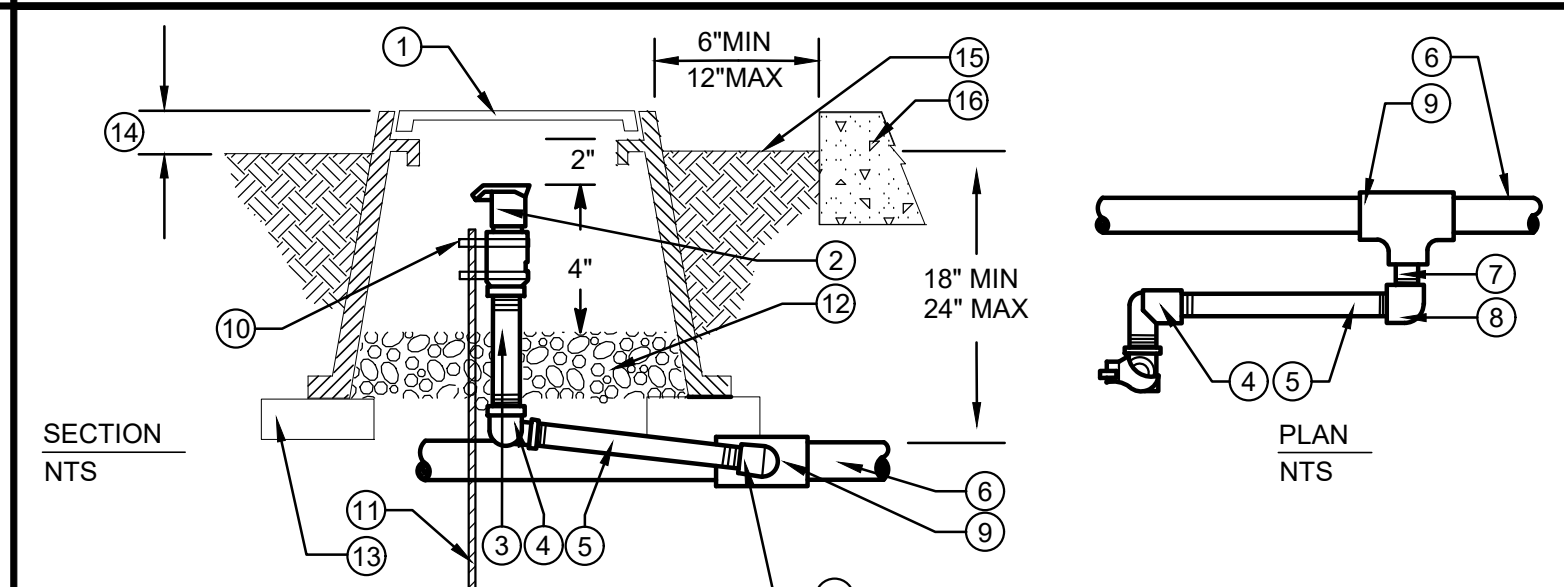


(A) PIPE TRENCHING NTS



- NOTES:**
1. INSTALL COMBINATION FLOW METER AND MASTER VALVE PER MANUFACTURER'S RECOMMENDATIONS.
 2. PROVIDE 2" EXPANSION LOOP AT WIRE CONNECTION IN VALVE BOX AND CONTROL WIRES.
 3. ALL PIPE FITTINGS SHALL BE PVC SCH. 80 UNLESS OTHERWISE NOTED.
 4. TAPE DIRECT BURY WIRES IN BUNDLES EVERY 10 FT.
 5. WATERPROOF CONNECTORS SHALL BE EITHER 3M SCOTCHLOK CONNECTORS OR DRY SPLICE.
 6. CRUSHED ROCK SHALL COVER VALVE BOX PIPE OPENINGS TO PREVENT SOIL ENTRY.
 7. SEE REMOTE CONTROL VALVE DETAILS FOR ADDITIONAL INFORMATION ON VALVE BOX INSTALLATION.
 8. INSTALL GALVANIZED WOVEN MESH (1/4" SIEVE SIZE) BETWEEN RCV BOX AND CRUSHED ROCK. WRAP FABRIC UPSIDE OF BOX (3" MIN.)

(B) COMBO FLOW METER AND MASTER VALVE NTS



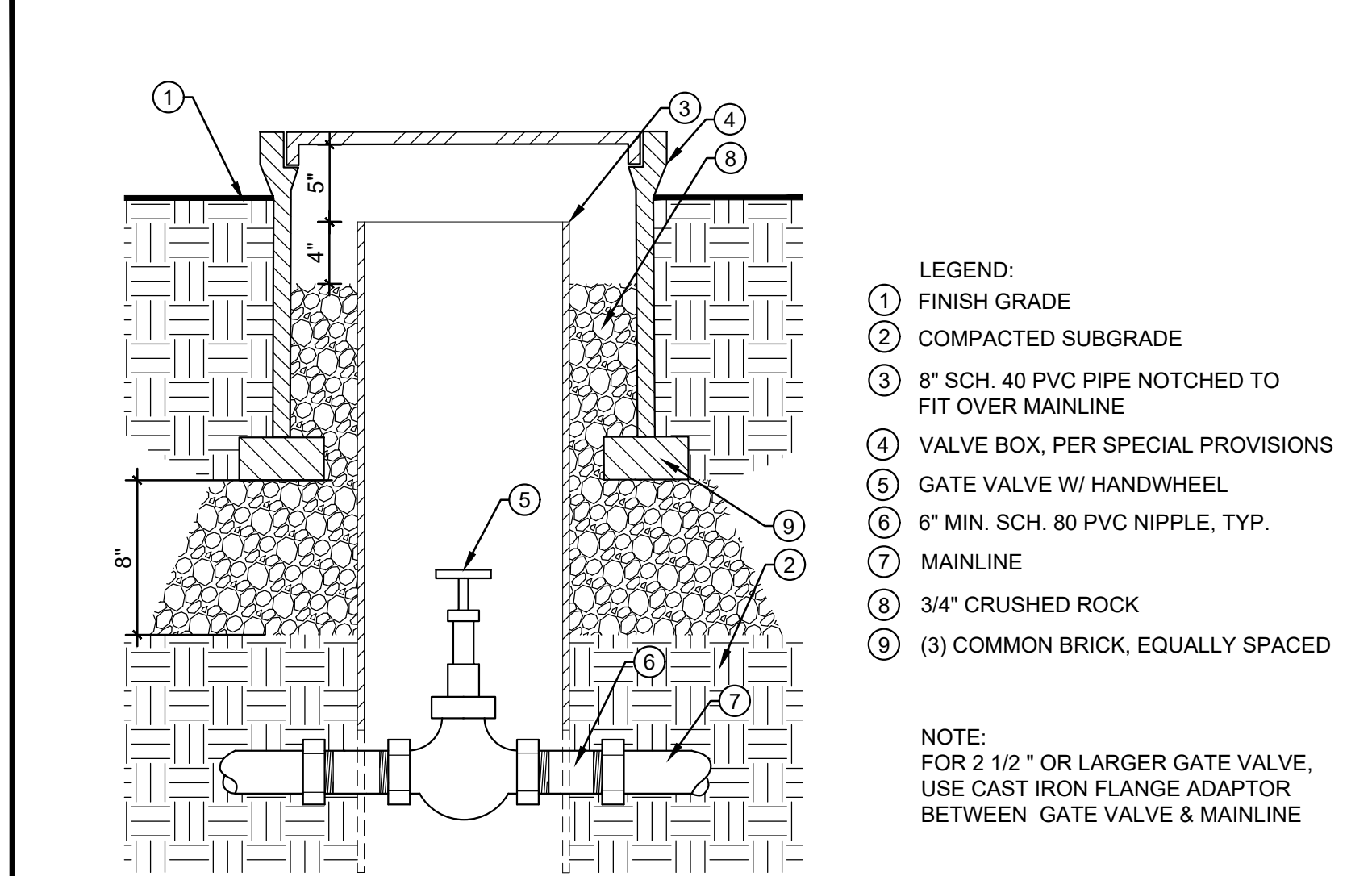
- LEGEND:**
- 1 VALVE BOX. SHALL BE PLASTIC, GREEN IN COLOR AND PER DPR REQUIREMENTS.
 - 2 3/4" QUICK COUPLER VALVE.
 - 3 SCHEDULE 80 PVC - LENGTH AS REQUIRED.
 - 4 SCHEDULE 80 PVC THREADED ELBOW.
 - 5 SCHEDULE 80 NIPPLE - 6" MINIMUM, 12" MAXIMUM LENGTH.
 - 6 PVC MAINLINE PIPING.
 - 7 PVC SCHEDULE 80 T.O.E. (THREADED ON END NIPPLE - 2" LENGTH).
 - 8 SCHEDULE 80 PVC THREADED ELBOW.
 - 9 PVC SCHEDULE 40 SLIP TEE.
 - 10 STAINLESS STEEL COMPRESSION CLAMP (2 REQUIRED).
 - 11 #4 x 24" MINIMUM LENGTH REBAR STAKE. SECURE AT QUICK COUPLER BODY ONLY.
 - 12 3/4" DIA. CRUSHED ROCK 8" DEEP
 - 13 COMMON RED BRICK, ONE AT EACH CORNER (4 REQUIRED) (TYP.)
 - 14 SET BOX 1-1/2" ABOVE FINISH GRADE IN PLANTING AREAS.
 - 15 FINISH GRADE.
 - 16 CURB, WALK OR OTHER HARDSCAPE FEATURE.
- NOTES:**
1. VALVE BOX TO BE SET FLUSH NEXT TO CURB OR SIDEWALK.
 2. FOR NON-HARDSCAPE AREAS, SET TOP OF VALVE BOX 2" ABOVE FINISH GRADE.

(D) QUICK COUPLER NTS

- LEGEND**
- 1 PAVING.
 - 2 FINISH GRADE.
 - 3 PVC MAINLINE.
 - 4 PVC LATERAL LINE.
 - 5 CONTROL WIRES OR COM. CABLE IN CONDUIT.
 - 6 CONTROL WIRES OR COM. CABLE.
 - 7 SLEEVE FOR MAINLINE AND/OR LATERAL LINE.
 - 8 CMB
 - 9 SOIL, PER SPECS
 - 10 AC PAVEMENT (C2-PG 64-10) OR PCC. (560-C-3250) THICKNESS TO MATCH EXISTING PAVEMENT PLUS 1". MINIMUM THICKNESS SHALL BE 4".
 - 11 TRENCH BACKFILL SLURRY (270-E-500)
 - 12 SAND
 - 13 EXISTING AC OR PCC PAVEMENT

- NOTES:**
1. TAPE AND BUNDLE 24 V. WIRES @ 10" INTERVALS.
 2. MINIMUM DEPTH OF 24 V. WIRING SHALL BE 24" BELOW GRADE.
 3. TRENCH WIDTH ALLOW 4" MIN. CLEARANCE BETWEEN PARALLEL PIPES.
 4. SNAKE PIPES FROM SIDE TO SIDE WITHIN TRENCH TO ALLOW FOR MOVEMENT.
 5. TIE A 20" LOOP IN ALL WIRING AT CHANGES OF DIRECTION. UNTIE PRIOR TO BACKFILLING TRENCHES.
 6. PROVIDE THRUST BLOCKS PER STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION DETAIL 508-3. THRUST BLOCKS SHALL BE PROVIDED FOR ALL PIPES 2" AND LARGER.

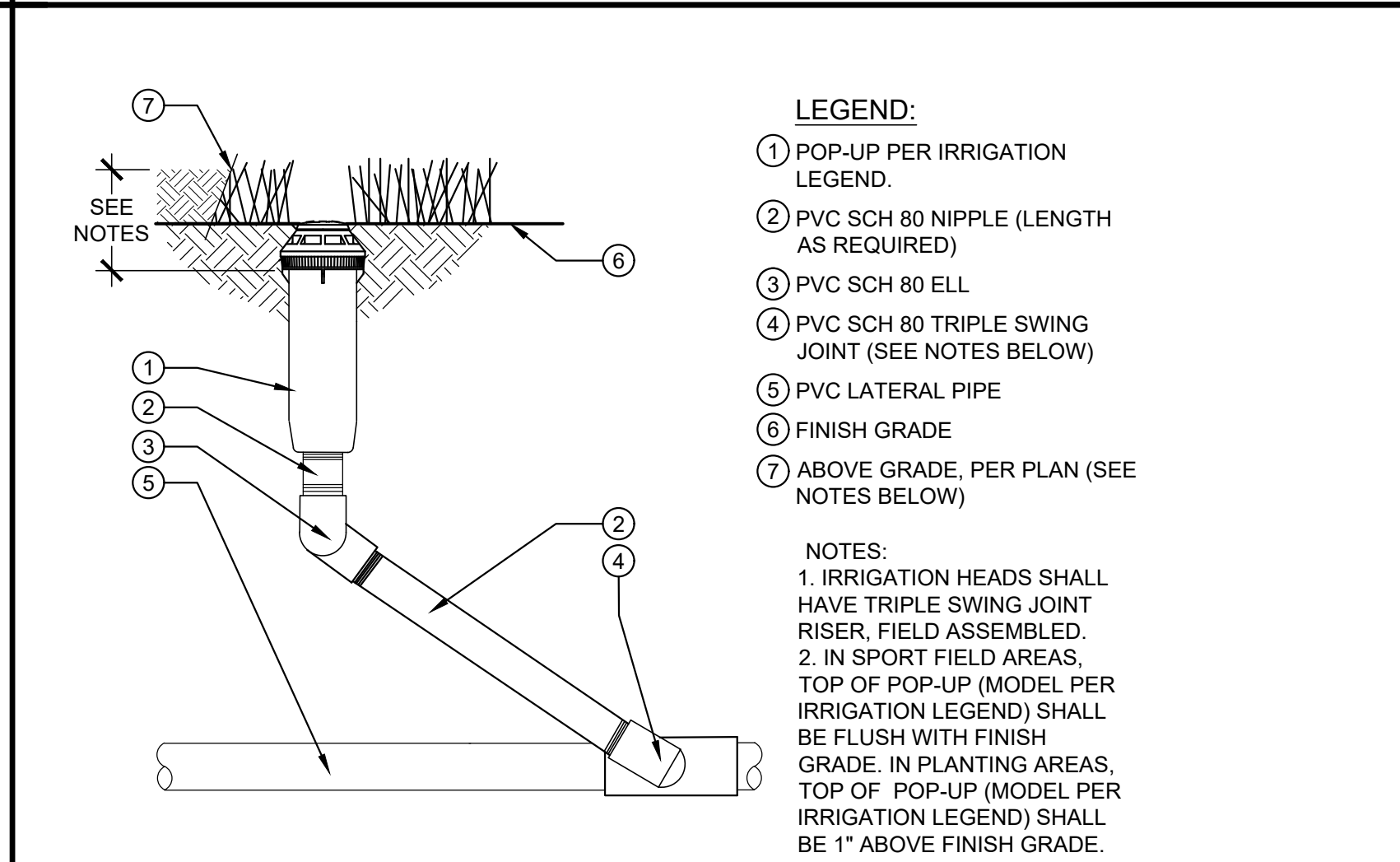
(C) GATE VALVE NTS



- LEGEND:**
- 1 FINISH GRADE
 - 2 COMPACTED SUBGRADE
 - 3 8" SCH. 40 PVC PIPE NOTCHED TO FIT OVER MAINLINE
 - 4 VALVE BOX, PER SPECIAL PROVISIONS
 - 5 GATE VALVE W/ HANDWHEEL
 - 6 6" MIN. SCH. 80 PVC NIPPLE, TYP.
 - 7 MAINLINE
 - 8 3/4" CRUSHED ROCK
 - 9 (3) COMMON BRICK, EQUALLY SPACED

- NOTE:**
- FOR 2 1/2" OR LARGER GATE VALVE, USE CAST IRON FLANGE ADAPTOR BETWEEN GATE VALVE & MAINLINE

(E) POP-UP NTS



- LEGEND:**
- 1 POP-UP PER IRRIGATION LEGEND.
 - 2 PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
 - 3 PVC SCH 80 ELL
 - 4 PVC SCH 80 TRIPLE SWING JOINT (SEE NOTES BELOW)
 - 5 PVC LATERAL PIPE
 - 6 FINISH GRADE
 - 7 ABOVE GRADE, PER PLAN (SEE NOTES BELOW)

- NOTES:**
1. IRRIGATION HEADS SHALL HAVE TRIPLE SWING JOINT RISER FIELD ASSEMBLED.
 2. IN SPORT FIELD AREAS, TOP OF POP-UP (MODEL PER IRRIGATION LEGEND) SHALL BE FLUSH WITH FINISH GRADE. IN PLANTING AREAS, TOP OF POP-UP (MODEL PER IRRIGATION LEGEND) SHALL BE 1" ABOVE FINISH GRADE.

PD053138

(E) POP-UP NTS

CALL 8-1-1 TOLL FREE			
811			
TWO WORKING DAYS BEFORE YOU DIG			
DATE	MK	DESCRIPTION	
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COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK
STORMWATER IMPROVEMENTS
LANDSCAPE IMPROVEMENTS
PROJECT ID NO. SWQ0000003
IRRIGATION DETAILS

LS-2.01

DATE: _____ MK: _____ DESCRIPTION: _____

REVISIONS

PROJECT LANDSCAPE ARCHITECT DATE PCA P97027AC DWG 181-271-D4 SHEET 24 OF 45

REQUIREMENTS FOR THE INSTALLATION AND PIPELINE CONSTRUCTION FOR SAFE RAINFALL/RUN-OFF, NON-POTABLE CISTERN WATER AND URBAN RUN-OFF REUSE
Page 5

- Any pipeline other than potable water that is installed within a structure shall conform to all building code standards and shall be "barber shop" wrapped with the respective continuous identification tape and without any interconnections with the potable water system.
- Gray water systems, rain-fall/runoff non-potable cistern systems and recycled water systems are not to be interconnected. Each shall be installed as stand alone systems completely separate from one another. Gray water systems are directly connected to the sewage system. Rain-fall/non-potable cisterns are not to be directly connected to a sewer system. For gray water installation requirements refer to California Plumbing Code 2007, Chapter 16/Appendix G (DWR).
- Cisterns/storage vessels shall be adequately covered to prevent mosquito breeding.
- Contact with untreated rainfall/non-potable cistern should be kept to a minimum.
- Deteriorated or inadequately protected water well casings shall be protected against contamination by untreated rainfall/non-potable cistern water by correcting these physical deficiencies. Surface infiltration of untreated rainfall/run-off is allowed provided it occurs at least 10 feet from an unprotected foundation structure, there is at least 100 feet of clearance to the seasonal high ground water table, and it occurs at least 100 feet from a water supply well.
- An **On-Site Water Supervisor** shall be appointed as provided for under Title 17, Section 7596, California Code of Regulations. Authorizations for any piping changes or additions to either the potable or recycled wastewater systems shall be subject to review and approval by the water supervisor. The name and position of this individual shall be reported to the water purveyor and to the Department.
- As-built plans shall be prepared and updated as necessary by the user showing the location of rainfall /non-potable cistern water and potable water system piping.
- To prevent secondary exposure to rainfall/non-potable cistern water, hose bibbs and quick couplers shall not be permitted in order to prevent both the unauthorized use of said water supply and secondary exposure of untreated non-potable water supply. Quick-couplers are presently not allowed on non-potable cistern systems.
- A potable water source may be connected via an approved backflow prevention device to provide a back up water source to a non-potable water cistern. A non-potable water backup supply line from a potable source via an approved backflow prevention device can be directly connected to the rain-fall/non-potable cistern discharge line to the irrigation system. Gray water systems cannot be directly connected to a potable supply with or without a backflow prevention device. (air gaps are excluded) (2007 California Plumbing Code, Section 603.3.5). Air gaps are the only method as a potable water make-up to a gray water system.
- A pressure test/cross-connection test shall be performed to confirm the physical separation of the storm water/cistern water and potable water systems. Said testing shall be performed in conjunction with the Water Purveyor and this Department and conducted before the introduction of rainfall/non-potable cistern water.

REQUIREMENTS FOR THE INSTALLATION AND PIPELINE CONSTRUCTION FOR SAFE RAINFALL/RUN-OFF, NON-POTABLE CISTERN WATER AND URBAN RUN-OFF REUSE
Page 5

Urban run-off – refers to non-potable water from a dry weather run-off catchment system used for the collection of water run-off which does not necessarily come from a rain event.

PROCEDURES:

PLAN REVIEW AND SUBMISSION

- Plans and specifications for the rainfall/non-potable cistern water capture, distribution, use and operational practices shall be submitted for review and approval to the Department prior to implementation. The applicable Building & Safety Departments having jurisdiction shall also be notified for approval.
- County of Los Angeles will review and approve the plans to ensure safe re-use practices, correct labeling of pipelines and appropriate separation from potable water supplies and sanitary sewer lines.
- Prior to commencing new or retrofit construction the contractor or installer shall contact the Department to arrange for inspection of all on-site rainfall/non-potable cistern water and potable water work. No excavation or open trench may be backfilled without first securing the Department approval. If any piping, rainfall/non-potable cistern water or potable water is installed prior to plan check approval and/or inspection, all or any portion of the system may be required to be exposed and corrected as necessary.
- The rainfall/cistern water system shall be constructed in conformance with potable water system construction standards and in accordance with all other governing codes, rules and regulations.
- Unused or abandoned potable water lines are to be severed as close to water mains as practical, capped and a four-foot section of abandoned line removed and the cap cemented under the Department's supervision.

REQUIRED SEPARATION OF LINES

In order to minimize construction accidents resulting in pipeline breaks, which may pollute the domestic water supply or accidental cross-connections between rainfall/non-potable cistern water and potable water systems, maximum attainable separation of non-potable cistern water lines and potable water lines is required.

- Parallel Construction:** There shall be at least a four foot (4') separation for all pressure mains, all distances measured from pipeline outside diameter. In restricted areas where 4 foot separations cannot be met, the use of sleeved pipe is required.
- Cross-Over Construction:** Perpendicular pipeline installation is set at a one foot (1') separation, with potable above rainfall/non-potable cistern water, and one full pipe length centered over crossing.
- Alternative Cross-Over construction** (distance not maintained): Either the rainfall/non-potable cistern water may be sleeved with the same class piping (usually schedule 40 PVC) for one full pipe length (minimum four feet) centered over the cross-over.



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH

ENVIRONMENTAL HEALTH
Cross Connection & Water Pollution Control Program
5950 Commerce Drive, Baldwin Park, CA 91706
Tel (626) 430-5290 FAX (626) 813-3025

REQUIREMENTS FOR THE INSTALLATION AND PIPELINE CONSTRUCTION FOR SAFE REUSE OF RAINFALL / RUN-OFF, NON-POTABLE CISTERN WATER AND URBAN RUN-OFF WATER
(Rev. 09.21.09)

Rain barrels and cisterns are methods of storing rainfall and run-off on-site for landscape irrigation purposes. In semi-arid Los Angeles County, rainfall, run-off and the reuse of captured rainfall could greatly reduce the amount of water that must be imported. For this reason, there should be no reasonable impediment to storing and reusing rainfall and run-off, provided it can be done safely while protecting the health of the public.

As a result of increased interest and initiative to use untreated rainfall/non-potable cistern water and urban run-off water for onsite landscape irrigation purposes, the Department of Public Health (the Department) has found it necessary to develop the following requirements for water pipeline construction, installation and safe re-use of "non-potable" water supplies. The purpose of these requirements is to provide the necessary procedures for obtaining approval for the installation of pipeline which will convey untreated rainfall, non-potable cistern water and /or urban run-off water for irrigation purposes. Moreover, it is intended to establish requirements for the protection of the potable domestic water supply as well as public health.

PLEASE NOTE:

Presently within the County of Los Angeles there are no regulatory definitions of rainfall, non-potable cistern water or urban run-off that would categorize them as either recycled / reclaimed water or other regulated water source. These types of non-potable water sources are categorized within the scope of "alternate non-potable water supply". Therefore rainfall/run-off, non-potable cistern and urban run-off water, for the purposes of these requirements shall be recognized by the Department (pending adoption of proposed regulation) as "alternate non-potable water supply sources" and regulations pertaining to the protection of the domestic water supply in relation to an "alternate non-potable water supply sources" shall apply.

The following requirements are intended to focus on projects which integrate below grade pipelines, pumps and large capacity holding tanks. They are not intended for application to rain barrels that collect rainfall / run-off water from residential rooftops, gravity feed or hand-held hoses. For the residential types of projects which do not incorporate below grade plumbing, pumps and large capacity tanks, please contact your local City Building & Safety Department.

Treatment systems for rain, gray and urban run-off water for reuse in toilet flushing have been proposed but are not covered within these requirements. Please contact the Department at (626) 430-5270 for information regarding treatment strategies and reuse.

These requirements apply to collection and reuse for **on-site purposes only.** Distribution of collected rainfall/non-potable cistern and urban run-off to off-site properties shall be evaluated by State Department of Public Health (CADPH) in conjunction with State Regional Water Control Board (RWQCB).

REQUIREMENTS FOR THE INSTALLATION AND PIPELINE CONSTRUCTION FOR SAFE RAINFALL/RUN-OFF, NON-POTABLE CISTERN WATER AND URBAN RUN-OFF REUSE
Page 2

DEFINITIONS:

Alternate non-potable water supply is a non-potable source of water which includes gray water, rainfall/run-off non-potable cistern water, urban run-off, on site treated water and recycled/reclaimed water.

Cistern (non-potable) refers to a receptacle or rainwater catchment system for storing water, usually underground, which captures non-potable water run-off for the purposes of reusing the water for irrigation purposes. Non-potable cisterns are distinct from potable cisterns that are installed and managed as potable water reservoirs/storage.

Gray water refers to untreated waste water which has not come into contact with toilet waste. Gray water includes used water from bathtubs, showers, bathroom wash basins, clothes washing machines and laundry. It does not include waste water from kitchen sinks, photo lab sinks, dishwashers or laundry water from soiled diapers.

Non-Potable Water refers to water which is not intended for human consumption. Two distinct variations are inclusive in this definition: Non-potable water from a potable source, via a dedicated backflow prevention device vs. untreated non-potable water from collection methods that never originated from a potable source. The term non-potable water is all-inclusive with respect to the various non-potable water supplies mentioned within these requirements.

Onsite Water Supervisor refers to that person appointed, as provided for under Title 17, Section 7596, California Code of Regulations who is responsible for the protection of the potable water system from cross connections. This person is responsible for installation, operation, maintenance of the rain-fall / non-potable cistern water and potable water systems, prevention of potential hazards, implementation of these requirements, and coordination of the Department.

Potable Water refers to water which is fit for consumption by humans and other animals. The U.S. Environmental Protection Agency (EPA) identifies contaminants that may adversely affect public health that occur in drinking water with a frequency and at levels that pose a threat to public health. The EPA establishes maximum contaminant levels (MCLs) (both biological and chemical) permissible in drinking water. These MCLs become enforceable standards.

Rainfall/ Non-potable Cistern Water refers to the harvested rainwater/storm water collected within a cistern from a rain event and/or urban run-off. Cisterns in Los Angeles County may serve as a secondary source of water for applications that do not require potable water, such as landscape irrigation, which can dramatically lower the potable water demand and reducing off-site rainfall run-off.

Recycled / Reclaimed Water refers to tertiary-treated water produced from the three-stage treatment of municipal wastewater. Recycled / reclaimed water is allowable for full-body human contact but not for direct human consumption. Purple pipe is the designated pipeline material specifically allowed to convey tertiary treated recycled / reclaimed water. Other non-potable water sources as mentioned in these requirements shall **not** use purple pipe. Untreated stored rainfall/run-off should not be confused with tertiary treated wastewater, defined in Title 22 of the California Code of Regulations.

REQUIREMENTS FOR THE INSTALLATION AND PIPELINE CONSTRUCTION FOR SAFE RAINFALL/RUN-OFF, NON-POTABLE CISTERN WATER AND URBAN RUN-OFF REUSE
Page 6

- The Department shall refer all plans proposing to install a cistern to the following agencies prior to construction:
 - Los Angeles County Cross-Connection & Water Pollution Control Program to: initiate the plan proposal, conditional approval; interim construction inspections and final approval.
 - The City or County Building & Safety Department for construction permits and inspections (Building Codes).
 - The local water purveyor regarding required backflow protection at the potable/city water service connection(s).
 - The Mosquito Abatement District for conditions of approval and to register the cistern tank.
 - The City or County Public Works Department for cistern tank overflow discharge requirements.

CROSS REFERENCE: California Health & Safety Code 116800-116820
California Code of Regulations, Title 22, Div. 4, Chapter 3
Los Angeles County Code – Title 11 and Title 28
2007 California Plumbing Code, Chapter 6, Appendix G & J.

REQUIREMENTS FOR THE INSTALLATION AND PIPELINE CONSTRUCTION FOR SAFE RAINFALL/RUN-OFF, NON-POTABLE CISTERN WATER AND URBAN RUN-OFF REUSE
Page 4

Existing On-site piping – To the extent feasible, maximum separation of rainfall/non-potable cistern water and potable water lines shall be practiced upon system addition or modification.

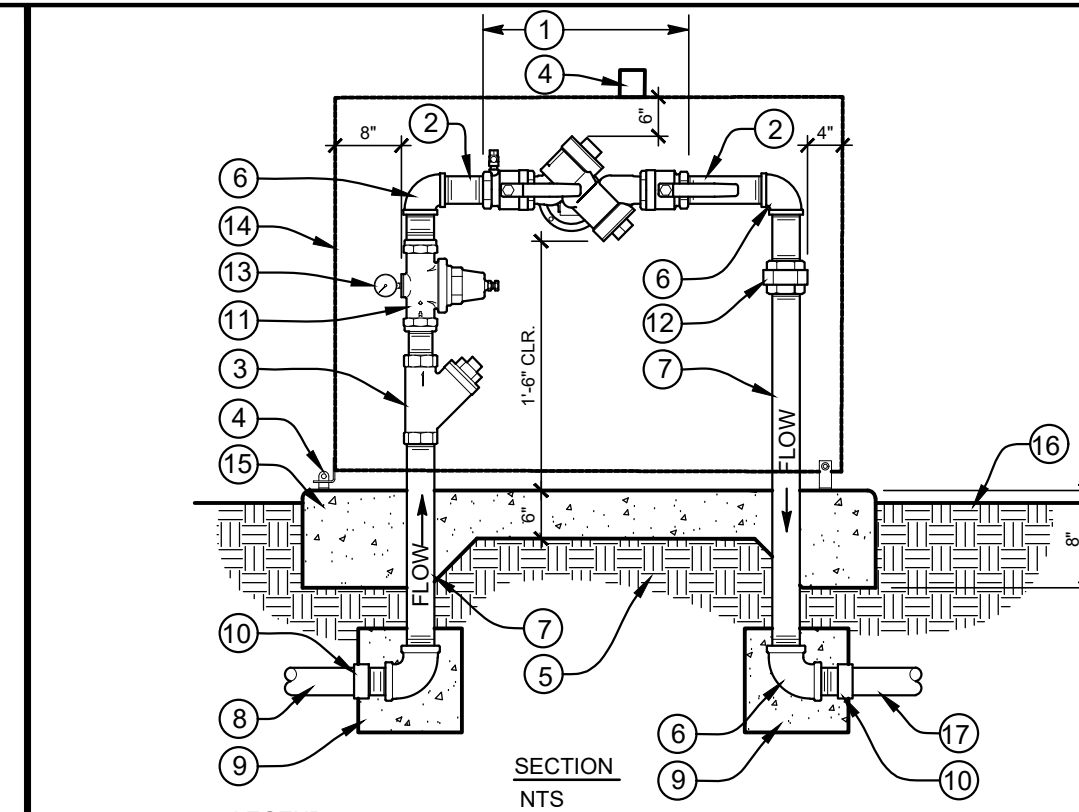
IDENTIFICATION OF LINES

All rainfall/non-potable cistern water main lines, valve boxes and appurtenances shall be identified to clearly distinguish between non-potable cistern water and potable water systems. Specific wording on identification tape shall be required. Evaluation shall be on a case-by-case basis, but with the understanding that the minimum requirement for pipeline identification is per the Uniform Plumbing Code. The following identification tape will be accompanied with respective tags of the same colors and wording for all valve boxes, vaults, control valves, quick couplers, outlets and related appurtenances, if applicable.

- POTABLE WATER** – All potable water lines shall be installed in accordance with the Uniform Plumbing Code and all other governing codes, rules and regulations. Buried potable water lines shall be identified by continuous tape with lettering on three inch (3") minimum width green or blue tape with one inch black lettering bearing the continuous wording "**Potable Water**". Identification tape shall be permanently affixed to the pipeline at five foot intervals atop all horizontal piping, laterals and mains. Identification tape shall extend to all valve boxes and/or vaults, exposed piping and hydrants. Identification tape is not necessary for extruded colored PVC with continuous wording "**Potable Water**" printed in contrasting lettering on opposite sides of the pipe.
- RAINFALL/NON-POTABLE CISTERN WATER** – All rainfall/non-potable cistern water lines (pressure/non-pressure) shall be identified by continuous lettering on three inch (3") minimum width yellow tape with one inch black lettering bearing the continuous wording "**Caution – Non-potable Cistern Water, Subsurface Irrigation Only**" permanently affixed at five foot intervals atop all horizontal piping, laterals and mains. Identification tape shall extend to all valve boxes and/or vaults and exposed piping.
- NON-POTABLE WATER** – All non-potable irrigation/industrial water lines (pressure/non-pressure) shall be identified by continuous lettering on three inch (3") minimum width yellow tape with one inch black lettering bearing the continuous wording "**Non-Potable Water**" permanently affixed at five foot intervals atop all piping. Identification tape shall extend to all valve boxes and/or vaults, exposed piping, hydrants and quick couplers.
- Tags, respective of each water supply, shall be identified with the appropriate wording on both sides with the inclusion of a universal symbol.

OPERATIONAL GUIDELINES AND SPECIFICATIONS

- Irrigation systems utilizing untreated rain-fall/non-potable cistern water shall only be by means of "subsurface irrigation. Mist or spraying into the air is prohibited. Irrigation practices shall be controlled to prevent surface runoff from lands owned or controlled by the user. (**For above grade spray irrigation, the level of treatment would necessitate Title 22 Standards to ensure the removal of pathogens. Please contact the Department for more information.**)



- LEGEND:**
- REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY, REFER TO SPECIAL PROVISIONS
 - BRASS NIPPLE- 3" MIN. 4" MAX LENGTH (TYP)
 - BRONZE WYE STRAINER WITH 60 MESH MONEL SCREEN
 - ENCLOSURE LOCK FOR SINGLE (SIDE) OR DUAL (TOP) OPENING
 - COMPACTED SUBGRADE
 - BRASS 90 DEGREE ELBOW (TYP)
 - BRASS RISER/ NIPPLE (TYP) - WRAP ALL PIPE WITH 10 MIL PVC TAPE BELOW SOIL/CONCRETE LINE - SEE SPECIFICATIONS

- MAINLINE FROM POINT OF CONNECTION - ADAPT AS REQUIRED
- 12"X12"X12" CONCRETE THRUST BLOCK (TYP). REQUIRED FOR 3" OR LARGER MAINLINE
- BRASS COUPLING
- PRESSURE REGULATOR. PRESSURE REGULATOR MAKE AND MODEL PER IRRIGATION LEGEND - REQUIRED IF STATIC WATER PRESSURE IS GREATER THAN 90 PSI. FIELD VERIFY AND OBTAIN APPROVAL FROM ENGINEER BEFORE INSTALLATION.
- BRASS UNION - LINE SIZE
- WATERPROOF PRESSURE GAUGE (0-200 PSI) ON 1/4" NPT THREADED REDUCING BUSHING - ADAPT AS REQUIRED
- BACKFLOW DEVICE ENCLOSURE: SEE IRRIGATION PLAN FOR MANUFACTURER AND MODEL NUMBER.
- 6" THICK CONCRETE PAD (450-C-2000) WITH THICKENED FOOTING. SLOPE TO DRAIN. EXTEND BASE 4" BEYOND ALL FOUR SIDES OF ENCLOSURE. SET TOP OF PAD 2" ABOVE FINISH GRADE OR FLUSH WITH ADJACENT PAVING
- FINISH GRADE
- PVC MAINLINE

- NOTES:**
- THE ENGINEER WILL APPROVE THE FINAL LOCATION OF BACKFLOW PREVENTER PRIOR TO INSTALLATION.
 - FINAL ASSEMBLY AND FITTING OF BACKFLOW PREVENTER WITHIN THE ENCLOSURE IS THE RESPONSIBILITY OF CONTRACTOR
 - INSTALL DI-ELECTRIC COUPLING IF BRASS PIPE WILL BE CONNECTED TO GALVANIZED STEEL PIPE.
 - AFTER CERTIFICATION AND APPROVAL FROM THE ENGINEER, PAINT BACKFLOW BLACK COLOR, WITH A MATTE FINISH.

(A) BACKFLOW PREVENTER NTS

IRRIGATION INSTALLATION NOTES:

- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO START OF CONSTRUCTION. WORK SHOWN ON THE IRRIGATION PLANS IS DIAGRAMMATIC. LOCATE NEW IRRIGATION LINES, VALVES, AND EQUIPMENT IN PLANTING AREAS WHEREVER POSSIBLE. AVOID LOCATING LINES WHERE MAJOR TREES EXIST AND ARE PROPOSED.
- CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING TREES AND OTHER PLANTS IN THE AREAS OF WORK PRIOR TO START OF CONSTRUCTION. IF ANY OF THE INFORMATION SHOWN ON THESE DRAWINGS IS FOUND TO BE DIFFERENT THAN THE ACTUAL CONDITIONS IN THE FIELD, IMMEDIATELY NOTIFY THE ENGINEER.
- CONTRACTOR SHALL INSTALL NEW WIRES TO MAKE CONNECTIONS TO PROVIDE AN OPERATIONAL ELECTRICAL AUTOMATIC IRRIGATION SYSTEM. CONTRACTOR SHALL PAY FOR AND REQUEST THE MANUFACTURER'S REPRESENTATIVE OF THE AUTOMATIC IRRIGATION CONTROLLER TO INSPECT AND HAVE THE CONTROLLER CERTIFIED PRIOR TO THE START OF THE PLANT ESTABLISHMENT PERIOD. THE MANUFACTURER'S REPRESENTATIVE SHALL ALSO ASSIST THE CONTRACTOR WITH PROGRAMMING THE SYSTEM AND SHALL PROVIDE A MINIMUM OF ONE (1) TRAINING SESSION TO THE AGENCY'S MAINTENANCE STAFF AT CONCLUSION OF THE PLANT ESTABLISHMENT PERIOD. CONTRACTOR SHALL PROVIDE CONFIRMATION FROM THE MANUFACTURER'S REPRESENTATIVE THAT ALL DATA PLANS HAVE BEEN PAID FOR AND ACTIVATED.
- IRRIGATION CONTROLLERS:
 - REFER TO IRRIGATION CONTROLLER LEGEND AND DETAILS FOR MANUFACTURER, MODEL NUMBERS, AND OTHER INFORMATION.
 - CONTRACTOR SHALL BE RESPONSIBLE TO PROGRAM THE AUTOMATIC IRRIGATION CONTROLLER(S) SO THE SYSTEM SHALL BE FULLY OPERATIONAL TO DETECT MAIN AND LATERAL LINE BREAKAGE
- INSTALL CROSS OVER SLEEVES (CLASS 315 PVC UNLESS NOTED OTHERWISE) AT INTERSECTIONS AND WHEREVER PIPE CROSSES UNDER PAVEMENT INCLUDING UNDER RIVER ROCK PAVING. ALL SLEEVES SHALL EXTEND 6" INTO PLANTING AREAS AT BOTH ENDS. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE SLEEVES PRIOR TO PAVING BEING INSTALLED. NOT ALL SLEEVES MAY BE INDICATED ON PLAN.
- FOR TRENCH REPAIR INFORMATION, REFER TO PIPE TRENCHING DETAIL.
- HAND DIGGING IS REQUIRED FOR WORK DONE WITHIN DRIPLINE OF EXISTING TREES.
- CONTRACTOR SHALL ADJUST EXACT LOCATIONS OF IRRIGATION PIPE TO AVOID CATCH BASINS AND OTHER SITE AMENITIES.
- REPAIR ALL EXISTING MATERIALS DAMAGED OR EXPOSED BY NEW IRRIGATION INSTALLATION WORK OR BY ANY OTHER CONSTRUCTION WORK. MATCH EXISTING ADJACENT WORK IN TEXTURE AND COLOR.
- ADJUST LOCATION OF IRRIGATION NOZZLES OR ADD ADDITIONAL NOZZLES AND EQUIPMENT AS NECESSARY TO MINIMIZE INTERFERENCE AGAINST OBSTRUCTIONS (CONCRETE WALLS, TELEPHONE AND POWER POLES, TREES, ETC.).
- ALL IRRIGATION NOZZLES, BUBBLERS, AND FITTINGS SHALL BE FROM THE SAME MANUFACTURER AND PRODUCT LINE.
- INSTALL PVC SCHEDULE 40 CONDUIT TO "RUN" CONTROL WIRES PER PIPE TRENCHING DETAIL AND SLEEVE SIZE CHART ON IRRIGATION EQUIPMENT LEGEND.
- ALL VALVE BOX LIDS SHALL BE MARKED WITH 3-INCH HIGH EPOXY PAINT OR CAST LETTERS: "RCV" FOR REMOTE CONTROL VALVE; AND, "OCV" FOR QUICK COUPLER.

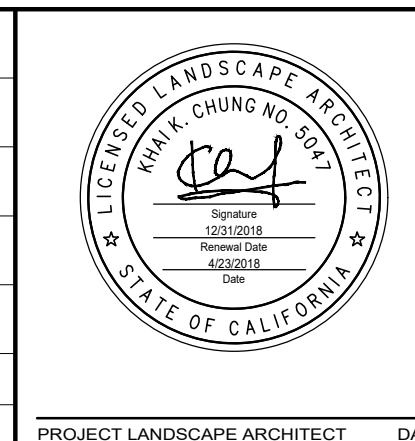
ALTERNATE WATER SOURCE NOTES:

- SEE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH LETTER OF APPROVAL AND CONDITIONS FOR PLAN CHECK# 201812, DATED MAY 16, 2018, FOR ADDITIONAL INFORMATION.
 - SEE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH "GUIDELINES FOR ALTERNATE WATER SOURCES: INDOOR AND OUTDOOR NON-POTABLE USES", DATED FEBRUARY 2016, FOR ADDITIONAL INFORMATION.
 - THE FOLLOWING LABELING AND TAPE COLOR COMBINATIONS REPLACE THOSE WITHIN SECTION "IDENTIFICATION OF LINES" OF THE "REQUIREMENTS FOR THE INSTALLATION AND PIPELINE CONSTRUCTION FOR SAFE REUSE OF RAINFALL / RUN-OFF, NON-POTABLE CISTERN WATER AND URBAN RUN-OFF WATER"
- POTABLE WATER:**
 - BLUE OR GREEN TAPE WITH BLACK UPPERCASE LETTERINGS;
 - "POTABLE WATER"
 - RAINFALL / NON-POTABLE CISTERN WATER:**
 - PURPLE TAPE WITH BLACK UPPERCASE LETTERINGS;
 - LABELED: "CAUTION UNSAFE WET & DRY WEATHER RUNOFF WATER – DO NOT DRINK"
 - IRRIGATION WATER FROM A POTABLE SOURCE:**
 - YELLOW TAPE WITH BLACK UPPERCASE LETTERINGS;
 - LABELED: "NON-POTABLE IRRIGATION WATER – DO NOT DRINK" (CA 2016 PLUMBING CODE, CHAP 6, SEC. 601.2.2)
 - ALL WATER VALVES SHALL BE LABELED WITH APPROVED IDENTIFICATION TAGS DISTINGUISHING BETWEEN:
 - POTABLE WATER:**
 - BLUE OR GREEN WITH BLACK UPPERCASE LETTERINGS;
 - "POTABLE WATER"
 - RAINFALL / NON-POTABLE CISTERN WATER:**
 - YELLOW WITH BLACK UPPERCASE LETTERINGS;
 - LABELED: "CAUTION UNSAFE WET & DRY WEATHER RUNOFF WATER – DO NOT DRINK"
 - IRRIGATION WATER FROM A POTABLE SOURCE:**
 - YELLOW WITH BLACK UPPERCASE LETTERINGS;
 - LABELED: "NONPOTABLE IRRIGATION WATER, DO NOT DRINK"
- DURING CONSTRUCTION THE FLUSHING LINES AND TESTING OF THE IRRIGATION SYSTEM SHALL BE BY MEANS OF A DEDICATED AND PROJECTED DOMESTIC WATER FEED, AN APPROVED AND DEDICATED BACKFLOW PREVENTION DEVICE WILL BE REQUIRED TO SAFEGUARD THE POTABLE WATER SUPPLYING THE LANDSCAPE IRRIGATION SYSTEM.
 - CONTRACTOR SHALL CONTACT CARLOS BORJA, DEPT. OF PUBLIC HEALTH, (626) 420-5295 (OFFICE) OR (323) 715-3013 TO SCHEDULE THE FOLLOWING INSPECTIONS:
 - INSPECTION OF WATER CONVEYANCE PIPING PRIOR TO BACKFILLING.
 - CROSS CONNECTION, PRESSURE, AND SEPARATION TEST.
 - FINAL INSPECTION.
 - CONTRACTOR SHALL SET IRRIGATION SCHEDULE BETWEEN 10 PM AND 6 AM PRIOR TO TURNING OVER TO THE USER.

PD053138

IRRIGATION CALCULATIONS

CALL 8-1-1 TOLL FREE		2	
TWO WORKING DAYS BEFORE YOU DIG			
DATE	MK	DESCRIPTION	
REVISIONS			



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS			
LADERA PARK			
STORMWATER IMPROVEMENTS			
LANDSCAPE IMPROVEMENTS			
PROJECT ID NO. SWQ0000003			
IRRIGATION DETAILS AND NOTES			
PROJECT	PCA	DWG	181-271-04
DATE	P97207AC	SHEET	25 OF 45

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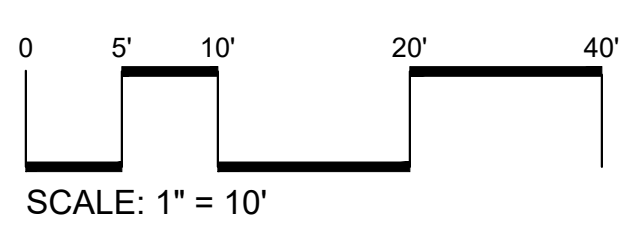
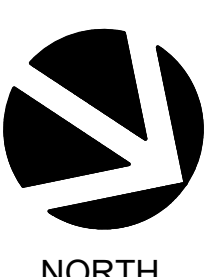


TREE LEGEND

SYMBOL	ABBREVIATION	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	WUCOLS
	CER OCC	CERCIS OCCIDENTALIS	WESTERN REDBUD	24" BOX	6	M
	PLA RAC	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	24" BOX	4	M
	LOP CON	LOPHOSTEMON CONFERTUS	BRISBANE BOX	24" BOX	3	M
	EXISTING TREE TO REMAIN					

SHRUB AND GROUNDCOVER LEGEND

SYMBOL	ABBREVIATION	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	SETBACK*	O.C.	WUCOLS
	AGR PAL	AGROTIS PALLENS	NATIVE CALIFORNIA BENT GRASS	1 GAL	1225	1 FT.	2 FT.	L
	AGA ATT	AGAVE ATTENUATA 'NOVA BLUE'	BLUE FOXTAIL AGAVE	5 GAL	42	2 FT.	4 FT.	VL
	BAC PIG	BACCHARIS PILULARIS 'PIGEON POINT'	PROSTRATE COYOTE BUSH	1 GAL	16	3 FT.	6 FT.	L
	CAR DIV	CAREX DIVULSA	BERKLEY SEDGE	1 GAL	1247	1 FT.	1 FT.	M
	CEA GRI	CEANOTHUS GRISEUS HORIZONTALIS 'YANKEE POINT'	CEANOTHUS YANKEE POINT	5 GAL	15	4 FT	8 FT	L
	DIA CAE	DIANELLA CAERULEA CASSA	BLUE FLAX LILY	1 GAL	260	1 FT.	2 FT.	L
	MAH REP	MAHONIA REPENS	CREEPING MAHONIA	5 GAL	69	1.5 FT.	3 FT.	L
	SAL LEU	SALVIA LEUCOPHYLLA 'POINT SAL SPREADER'	PURPLE SAGE	5 GAL	47	2 FT	4 FT	L



PD053138

CALL 8-1-1 TOLL FREE

 TWO WORKING DAYS BEFORE YOU DIG

DATE	MK	DESCRIPTION
REVISIONS		



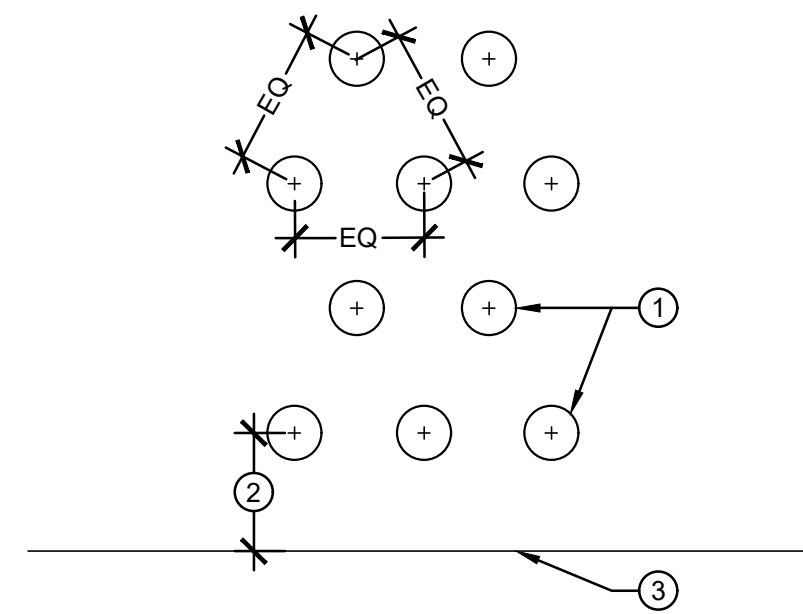
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**LADERA PARK
 STORMWATER IMPROVEMENTS
 LANDSCAPE IMPROVEMENTS
 PROJECT ID NO. SWQ0000003
 PLANTING PLAN AND LEGEND**

LS-3.00

PROJECT LANDSCAPE ARCHITECT DATE PCA P97027AC DWG 181-271-D4 SHEET 26 OF 45

AS BUILT DRAWINGS



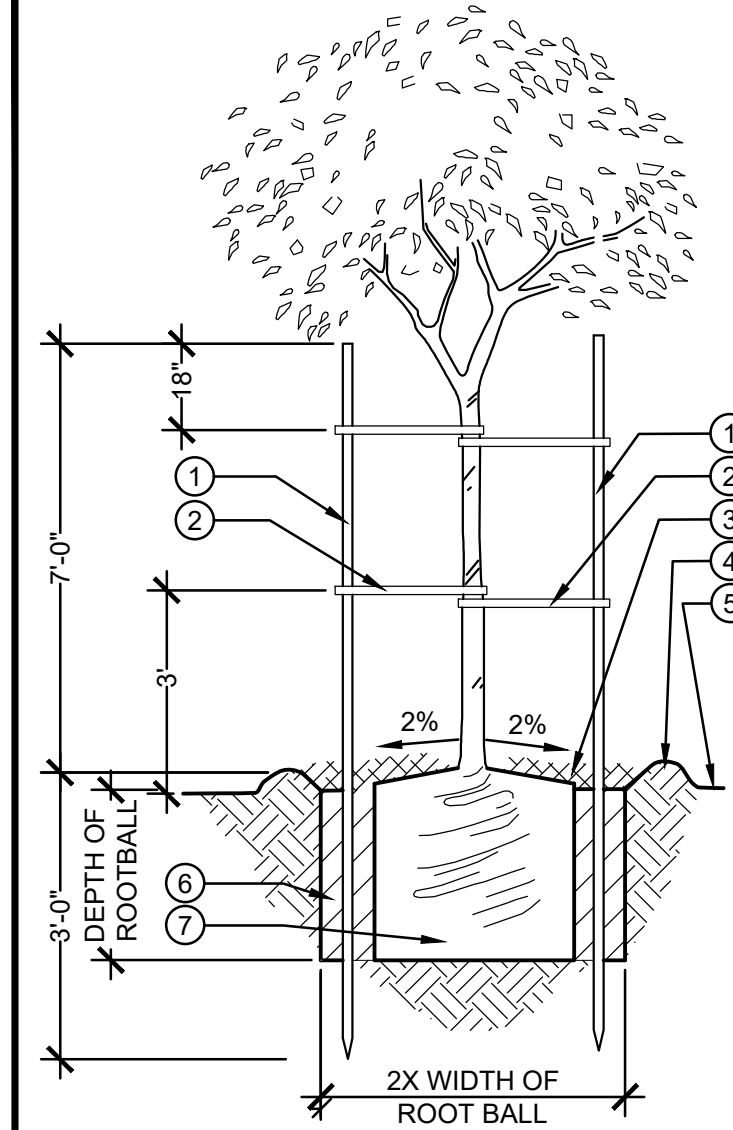
- LEGEND:**
- LOCATE PLANTS WITH AN EQUAL ON-CENTER SPACING AS INDICATED ON THE PLANTING LEGEND.
 - LOCATE PLANTS PER SET-BACK AS INDICATED ON THE PLANTING LEGEND.
 - PARALLEL TO CURB OR EDGE OF PAVING.

NOTE:
1. ALIGN PLANT SPACING ROW LAYOUT PARALLEL TO THE CURB, EDGE OF PAVING, OR DIRECTION INDICATED ON PLAN.

(E) SHRUB AND GROUND COVER SPACING SCALE: NTS

GENERAL PLANTING NOTES:

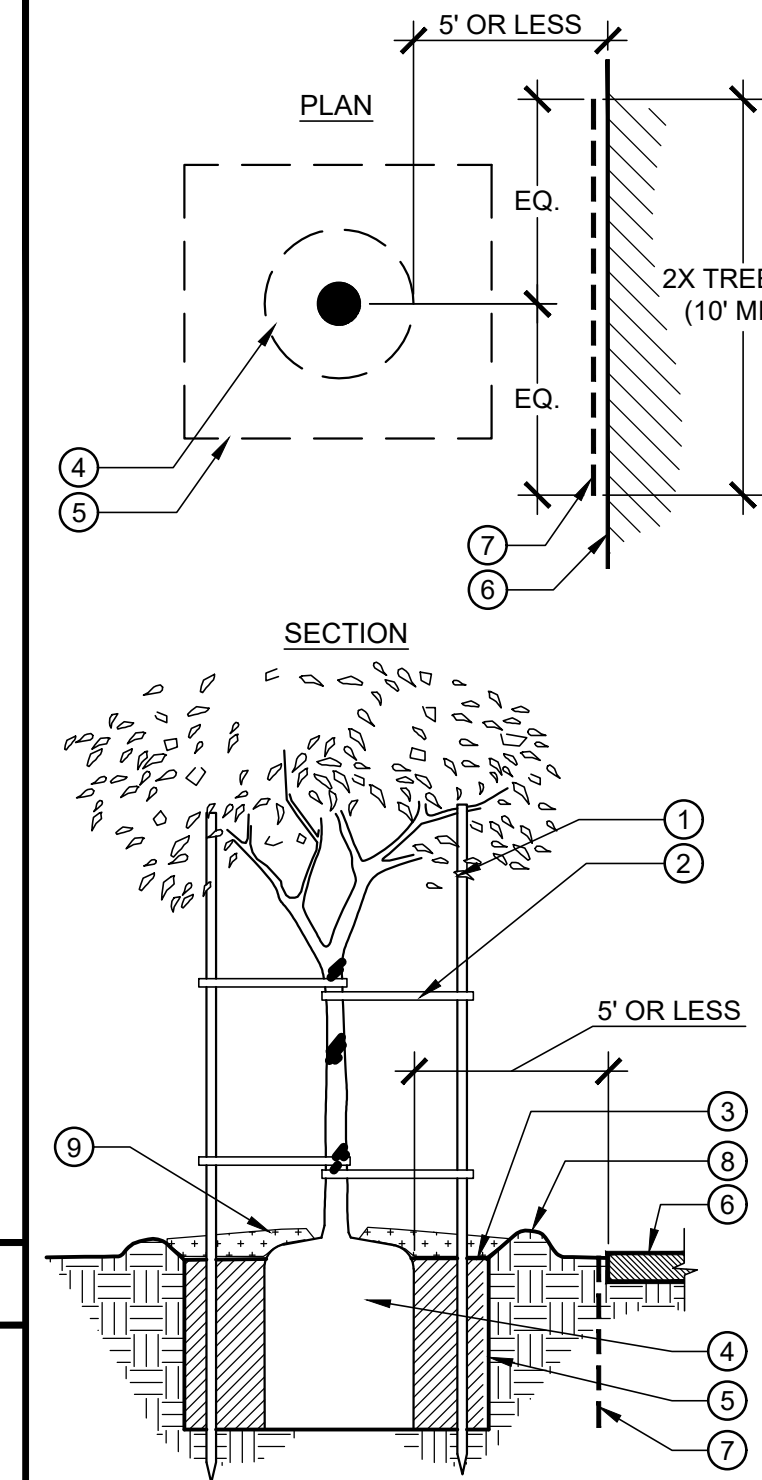
- PLANS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ENGINEER ANY PERCEIVED DISCREPANCY BEFORE THE START OF CONSTRUCTION.
- ANY SOIL PREPARATION AND PLANTING WITHIN THE DRIP LINE OF THE EXISTING TREES SHALL BE DONE BY HAND.
- PLANT QUANTITIES IN PLANTING LEGEND ARE FOR CONTRACTOR'S CONVENIENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL PLANTS SHOWN ON PLANTING PLANS.
- ALL PLANTS ARE TO BE INSTALLED OBSERVING THE MINIMUM SETBACK SHOWN IN THE PLANT LEGEND.
- PLANT SPACING SHOWN IN LEGEND IS FOR REFERENCE ONLY. CONTRACTOR TO LAYOUT PLANTS IN FIELD WITH EXACT QUANTITY FOR EACH LOCATION AS SHOWN IN PLANS FOR APPROVAL PRIOR TO PLANTING.
- ALL TREES ARE TO BE PLANTED MIN. 20' FROM EXISTING POWER POLES AND LIGHTS (WHERE APPLICABLE).
- CONTRACTOR SHALL PROVIDE 3" DEEP LAYERS OF MULCH: WOOD BY-PRODUCT OR DECOMPOSED GRANITE PER PLAN. USE DECOMPOSED GRANITE USED AS MULCH FOR INSIDE TREE WELL, MATCH D.G. MANUFACTURER AND COLOR PER DECOMPOSED GRANITE PAVING LISTED IN CONSTRUCTION MATERIAL LEGEND, EXCEPT WITH NO STABILIZER ADDED. WOOD BY-PRODUCT MULCH SHALL BE MEDIUM TO FINE TEXTURED (3/4" TO 2") GROUND WOOD BY-PRODUCT OR SHREDDED BARK MULCH AND BE DARK BROWN IN COLOR.



- LEGEND:**
- TWO (2) 10'-0" X 2" DIA. PRESSURE TREATED LODGEPOLE TREE STAKE (REFER TO SPECIAL PROVISIONS).
 - FASTEN TREE TO STAKES W/ TREE TIES BY SPECIAL PROVISIONS (TYP.) TWO (2) AT EACH STAKE.
 - MULCH WOOD BY-PRODUCT OR DECOMPOSED GRANITE (NO BINDER ADDED) PER PLAN.
 - FORM 3" HIGH BERM WATER BASIN FOR TREES IN PLANTING AREAS WITH WOOD MULCH. NO BERM FOR TREES PLANTED IN TREE WELLS WITH DECOMPOSED GRANITE, SEE NOTES BELOW. BACKFILL WATER BASIN W/3" OF UNCOMPACTED WOOD BY-PRODUCT MULCH.
 - FINISH GRADE.
 - BACKFILL MIX. REFER TO SPECIAL PROVISIONS.
 - ROOT BALL. SET TOP OF ROOT BALL 1" ABOVE FINISH GRADE.

- NOTE:**
- AFTER TREE IS PLANTED, PRUNE AND SHAPE AS DIRECTED AND APPROVED BY ENGINEER.
 - INSTALL TREE STAKES PERPENDICULAR TO THE PREVAILING WIND.
 - USE DECOMPOSED GRANITE, WITH NO BINDER ADDED, (NOT WOOD BY-PRODUCT MULCH) FOR TREES INSTALLED IN TREE WELLS (TREES LOCATED IN CONCRETE HEADER/CURB SCENARIO, REFER TO PLAN).
 - DO NOT COVER THE CROWN/BASE OF TRUNK WITH MULCH (WOOD OR DG PER PLAN).

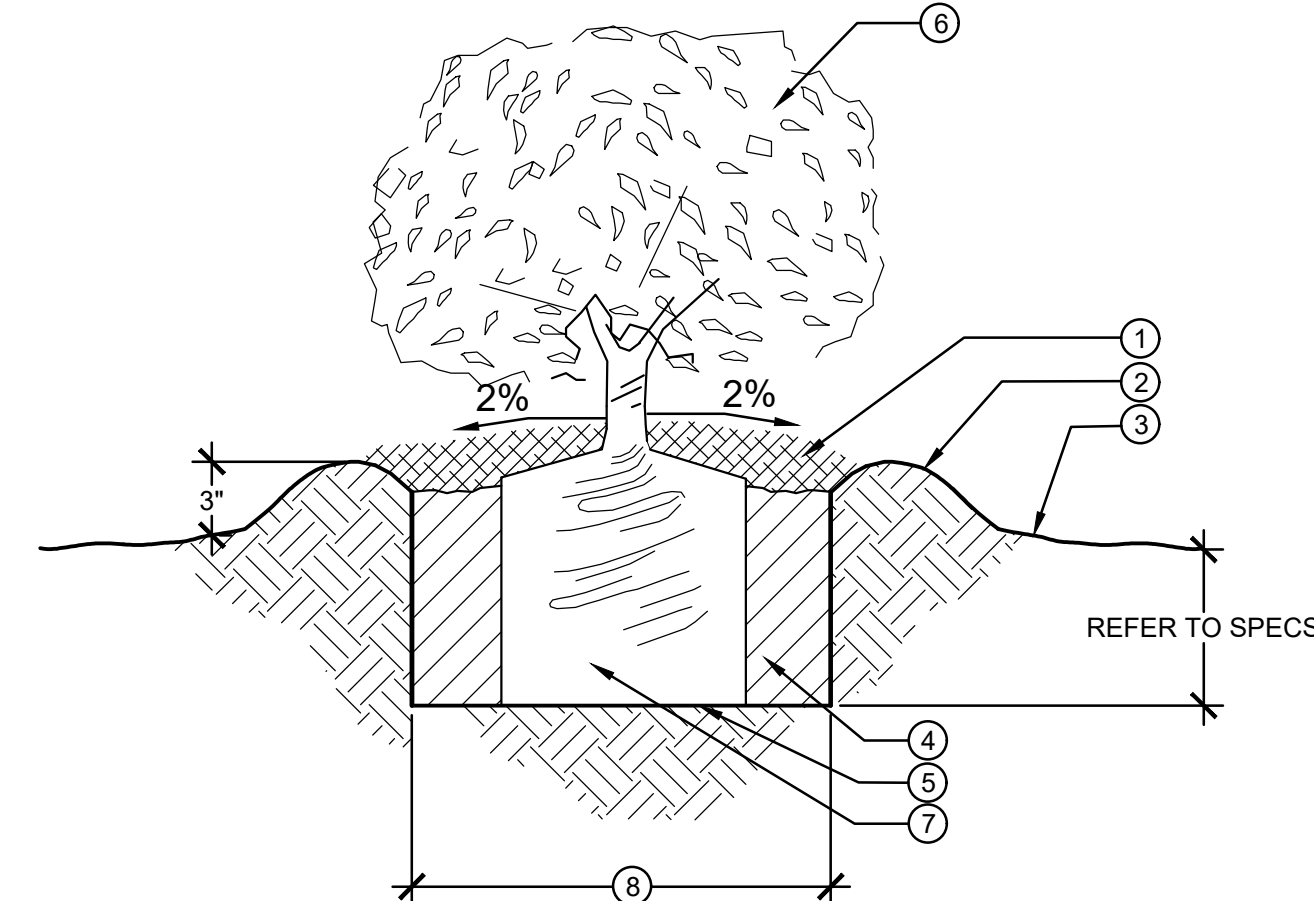
(C) TREE PLANTING/STAKING SCALE: NTS



- LEGEND:**
- TREE STAKE, SEE TREE PLANTING DETAIL.
 - TREE TIES, SEE TREE PLANTING DETAIL.
 - FINISH GRADE.
 - ROOTBALL.
 - TREE PIT.
 - HARDSCAPE ELEMENT.
 - ROOT BARRIER BY DEEP ROOT, ROOT BOOSTER OR APPROVED EQUAL (24" DEEP).
 - 3" HIGH BERM, SEE TREE PLANTING DETAIL.
 - MULCH WOOD BY-PRODUCT OR DECOMPOSED GRANITE (NO BINDER ADDED) PER PLAN.

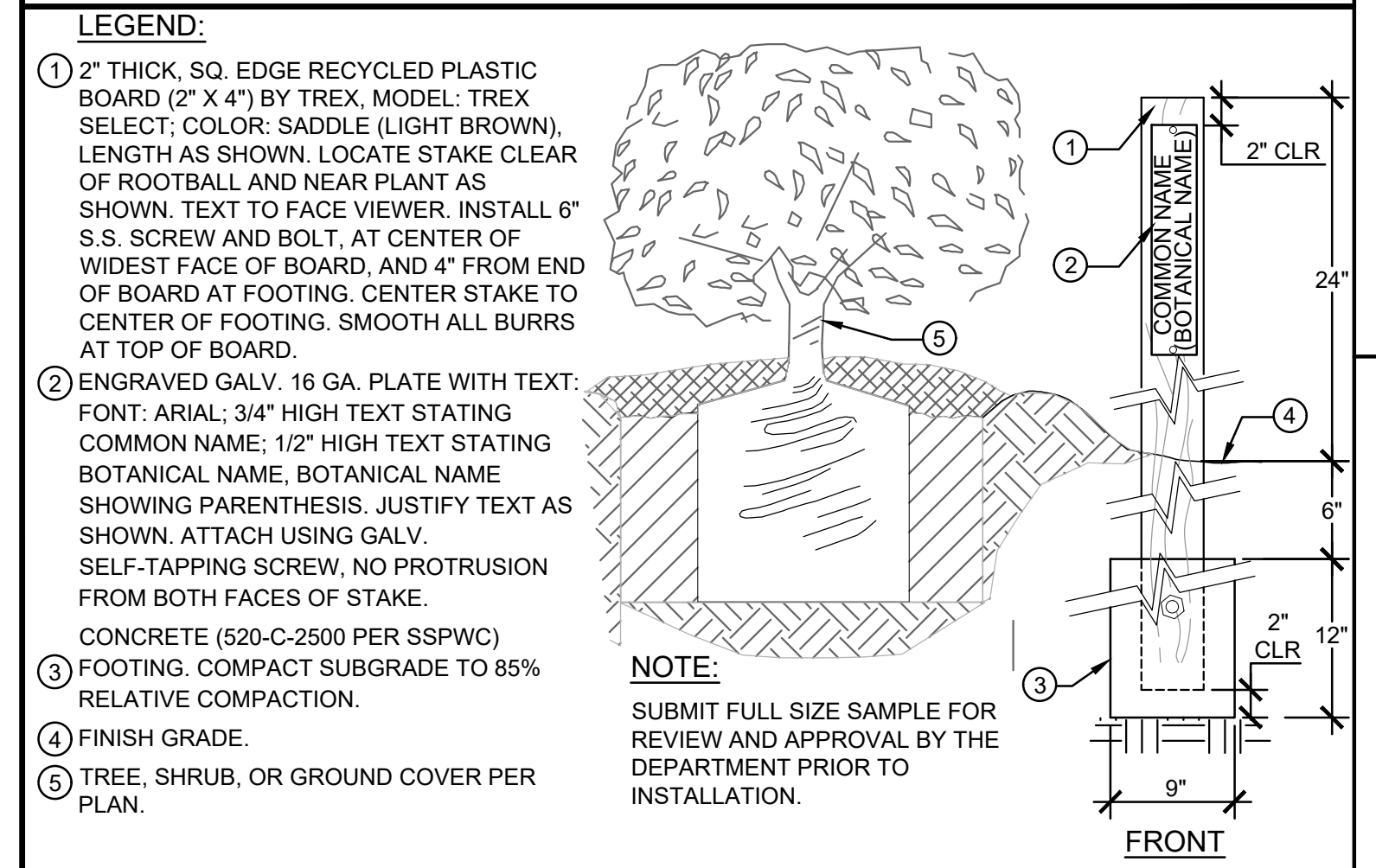
- NOTES:**
- INSTALL ROOT BARRIER IN LINEAR FASHION, PARALLEL AND ADJACENT TO HARDSCAPE ELEMENTS.
 - INSTALL ROOT BARRIER WHERE EDGE OF ROOTBALL IS 5' OR LESS AWAY FROM NEARBY PAVING AND VERTICAL ELEMENTS SUCH AS CURBS, WALLS, FOOTINGS OR ELEMENTS PRONE TO ROOT DAMAGE.
 - DO NOT ENCOMPASS THE ENTIRE ROOTBALL WITH ROOT BARRIER.

(A) ROOT BARRIER SCALE: NTS



- LEGEND:**
- BACKFILL WATER BASIN W/3" OF UNCOMPACTED MULCH. KEEP MULCH AWAY FROM CROWN.
 - FORM 3" HIGH BERM AROUND BASIN.
 - FINISH GRADE.
 - BACKFILL MIX. REFER TO SPECIAL PROVISIONS.
 - FOOT TAMP NATIVE SOIL AS NECESSARY.
 - SHRUB/GROUND COVER
 - ROOT BALL. SET TOP ROOTBALL 1" ABOVE FINISH GRADE.
 - REFER TO SPECIAL PROVISIONS.

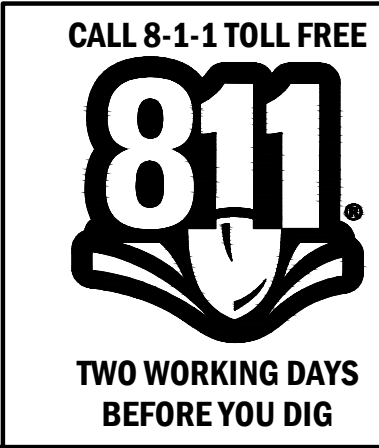
(D) SHRUB PLANTING SCALE: NTS



- LEGEND:**
- 2" THICK, SQ. EDGE RECYCLED PLASTIC BOARD (2" X 4") BY TREX, MODEL: TREX SELECT, COLOR: SADDLE (LIGHT BROWN), LENGTH AS SHOWN. LOCATE STAKE CLEAR OF ROOTBALL AND NEAR PLANT AS SHOWN. TEXT TO FACE VIEWER. INSTALL 6" S.S. SCREW AND BOLT, AT CENTER OF WIDEST FACE OF BOARD, AND 4" FROM END OF BOARD AT FOOTING. CENTER STAKE TO CENTER OF FOOTING. SMOOTH ALL BURRS AT TOP OF BOARD.
 - ENGRAVED GALV. 16 GA. PLATE WITH TEXT: FONT: ARIAL; 3/4" HIGH TEXT STATING COMMON NAME; 1/2" HIGH TEXT STATING BOTANICAL NAME, BOTANICAL NAME SHOWING PARENTHESIS. JUSTIFY TEXT AS SHOWN. ATTACH USING GALV. SELF-TAPPING SCREW, NO PROTRUSION FROM BOTH FACES OF STAKE.
 - CONCRETE (520-C-2500 PER SSPWC) FOOTING. COMPACT SUBGRADE TO 85% RELATIVE COMPACTION.
 - FINISH GRADE.
 - TREE, SHRUB, OR GROUND COVER PER PLAN.
- NOTE:**
SUBMIT FULL SIZE SAMPLE FOR REVIEW AND APPROVAL BY THE DEPARTMENT PRIOR TO INSTALLATION.

(B) PLANT IDENTIFICATION TAG SCALE: NTS

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DATE	MK	DESCRIPTION
REVISIONS		

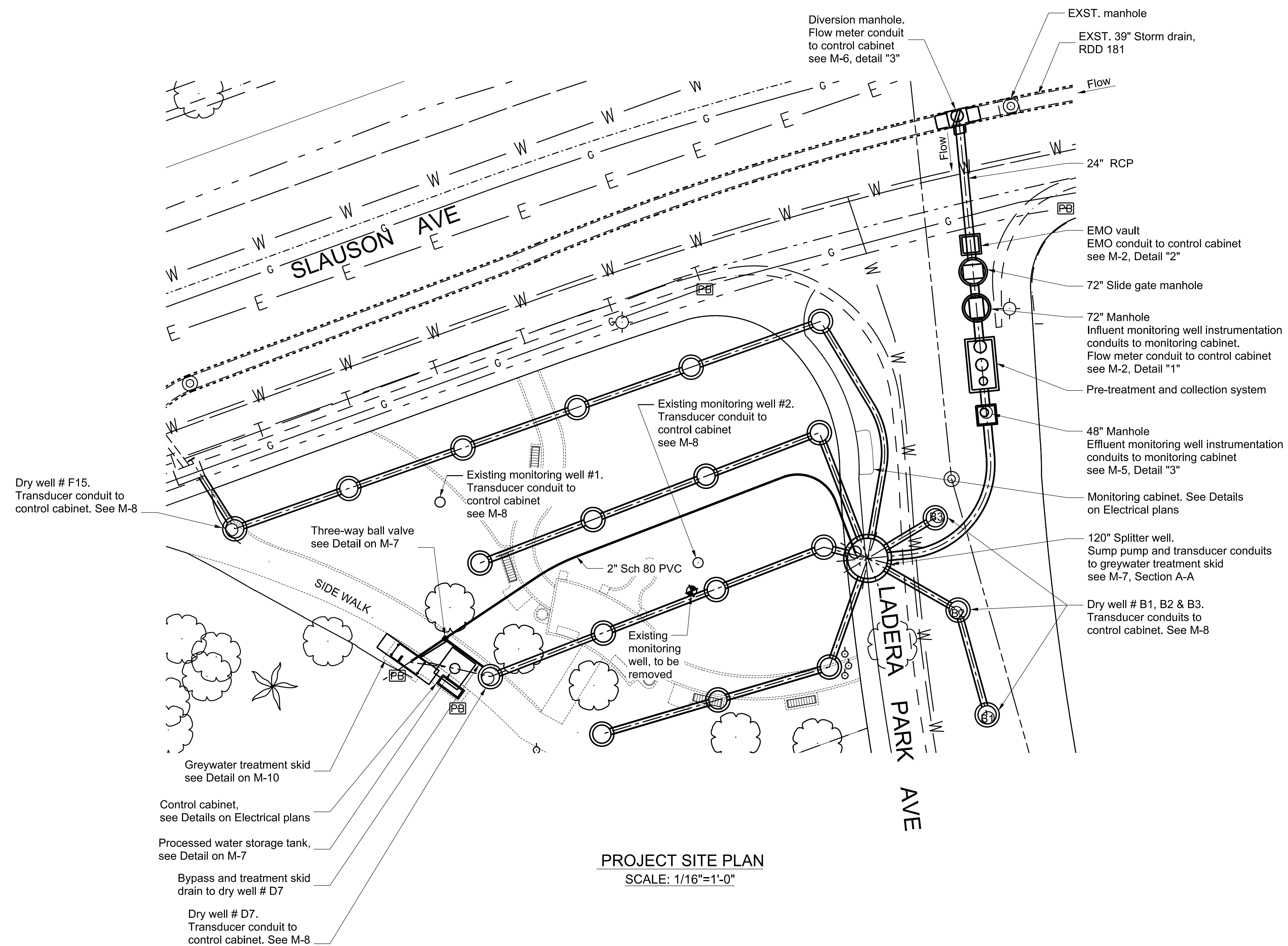


COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK
STORMWATER IMPROVEMENTS
LANDSCAPE IMPROVEMENTS
PROJECT ID NO. SWQ0000003
PLANTING NOTES AND DETAILS

PCA P97027AC DWG 181-271-D4 SHEET 27 OF 45

AS BUILT DRAWINGS



REVIEWER: O. PONGPUN
 CHECKER: I. FONG
 DESIGNER: J. UNGILFONG
 CADD PROJECT FILE NAME: DES0002980.LADERA PARK STORMWATER CAPTURE PROJECT.MECH.M1

LEGEND

EMO	Electric motor operator	SD	Storm drain	-W-	Water Line
EL.	Elevation	MH	Manhole	-E-	Electric Line
TYP.	Typical	EXST.	Existing	-T-	Telephone Line
				-G-	Gas Line

DRAWING NUMBER:			
(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
		REVISIONS	



PD053138

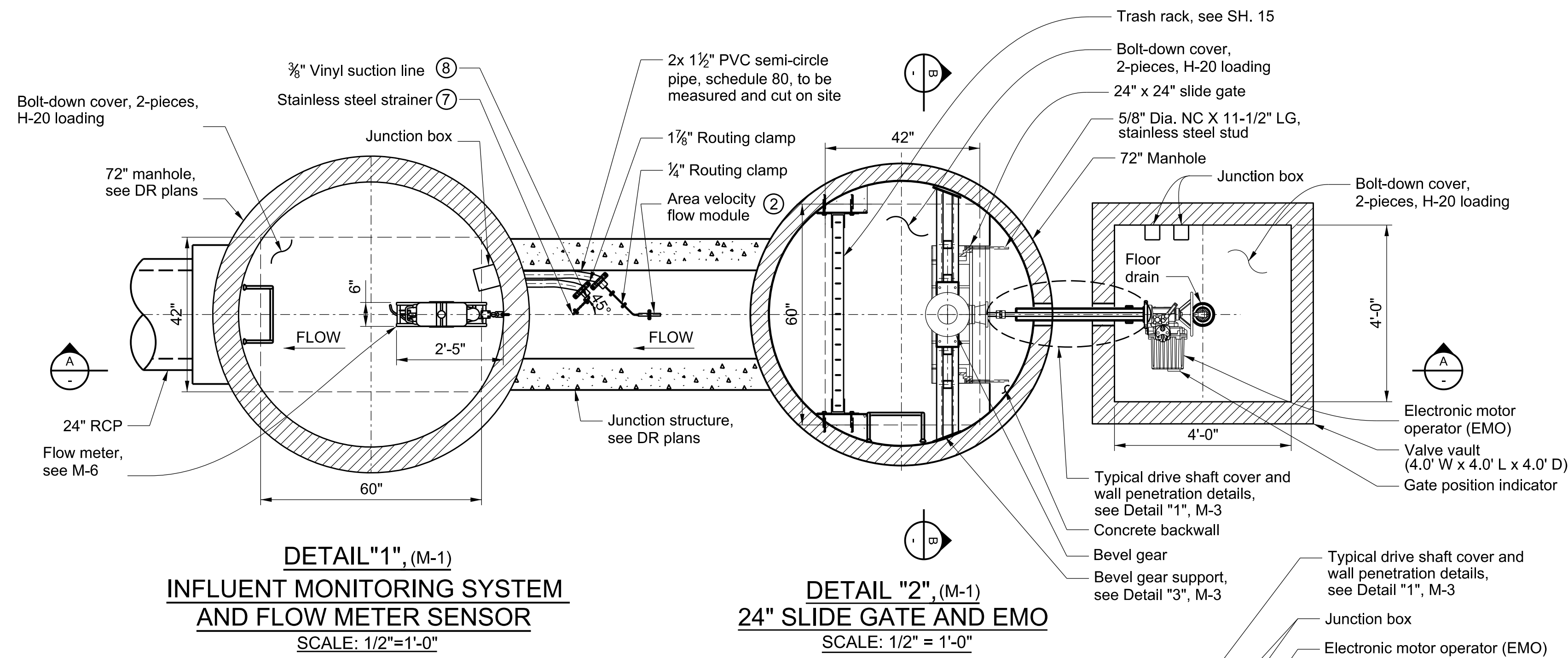
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**LADERA PARK
STORMWATER IMPROVEMENTS
PROJECT SITE PLAN**

PROJECT ID NO. SWQ000003

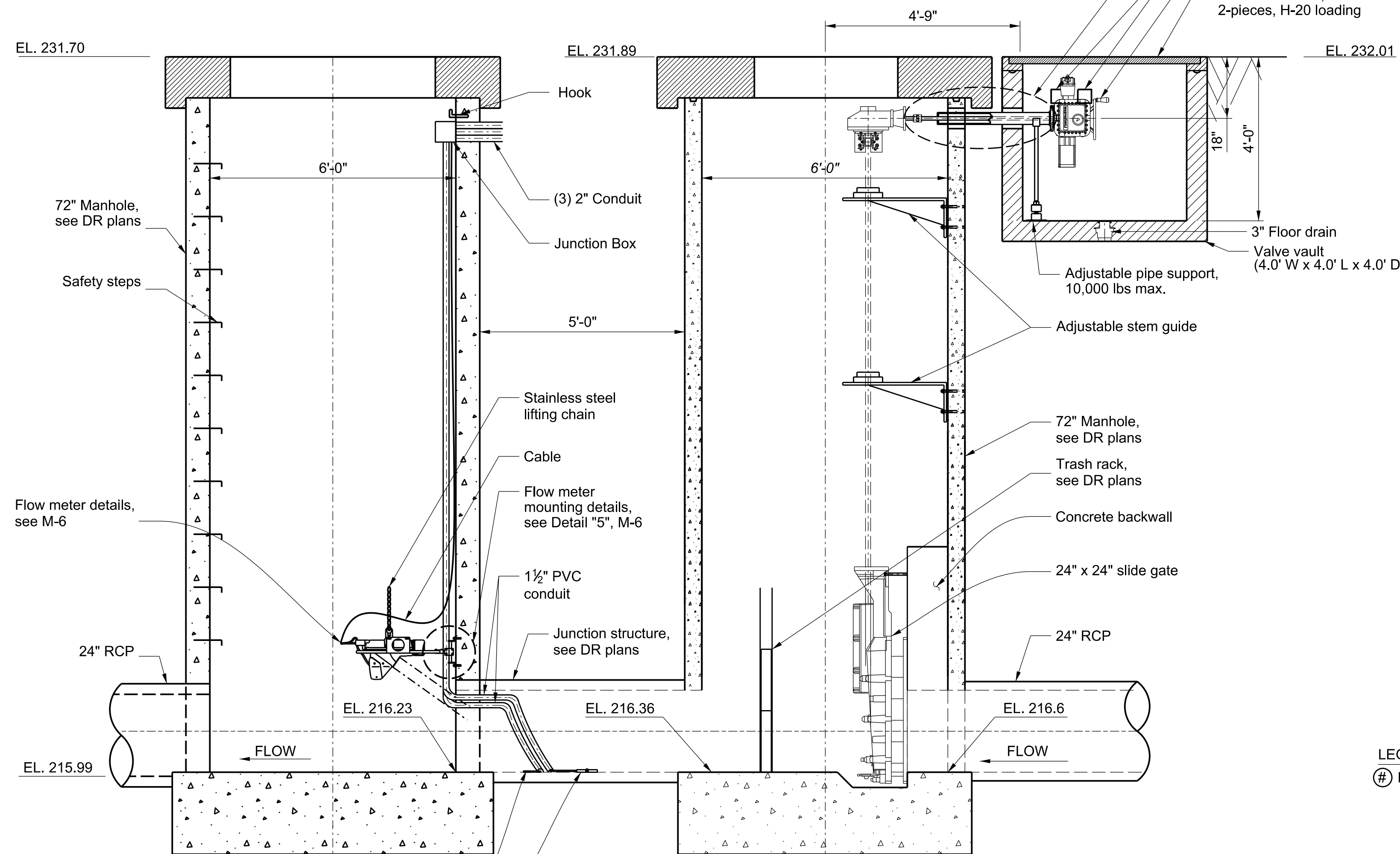
M-1

PCA P97027AC DWG 181-271-D26 SHEET 28 OF 45



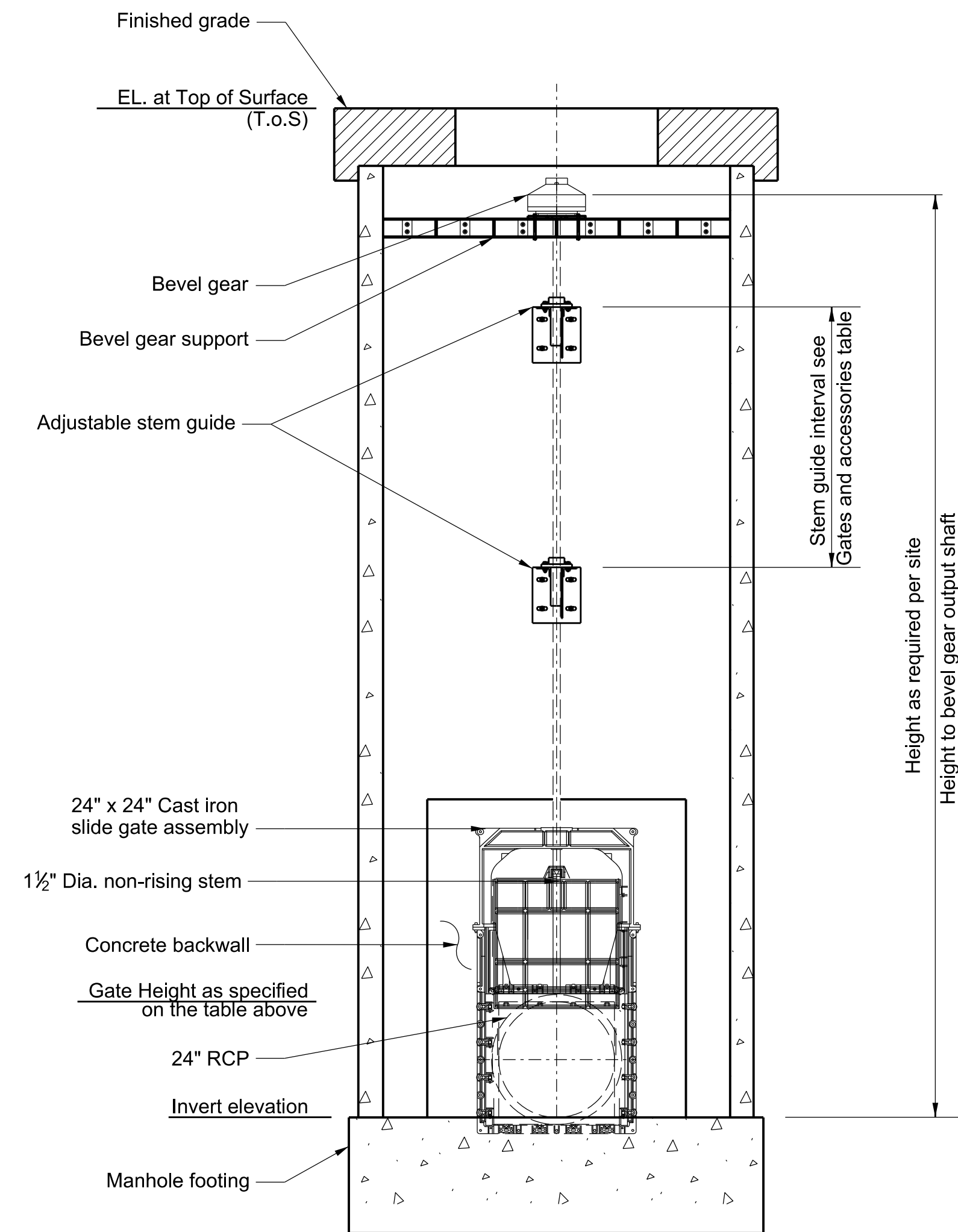
DETAIL "1", (M-1)
INFLUENT MONITORING SYSTEM
AND FLOW METER SENSOR
 SCALE: 1/2" = 1'-0"

DETAIL "2", (M-1)
24" SLIDE GATE AND EMO
 SCALE: 1/2" = 1'-0"



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

GATES AND ACCESSORIES									
Gate Type	Gate Size	Qty.	Invert EL. (ft)	EL. at TOS (ft)	Gate Height (in)	Stem Dia. (in)	Drive Shaft Length (ft)	Min. Stem Guides	Max. Stem Guide Interval
Cast-iron slide gate	24"x24"	1	216.6	231.89	24	1.5	3.0	2.0	4.5

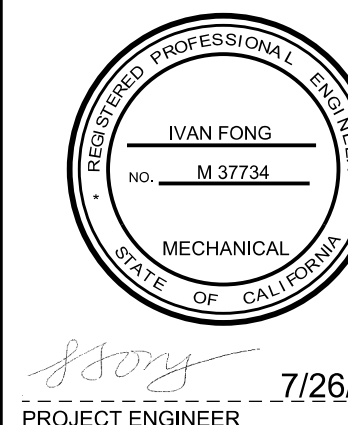


SECTION B-B
 SCALE: 1/2" = 1'-0"

LEGEND:
 # Equipment items will be shown on a table on M-5

REVIEWER: O. PONGPUN
 CHECKER: I. FONG
 DESIGNER: J. UNGILFONG
 CADD PROJECT FILE NAME: DES0002980-LADERA PARK STORMWATER CAPTURE PROJECT.MECH.M2

DRAWING NUMBER:			
(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
		REVISIONS	



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

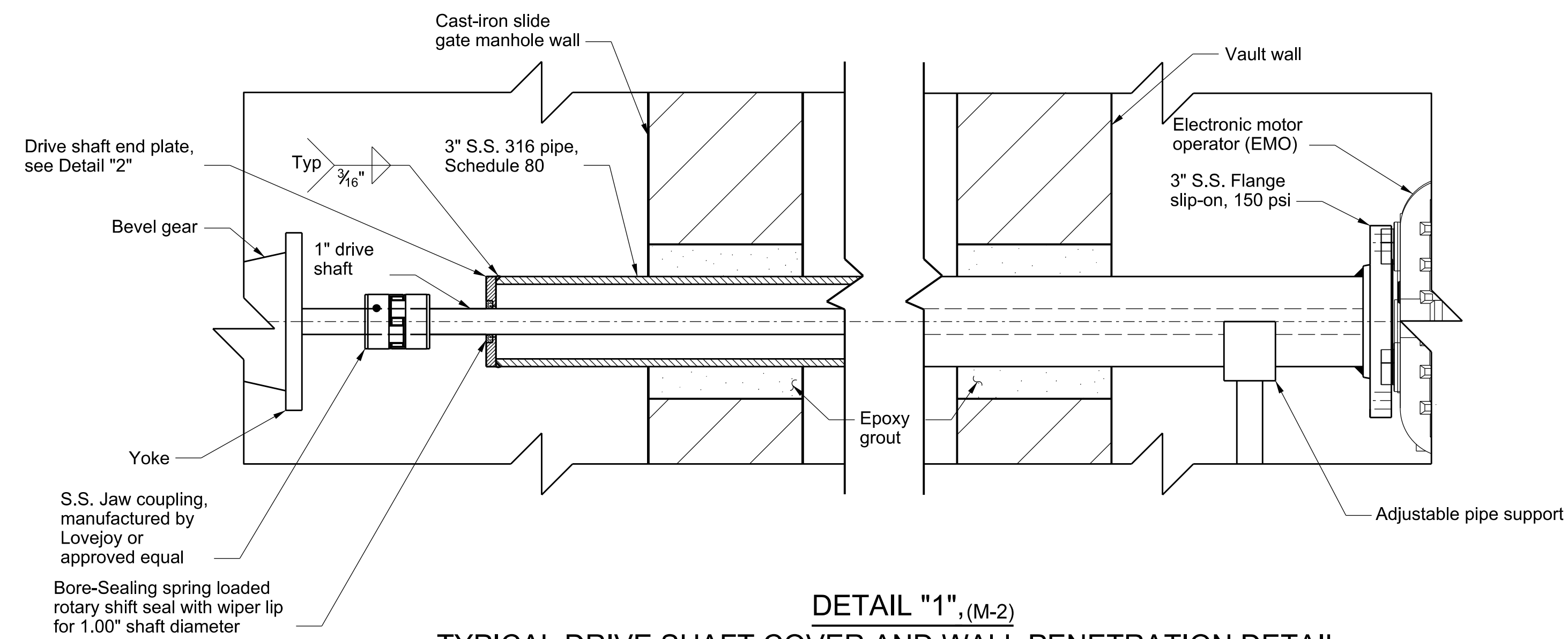
LADERA PARK
STORMWATER IMPROVEMENTS
FLOW METER AND 24" SLIDE GATE DETAILS

PROJECT ID NO. SWQ000003

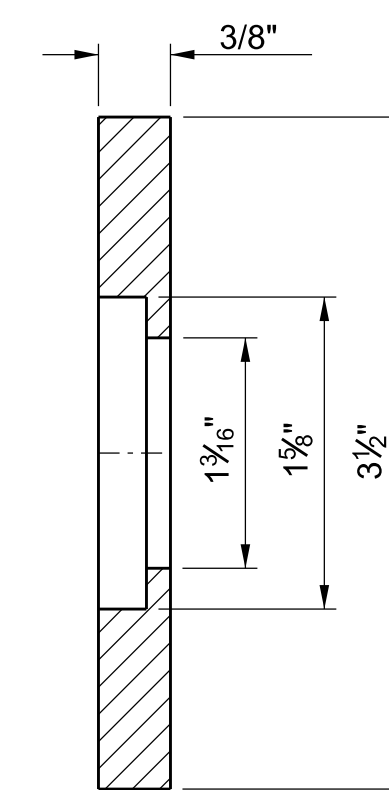
DATE: 7/26/2018
 PROJECT ENGINEER: [Signature]
 DATE: 7/26/2018

PCA P97027AC DWG 181-271-D27 SHEET 29 OF 45

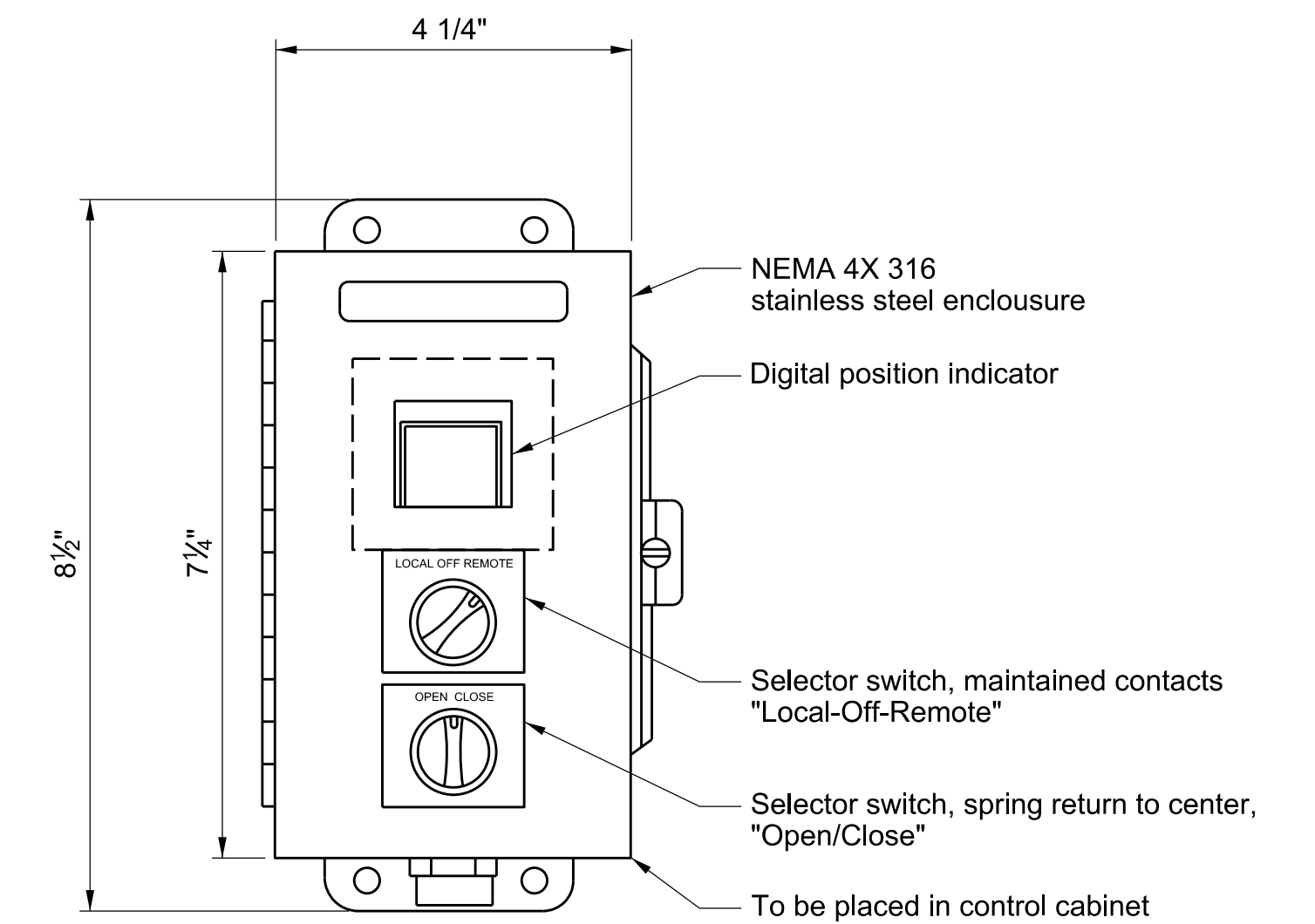
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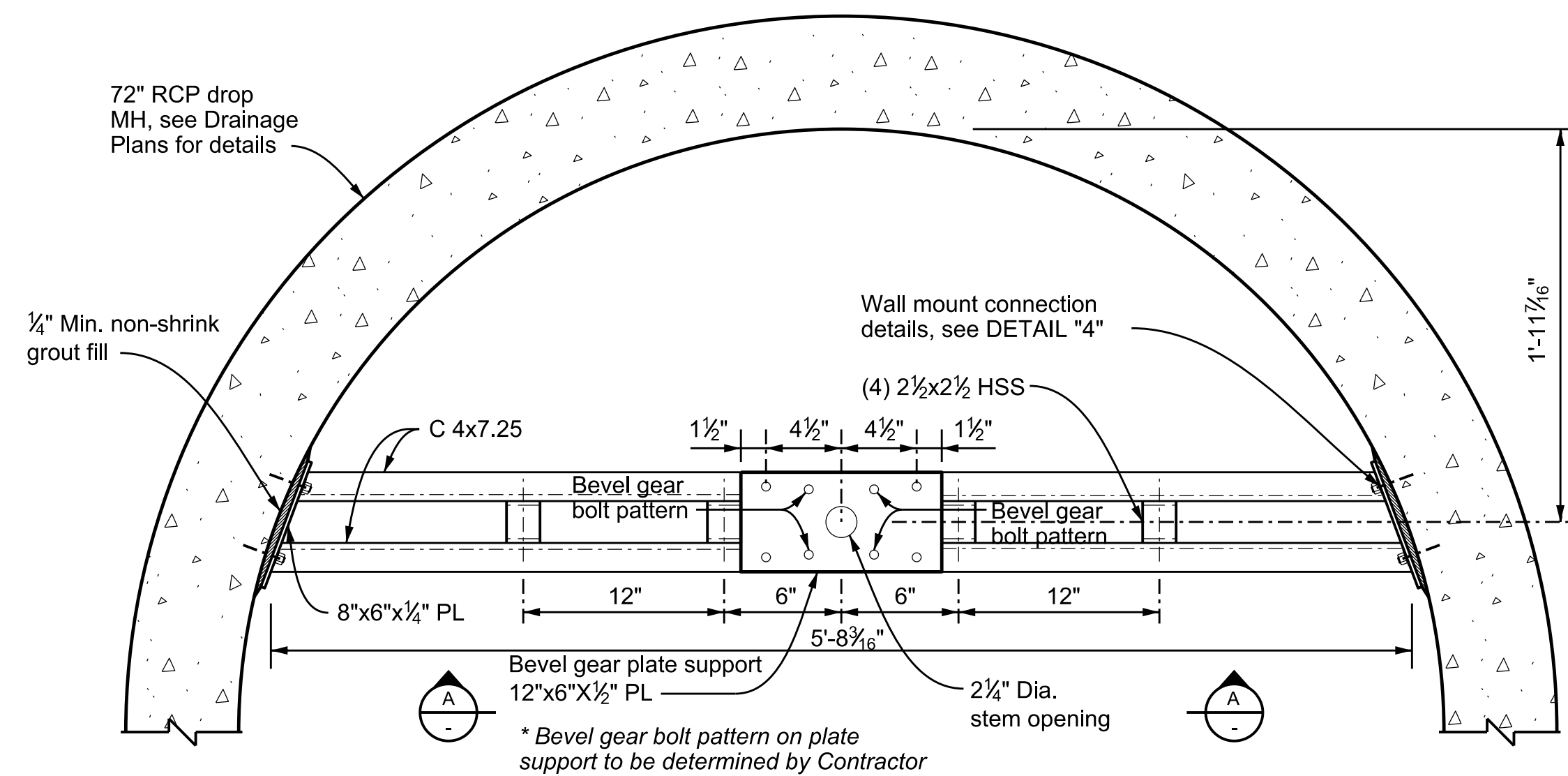
DETAIL "1", (M-2)
TYPICAL DRIVE SHAFT COVER AND WALL PENETRATION DETAIL
 SCALE: 3" = 1'-0"



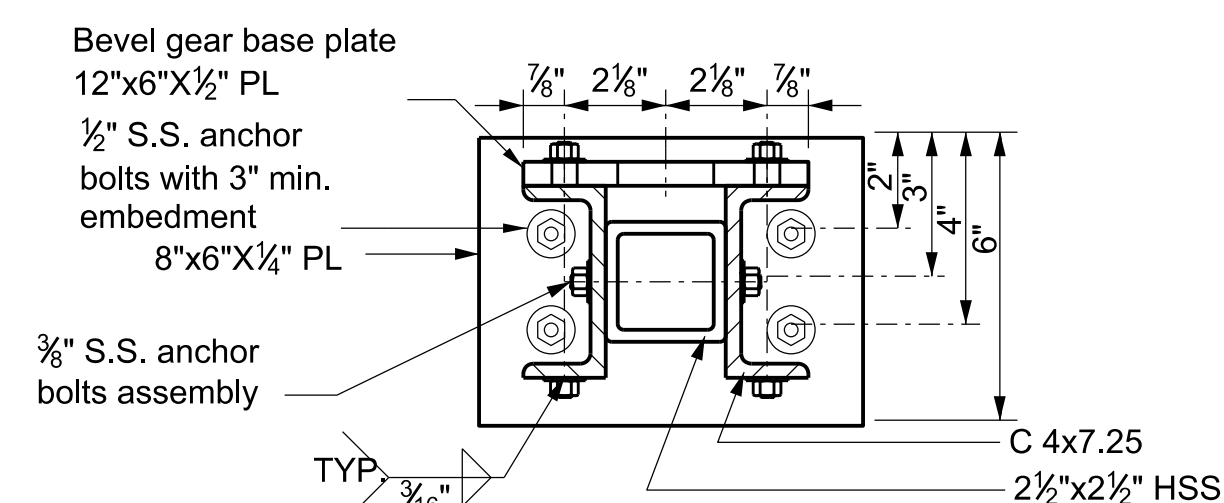
DETAIL "2"
DRIVE SHAFT COVER
END PLATE DETAIL
 SCALE: FULL SIZE 1=1



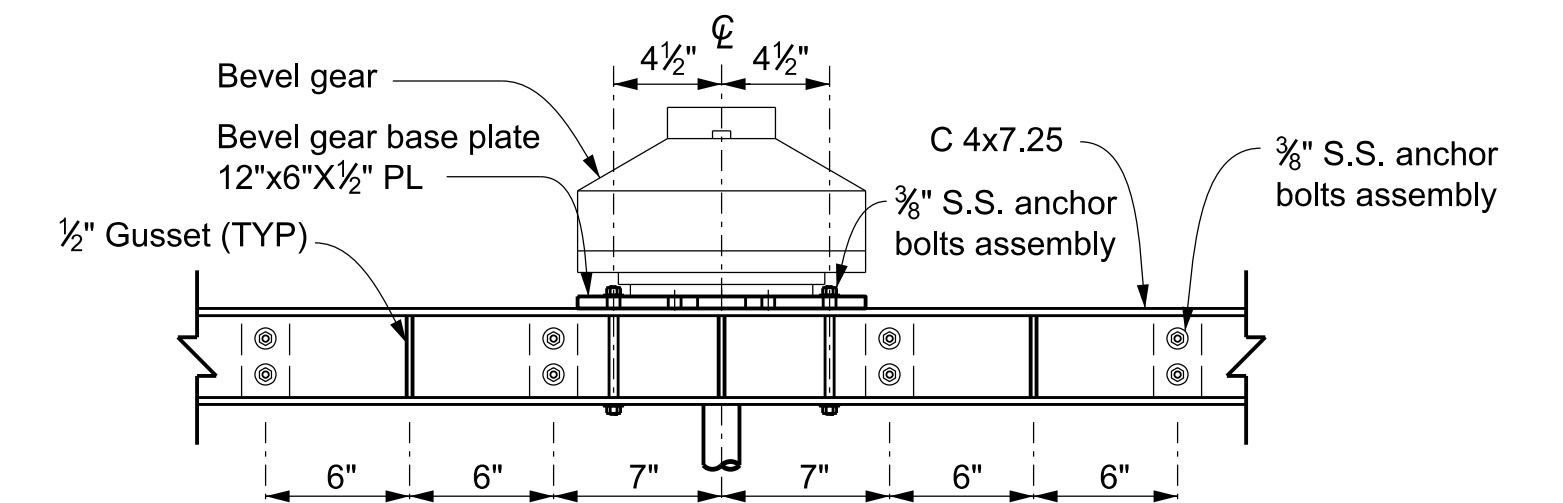
TYPICAL REMOTE CONTROLLER FOR EMO
 SCALE: NOT TO SCALE



DETAIL "3", (M-2)
BEVEL GEAR SUPPORT
 SCALE: 1 1/2" = 1'-0"



DETAIL "4"
BEVEL GEAR SUPPORT MOUNTING
 SCALE: 3" = 1'-0"

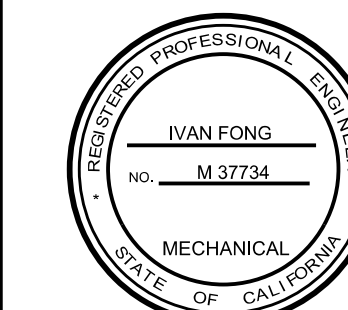


SECTION A-A
BEVEL GEAR SUPPORT
 SCALE: 1 1/2" = 1'-0"

REVIEWER: O. PONGPUN
 CHECKER: I. FONG
 DESIGNER: J. UNGILFONG
 CADD PROJECT FILE NAME: DES0002980.LADERA PARK STORMWATER CAPTURE PROJECT.MECH.M3

PD053138

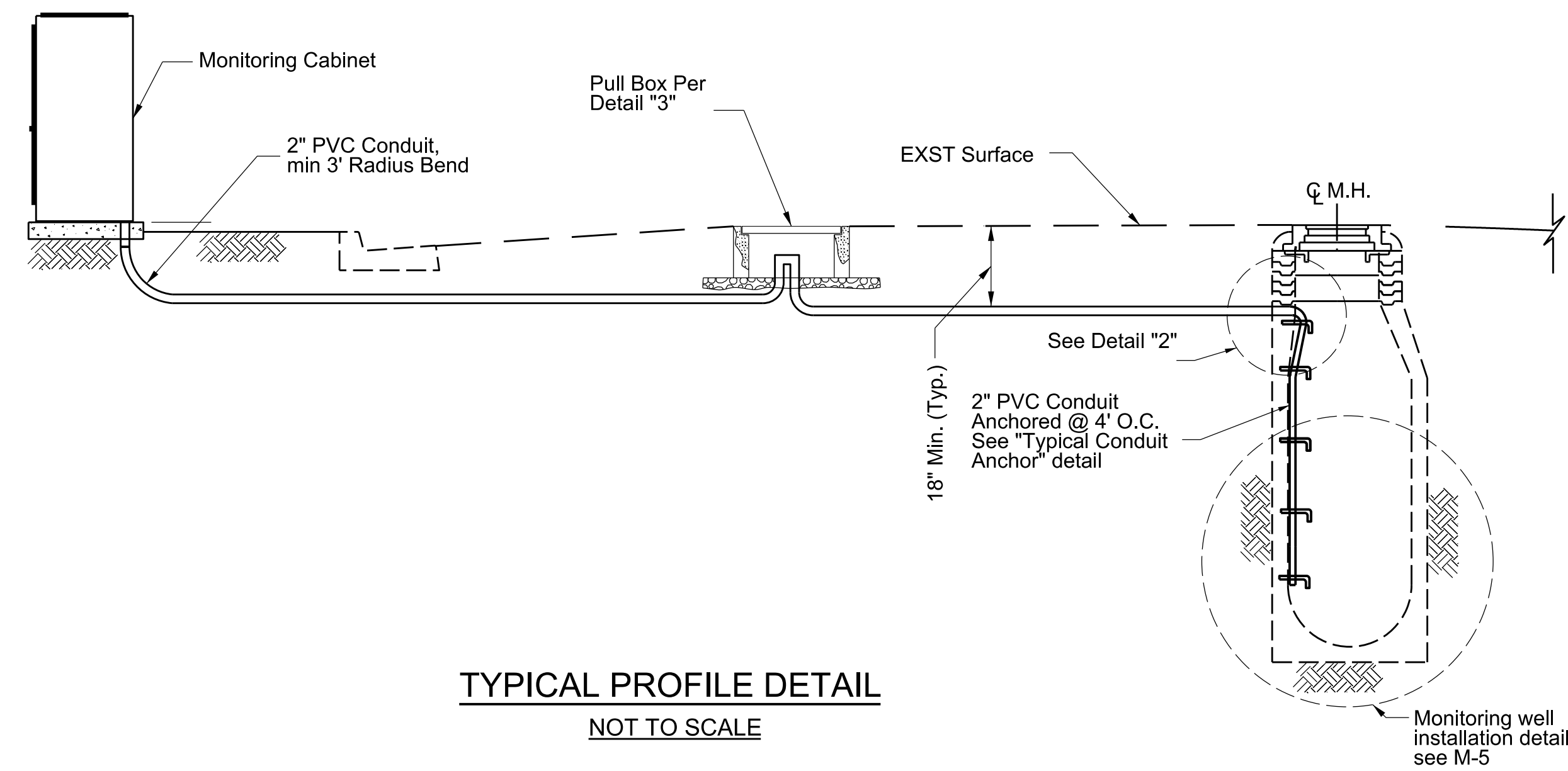
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(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
REVISIONS			
PROJECT ENGINEER		DATE	



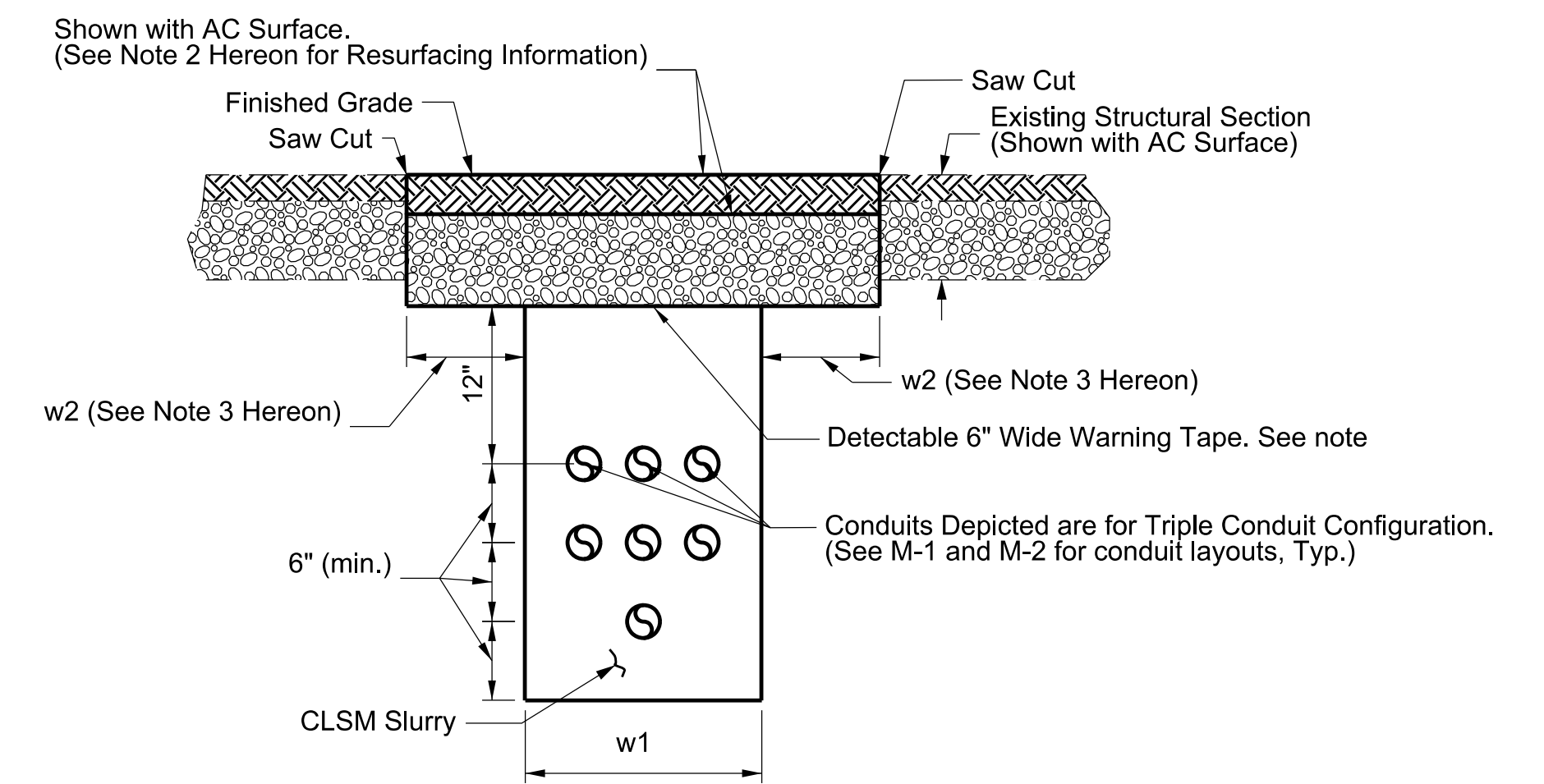
7/26/2018
 PROJECT ENGINEER

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS			
LADERA PARK STORMWATER IMPROVEMENTS BEVEL GEAR SUPPORT DETAILS			
PROJECT ID NO. SWQ0000003			M-3
PCA P97027AC	DWG 181-271-D28	SHEET 30	OF 45

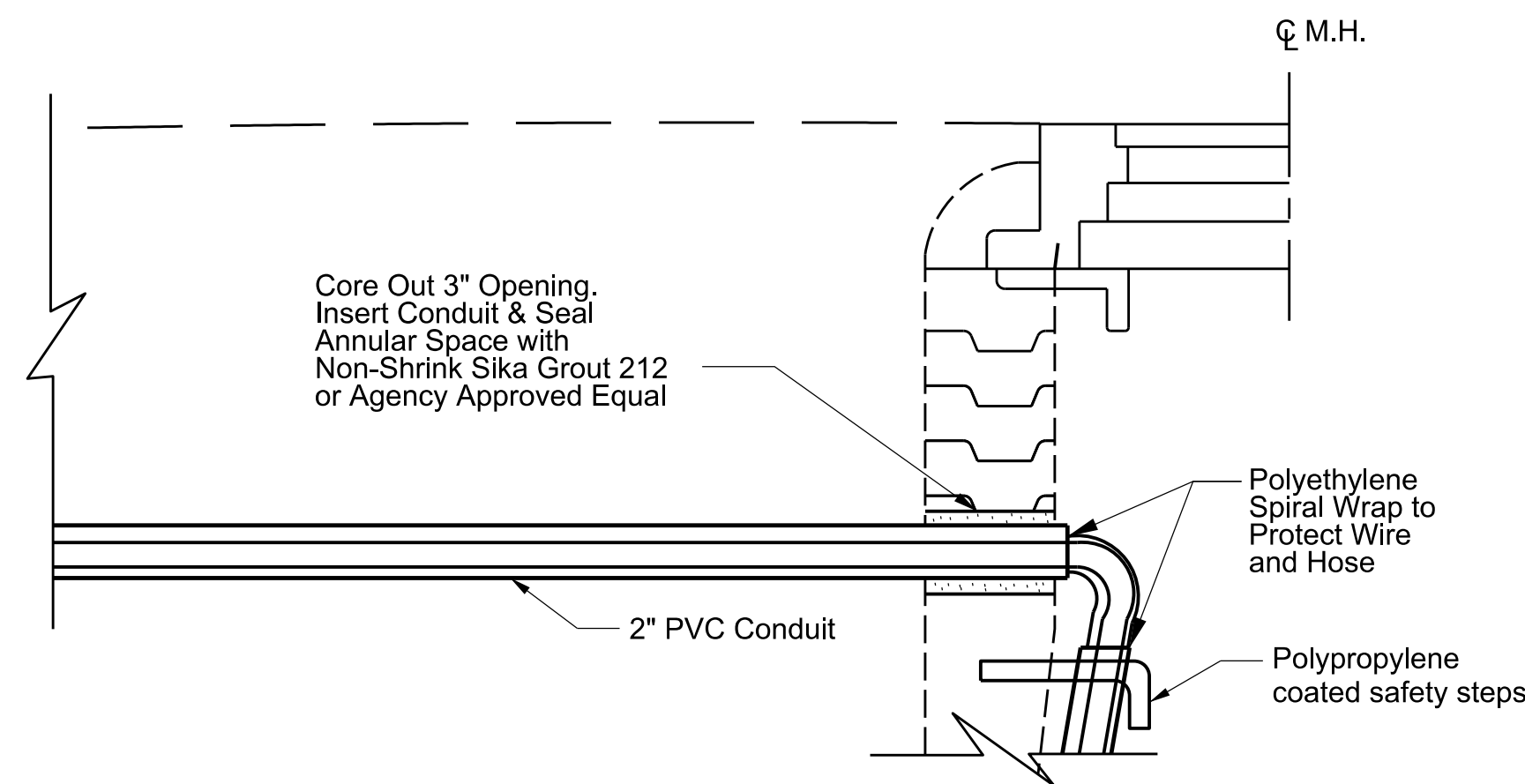
AS BUILT DRAWINGS



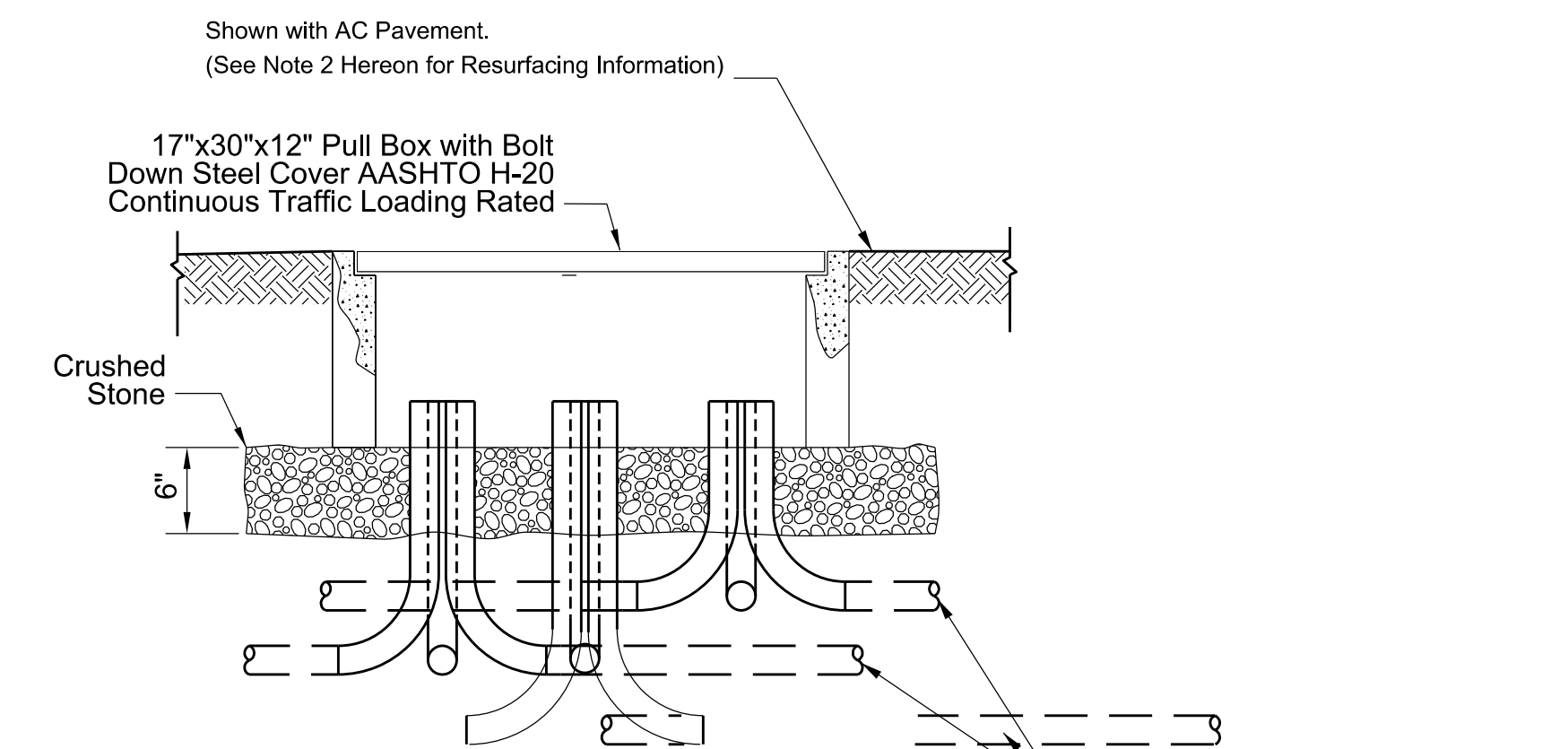
TYPICAL PROFILE DETAIL
NOT TO SCALE



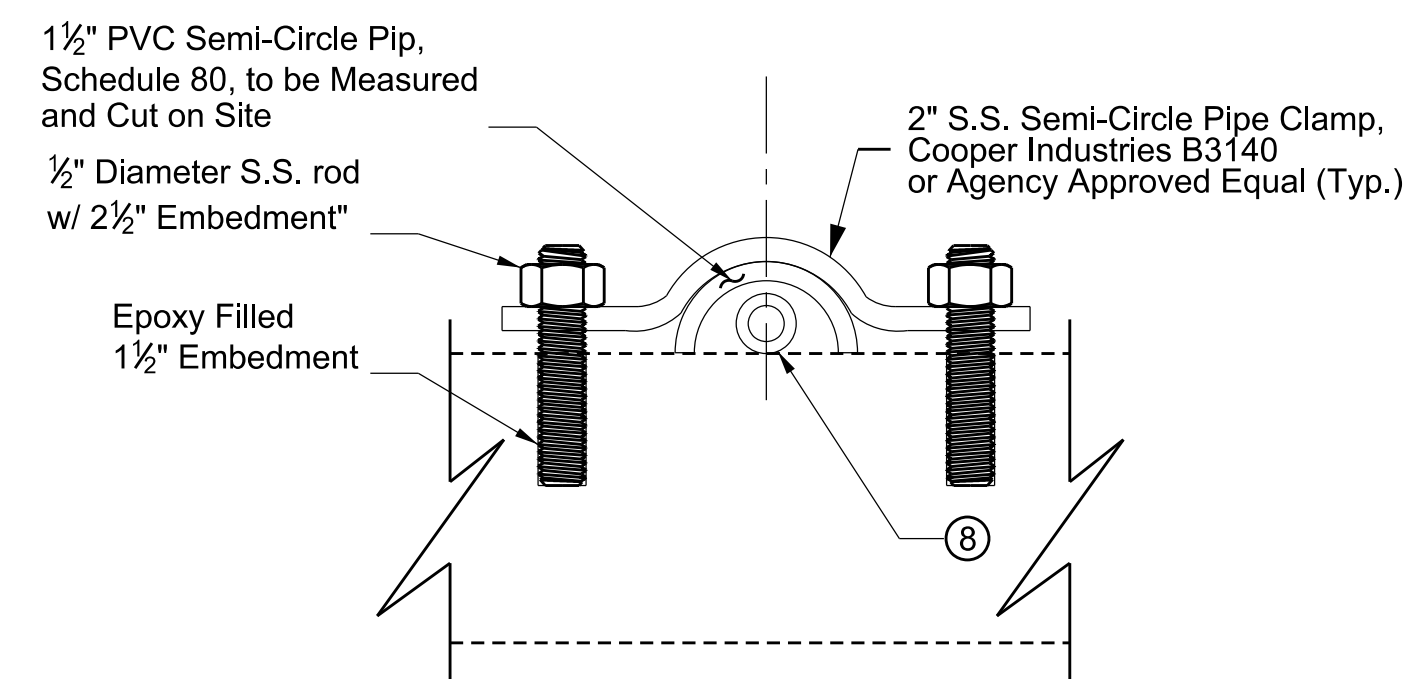
TYPICAL TRENCH SECTION
NOT TO SCALE



DETAIL "2"
NOT TO SCALE



DETAIL "3"
TYPICAL PULL BOX DETAIL
NOT TO SCALE



TYPICAL CONDUIT ANCHOR
SCALE: 6" = 1'-0"

Note 1:
Mark the following warning on the 6" wide warning tape:
"CAUTION BURIED ELECTRIC LINES BELOW"

Note 2:
For trenches and pull boxes in roadway, replace in kind thickness + 1" and CMB thickness + 1"
For trenches and pull boxes in sidewalk, replace concrete existing thickness
For trenches and pull boxes in park, replace with native fill

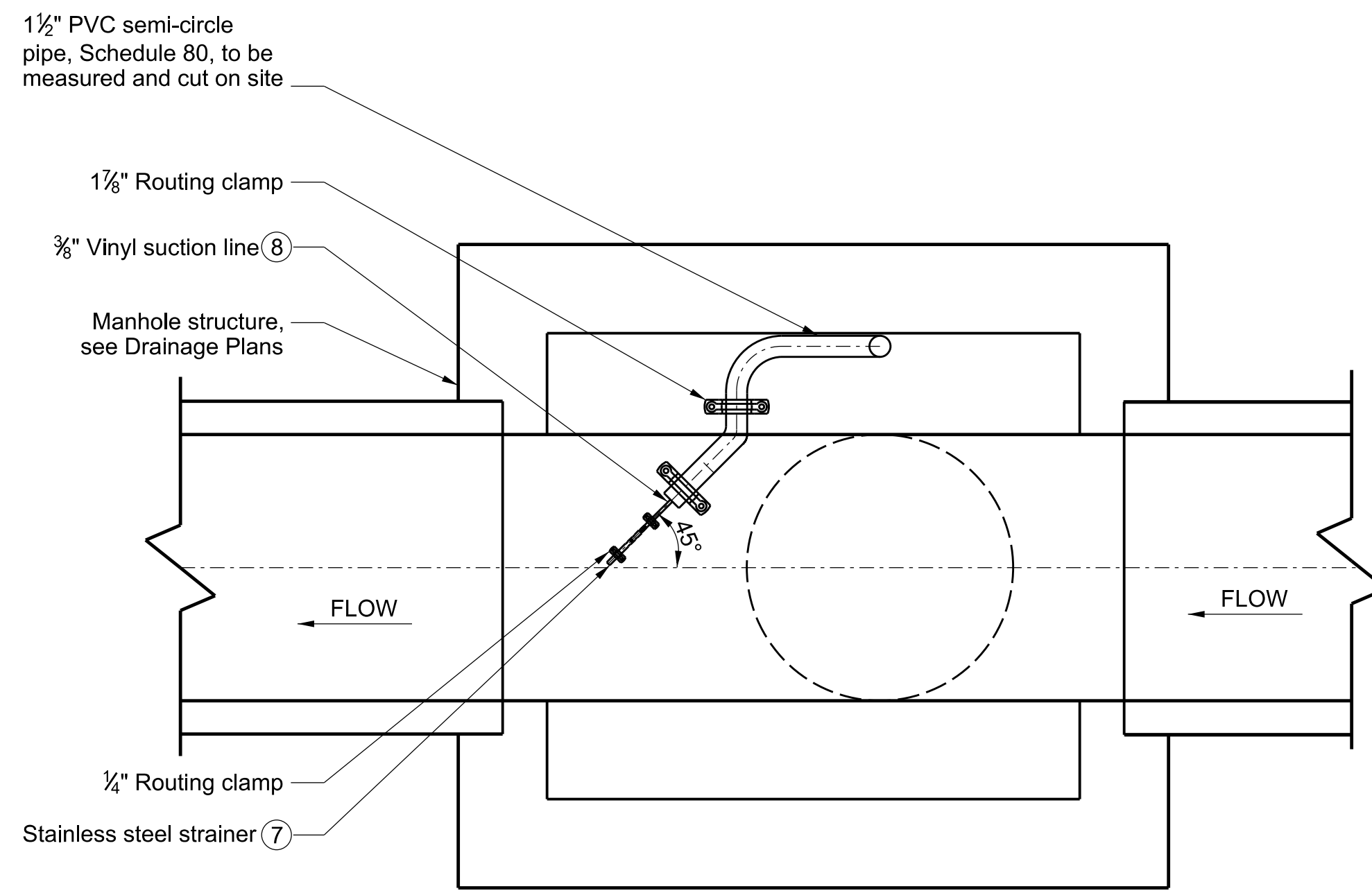
Note 3:
w1 shall be 6" for trenches with one or two conduit.
w1 shall be 12" for trenches with three or more conduits.
w2 shall be 0" for all trenches in park or sidewalk.
w2 shall be 6" for all trenches in the roadway.
Conduits will be buried at equal depths for trenches with 1-3 conduits.
Conduits will be placed in two rows for trenches with 4-6 conduits.
Conduits will be placed in three rows (as shown above) for trenches with 7 conduits.

REVIEWER: O. PONGPUN
 CADD PROJECT FILE NAME: DES0002980.LADERA PARK STORMWATER CAPTURE PROJECT.MECH.M4
 CHECKER: I. FONG
 DESIGNER: J. UNGILFONG

PD053138

DRAWING NUMBER:					COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS	
(MARK AS-BUILT HERE)					LADERA PARK STORMWATER IMPROVEMENTS CONDUIT AND TRENCHING DETAILS PROJECT ID NO. SWQ0000003	
DATE	MK	DESCRIPTION		PROJECT ENGINEER: <i>I. Fong</i> 7/26/2018 DATE: 7/26/2018	PCA	P97027AC
REVISIONS					DWG	181-271-D29

AS BUILT DRAWINGS



DETAIL "3", (M-1)
EFFLUENT MONITORING WELL
SCALE: 1"=1'-0"

MONITORING WELL EQUIPMENT AND ACCESSORIES			
Item no.	Description	Quantity	Remarks
①	ISCO 6712C Portable Sampler	2	Teledyne ISCO/MCRT (Model # 68-6710-071)
②	ISCO 750 Low Profile Area Velocity Flow Module (75FT) and Low Profile Velocity Sensor Measure 10 FT level range	1	Teledyne ISCO/MCRT (Model # 60-9004-030)
③	ISCO Model 913 High Capacity Power Pack (ACDC converter)	2	Teledyne ISCO/MCRT (Model # 60-1684-088)
④	Submerged probe (flow sensor) with 75ft cable, measure 10 ft level range	1	Teledyne ISCO/MCRT (Model # 60-5314-271)
⑤	ISCO Sensor Mounting Plate	1	Teledyne ISCO/MCRT (Model # 60-3204-029)
⑥	ISCO Stainless Steel Strainer (3/8")	2	Teledyne ISCO/MCRT (Model # 60-2903-138)
⑦	ISCO 3/8" vinyl suction line - 200 feet, SPA 491	2	Teledyne ISCO/MCRT (Model # 60-5304-491)
⑧	ISCO Tubing coupler, 3/8". One-piece, clampless coupler made of stainless steel	2	Teledyne ISCO/MCRT (Model # 60-3709-002)
⑨	ISCO SPA 1026 - 12 foot length (cut to length cable; connector between auto-sampler with simultaneous sampling)	1	Teledyne ISCO/MCRT (Model # 60-5314-026)
⑩	ISCO 6712Ci Modem CDMA (cellular) with 60-2004-550 dual band magentic mount antenna	1	Teledyne ISCO/MCRT (Model # 60-5324-172)
⑪	ISCO 674 Rain Gauge	1	Teledyne ISCO/MCRT (Model # 60-3284-001)
⑫	Steel Cabinet (42"H x 48"W x 32"D) or equivalent	1	
MISCELLANEOUS/GENERAL ITEMS			
⑬	ISCO 2.5-gallon glass around bottle with cap	4	Teledyne ISCO/MCRT (Model # 68-6700-005)
⑭	ISCO USB Communication Cable (10 feet) (optional)	1	Teledyne ISCO/MCRT (Model # 60-2004-508)
⑮	ISCO Pump Tubing for 6700 series sampler (10 tubes)	1	Teledyne ISCO/MCRT (Model # 60-6700-044)
⑯	ISCO Flow Link v5.1, two use licenses	1	Teledyne ISCO/MCRT (68-2540-200)

* Equipment not shown on Mechanical plans are shown on Electrical plans

REVIEWER O. PONGPUN
 CHECKER I. FONG
 DESIGNER J. UNGILFONG
 CADD PROJECT FILE NAME DES0002980-LADERA PARK STORMWATER CAPTURE PROJECT.MECH.MS

STANDARDS FOR WATER PIPELINE IDENTIFICATION - LA COUNTY DPH

1. All new non-potable cistern and irrigation water main lines, valve boxes and appurtenances shall be identified to clearly distinguish between non-potable and potable water systems. Specific wording on identification tape shall be required. The following identification tape will be accompanied with respective tags of the same colors and wording for all valve boxes, vaults, control valves, quick couplers, outlets and related appurtenances, if applicable.

A. POTABLE WATER All new potable water lines shall be installed in accordance with the Uniform Plumbing Code and all other governing codes, rules and regulations. Buried potable water lines shall be identified by continuous tape with lettering on three inch (3") minimum width BLUE tape with one-inch black lettering bearing the continuous wording "Potable Water". Identification tape shall be permanently affixed to the pipeline at five-foot intervals atop all horizontal piping, laterals and mains. Identification tape shall extend to all valve boxes and/or vaults, exposed piping and hydrants.

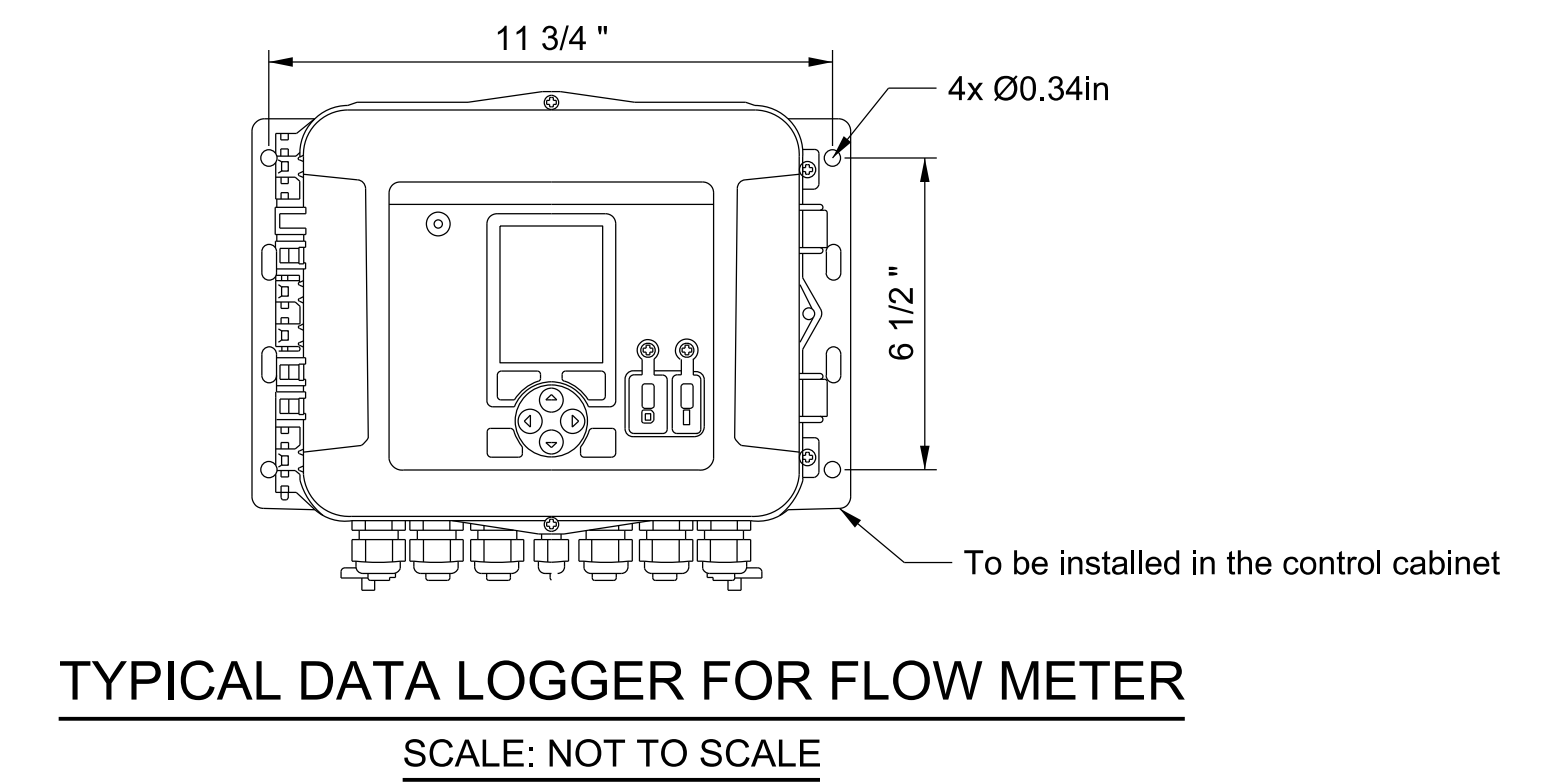
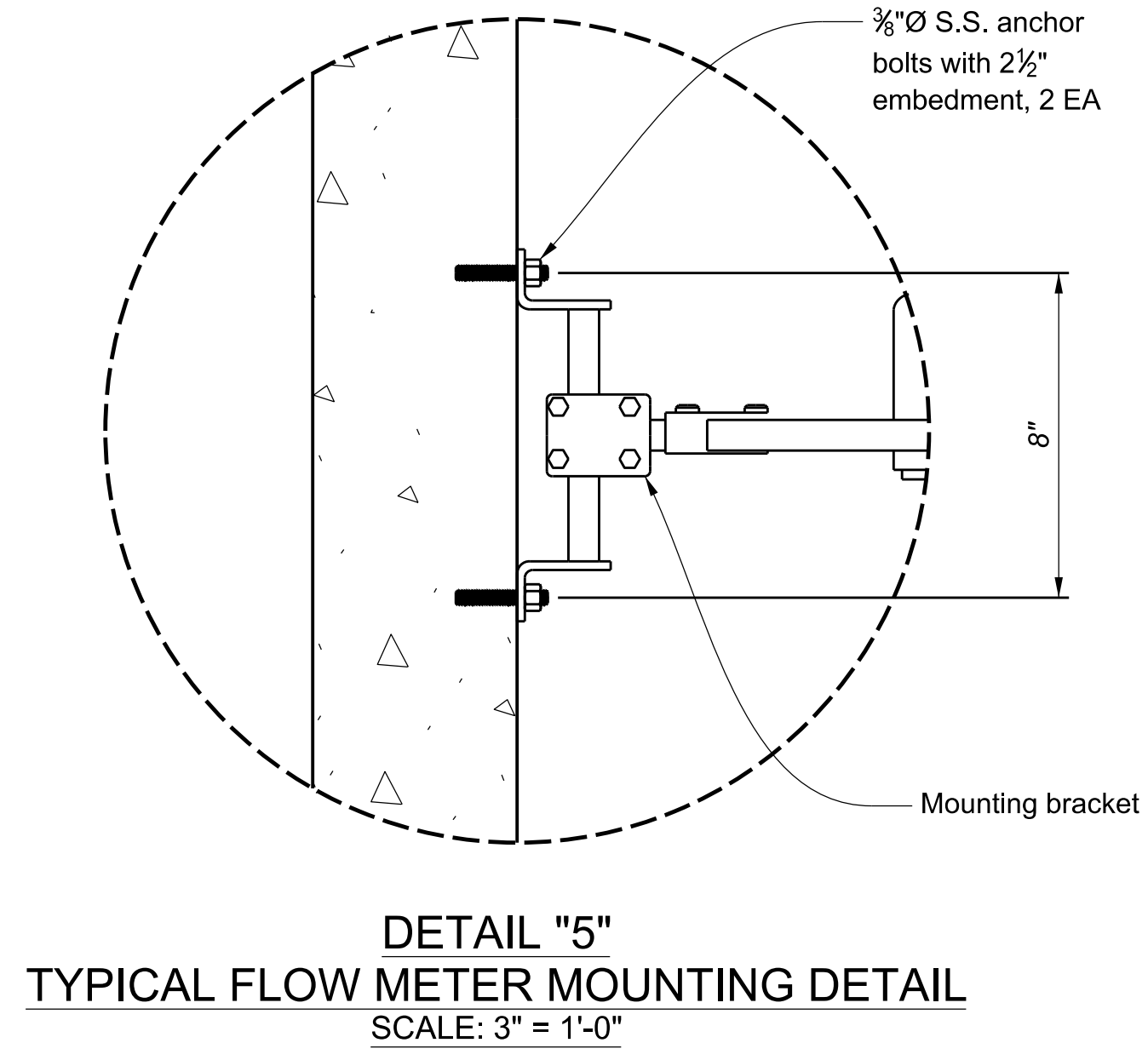
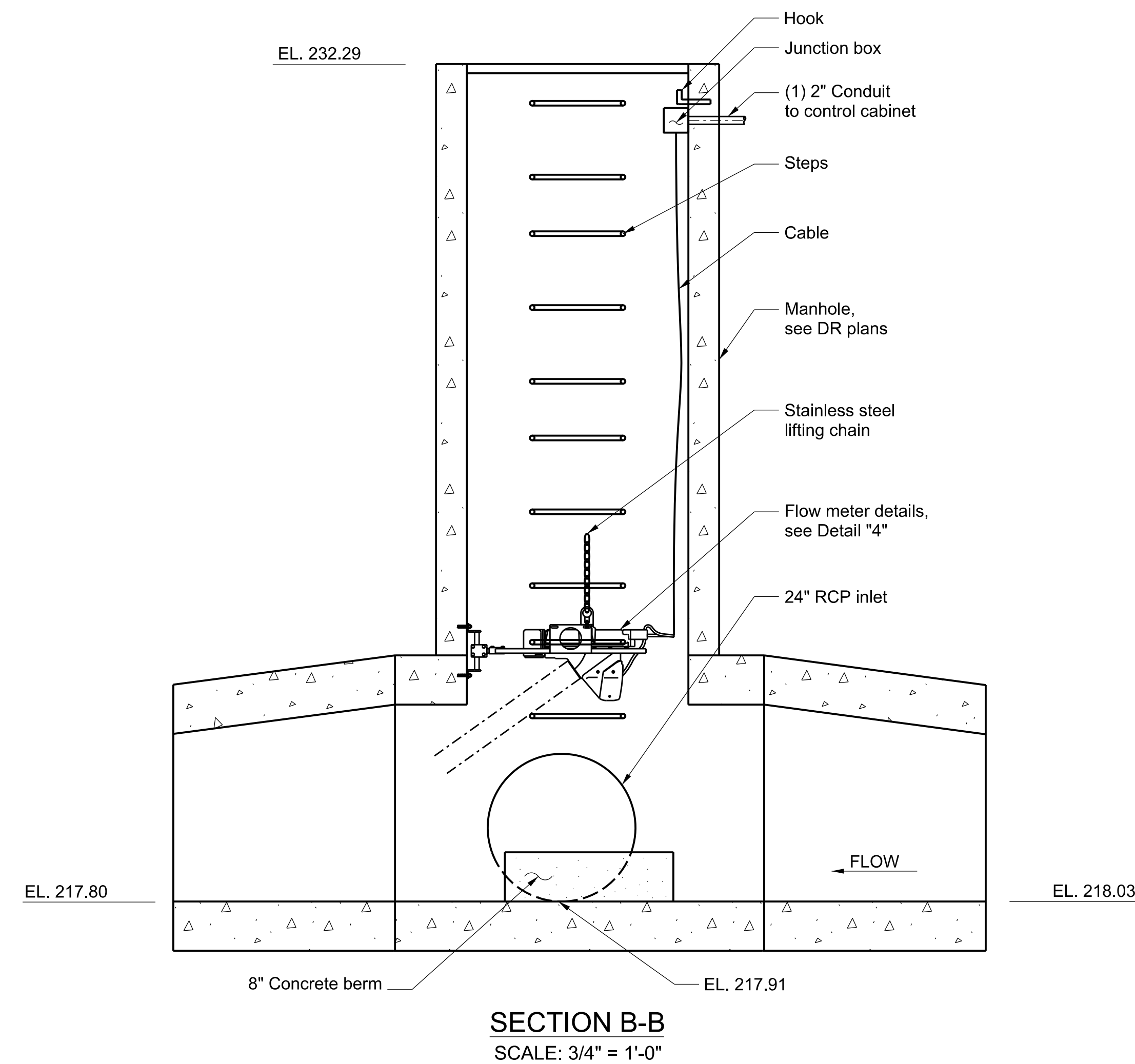
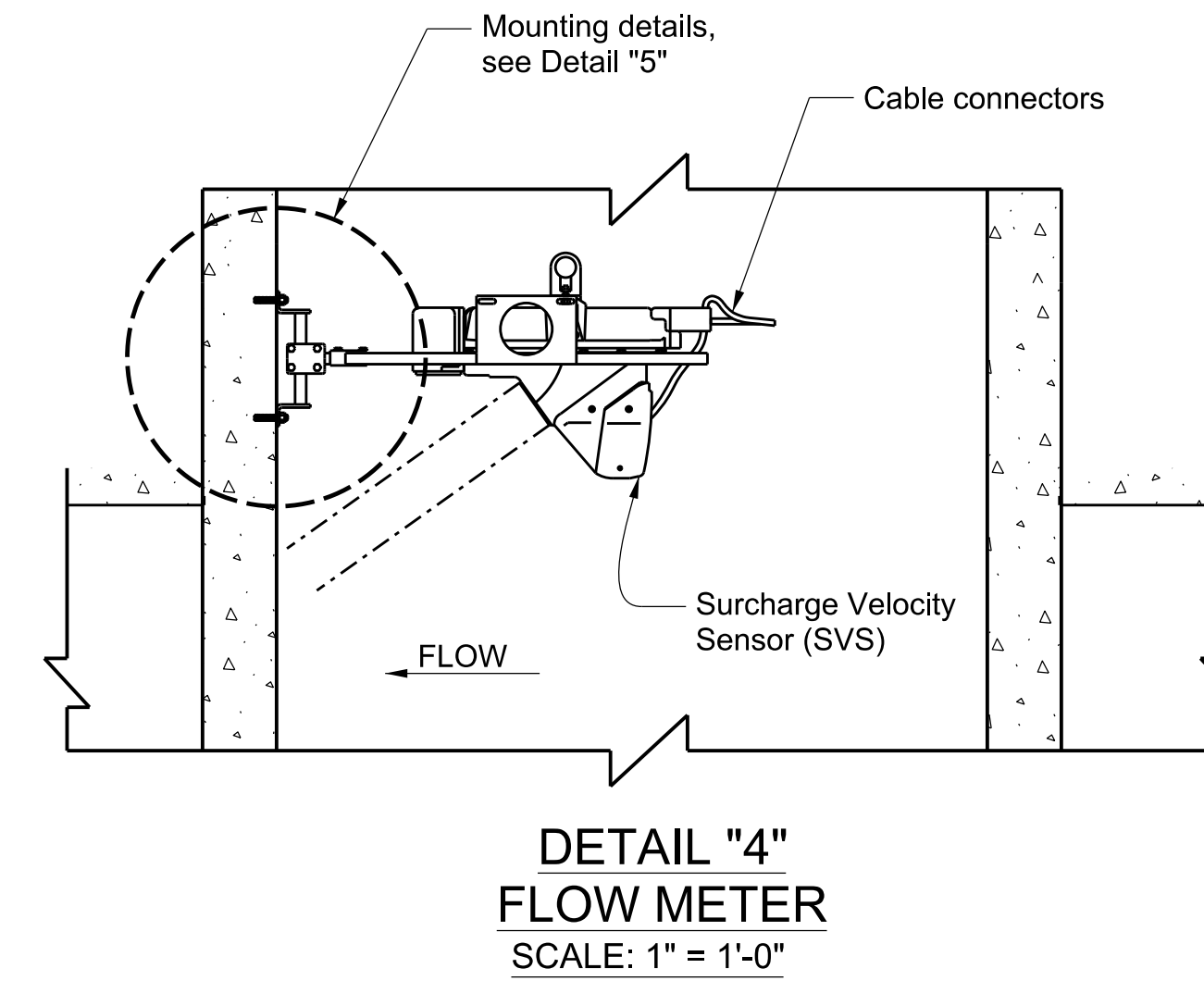
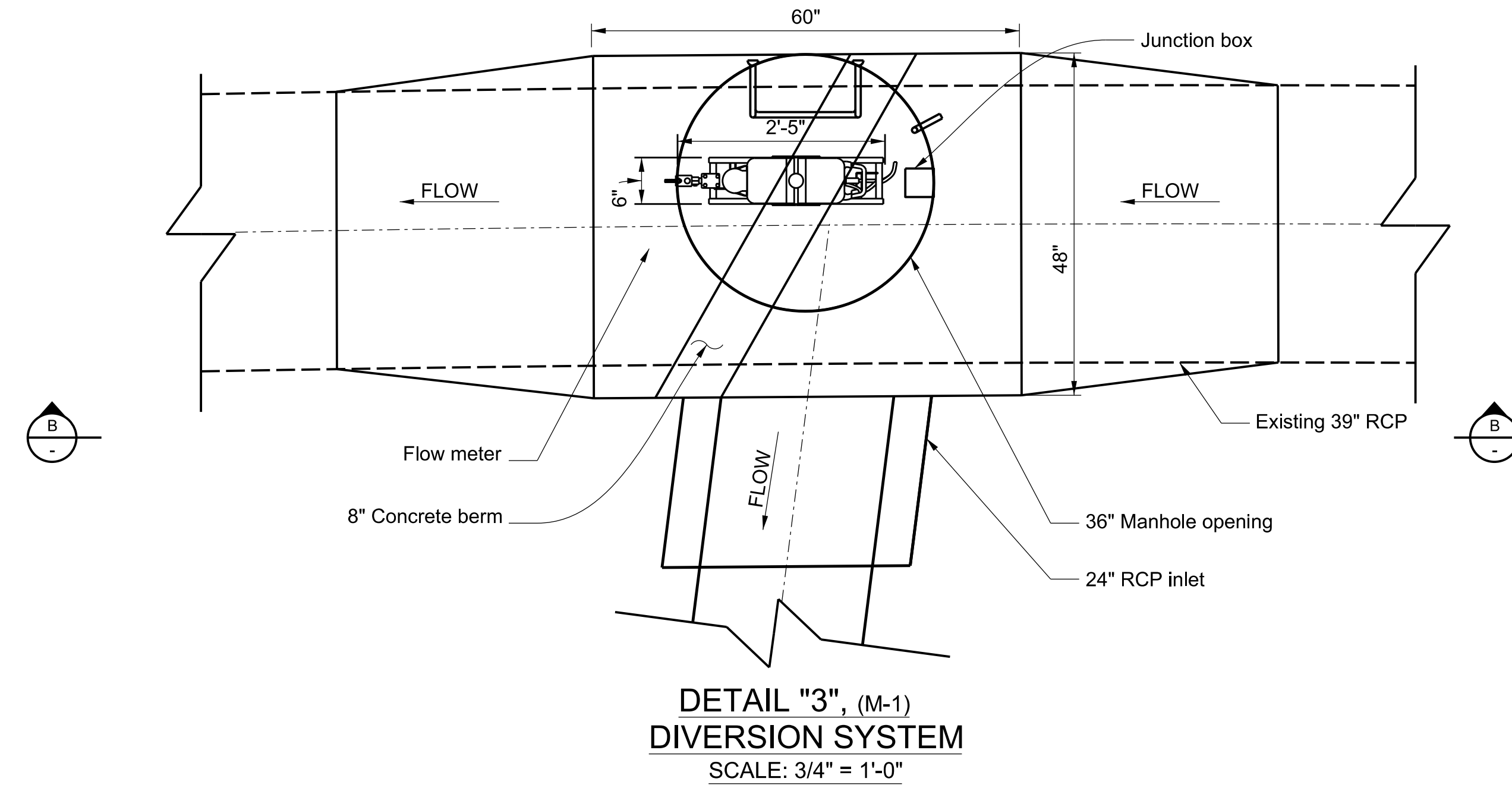
B. NON-POTABLE WATER All new pressurized non-potable cistern and irrigation water lines shall be identified by continuous lettering on three inch (3") minimum width YELLOW tape with one inch black lettering bearing the continuous wording "Non-potable Irrigation Water - Do Not Drink" permanently affixed at five foot intervals atop all horizontal piping, laterals and mains. Identification tape shall extend to all valve boxes and/or vaults and exposed piping.

2. All water conveyance piping shall be inspected by a representative from the Cross-Connection & Water Pollution Control Program prior to back-filling for confirmation of proper identification and separation requirements.

PD053138

DRAWING NUMBER:						COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS	
(MARK AS-BUILT HERE)						LADERA PARK STORMWATER IMPROVEMENTS MONITORING WELL INSTRUMENTATION	
DATE	MK	DESCRIPTION		PROJECT ENGINEER <i>I. Fong</i> 7/26/2018 PCA P97027AC DWG 181-271-D30 SHEET 32 OF 45		PROJECT ID NO. SWQ0000003	
REVISIONS						M-5	

AS BUILT DRAWINGS



REVIEWER
O. PONGPUN

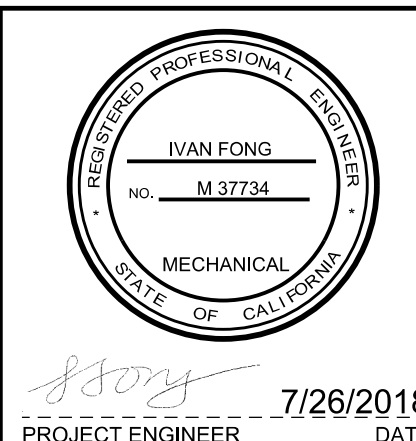
CADD PROJECT FILE NAME
DES0002980.LADERA PARK STORMWATER CAPTURE PROJECT.MECH.M6

CHECKER
I. FONG

DESIGNER
J. UNGILFONG

PD053138

DRAWING NUMBER:			
(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
REVISIONS			



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

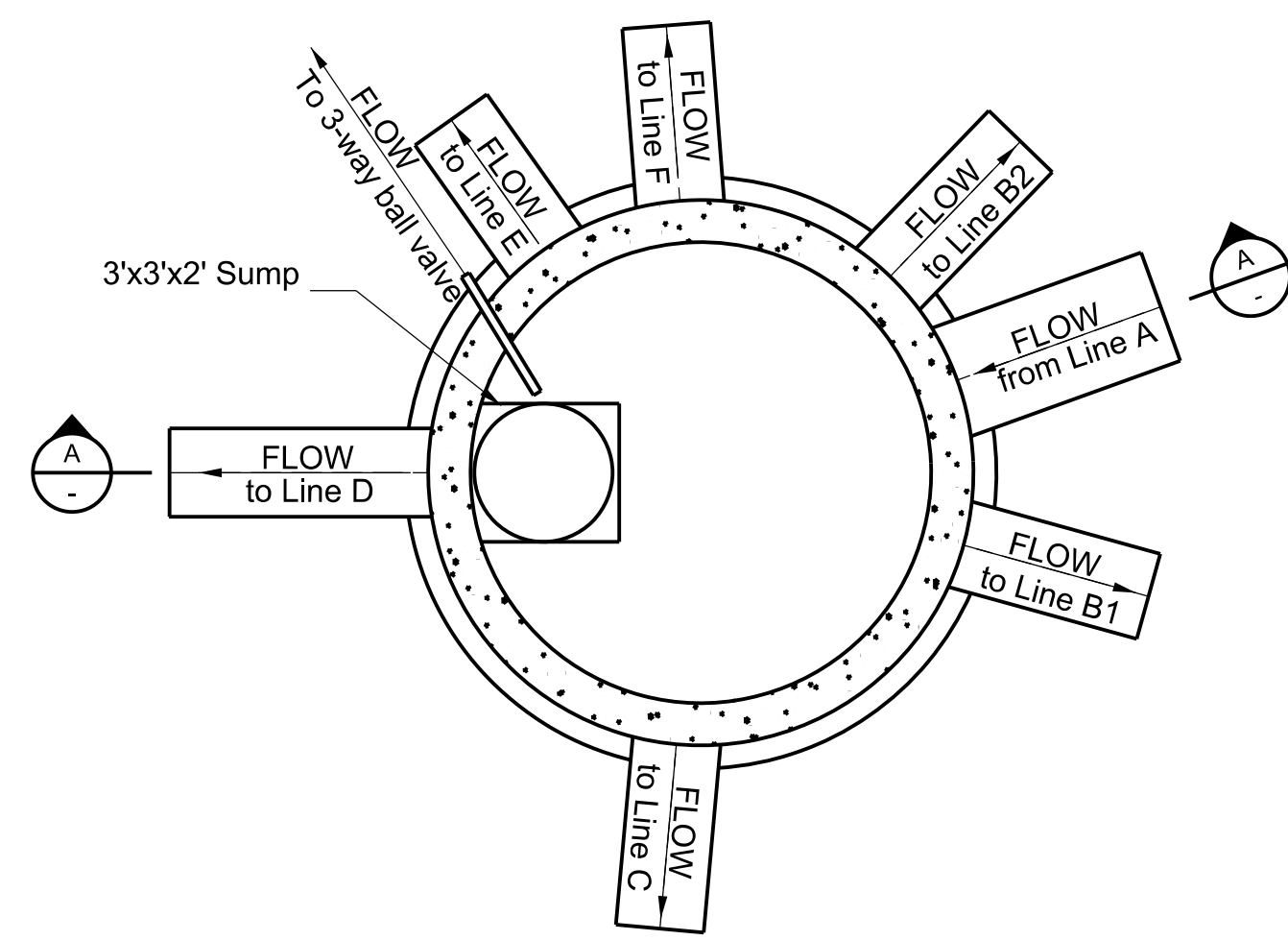
**LADERA PARK
STORMWATER IMPROVEMENTS
FLOW METER DETAILS**

PROJECT ID NO. SWQ0000003

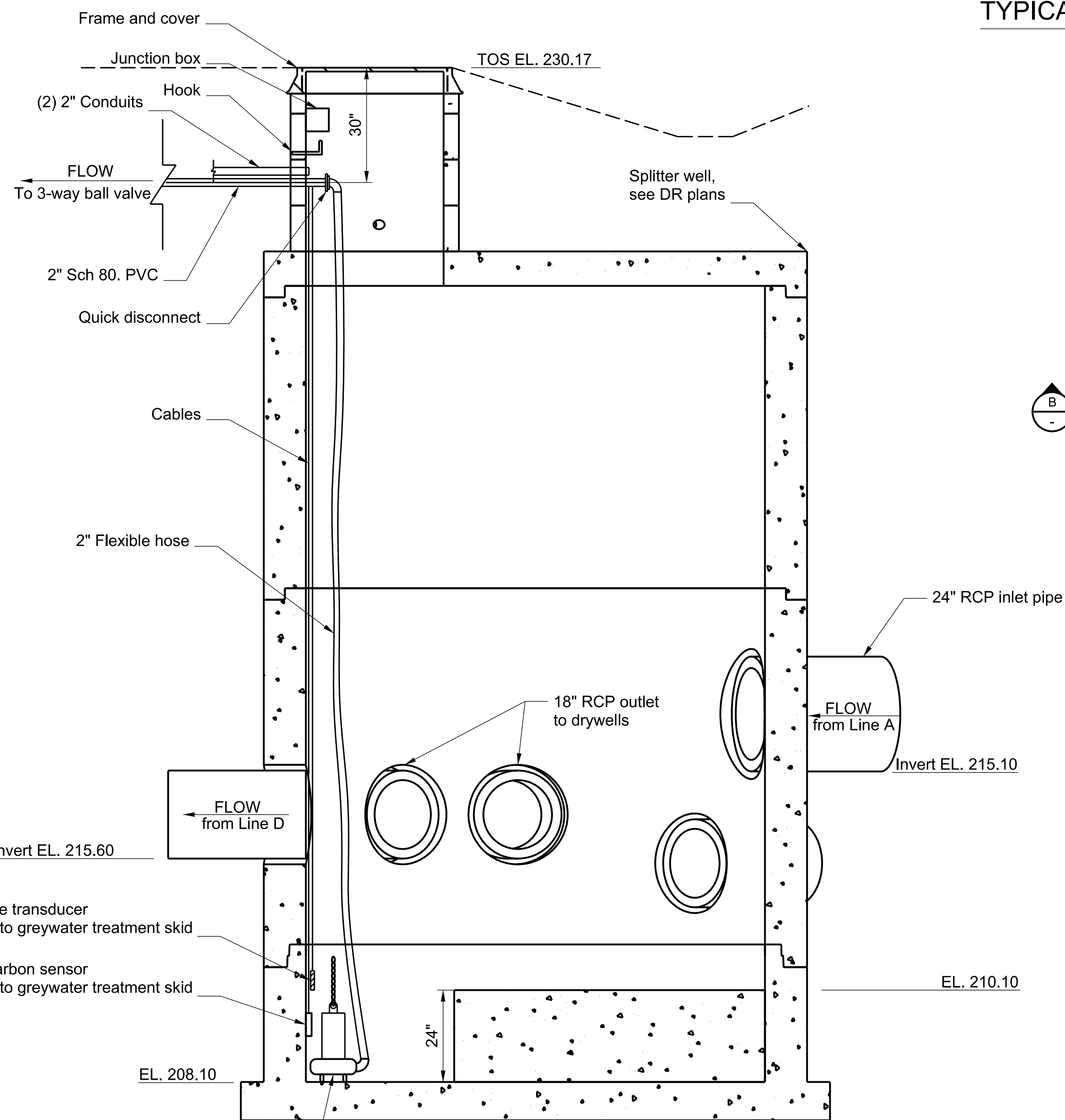
PCA P97027AC DWG 181-271-D31 SHEET 33 OF 45

M-6

AS BUILT DRAWINGS

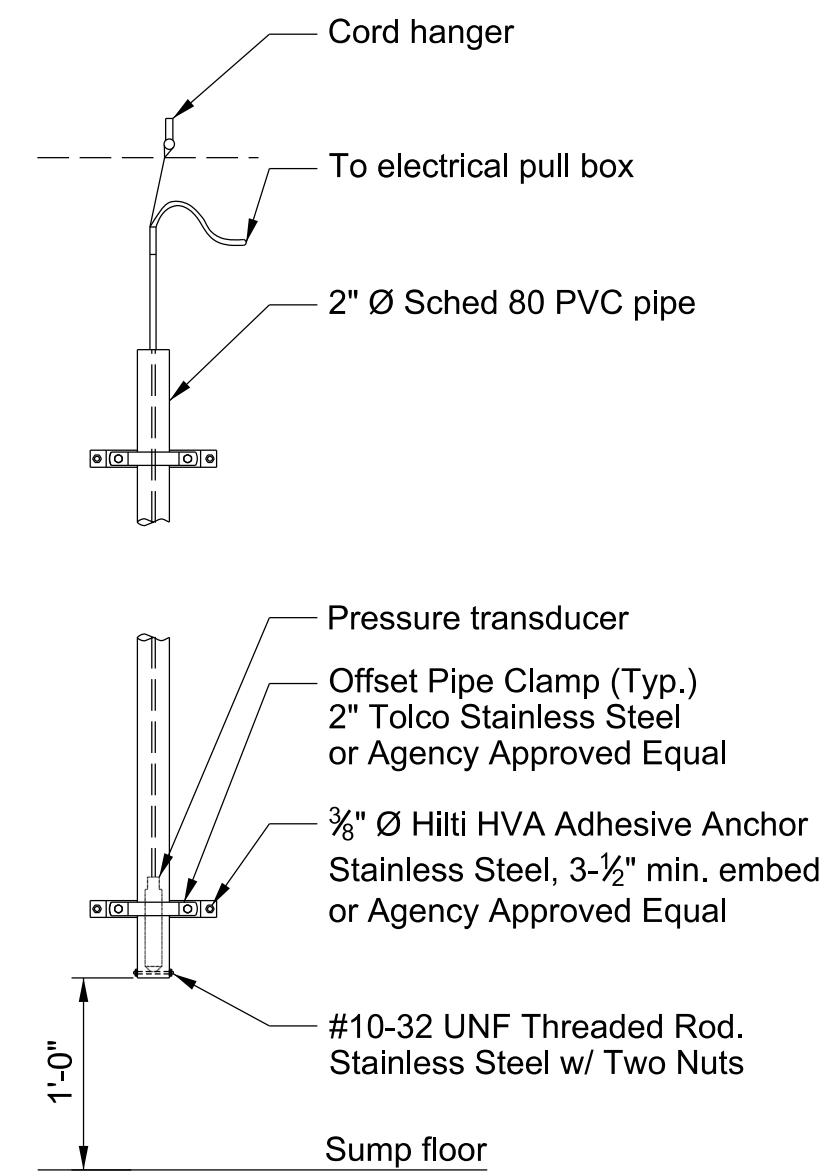


SPLITTER WELL (M-1)
SCALE: 1/4" = 1'-0"

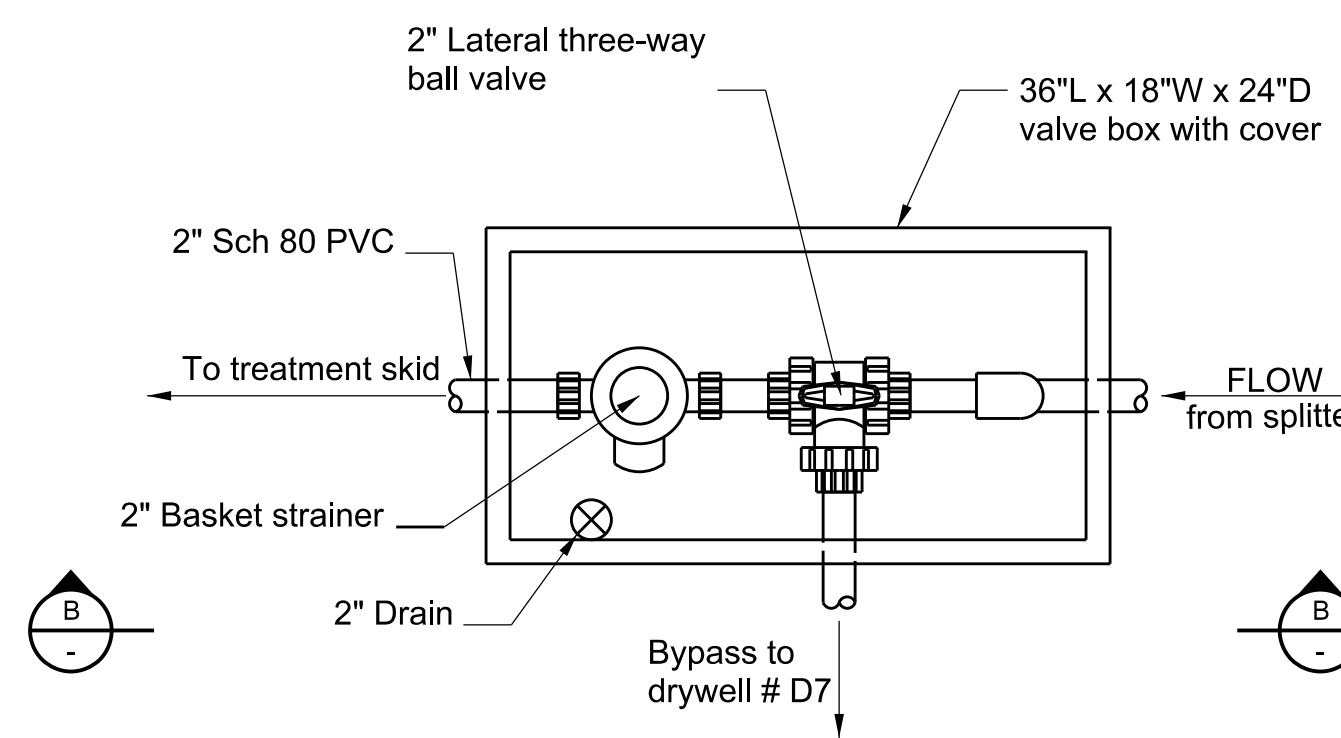


SECTION A-A
SCALE: 1/2" = 1'-0"

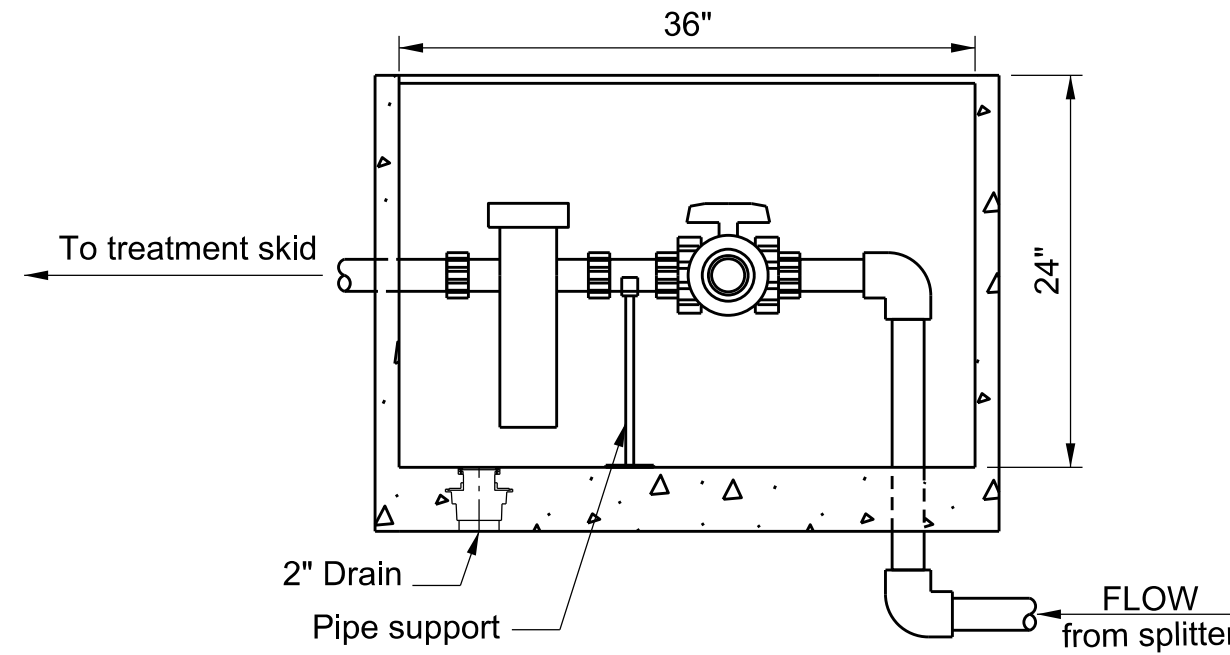
Transfer pump
with flexible hose and quick disconnect,
20 GPM @ 45' TDH 0.5 HP 220 VAC 1 Phase



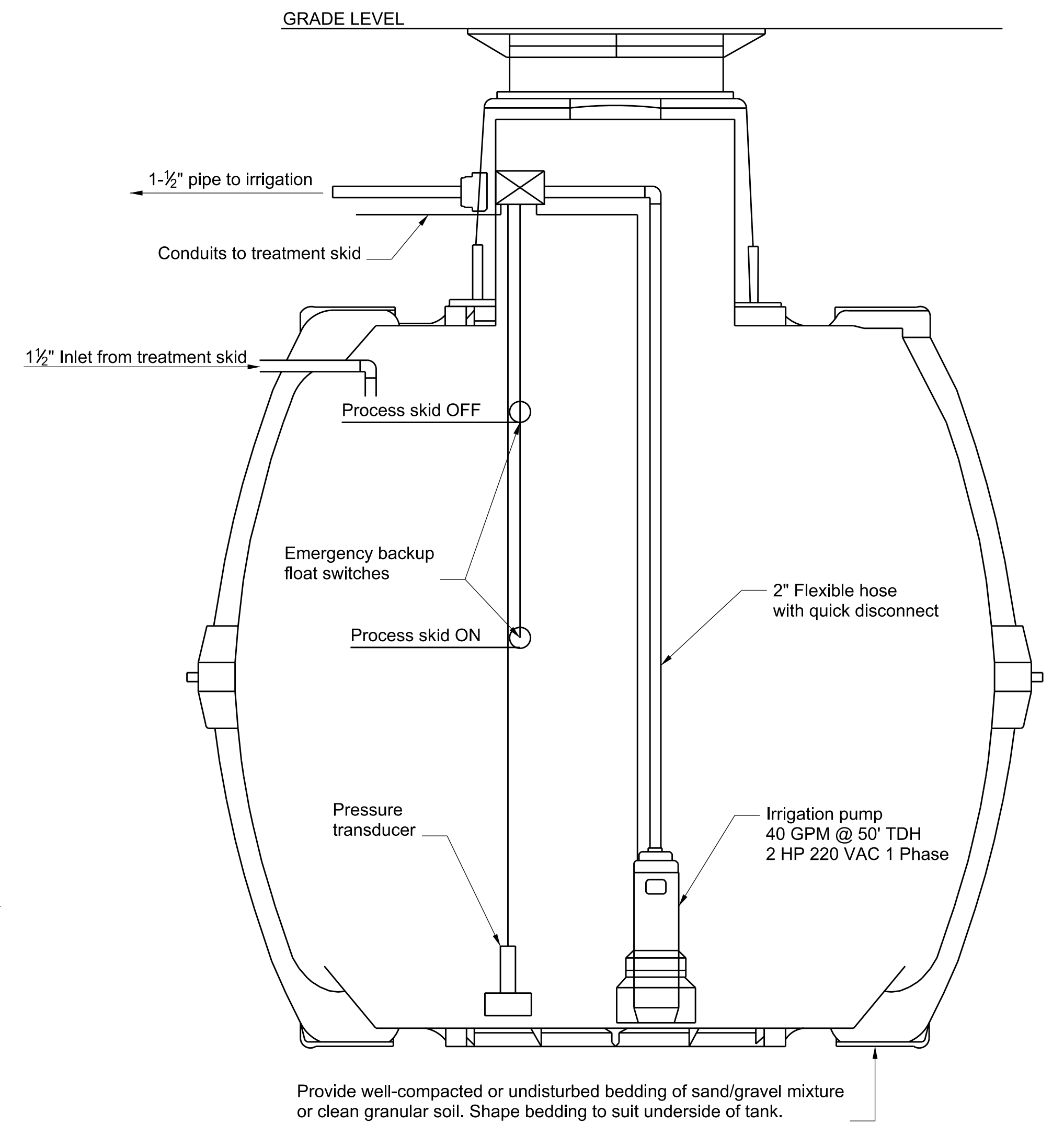
TYPICAL PRESSURE TRANSDUCER INSTALLATION
NOT TO SCALE



THREE-WAY BALL VALVE DETAIL (M-1)
NOT TO SCALE



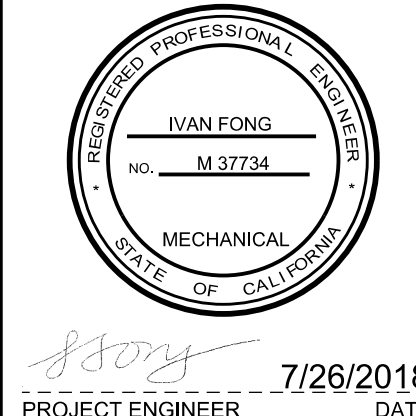
SECTION B-B
NOT TO SCALE



1700 GALLON HDPE PROCESSED WATER STORAGE TANK
NOT TO SCALE

REVIEWER: O. PONGPUN
DESIGNER: J. UNGILFONG
CHECKER: I. FONG
CADD PROJECT FILE NAME: DES0002980.LADERA PARK STORMWATER CAPTURE PROJECT.MECH.M7

DRAWING NUMBER:			
(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
REVISIONS			



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

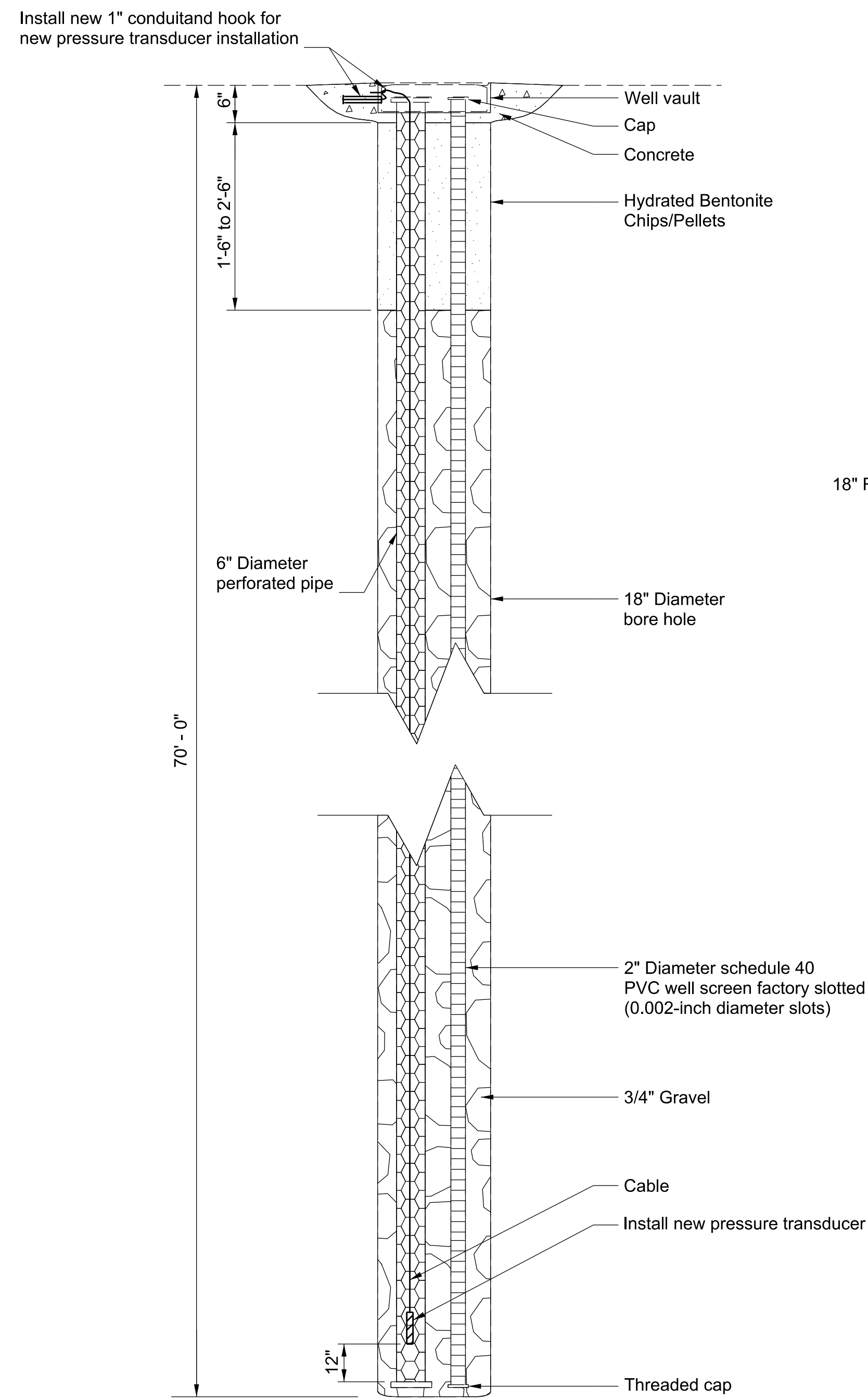
**LADERA PARK
STORMWATER IMPROVEMENTS
SPLITTER WELL AND
PROCESSED WATER STORAGE TANK**

PROJECT ID NO. SWQ0000003

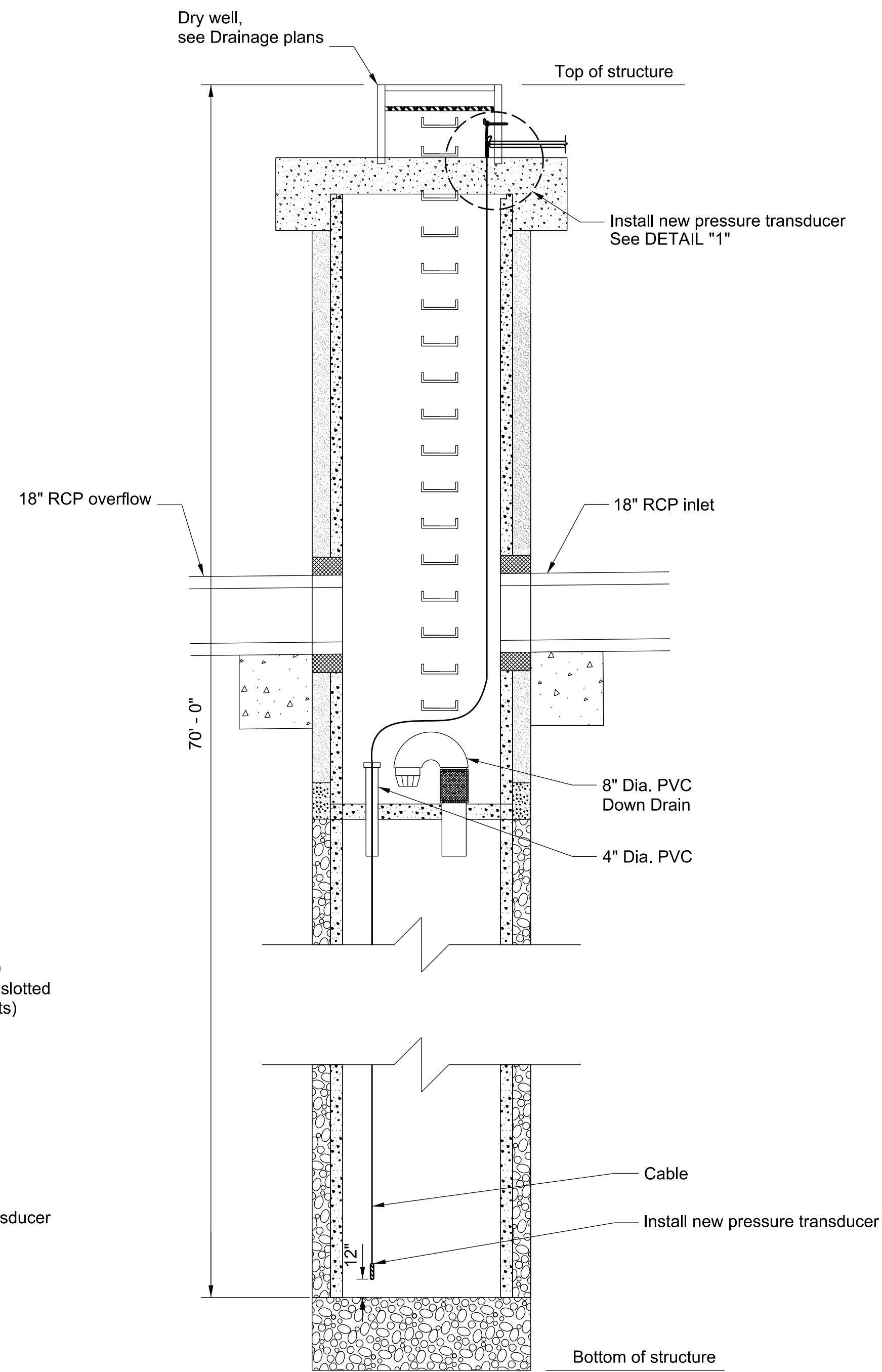
PCA P97027AC DWG 181-271-D32 SHEET 34 OF 45

PD053138

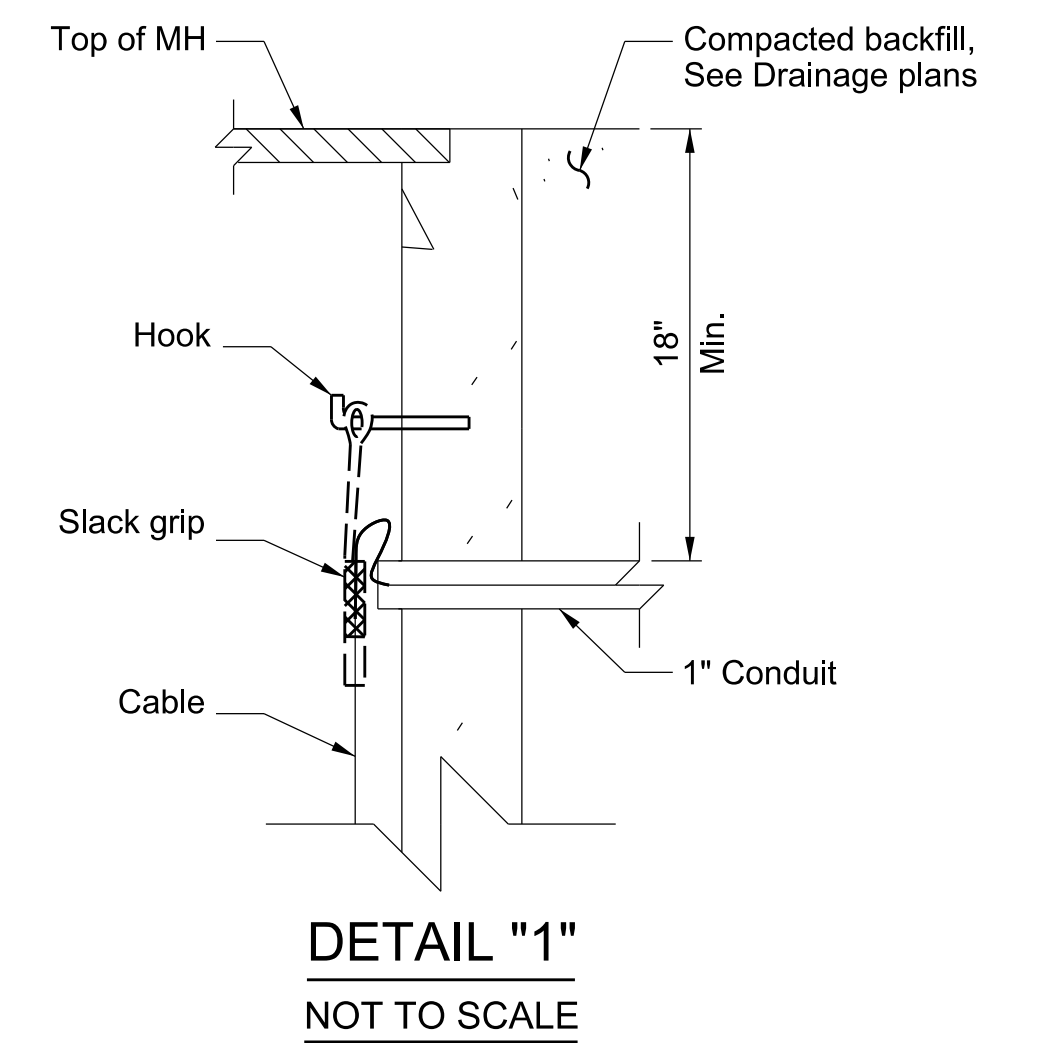
REVIEWER: O. PONGPUN
 CHECKER: I. FONG
 DESIGNER: J. UNGILFONG
 CADD PROJECT FILE NAME: DES0002980.LADERA PARK STORMWATER CAPTURE PROJECT.MECH.M8



TYPICAL EXISTING MONITORING WELL WITH PRESSURE TRANSDUCER
NOT TO SCALE



TYPICAL DRY WELL WITH PRESSURE TRANSDUCER
NOT TO SCALE



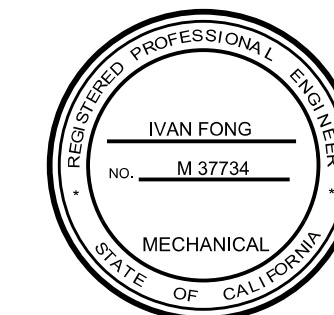
DETAIL "1"
NOT TO SCALE

Monitoring Well Details

Monitoring wells	Top of Surface (T.O.S.)	Bottom of Structure	Depth (ft)
Splitter dry well	230.17	208.10	20.53
B1	228.85	158.85	70.0
B2	229.42	159.42	70.0
B3	229.87	159.82	70.0
D7	227.98	157.98	70.0
F15	227.02	157.15	70.0
Existing Monitoring Well #1	228.63	158.63	70.0
Existing Monitoring Well #2	230.22	160.22	70.0

PD053138

DRAWING NUMBER:			
(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
		REVISIONS	

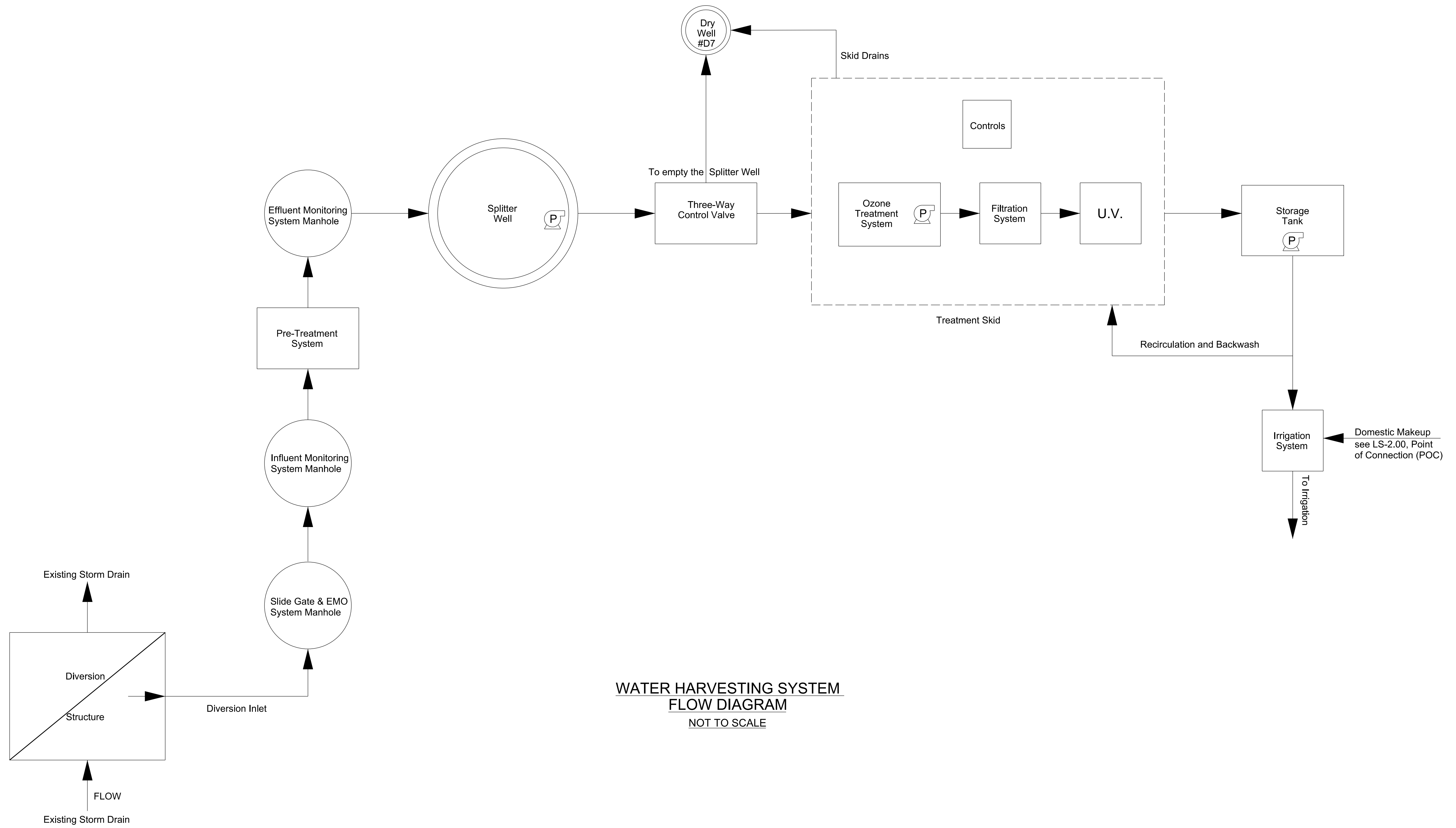


PROJECT ENGINEER: *Ivan Fong* DATE: 7/26/2018

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS			
LADERA PARK			
STORMWATER IMPROVEMENTS			
MONITORING AND DRY WELL			
PROJECT ID NO. SWQ000003			
PCA P97027AC	DWG 181-271-D33	SHEET 35	OF 45

AS BUILT DRAWINGS

REVIEWER: O. PONGPUN
 CHECKER: I. FONG
 DESIGNER: J. UNGILFONG
 CADD PROJECT FILE NAME: DES0002980.LADERA PARK STORMWATER CAPTURE PROJECT.MECH.M9

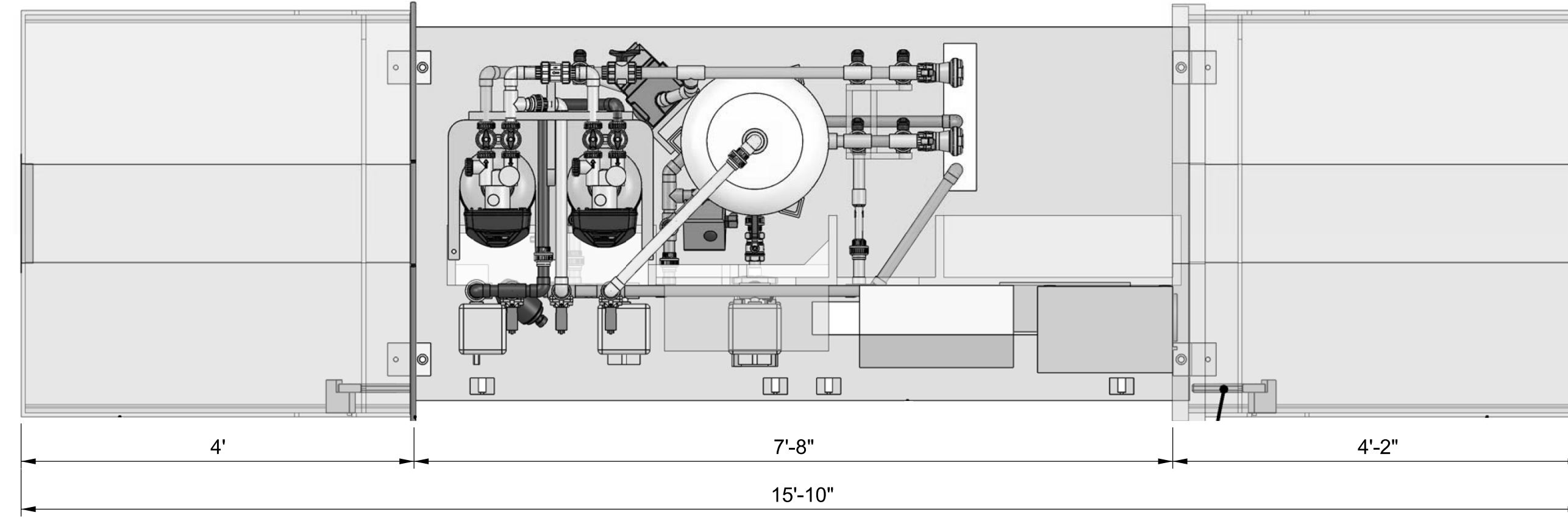


**WATER HARVESTING SYSTEM
 FLOW DIAGRAM**
 NOT TO SCALE

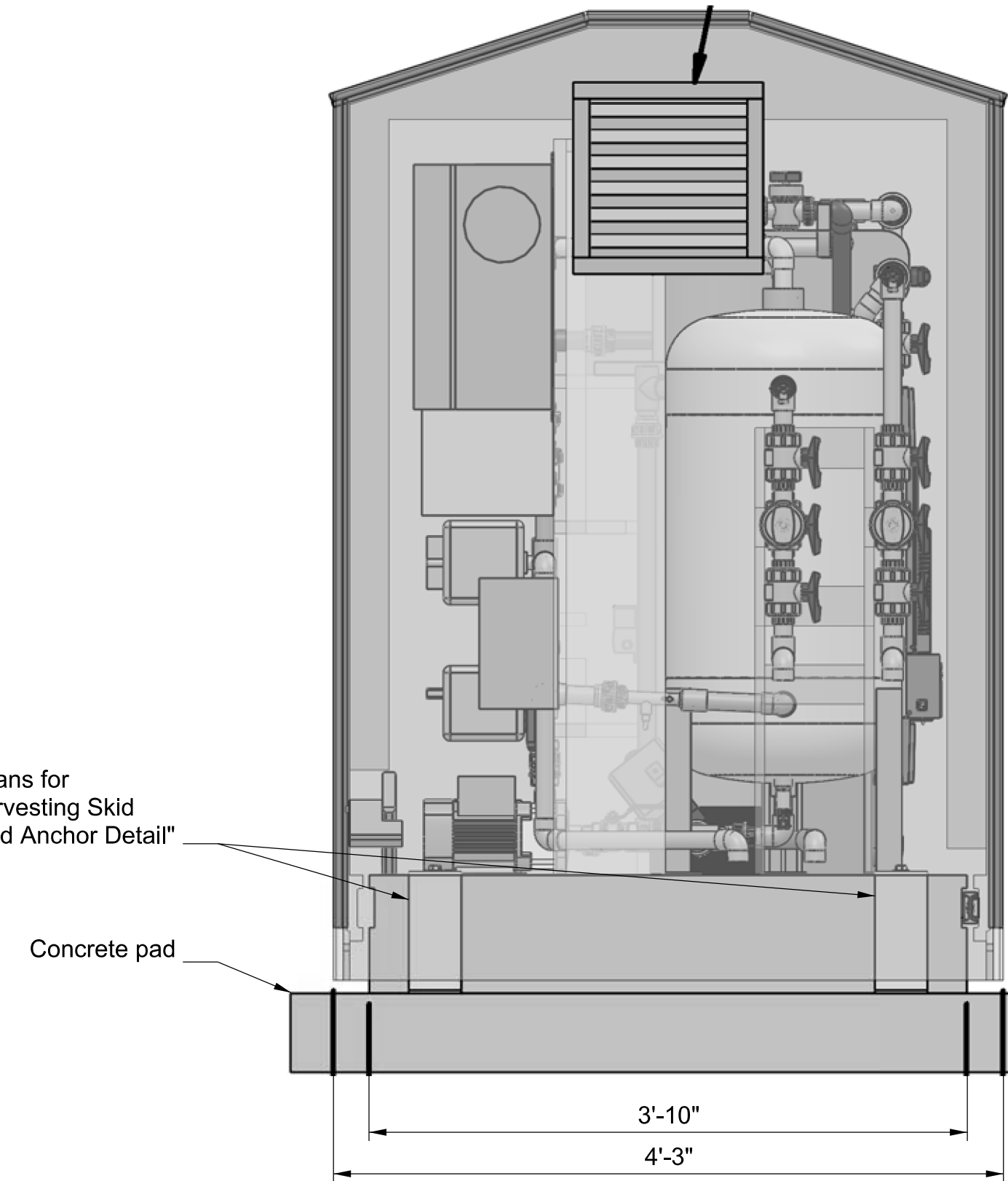
- Legend:**
- = Pump
 - = Flow direction
 - UV = Ultraviolet

PD053138

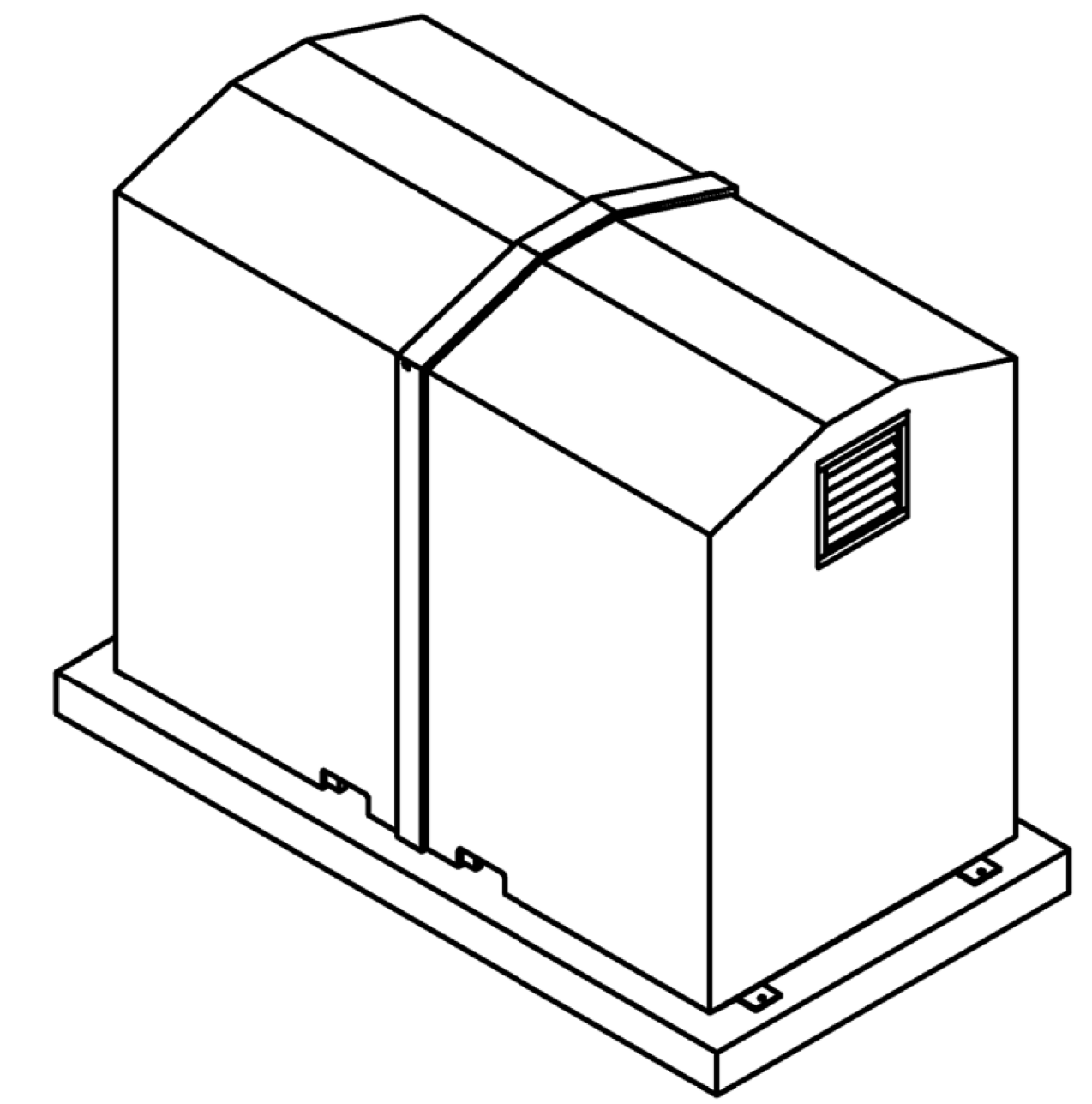
DRAWING NUMBER:					
(MARK AS-BUILT HERE)					
	DATE	MK	DESCRIPTION		
	REVISIONS				
				DATE	7/26/2018
	PROJECT ENGINEER			PCA	P97027AC
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS			LADERA PARK STORMWATER IMPROVEMENTS WATER HARVESTING DIAGRAM		
PROJECT ID NO. SWQ0000003			M-9		
DWG 181-271-D34			SHEET 36 OF 45		



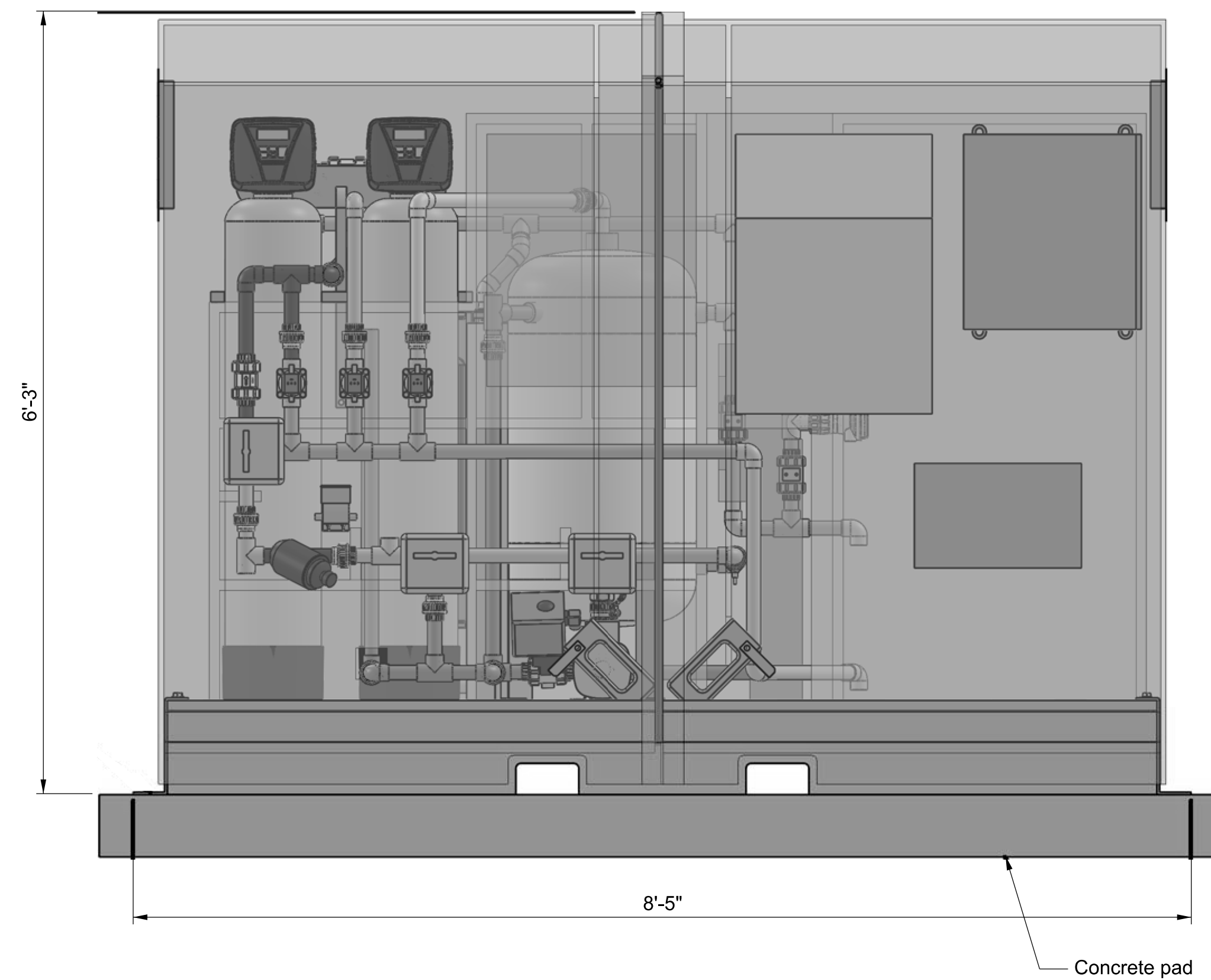
OUTER ENCLOSURE - OPEN
NOT TO SCALE



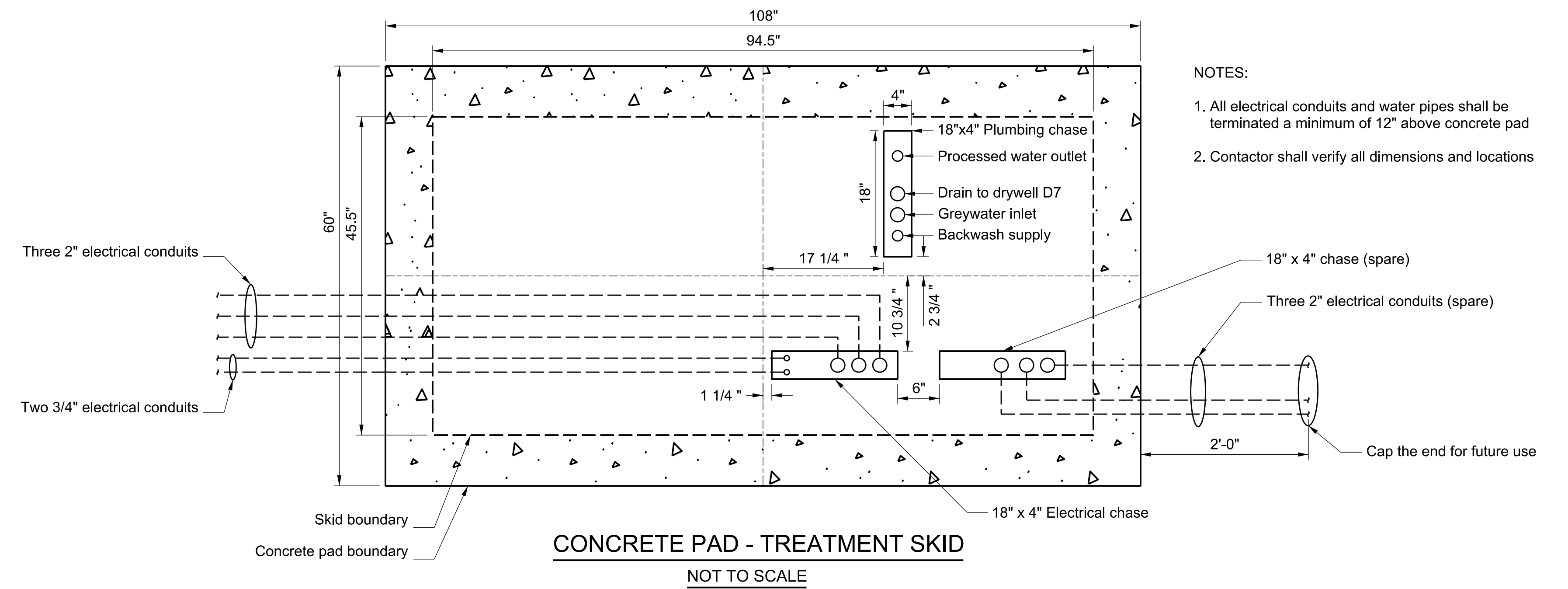
OUTER ENCLOSURE - SIDE VIEW
NOT TO SCALE



**GREYWATER TREATMENT SKID
OUTER ENCLOSURE**
NOT TO SCALE



OUTER ENCLOSURE - CLOSED
NOT TO SCALE



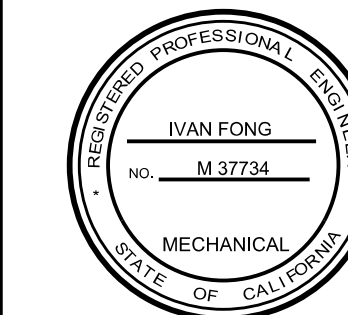
CONCRETE PAD - TREATMENT SKID
NOT TO SCALE

- NOTES:
1. All electrical conduits and water pipes shall be terminated a minimum of 12" above concrete pad
 2. Contactor shall verify all dimensions and locations

- NOTES:
1. All given dimensions are approximate and are subject to change without notice

REVIEWER: O. PONGPUN
 CHECKER: I. FONG
 DESIGNER: J. UNGILFONG
 CADD PROJECT FILE NAME: DES0002980-LADERA PARK STORMWATER CAPTURE PROJECT.MECH.M10

DRAWING NUMBER:			
(MARK AS-BUILT HERE)			
DATE	MK	DESCRIPTION	
		REVISIONS	



PROJECT ENGINEER: *Ivan Fong* DATE: 7/26/2018

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**LADERA PARK
STORMWATER IMPROVEMENTS
GREYWATER TREATMENT SKID
OUTER ENCLOSURE DIMENSIONS**

PROJECT ID NO. SWQ000003

PCA P97027AC DWG 181-271-D35 SHEET 37 OF 45

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APPLICABLE CODES AND STANDARDS:

ALL CONSTRUCTION SHALL COMPLY WITH LATEST APPROVED CODES LISTED BELOW AND ALL APPLICABLE CODES, STATUES, REGULATIONS, ORDINANCES, ETC. CURRENTLY IN FORCE AND THROUGHOUT THE DURATION OF THE PROJECT, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING

2017 LOS ANGELES COUNTY ELECTRICAL CODE BASED ON THE 2016 CEC (CALIFORNIA ELECTRICAL CODE) AND 2014 NEC (NATIONAL ELECTRICAL CODE).

SPPWC (STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION)

GENERAL NOTES:

- A. WORK UNDER THIS CONTRACT SHALL INCLUDE, BUT NOT TO BE LIMITED TO, FURNISHING, INSTALLING AND CONNECTION OF ALL ELECTRICAL EQUIPMENT AND TESTING OF ALL SYSTEMS AND SUB-SYSTEMS WITHIN THE SCOPE OF WORK. BEFORE ACCEPTANCE OF THE WORK, THE CONTRACTOR SHALL DEMONSTRATE, IN THE PRESENCE OF THE ENGINEER, THAT ALL PORTIONS OF THE ELECTRICAL WORK ARE OPERATING PROPERLY PER MANUFACTURER'S SPECIFICATION.
- B. COORDINATE ALL WORK WITH DRAINAGE, CIVIL, MECHANICAL AND LANDSCAPING PLANS.
- C. ALL ITEMS ARE NEW.
- D. CONDUCTORS: ALL SHALL BE COPPER, RATED 600V, INSULATION TYPE XHHW OR THWN-2, 90°.
- E. CONDUITS: EXPOSED OUTDOOR CONDUITS SHALL BE RIGID GALVANIZED STEEL (RGS), ALL EXTERIOR UNDERGROUND CONDUITS SHALL PVC SCHD80 (STRAIGHT RUNS) AND PVC SCHD80 (SWEEPS), SEE ELECTRICAL SITE PLAN FOR CONDUIT SIZE. ALL CONDUIT RUNS SHALL HAVE A GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR SIZED PER NEC.
- F. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.
- G. THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.

ELECTRICAL SYMBOLS LIST:

- POWER OR LIGHTING UNDERGROUND CONDUIT
- MONITORING UNDERGROUND CONDUIT
- ① CALL OUT NOTE
- P1 POWER & LIGHTING PULL BOX No.1, SEE DETAIL 4 ON PLAN E2.
- M1 MONITORING PULL BOX No.1, SEE DETAIL 3 ON PLAN M-4.
- E CAPPED CONDUIT
- ⓐ3 LIGHT FIXTURE TYPE "A". NUMBER DENOTES QUANTITY.
- ⑤ MOTOR, 240V-1Ø, HP RATING AS INDICATED
- ³⁰/₂₀ FUSED DISCONNECT SWITCH 480V-3P, HEAVY DUTY. 30-AMPERE FRAME, 20-AMPERE TRIP.
- CONDUIT TURNED DOWN
- CONDUIT TURNED UP
- (F11) FEEDER OR BRANCH CIRCUIT CALL OUT
- ((•)) ANTENNA (POLE MOUNTED)
- ▽ ANTENNA (CABINET MOUNTED)
- (P) PRESSURE TRANSDUCER

ABBREVIATIONS LIST:

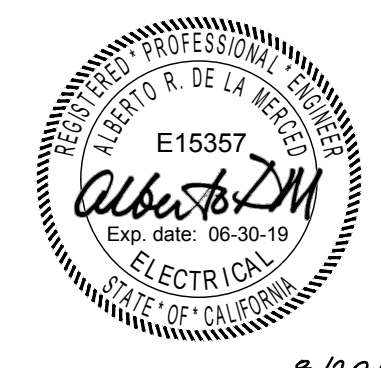
- AF ABOVE FINISH FLOOR
- AFG ABOVE FINISH GRADE
- AWG AMERICAN WIRE GAUGE
- A AMPERE
- AIC AMPERE INTERRUPTING CAPACITY (SYMMETRICAL)
- AF AMPERE FRAME
- AT AMPERE TRIP
- BKR BREAKER
- CCTV CLOSED-CIRCUIT TELEVISION
- CKT CIRCUIT
- CB CIRCUIT BREAKER
- C CONDUIT
- CO CONDUIT ONLY
- C.W.P. COLD WATER PIPE
- DIST. BD. DISTRIBUTION BOARD
- DIA DIAMETER
- DS DUCT SMOKE DETECTOR
- E.G. EQUIPMENT GROUND
- EMO ELECTRONIC MOTOR OPERATOR
- EMT ELECTRICAL METALLIC TUBING
- (E) EXISTING
- FACP FIRE ALARM CONTROL PANEL
- FLA FULL LOAD AMPS
- G GROUND
- G.D. GARBAGE DISPOSAL
- GFI GROUND FAULT INTERRUPTER
- HH HAND HOLE
- I.G. ISOLATED GROUND
- JB JUNCTION BOX
- KVA KILO-VOLT AMPERES
- KW KILO-WATT
- KWH KILO-WATT-HOUR
- LADWP L.A. DEPT OF WATER & POWER
- LCL LONG CONTINUOUS LOAD
- LCP LIGHTING CONTROL PANEL
- L LENGTH
- LTC LIGHTING
- MCR MAIN COMPUTER ROOM
- MCB MAIN CIRCUIT BREAKER
- MLO MAIN LUGS ONLY
- MCP MOTOR CIRCUIT PROTECTOR
- MTD MOUNTED
- (N) NEW
- N.I.C. NOT IN CONTRACT
- Ø PHASE
- P POLE
- PA PUBLIC ADDRESS
- PLC PROGRAM LOGIC CONTROLLER
- PNL PANEL
- P.T. PRESSURE TRANSDUCER
- PVC POLY-VINYL CHLORIDE
- RCS REMOTE CONTROL STATION
- RGS RIGID GALVANIZED STEEL
- S.C.E. SOUTHERN CALIFORNIA EDISON
- SCHD SCHEDULE
- SHT SHEET
- S/L STREET LIGHT
- SWBD SWITCHBOARD
- SWGR SWITCHGEAR
- TYP TYPICAL
- U.N.O. UNLESS NOTED OTHERWISE
- V VOLTS
- VA VOLT AMPERES
- VD VOLTAGE DROP
- WP WEATHERPROOF
- W WIRE
- XFR TRANSFER
- XFMR TRANSFORMER

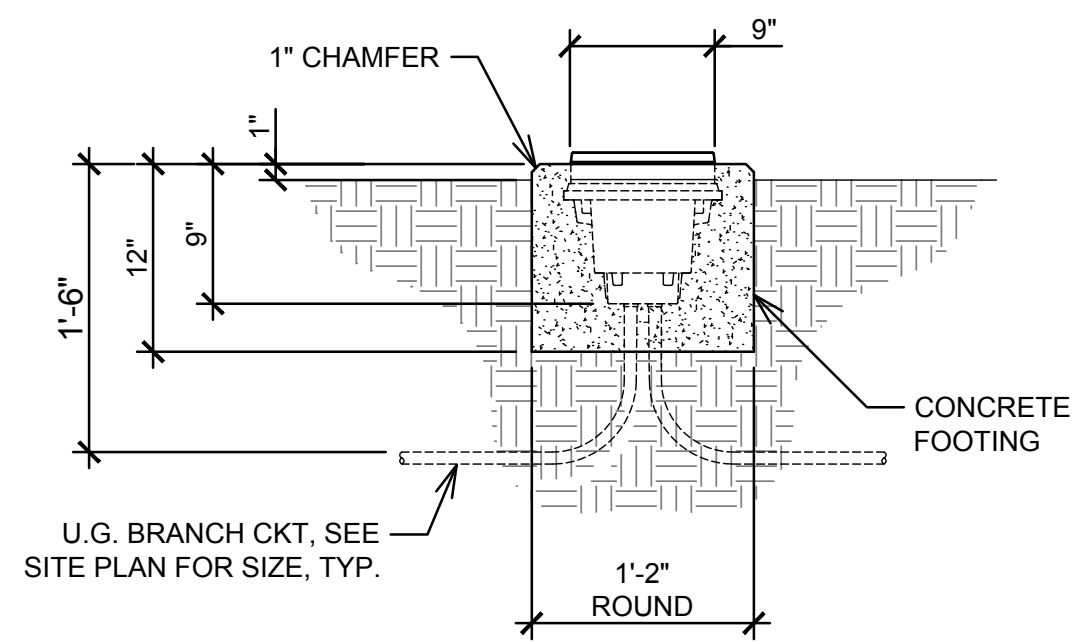
SHEET INDEX

DESCRIPTION		
SHT. No.	PLAN E	ELECTRICAL PLANS
36	E-1	GENERAL NOTES, SYMBOLS, SHEET INDEX
37	E-2	DETAILS
38	E-3	DETAILS
39	E-4	PANEL SCHEDULES & LIGHTING CONTROL WIRING DIAGRAM
40	E-5	SITE PLAN
41	E-6	SITE PLAN
42	E-7	TELEMETRY & PLC BLOCK DIAGRAMS

DRAFTER ADM
 DESIGNER ADM
 CHECKER ADM
 CAD PROJECT FILE NAME
 REVIEWED BY
 DATE

PD053138

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS LADERA PARK STORMWATER IMPROVEMENTS GENERAL NOTES, SYMBOLS, SHEET INDEX PROJECT ID NO. SWQ000003		E-1 SHEET 38 OF 45
PROJECT ENGINEER: 		DATE: 8/10/18
REVISIONS		PCA P970272AC DWG 181-271-D4



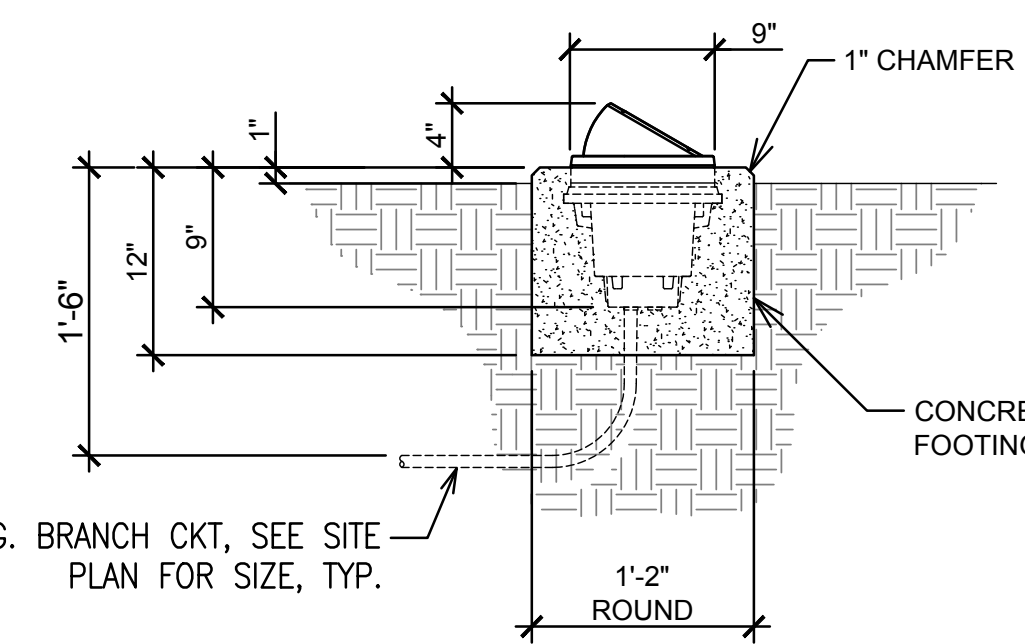
U.G. BRANCH CKT, SEE SITE PLAN FOR SIZE, TYP.

CONCRETE FOOTING

LIGHT FIXTURE TYPE "B" DETAIL

SCALE
1"=1'-0"

⑧



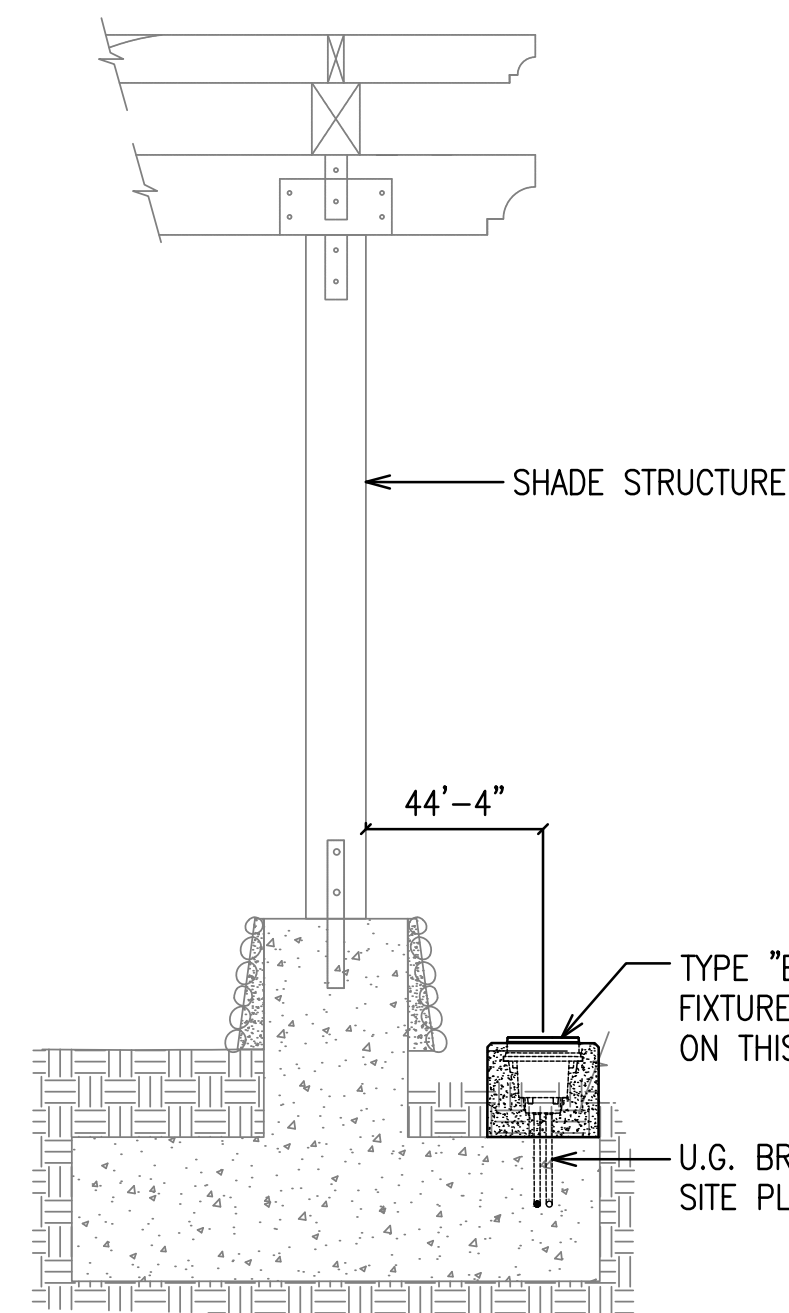
U.G. BRANCH CKT, SEE SITE PLAN FOR SIZE, TYP.

CONCRETE FOOTING

LIGHT FIXTURE TYPE "C" DETAIL

SCALE
1"=1'-0"

⑦



SHADE STRUCTURE

44'-4"

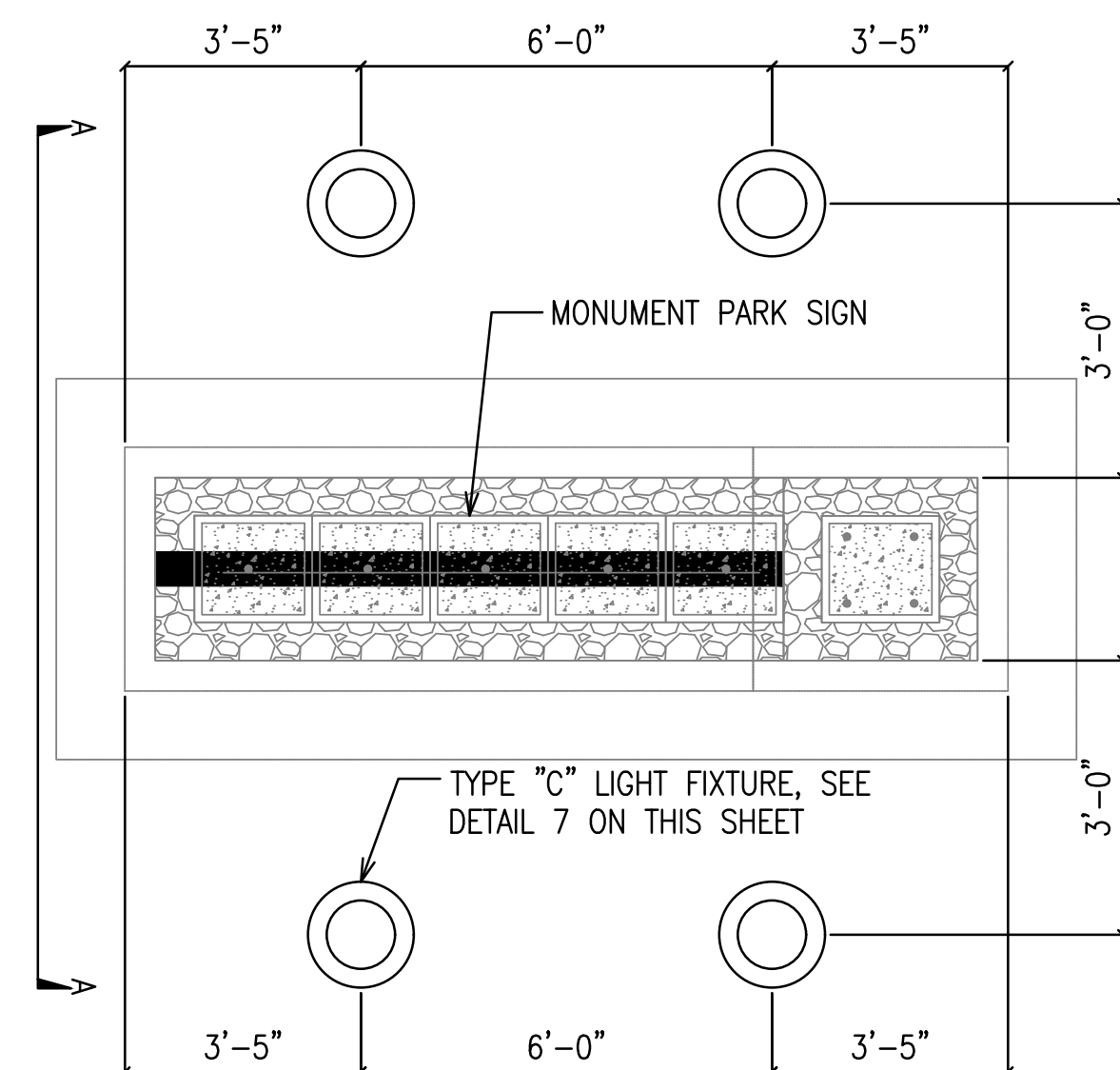
TYPE "B" LIGHT FIXTURE, SEE DETAIL 8 ON THIS SHEET

U.G. BRANCH CKT, SEE SITE PLAN FOR SIZE, TYP.

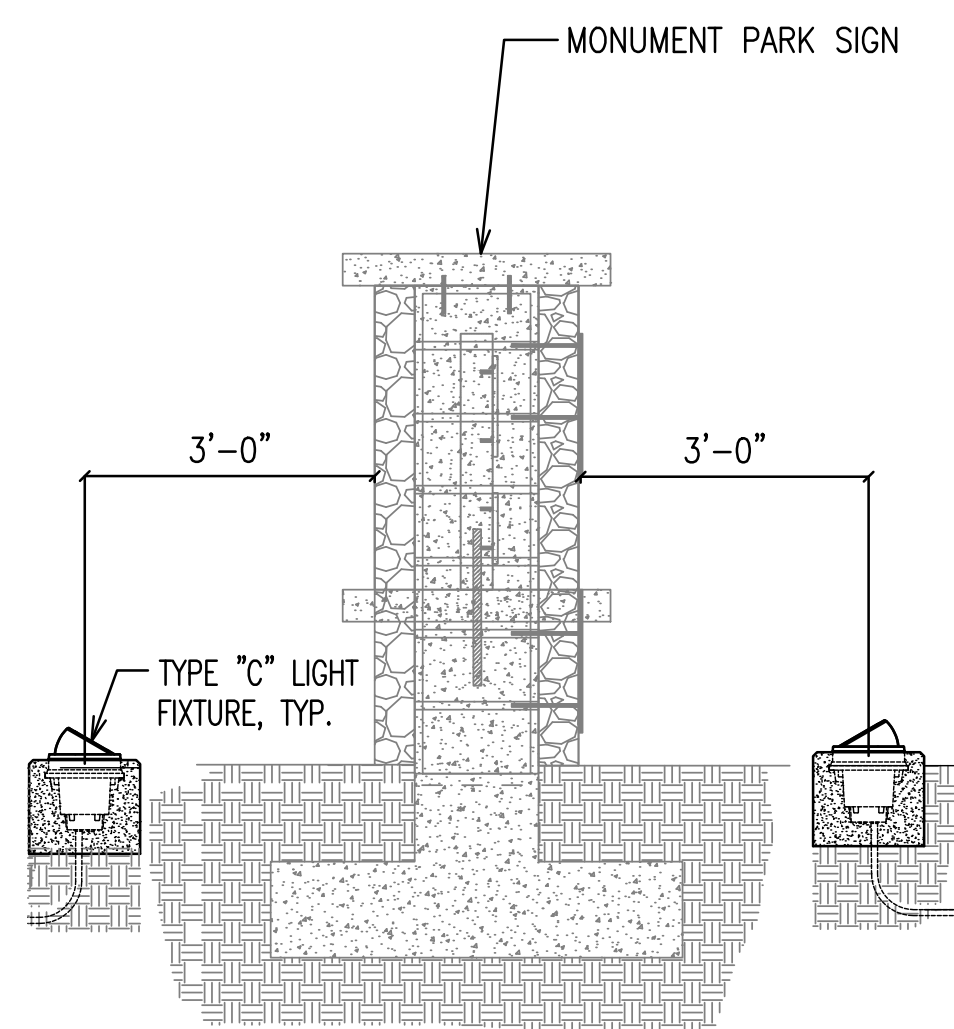
SHADE STRUCTURE UPLIGHT DETAIL

SCALE
1/2"=1'-0"

⑥



PLAN VIEW

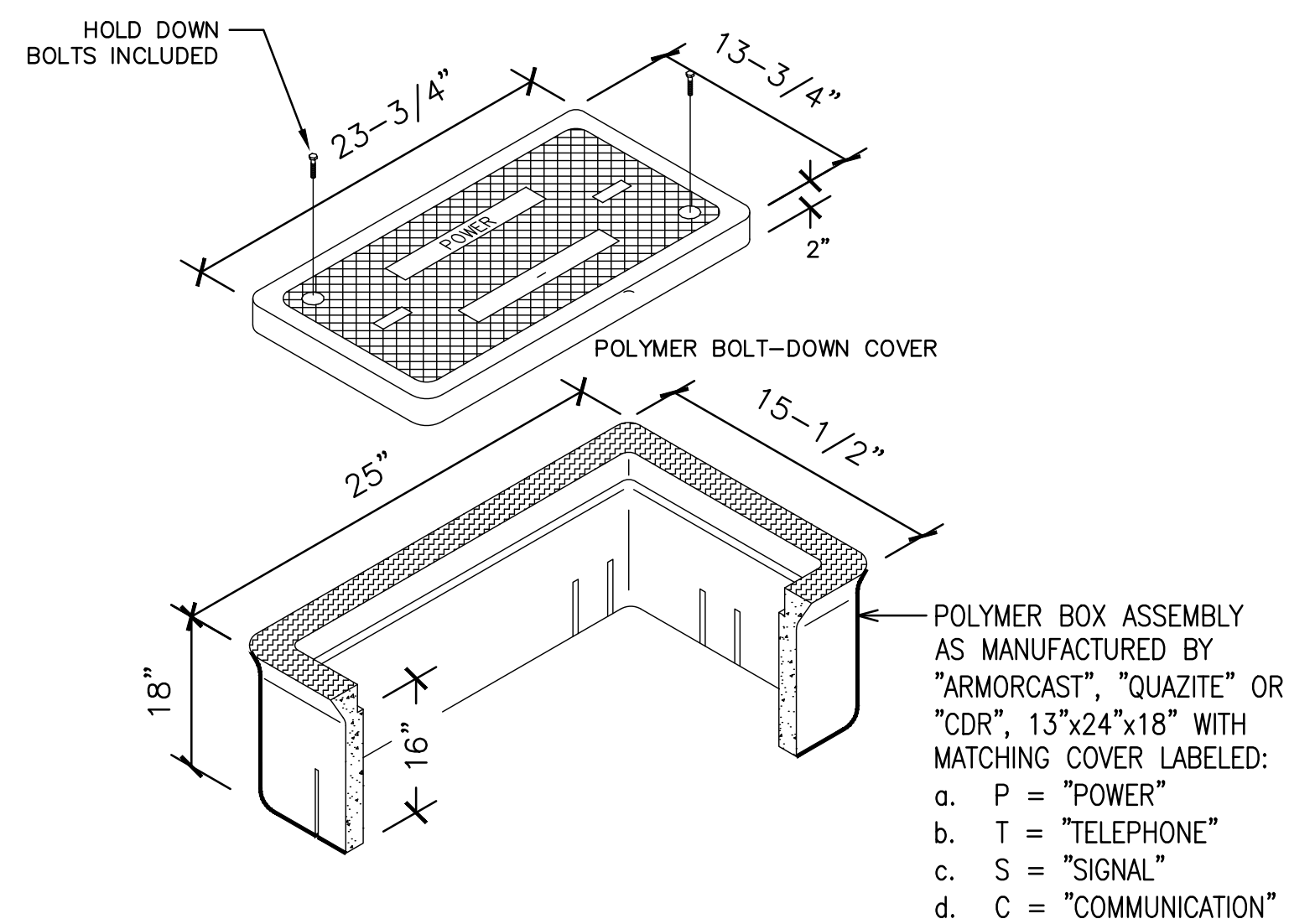


SECTION A-A

PARK SIGN LIGHT DETAIL

SCALE
1/2"=1'-0"

⑤



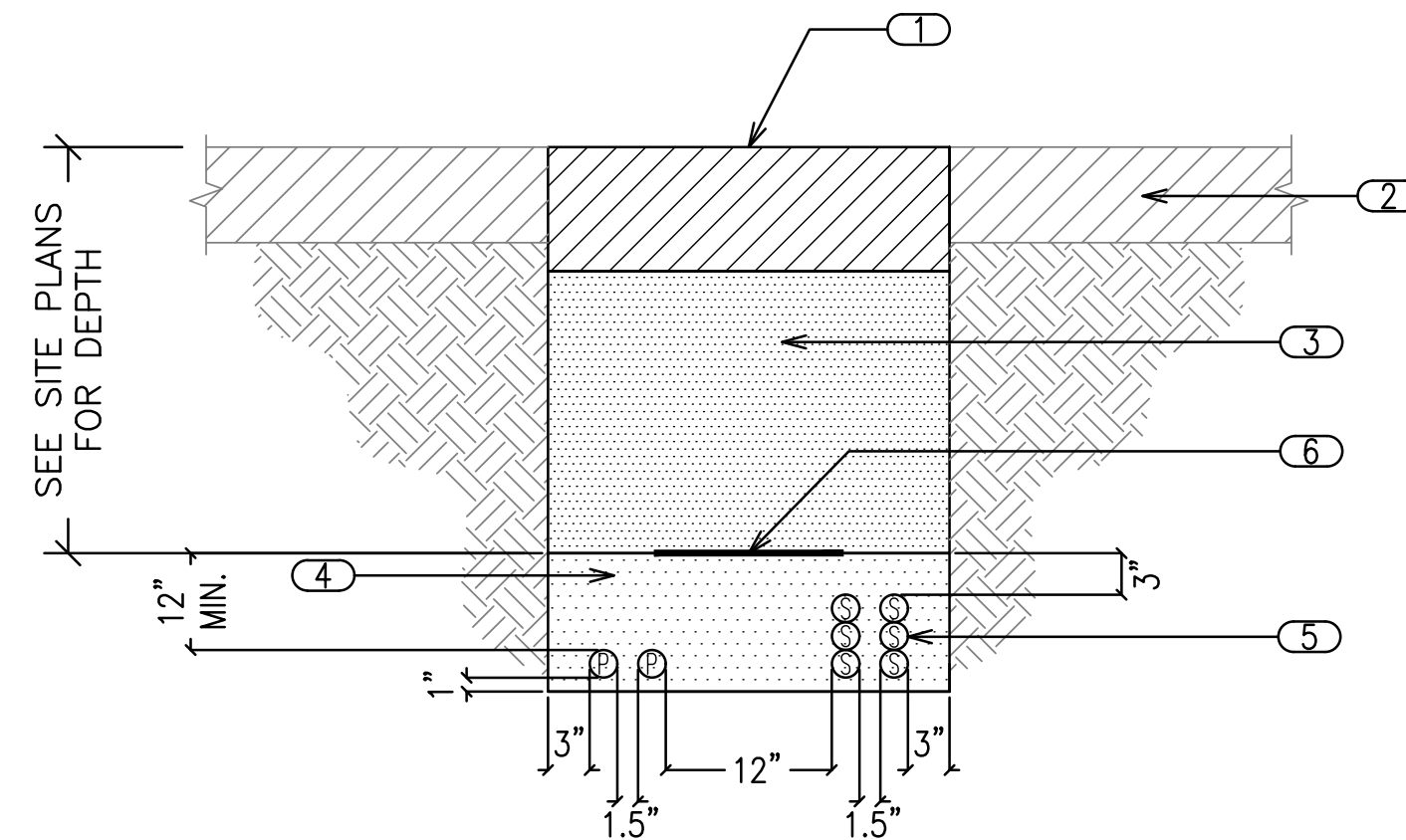
A POLYMER CONCRETE BOX ASSEMBLY ON A BED OF 6" CRUSHED ROCK. DESIGN LOAD: AASHTO H20
INSTALL PER SPPWC STANDARD PLAN 405-1 & SSPWC SPECIFICATION SECTION 701-11 "PULL BOXES"

PRODUCT	DESCRIPTION	APPROX. WT. (LBS.)
BOX	POLYMER CONCRETE	84
LID	POLYMER CONCRETE W/HOLD DOWN BOLTS	41

PULL BOX DETAIL

NO SCALE

④



- ① AC PAVEMENT (C2-PG64) OR PCC (560-C-3250). THICKNESS TO MATCH EXISTING PAVEMENT PLUS 1". MINIMUM THICKNESS SHALL BE 4"
- ② EXISTING AC OR PCC PAVEMENT.
- ③ TRENCH BACKFILL SLURRY (270-E-500)
- ④ BEDDING MATERIAL SHALL BE SAND, COMPACTED TO 90% RELATIVE DENSITY
- ⑤ ELECTRICAL CONDUIT(S), SEE PLAN FOR NUMBER AND SIZE INFORMATION
- ⑥ ELECTRICAL DETECTABLE WARNING TAPE

BRANCH CIRCUIT TRENCH DETAIL

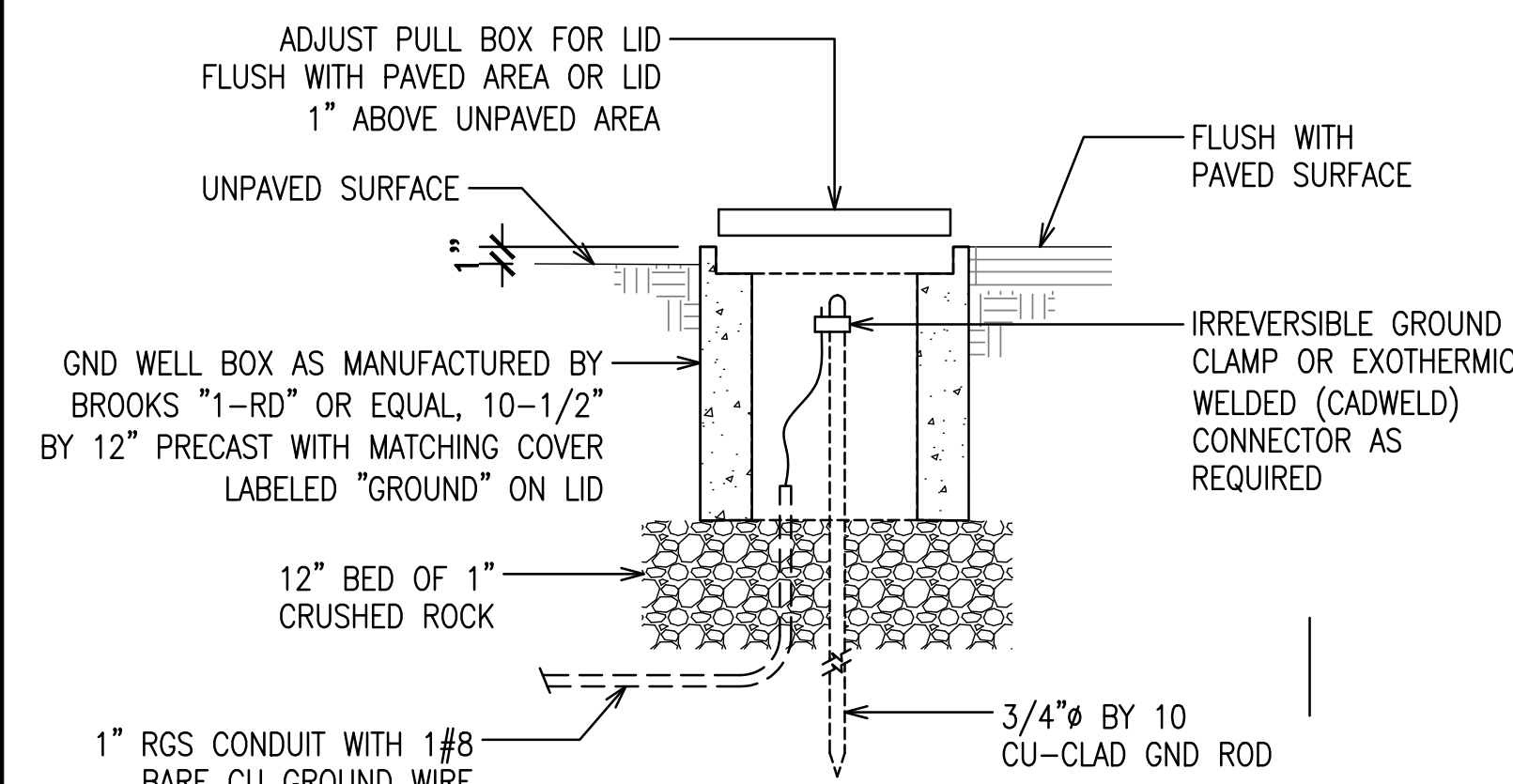
NO SCALE

③

NOT USED

NO SCALE

①



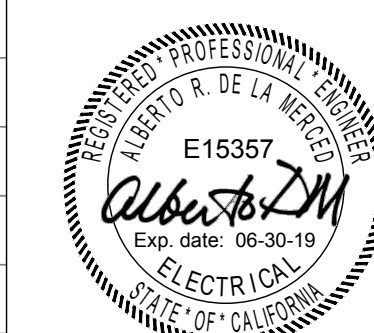
GROUND WELL DETAIL

NO SCALE

②

PD053138

DATE
REVIEWED BY
CAD PROJECT FILE NAME
CHECKER
DESIGNER
ADM
ADM



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK
STORMWATER IMPROVEMENTS
DETAILS

PROJECT ID NO. SWQ000003

E-2

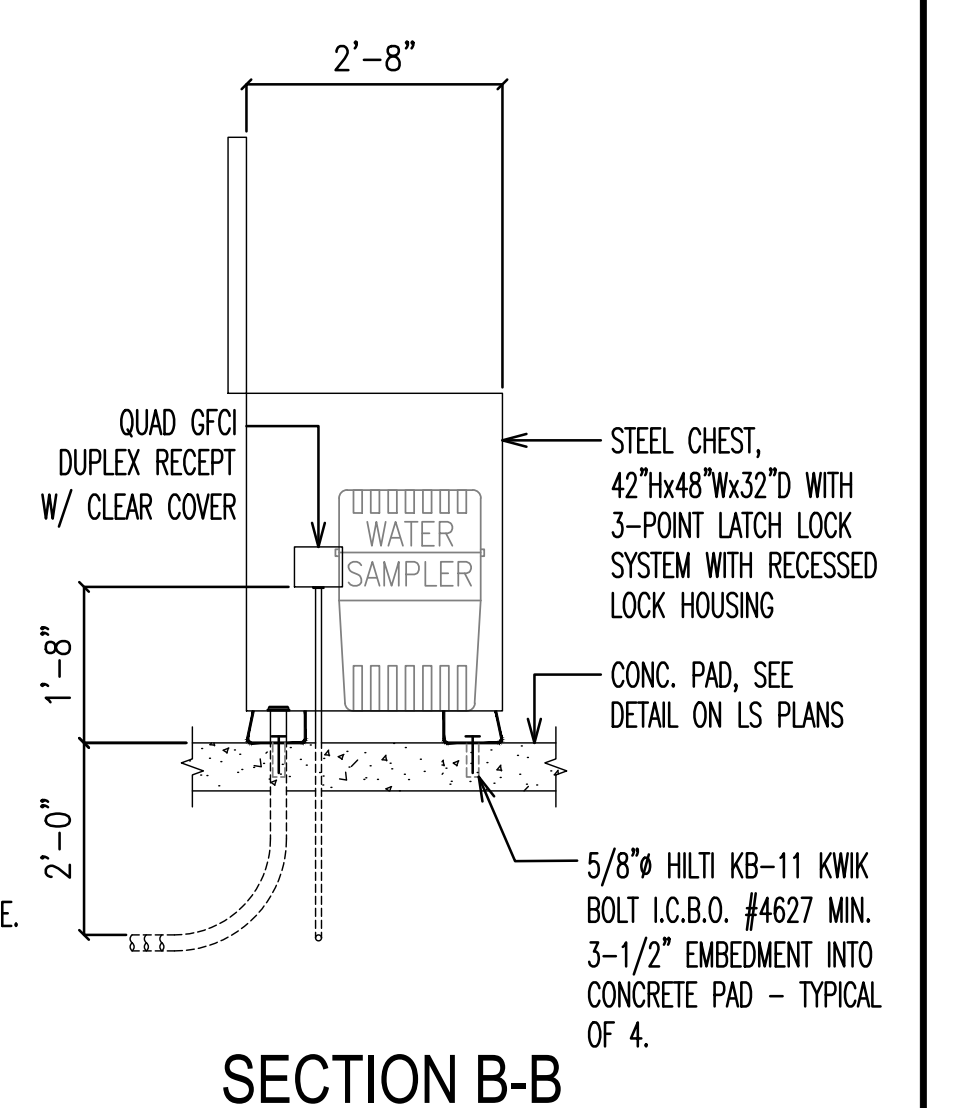
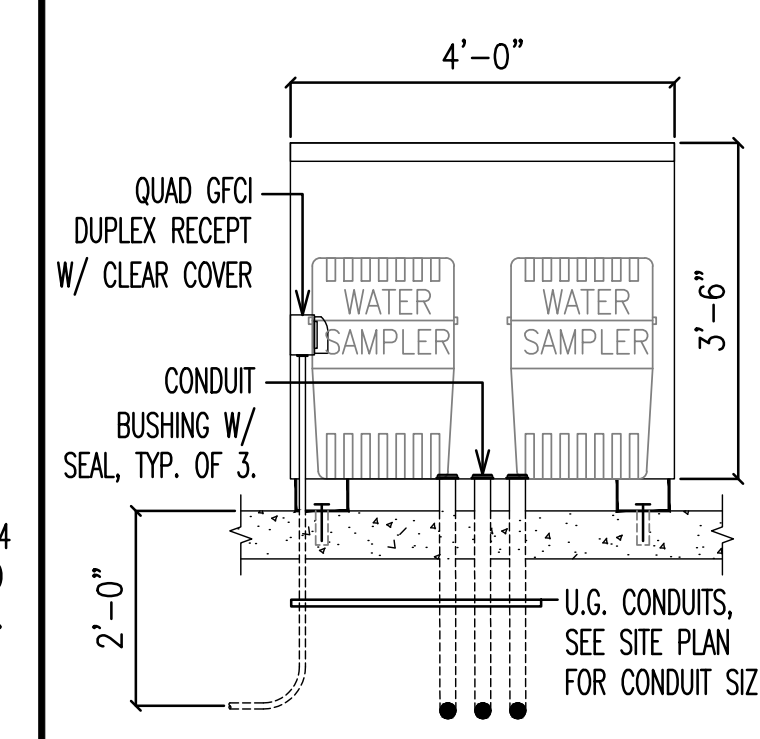
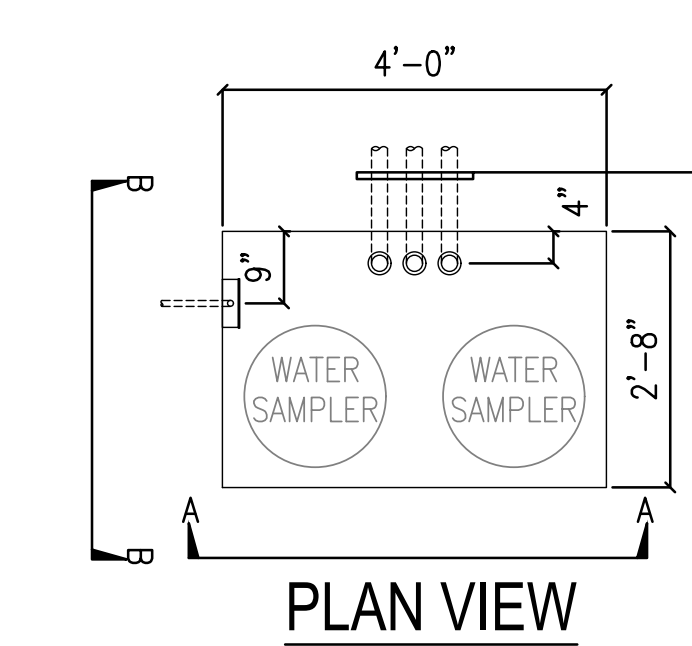
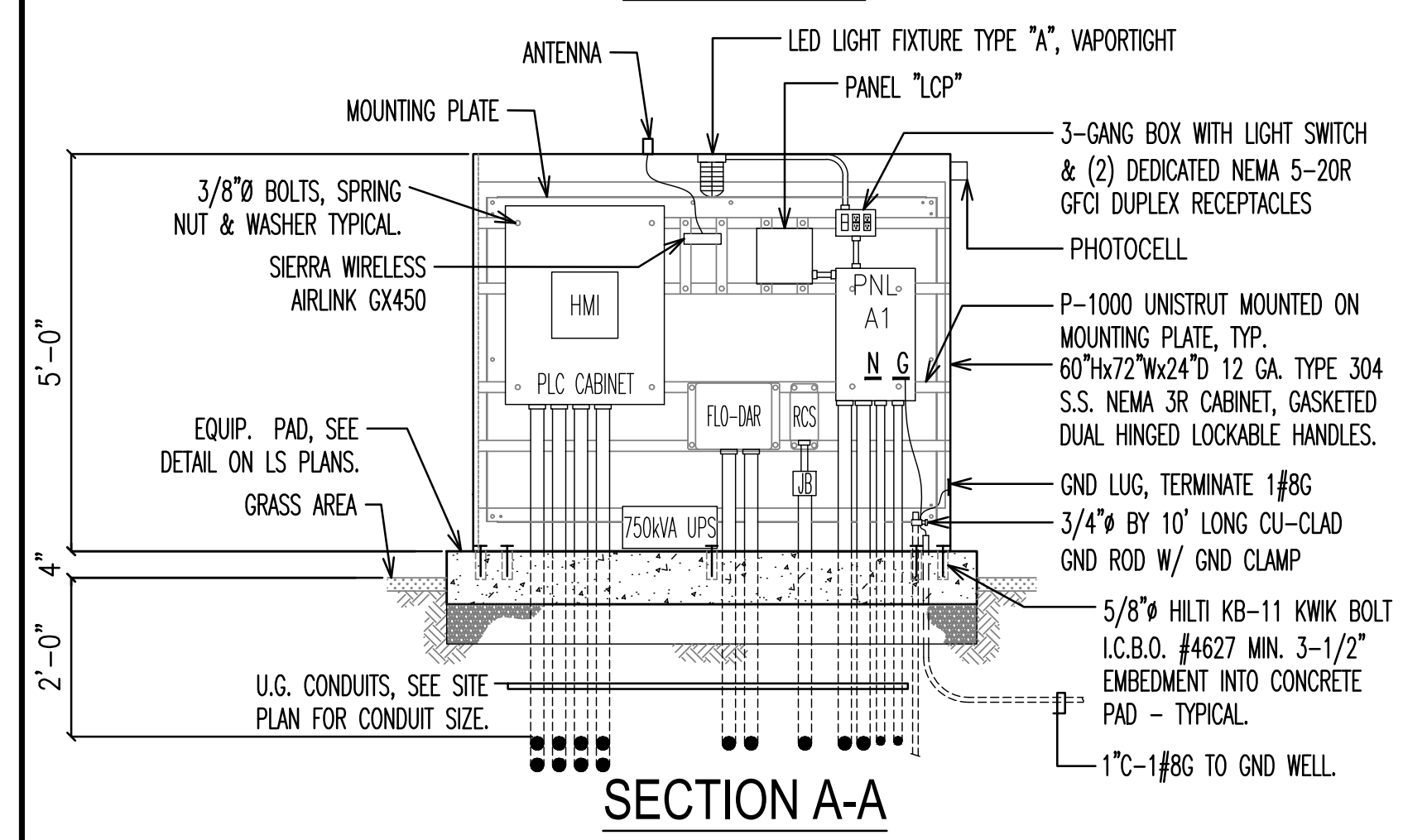
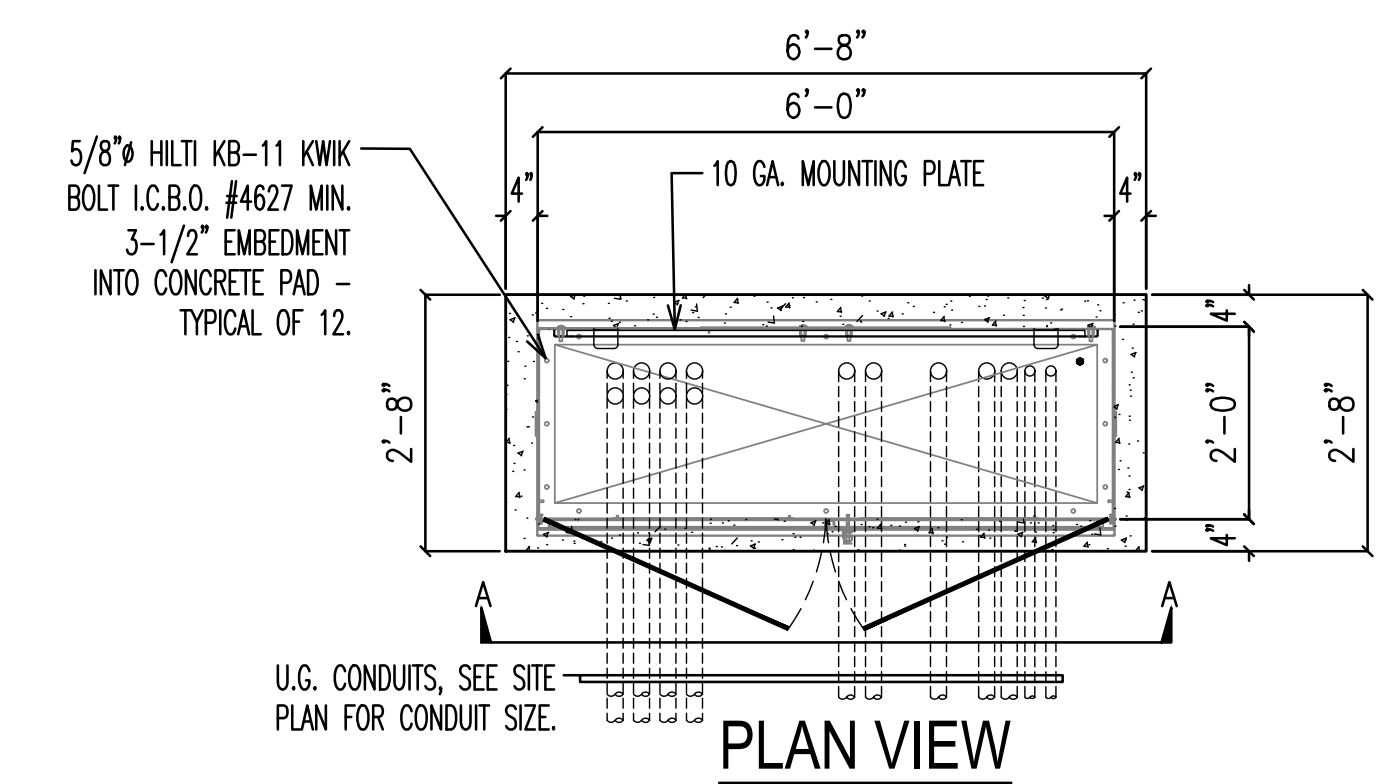
DATE	MK	DESCRIPTION
REVISIONS		

PROJECT ENGINEER: 8/20/18
DATE: PCA P970272AC DWG 181-271-D4 SHEET 39 OF 45

AS BUILT DRAWINGS

GENERAL NOTES:

- A. SEE PLAN E7 FOR PLC & TELEMETRY REQUIREMENTS AND 750VA UPS DESCRIPTION.
- B. SEE PLAN M-3 FOR EMO RCS CONTROLLER DETAIL.
- C. SEE PLAN M-6 FOR FLO-DAR DATA LOGGER DETAIL.



NOT USED

NO SCALE

(X)

NOT USED

NO SCALE

(X)

ELECTRICAL EQUIPMENT CABINET

NO SCALE

(10)

MONITORING EQUIPMENT CHEST DETAIL

NO SCALE

(9)

NOT USED

NO SCALE

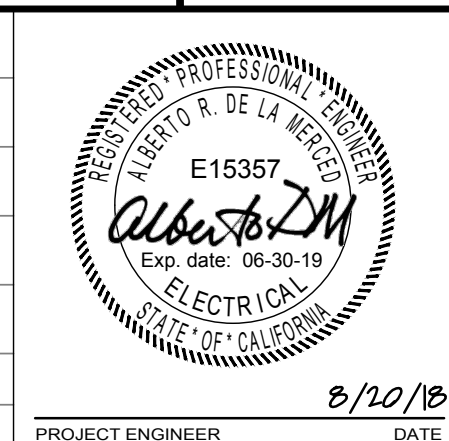
(X)

NOT USED

NO SCALE

(X)

DATE	MK	DESCRIPTION



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK
STORMWATER IMPROVEMENTS
DETAILS

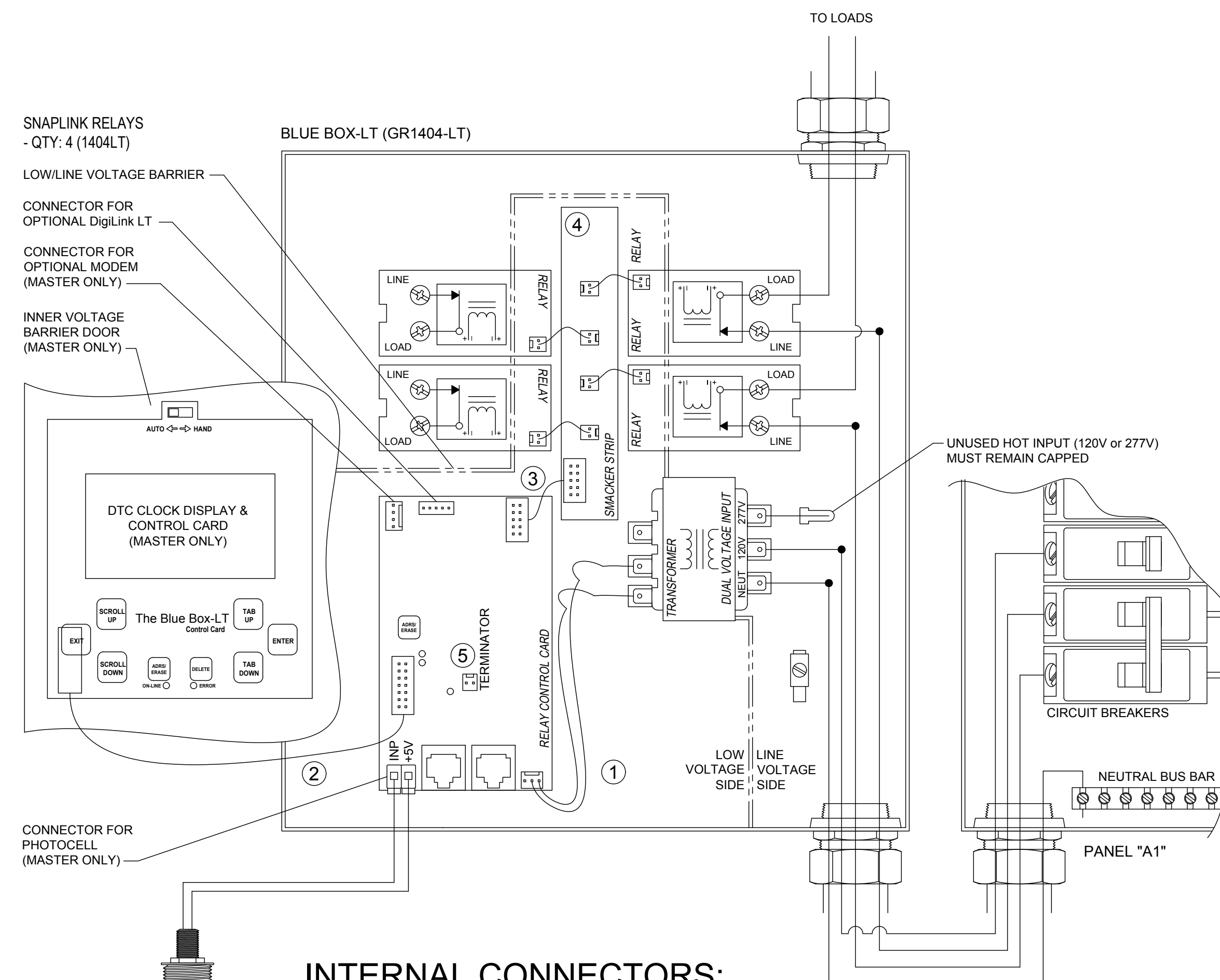
PROJECT ID NO. SWQ000003

DATE: 8/20/18
PROJECT ENGINEER: PCA P970272AC
DWG 181-271-D4
SHEET 40 OF 45

PD053138

AS BUILT DRAWINGS

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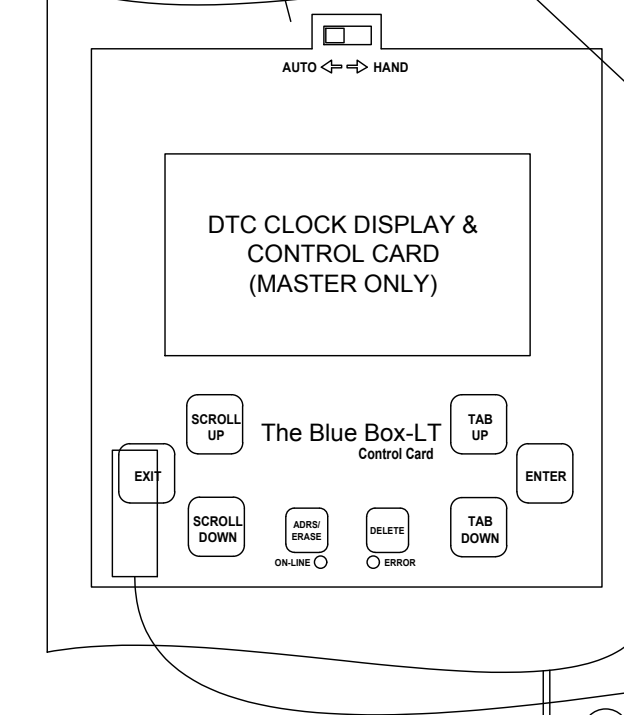
SNAPLINK RELAYS
- QTY: 4 (1404LT)

LOWLINE VOLTAGE BARRIER

CONNECTOR FOR OPTIONAL DigLink LT

CONNECTOR FOR OPTIONAL MODEM (MASTER ONLY)

INNER VOLTAGE BARRIER DOOR (MASTER ONLY)



CONNECTOR FOR PHOTOCELL (MASTER ONLY)

INTERNAL CONNECTORS:

- ① QTY: 3 -- #18AWG: Supplies power & neutral from input card to transformer.
- ② QTY: 1 -- 14-conductor ribbon cable: carries control signal between DTC Clock Control Card & Relay Control Card. (Master ONLY)
- ③ QTY: 1 -- 10-conductor ribbon cable: carries control signal between Relay Control Card & Smacker Strip.
- ④ QTY: 4 (1404LT) -- 2-conductor ribbon cable: Carries control signal from Relay Control Card to Relays.
- ⑤ Terminator (QTY: 2 provided inside sealed bag) -- Terminates bus line.

LIGHTING CONTROL SCHEDULE							
Relay	Line Feed	Dimming	Type	Voltage	Source	Description	Controlled by
1	-	NO	NC	240V	PNL A1	SHADE STRUCTURE AND MONUMENT SIGN UPLIGHTS	TC, PC
2	-	NO	NC		CKTS 10,12	SPARE	
3						SPARE	
4						SPARE	

ID: LCP
LOCATION: ELEC CABINET
NEMA RATING: 1
SUPPLY CIRCUIT: Voltage: 120V Normal

TC = TIME CLOCK
PC = PHOTOCELL
OS = OCCUPANCY SENSOR
OR = OVERRIDE MANUAL SWITCH

LIGHTING CONTROL PANEL "LCP" WIRING DIAGRAM

PANEL:		EXIST. PEDESTAL "A"		PANEL RATING: 100A-120/240V-3Ø-4W							
ENCLOSURE:		NEMA 3R		MAINS: 100A-3P							
MANUFACTURER:		SQ'D, EATON, G.E.		BUS/AIC: 125A/42KAIC							
CIRCUIT No.	TYPE	TRIP	POLE	LITE	RECEPT	MISC	PHASES			DESCRIPTION	
							AØ VA	BØ VA	CØ VA**		
1	G	100	3							MAIN CIRCUIT BREAKER	
3	G										
5	G										
7	M	40	3			3000				EXISTING IRRIGATION PUMP	
9	M						3000				
11	M							3000			
2		20	1			0				SPARE	
4		20	1				0			SPARE	
6		20	1					0		SPARE	
8	G	70	3			7198				SUB-PANELBOARD "A1"	
10	G							6428			
12	G								5868		
TOTAL CONNECTED VA PHASE							10,198	9,428	8,868		
LOAD TYPE:							L = (LCL) CONTINUOUS LOAD		D = DEMAND AMPS		
L-LOAD VA =							-		LCL @ 125% VA =		-
G-LOAD VA =							19,494		GENERAL LOAD @ 100% VA =		19,494
R-LOAD VA =							-		RECEPT. (> 10 KVA @ 50%) VA =		0
M-LOAD VA =							9,000		RECEPT. (<= 10 KVA @ 100%) VA =		-
OTHER LOAD VA =							-		MOTOR LOAD @ 100% VA =		9,000
CONNECTED VA =							28,494		OTHER LOAD @ 100% VA =		-
TOTAL DEMAND VA =							-		TOTAL DEMAND VA =		28,494
TOTAL DEMAND AMPS =							-		TOTAL DEMAND AMPS =		68.7

* NEW C.B. SHALL MATCH HIGHEST AIC RATING OF EXISTING C.B.'s
** HIGH LEG IS ON PHASE C.

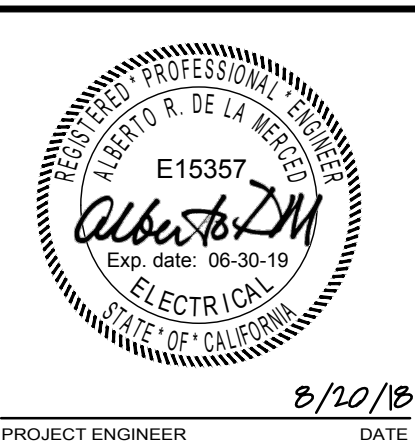
LUMINAIRE SCHEDULE				
TYPE	DESCRIPTION	TOTAL WATTS	LAMP TYPE	MOUNTING
A	5-9/16"x10-5/8" LED VAPORTIGHT CEILING MOUNT, 120V-1Ø LUMINAIRE SHALL BE OR AGENCY APPROVED EQUAL TO LITHONIA CAT. No. OLVTCM	15	LED	CLG. MT. INSIDE ELECT. CABINET
B	LED UPLIGHT, 120V-1Ø LUMINAIRE SHALL BE OR AGENCY APPROVED EQUAL TO KIM LIGHTING CAT. No. LTV81RG-WW-36L5K	25	LED	CONCRETE ENCASED INGRADE UPLIGHT
C	LED UPLIGHT, 120V-1Ø LUMINAIRE SHALL BE OR AGENCY APPROVED EQUAL TO KIM LIGHTING CAT. No. LTV81RG-WW-36L5K	25	LED	CONCRETE ENCASED INGRADE UPLIGHT

PANEL:		"A1"		PANEL RATING: 70A-120/240V-3Ø-4W							
ENCLOSURE:		NEMA 3R		MAINS: 70A-3P							
MANUFACTURER:		SQ'D, EATON, G.E.		BUS/AIC: 125A/42KAIC							
CIRCUIT No.	TYPE	TRIP	POLE	LITE	RECEPT	MISC	PHASES			DESCRIPTION	
							AØ VA	BØ VA	CØ VA**		
1	G	60	3			1	4156		4156	WAHASO CONTROLLER	
3	G								4156		
5	G								4156		
7	M	20	3			1	1632		1632	ELECTRIC MOTOR OPERATOR	
9	M								1632		
11	M								1632		
13	G	20	1			1	200			PANEL "LCP" IN ELEC. CAB.	
15	G	20	1		2			360		ELECT. CAB. DUPLEX RECEPTALE	
17										PROVISION	
19										PROVISION	
21										PROVISION	
23										PROVISION	
25										PROVISION	
27										PROVISION	
29										PROVISION	
2	G	20	1	1			100			ELECTRICAL CABINET LT. FIXTURE	
4	G	20	1		1			200		IRRIGATION CONTROLLER IN WAHASO CAB.	
6		20	1						0	SPARE	
8	G	20	1					360		WATER SAMPLING CABINET QUAD. RECEPT.	
10	L	20	2	8					80	TRELLIS & MON. SIGN UPLIGHTS	
12	L								80		
14	G	20	1		1		750			UPS 750 KVA	
16										PROVISION	
18										PROVISION	
20										PROVISION	
22										PROVISION	
24										PROVISION	
26										PROVISION	
28										PROVISION	
30										PROVISION	
TOTAL CONNECTED VA PHASE							7,198	6,428	5,868		
LOAD TYPE:							L = (LCL) CONTINUOUS LOAD		D = DEMAND AMPS		
L-LOAD VA =							160		LCL @ 125% VA =		200
G-LOAD VA =							14,438		GENERAL LOAD @ 100% VA =		14,438
R-LOAD VA =							-		RECEPT. (> 10 KVA @ 50%) VA =		0
M-LOAD VA =							4,896		RECEPT. (<= 10 KVA @ 100%) VA =		-
OTHER LOAD VA =							-		MOTOR LOAD @ 100% VA =		4,896
CONNECTED VA =							19,494		OTHER LOAD @ 100% VA =		-
TOTAL DEMAND VA =							-		TOTAL DEMAND VA =		19,534
TOTAL DEMAND AMPS =							-		TOTAL DEMAND AMPS =		47.1

* NEW C.B. SHALL HAVE THE CAPABILITY TO BE LOCKED IN THE OPEN POSITION
** HIGH LEG IS ON PHASE C. ***PD053138***

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COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK
STORMWATER IMPROVEMENTS
PANEL SCHEDULES,
LIGHTING CONTROL WIRING DIAGRAM
PROJECT ID NO. SWQ000003

DATE: 8/20/18
PROJECT ENGINEER: PCA P970272AC
DWG 181-271-D4
SHEET 41 OF 45

SLAUSON AVE.

CONCRETE SIDEWALK

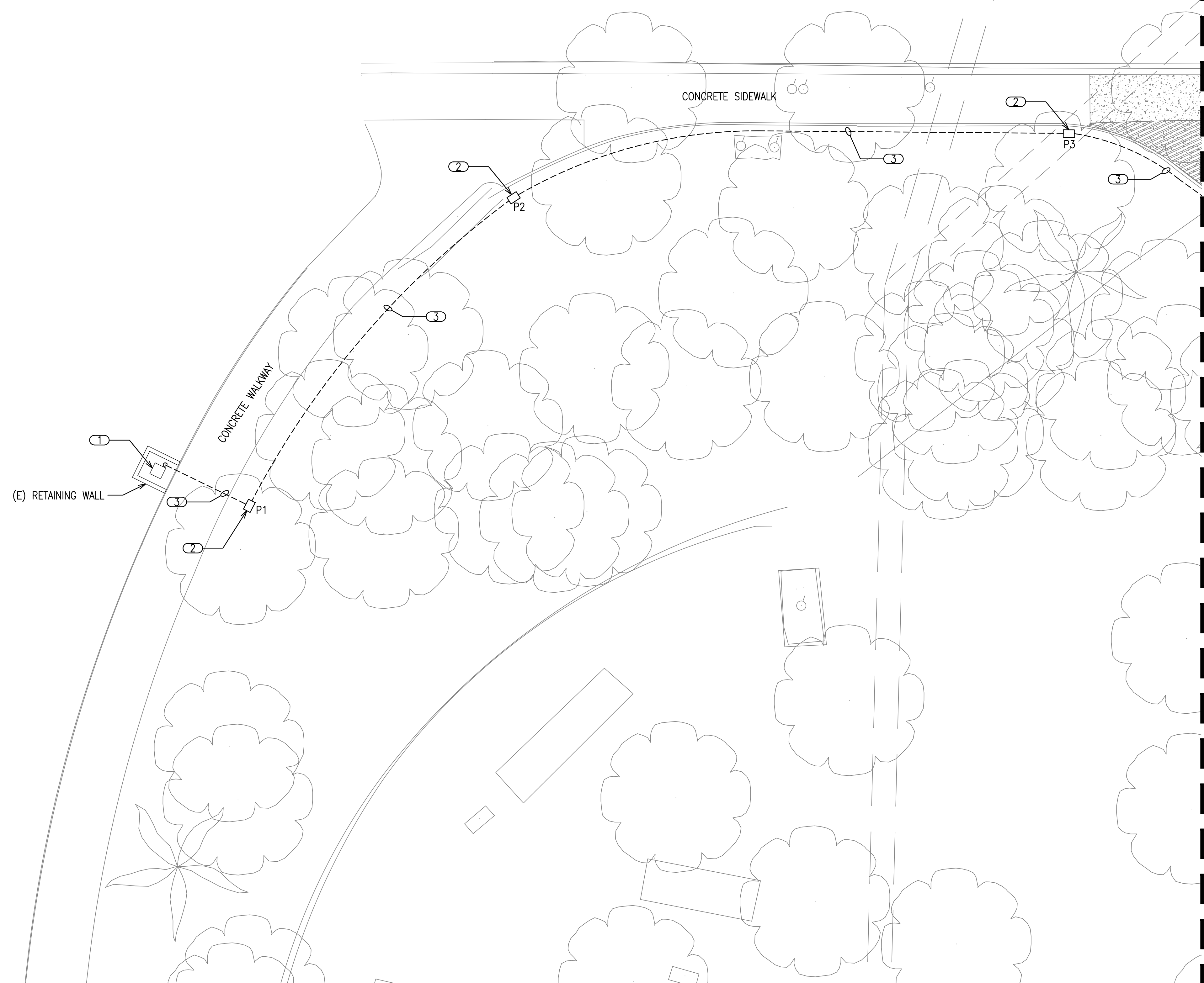
CONCRETE WALKWAY

(E) RETAINING WALL

SEE SHEET E6
MATCHLINE

CONSTRUCTION NOTES:

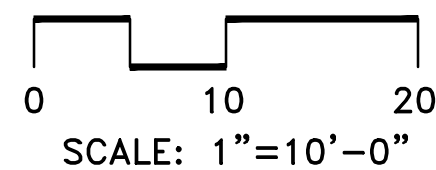
- Ⓛ EXISTING 100A-120/240V-3Ø-4W ELECTRICAL SERVICE PEDESTAL. INSTALL 70A-3P C.B. IN EXISTING SPARE SPACES 8,10,12. MATCH HIGHEST AIC RATING OF EXISTING C.B. UPDATE PANEL SCHEDULE TO REFLECT CHANGES.
- Ⓛ PULL BOX PER DETAIL 4 ON PLAN E-2.
- Ⓛ 2"C-4#1 & 1#6G, 24" B.G.



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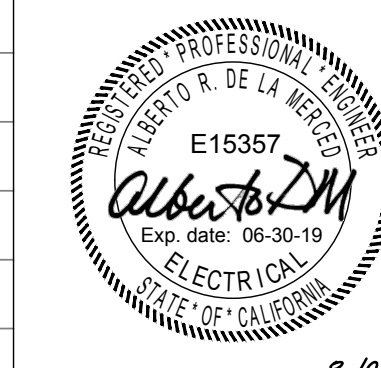


NORTH



SCALE: 1"=10'-0"

DATE	MK	DESCRIPTION



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK
STORMWATER IMPROVEMENTS
SITE PLAN

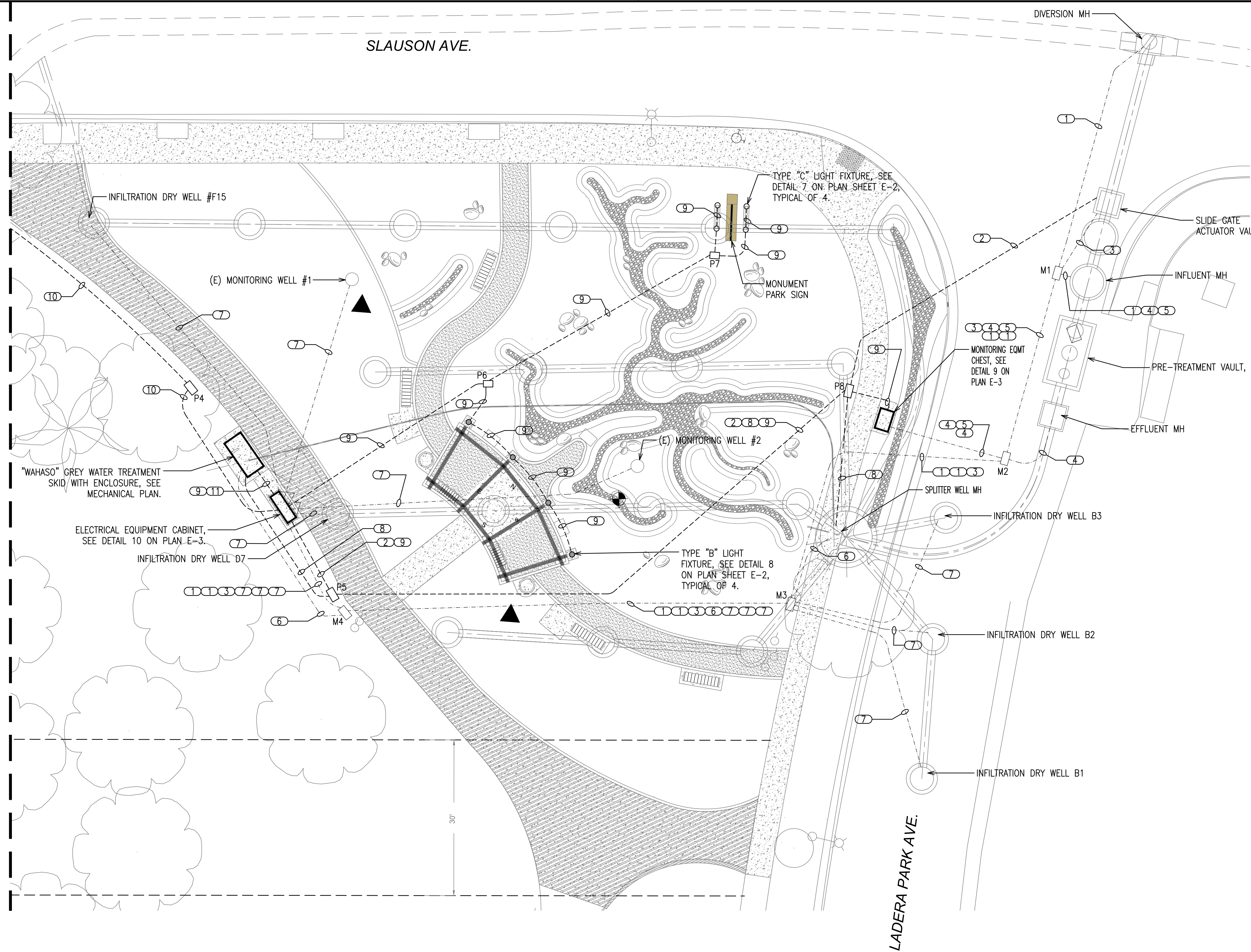
PROJECT ID NO. SWQ0000003

DATE 8/20/18
 PROJECT ENGINEER
 PCA P970272AC DWG 181-271-D4 SHEET 42 OF 45

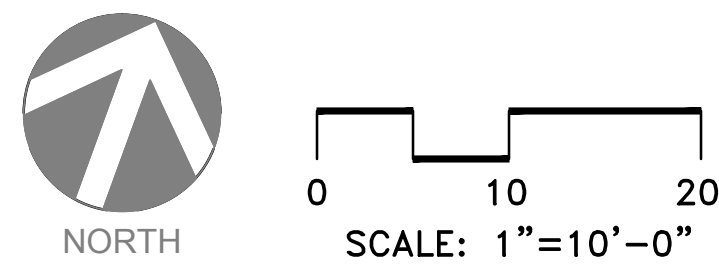
PD053138

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SEE SHEET E5
MATCHLINE



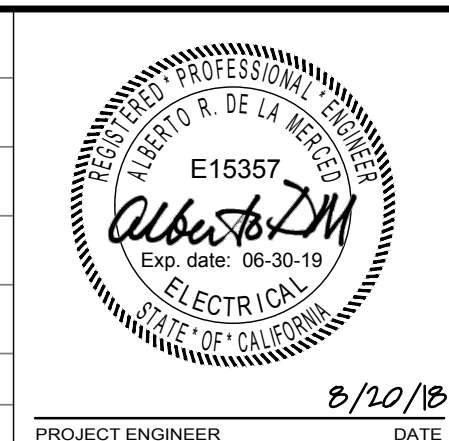
- CONSTRUCTION NOTES:**
- ① 2" C WITH FLO-DAR METER SIGNAL CABLE, 24" B.G. TO FLO-DAR DATA LOGGER LOCATED INSIDE THE ELECTRICAL CABINET.
 - ② 2" C-3#8 & 1#8G (EMO POWER), 24" B.G. TO PANEL BOARD "A1" LOCATED INSIDE THE ELECTRICAL CABINET.
 - ③ 2" C WITH OPEN-CLOSE EMO CONTROL CABLES TO RCS CONTROLLER INSIDE THE ELECTRICAL CABINET, 24" B.G.
 - ④ 2" C WITH A SUCTION TUBE TO MONITORING CHEST, 24" B.G.
 - ⑤ 2" C WITH FLOW SENSOR SIGNAL CABLE TO MONITORING CHEST, 24" B.G.
 - ⑥ 2" C WITH PRESSURE TRANSDUCER SIGNAL CABLE TO WAHASO CONTROL CABINET, 24" B.G.
 - ⑦ 2" C WITH PRESSURE TRANSDUCER SIGNAL CABLE TO PLC INSIDE ELECTRICAL CABINET, 24" B.G.
 - ⑧ 2" C-2#8 & 1#8G (WAHASO 2HP SUMP PUMP) TO WAHASO CONTROL CABINET, 24" B.G.
 - ⑨ 3/4" C-2#10 & 1#10G, 24" B.G.
 - ⑩ 2" C-4#1 & 1#6G, 24" B.G.
 - ⑪ 1-1/4" C-4#6 & 1#6G, 24" B.G.



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COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LADERA PARK
STORMWATER IMPROVEMENTS
SITE PLAN

PROJECT ID NO. SWQ000003

DATE: 8/20/18
PROJECT ENGINEER: PCA
DATE: P970272AC
DWG 181-271-D4
SHEET 43 OF 45

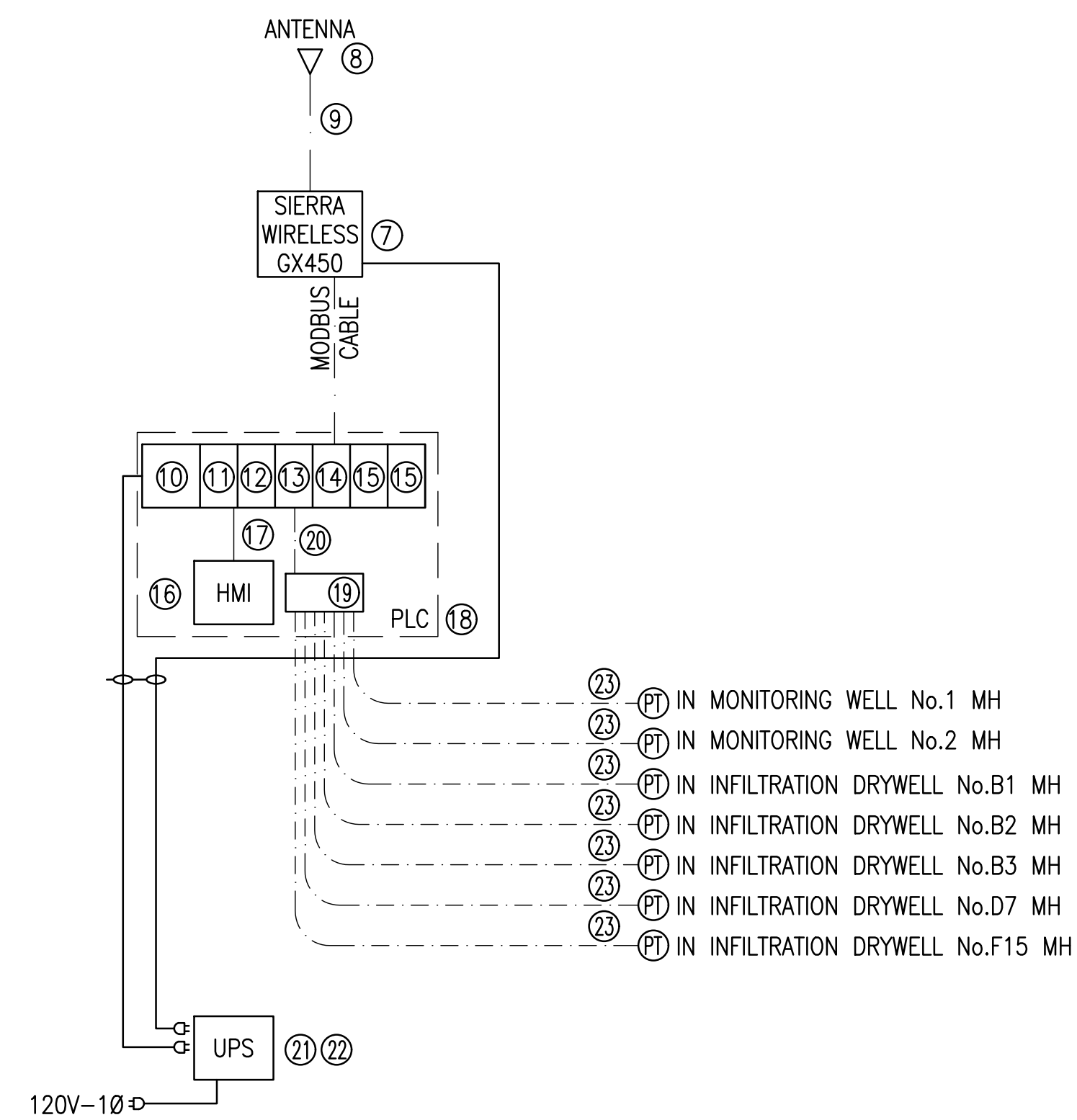
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GENERAL NOTES:

- A. PLC I/O EQUIPMENT SUBCONTRACTOR TO PROVIDE "AUTOMATION DIRECT" PROGRAMMABLE LOGIC CONTROLLER AND DESIGN PROGRAMMABLE LOGIC CONTROL (PLC) SCHEMATIC FOR FLOW TRANSDUCERS AND PRESSURE TRANSDUCERS OPERATION AND SUBMIT TO AGENCY FOR REVIEW AND APPROVAL.
- B. PLC I/O EQUIPMENT SUBCONTRACTOR TO PROVIDE AND INSTALL ALL HARDWARE, CONDUITS, SUPPORTS, AND SIGNAL & DATA CABLES. ALL WIRING SHALL BE TIED TO TERMINAL STRIP. LOS ANGELES COUNTY PUBLIC WORKS DEPT OPERATION SERVICES DIVISION TO PROGRAM SYSTEM.

CONSTRUCTION NOTES:

- ① MANUFACTURER POWER CORD WITH NEMA 5-15P. CONNECT TO UPS INTEGRAL NEMA 5-15R RECEPTACLE. SECURE CORDS TO UNISTRUT SUPPORTS WITH PLASTIC CABLE TIES AS REQUIRED.



INTERCONNECTION BLOCK DIAGRAM

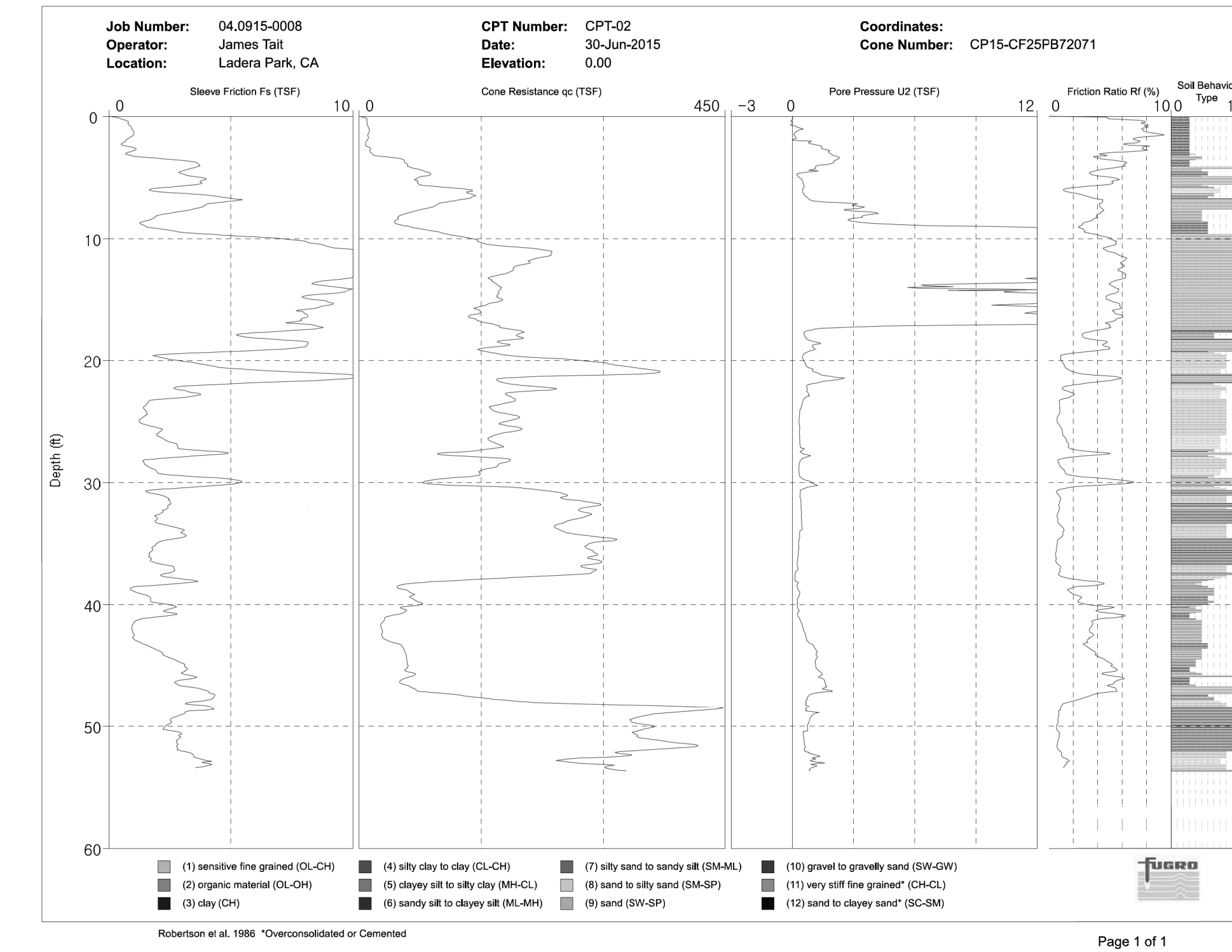
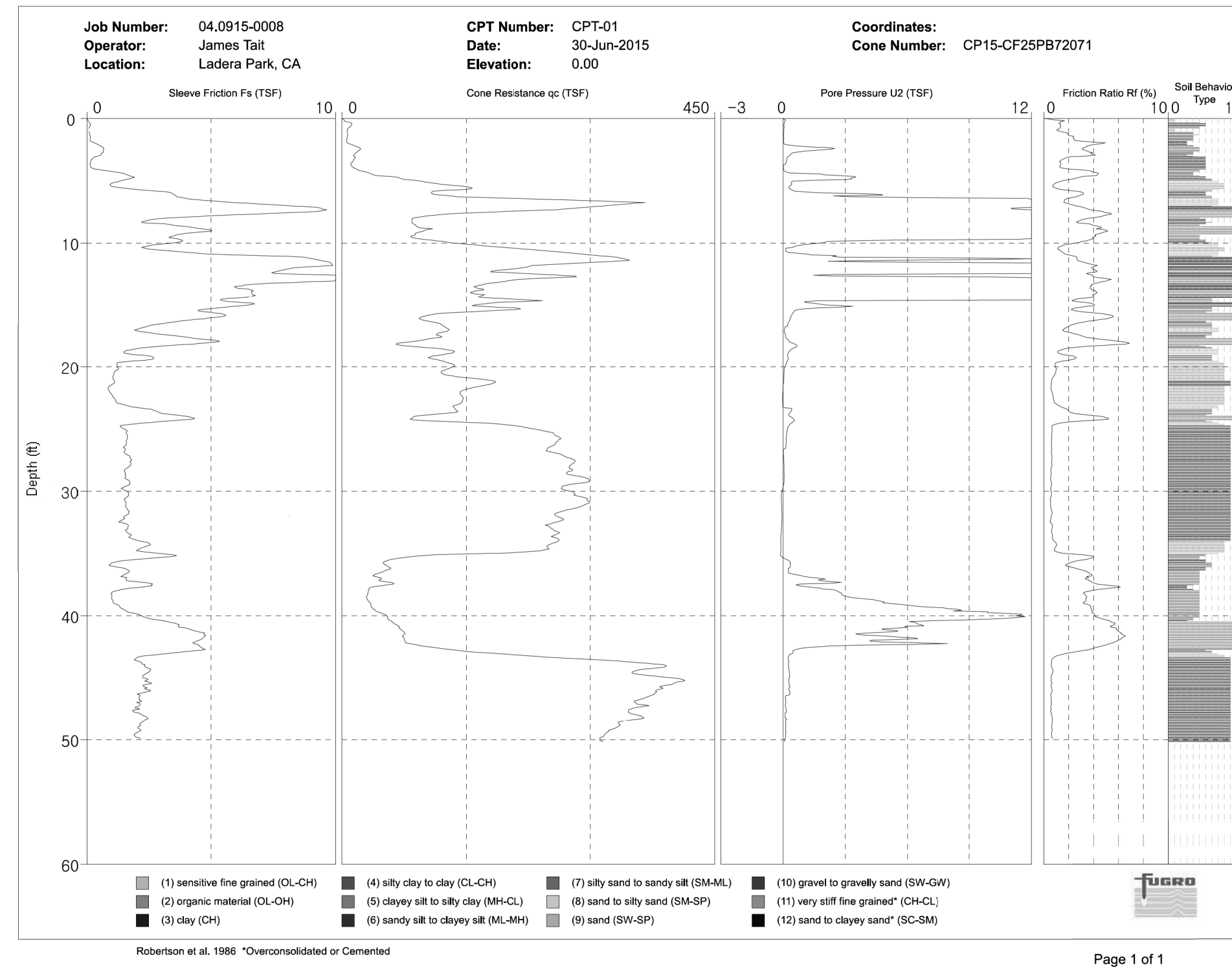
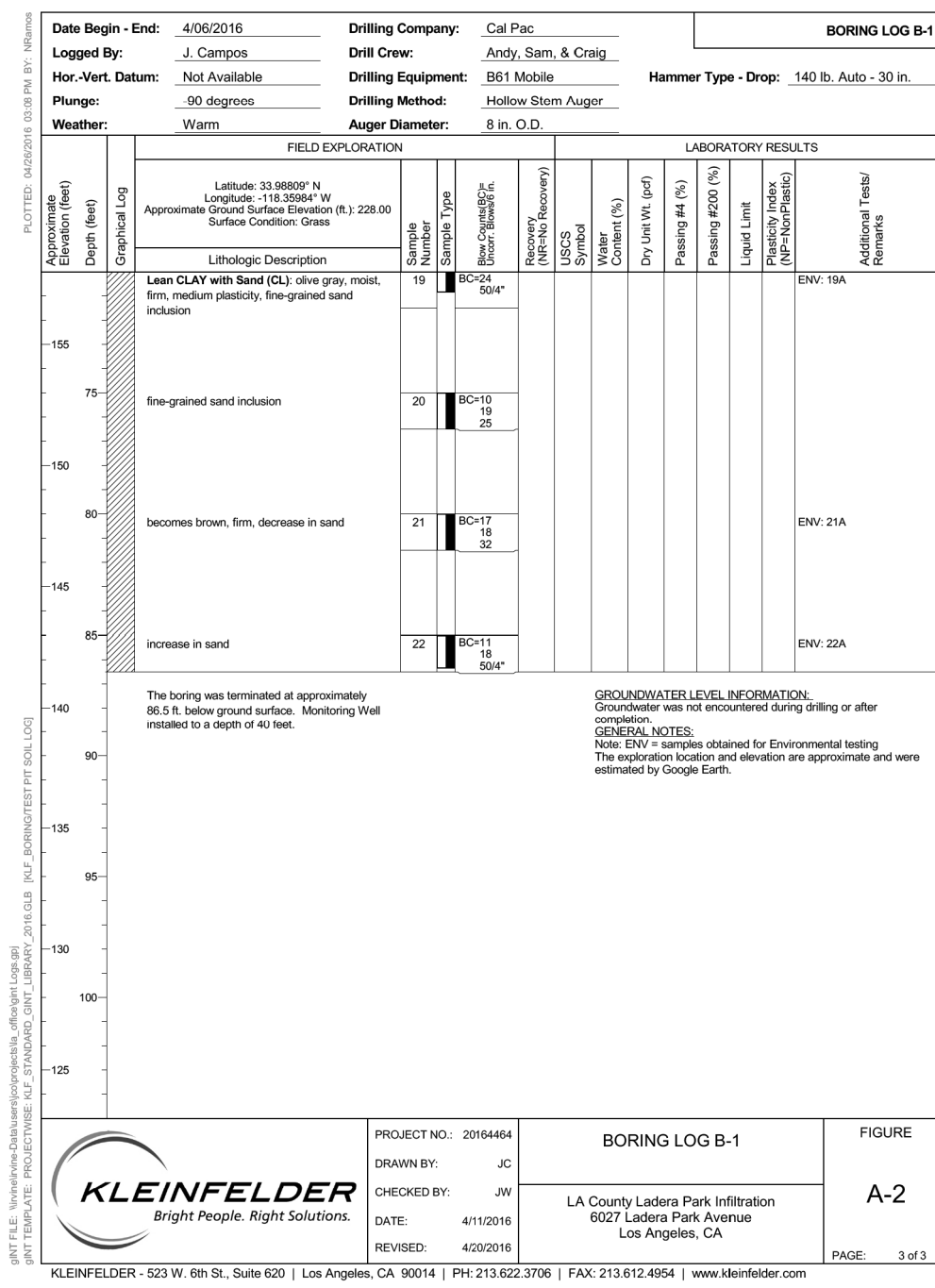
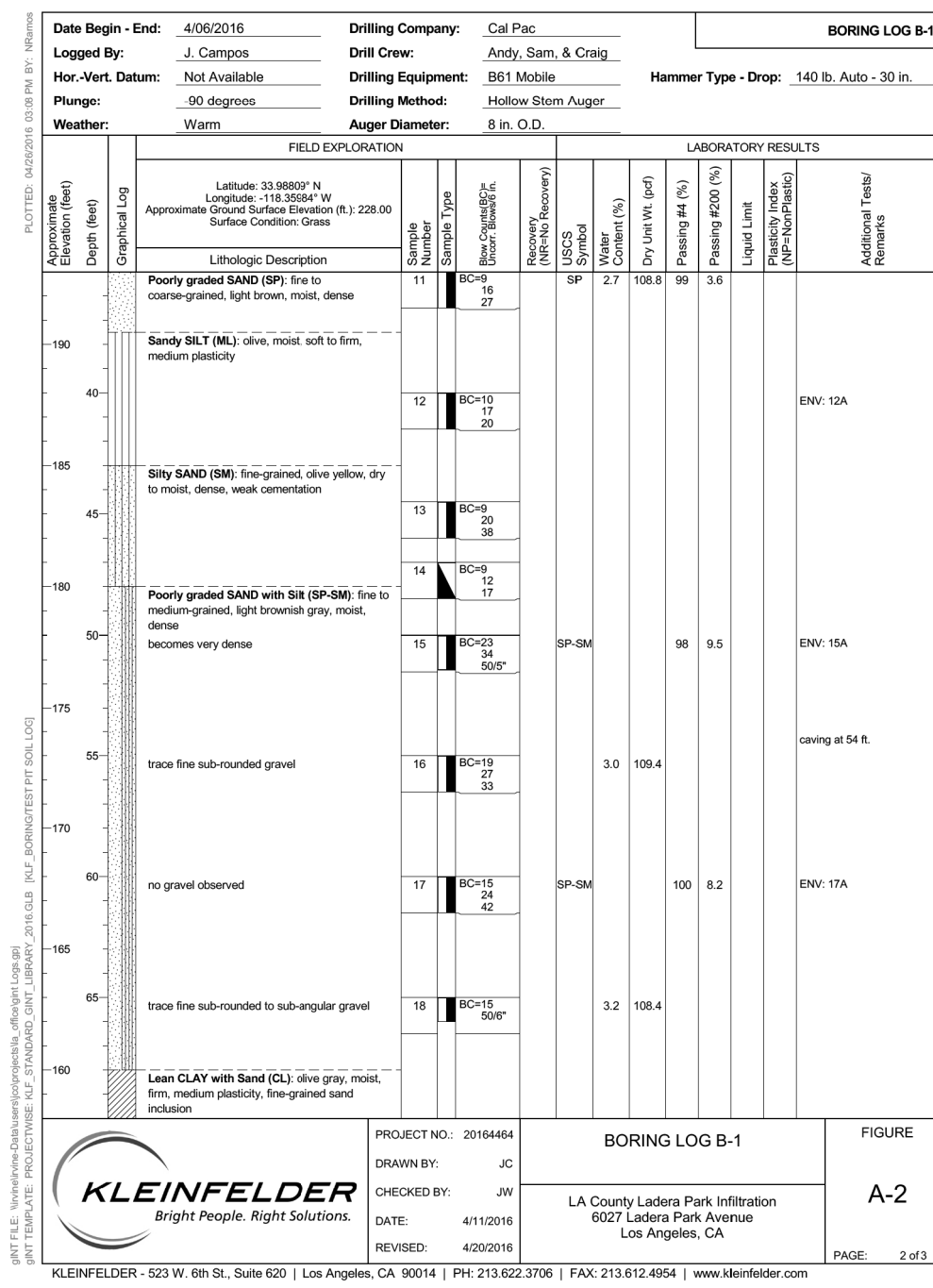
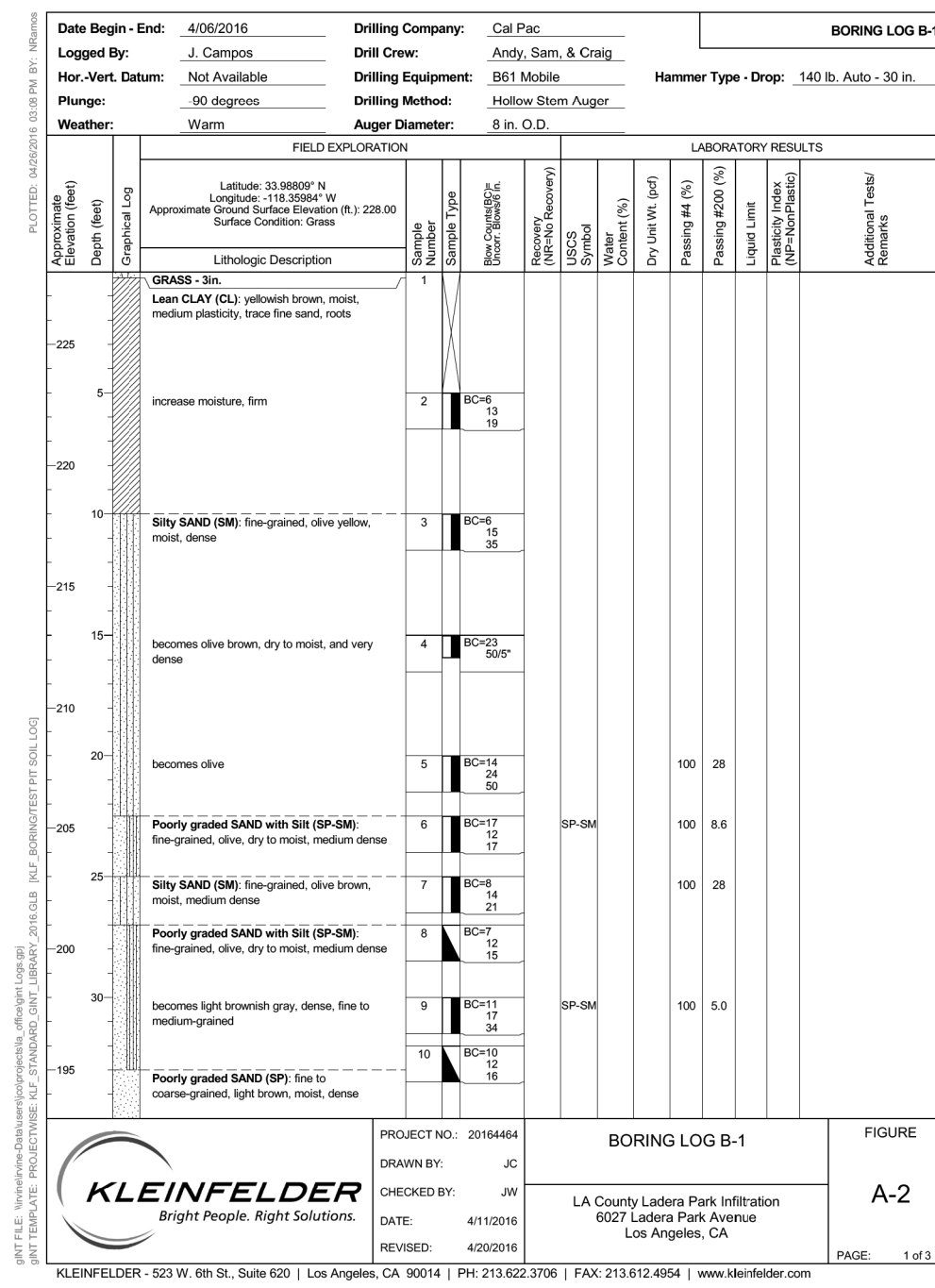
EQUIPMENT BILL OF MATERIALS

ITEM	DESCRIPTION
①	NOT USED
②	NOT USED
③	NOT USED
④	NOT USED
⑤	NOT USED
⑥	NOT USED
⑦	SIERRA WIRELESS AIRLINK, GX450, AT&T CELLULAR, MODEL#11020364
⑧	LAIRD CELLULAR ANTENNA, CABINET ROOF MOUNT, BLACK, MODEL#TRAB806/17103P
⑨	COAX: TIMES LMR200
⑩	BASE 6 SLOT: D2-06BDC1-1
⑪	CPU MODULE: DO-MORECPU, ETHERNET INTERFACE, H2-DM1E
⑫	24DC INPUT CARD, 16 INPUTS, D2-16ND3-2
⑬	ANALOG INPUT/OUTPUT CARD, 8 INPUTS, 4 OUTPUTS, F2-8AD4DA01
⑭	H2-ECOM100 ETHERNET MODULE MODBUS
⑮	BLANK FILLER MODULE, D2-SILL
⑯	10" TOUCH SCREEN MODULE, MODEL#EA9-T10CL. ON CABINET DOOR.
⑰	SERIAL CABLE, CATALOG#EA-2CBL-1
⑱	ENCLOSURE, NEMA TYPE 4, SIZE 24"Wx30"Hx10"D WITH PANEL DIN-RAIL, CATALOG#CSD302410LG
⑲	ZIPLINK 20-POLE FEED THRU MODULE ZL-RTB20
⑳	INTERFACE CABLE ZL-D2-CBL 19
㉑	APC SMART-UPS 750VA LCD 120V, MODEL#SMT750US. (1) NEMA 5-15P INPUT, (6) NEMA 5-15R OUTPUT
㉒	WALL MOUNT BRACKET, UNIVERSAL
㉓	AMETEK MODEL SDT PRESSURE TRANSDUCER, 4-20mA ANALOG INPUT

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<p>REVISIONS</p> <p>DATE MK DESCRIPTION</p>			<p>COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS</p> <p>LADERA PARK</p> <p>STORMWATER IMPROVEMENTS</p> <p>TELEMETRY & PLC BLOCK DIAGRAMS</p> <p>PROJECT ID NO. SWQ000003</p>	
<p>PROJECT ENGINEER</p>			<p>DATE 8/20/18</p>	<p>SHEET 44 OF 45</p>



DESIGNER: C. CALUAG
 CHECKER: R. LUI
 CADD PROJECT FILE NAME: \$FILES

PD053138

DRAWING NUMBER:						COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS	
(MARK AS-BUILT HERE)						LADERA PARK STORMWATER IMPROVEMENTS LOGS OF BORINGS AND CPT PROJECT ID NO. SWQ0000003	
DATE	MK	DESCRIPTION	REVISIONS	PROJECT ENGINEER	DATE		
					08/07/18		DWG 181-271-D4
						SHEET	45 OF 45

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