YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS PROJECT

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

PREPARED BY:

CBEC ECO ENGINEERING

PROJECT LOCATION MAP

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
G-01	COVER
G-02	SHEET LAYOUT PLAN
G-03	SITE ACCESS AND STORAGE PLAN
01	SUB-PROJECT 4 - EAST WEST ROAD STATION 0 TO 12+00
02	SUB-PROJECT 4 - EAST WEST ROAD STATION 12+00 TO 24+00
03	SUB-PROJECT 4 - EAST WEST ROAD STATION 24+00 TO 36+00
04	SUB-PROJECT 4 - NORTH SOUTH ROAD STATION 36+00 TO 47+25
05	SUB-PROJECT 4 - NORTH SOUTH ROAD STATION 47+25 TO 59+00
06	SUB-PROJECT 4 - NORTH SOUTH ROAD STATION 59+00 TO 71+00
07	SUB-PROJECT 4 - NORTH SOUTH ROAD STATION 71+00 TO 82+50
08	SUB-PROJECT 4 - NORTH SOUTH ROAD STATION 82+50 TO 94+00
09	SUB-PROJECT 4 - NORTH SOUTH ROAD STATION 94+00 TO 106+00
10	SUB-PROJECT 4 - NORTH SOUTH ROAD STATION 106+00 TO 118+00
11	SUB-PROJECT 2 - GREEN'S LAKE STATION 118+25 TO 130+50
12	SUB-PROJECT 2 - GREEN'S LAKE STATION 130+50 TO 142+25
13	SUB-PROJECT 2 - GREEN'S LAKE STATION 142+25 TO 153+50
14	SUB-PROJECT 2 - GREEN'S LAKE STATION 153+50 TO 166+50
15	SUB-PROJECT 2 - GREEN'S LAKE POND IMPROVEMENTS 1
16	SUB-PROJECT 2 - GREEN'S LAKE POND IMPROVEMENTS 2
17	SUB-PROJECT 2 - GREEN'S LAKE STATION 166+50 TO END
18	SUB-PROJECT 2 - GREEN'S LAKE DITCH IMPROVEMENTS
19	SUB-PROJECT_4_2 ALIGNMENT GEOMETRY TABLE
20	SUB-PROJECT 4 - PUMP STATION PLAN
21	SUB-PROJECT 2 - GREEN'S LAKE DETAIL PLAN
22	SUB-PROJECT 4 - NORTH SOUTH ROAD GRADING AND CULVERT SECTIONS
23	SUB-PROJECT 2 - GREEN'S LAKE GRADING AND CULVERT SECTIONS
24	TYPICAL DETAILS 1
25	TYPICAL DETAILS 2
E2.1	OVERALL ELECTRICAL PLAN
E2.2	OVERHEAD POLE LINE CONSTRUCTION
E2.3	OVERHEAD POLE LINE CONSTRUCTION - ELECTRICAL SITE PLAN
E2.4	NEW PUMP STATION DETAILS

EARTHWORK SUMMARY TABLE			
SUB-PROJECT NO.	CUT (BCY)	FILL (CCY)	NET (BCY)
4	1724	14988	18260 <FILL>
2	38186	15227	17883 <CUT>
	39910	30215	377 <CUT>

NOTES:

1. *EARTHWORK VALUES ACCOUNT FOR A 25% SHRINKAGE FACTOR (I.E., BCY *0.75 = CCY).*
2. *FILL VALUES DO NOT INCLUDE THE VOLUME OF CRUSHED AGGREGATE BASE FOR ROAD PAVING, ESTIMATED AT 9,270 CY*
3. *EARTHWORK VALUES SHOWN ARE APPROXIMATE. BASED ON MATERIAL QUALITY AND SHRINKAGE CHARACTERISTICS ENCOUNTERED, CONTRACTOR MAY NEED TO ADJUST EXCAVATION TO BALANCE CUT AND FILL. ANY ADJUSTMENTS TO GRADING MUST BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO BEING IMPLEMENTED.*

SCALE BARS

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

COVER

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **G-01**
DWG ------ REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009

PEN TABLE: ----

PLOT TIME: 4/5/2017 1:23 PM

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FILE NAME: G-01-COVER_SP2_4.DWG

SCALE BARS

0 800 1600 2400 FEET

1" = 800'

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SHEET LAYOUT PLAN

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	G-02
DWG	------
REV	0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB

PLOT TIME: 3/31/2017 1:37 PM

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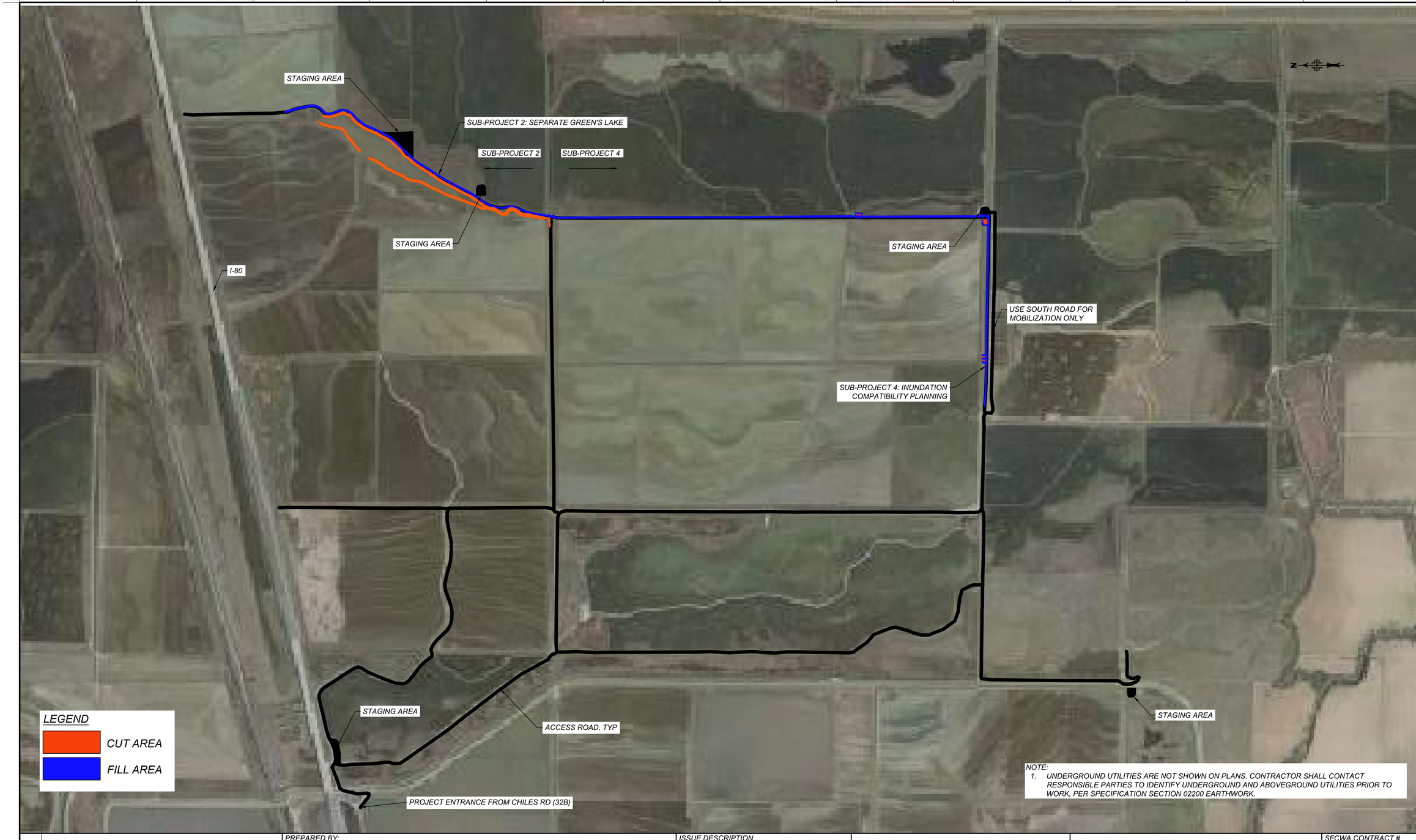
FILE NAME: G-02-SHEETLAYOUT_SP2_4.DWG



SCALE BARS

0 800 1600 2400 FEET

1" = 800'

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
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ISSUE DATE APRIL 2017

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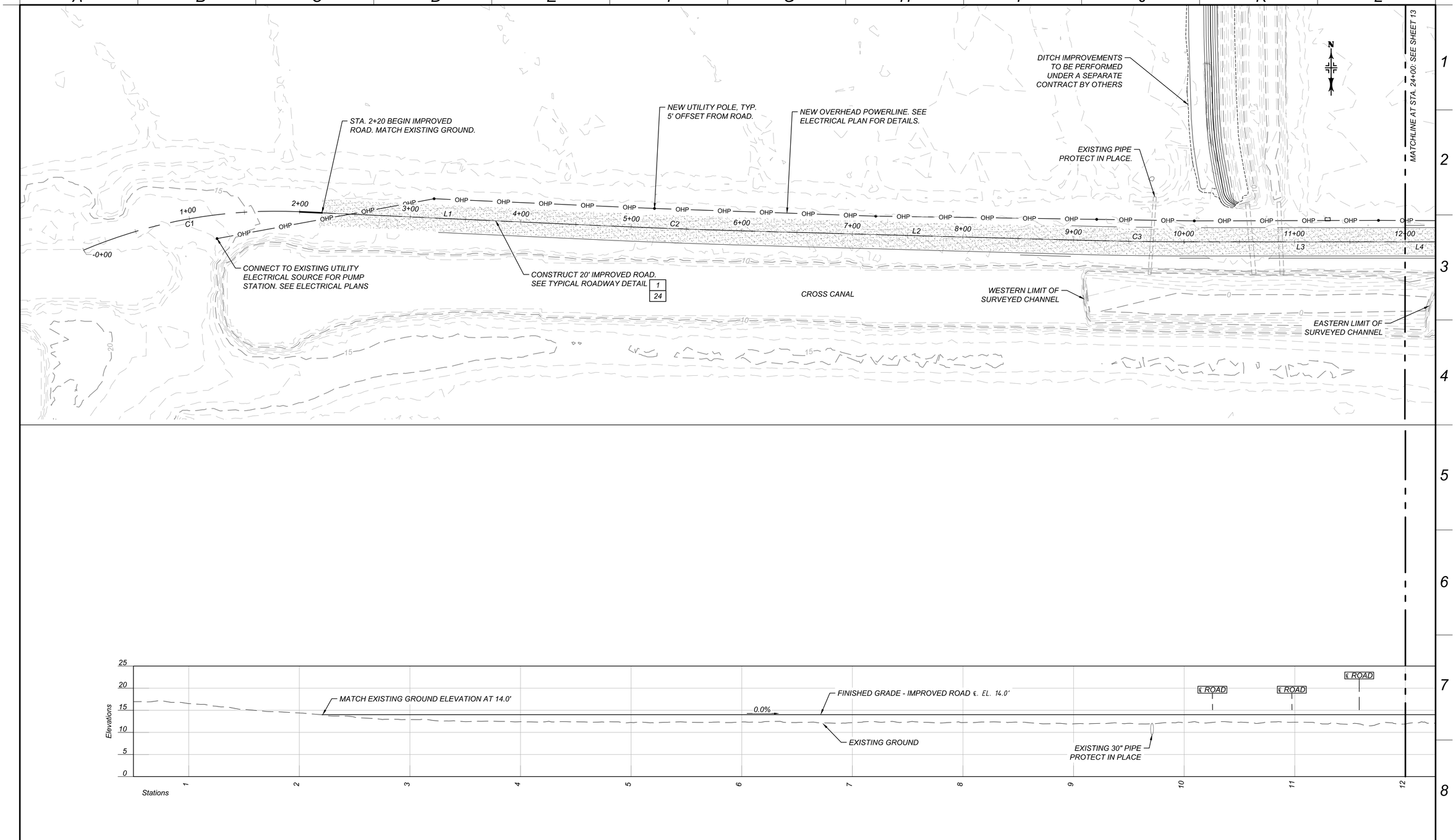
YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SITE ACCESS AND STORAGE PLAN

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **G-03**
DWG ------ REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 1:38 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: G-03-SITE_ACCESSPLAN_SP2_4.DWG



SCALE BARS

HORIZ. 0 40 80 120 FEET — 1" = 40'

VERT. 0 10 20 30 FEET — 1" = 10'

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ISSUE DESCRIPTION
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ISSUE DATE APRIL 2017

DESIGNED	SD	FOR DRAWING APPROVALS SEE
DRAWN	JP	----------
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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4 STATION 0 TO 12+00

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	01
DWG	------
REV	0

PREPARED WITH MWD BRDR DATE: 01/29/2009

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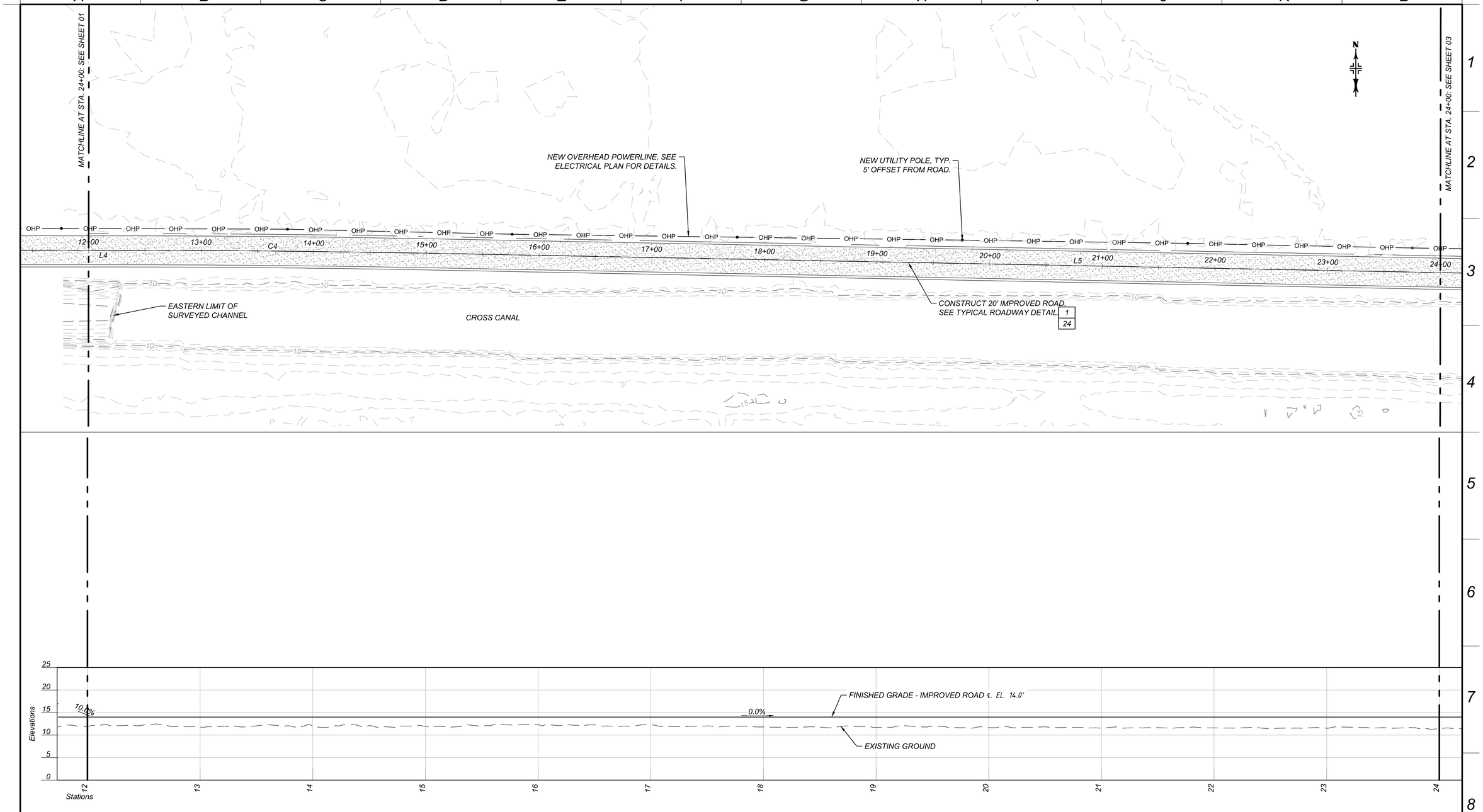

SCALE BARS

HORIZ. 0 40 80 120 FEET — 1" = 40'

VERT. 0 10 20 30 FEET — 1" = 10'

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ISSUE DATE APRIL 2017

DESIGNED	SD
DRAWN	JP
CHECKED	CC

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4 STATION 12+00 TO 25+00

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	02
DWG	------
REV	0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

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SCALE BARS

HORIZ. 0 40 80 120 FEET
1" = 40'

VERT. 0 10 20 30 FEET
1" = 10'

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DRAWN	JP	----------
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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4
STATION 25+00 TO 36+50

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	03
DWG	------
REV	0

PREPARED WITH MWD BRDR DATE: 01/29/2009

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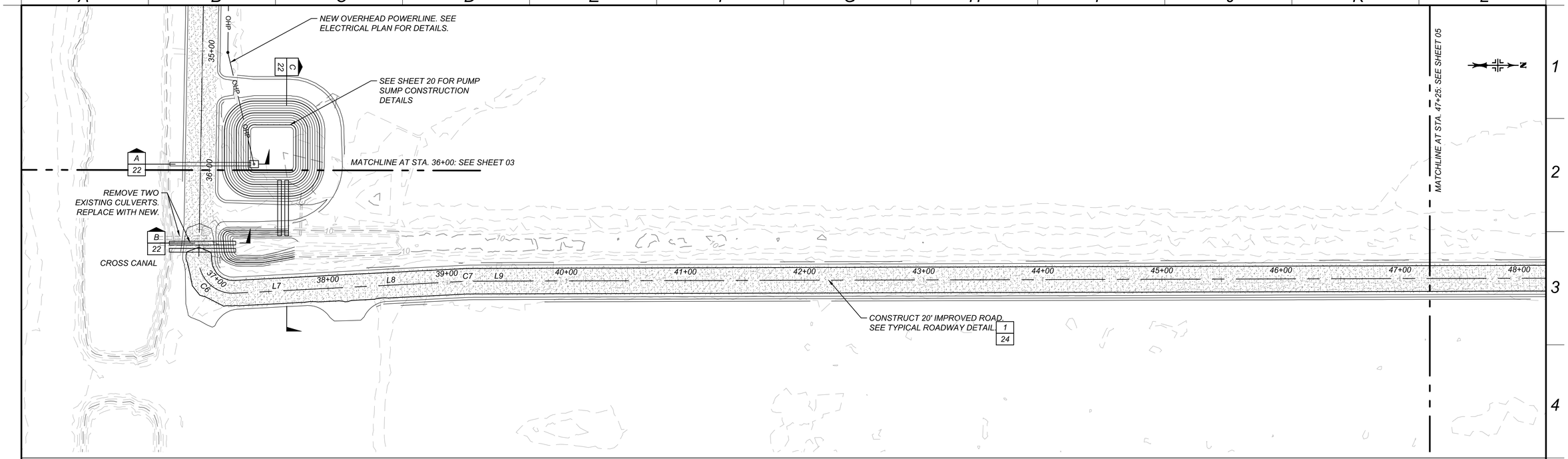

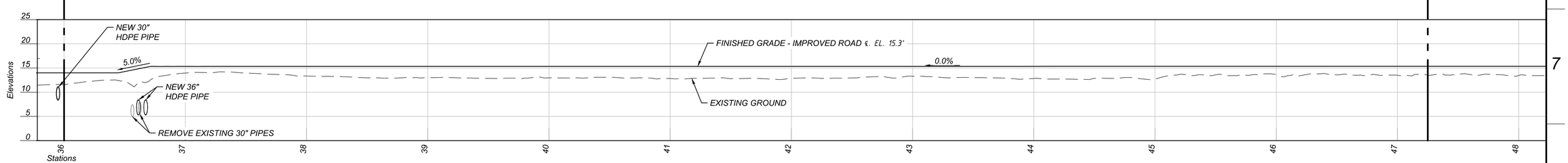

SCALE BARS

HORIZ. 0 40 80 120 FEET — 1" = 40'

VERT. 0 10 20 30 FEET — 1" = 10'

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ISSUE DESCRIPTION	
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ISSUE DATE	APRIL 2017

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CHECKED	CC

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4
N-S RD STATION 36+00 TO 47+25

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	04
DWG	------
REV	0

PREPARED WITH MWD BRDR DATE: 01/29/2009

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A B C D E F G H I J K L

1 2 3 4 5 6 7 8

MATCHLINE AT STA. 47+25; SEE SHEET 04

MATCHLINE AT STA. 59+00; SEE SHEET 06

N

EXISTING IRRIGATION PIPE
PROTECT IN PLACE.

12

12

47+00 48+00 49+00 L10 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00

CONSTRUCT 20' IMPROVED ROAD.
SEE TYPICAL ROADWAY DETAIL. 1/24

Elevations

25
20
15
10
5
0

0.0%

FINISHED GRADE - IMPROVED ROAD ℄. EL. 15.4'

EXISTING GROUND

Stations

48 49 50 51 52 53 54 55 56 57 58 59

SCALE BARS

HORIZ. 0 40 80 120 FEET
1" = 40'

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1" = 10'

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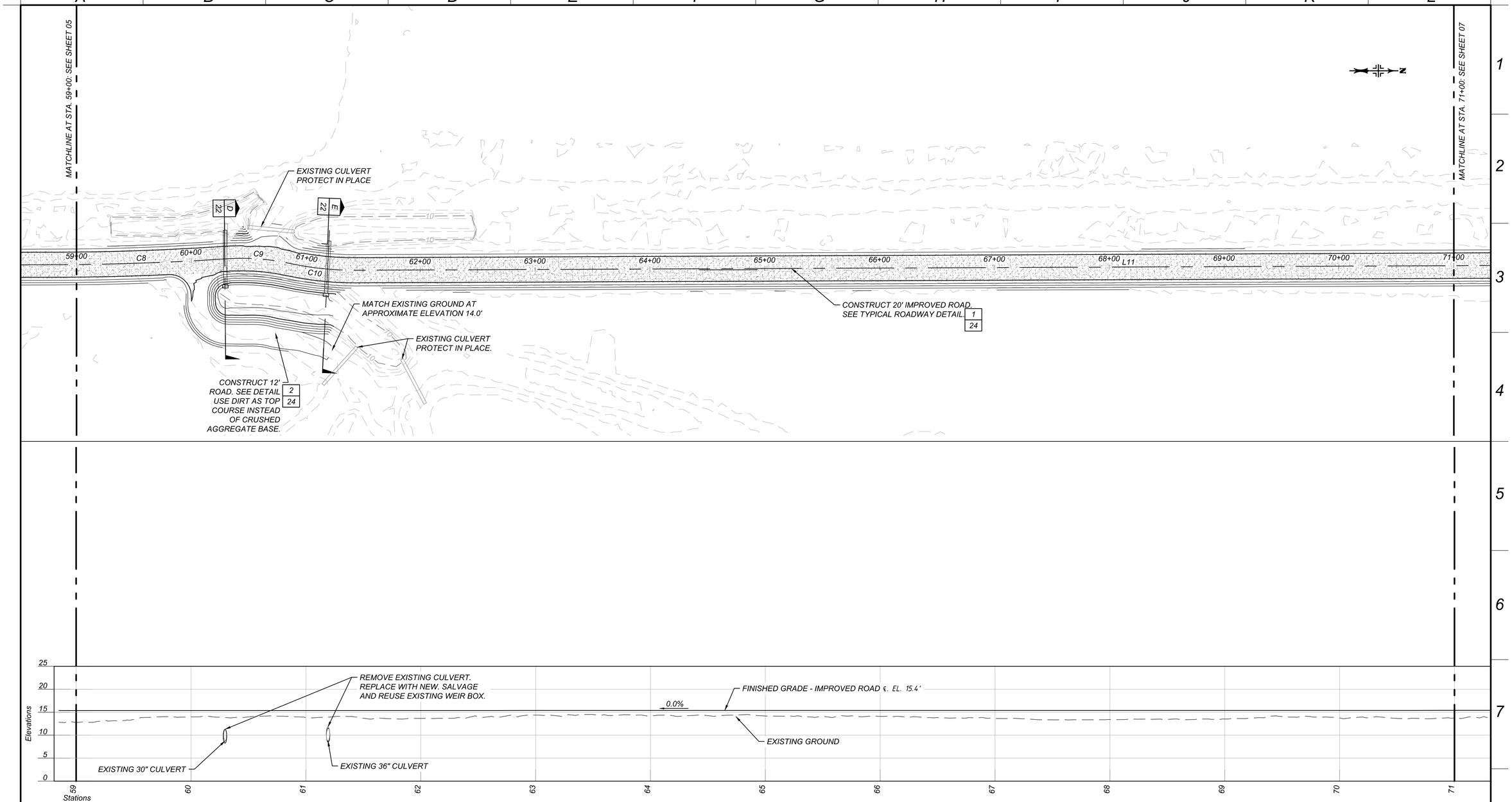
YOLO BYPASS WILDLIFE AREA
HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4
N-S RD STATION 47+25 TO 59+00

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **05**
DWG ------ REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 1:48 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP04_NSROAD_02.DWG



SCALE BARS

HORIZ. 0 40 80 120 FEET — 1" = 40'

VERT. 0 10 20 30 FEET — 1" = 10'

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ISSUE DATE APRIL 2017

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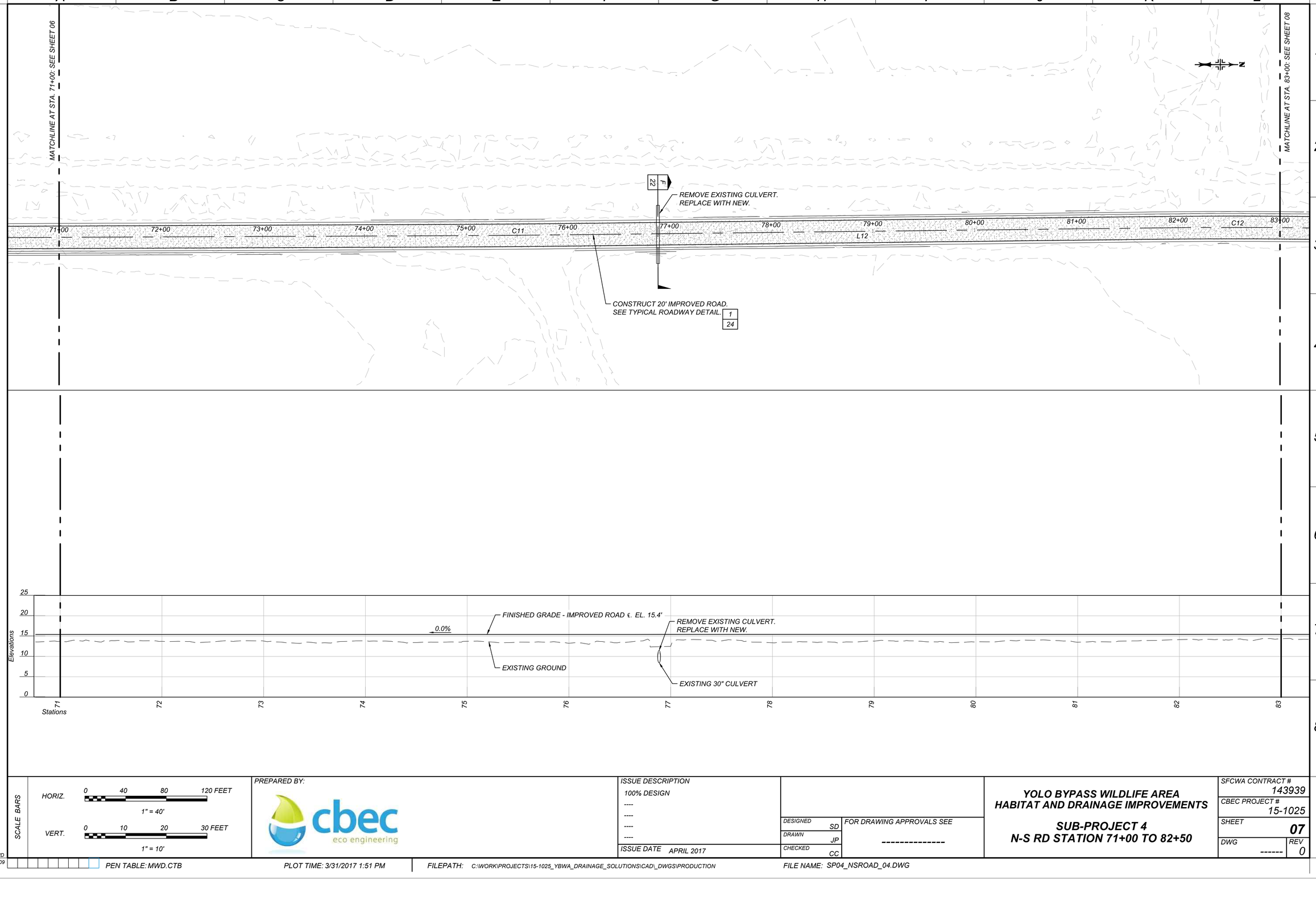
YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4
N-S RD STATION 59+00 TO 71+00

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 06
DWG ------ REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 1:49 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP04_NSROAD_03.DWG



SCALE BARS

HORIZ. 0 40 80 120 FEET
1" = 40'

VERT. 0 10 20 30 FEET
1" = 10'

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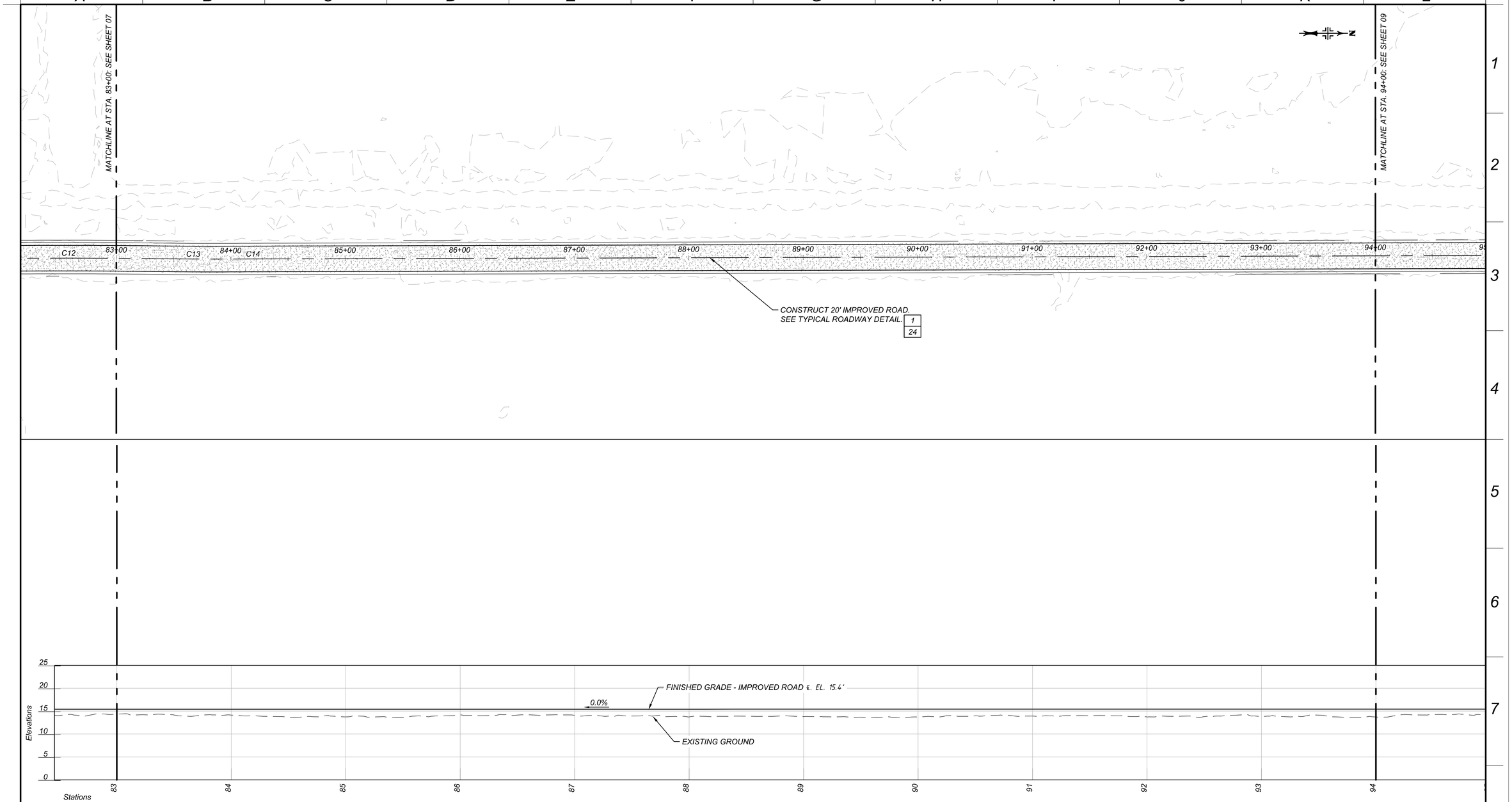
YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4
N-S RD STATION 71+00 TO 82+50

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **07**
DWG ------ REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 1:51 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP04_NSROAD_04.DWG



SCALE BARS

HORIZ. 0 40 80 120 FEET
1" = 40'

VERT. 0 10 20 30 FEET
1" = 10'

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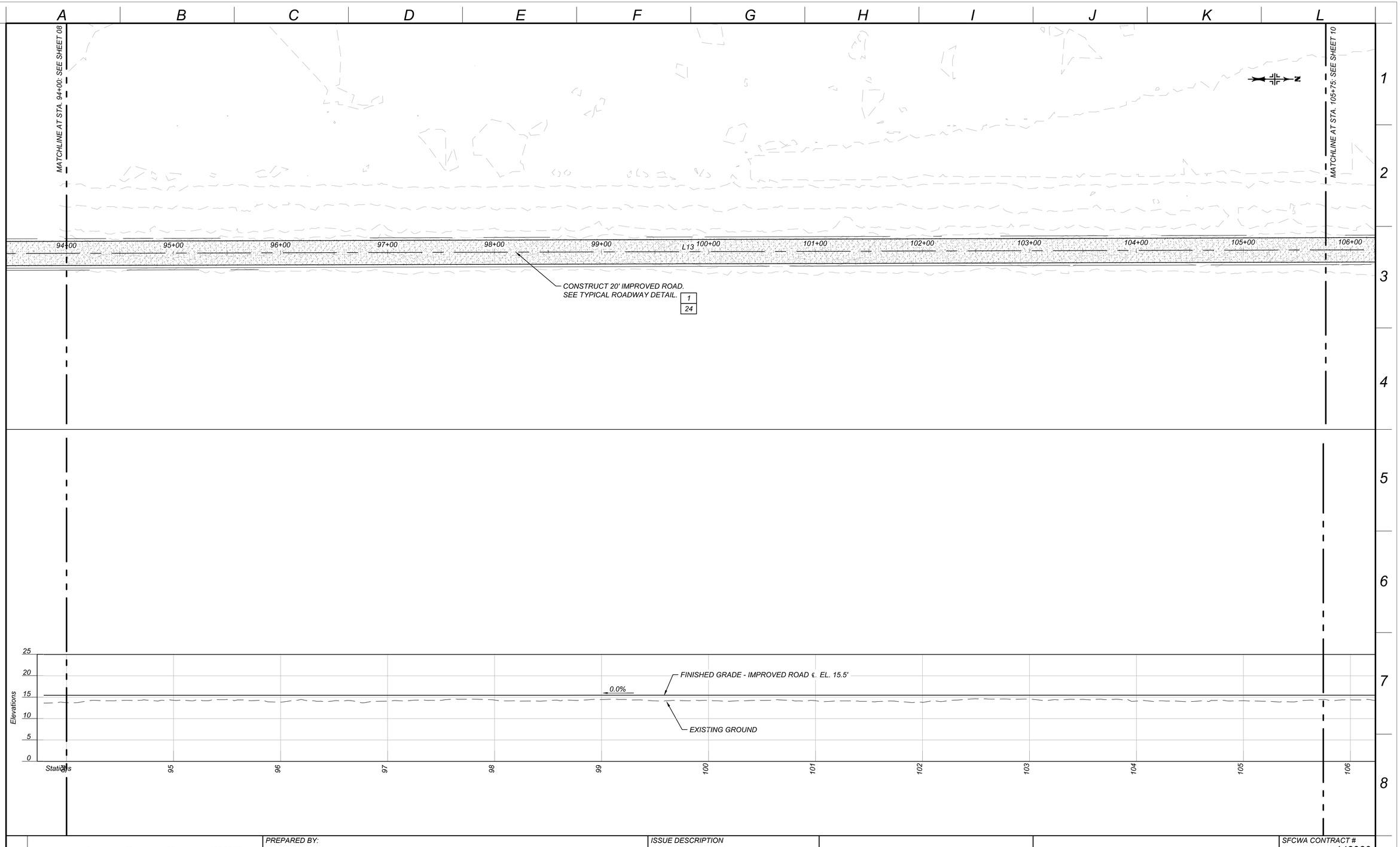
YOLO BYPASS WILDLIFE AREA
HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4
N-S RD STATION 82+50 TO 94+00

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	08
DWG	------
REV	0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 1:52 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP04_NSROAD_05.DWG



SCALE BARS

HORIZ. 0 40 80 120 FEET
1" = 40'

VERT. 0 10 20 30 FEET
1" = 10'

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ISSUE DESCRIPTION	
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ISSUE DATE	APRIL 2017

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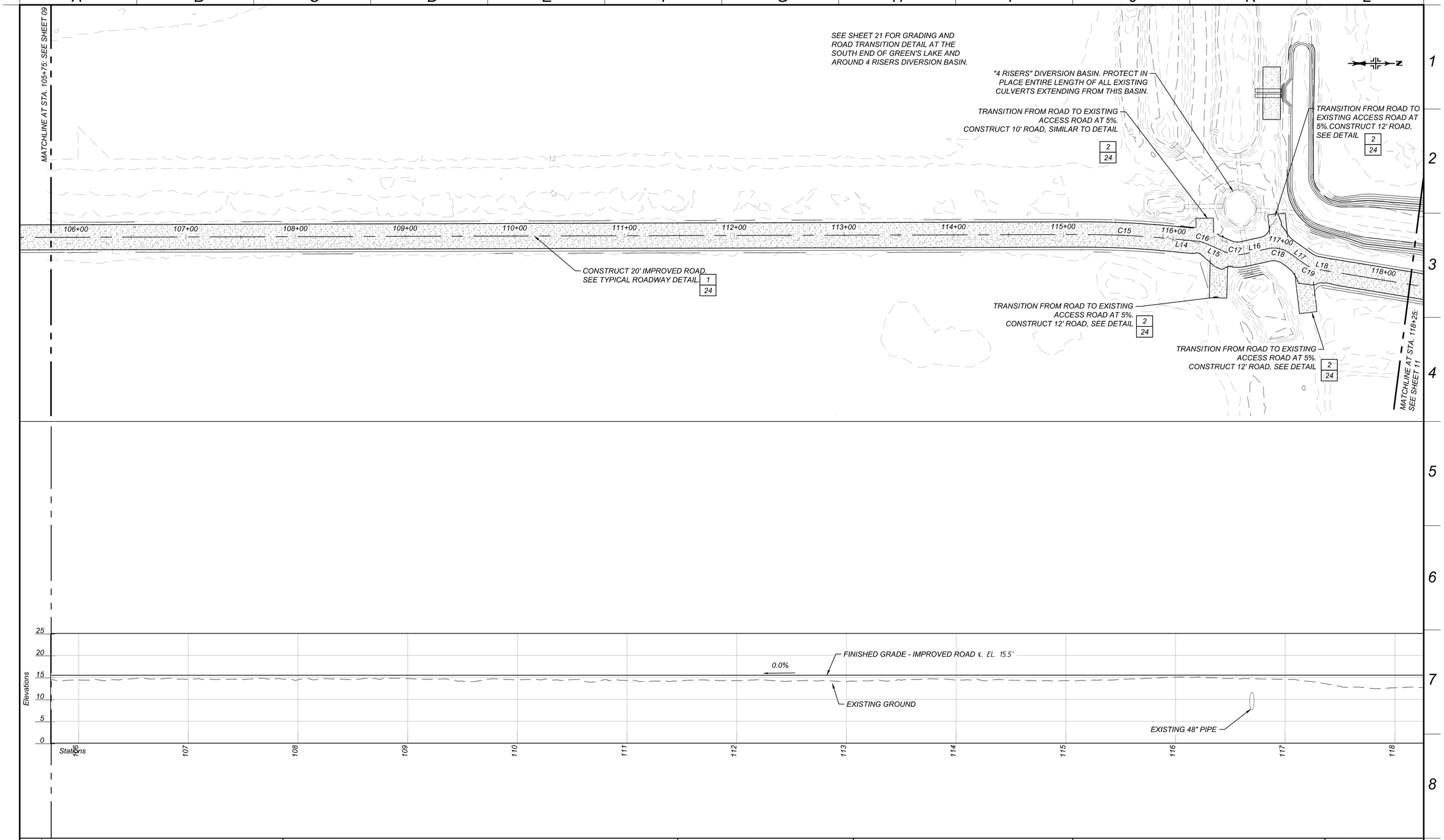
YOLO BYPASS WILDLIFE AREA
HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4
N-S RD STATION 94+00 TO 106+00

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	09
DWG	------
REV	0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 1:54 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP04_NSROAD_06.DWG



SCALE BARS

HORIZ. 0 40 80 120 FEET — 1" = 40'

VERT. 0 10 20 30 FEET — 1" = 10'

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED	SD
DRAWN	JP
CHECKED	CC

FOR DRAWING APPROVALS SEE ----------

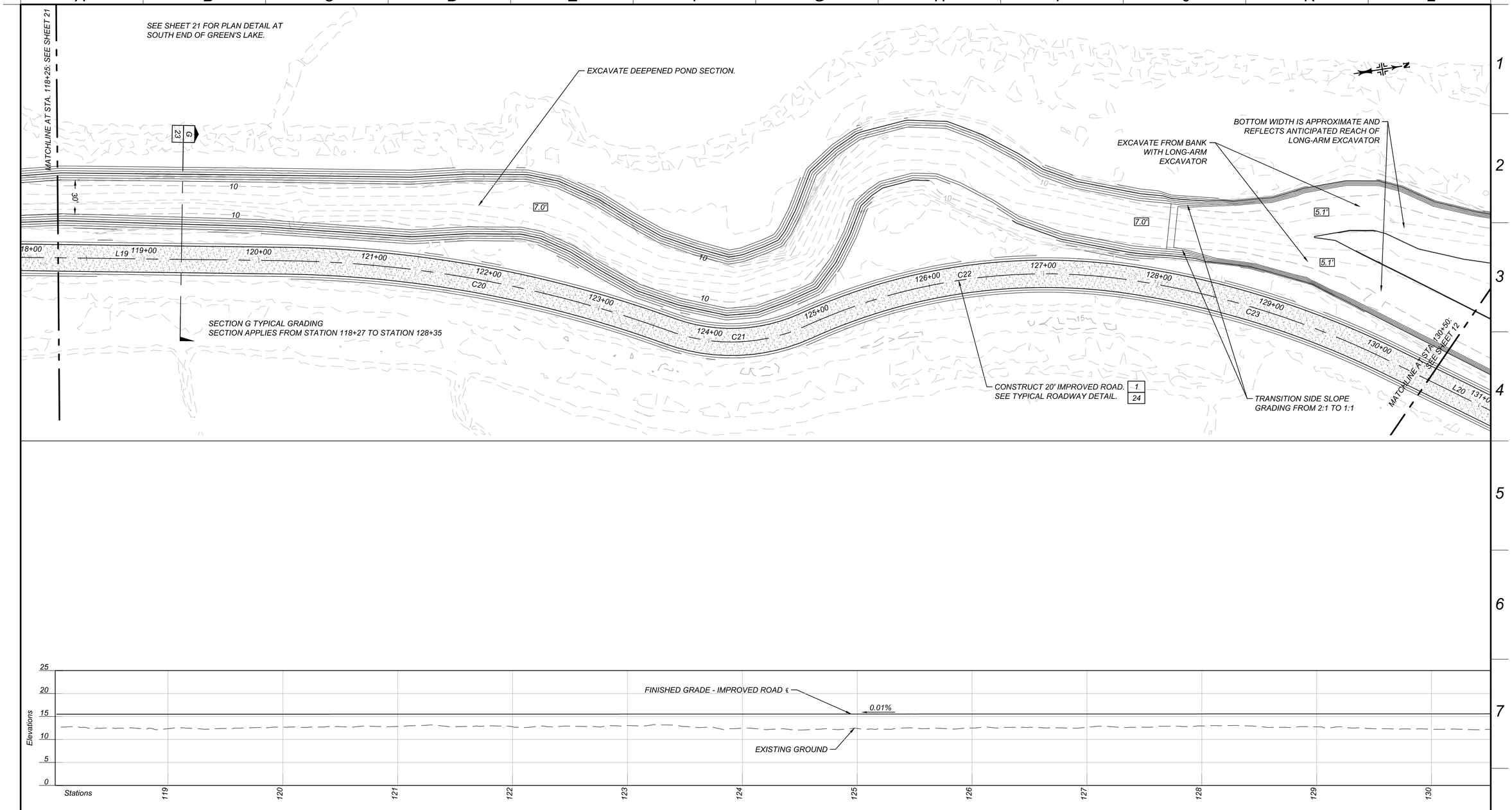
YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4
N-S RD STATION 106+00 TO 118+00

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	10
DWG	------
REV	0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 1:55 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP04_NSROAD_07.DWG



SCALE BARS

HORIZ. 0 40 80 120 FEET — 1" = 40'

VERT. 0 10 20 30 FEET — 1" = 10'

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CHECKED	CC	

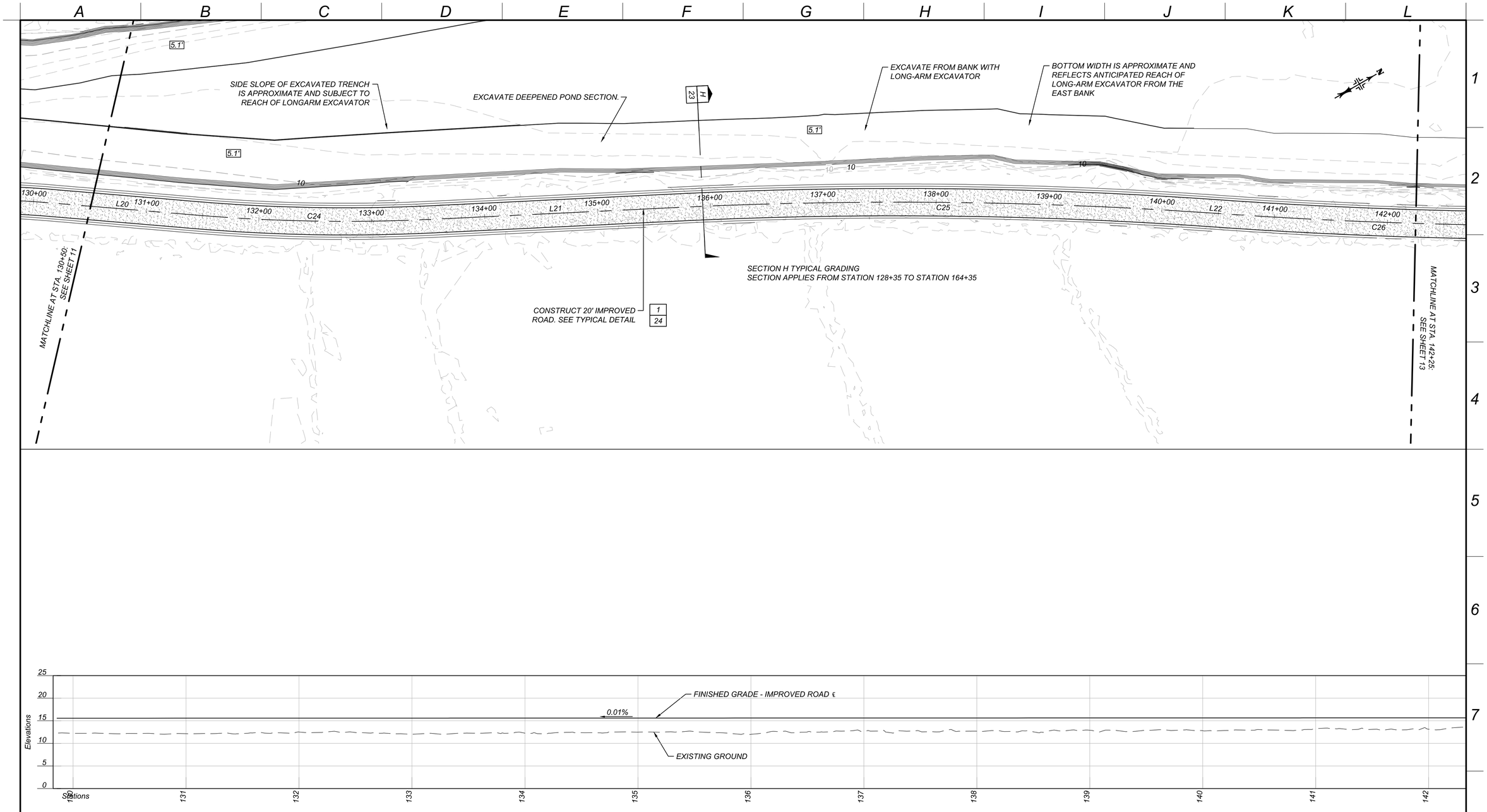
YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 2
GL STATION 118+25 TO 130+50

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	11
DWG	------
REV	0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 1:56 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP02_GREENSLAKE_01.DWG



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SUB-PROJECT 2
GL STATION 130+50 TO 142+25

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 12
DWG ------ REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: ----

PLOT TIME: 3/31/2017 3:08 PM

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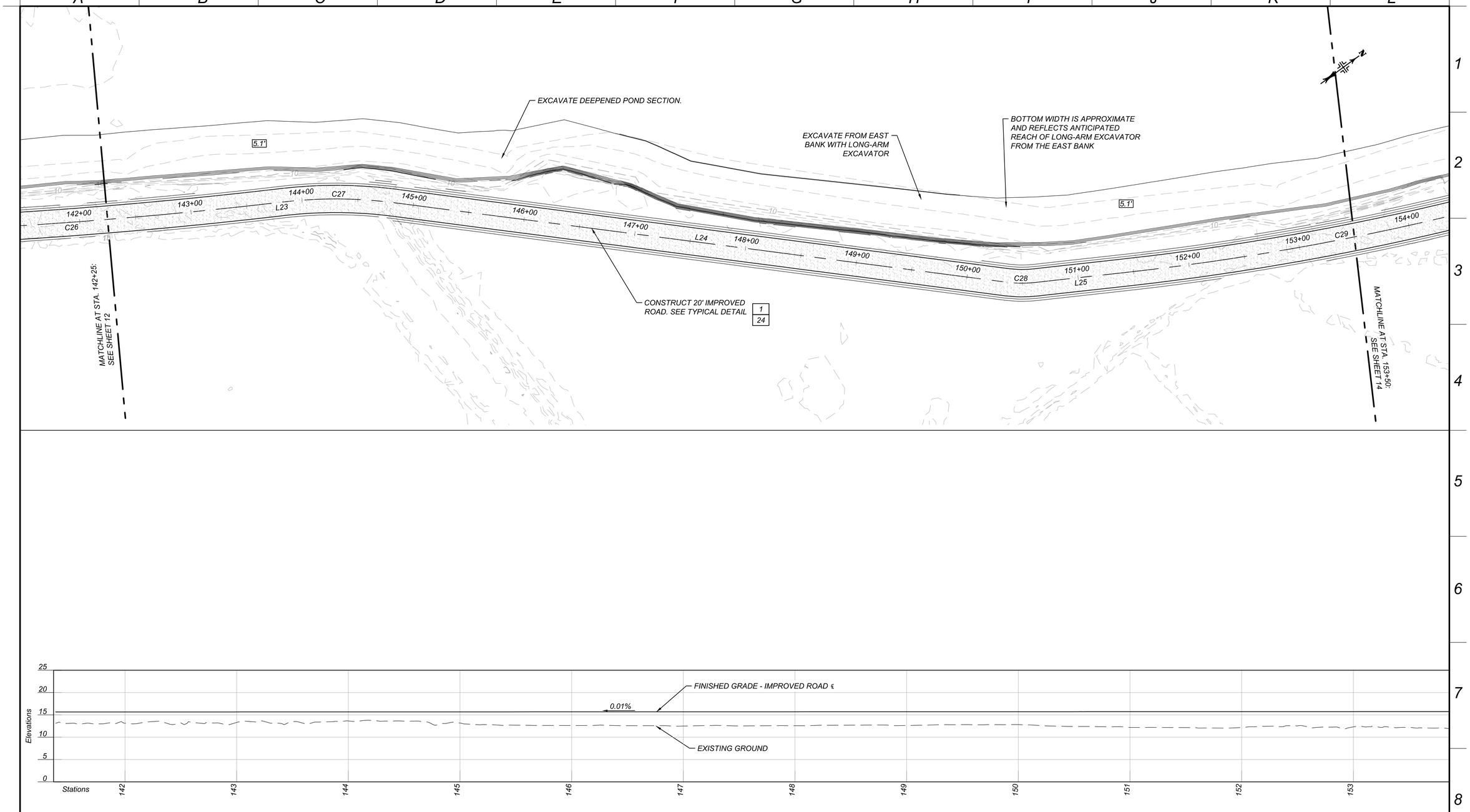

A	B	C	D	E	F	G	H	I	J	K	L	
												1
												2
												3
												4
												5
												6
												7
												8

SCALE BARS

HORIZ. 0 40 80 120 FEET — 1" = 40'

VERT. 0 10 20 30 FEET — 1" = 10'

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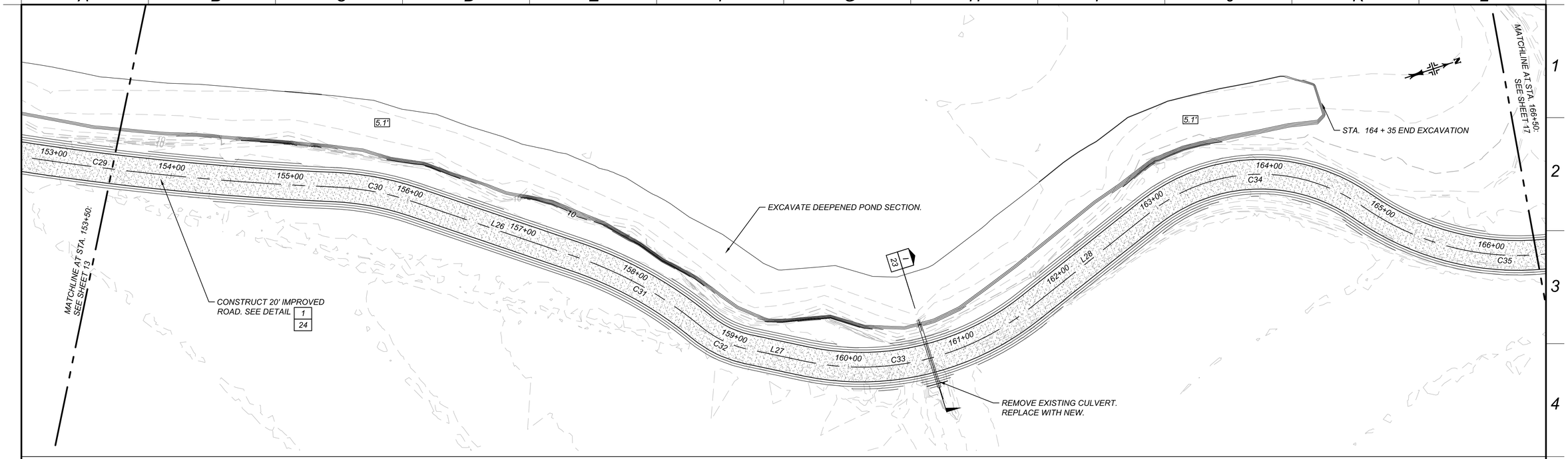
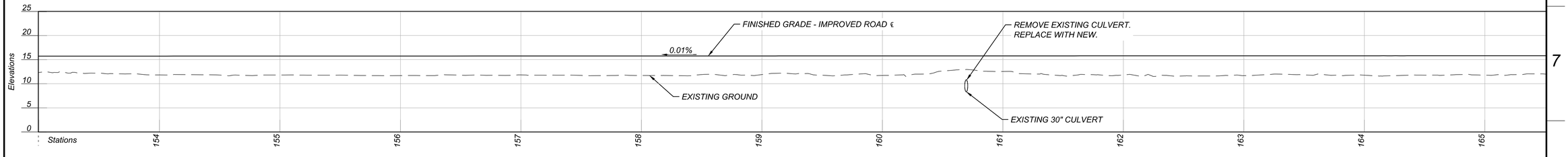
SUB-PROJECT 2
GL STATION 142+25 TO 153+50

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **13**
DWG ------ REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 1:59 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP02_GREENSLAKE_03.DWG





SCALE BARS

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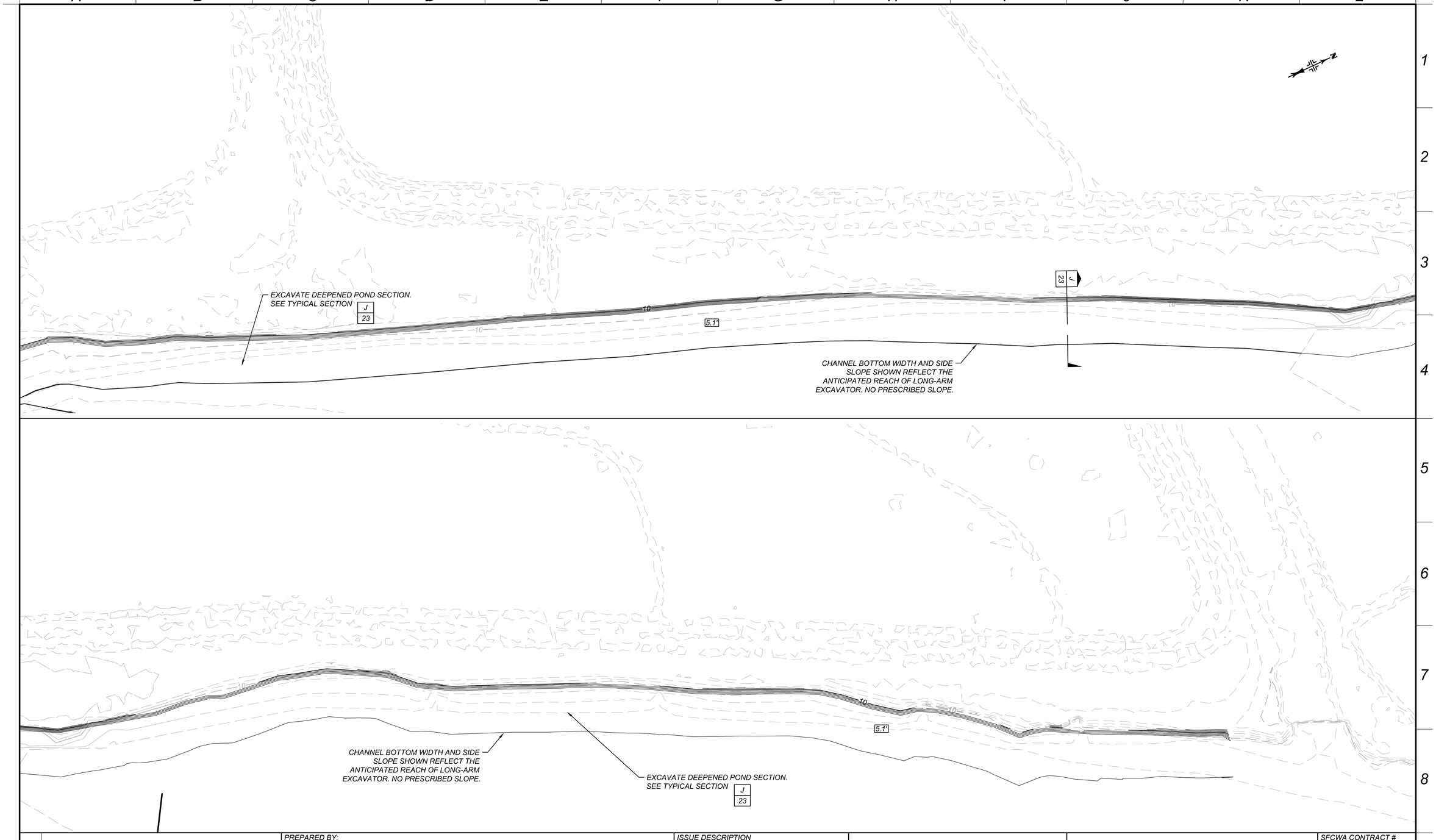
SUB-PROJECT 2
GL STATION 153+50 TO 166+50

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **14**
DWG ------ REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 2:00 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP02_GREENSLAKE_04.DWG



SCALE BARS

0 40 80 120 FEET

1" = 40'

PREPARED BY:

cbec eco engineering

ISSUE DESCRIPTION

100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED	SD
DRAWN	JP
CHECKED	CC

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 2 POND IMPROVEMENTS 01

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	15
DWG	------
REV	0

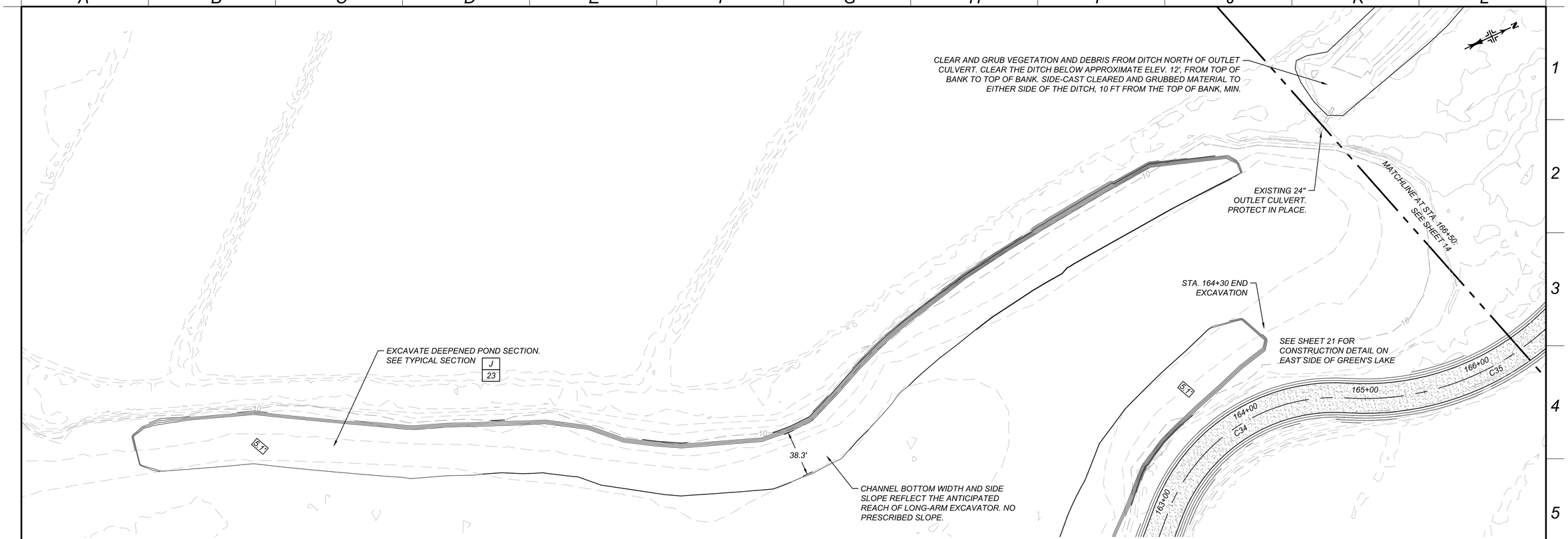
PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB

PLOT TIME: 3/31/2017 2:02 PM

FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION

FILE NAME: SP02_GREENSLAKE_06.DWG



SCALE BARS

0 40 80 120 FEET

1" = 40'

PREPARED BY:

cbec eco engineering

ISSUE DESCRIPTION	
100% DESIGN	

ISSUE DATE	APRIL 2017

DESIGNED	SD
DRAWN	JP
CHECKED	CC

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 2 POND IMPROVEMENTS 02

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	16
DWG	------
REV	0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: ----

PLOT TIME: 3/31/2017 3:02 PM

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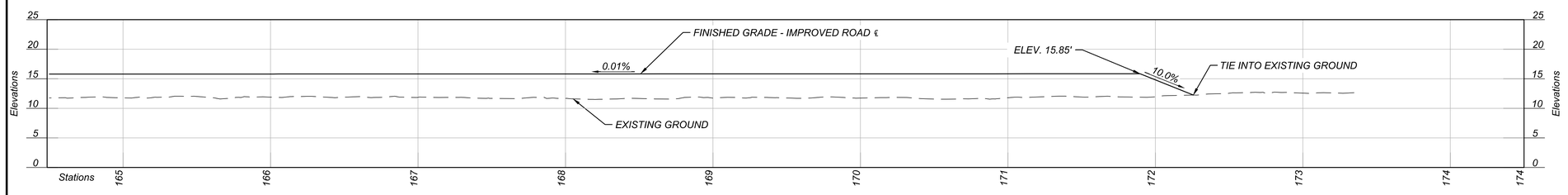
FILE NAME: SP02_GREENSLAKE_07.DWG



SCALE BARS	HORIZ. 0 40 80 120 FEET, 1" = 40'	PREPARED BY: cbec eco engineering	ISSUE DESCRIPTION: 100% DESIGN; ISSUE DATE APRIL 2017
	VERT. 0 10 20 30 FEET, 1" = 10'		DESIGNED SD; DRAWN JP; CHECKED CC; FOR DRAWING APPROVALS SEE ----------

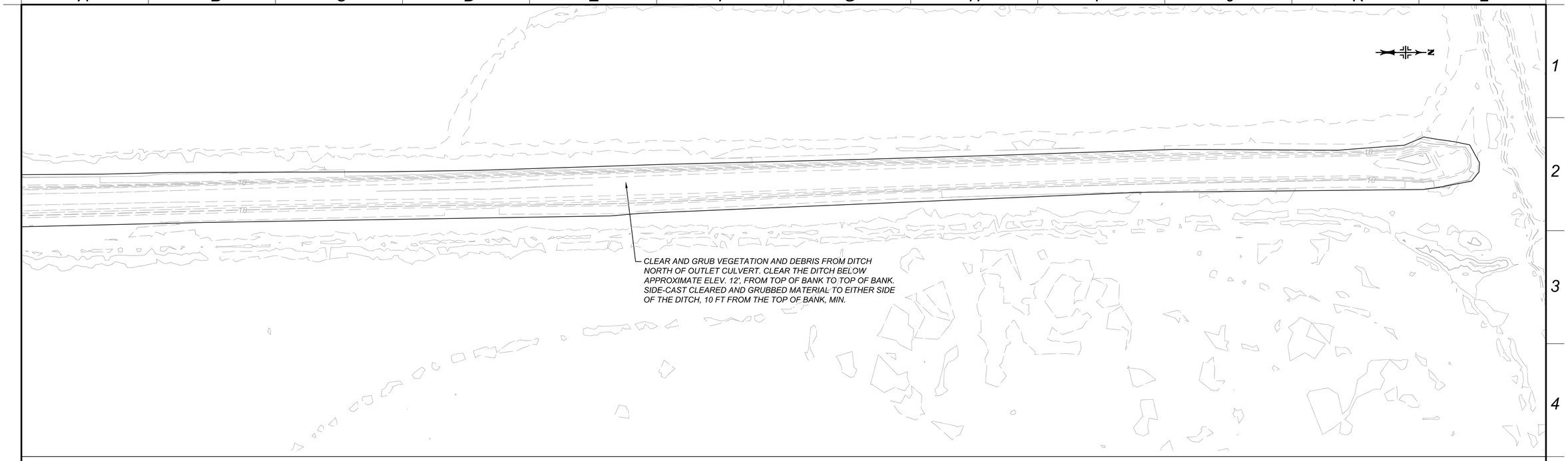
YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 2
GL STATION 166+50 TO END

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 17
DWG ------ REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 2:04 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP02_GREENSLAKE_05.DWG



SCALE BARS

0 40 80 120 FEET

1" = 40'

PREPARED BY:

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ISSUE DESCRIPTION

100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD

DRAWN JP

CHECKED CC

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 2 GREEN'S LAKE DITCH IMPROVEMENTS

SFCWA CONTRACT # 143939

CBEC PROJECT # 15-1025

SHEET **18**

DWG ------ REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB

PLOT TIME: 3/31/2017 2:06 PM

FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION

FILE NAME: SP02_GREENSLAKE_10.DWG

SP-4 ALIGNMENT GEOMETRY				
NUMBER	LENGTH	RADIUS	START POINT	END POINT
C1	198.4	445	E:6671971.13 N: 1955281.66	E: 6672164.80 N: 1955316.35
L1	270.6		E: 6672164.80 N: 1955316.35	E: 6672435.15 N: 1955303.95
C2	140.8	7764	E:6672435.15 N: 1955303.95	E: 6672575.81 N: 1955298.77
L2	296.5		E: 6672575.81 N: 1955298.77	E: 6672872.20 N: 1955290.56
C3	102.6	3703	E:6672872.20 N: 1955290.56	E: 6672974.81 N: 1955289.13
L3	168.6		E: 6672987.03 N: 1955289.13	E: 6673155.61 N: 1955289.13
L4	25.1		E: 6673155.61 N: 1955289.13	E: 6673180.72 N: 1955289.13
C4	297.1	15504	E:6673180.72 N: 1955289.13	E: 6673477.79 N: 1955286.29
L5	1132.2		E: 6673477.79 N: 1955286.29	E: 6674609.83 N: 1955264.59
C5	5.3	5549	E:6674609.83 N: 1955264.59	E: 6674615.10 N: 1955264.49
L6	1025.0		E: 6674615.10 N: 1955264.49	E: 6675639.94 N: 1955245.83
C6	46.7	28	E:6675639.94 N: 1955245.83	E: 6675668.89 N: 1955275.77
L7	71.4		E: 6675668.89 N: 1955275.77	E: 6675665.16 N: 1955347.12
L8	120.6		E: 6675665.16 N: 1955347.12	E: 6675659.02 N: 1955467.57
C7	8.7	183	E:6675659.02 N: 1955467.57	E: 6675658.78 N: 1955476.31
L9	42.8		E: 6675658.78 N: 1955476.31	E: 6675658.65 N: 1955519.07
L10	1918.1		E: 6675658.65 N: 1955519.07	E: 6675653.30 N: 1957437.19
C8	147.4	2283	E:6675653.30 N: 1957437.19	E: 6675648.13 N: 1957584.50
C9	55.8	199	E:6675648.13 N: 1957584.50	E: 6675652.17 N: 1957640.01
C10	57.3	264	E:6675652.17 N: 1957640.01	E: 6675658.12 N: 1957696.86
L11	1346.3		E: 6675658.12 N: 1957696.86	E: 6675652.50 N: 1959043.10
C11	122.8	16192	E:6675652.50 N: 1959043.10	E: 6675651.52 N: 1959165.93
L12	563.7		E: 6675651.52 N: 1959165.93	E: 6675644.89 N: 1959729.63
C12	164.4	6584	E:6675644.89 N: 1959729.63	E: 6675645.01 N: 1959894.07
C13	53.4	3157	E:6675645.01 N: 1959894.07	E: 6675645.27 N: 1959947.42
C14	50.9	55237	E:6675645.27 N: 1959947.42	E: 6675645.10 N: 1959998.37
L13	3071.9		E: 6675645.10 N: 1959998.37	E: 6675636.63 N: 1963070.21
C15	77.5	812	E:6675636.63 N: 1963070.21	E: 6675640.11 N: 1963147.60
L14	27.7		E: 6675640.11 N: 1963147.60	E: 6675642.67 N: 1963175.21
C16	8.0	25	E:6675642.67 N: 1963175.21	E: 6675644.66 N: 1963182.91
L15	20.8		E: 6675644.66 N: 1963182.91	E: 6675652.99 N: 1963201.98
C17	15.9	25	E:6675652.99 N: 1963201.98	E: 6675654.50 N: 1963217.49
L16	22.6		E: 6675654.50 N: 1963217.49	E: 6675649.56 N: 1963239.54
C18	21.0	25	E:6675649.56 N: 1963239.54	E: 6675653.62 N: 1963259.55
L17	17.4		E: 6675653.62 N: 1963259.55	E: 6675663.73 N: 1963273.67
C19	10.9	25	E:6675663.73 N: 1963273.67	E: 6675667.96 N: 1963283.58
L18	9.5		E: 6675667.96 N: 1963283.58	E: 6675669.72 N: 1963292.89

SP-2 ALIGNMENT GEOMETRY				
NUMBER	LENGTH	RADIUS	START POINT	END POINT
L19	274.0		E: 6675669.72 N: 1963292.89	E: 6675713.96 N: 1963563.25
C20	343.2	1027	E:6675713.96 N: 1963563.25	E: 6675824.69 N: 1963886.37
C21	121.7	157	E:6675824.69 N: 1963886.37	E: 6675837.67 N: 1964004.30
C22	289.7	503	E:6675837.67 N: 1964004.30	E: 6675840.57 N: 1964290.02
C23	236.4	768	E:6675840.57 N: 1964290.02	E: 6675943.48 N: 1964501.85
L20	130.9		E: 6675943.48 N: 1964501.85	E: 6676018.06 N: 1964609.42
C24	210.1	1590	E:6676018.06 N: 1964609.42	E: 6676126.03 N: 1964789.48
L21	217.8		E: 6676126.03 N: 1964789.48	E: 6676225.48 N: 1964983.29
C25	469.1	4011	E:6676225.48 N: 1964983.29	E: 6676463.55 N: 1965387.23
L22	13.1		E: 6676463.55 N: 1965387.23	E: 6676470.83 N: 1965398.08
C26	325.3	4494	E:6676470.83 N: 1965398.08	E: 6676642.18 N: 1965674.53
L23	3.7		E: 6676642.18 N: 1965674.53	E: 6676644.01 N: 1965677.74
C27	99.8	407	E:6676644.01 N: 1965677.74	E: 6676703.56 N: 1965757.53
L24	553.2		E: 6676703.56 N: 1965757.53	E: 6677086.12 N: 1966157.13
C28	25.2	105	E:6677086.12 N: 1966157.13	E: 6677101.21 N: 1966177.23
L25	81.6		E: 6677101.21 N: 1966177.23	E: 6677142.04 N: 1966247.83
C29	393.2	2367	E:6677142.04 N: 1966247.83	E: 6677309.78 N: 1966602.94
C30	70.8	248	E:6677309.78 N: 1966602.94	E: 6677343.65 N: 1966664.80
L26	143.5		E: 6677343.65 N: 1966664.80	E: 6677429.81 N: 1966779.58
C31	120.2	328	E:6677429.81 N: 1966779.58	E: 6677517.81 N: 1966860.49
C32	43.4	89	E:6677517.81 N: 1966860.49	E: 6677547.69 N: 1966891.42
L27	49.6		E: 6677547.69 N: 1966891.42	E: 6677572.53 N: 1966934.31
C33	200.3	227	E:6677572.53 N: 1966934.31	E: 6677588.86 N: 1967127.52
L28	128.4		E: 6677588.86 N: 1967127.52	E: 6677544.06 N: 1967247.81
C34	192.2	150	E:6677544.06 N: 1967247.81	E: 6677594.65 N: 1967419.80
C35	255.8	227	E:6677594.65 N: 1967419.80	E: 6677681.02 N: 1967646.28
L29	218.1		E: 6677681.02 N: 1967646.28	E: 6677637.70 N: 1967859.98
C36	74.5	767	E:6677637.70 N: 1967859.98	E: 6677619.38 N: 1967932.16
L30	157.0		E: 6677619.38 N: 1967932.16	E: 6677573.42 N: 1968082.27
L31	45.0		E: 6677573.42 N: 1968082.27	E: 6677560.24 N: 1968125.30
L32	100.1		E: 6677560.24 N: 1968125.30	E: 6677553.82 N: 1968225.16

NOTE:
1. SP-4 AND SP-2 ARE SEGMENTS OF ONE CONTINUOUS ALIGNMENT. THEY ARE SHOWN IN SEPARATE TABLES FOR ILLUSTRATIVE PURPOSES ONLY.

SCALE BARS

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD
DRAWN JP
CHECKED CC

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4 ALIGNMENT GEOMETRY TABLES

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **19**
DWG ------
REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 2:08 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP04_02_GEOMETRY_TABLE.DWG

SUMP ROAD CENTERLINE GEOMETRY TABLE				
NUMBER	LENGTH	RADIUS	START POINT	END POINT
L100	73.9		6675496.60 1955248.44	6675496.60 1955322.37
C100	54.1	36	6675496.60 1955322.37	6675530.27 1955358.18
L101	32.5		6675530.27 1955358.18	6675562.79 1955358.25
C101	56.5	41	6675562.79 1955358.25	6675600.94 1955322.73
L102	76.2		6675600.94 1955322.73	6675600.96 1955246.54

INSTALL NEW 18" HDPE FIELD DRAIN

SUMP ROAD CENTERLINE. SEE SHEET 22 FOR PROFILE.

12' ROAD SEE DETAIL 2/24

CREATE POSITIVE DRAINAGE PATH AROUND NEW ACCESS ROAD TO NEW FIELD DRAIN LOCATION

REMOVE EXISTING 18" Ø PIPE

GRADE NEW SUMP

L101

1+00

C100

C101

2+00

38+00

L8

INSTALL TWO 36" Ø HDPE CULVERTS WITH WEIR BOXES AND FLASHBOARDS ON THE EAST END.

C 22

36'

36'

L7

INSTALL NEW PLATFORM ACCESS, STAIRS, AND PUMP. INSTALL NEW ELECTRICAL SERVICE CONNECTION. SEE SHEET 25

GRADE FINISHED BANK UP FROM EXISTING TOE AT 1.5:1 SLOPE OVER END OF PIPE.

EDGE OF LANE

NEW OVERHEAD POWERLINE. SEE ELECTRICAL PLAN FOR DETAILS.

OHP OHP OHP OHP OHP OHP OHP OHP OHP OHP

L100

L102

34+00

35+00

0+00

36+00

2+93

37+00

C6

ADD CALTRANS BACKING #2 RIPRAP SLOPE PROTECTION

PUMP DISCHARGE PIPE MATERIAL PER SPECIFICATION DETAIL 32 86 00

INSTALL 30" PUMP DISCHARGE PIPE

CONSTRUCT 20' IMPROVED ROAD. SEE TYPICAL ROADWAY DETAIL. 1/24

INSTALL WEIR BOX AND STAINLESS STEEL SINGLE-HINGE 30" FLAP GATE ON END OF PIPE

REMOVE TWO EXISTING 36"Ø CONCRETE PIPES

B 22

INSTALL WEIR BOX AND STAINLESS STEEL SINGLE-HINGE FLAP GATES ON END OF TWO 36"Ø HDPE PIPES.

A 22

CROSS CANAL

10 15

SCALE BARS: 0 20 40 60 FEET — 1" = 20'

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ISSUE DATE APRIL 2017

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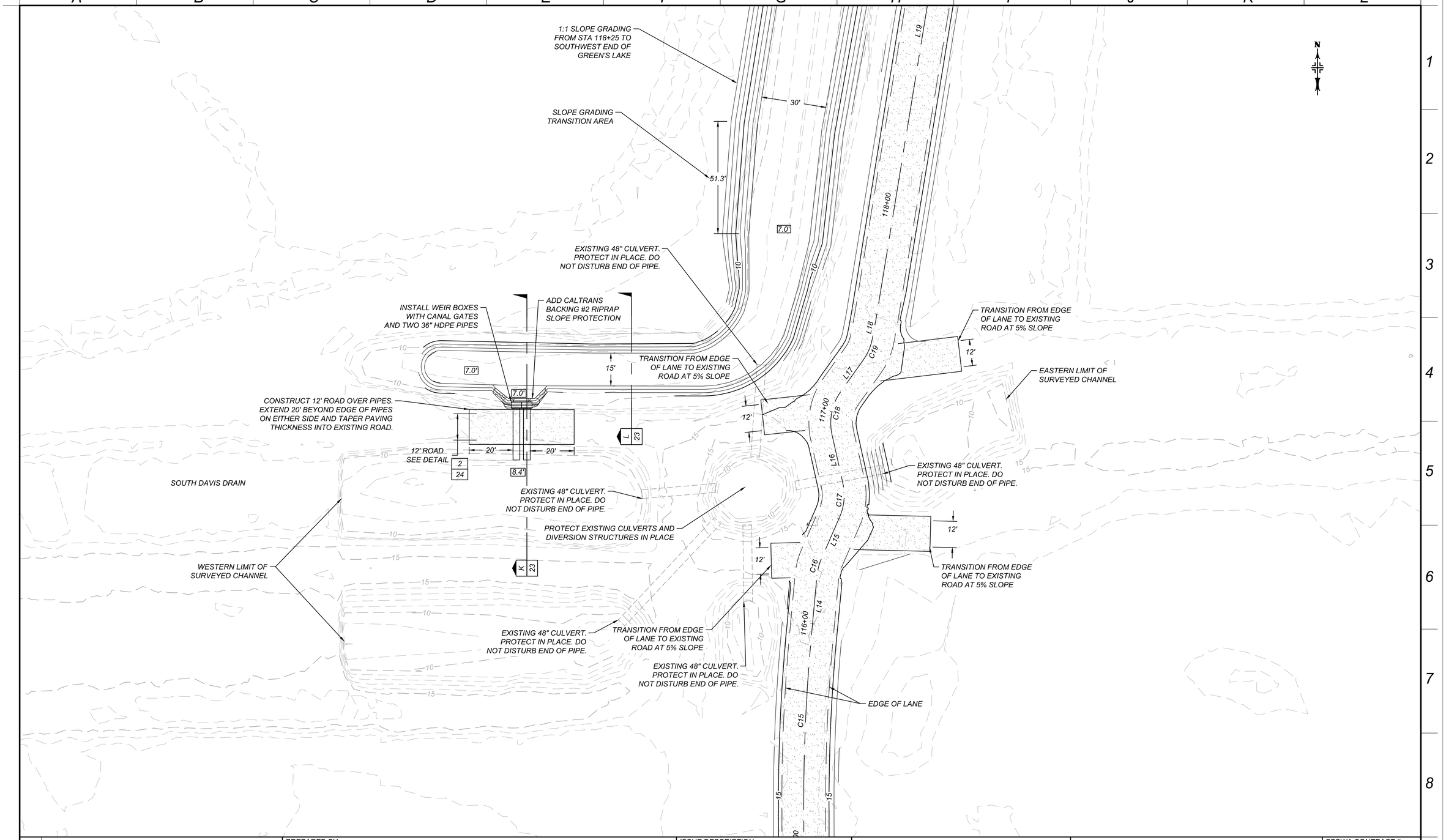
YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4 PUMP STATION PLAN

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 20
DWG ------ REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB | PLOT TIME: 3/31/2017 2:10 PM | FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION | FILE NAME: SP04_PS_08.DWG



SCALE BARS

0 20 40 60 FEET

1" = 20'

PREPARED BY:

cbec eco engineering

ISSUE DESCRIPTION

100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED	SD
DRAWN	JP
CHECKED	CC

FOR DRAWING APPROVALS SEE ----------

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 2 GREEN'S LAKE DETAIL PLAN

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	21
DWG	------
REV	0

PREPARED WITH MWD BRDR DATE: 01/29/2009

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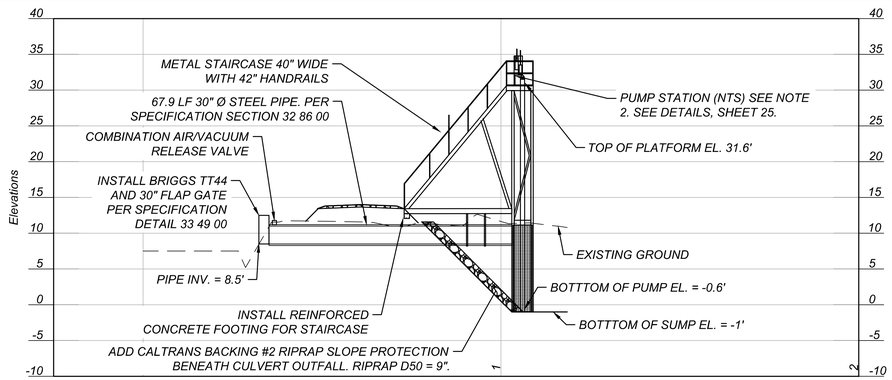
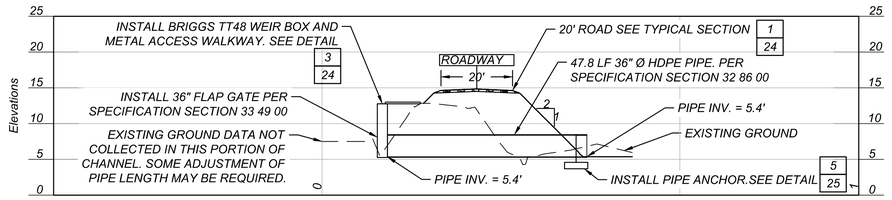
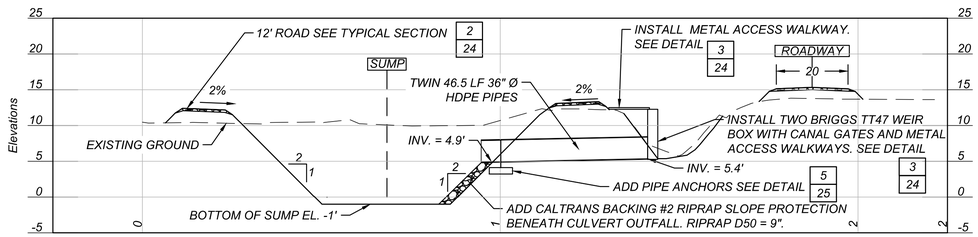


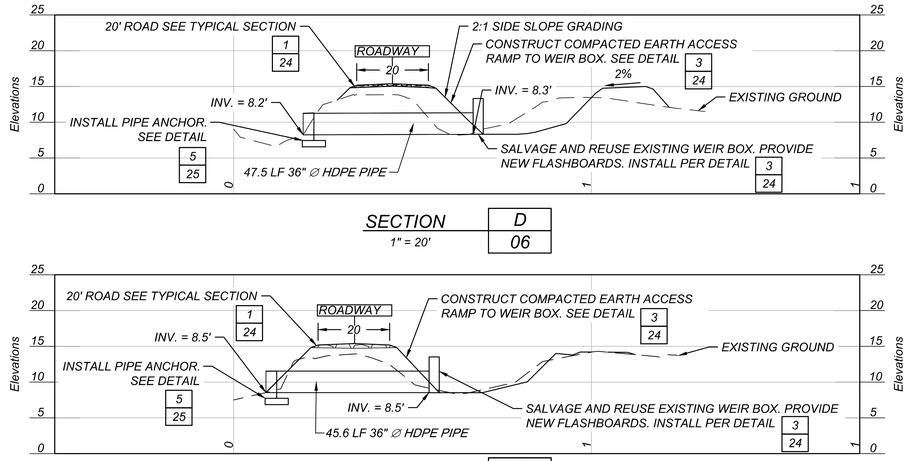
SECTION A
1" = 20'
04, 20



SECTION B
1" = 20'
04, 20

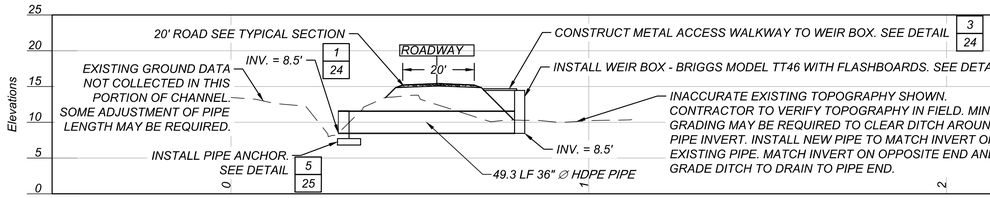


SECTION C
1" = 20'
04, 20

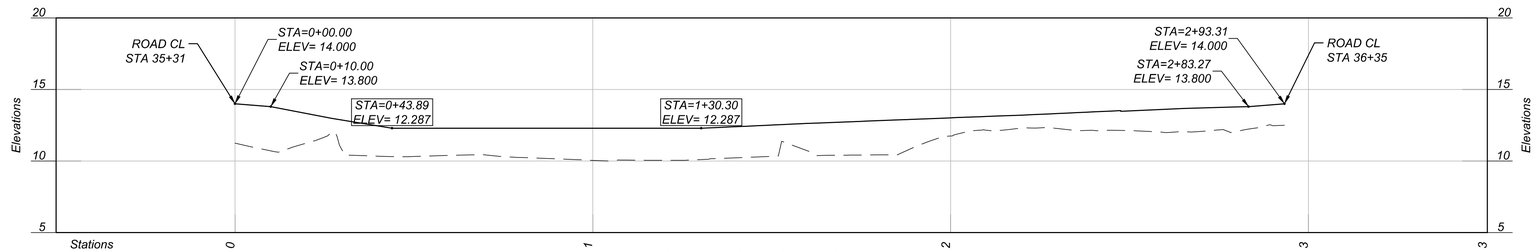


SECTION D
1" = 20'
06

SECTION E
1" = 20'
06



SECTION F
1" = 20'
07



SUMP ROAD CL PROFILE

NOTES:
1. INSTALL CULVERTS, WEIR BOXES AND WEIR BOX ACCESS DETAIL 3, SHEET 24.
2. CONTRACTOR SHALL PROVIDE AND INSTALL A NEW PUMP STATION STRUCTURE. PUMP STATION STRUCTURE SHALL BE DESIGNED BY A CALIFORNIA CERTIFIED STRUCTURAL ENGINEER. CONTRACTOR SHALL SUBMIT PUMP STATION STRUCTURE PLANS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.

SCALE BARS
HORZ. 0 20 40 60 FEET — 1" = 20'
VERT. 0 10 20 30 FEET — 1" = 10'

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
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ISSUE DATE APRIL 2017

DESIGNED SD
DRAWN JP
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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 4 GRADING AND CULVERT SECTIONS

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 22
DWG ------ REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009
PEN TABLE: ----
PLOT TIME: 4/3/2017 8:50 AM
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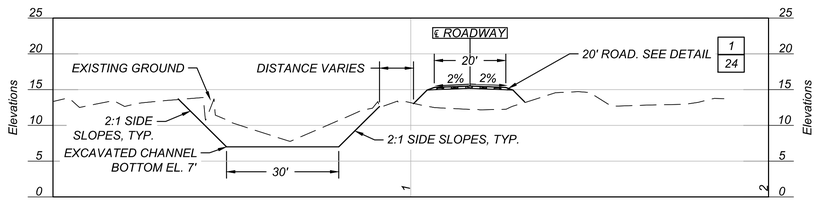
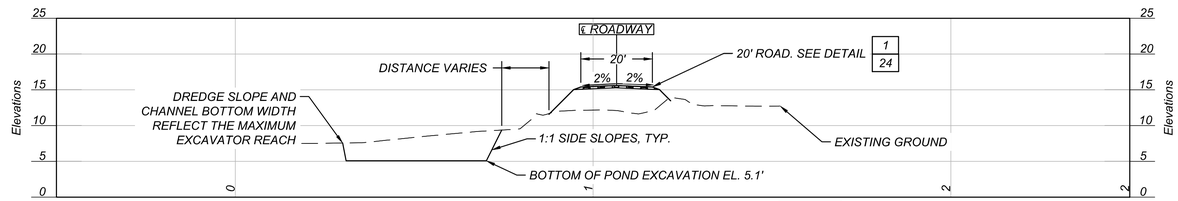


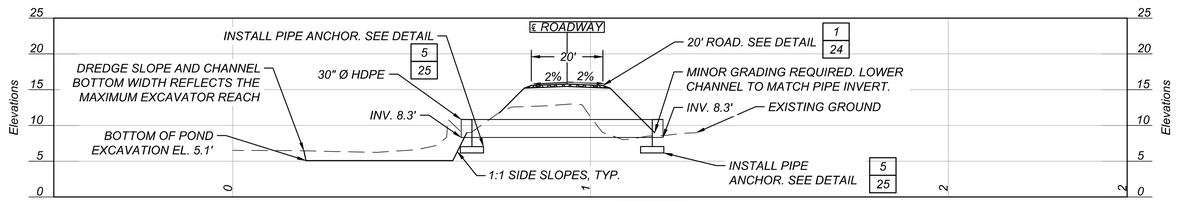
TYPICAL GRADING SECTION - GREENS LAKE EAST STA 118+27 TO 128+35 — G / 11

1" = 20'



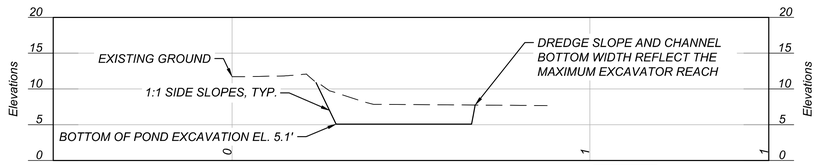
TYPICAL GRADING SECTION - GREENS LAKE EAST STA 128+35 TO 164+35 — H / 12

1" = 20'



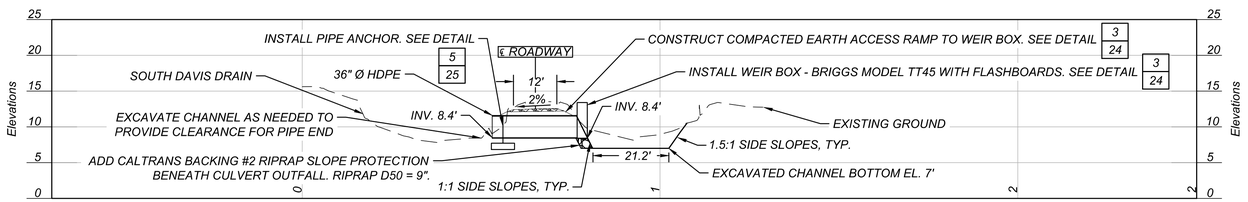
SECTION — I / 14

1" = 20'



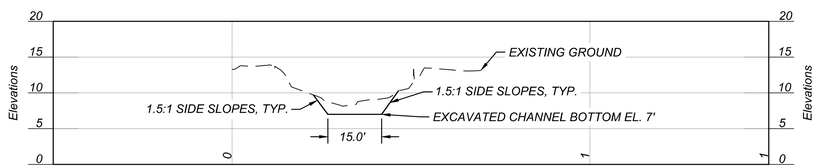
TYPICAL GRADING SECTION - GREENS LAKE WEST STA 128+35 TO 164+35 — J / 15

1" = 20'



SECTION — K / 21

1" = 20'



TYPICAL GRADING SECTION - GREENS LAKE FOOT TO STATION 117+55 — L / 21

1" = 20'

NOTES:
1. INSTALL CULVERTS, WEIR BOXES AND WEIR BOX ACCESS DETAIL 3, SHEET 24.

SCALE BARS

HORZ. 0 20 40 60 FEET — 1" = 20'

VERT. 0 10 20 30 FEET — 1" = 10'

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED	SD	FOR DRAWING APPROVALS SEE
DRAWN	JP	----------
CHECKED	CC	

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 2 GL GRADING AND CULVERT SECTIONS

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	23
DWG	------
REV	0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: ----

PLOT TIME: 4/3/2017 8:58 AM

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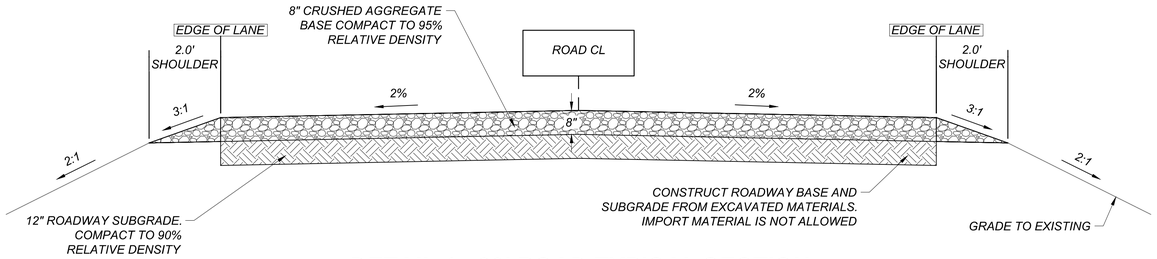
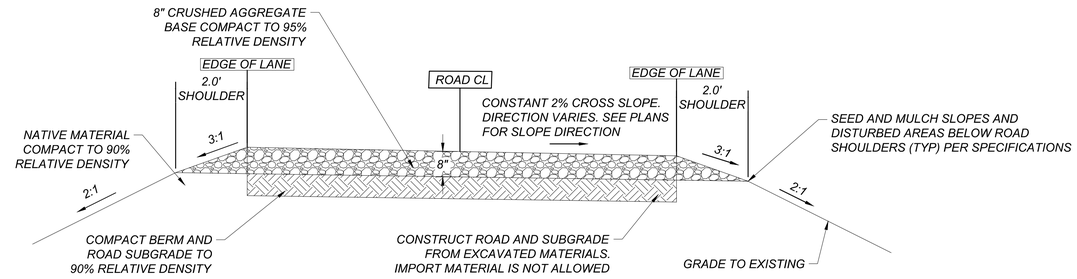


DETAIL 1 - 20' ROAD TYPICAL SECTION
1" = 2'



DETAIL 2 - 12' ROAD TYPICAL SECTION
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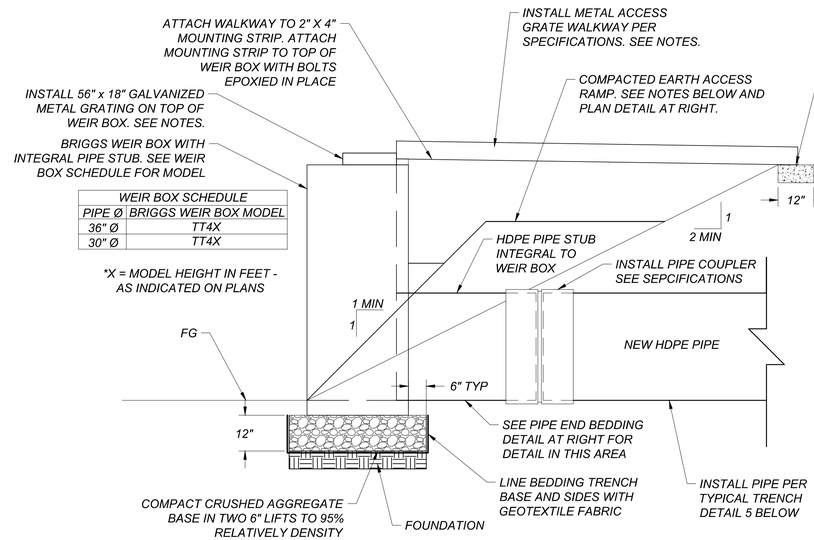
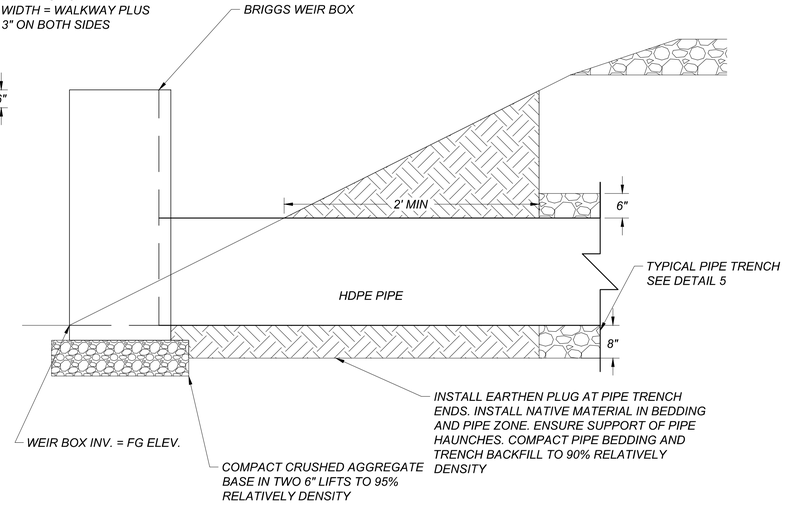


WEIR BOX SCHEDULE	
PIPE Ø	BRIGGS WEIR BOX MODEL
36" Ø	TT4X
30" Ø	TT4X

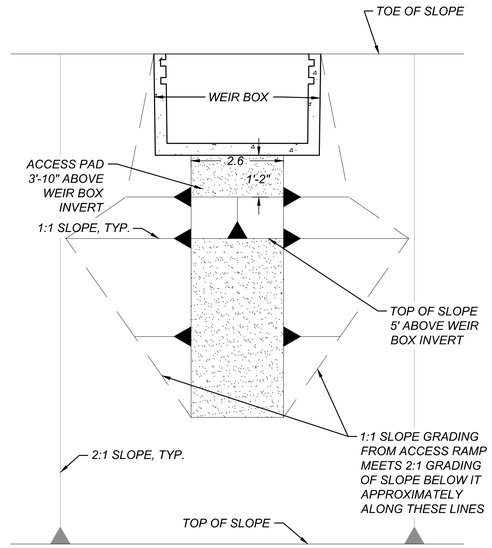
*X = MODEL HEIGHT IN FEET - AS INDICATED ON PLANS

NOTES:
1. WEIR BOXES 5' OR LESS IN HEIGHT: CONSTRUCT COMPACTED EARTH ACCESS RAMP TO WEIR BOX. SEE COMPACTED EARTH ACCESS RAMP GRADING DETAIL.
2. WEIR BOXES OVER 5' IN HEIGHT: CONSTRUCT STEEL WALKWAY ACCESS TO WEIR BOX. SEE SPECIFICATIONS FOR METAL WALKWAY DESCRIPTION.
3. WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL SCARIFY AND RECOMPACT NATIVE SOILS TO AT LEAST 4" BELOW THE BEDDING, OR EXCAVATE TO A DEPTH REQUIRED BY THE OWNER'S REPRESENTATIVE AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE OWNER'S REPRESENTATIVE.
4. GALVANIZED METAL GRATING - DO NOT INSTALL OVER FLASHBOARD TRACKS. CUT AND BAND GRATING TO PROVIDE CLEARANCE FOR CANAL GRATE FRAME WHERE APPLICABLE. MOUNT DIRECTLY TO TOP OF WEIR BOX USING EPOXIED ANCHOR BOLTS. SEE SPECIFICATION SECTION 05530 METAL GRATING.

TYPICAL CONSTRUCTION



PIPE END BEDDING



COMPACTED EARTH ACCESS RAMP GRADING DETAIL

DETAIL 3 - WEIR BOX INSTALLATION DETAIL
1" = 2'

SCALE BARS

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED	SD	FOR DRAWING APPROVALS SEE
DRAWN	JP	----------
CHECKED	CC	

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

TYPICAL DETAILS 1

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	24
DWG	-------
REV	0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: ----

PLOT TIME: 3/31/2017 2:39 PM

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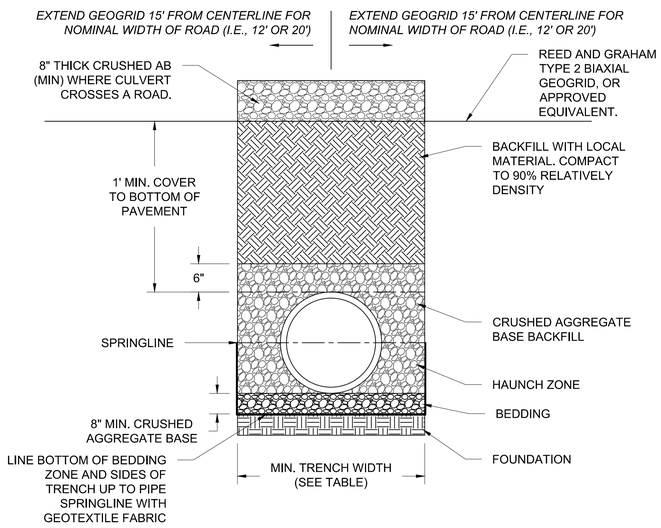


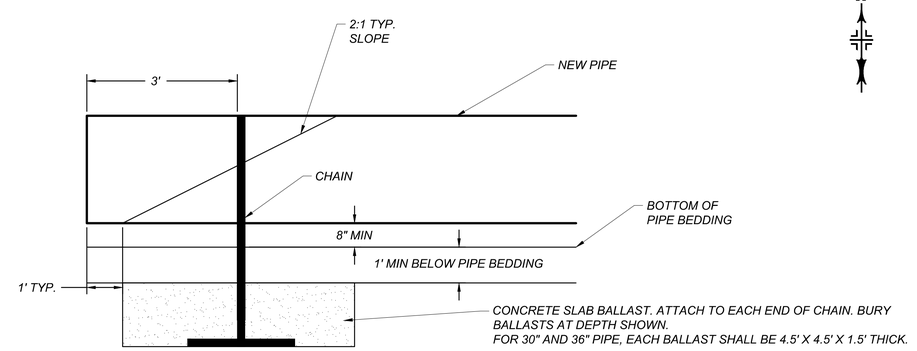
RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
30"	54"
36"	64"

NOTES:

1. *FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL SCARIFY AND RECOMPACT NATIVE SOILS TO AT LEAST 4" BELOW THE BEDDING, OR EXCAVATE TO A DEPTH REQUIRED BY THE OWNER'S REPRESENTATIVE AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE OWNER'S REPRESENTATIVE.*
2. *HAUNCH ZONE: COMPACT CRUSHED AGGREGATE BASE IN 8" LIFTS, MOISTURE CONDITION TO NEAR OPTIMUM AND COMPACT TO 95% RELATIVE COMPACTION UP TO THE SPRINGLINE OF THE PIPE.*
3. *GEOTEXTILE: INSTALL GEOTEXTILE WITH A MINIMUM GRAB STRENGTH OF 200 POUNDS (REED AND GRAHAM RG 200 OR EQUIVALENT). INSTALL GEOTEXTILE IN BASE AND SIDES OF TRENCH UP TO THE SPRINGLINE OF THE PIPE BETWEEN CRUSHED AGGREGATE BASE AND NATIVE SOILS.*

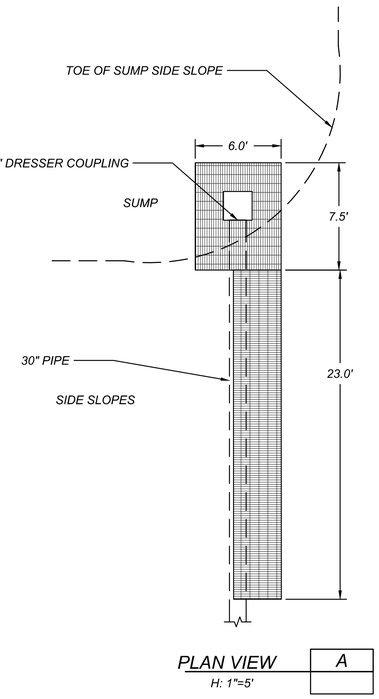
DETAIL 4 - TYPICAL HDPE CULVERT TRENCH DETAIL



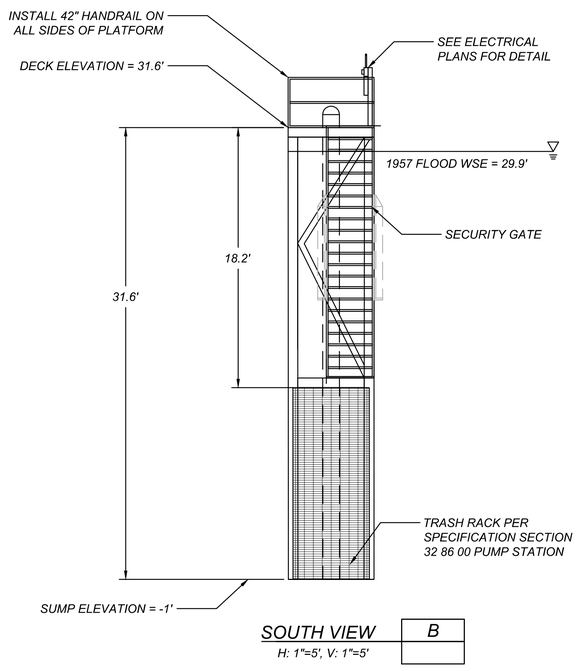
NOTES:

1. *PIPE ANCHOR CHAIN SHALL BE 5/8" GRADE 80 ALLOY GALVANIZED CHAIN, MIN.*
2. *HANG CHAIN OVER PIPE END IN CORRUGATION VALLEY.*
3. *EMBED END OF CHAIN IN FULL THICKNESS OF CONCRETE. CURL 6' OF CHAIN IN A 2' DIAMETER CIRCLE AT BOTTOM OF EACH CONCRETE ANCHOR*

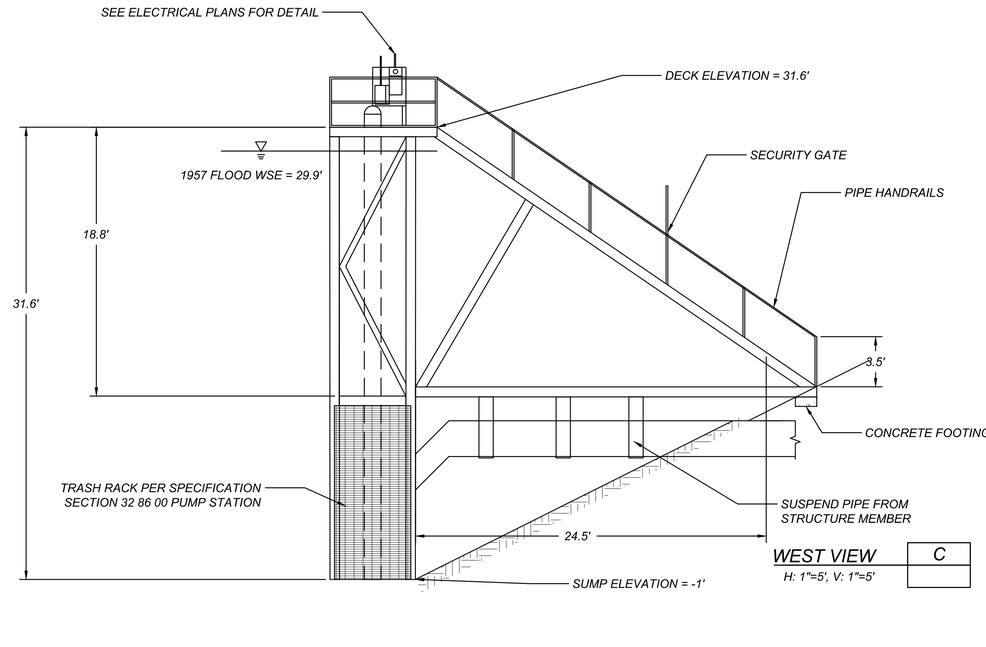
DETAIL 5 - TYPICAL PIPE ANCHOR DETAIL



PLAN VIEW A
H: 1"=5'



SOUTH VIEW B
H: 1"=5', V: 1"=5'



WEST VIEW C
H: 1"=5', V: 1"=5'

DETAIL 6 - SUB-PROJECT 4 PUMP STATION

SCALE BARS

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD
DRAWN JP
CHECKED CC
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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

TYPICAL DETAILS 2

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **25**
DWG ------ *REV* 0

PREPARED WITH MWD BRDR DATE: 01/29/2009
PEN TABLE: ----
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FILEPATH: C:\WORK\PROJECTS\15-1025_YBWA_DRAINAGE_SOLUTIONS\CAD_DWGS\PRODUCTION
FILE NAME: PROJ08_DETAILS_SP2AND4.DWG

GENERAL NOTES:

1. ELECTRICAL INSTALLATION SHALL COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATION, INCLUDING THE FOLLOWING:
TITLE 24, CCR, PART 2, 2013 CBC
TITLE 24, CCR, PART 3, 2013 CEC
TITLE 24, CCR, PART 4, 2013 CMC
TITLE 24, CCR, PART 9, 2013 CFC
ALL APPLICABLE LOCAL CODES.

2. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING POWER AND AT SITE PRIOR TO BIDDING. SERVICES SHALL CONFORM TO UTILITY COMPANY REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL ARRANGE FOR SERVICE INSTALLATION PER UTILITY COMPANY REQUIREMENTS. ALL SERVICE INFORMATION AND LOCATIONS SHOWN ON THESE PLANS ARE ASSUMED, TO BE VERIFIED WITH THE RESPECTIVE UTILITY COMPANIES AND MODIFIED AS REQUIRED TO SUIT. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE UTILITIES COMPANIES IN A TIMELY FASHION TO OBTAIN AND COORDINATE THIS INFORMATION.

3. ELECTRICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL LICENSES, PERMITS, ETC. REQUIRED TO CARRY ON AND COMPLETE THE WORK.

4. PROVIDE ALL LABOR, MATERIALS, TOOLS, PLANT EQUIPMENT, TRANSPORTATION AND PERFORM ALL OPERATIONS NECESSARY FOR ANY REASONABLE INCIDENTAL TO PROPER EXECUTION AND COMPLETION OF ALL "ELECTRICAL WORK" WHETHER SPECIFICALLY MENTIONED OR NOT; ALL AS INDICATED, SPECIFIED HEREIN, AND/OR IMPLIED THEREBY TO CARRY OUT THE APPARENT INTENT THEREOF.

5. ALL ELECTRICAL MATERIALS SHALL BE NEW AND LISTED WITH THE UNDERWRITERS' LABORATORIES, INC. SHALL MEET THEIR REQUIREMENTS AND SHALL BEAR THEIR LABEL WHEREVER STANDARDS HAVE BEEN ESTABLISHED AND LABEL SERVICE IS REGULARLY FURNISHED BY THAT AGENCY.

6. ELECTRICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH THE SIZE AND LOCATIONS OF EQUIPMENT ARE SHOWN TO SCALE WHEREVER POSSIBLE, CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION AT THE SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT AND INSTALLING HIS WORK TO AVOID INTERFERENCE WITH OTHER TRADES.

7. CONDUCTORS SHALL BE COPPER CONDUCTORS TYPE THWN UNLESS OTHERWISE NOTED OR REQUIRED BY CODE.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING TO MATCH EXISTING WHERE IT IS NECESSARY TO INSTALL NEW CONDUITS OR WHERE REMOVAL OF FIXTURES OR CONDUIT LEAVES AN UNFINISHED SURFACE. ALL WIRING SHALL BE IN CONCEALED RACEWAYS UNLESS OTHERWISE NOTED.

9. ALL GROUND WIRES SHALL BE INSULATED GROUNDS.

PANELBOARD:

1. NEW UNITS SHALL BE INSTALLED INSIDE MCC, WITH THE NUMBER AND SIZE OF BREAKERS AS INDICATED ON THE PANEL SCHEDULE. SINGLE POLE, TWO POLE, AND THREE POLE BREAKERS SHALL BE BOLT-ON TYPE. MULTIPLE POLE BREAKERS SHALL HAVE COMMON INTERNAL TRIP CONNECTION. SINGLE POLE BREAKERS SHALL NOT BE TIED AT HANDLES TO FORM MULTIPLE POLE BREAKERS. THE PANEL DOORS SHALL HAVE FLUSH TYPE LOCKS. ALL LOCKS SHALL BE KEYED ALIKE AND HAVE TYPEWRITTEN DIRECTORIES INDICATING FIXTURES, EQUIPMENT, OR OUTLETS SERVICED BY EACH BREAKER. PANELS SHALL HAVE COPPER BUSSING.

WIRING METHODS:

1. ALL WIRING SHALL BE INSTALLED IN STEEL CONDUITS. CONDUITS SHALL BE RUN CONCEALED IN WALLS AND CEILINGS WHERE FEASIBLE. ALL CONDUITS INSTALLED SURFACE ON WALL SHALL BE PAINTED TO MATCH WALL FINISH. MOUNT EXTERIOR CONDUITS ON WALL ON GALVANIZED UNISTRUTS. ALL SURFACE CONDUIT INSTALLATION/ RUNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

2. MINIMUM CONDUIT SIZE SHALL BE 1/2", MINIMUM ACCEPTABLE CONDUITS ARE
   A. GALVANIZED RIGID STEEL – FOR USE ON EXTERIOR WALL SURFACES AND ROOF.
   B. LIQUID TIGHT STEEL FLEX – FOR FINAL CONNECTION TO OUTDOOR EQUIPMENT. (NOT TO EXCEED 36")
   C. PVC CONDUIT APPROVED FOR USE UNDERGROUND ONLY.
   D. ALL CONDUIT FITTINGS SHALL BE MALLEABLE IRON/STEEL.
   E. EMT COUPLING – APPLETON TWC-CS SERIES
      EMT CONNECTOR – APPLETON TW-CSI SERIES
      FLEX CONDUIT CONNECTOR – T&B "TITE BITE", INSULATED
      LIQUID TIGHT FLEX CONDUIT CONNECTOR – APPLETON "STB" SERIES UP TO 2", "ST" SERIES OVER 2"
   F. RIGID STEEL CONDUIT CONNECTED TO BOXES AND CABINETS SHALL BE FITTED WITH TWO LOCKNUTS AND INSULATING BUSHING, OA "A" SERIES. PROVIDE GROUNDING BUSHING OZ "BL" SERIES WHERE LOCKNUTS AND BUSHING IS NOT USED. CONDUITS CONNECTED TO BOXES EXPOSED TO WEATHER/MOISTURE SHALL BE FITTED WITH WATERTIGHT SEALING HUBS OF STEEL OR MALLEABLE IRON WITH SEALING RING AND INSULATED THREAT, T & B 370 SERIES.

WIRING DEVICES:

1. UNITS SHALL BE EQUAL TO THE DEVICES SET FORTH HEREIN, IN STANDARD COLORS (BROWN, WHITE, GREY, BEIGE OR IVORY) AS SELECTED BY THE ARCHITECT:

A. WIRING DEVICES	LEVITON #	HUBBELL #	P & S #
SINGLE POLE SWITCH	1221	1221	20AC1
THREE WAY SWITCH	1223	1223	20AC3
DUPLEX CONV. OUT. 15A	5262	5262	5262
DUPLEX GFI CONV. OUT.		GF5262	

DEVICE PLATES:

1. ALL DEVICE PLATES FOR INDOOR USE SHALL BE BRUSHED STAINLESS STEEL OR APPROVED EQUAL UNLESS OTHERWISE NOTED.

3. DEVICE COVERS FOR SURFACE MOUNTED BOXES SHALL BE 1/2" RAISED STEEL PLATES. WEATHERPROOF COVERS TO BE SNAP TYPE COVERS.

SUPPORTS:

1. FURNISH ALL NECESSARY FOUNDATIONS, SUPPORTS, BACKING, ETC., FOR ALL ELECTRICAL ENCLOSURES, CONDUITS AND EQUIPMENT. 2. ATTACH ALL BOXES, CABINETS, ETC. TO WOOD WITH WOOD OR LAG SCREWS, TO METAL WITH MACHINE SCREWS OR BOLTS AND TO CONCRETE WITH EXPANSION ANCHORS AND MACHINE SCREWS OR BOLTS.

NAMEPLATES & IDENTIFICATION:

1. INSTALL ENGRAVED NAMEPLATES FOR EACH PANELBOARD, CABINET, DISCONNECT, ETC. NAMEPLATES SHALL BE SECURELY FASTENED TO THE EQUIPMENT WITH #4 PHILLIPS ROUND HEAD CADMIUM PLATED SELF-TAPPING SCREWS, BRASS BOLT.

GROUNDING:

1. GROUND AND BOND ALL EQUIPMENT AS REQUIRED BY GOVERNING CODES AND SPECIFICALLY INCLUDING GENERATOR, SWITCHBOARD, PANELBOARDS, MOTOR CASES, ETC.

WORKING CLEARANCES FOR PANELS & SWITCHBOARDS:

1. COORDINATE WITH OTHER TRADES TO ENSURE CODE REQUIRED WORKING CLEARANCES, ACCESS, ETC. FOR PANELS AND SWITCHBOARDS PER C.E.C. SECTIONS 110-16 AND 384-4.

SUBMITTALS:

1. PROVIDE SIX SETS OF THE FOLOWING SUBMITTALS FOR REVIEW AND APPROVAL.

   A. SERVICE METER/MAIN
   B. PUMP PANEL
   C. TRANSFORMER/PANEL
   D. FLOAT SWITCHES

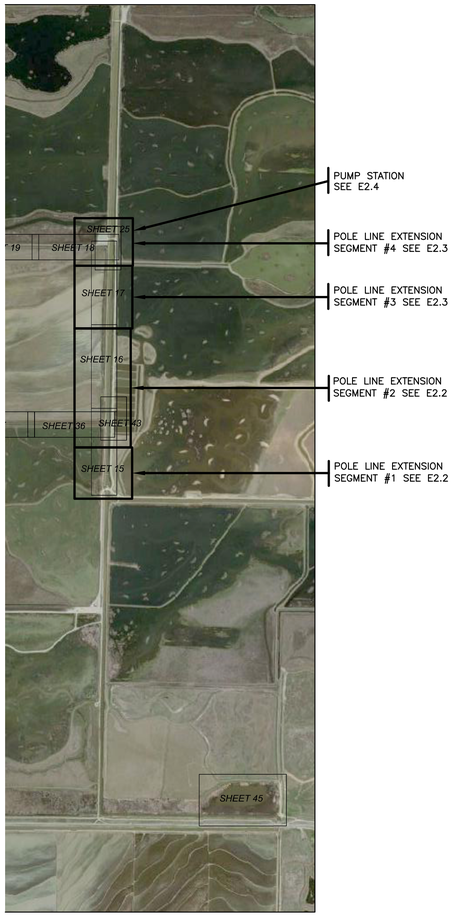
TESTING:

1. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE FREE FROM SHORT CIRCUITS AND IMPROPER GROUNDS. TEST ALL WIRING AND CONNECTIONS FOR CONTINUITY AND GROUNDS BEFORE ANY FIXTURES OR EQUIPMENT ARE CONNECTED AND WHERE SUCH TESTS INDICATE FAULTY INSULATION OR OTHER DEFECTS, THEY SHALL BE LOCATED, REPAIRED AND RETESTED AT THE CONTRACTOR'S EXPENSE.

2. DEMONSTRATE TO THE OWNER AND THE ARCHITECT, THAT THE ENTIRE INSTALLATION IS COMPLETE, IN PROPER OPERATING CONDITION AND THAT THE CONTRACT HAS BEEN PROPERLY AND FULLY EXECUTED. PROVIDE ALL INSTRUMENTS

WARRANTIES, GUARANTEES, CERTIFICATES, ETC.:

1. WARRANTIES, GUARANTEES, CERTIFICATES, ETC. THAT ARE FURNISHED AND AVAILABLE FOR EQUIPMENT AND MATERIALS FURNISHED AND INSTALLED UNDER THIS SECTION SHALL BE PROPERLY FILLED OUT AS OF DATE OF ACCEPTANCE OF THE WORK BY THE OWNER AND SHALL BE DELIVERED BY THE PROJECT ENGINEER



OVERALL ELECTRICAL SITE PLAN

SCALE: NONE

NORTH

REGISTERED PROFESSIONAL ENGINEER RICHARD C. SMITH No. E14303 Exp. 6-30-17 ELECTRICAL STATE OF CALIFORNIA

SCALE BARS

PREPARED BY:

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PROJ. 2016.285 DES. RA ENG. RCS

ISSUE DESCRIPTION	
100% SET	

ISSUE DATE	JANUARY 2017

PREPARED FOR:

DESIGNED	RCS
DRAWN	GT
CHECKED	RCS

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

OVERALL ELECTRICAL PLAN

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	E2.1
DWG	------
REV	0

PLOT TIME: 4/5/2017 11:36 AM

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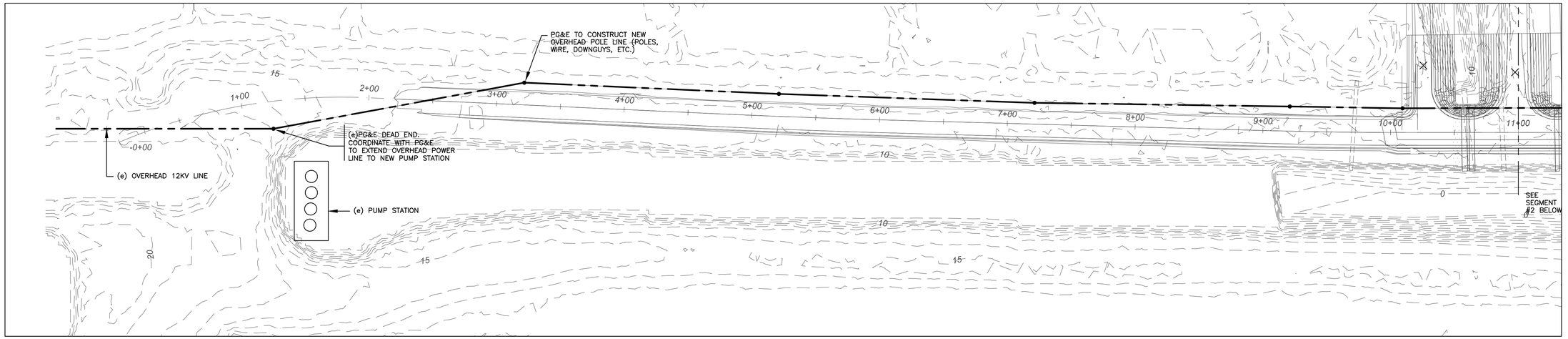
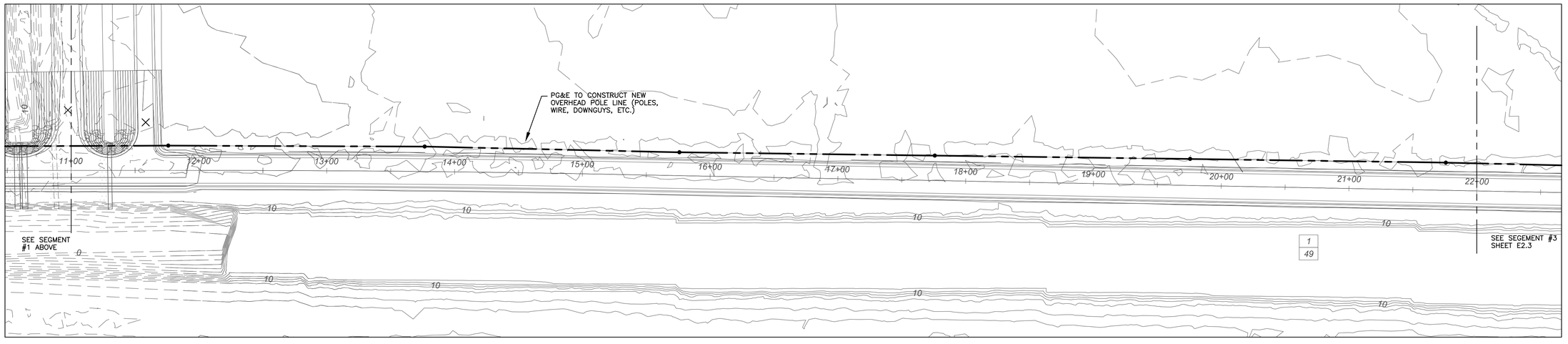


ELECTRICAL SITE PLAN (SEGMENT 1)

SCALE: 1"=400'-0"

NORTH



ELECTRICAL SITE PLAN (SEGMENT 2)

SCALE: 1"=400'-0"

NORTH

REGISTERED PROFESSIONAL ENGINEER RICHARD C. SMITH No. E14303 Exp. 6-30-17 ELECTRICAL STATE OF CALIFORNIA

SCALE BARS

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PROJ. 2016.285 DES. BA ENG. RCS

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ISSUE DATE JANUARY 2017

PREPARED FOR:

DESIGNED RCS
DRAWN GT
CHECKED RCS

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

OVERHEAD POLE LINE CONSTUCTION

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET E2.2
DWG ------ REV 0

PLOT TIME: 4/4/2017 9:02 AM

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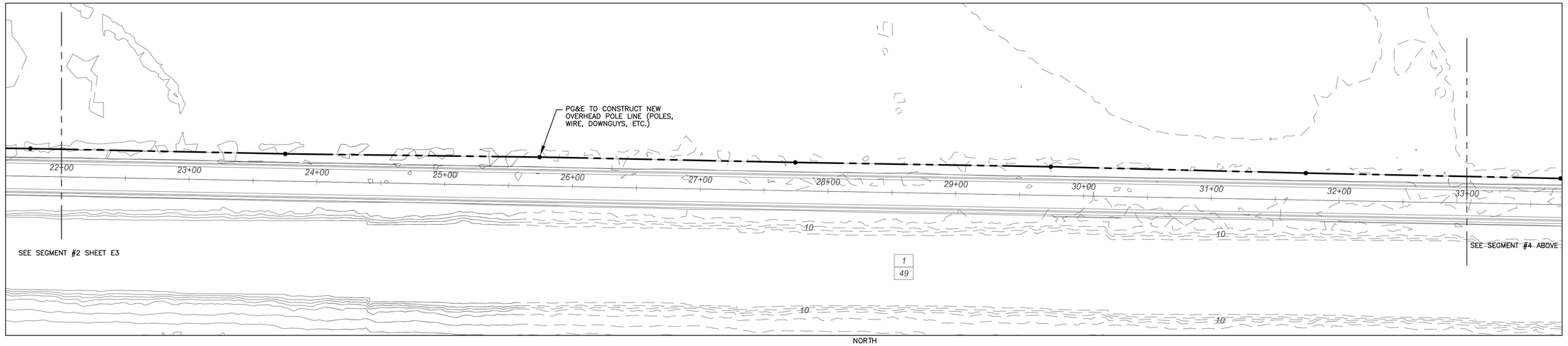
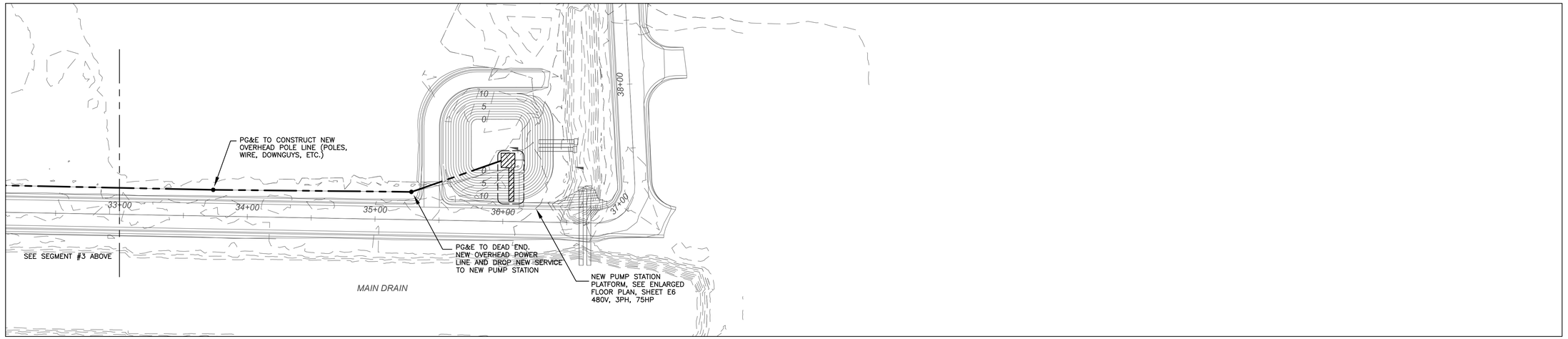


ELECTRICAL SITE PLAN (SEGMENT 3)

SCALE: 1"=400'-0"

NORTH



ELECTRICAL SITE PLAN (SEGMENT 4)

SCALE: 1"=400'-0"

NORTH

REGISTERED PROFESSIONAL ENGINEER
RICHARD C. SMITH
No. E14303
Exp. 6-30-17
ELECTRICAL
STATE OF CALIFORNIA

SCALE BARS

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PROJ. 2016.285 DES. BA ENG. RCS

ISSUE DESCRIPTION
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ISSUE DATE JANUARY 2017

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DESIGNED	RCS
DRAWN	GT
CHECKED	RCS

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

OVERHEAD POLE LINE CONSTRUCTION ELECTRICAL SITE PLAN

SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	E2.3
DWG	------
REV	0

PLOT TIME: 4/4/2017 9:02 AM

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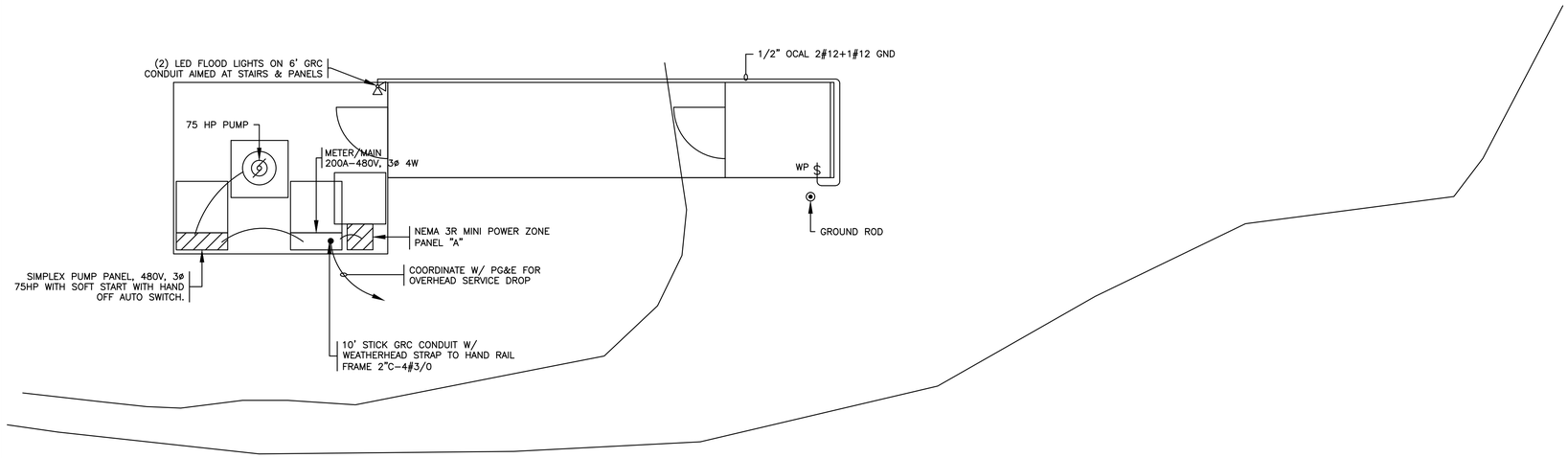


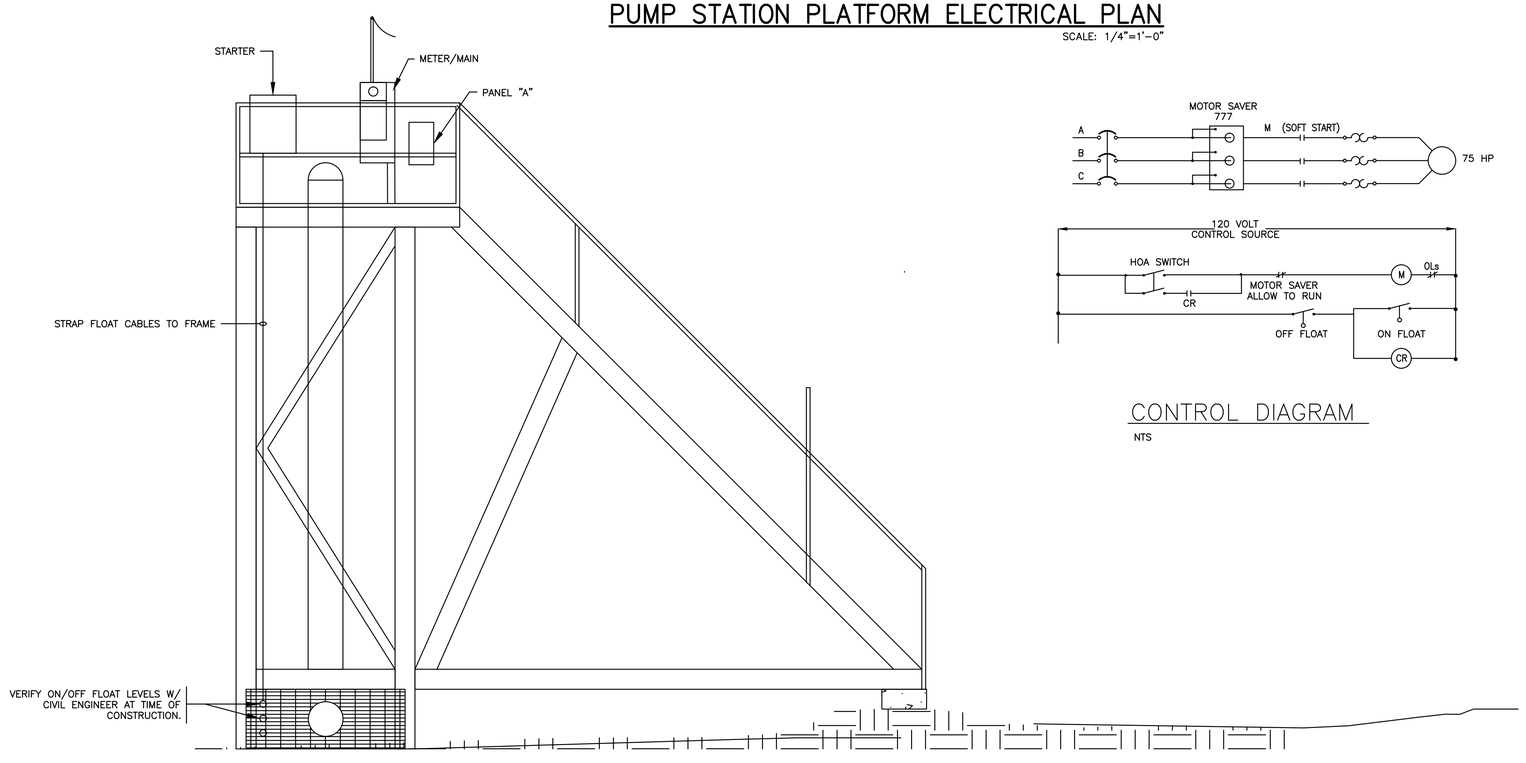
PUMP STATION PLATFORM ELECTRICAL PLAN

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

UTILITY COORDINATION NOTE:

THE CONTRACTOR SHALL SUPPLY THE SERVICE PANEL, STARTERS, WIRING, ETC AS SHOWN HERE INCLUDING ALL LABOR, EQUIPMENT, NEW CONDUITS AND WIRE THAT COMPLY WITH BUILDING CODE, REQUIRED TO OPERATE THE PUMP. SERVICE PANEL SHALL BE PER SECTION 16342 AND CONSISTENT WITH SERVICE FOR TYPICAL AGRICULTURAL WATER PUMPING APPLICATIONS. APPURTENANCES SHALL INCLUDE AT A MINIMUM FLOAT SWITCH ASSEMBLY, STILLING TUBE, FLOAT BALL, RODS AND CONNECTORS NECESSARY FOR A COMPLETE OPERATING SYSTEM.

POWER DROP AND COORDINATION WITH PG&E WILL BE THE RESPONSIBILITY OF THE OWNER. SUPPLYING THE SERVICE PANEL AND POWER CONNECTION FROM THE PANEL TO THE MOTOR WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. A MOTOR SAVER SHALL BE INCORPORATED INTO THE ELECTRICAL SERVICE TO THE PUMP. OWNER IS RESPONSIBLE FOR ANY PERMITS, IF REQUIRED.

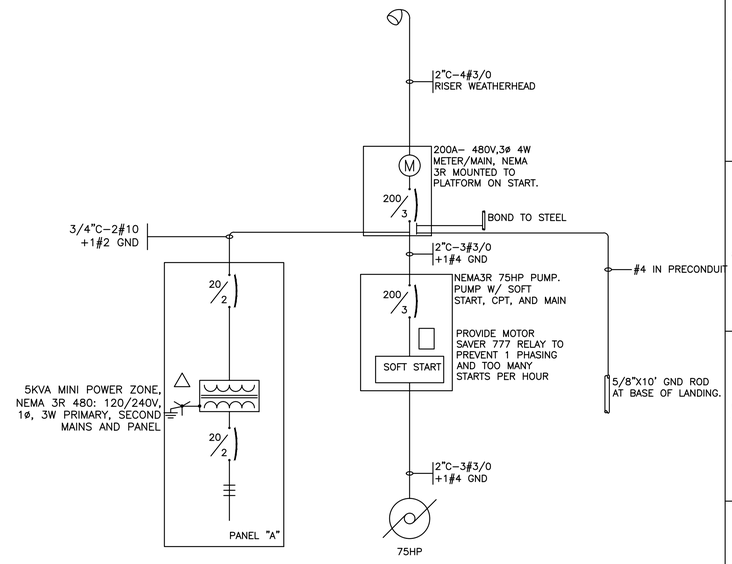


PLATFORM ELECTRICAL SECTION

SCALE: 1"=20'-0"

CONTROL DIAGRAM

NTS



ONELINE DIAGRAM

SCALE: NTS

PANEL A

TOTAL KVA : 0.3					CONNECT AMPS: 1.6A		
MOUNTING : NEMA 3R ON STRUT					VOLTAGE : 120/240V 1ø 4W		
BUSSING : 20A2P MCB @480, 240					FEEDER : SEE ONE LINE DIAGRAM		
DESCRIPTION	LOAD	BRKR			BRKR	LOAD	DESCRIPTION
LIGHTS	200	20/1	1	2	20/1	180	OUTLET
SPARE		20/1	3	4			
SPARE		20/1	5	6			
SPARE		20/1	7	8			
	200	VA TOTAL				180	

REGISTERED PROFESSIONAL ENGINEER RICHARD C. SMITH No. E14303 Exp. 6-30-17 ELECTRICAL STATE OF CALIFORNIA

SCALE BARS

PREPARED BY:

cbec eco engineering

HCS ENGINEERING, INC.
CONSULTING ELECTRICAL ENGINEERS
4512 FEATHER RIVER DRIVE, SUITE F
STOCKTON, CA 95219 (209)478-8270
E-MAIL ADDRESS - richard@hcs-eng.com
PROJ. 2016.285 DES. BA ENG. RCS

ISSUE DESCRIPTION
100% SET

ISSUE DATE JANUARY 2017

PREPARED FOR:

DESIGNED RCS
DRAWN GT
CHECKED RCS

FOR DRAWING APPROVALS SEE

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

NEW PUMP STATION DETAILS

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET E2.4
DWG ------ REV 0

PLOT TIME: 4/4/2017 9:02 AM

FILEPATH: C:\USERS\RICHARD\DROPBOX\ADD TO 2016\CBEC YOLO BYPASS\SET 2

FILE NAME: E2.4.DWG