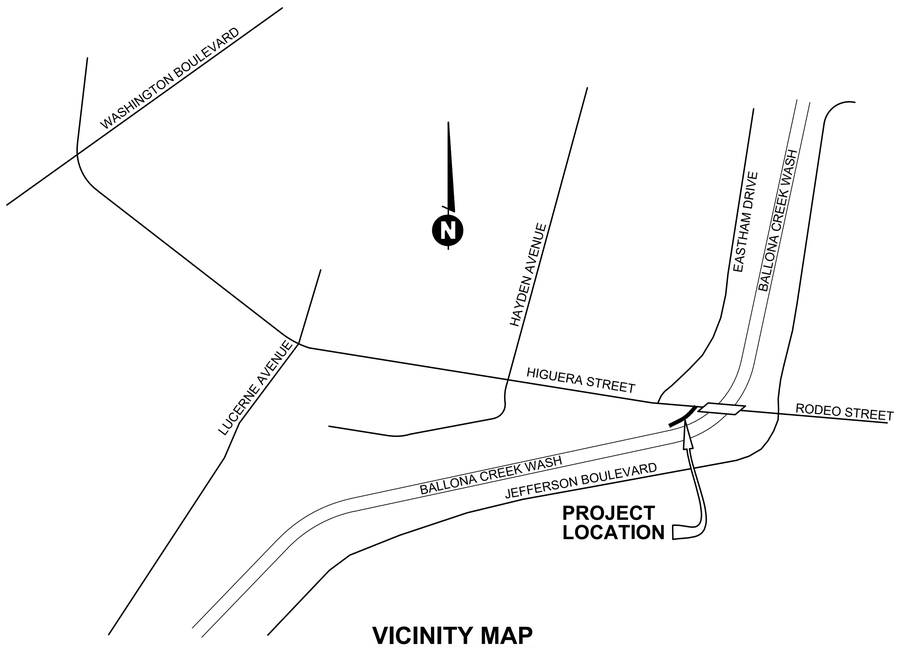
BALLONA CREEK BIKE PATH RAMP AT HIGUERA STREET

CULVER CITY CALIFORNIA

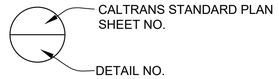


VICINITY MAP
NO SCALE

CALTRANS STANDARD PLANS 2010 EDITION

	ABBREVIATIONS (SHEET 1 OF 2)	
RSP	A10B	ABBREVIATIONS (SHEET 2 OF 2)
	A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
	A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
	A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
	A85	CHAIN LINK FENCE
	A85A	CHAIN LINK FENCE DETAILS
	A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
	B0-3	BRIDGE DETAILS
RSP	B3-1B	RETAINING WALL TYPE 1 (CASE 2)
RSP	B3-5	RETAINING WALL DETAILS NO. 1
	B3-6	RETAINING WALL DETAILS NO. 2
	B11-7	CHAIN LINK RAILING
	B11-52	CHAIN LINK RAILING TYPE 7

PLAN SYMBOLS



ENGINEER'S NOTICE TO CONTRACTORS

1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THESE LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ANY UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
2. CARE SHOULD BE TAKEN TO PREVENT GRADED DITCHES AND SWALES FROM UNDERMINING STREET IMPROVEMENTS. UPON INSPECTION OF THE SITES, THE CITY ENGINEER MAY REQUIRE TEMPORARY GUNITE SWALES, ENTERING OR LEAVING IMPROVEMENTS.
3. ALL AREAS SHALL SLOPE A MINIMUM OF 1.0% TO STREETS, DRIVE OR SWALE UNLESS OTHERWISE NOTED.
4. QUANTITIES SHOWN HERE ARE FOR PLAN CHECKING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE TO PERFORM HIS OWN QUANTITIES TAKEOFF.
5. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS; DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THE REQUIREMENTS SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE CITY OF CULVERCITY AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
6. CONTRACTOR TO OBTAIN AND COMPLY WITH CURRENT CITY STANDARD DRAWINGS AND SPECIFICATIONS FROM THE CITY PRIOR TO BIDDING.
7. THE CONTRACTOR SHALL PREPARE AND SUBMIT AN OPERATIONS AND MAINTENANCE PLAN TO ACE FOR APPROVAL.

NOTE: ALL EXISTING IRRIGATION LINES AFFECTED BY THIS CONSTRUCTION SHALL BE REMODELED TO SERVE THE REMAINING LANDSCAPED AREA.

LEGEND:

(106.02) 106.02	EXIST. ELEVATION PROPOSED ELEVATION
	FLOW LINE
	RETAINING WALL
	BROW DITCH
	PROP. DRAIN LINE

UTILITIES:

OWNER OR AGENCY	REPRESENTATIVE	CONTACT NUMBER
AT& T - CABLE	MR. RUBEN GALVEZ	(323) 224- 3204
AT& T - FIBER OPTIC	MR. CHARLES RANDOLPH	(310) 515- 4156
CHEVRON PIPELINE COMPANY	MR. AL SUPER	(714) 228- 1506
GOLDEN STATE WATER COMPANY	MR. DAN FLORES	(714) 535- 7711 EXT. 224
CITY OF LOS ANGELES DWP - WATER	MS. ELIA SUN	(213) 367- 1221
CITY OF LOS ANGELES DWP - SEWER	MR. ANTHONY MUNOZ	(310) 575- 8530
SOUTHERN CALIFORNIA EDISON	MS. BEATRICE COLEMAN	(310) 315- 3215
SOUTHERN CALIFORNIA GAS COMPANY	MR. DUANE GREEN	(310) 687- 2055
TIME WARNER CABLE	MR. HECTOR AIEMAN	(310) 647- 5139
PLAINS ALL AMERICAN PIPELINE	MR. JAMES JACOBY	(562) 728- 2020

INDEX TO SHEETS

BASIS OF BEARING

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, ZONE 5 NAD 83 (EPOCH 2007.0) AS DETERMINED LOCALLY BY A LINE BETWEEN STA #112 AND STA #111 SHOWN AS SOUTH 86' 25' 12" EAST HEREON.

HORIZONTAL CONTROL

STATE PLANE COORDINATES. CALIFORNIA COORDINATE SYSTEM ZONE 5 BASED ON NAD83 (NSRS2007). THE HORIZONTAL COORDINATE VALUES SHOWN HEREON ARE BASED UPON LOCAL CONTROL POINTS AND DERIVED FROM THE GPS STATIC OBSERVATI0NS UIILIZING DATA FROM SOUTHERN CALIFORNIA INTEGRATED GPS NETWORK (SCIGN) CONTINUOUSLY OPERATING REFERENCE STATI0NS (CORS) "UCLP" (NGS PID: AI4475). "FXHS" (NGS PID: AJ1866). "WRHS" (NGS PID: AJ1940) AND "NOPK" (NGS PID: AJ1897).

VERTICAL CONTROL

VERTICAL VALUES SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) UTILIZING COUNTY OF LOS ANGELES BENCHMARKS LISTED BELOW:

BENCHMARK NO: Y9331 , WATTS QUAD, BEING RDBM TAG IN NE COR C.B. @ JEFFERSON BL & HETZLIER RD 12.2M(40FT) SID & 9.8M(32FT) W/O APPROX C/L INT HAVING ELEVATION VALUE OF 79.600 FEET, 2005 ADJUSTMENT.

BENCHMARK NO: Y10987, WATTS QUAD, BEING L&FLT HD SPK IN W CB @ BCR @ SW COR JEFFERSON BL & HOLDREGE AVE (N END C.B.) HAVING ELIEVATION VALUE OF 85.247 FEET, 2005 ADJUSTMENT.

BENCHMARK NO: Y11349, WATTS QUAD, BEING LRG SPK IN W CB @ S END C.B. 6.3M(20.7 FT) S/O BCR @ SW COR RODEO RD & LA CIENEGA BL HAVING ELEVATION VALUE OF 99.371 FEET 2005 ADJUSTMENT.

ABBREVIATIONS:

CJ	CONTROL JOINT
D.L	DAYLIGHT
FF	FINISHED FLOOR
G.B	GRADE BREAK
G.S	GROUND SHOT
INV.	INVERT ELEVATION
LS	LANDSCAPING
TF	TOP OF FOOTING
TOE	TOE OF SLOPE
TOC	TOP OF CURB
TOP	TOP OF SLOPE
TW	TOP OF WALL
W	WATER MAIN
W.M	WATER METER

DIGALERT 811

REVISION DATES (DESIGN STAGE ONLY) 03/28/2014

NO. REVISIONS: DATE: BY:

Consulting Engineers, Inc.
320 South Harbor Boulevard, Suite 710
Anaheim, CA 92805
Tel: (714) 520-9070 Fax: (714) 520-9068

REGISTERED PROFESSIONAL ENGINEER • JIHAD M. SHARIFAN • No. 46997 • Exp. 3-30-2018 • CIVIL • STATE OF CALIFORNIA

CITY OF CULVER CITY PUBLIC WORKS DEPARTMENT OF CULVER CITY

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

		DATE
APPROVED		
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	

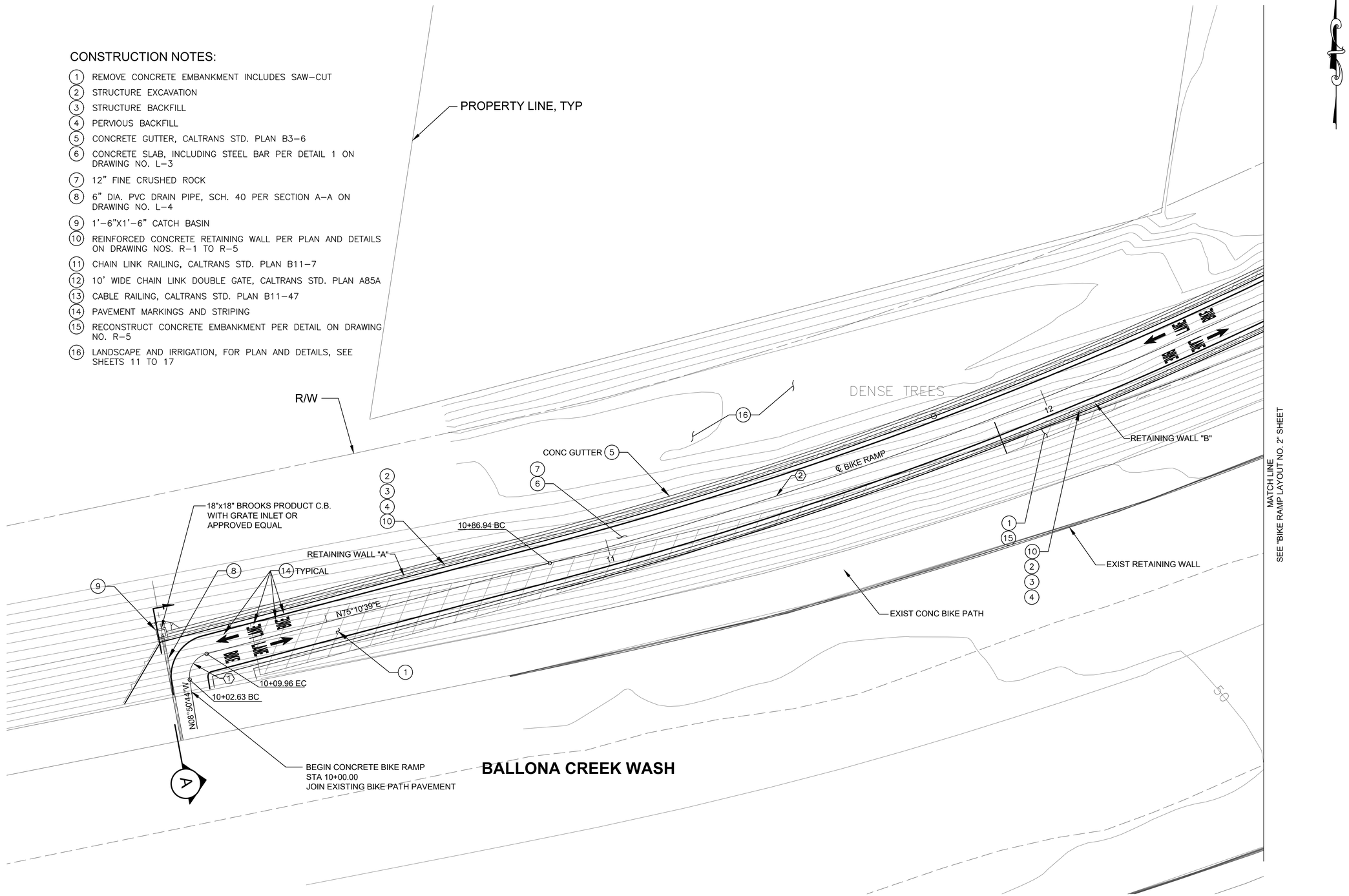
SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: TITLE SHEET
PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP
ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

WORK ORDER NO. E6000591
DRAWING NO. 1
SHEET 1 OF 17 SHEETS

CONSTRUCTION NOTES:

1. REMOVE CONCRETE EMBANKMENT INCLUDES SAW–CUT
2. STRUCTURE EXCAVATION
3. STRUCTURE BACKFILL
4. PERVIOUS BACKFILL
5. CONCRETE GUTTER, CALTRANS STD. PLAN B3–6
6. CONCRETE SLAB, INCLUDING STEEL BAR PER DETAIL 1 ON DRAWING NO. L–3
7. 12" FINE CRUSHED ROCK
8. 6" DIA. PVC DRAIN PIPE, SCH. 40 PER SECTION A–A ON DRAWING NO. L–4
9. 1'–6"X1'–6" CATCH BASIN
10. REINFORCED CONCRETE RETAINING WALL PER PLAN AND DETAILS ON DRAWING NOS. R–1 TO R–5
11. CHAIN LINK RAILING, CALTRANS STD. PLAN B11–7
12. 10' WIDE CHAIN LINK DOUBLE GATE, CALTRANS STD. PLAN A85A
13. CABLE RAILING, CALTRANS STD. PLAN B11–47
14. PAVEMENT MARKINGS AND STRIPING
15. RECONSTRUCT CONCRETE EMBANKMENT PER DETAIL ON DRAWING NO. R–5
16. LANDSCAPE AND IRRIGATION, FOR PLAN AND DETAILS, SEE SHEETS 11 TO 17



PLAN
SCALE: 1" = 10'

CURVE TABLE				
⬡	Δ	L	R	T
1	84°01'23"	7.33'	5.00'	4.50'
2	22°19'46"	344.90'	885.00'	174.67'

10 0 10 20 40
1 INCH = 10 FEET

REVISION DATES (DESIGN STAGE ONLY): 03/28/2014

CITY OF CULVER CITY
DEPARTMENT OF PUBLIC WORKS

NO.	REVISIONS	DATE	BY:

Consulting Engineers, Inc.
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REGISTERED PROFESSIONAL ENGINEER
SHAHI M. SHARIFIAN
No. 46997
Exp. 3-30-2018
CIVIL
STATE OF CALIFORNIA

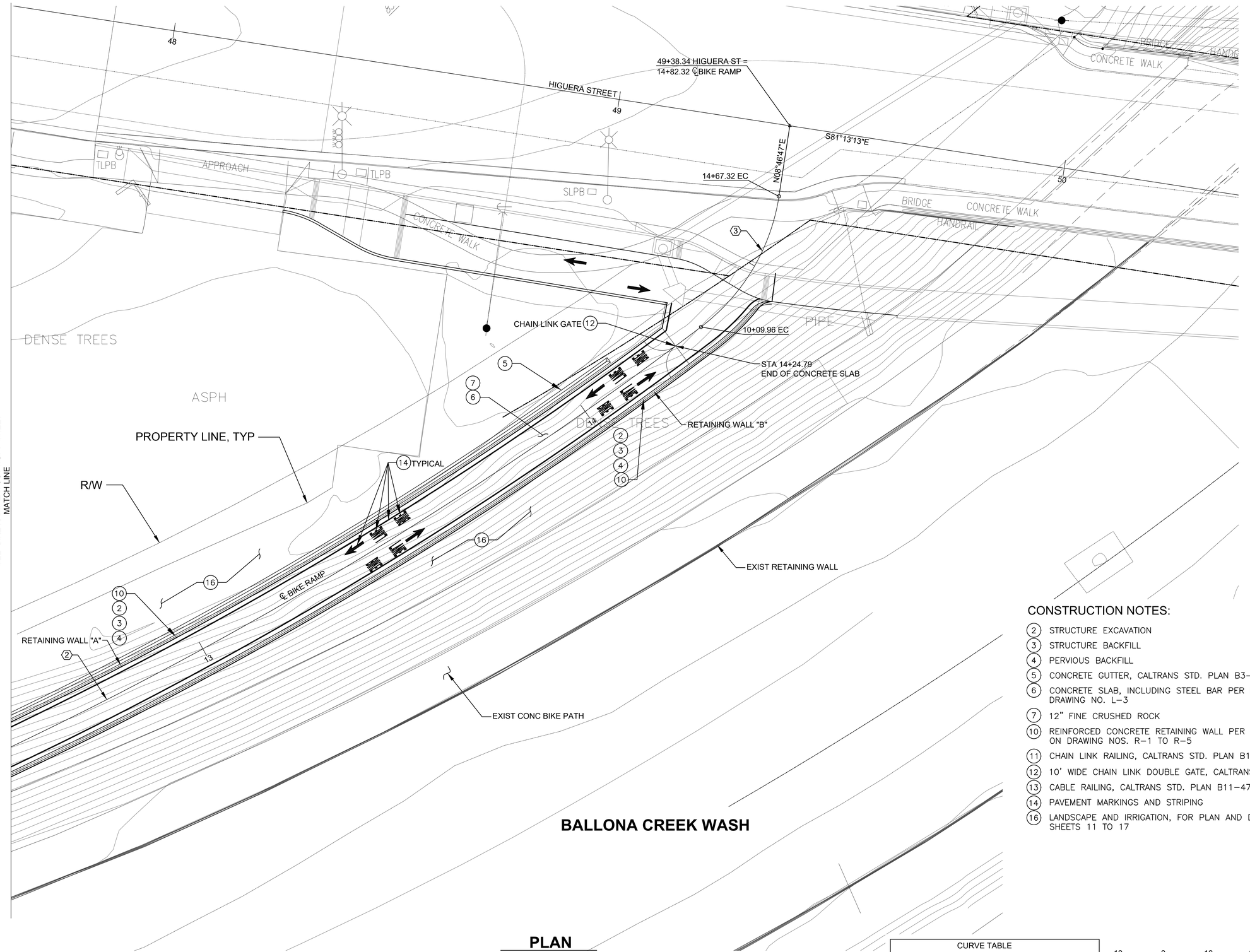
CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

APPROVED		DATE
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	9/2/2016

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: BIKE RAMP LAYOUT PLAN NO. 1
PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP
ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

WORK ORDER NO.
E6000591
DRAWING NO.
L-1
SHEET 2 OF 17 SHEETS



PLAN
SCALE: 1" = 10'

CONSTRUCTION NOTES:

2. STRUCTURE EXCAVATION
3. STRUCTURE BACKFILL
4. PERVIOUS BACKFILL
5. CONCRETE GUTTER, CALTRANS STD. PLAN B3–6
6. CONCRETE SLAB, INCLUDING STEEL BAR PER DETAIL 1 ON DRAWING NO. L–3
7. 12" FINE CRUSHED ROCK
10. REINFORCED CONCRETE RETAINING WALL PER PLAN AND DETAILS ON DRAWING NOS. R–1 TO R–5
11. CHAIN LINK RAILING, CALTRANS STD. PLAN B11–7
12. 10' WIDE CHAIN LINK DOUBLE GATE, CALTRANS STD. PLAN A85A
13. CABLE RAILING, CALTRANS STD. PLAN B11–47
14. PAVEMENT MARKINGS AND STRIPING
16. LANDSCAPE AND IRRIGATION, FOR PLAN AND DETAILS, SEE SHEETS 11 TO 17

CURVE TABLE				
⬡	Δ	L	R	T
2	22°19'46"	344.90'	885.00'	174.67'
3	44°04'07"	34.61'	45.00'	18.21'

10 0 10 20 40
1 INCH = 10 FEET

REVISION DATES (DESIGN STAGE ONLY): 03/28/2014

CITY OF CULVER CITY — DEPARTMENT OF PUBLIC WORKS

CITY OF CULVER CITY — CITY OF CULVER CITY INCORPORATED

NO.	REVISIONS:	DATE:	BY:

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REGISTERED PROFESSIONAL ENGINEER — SHUH M. SHARIFAN — No. 46997 — Exp. 3-30-2018 — CIVIL — STATE OF CALIFORNIA

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

APPROVED		DATE
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	9/2/2016

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: **BIKE RAMP LAYOUT PLAN NO. 2**

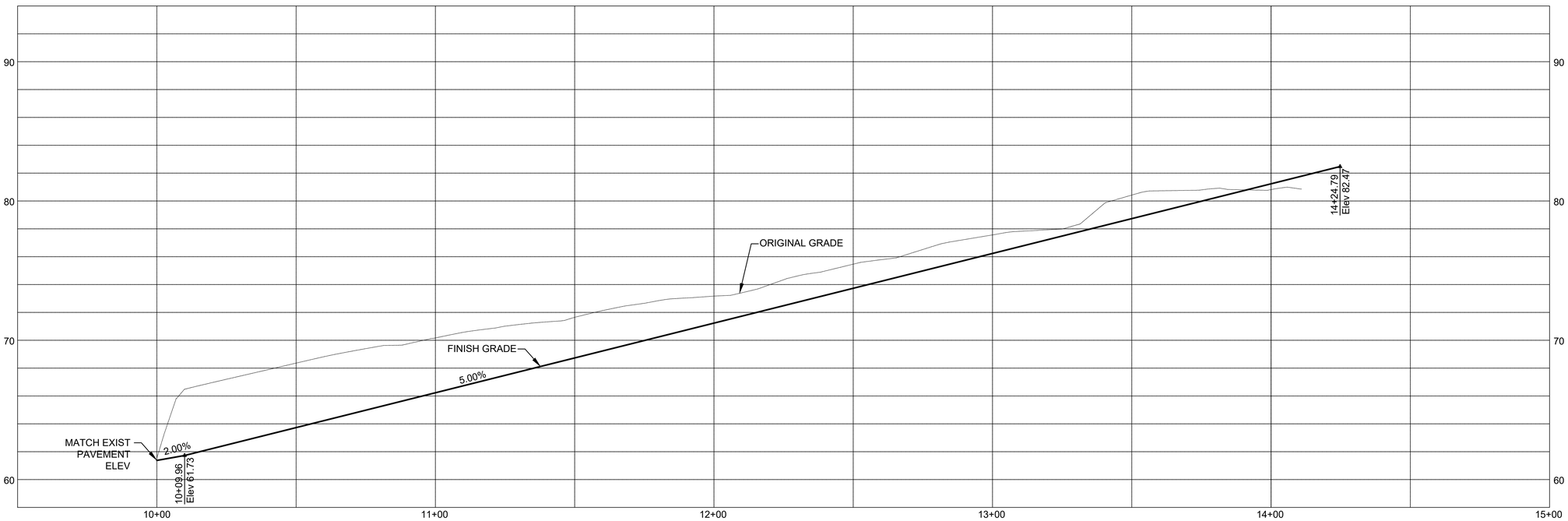
PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP

ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

WORK ORDER NO. E6000591

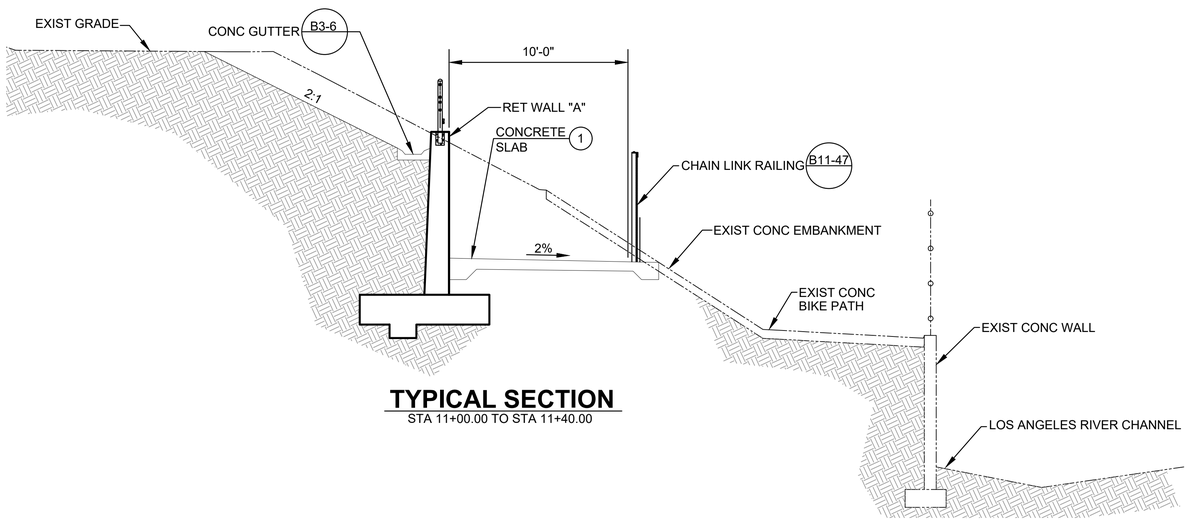
DRAWING NO. **L-2**

SHEET 3 OF 17 SHEETS



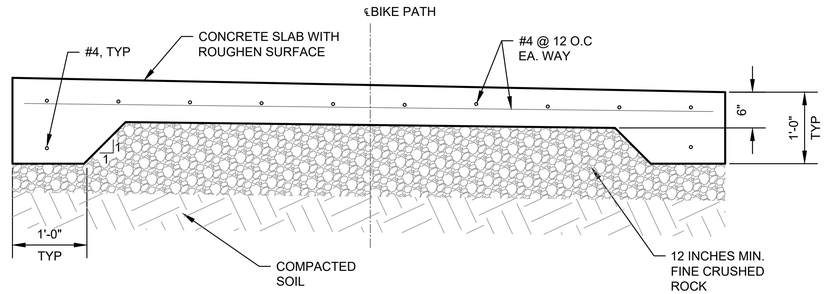
PROFILE ℄ BIKE RAMP

SCALE: Horiz 1" = 20'
Vert 1" = 4'



TYPICAL SECTION

STA 11+00.00 TO STA 11+40.00



1 **CONCRETE SLAB DETAIL**

SCALE: 1"=1'-0"

1 0 1 2 4
1 INCH = 1 FOOT

4 0 4 8 16
1 INCH = 4 FEET

20 0 20 40 80
1 INCH = 20 FEET

REVISION DATES (DESIGN STAGE ONLY) 03/28/2014

CITY OF CULVER CITY DEPARTMENT OF PUBLIC WORKS

CITY OF CULVER CITY HIGH QUALITY LIVING INCORPORATED

NO.	REVISIONS:	DATE	BY:

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300 South Harbor Boulevard, Suite 710
Anaheim, California 92805
Tel (714) 520-9070 Fax (714) 520-9068

REGISTERED PROFESSIONAL ENGINEER — SHAH M. SHARIFAN — No. 46997 — Exp. 9-30-2018 — CIVIL — STATE OF CALIFORNIA

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

		DATE
APPROVED		
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: **BIKE RAMP PROFILE AND TYPICAL SECTION NO. 1**

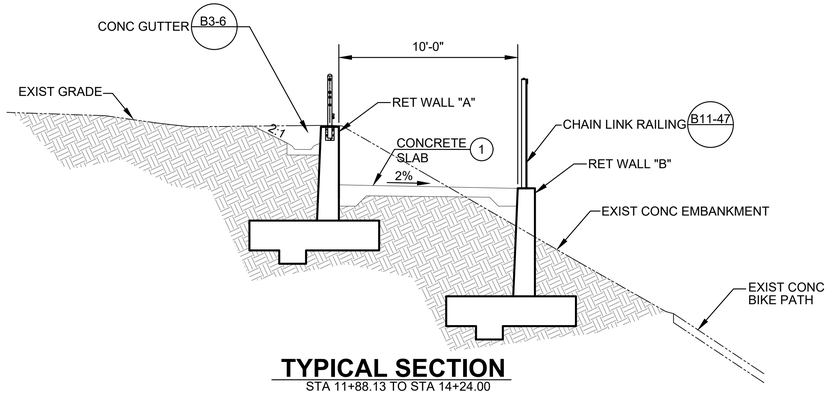
PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP

ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

WORK ORDER NO.
E6000591

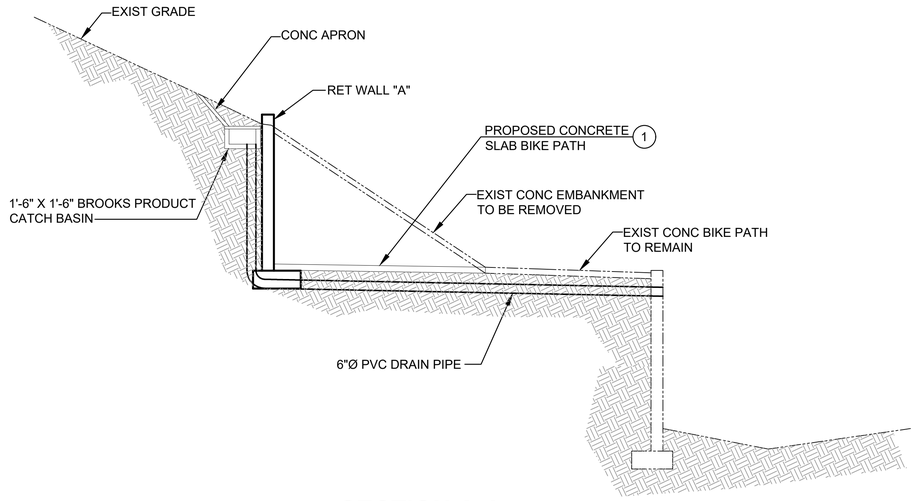
DRAWING NO.
L-3

SHEET 4 OF 17 SHEETS

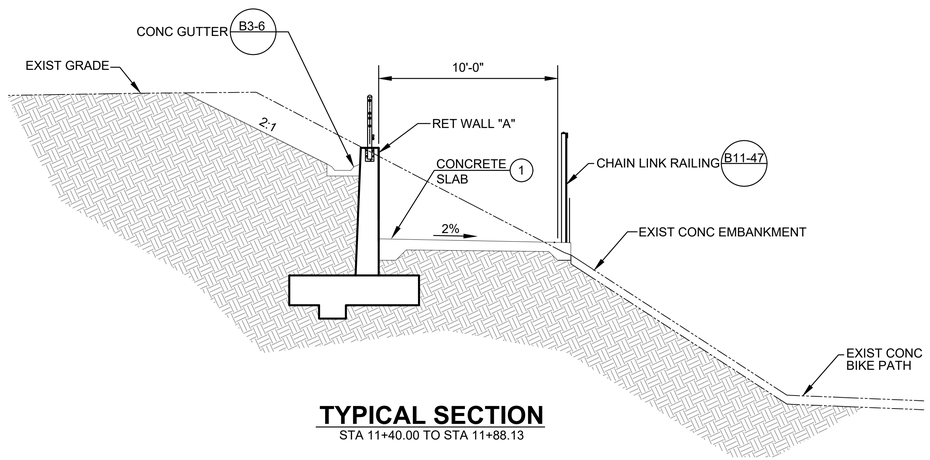


TYPICAL SECTION

STA 11+88.13 TO STA 14+24.00



SECTION A-A



TYPICAL SECTION

STA 11+40.00 TO STA 11+88.13

NOTE:

1. FOR CONCRETE SLAB DETAIL, SEE " CONCRETE SLAB DETAIL" ON "BIKE RAMP PROFILE & TYPICAL SECTION NO. 1" SHEET.

1 0 1 2 4

1 INCH = 1 FOOT

REVISION DATES (DESIGN STAGE ONLY) 03/28/2014

CITY OF CULVER CITY DEPARTMENT OF PUBLIC WORKS

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: **BIKE RAMP TYPICAL SECTION NO. 2**

PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP

ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

APPROVED		DATE
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	9/2/2016

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

NO.	REVISIONS:	DATE:	BY:

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REGISTERED PROFESSIONAL ENGINEER SHAHI M. SHARIFAN No. 46937 Exp. 9-30-2018 CIVIL STATE OF CALIFORNIA

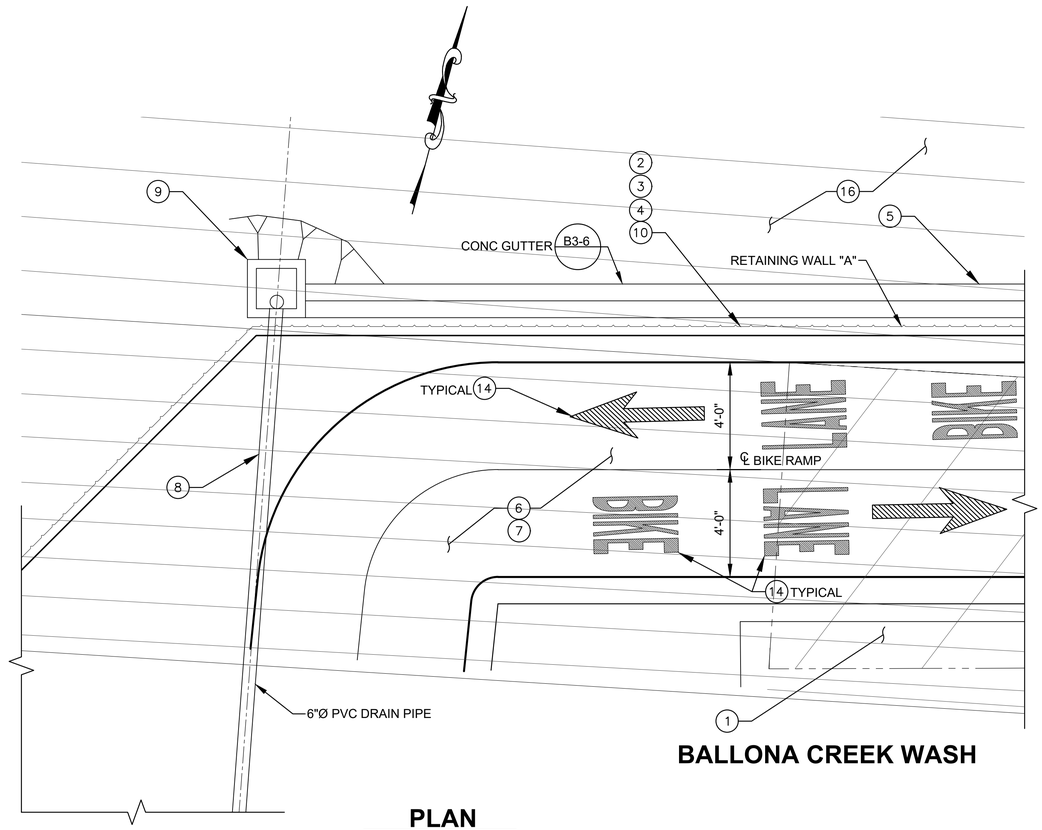
WORK ORDER NO. E6000591

DRAWING NO. **L-4**

SHEET 5 OF 17 SHEETS

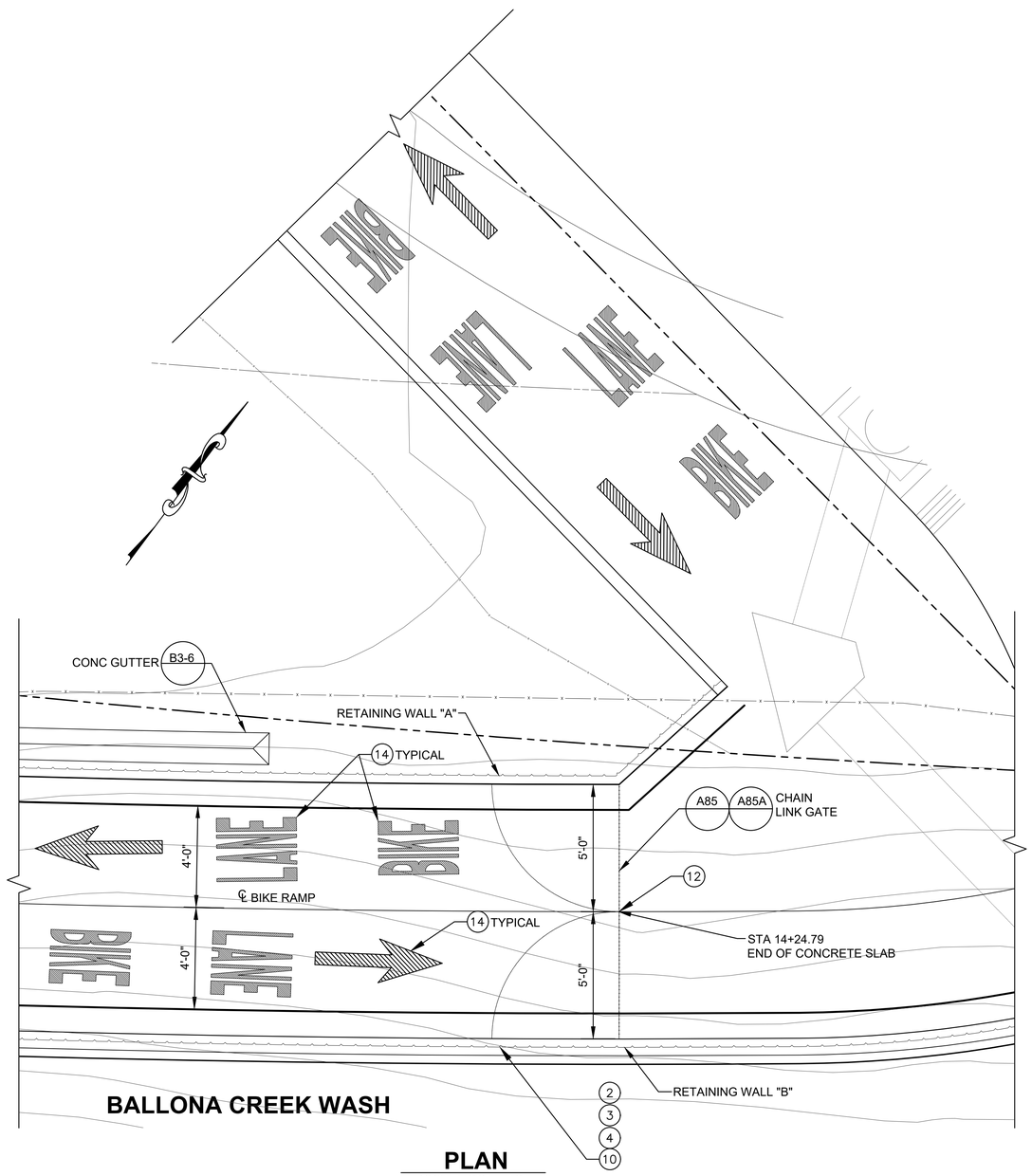
CONSTRUCTION NOTES:

1. REMOVE CONCRETE EMBANKMENT INCLUDES SAW–CUT
2. STRUCTURE EXCAVATION
3. STRUCTURE BACKFILL
4. PERVIOUS BACKFILL
5. CONCRETE GUTTER, CALTRANS STD. PLAN B3–6
6. CONCRETE SLAB, INCLUDING STEEL BAR PER DETAIL 1 ON DRAWING NO. L–3
7. 12" FINE CRUSHED ROCK
8. 6" DIA. PVC DRAIN PIPE, SCH. 40 PER SECTION A–A ON DRAWING NO. L–4
9. 1'–6"X1'–6" CATCH BASIN
10. REINFORCED CONCRETE RETAINING WALL PER PLAN AND DETAILS ON DRAWING NOS. R–1 TO R–4
12. 10' WIDE CHAIN LINK DOUBLE GATE, CALTRANS STD. PLAN A85A
14. PAVEMENT MARKINGS AND STRIPING
16. LANDSCAPE AND IRRIGATION, FOR PLAN AND DETAILS, SEE SHEETS 11 TO 17



BALLONA CREEK WASH

PLAN
SCALE: 3/8" = 1'-0"



BALLONA CREEK WASH

PLAN
SCALE: 3/8" = 1'-0"

REVISION DATES: (DESIGN STAGE ONLY) 03/28/2014

CITY OF CULVER CITY
DEPARTMENT OF PUBLIC WORKS

CITY OF CULVER CITY
HIGH QUALITY LIVING INCORPORATED

NO.	REVISIONS:	DATE	BY:

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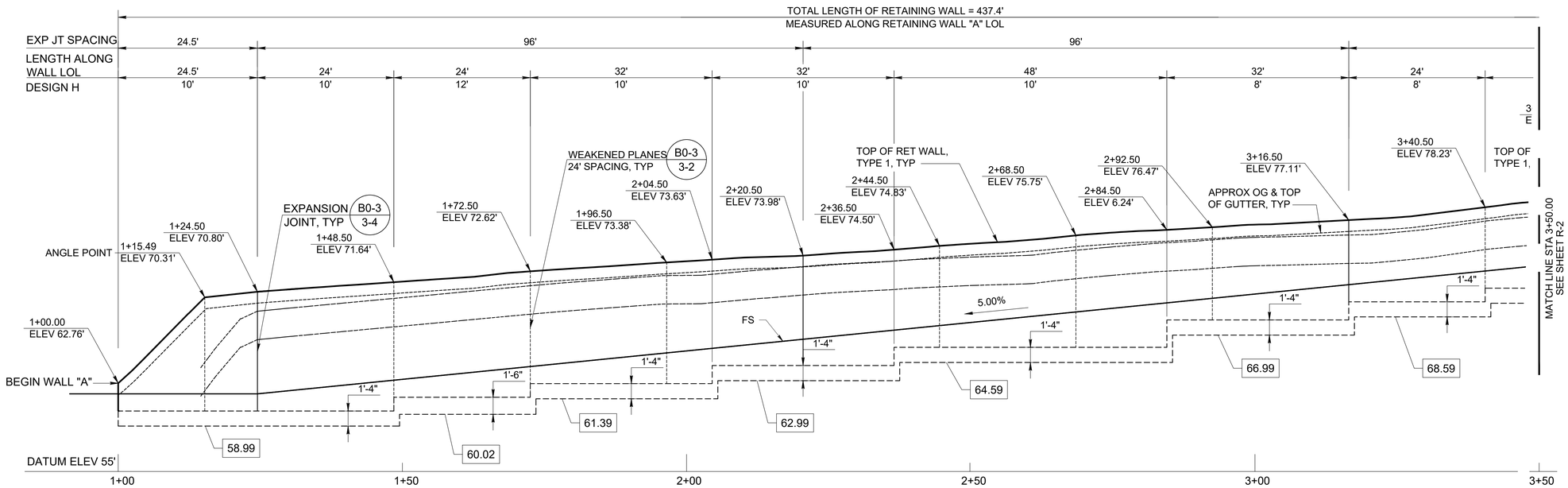
REGISTERED PROFESSIONAL ENGINEER
SHAH M. SHARIFAN
No. 46667
Exp. 9-30-2018
CIVIL
STATE OF CALIFORNIA

APPROVED		DATE
CHARLES D. HERBERTSON, P.E., L.S. CITY ENGINEER		
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	9/2/2016

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

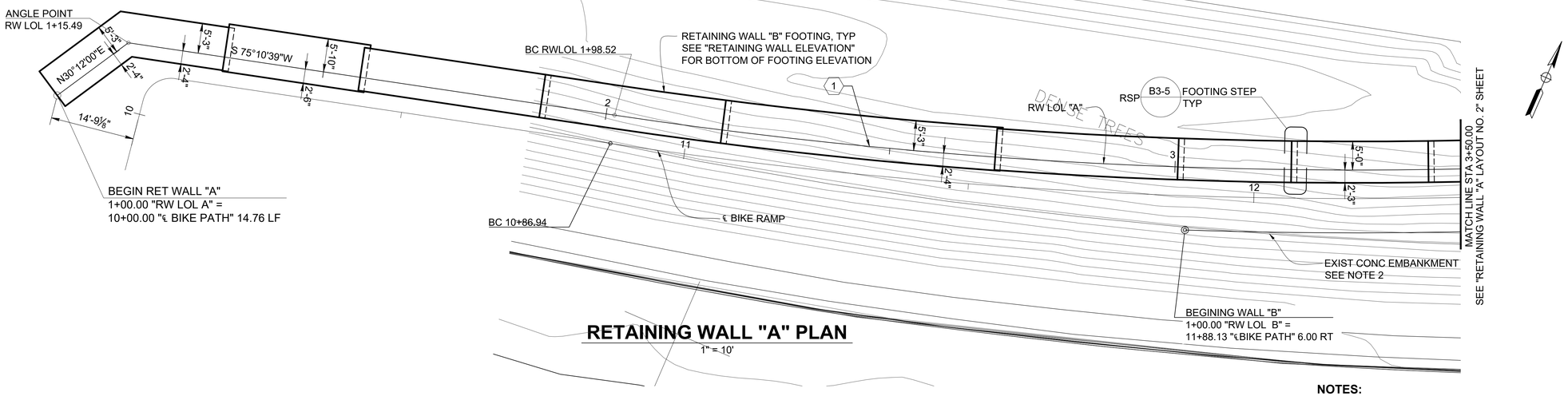
SHEET TITLE: **PAVEMENT DELINEATION PLAN**
PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP
ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

WORK ORDER NO.
E6000591
DRAWING NO.
L-5
SHEET 6 OF 17 SHEETS



RETAINING WALL "A" ELEVATION

HORIZ: 1"=10'
VERT: 1"=5'



RETAINING WALL "A" PLAN

1" = 10'

CURVE DATA				
⬡	R (FT)	△	L (FT)	T (FT)
1	880.00	21°52'23"	335.95	170.04

NOTES:

1. FOR RETAINING WALLS TYPICAL SECTIONS, SEE "RETAINING WALL DETAILS" SHEET.
2. EXIST CONC EMBANKMENT SHALL BE RECONSTRUCTED TO ITS ORIGINAL CONDITION WHERE IT IS DAMAGED DURING CONSTRUCTION. SEE "RETAINING WALL DETAILS" SHEET.

LEGEND:

66.43 BOTTOM OF FOOTING ELEVATION

REVISION DATES (DESIGN STAGE ONLY) 03/28/2014

CITY OF CULVER CITY — PUBLIC WORKS DEPARTMENT OF PUBLIC WORKS

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

		DATE
APPROVED		
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
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NO. REVISIONS: DATE: BY:

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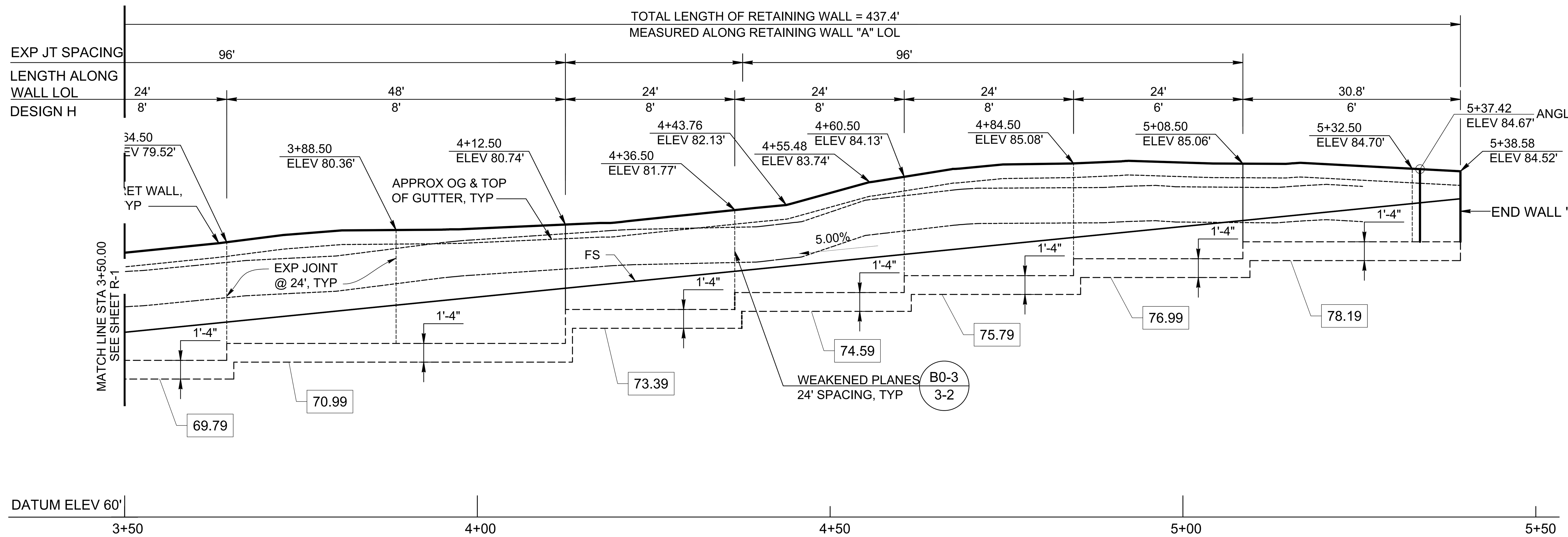
REGISTERED PROFESSIONAL ENGINEER — SHAFI M. SHARIFAN — No. 49697 — Exp. 9-30-2018 — CIVIL — STATE OF CALIFORNIA

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: **RETAINING WALL "A" LAYOUT NO. 1**
PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP
ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

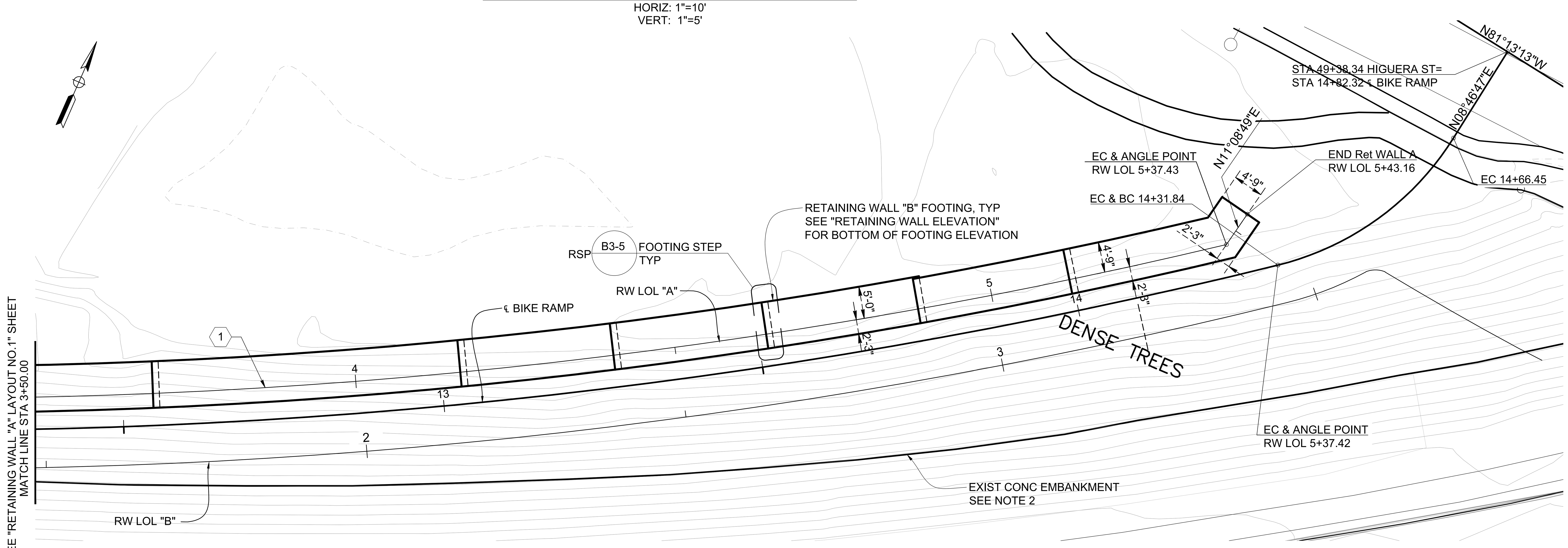
WORK ORDER NO. E6000591
DRAWING NO. **R-1**
SHEET 7 OF 17 SHEETS

C:\1 IDC Project\Higuera Bike Ramp\Higuera\FINAL Ramp_bikeramp-rw_lo01.dwg [R-2] Tue, 22 Oct 2019, 8:26 AM -- EVIRA
THE CITY OF CULVER CITY OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



RETAINING WALL "A" ELEVATION

HORIZ: 1"=10'
VERT: 1"=5'



RETAINING WALL "A" PLAN

1" = 10'

CURVE DATA

⬡	R (FT)	△	L (FT)	T (FT)
1	880.00	21°52'23"	335.95	170.04

NOTES:

1. FOR RETAINING WALLS TYPICAL SECTIONS, SEE "RETAINING WALL DETAILS" SHEET.
2. EXIST CONC EMBANKMENT SHALL BE RECONSTRUCTED TO ITS ORIGINAL CONDITION WHERE IT IS DAMAGED DURING CONSTRUCTION. SEE "RETAINING WALL DETAILS" SHEET.

LEGEND:

66.43 — BOTTOM OF FOOTING ELEVATION

NO.	REVISIONS:	DATE:	BY:

REVISION DATES (DESIGN STAGE ONLY) 03/28/2014

IDC Consulting Engineers, Inc.
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Tel. (714) 520-9070 Fax (714) 520-9068

REGISTERED PROFESSIONAL ENGINEER — SHARI M. SHARIFAN — No. 49697 — Exp. 9-30-2018 — CIVIL — STATE OF CALIFORNIA

CITY OF CULVER CITY DEPARTMENT OF PUBLIC WORKS

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

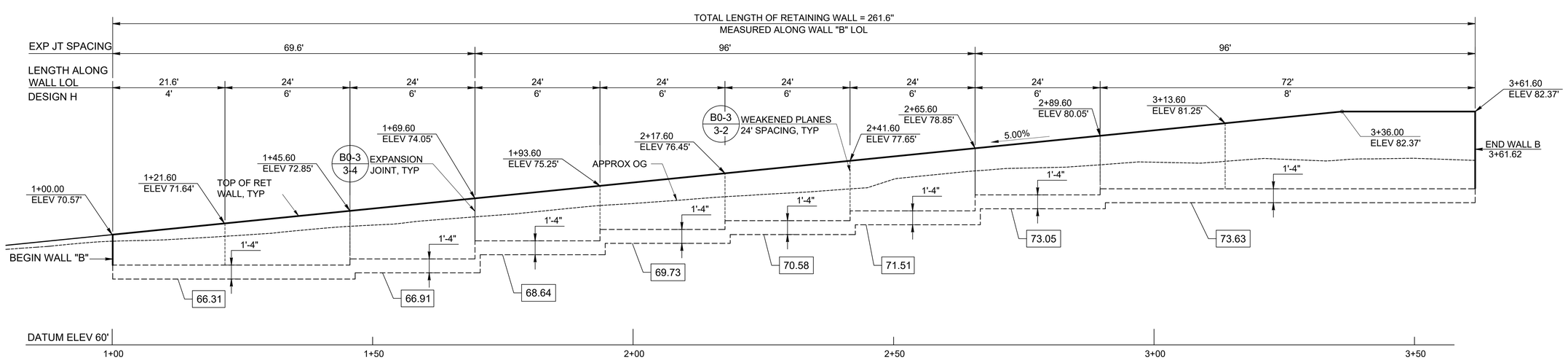
APPROVED		DATE
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: RETAINING WALL "A" LAYOUT NO. 2
PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP
ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

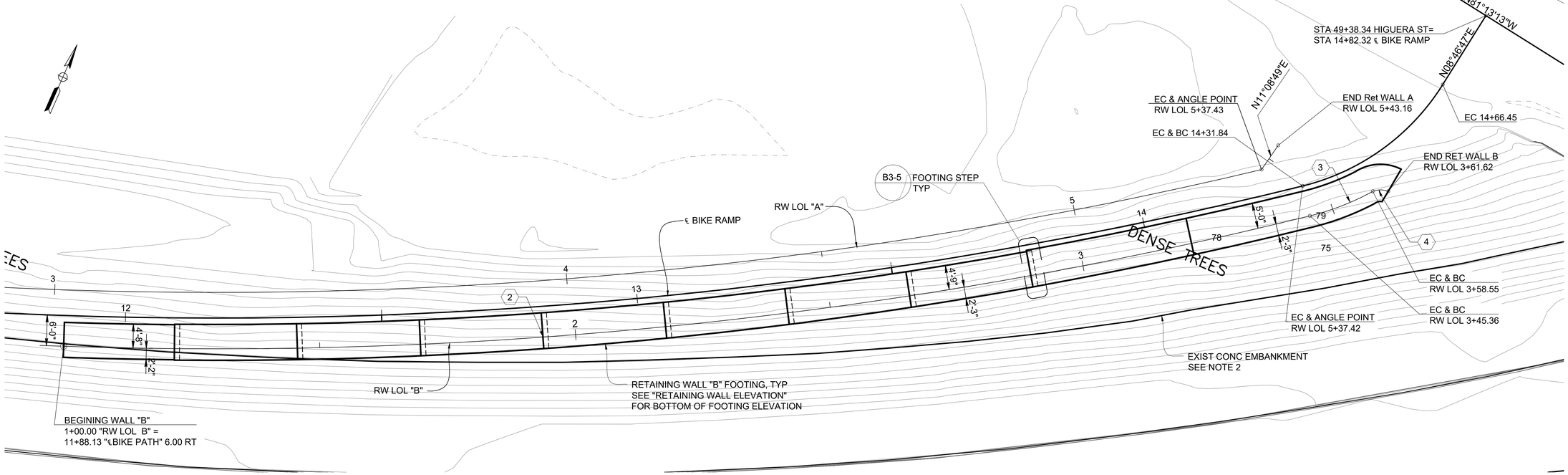
WORK ORDER NO. E6000591
DRAWING NO. **R-2**

SHEET 8 OF 17 SHEETS



RETAINING WALL "B" ELEVATION

HORIZ: 1"=10'
VERT: 1"=5'



RETAINING WALL "B" PLAN

1" = 10'

CURVE DATA				
⬡	R (FT)	△	L (FT)	T (FT)
2	891.00	22°19'46"	245.36	175.85
3	51.00	14°49'21"	13.19	6.63
4	4.00	43°53'35"	3.06	1.61

NOTES:

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2. EXIST CONC EMBANKMENT SHALL BE RECONSTRUCTED TO ITS ORIGINAL CONDITION WHERE IT IS DAMAGED DURING CONSTRUCTION. SEE "RETAINING WALL DETAILS" SHEET.

LEGEND:

66.43 BOTTOM OF FOOTING ELEVATION

REVISION DATES (DESIGN STAGE ONLY)
A 03/28/2014

CITY OF CULVER CITY
DEPARTMENT OF PUBLIC WORKS

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: RETAINING WALL "B" LAYOUT
PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP
ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

APPROVED		DATE
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFIAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	9/2/2016

NO. REVISIONS: DATE: BY:

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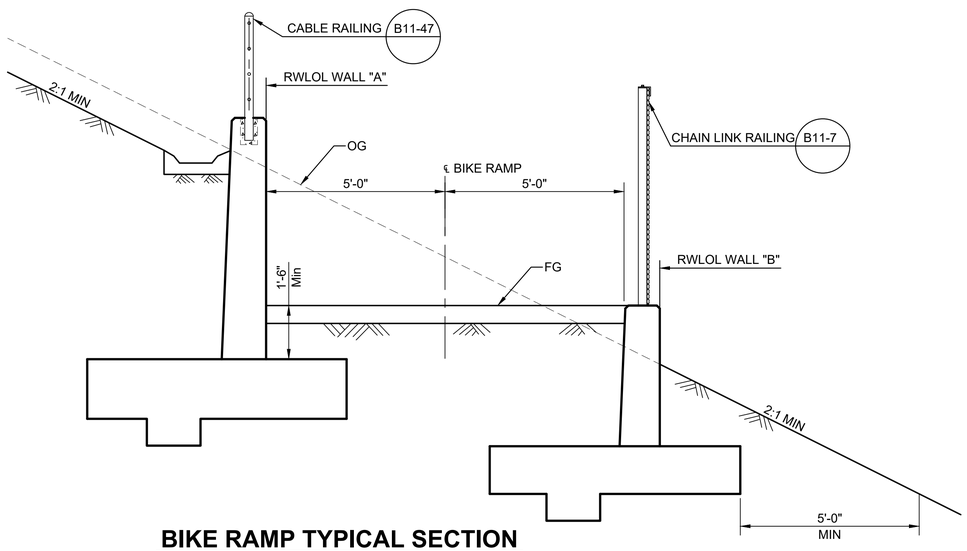
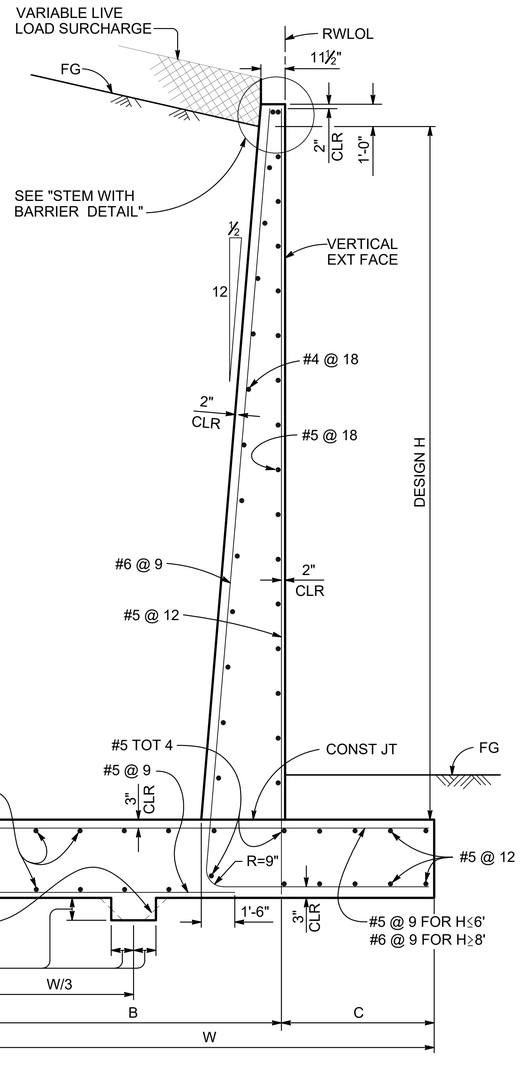
REGISTERED PROFESSIONAL ENGINEER SHAHRIAR SHARIFIAN No. 49597 Exp. 9-30-2018 CIVIL STATE OF CALIFORNIA

WORK ORDER NO. E6000591
DRAWING NO. R-3
SHEET 9 OF 17 SHEETS



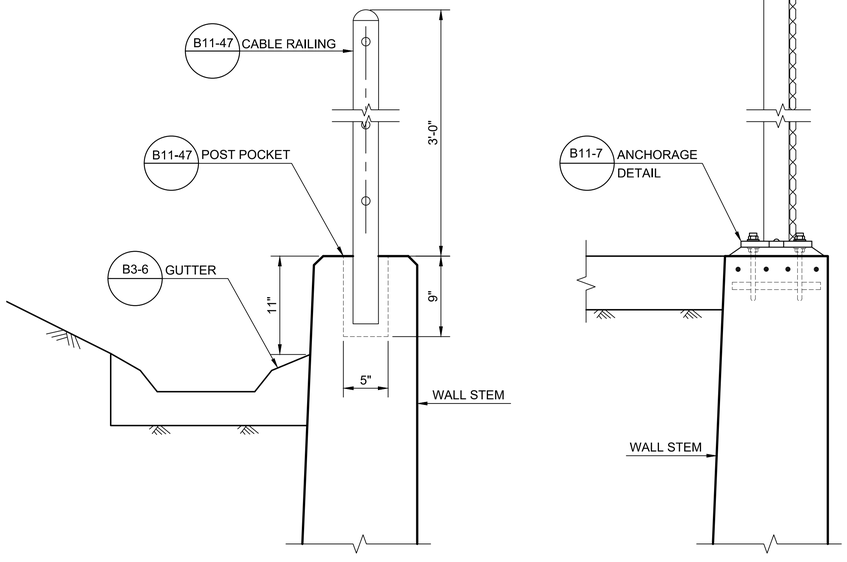
BIKE RAMP TYPICAL SECTION

1/2" = 1'-0"



RETAINING WALL TYPICAL SECTION

1/2" = 1'-0"



STEM WITH BARRIER DETAIL

1 1/2" = 1'-0"

RETAINING WALL DIMENSIONS & DATA					
DESIGN H	4'	6'	8'	10'	12'
W	6'-10"	7'-0"	7'-3"	7'-7"	8'-4"
C	2'-2"	2'-3"	2'-3"	2'-4"	2'-6"
B	4'-8"	4'-9"	5'-0"	5'-3"	5'-10"
F	1'-4"	1'-4"	1'-4"	1'-4"	1'-6"
SER: B', q'_o	6.8, 0.7	6.5, 1.0	6.2, 1.3	6.0, 1.6	6.3, 2.0
STR: B', q_o	6.6, 1.6	5.0, 1.8	3.6, 2.3	3.0, 3.3	3.2, 4.0
EXT I: B', q_o	5.2, 1.1	4.7, 1.5	3.9, 2.2	3.1, 3.4	2.8, 4.8
EXT II: B', q_o	2.6, 2.2	2.7, 2.6	2.8, 3.1	2.9, 3.6	3.7, 3.6

DESIGN CONDITIONS:

DESIGN H MAY BE EXCEEDED BY 6" BEFORE GOING TO THE NEXT SIZE. SPECIAL FOOTING DESIGN IS REQUIRED WHERE FOUNDATION MATERIAL IS INCAPABLE OF SUPPORTING BEARING STRESS LISTED IN THE TABLE.

DESIGN NOTES:

DESIGN:	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH CALIFORNIA AMENDMENTS
LS:	VARIED SURCHARGE ON LEVEL GROUND SURFACE
DC:	STEM ARCHITECTURAL TREATMENT OF THICKNESS UP TO 6" OF CONCRETE (75 PSF) CONSIDERED
CT:	54 KIP TRANSVERSE FORCE APPLIED AT HE = 32", DISTRIBUTED OVER 10 FEET AT THE TOP OF WALL AND 1:1 DISTRIBUTION DOWN AND OUTWARD. DISTRIBUTION BELOW FOOTING TAKEN NO LESS THAN 40'.
SEISMIC:	k_h= 0.2, k_v= 0.0
SOIL:	Ø = 34°, γ = 120 PCF
REINFORCED CONCRETE:	f'c = 3,600 PSI fy = 60,000 PSI

LOAD COMBINATIONS AND LIMIT STATES:

SERVICE I	Q = 1.00DC+1.00EV+1.00EH+1.00LS
STRENGTH I	Q = αDC+βEV+ηEH+1.75LS
EXTREME I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE
EXTREME II	Q = 1.00DC+1.00EV+1.00EH+1.00CT

WHERE:

Q:	FORCE EFFECTS
α:	1.25 OR 0.90, WHICHEVER CONTROLS DESIGN
β:	1.35 OR 1.00, WHICHEVER CONTROLS DESIGN
η:	1.50 OR 0.90, WHICHEVER CONTROLS DESIGN
DC:	DEAD LOAD OF STRUCTURE COMPONENTS
EH:	HORIZONTAL EARTH FILL PRESSURE
EV:	VERTICAL EARTH PRESSURE FROM EARTH FILL WEIGHT
LS:	LIVE LOAD SURCHARGE
EQE:	SEISMIC EARTH PRESSURE
EQD:	SOIL AND STRUCTURAL AND NONSTRUCTURAL COMPONENTS INERTIA
CT:	VEHICULAR COLLISION FORCE

SYMBOLS:

SER	- SERVICE LIMIT STATE I
STR	- STRENGTH LIMIT STATE I
EXT I	- EXTREME EVENT LIMIT STATE I
EXT II	- EXTREME EVENT LIMIT STATE II
B'	- EFFECTIVE FOOTING WIDTH (FT)
q'_o	- NET BEARING STRESS (KSF), OG ASSUMED TO BE FG AT TOE
q_o	- GROSS UNIFORM BEARING STRESS (KSF)

NOTES:

1. FOR DETAILS NOT SHOWN AND DRAINAGE NOTES, SEE RSP B3-5
2. FOR WALL STEM JOINT DETAILS, SEE B0-3 / 3-3 AND B0-3 / 3-4
3. AT ⓐ & ⓒ BARS:
   H≤6', NO SPLICES ARE ALLOWED WITHIN 1'-8"ABOVE THE TOP OF FOOTING. H > 6', NO SPLICES ARE ALLOWED WITHIN H/4 ABOVE THE TOP OF FOOTING.
4. PROVIDE #6 @ 10" X 15'-0" ⓔ BARS OVER A DISTANCE OF 8'-0" MEASURED FROM ALL EXPANSION JOINTS, BEGIN WALL AND END WALL LOCATIONS. FOR H≤14', HOOK ⓔ BAR INTO FOOTING AND REDUCE BAR LENGTH AS NEEDED TO MAINTAIN MIN CLR COVER.
5. PROVIDE #6 @ 8" ⓐ BARS IN ADDITION TO TABULATED ⓐ BARS OVER A DISTANCE OF 8'-0" MEASURED FROM ALL EXPANSION JOINTS, BEGIN WALL AND END WALL LOCATIONS.
6. THE SHALLOW FOUNDATIONS SHOULD BE PLACED AT A DEPTH OF AT LEAST 3 FEET BELOW THE LOWEST ADJACENT FINAL GRADE, AND A MINIMUM SETBACK OF 4 FEET FROM THE FACE OF ANY SLOPES (MEASURED FROM TOP OF FOOTING TO SLOPE FACE). WHERE NATURAL SOIL CONDITION AT THE CUT IS NOT ACCEPTABLE PER SOIL REPORT THEN THE SHALLOW FOUNDATION SHALL BE FOUNDED ON CALTRANS STRUCTURE FILL OF AT LEAST 3 FEET IN THICKNESS.

REVISION DATES (DESIGN STAGE ONLY): 03/28/2014

C:\1 IDC Project\Higuera Bike Ramp\Higuera\FINAL Ramp_bikeramp-rwd101 (IDC9-PC's conflicted copy 2016-09-27).dwg [R-4] Tue, 22 Oct 2019, 8:26 AM - EVIRA

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CITY OF CULVER CITY — DEPARTMENT OF PUBLIC WORKS

NO. REVISIONS: DATE: BY:

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REGISTERED PROFESSIONAL ENGINEER — SHAFI M. SHARIFIAN — No. 49697 — Exp. 9-30-2018 — CIVIL — STATE OF CALIFORNIA

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

APPROVED		DATE
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFIAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	9/2/2016

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: **RETAINING WALL DETAILS No. 1**

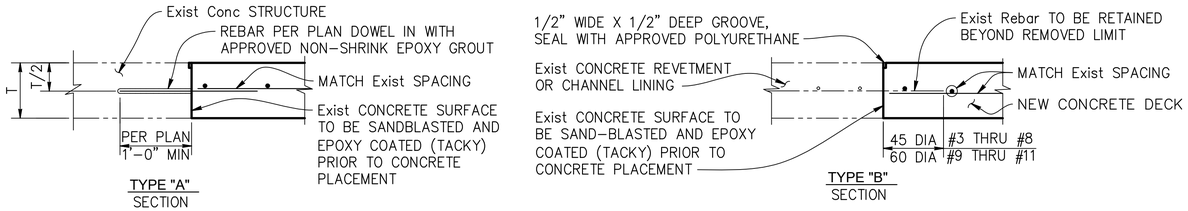
PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP

ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

WORK ORDER NO.
E6000591

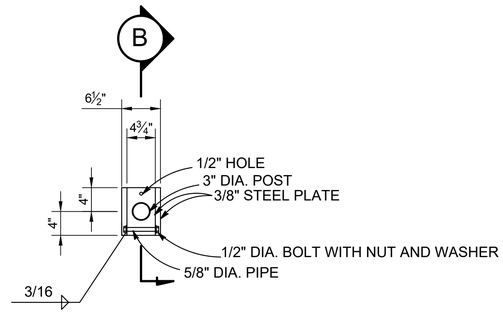
DRAWING NO.
R-4

SHEET 10 OF 17 SHEETS



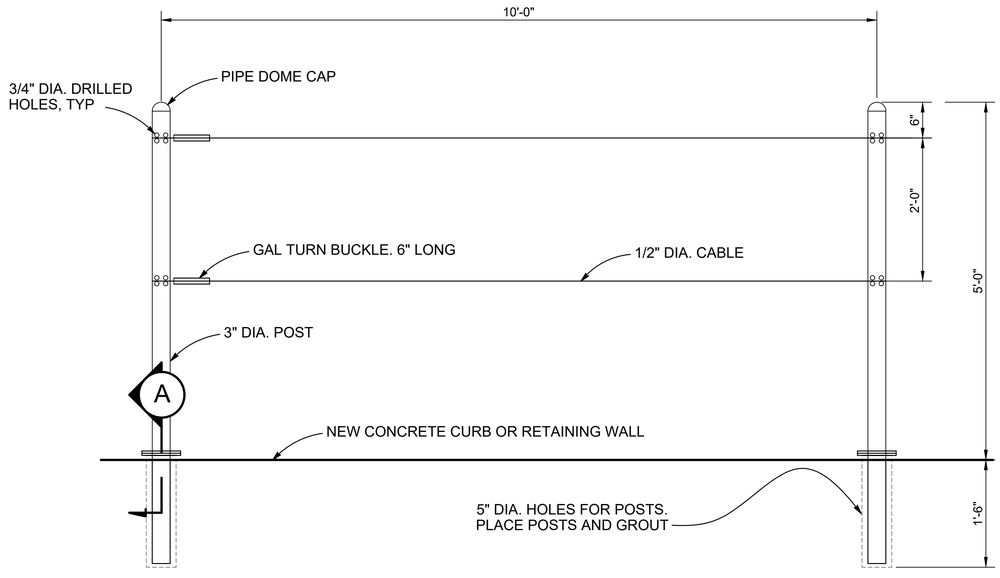
CONC EMBANKMENT REVETMENT DETAIL

NO SCALE



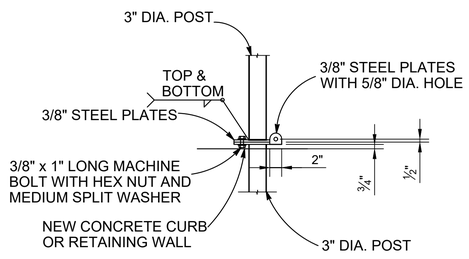
PLAN

NOT TO SCALE



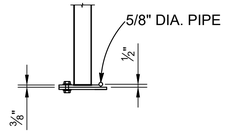
STEM WITH COLLAPSIBLE RAILING DETAIL

NOT TO SCALE



SECTION A-A

NOT TO SCALE



SECTION B-B

NOT TO SCALE

COLLAPSIBLE FENCING DETAIL

REVISION DATES (DESIGN STAGE ONLY) 03/28/2014

CITY OF CULVER CITY DEPARTMENT OF PUBLIC WORKS

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NO.	REVISIONS:	DATE:	BY:

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

APPROVED		DATE
CITY REVIEWER:	SAMMY ROMO	9/22/2016
PROJECT ENGINEER:	S. SHARIFAN	9/22/2016
DESIGNED BY:	L. LIU	9/22/2016
DRAWN BY:	G. ESTEPA	9/22/2016

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: **RETAINING WALL DETAILS No. 2**

PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP

ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

WORK ORDER NO. E6000591

DRAWING NO. **R-5**

SHEET 11 OF 17 SHEETS

REVISION DATES (DESIGN STAGE ONLY)
02/28/2014

LANDSCAPE PLANTING

1.00 PART 1 – GENERAL

1.01 DESCRIPTION: Division 1 applies to this Section. Provide landscape planting as indicated, specified and required.

A. Work Included In This Section. Principal items include:

1. Landscape finish grading
2. Soil preparation
3. Tree supports and headers
4. Planting including lawn
5. Watering
6. Maintenance and observations

B. Related work not included in this section.

1. Site and rough grading
2. Irrigation

1.02 QUALITY ASSURANCE

A. Qualifications of Installers. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the specified requirements and the methods needed for proper performance of Work of this Section.

B. Approvals. Sprinkler work shall be inspected, tested and approved before the start of any Work in this Section. Prior to coverage and backfill of sub–surface drains and drain lines, inspect and be responsible for performance thereof.

C. Legal Requirements. Give adequate and required legal notices to Owner, utility organizations, and governing authorities prior to commencing.

D. Certification. Prior to completion, submit written certification to Owner and Architect for following items:

1. Quantity of commercial fertilizer and organic fertilizer.
2. Quantity of all specified soil amendments.
3. Quantity of sod [or seed].

E. Job Conditions

1. Verification of Existing Conditions. Examine site and determine and verify existing conditions, including subsurface drainage conditions. Written dimensions take precedence over scale dimensions; verify and be responsible for dimensions and conditions. Notify Architect in writing of any variations from dimensions and conditions shown; submit to Architect for signed approval before proceeding with landscape planting.

2. Coordination. Coordinate operations with other trades, utility firms, street tree department and other affected public departments to assure continuity of access and service in conformance with applicable requirements of these specifications.

3. Protection. Take precautionary measures for safety of employees and comply with applicable Federal, State and Municipal laws and codes.

F. GUARANTEES. Guarantee all trees and shrubs as to growth and health for a period of one year after end of 60 day maintenance period.

2.00 PART TWO – PRODUCTS

2.01 MATERIALS. Specifying materials by name and product designation is for the purpose of facilitating a description of materials and establishing the materials to be used unless noted "no alternatives". Verify amounts of soils where required by plan check and site inspection. Provide adequate amounts of specified soils to attain grades, after compaction as shown and which are required for moundings, as noted.

GENERAL: The following fertilizers, and soil amendments are to be used for bid price basis only. Specific amendments and fertilizer specification will be made after grading operations are complete and samples are tested by Contractor for the owner by an approved agronomy testing facility.

A. TOPSOIL. Fertile, friable, natural top loam, free from alkali, noxious weed seed, admixtures of clay, subsoil, rocks larger than 1–1/2" diameter, sticks, debris, detrimental to healthy plant growth, pH reading of not less than 6.5 or more than 7.5.

B. INORGANIC FERTILIZERS.

1. Iron Sulphate: Ground ferrous sulphate containing not less than 18.5% iron expressed as metallic.
2. Gypsum: Agricultural grade product containing 98% minimum calcium sulphate.
3. Agricultural Limestone.

C. FERTILIZER/SOIL CONDITIONER. (As required by soil/agronomy test) GRO–POWER PLUS as manufactured by Gro–Power, Inc. Phone: (909) 393–3744

1. Top dress fertilizer: Gro–Power Plus (5–3–1)
2. Planting fertilizer: Gro–Power Plus (5–3–1)
3. Planting tablets: Gro–Power 7 gram tablets (12–8–8)
4. Nitrogen stabilized pine or fir shavings.
5. Surfactant: Dry granular "Water–In". distributed by Target Chemical (800) 257–7797.

D. SOIL AMENDMENTS. Redwood/Fir blend 0–1/2" manufactured by B.D. White Top Soil Co; Inc; 4475 Commmonwealth, Culver City, or approved equal. (310) 838–8111

E. PLANTING TABLETS:

1. To be slow release type, containing the following percentages of nutrients by weight:

20% nitrogen
10% phosphoric acid
5% potash

2. To be 21 gram tablets as manufactured by Agriform or approved equal applied per manufacturer's instructions.

F. SIGNAL FLAGS: Provide 1/2" diameter white pvc pipe 5 feet long over each guy wire installed.

G. TREE PROTECTOR: All trees in lawn areas shall be provided with ARBOR–GARDS available from Orange County Farm Supply, Orange, CA. (714) 978–6500 or approved equal.

H. TREE TIES. "Wonder Tree Ties" by ALDEN ENTERPRISES, Industry, Ca. (818) 336–3512

I. TREE GUYS. Minimum of three per tree, wire of No.12 pliable zinc–coated iron wire unless otherwise approved or noted. Where tied to tree, protect trunk with 1/2" rubber hose connector.

1. Anchors (Deadmen) for Guys. Construction grade redwood 2" by 2", 3 feet long, buried 12" minimum below grade.

J. LAWN HEADERS.

1. 2"x 4" construction grade redwood with 1"x 2"x 18" construction grade redwood stakes, with nails.

2. Concrete Headers: Provide 6"x 6" concrete header per detail with continuous #4 rebar and 1/2" asphalt felt expansion joints at 30 ft. o.c. and at change of direction. Provide tooled joint at alternate 30 ft. centers.

K. MULCH.

A. Provide maximum 1" size Uni–Mulch" as manufactured by Saddleback Soil Service, Inc. Mission Viejo, CA
or
"Turf–n–Tee" as supplied by Sequoia Forest Products
or
"Medium grind compost" as supplied by Blue Ribbon Landscape Supply, Orange, (714) 633–3666.

Note: All mulch shall consist of fibrous, woody shredded bark. (No redwood chips or bark acceptable).

2.02 PLANT MATERIAL. Healthy, shapely, well rooted, roots free of evidences of having been restricted or deformed at any time. Plants shall be representative of their normal species and variety, have normally developed branch systems, and free from disfiguring knots, sun scale injuries, and abrasions of bark. Plants not meeting these requirements are defective and such plants, whether in place or not, will be marked as rejected and replaced immediately. Plants shall be true to name and tagged, one of each variety. Plant material shall be approved on or before delivery to site. Plant material shall be grown in nurseries inspected by the State Department of Agriculture.

A. SIZING. Size and condition of the plant material on Planting Plan Number One Grade.

B. LAWN SOD. Marathon Fescue Sod, free of weeds and other grasses, available from Southland Farms, (800) 532–3489

C. HERBICIDES. Herbicides use shall be limited to those types that are listed and approved by State and regulatory agencies. Application shall be done under the direct supervision or recommendations of an "Agricultural Pest Control Advisor" as licensed by the State Department of Food and Agriculture.

D. OTHER MATERIALS. Materials not specifically described but required for a complete and proper installation of the Work subject to the approval of the Architect.

3.00 PART THREE – EXECUTION

A. GENERAL. Install materials in accordance with methods, techniques, and specifications published by each manufacture. All pertinent descriptive literature issued by any of these manufacturers forms a part of these Specifications after approval.

3.01 LANDSCAPE GRADING

A. BACKFILL, FILL, IMPORTED OR ARTIFICIAL SOIL AND GRAVEL. Prior to installation of any imported soil, backfill, gravel fill or sub–base, inspect the integrity of water–proofing, and damp–proofing membranes and for satisfactory correction of any defects which might affect the performance of the above membranes prior to proceeding.

B. TOPSOIL. Import additional topsoil only as required to bring planting areas up to finish grade – topsoil of quality specified herein. Spread and cultivate topsoil so no settling takes place at any time.

C. LANDSCAPE FINE GRADING. Receive previously prepared rough grade to within + 1/10 foot of finish grade unless otherwise instructed. Bring soil to grades indicated, anticipating installation of soil conditioners and amendments. Govern grades not specifically indicated as follows:

1" below adjacent paving, curbs, and mow strips for lawn.
2" below adjacent paving, curbs, and mow strips for shrubs and ground cover.

1. Areas Except Lawn. Make entire area smooth and even to finish grade. Cultivate all areas so that there are no humps or hollows, so that areas drain as indicated. Grade flow lines, designated or not, and maintain and allow free flow of surface water. Cultivate entire planting area to a depth of 6" minimum and remove all rock in excess of 1 1/2" in diameter, rubble, construction material and waste and any other material that may cause unsatisfactory results.

2. Lawn Areas. Cultivate areas to receive lawn to a depth of 6" minimum in two directions and remove all rock and debris in excess of 1" diameter from the site. Grade flow lines, designated or not, and maintain to allow free flow of surface water.

3.02 SOIL AMENDMENTS: THE FOLLOWING IS FOR BID BASIS ONLY AND SPECIFIC BACKFILL AND AMENDMENT SPECIFICATIONS WILL BE MADE AFTER ROUGH GRADING OPERATIONS ARE COMPLETE AND SOIL SAMPLES ARE TAKEN BY CONTRACTOR AND TESTED BY AN APPROVED AGRONOMY TESTING FACILITY.

A. Soil Amendments. Incorporate by mechanical tiller into the top 6" of soil, in two directions, the following:

IN ALL AREAS TO BE PLANTED:

1. Nitrogen stabilized pine/fir organic amendment 6 cu. yds. per 1,000 sq. ft.
2. Gro–Power Plus 5–3–1 – 250 lbs. per 1,000 sq. ft.
3. 25 lbs. Agricultural Gypsum, per 1,000 sq. ft.
4. Iron sulfate – 5 lbs. per 1,000 sq. ft.
5. Gro–Life – 20 lbs. per 1,000 sq. ft.
6. Surfactant: Dry "Water–In" – 10 lbs. per 1,000 sq. ft. or AQUO–GRO – 4 lbs. per 1,000 sq. ft.

NOTE: Contractor shall ensure that iron sulfate does not contact walks, walls or other landscape surfaces. All stains on these surfaces, as a result of iron sulfate overthrow, will be the responsibility of the Contractor.

3.03 HERBICIDE APPLICATION

A. Pre–Emergent Herbicides. Apply to planting areas, except lawn, in accordance with manufacturer's recommendations. After application apply 1" to 2" of water.

B. Contact Herbicides. Apply per manufacturer's recommendations to areas, to receive lawn. Prior to application, moisten areas for 14 days to encourage weed germination and growth. Apply contact herbicide before weeds attain 6"height. Remove higher weed growth manually.

3.04 TREE SUPPORTS

A. Staked Trees. Stake all trees not to be guyed at time of planting by driving stake at windward edge of plant ball. Fasten tree as shown on detail.

B. Guyed Trees. Guy as indicated on detail immediately after planting using three (3) guys per tree minimum, placed as to give equal support to tree from any direction. Install a warning flag on each guy. Protect bark of tree by connecting wire with 1/2" diameter hose. Anchor guys with "deadman" buried at least two feet below finish grade. Tighten guy lines to a firm tension by use of turn buckles installed on guy wires. Install additional guys should tree growth be such that three guy wires do not give required support in all direction.

3.05 HEADERS

A. Headers: Place headers to form even continuous curves; angels or sharp changed in curves are not acceptable.

Stake header board at maximum 4'–0" centers. Use 3 galvanized nails per stake. For radius or curved headers (laminated), staked at maximum 3'–0" centers and laminate with 6d nails at 6" centers.

For concrete headers, provide 1/2" asphalt felt expansion joints at 30 foot centers as per detail. Install tool joint expansion joints at 30 foot centers alternatively.

3.06 LANDSCAPE PLANTING

A. Planting General. Do not install plant material or apply sod (seed) until irrigation system is completely installed, adjusted for full coverage, and operational. Do not expose roots to air except while being placed in ground. Set plants to bear the same relation to soil level when planted as they did when in the container.

B. Plant Pits/Backfill. Dig each plant pit with vertical sides, level bottom with width twice the diameter of the root ball and 12" deeper than the length of root ball. BACKFILL each plant pit with the following prepared soil mix:

Four parts composted wood chips.
Six parts excavated soil per cubic yard of mix.
32 oz. of GRO–LIFE per cubic yard of mix.
One ounce of iron sulfate per cubic yard of mix. (Contractor to take precautions to KEEP OFF PAVING– CAUSES STAINING).
17 lbs. of GRO–POWER–PLUS (5–3–1) per cubic yard of mix.
Provide fertilizer planting tablets at the rate specified by manufacturer according to plant size.

Dig planting pit to recommended depth. Backfill hole to attain proper level for the plant. Place recommended tablet(s) between the bottom and around the rootball, but no higher than 1/3 of the way up to rootball. Space the tablets equally around the perimeter approximately 2" from the root tips. Finish backfilling the planting pit, tamping the soil firmly and water thoroughly. (Note: For groundcover, bare root, balled and burlapped – tablets should be placed at same depth and directly next to the root ball.

APPLICATION RATES FOR PLANTING TABLETS (7 gram tablets)

Plant Size	No. of Tablets
1 gal.	2 – 3
5 gal.	6 – 9
15 gal.	12 – 15
24" box	14 – 16
36" box	18 – 20
48" box	22 – 24
60" box	32 – 36

Larger sizes – for ea. 1/2" caliper use, 3 – 4

C. Ground Cover. Grow plants in flats until time for transplanting. At time of planting, dig pits for plants from flats at least 6"x 6" and firm earth around each plant sufficiently to force out air pockets.

D. Watering Basins. Construct around plants, except in lawns, watering basins unless otherwise noted. Construct a 3" berm above finish grade with a level bottom around each plant ball. Do not basin plants from flats or plants on slopes greater than 2–feet horizontal to 1–foot vertical.

E. Plant Material in Lawn. Plant trees and shrubs in lawn areas before final preparation of lawn areas and sodding or seeding.

F. Wilted Plants, whether in place or not, are not acceptable; replace immediately at Contractor's expense.

G. Lawn – Sod.

1. Preparation. Float areas to be planted in lawn smooth to present a neat and uniform appearance. Obtain inspections by Architect to determine suitability for planting prior to sod installation.

2. Installation. Grade to 1" below finish grade and walks to accommodate sod thickness. Roll area to be sodded lightly to an even, smooth surface, eliminating any low areas, depressions, or projections. After sod is laid, roll lightly to give the surface an even uniform appearance.

H. Lawn – Seeded [Alternate].

1. Seeding. Evenly drill specified seed into soil with an approved mechanical seeder (Brillion type seeder or equivalent) at the rate of 15 pounds of seed per 1000 ft. Top dress seeded areas with 1/4" maximum layer of top dressing – Kellog's topper or equal.

I. Watering. Water plants immediately after planting. Do not allow plants to dry out before or while being planted. Keep exposed roots wet by means of wet sawdust, peat moss, or burlap at all times during planting operations. Apply water to planted areas and plants during operations and thereafter until acceptance. Use a hose to water plants which cannot be watered efficiently with existing water systems. Apply water in sufficient quantities and as often as seasonal conditions require to keep the ground wet but not soaking, at all times, well below root systems of plants and grass.

1. Trees, Shrubs, and Vines. Immediately after planting, thoroughly water each plant by means of a hose with a slow running stream of water.
2. Groundcover. Immediately after planting, thoroughly water each plant, by means of a hose with a slow running stream of water.

j. MULCH COVER:

Top Dressing (Ground Cover Areas): Apply a 2" layer of specified shredded mulch to those areas specified. Do not apply mulch dressing on slopes 2 1/2:1 or greater.

4.0 PART FOUR – MAINTENANCE

A. General. Continuously maintain landscaping in all areas included in the Contact during progress of the Work, the maintenance period, and until final acceptance. After work indicated or specified has been completed, observed and approved, maintain planted areas buy means of continuous watering, weeding, rolling, cultivation, spraying, mulching, fertilizing and other operations necessary for care and upkeep for a period of 60 calendar days. At end of this period, all plant material shall be in a healthy growing condition.

B. During 60 Calendar Day Maintenance Period – Water all plants and planted areas. Remove weeds, Dallas, Johnson Kikuya, Nut, and Bermuda grass. Mow grass with a reel type mower equipped with rollers. Edge lawns, whenever, necessary. Keep lawn cut to not less than 2" and not more than 3" in height. Collect grass clippings during mowing operations and remove from site. Care for entire project that a neat and clean condition will be presented at all times, as approved.

C. Water Lawn Areas until acceptance. Apply water by means of sprinkler system. Keep areas moist, but not glistening wet, until an even, close stand of grass has been obtained and lawn is a healthy mature turf. Workmen are not allowed to walk on lawn areas unnecessarily before, during and after sodding operation. If damaged or compacted, cultivate and resod lawn areas at Contractor's expense.

D. Fertilizer. Apply Gro–Power Plus at the rate of 25 pounds per 1000 feet uniformly over all planted areas, including lawn. At each 30 calendar day period until plant establishment is complete and accepted by Owner.

E. Completion and Correction. Contractor may be relieved of maintenance when final 60 day calendar day plant establishment has been satisfactorily competed and accepted. Damage to planting areas shall be replaced or repaired immediately. Depression caused buy vehicles, bicycles or foot traffic are to be filled with topsoil and leveled. Resod damage done to lawn areas. Damage caused by gophers and moles shall be replaced or repaired immediately.

F. Replacement of Plants. Plants that show sign of failure to grow at any time during the maintenance period, or those plants so injured or damaged as to render them unsuitable for the purpose intended shall be replaced immediately at the expense of the Contractor, Contractor shall replace any material which does not meet requirements within 15 days of notification. Any tree or grass that die or lose form and size as originally specified shall be replaced even though they have taken root and are growing after die–back or loss of form and size.

5.00 PART FIVE – INSPECTIONS/OBSERVATIONS

A. General. In all cases where observations are required, notify the ARCHITECT and OWNER at least three (3) working days in advance of the time of observations. Observations are required as follows:

1. At completion of landscape finish grading and upon the delivery of plant material to site.
2. Lawn area prior to planting and at time of location of plant material on site.
3. At completion of all landscape planting prior to the start of the sixty (60) calendar day contract maintenance period.
4. At end of the first 30 calendar days during the contract maintenance period.
5. At the completion of the 60 calendar day maintenance period.

NO SITE VISITS shall commence without all items noted in previous Observation Reports either complete or remedied unless such compliance has been waived by the Owner. Failure to accomplish punch list tasks or prepare adequately for desired inspections shall make the Contractor responsible for reimbursing the Architect at his current billing rates per hour (plus transportation costs). No further inspections shall be scheduled until this charge has been paid and received.

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CITY OF CULVER CITY DEPARTMENT OF PUBLIC WORKS

NO. REVISIONS | DATE | BY:

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PROFESSIONAL ENGINEER – SHAHI M. SHARIFIAN – No. 46957 – Exp. 9–30–2018 – CIVIL – STATE OF CALIFORNIA

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

APPROVED		DATE
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	9/2/2016

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL.

SHEET TITLE: **LANDSCAPE SPECIFICATIONS**

PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP

ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

WORK ORDER NO.
E6000591

DRAWING NO.
PL-1

SHEET 12 OF 17 SHEETS

NOTE:
FOR IRRIGATION HEADS AND LINES, SEE IRRIGATION PLAN.

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CEANOTHUS GLORISUS "POINT REYES"
1GALLON @ 24"O.C., TRI.SPACED

RHAMNUS CALIFORNICA
"BONITA LINDA"
(75) 5GALLON

METROSIDEROS TOMENTOSA
(14) 15GALLON

FICUS REPENS
(9) 1GALLON @ 20FT.O.C.
PLANT IN MIN. 12"X18"
PLANTER WELLS

MATCH LINE
SEE "PLANTING AND DETAILS NO. 2" SHEET

PLAN
1" = 10'

BALLONA CREEK WASH

PREVAILING WIND

15" 15"

PLAN

NOTE : MIN. TWO TIES (TOP AND BOTTOM) USE THIRD TIE WHEN NECESSARY TO HOLD TREE IN UPRIGHT POSITION. TIES TO BE SECURED TO AVOID SLIPPAGE (WRAP STAKE, TWIST AND STAPLE WIRES).

"CINCH-TIE" BY V.I.T. CO.
(OR APPROVED EQUAL).

LODGEPOLE LINE STAKE COPPER NAPHTHENATE IMPREGNATED 2 1/2" DIA. X 12' FOR 24" BOX AND SMALLER

3" HIGH WATERING BASIN
SEE SPECIFICATIONS

FINISH GRADE

FERTILIZER TABLETS
SEE SPECIFICATIONS

INSTALL ROOTBALL
1" ABOVE FINISH GRADE

BACKFILL MIX PER SPECS.

BACKFILL MIX PER SPECS.
TAMPED

DEEPWELL DRAIN, CORED AND

6" EQ. 6" EQ. ROOTBALL DEPTH PLUS 12" 12"

TWICE ROOTBALL DIAMETER

A DOUBLE STAKING DETAIL

PREVAILING WIND

15" 15"

PLAN

NOTE : MIN. TWO TIES (TOP AND BOTTOM) USE THIRD TIE WHEN NECESSARY TO HOLD TREE IN UPRIGHT POSITION. TIES TO BE SECURED TO AVOID SLIPPAGE (WRAP STAKE, TWIST AND STAPLE WIRES).

"CINCH-TIE" BY V.I.T. CO.
(OR APPROVED EQUAL).

LODGEPOLE LINE STAKE COPPER NAPHTHENATE IMPREGNATED 2 1/2" DIA. X 12' FOR 24" BOX AND SMALLER

3" HIGH WATERING BASIN
SEE SPECIFICATIONS

FINISH GRADE

FERTILIZER TABLETS
SEE SPECIFICATIONS

INSTALL ROOTBALL
1" ABOVE FINISH GRADE

BACKFILL MIX PER SPECS.

BACKFILL MIX PER SPECS.
TAMPED

6" EQ. 6" EQ. ROOTBALL DEPTH PLUS 12" 12"

TWICE ROOTBALL DIAMETER

B TREE SLOPE PLANTING DETAIL

PLANT PLANTS EQUALLY SPACED AS INDICATED ON PLAN, TRIANGULAR SPACED REQUIRED ALL AREAS

C GROUNDCOVER SPACING

REVISION DATES (DESIGN STAGE ONLY) 03/28/2014

CITY OF CULVER CITY
DEPARTMENT OF PUBLIC WORKS

CITY OF CULVER CITY ... INCORPORATED

NO.	REVISIONS	DATE	BY:

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REGISTERED PROFESSIONAL ENGINEER
SHAFI M. SHARIFIAN
No. 46957
Exp. 9-30-2018
CIVIL
STATE OF CALIFORNIA

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER

APPROVED		DATE
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PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	9/2/2016

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: PLANTING PLAN AND DETAILS NO. 1

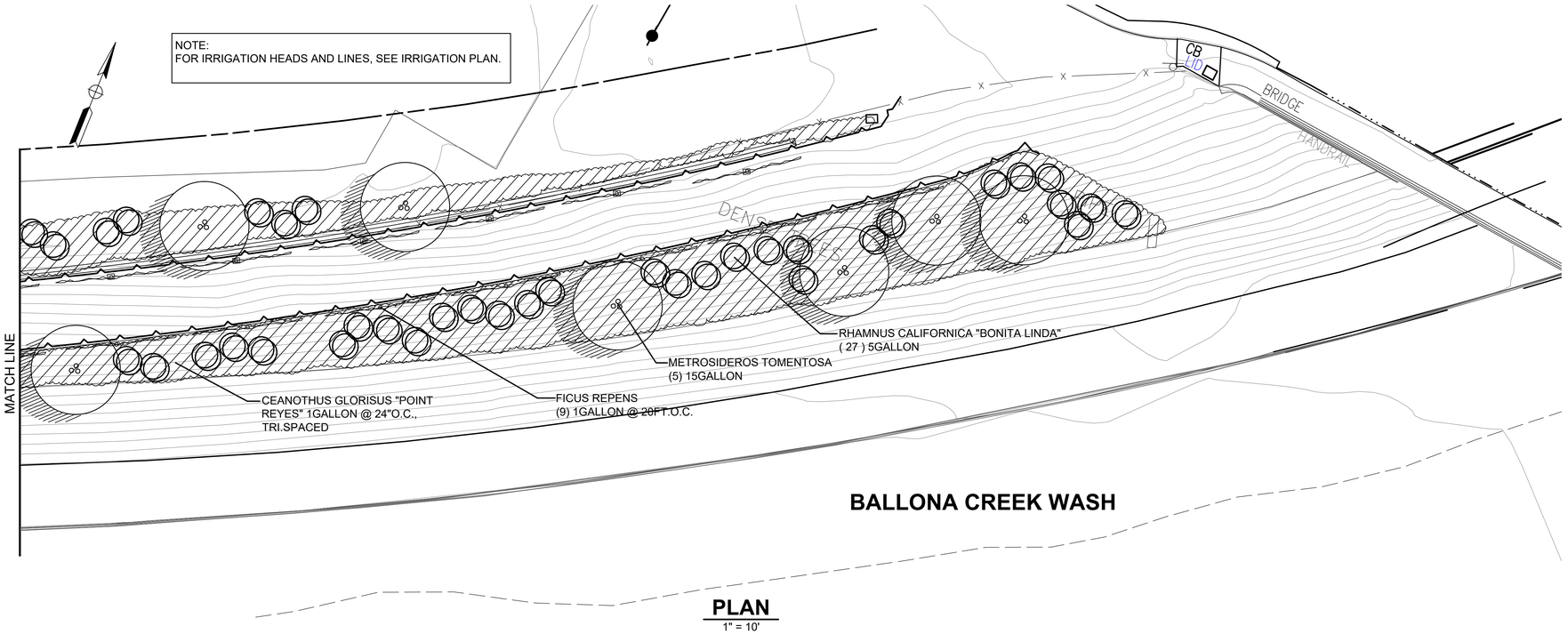
PROJECT: BALLONA CREEK BIKE PATH
ON/OFF RAMP

ADDRESS: HIGUERA STREET
CULVERCITY CALIFORNIA

WORK ORDER NO.
E6000591

DRAWING NO.
PL-2

SHEET 13 OF 17 SHEETS

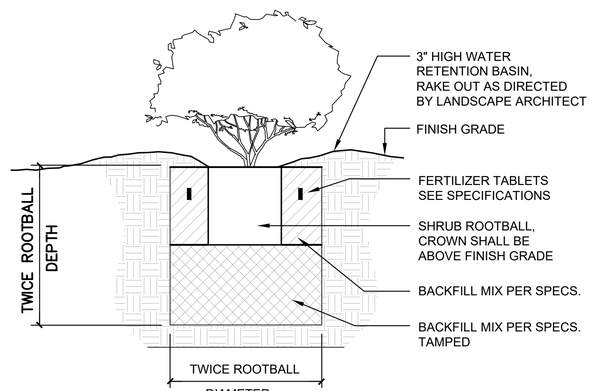


PLAN
1" = 10'

GENERAL PLANT LIST

THIS PLANT COUNT / LIST IS FOR THE COVENIENCE ONLY OF THE CONTRACTOR AND MUST BE VERIFIED BY PLAN CHECK AND ON-SITE INSPECTION OF CONDITIONS. PRIOR TO BID SUBMITTAL AND CONSTRUCTION.

BOTANICAL NAME	COMMON NAME	QTY.	SIZE	HT.	WD.	CAL.	SUPPORT	REMARK
PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	19	15 GAL	-	-	-	B	MULTI
RHAMNUS CALIF."BONITA LINDA"	CAL. COFFEEBERRY	102	5 GAL	-	-	-	E	-
FICUS REPENS	CREEPING FIG	18	1 GAL	-	-	-	E	PLANT @ 20FT.O.C., IN PLANT WELLS
CEANOTHUS G. "POINT REYES"	POINT REYES CEANOTHUS	@ 24" OC	1 GAL	-	-	-	E	TRIANGULAR SPACED



(D) SHRUB / VINE PLANTING PIT DETAIL

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REGISTERED PROFESSIONAL ENGINEER — SHAH M. SHARIFIAN — No. 49697 — Exp. 9-30-2018 — CIVIL — STATE OF CALIFORNIA

CITY OF CULVER CITY — DEPARTMENT OF PUBLIC WORKS

APPROVED		DATE
CHARLES D. HERBERTSON, P.E., L.S.		
CITY ENGINEER		
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	9/2/2016

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: PLANTING PLAN AND DETAILS NO. 2

PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP

ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

WORK ORDER NO. E6000591

DRAWING NO. **PL-3**

SHEET 14 OF 17 SHEETS

REVISION DATES (DESIGN STAGE ONLY) 03/28/2014

GENERAL NOTES

1. ALL MAIN LINE PIPING AND CONTROL WIRES UNDER PAVING SHALL BE INSTALLED IN SEPARATE SLEEVES. MAIN LINE SLEEVE SIZE SHALL BE A MINIMUM OF TWICE (2X) THE DIAMETER OF THE PIPE TO BE SLEEVED. CONTROL WIRE SLEEVES SHALL BE OF SUFFICIENT SIZE FOR THE REQUIRED NUMBER OF WIRES UNDER PAVING.
2. ALL LATERAL LINE PIPING UNDER PAVING SHALL BE PVC SCHEDULE 40 PIPE AND SHALL BE INSTALLED PRIOR TO PAVING.
3. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT THE TIME OF SAID REJECTION.
4. FINAL LOCATION OF THE AUTOMATIC CONTROLLER SHALL BE APPROVED BY OWNER'S AUTHORIZED REPRESENTATIVE.
5. 120 VAC ELECTRICAL POWER SOURCE AT CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS. THE IRRIGATION CONTRACTOR SHALL MAKE THE FINAL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER.
6. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.
7. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS AND VALVES FOR OPTIMUM COVERAGE WITH MINIMAL OVERSPRAY ONTO WALKS, STREETS, WALLS, ETC. THIS SHALL INCLUDE REGULATING THE PRESSURE AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM.
8. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE. THE CONTRACTOR SHALL LOCATE ALL VALVES IN SHRUB AREAS.
9. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, STRUCTURES AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY HIS WORK. HE SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS FOR LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS THROUGH WALLS, UNDER ROADWAYS AND PAVING, ETC.
10. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
11. ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
12. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILED INFORMATION.
13. ADV (ANTI-DRAIN VALVES) UNITS AS SHOWN IN THE DETAILS ARE FOR TYPICAL INSTALLATION ONLY, AND MAY NOT BE REQUIRED ON ALL HEADS. PRIOR TO INSTALLATION THE CONTRACTOR SHALL VERIFY WITH THE ON-SITE GRADES. IF THERE IS AN ELEVATION DIFFERENCE OF 24" OR MORE BETWEEN THE HIGHEST HEAD AND THE LOWEST HEAD ON A SYSTEM, THE ADV'S SHALL BE INSTALLED PER DETAIL.
14. THE CONTRACTOR SHALL VERIFY THE STATIC PRESSURE TO BE AS STATED ON THE SYSTEM REQUIREMENTS. SHOULD THE STATIC PRESSURE EXCEED 20%, INSTALL A 'WILKINS' 600 SERIES PRESSURE REGULATING VALVE (IN A SEPARATE VALVE BOX) DIRECTLY DOWN STREAM OF THE BACKFLOW PREVENTION DEVICE. SET THE REGULATING VALVE AT 10% HIGHER THAN THE STATED SYSTEM REQUIREMENTS. SHOULD THE STATIC PRESSURE BE LESS THAN THE STATED PRESSURE, NOTIFY THE ARCHITECT IMMEDIATELY.
15. ALL STATED GALLONAGES IN VALVE CALL-OUTS ARE ROUNDED UP TO THE NEAREST GALLON.
16. THE SYSTEM IS DESIGNED FOR THE MINIMUM OPERATING PRESSURE AS SHOWN AT EACH POINT OF CONNECTION. THE MAXIMUM DEMAND OF GALLONS PER MINUTE IS AS SPECIFIED. THE IRRIGATION CONTRACTOR SHALL VERIFY THE AVAILABLE WATER PRESSURE ON THE SITE PRIOR TO THE START OF INSTALLATION.
17. ALL LOW VOLTAGE WIRE FROM CONTROLLER TO VALVES SHALL BE SOLID COPPER UF #14 DIRECT BURIAL TYPE. USE BLACK INSULATED WIRE FOR CONTROL AND WHITE FOR COMMON. INSTALL IN A COMMON TRENCH WITH PRESSURE MAINLINE PIPING WHERE POSSIBLE. BUNDLE AND TAPE TO PIPE AT 10 FOOT INTERVALS.
18. PROVIDE A MINIMUM OF 18" COVER OVER ALL PRESSURE MAINLINE PIPE AND 12" MIN. COVER OVER ALL NON-PRESSURE LATERAL LINE. ALL PIPE UNDER PAVED AREAS IS TO BE INSTALLED IN PVC SCH. 40 SLEEVE WITH 36" MIN. COVER. SLEEVE LOCATIONS TO BE AS SHOWN ON IRRIGATION PLANS AND INSTALLED PER DETAIL.
19. ALL QUICK COUPLER VALVES ARE TO BE INSTALLED IN SHRUB OR GROUND COVER AREAS WHENEVER POSSIBLE AND WITHIN 18" OF THE HARDSCAPE. ALL QUICK COUPLER VALVES LOCATED IN TURF AREAS SHALL BE INSTALLED IN 8" DIA. GREEN PLASTIC VALVE BOX.
20. ALL THREADED PIPE CONNECTIONS MADE TO SLIP JOINT PVC PIPE SHALL BE MADE WITH A PVC THREADED COUPLING. ALL THREADED ADAPTERS AND COUPLINGS ARE TO BE 'DURA' DEEP SOCKET TYPE.
21. INSTALL ALL SPRAY HEADS WITH NOZZLES OF THE APPROPRIATE DEGREE OF RADIUS FOR THE AREA TO BE COVERED. ADJUST ALL NOZZLES TO ELIMINATE SPRAYING WATER ON BUILDINGS AND HARDSCAPE. ADJUST ALL VALVES FLOW CONTROLS TO PROVIDE OPTIMUM PERFORMANCE.
22. ALL LANDSCAPE MATERIAL TO HAVE A 1 YEAR WARRANTY.
23. IRRIGATION TO PROVIDE 100% COVERAGE OF ALL LANDSCAPE AREAS.
24. IRRIGATION SYSTEM IS TO BE AUTOMATIC AND HAVE A 1 YEAR WARRANTY.
25. ALL IRRIGATION MAIN LINES AND LATERALS SHALL BE INSPECTED BY THE CITY'S PARKS MANAGER PRIOR TO BEING COVERED.

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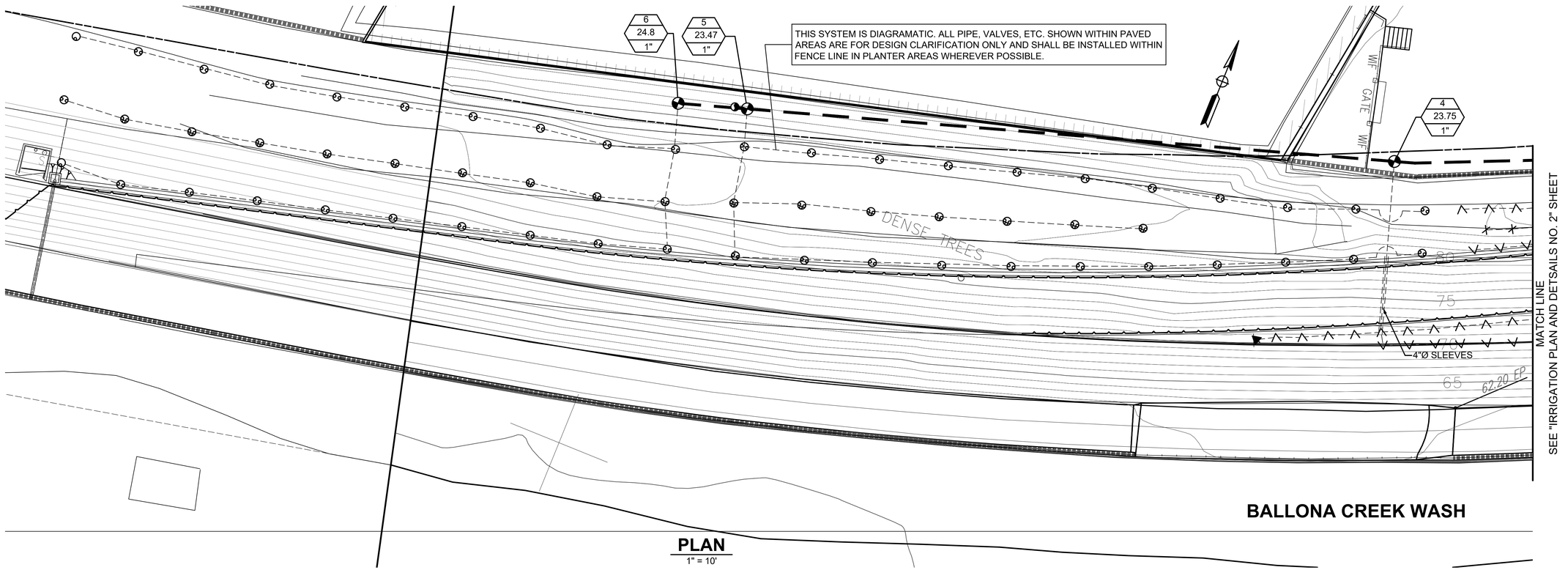
IRRIGATION EQUIPMENT LEGEND

SYM.	MFR.	MODEL #	DESCRIPTION	NOZZLE	PSI	RADIUS	GPM	PATTERN
X	RAINBIRD	1806-SAM-PRS	6" POP-UP SHRUB HEAD	MPR 8F	20	5'-7'	.75	FULL
V	RAINBIRD	1806-SAM-PRS	6" POP-UP SHRUB HEAD	MPR 8H	20	5'-7'	.38	HALF
V	RAINBIRD	1806-SAM-PRS	6" POP-UP SHRUB HEAD	MPR 8Q	20	5'-7'	.19	QUARTER
V	RAINBIRD	1806-SAM-PRS	6" POP-UP SHRUB HEAD	6-VAN	20	5'-7'	.88	270° ARC
V	RAINBIRD	1806-SAM-PRS	6" POP-UP SHRUB HEAD	6-VAN	20	5'-7'	.49	180° ARC
V	RAINBIRD	1806-SAM-PRS	6" POP-UP SHRUB HEAD	6-VAN	20	5'-7'	.30	90° ARC
	RAINBIRD	1804-SAM-PRS	4" POP-UP LAWN ROTOR	R13-18F	20	13'-18'	1.31	FULL
	RAINBIRD	1804-SAM-PRS	4" POP-UP LAWN ROTOR	R13-18TQ	20	13'-18'	.98	THREE QUARTER
	RAINBIRD	1804-SAM-PRS	4" POP-UP LAWN ROTOR	R13-18TT	20	13'-18'	.87	TWO THIRD
	RAINBIRD	1804-SAM-PRS	4" POP-UP LAWN ROTOR	R13-18H	20	13'-18'	.65	HALF
	RAINBIRD	1804-SAM-PRS	4" POP-UP LAWN ROTOR	R13-18T	20	13'-18'	.44	THIRD
	RAINBIRD	1804-SAM-PRS	4" POP-UP LAWN ROTOR	R13-18Q	20	13'-18'	.33	QUARTER
	RAINBIRD	PEB-PRS SERIES ELECTRIC REMOTE CONTROL VALVE- SIZE PER PLAN						
	RAINBIRD	#33 QUICK COUPLING VALVE W/LOCKING YELLOW VINYL COVER. SIZE: 3/4". MAX SPACING: 150 FT OC						
	FEBCO	825Y REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICE. SIZE: 1 1/2"						
	NIBCO	1 1/2" T-113 LINE SIZE GATE VALVE						
M	EXISTING	DOMESTIC WATER METER BY OTHERS						
C	CALSENSE	ESP-SMTE SERIES ELECTRIC OUTDOOR PEDESTAL MOUNT SMART CONTROLLER IN BULLETPROOF ENCLOSURE.						
	APPROVED	LATERAL LINE, SCH. 40 PVC PIPE, SIZE AS NOTED						
	APPROVED	MAINLINE 1 1/2" & SMALLER SCH. 40 PVC PIPE, 2" & LARGER CL. 315 PVC PIPE						
	APPROVED	SLEEVE, SCH. 40 PVC PIPE 2 1/2 X DIA. OF PIPE MIN. INSTALL 24" BELOW FINISHED GRADE. EXTEND 12" PAST EDGE OF PAVING						

NOTE: IF DESIRED, RISERS MAY BE USED IN AREAS WITH NO AUTO OR PEDESTRIAN TRAFFIC. PLEASE VERIFY WITH OWNER BEFORE INSTALLATION.



PLAN
1" = 10'

PATRICK REYNOLDS, PARKS MANAGER
APPROVED DATE

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER
APPROVED DATE

CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	9/2/2016

CITY OF CULVER CITY DEPARTMENT OF PUBLIC WORKS

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: **IRRIGATION PLAN AND DETAILS NO. 1**

PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP

ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

Consulting Engineers, Inc.
300 South Harbor Boulevard, Suite 710
Anaheim, CA 92805
Tel (714) 520-9070 Fax (714) 520-9068

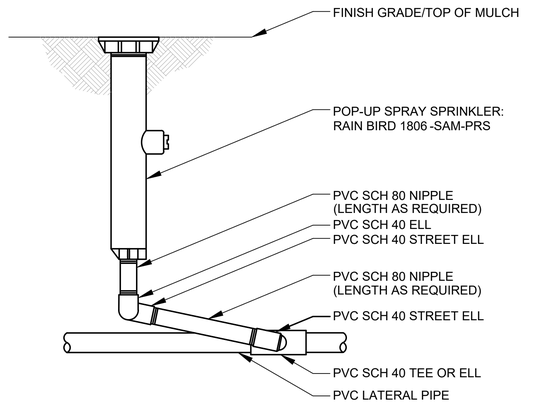
PROFESSIONAL ENGINEER — SHAFI M. SHARIFAN — No. 49697 — Exp. 9-30-2018 — CIVIL — STATE OF CALIFORNIA

NO.	REVISIONS	DATE	BY

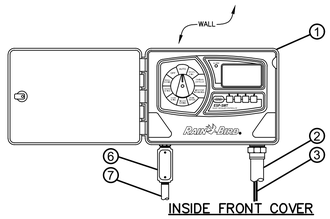
WORK ORDER NO.
E6000591
DRAWING NO.
IR-1
SHEET 15 OF 17 SHEETS

REVISION DATES (DESIGN STAGE ONLY): 03/28/2014

1) INSTALL SPRINKLER HEADS 6" AWAY FROM PAVING IN GROUND COVER AREAS.
2) INSTALL SPRINKLER HEADS 4" AWAY FROM PAVING IN TURF AREAS.
3) ADJUST SPRAY OR NOZZLE STREAM TO PROVIDE COVERAGE TO ALL LANDSCAPE AREAS WITH MINIMAL TO NO OVERSPRAY ONTO PAVING.

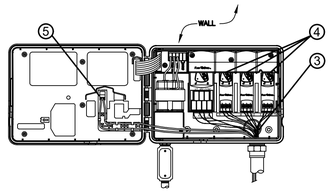


A POP-UP SPRAY SPRINKLER

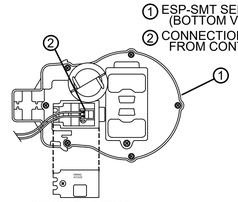


1. RAIN BIRD ESP-SMT4 OUTSIDE WALL MOUNT
2. 1-INCH PVC SCH 40 CONDUIT AND FITTINGS
3. WIRES TO REMOTE CONTROL VALVES AND SENSOR
4. OPTIONAL MODULES FOR 13-STATION CONTROLLER
5. CONNECTION FOR WIRES FROM SENSOR
6. JUNCTION BOX
7. 1/2-INCH PVC SCH 40 CONDUIT TO POWER SUPPLY

INSIDE FRONT COVER



INSIDE CONTROLLER CHASSIS

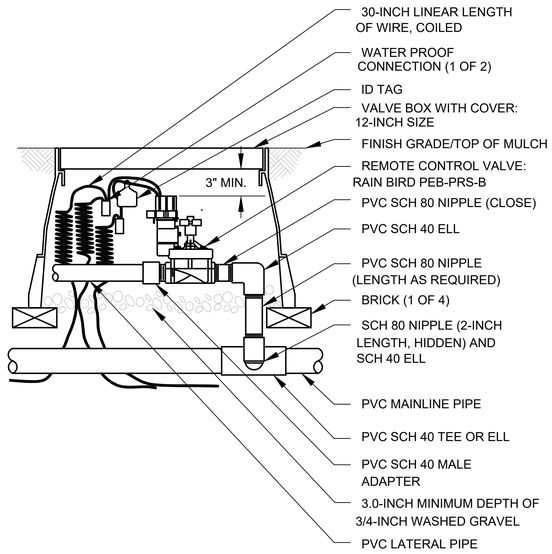


1. ESP-SMT SENSOR (BOTTOM VIEW)
2. CONNECTION FOR WIRES FROM CONTROLLER

SENSOR DETAIL

NOTE: WIRE LENGTH FROM CONTROLLER TO SENSOR NOT TO EXCEED 200 FEET.

B ESP-SMT SMART CONTROL SYSTEM - OUTDOOR

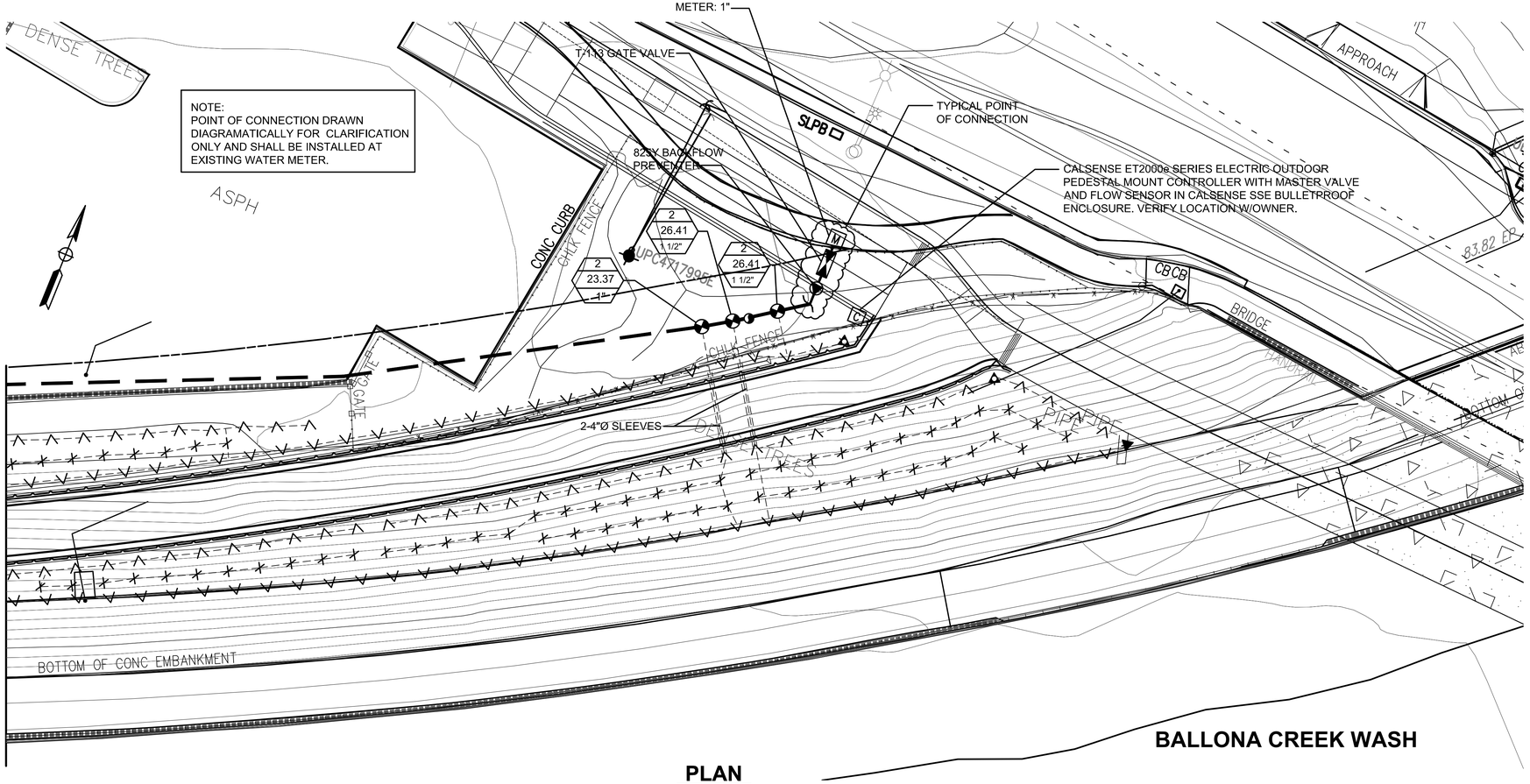


C REMOTE CONTROL VALVE

PETER BRANDOW, AIA, ASLA
& ASSOCIATES
LANDSCAPE ARCHITECTS
1537 MONROVIA AVENUE
NEWPORT BEACH, CA 92663
(949) 261-6066
e-Mail: pbrandow@AOL.com / www.PDBLA.com
Lic.# 1267 & C-6445

PVC CLASS 200 PIPE SIZING CHART	
SIZE	GPM
1/2"	0-5
3/4"	6-10
1"	11-17
1 1/4"	18-28
1 1/2"	29-39
2"	39+

PVC SCH 40 PIPE SIZING CHART	
SIZE	GPM
1/2"	0-6
3/4"	6-11
1"	12-17
1 1/4"	18-28
1 1/2"	28-38
2"	39+



PLAN
1" = 10'

THIS SYSTEM IS DIAGRAMATIC. ALL PIPE, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTER AREAS WHEREVER POSSIBLE.

PATRICK REYNOLDS, PARKS MANAGER
APPROVED DATE

CHARLES D. HERBERTSON, P.E., L.S.
CITY ENGINEER
APPROVED DATE

		DATE
CITY REVIEWER:	SAMMY ROMO	9/2/2016
PROJECT ENGINEER:	S. SHARIFAN	9/2/2016
DESIGNED BY:	L. LIU	9/2/2016
DRAWN BY:	G. ESTEPA	9/2/2016

SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: IRRIGATION PLAN AND DETAILS NO. 2
PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP
ADDRESS: HIGUERA STREET CULVER CITY CALIFORNIA

WORK ORDER NO. E6000591
DRAWING NO. IR-2
SHEET 16 OF 17 SHEETS

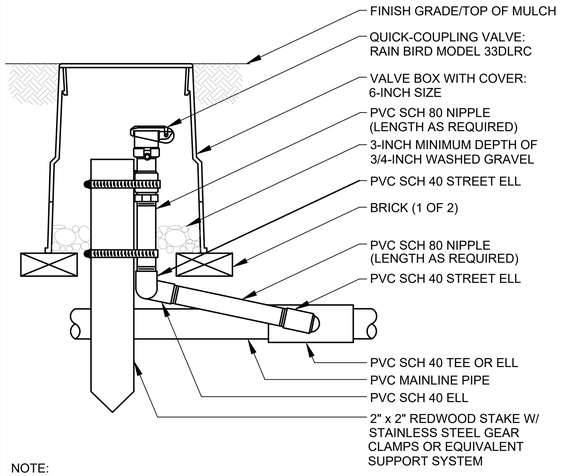
CITY OF CULVER CITY DEPARTMENT OF PUBLIC WORKS

NO.	REVISIONS:	DATE	BY:

Consulting Engineers, Inc.
300 South Harbor Boulevard, Suite 710
Anaheim, CA 92805
Tel (714) 520-9070 Fax (714) 520-9068

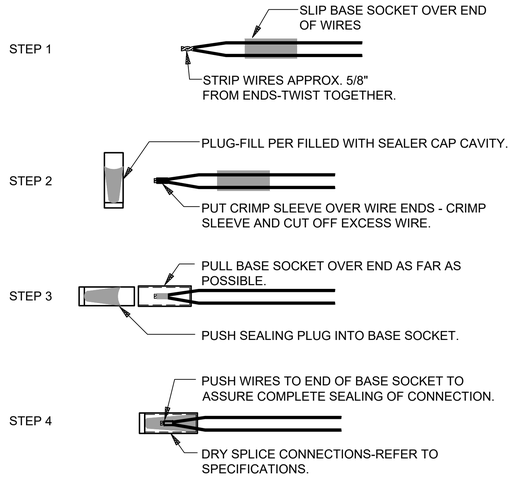
PROFESSIONAL ENGINEER · SHAFI M. SHARIFAN · No. 49697 · Exp. 9-30-2018 · CIVIL · STATE OF CALIFORNIA

REVISION DATES (DESIGN STAGE ONLY): 03/28/2014

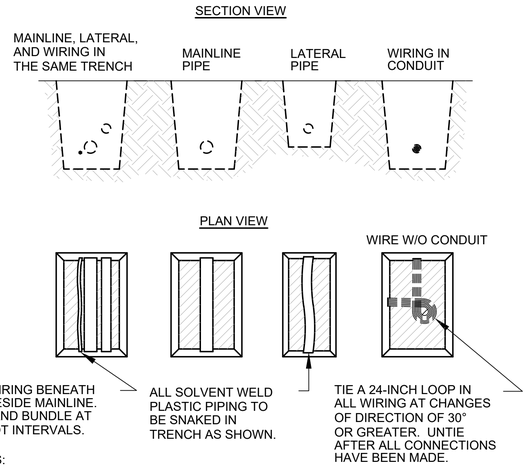


NOTE:
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

D QUICK-COUPLING VALVE



G WIRE CONNECTORS

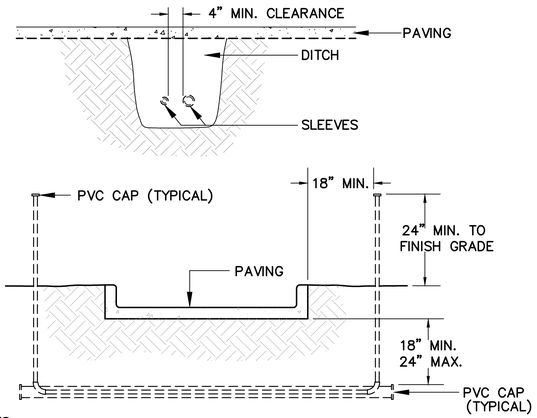


NOTES:
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH CLASS 200 PVC TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
2. FOR PIPE AND WIRE BURIAL DEPTHS SEE SPECIFICATIONS.

E PIPE & WIRE TRENCHING

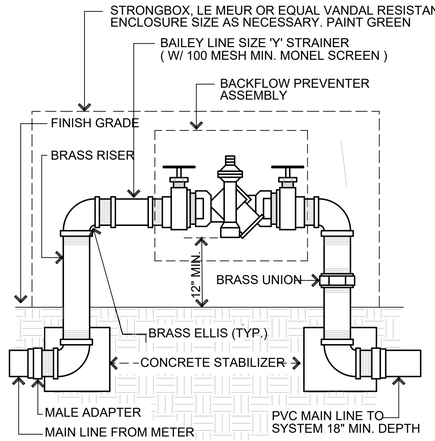
NOTE : INSTALL VALVE BOX SO THAT THE TOP OF COVER IS 2" ABOVE FINISH GRADE IN GROUND COVER AREAS AND 1/2" IN TURF AREAS. SET BOX SQUARE WITH BUILDING/PAVING.

H GATE VALVE



NOTES:
1. ALL PVC IRRIGATION SLEEVES TO BE CLASS 200 PIPE.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND THE SMALLER SLEEVE TO 24-INCHES MINIMUM ABOVE FINISH GRADE.
4. MECHANICALLY TAMP TO 95% PROCTOR.

F SLEEVING



I BACKFLOW PREVENTER

REDUCED PRESSURE PRINCIPLE TYPE

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& ASSOCIATES
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DATE | BY:

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300 Shellmaker Road, Suite 710
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PROFESSIONAL ENGINEER * REGISTERED * SHAHI M. SHARIFIAN No. 49697 Exp. 9-30-2018 CIVIL STATE OF CALIFORNIA

CITY OF CULVER CITY, CALIFORNIA, INCORPORATED

CITY OF CULVER CITY DEPARTMENT OF PUBLIC WORKS

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SEE SHEET T-1 FOR HORIZONTAL AND VERTICAL CONTROL

SHEET TITLE: IRRIGATION DETAILS NO. 3

PROJECT: BALLONA CREEK BIKE PATH ON/OFF RAMP

ADDRESS: HIGUERA STREET CULVERCITY CALIFORNIA

WORK ORDER NO. E6000591

DRAWING NO. IR-3

SHEET 17 OF 17 SHEETS

REVISION DATES (DESIGN STAGE ONLY) 10/28/2014