EXHIBIT G

DRAWER	SHEET NO.

COUNTY OF SAN JOAQUIN

DEPARTMENT OF PUBLIC WORKS

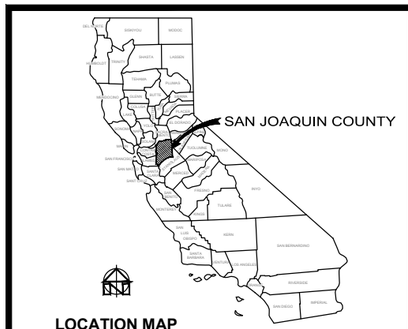
STOCKTON, CALIFORNIA

PROJECT PLANS FOR

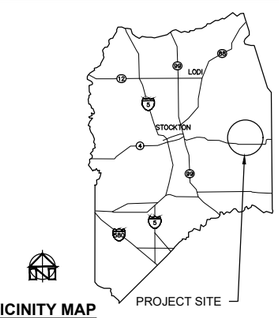
BUCKMAN ROAD BRIDGE REPLACEMENT OVER NORTH DUCK CREEK BRANCH BRIDGE NO. 29C-0307

FEDERAL AID PROJECT NO. BRLO-5929(241)

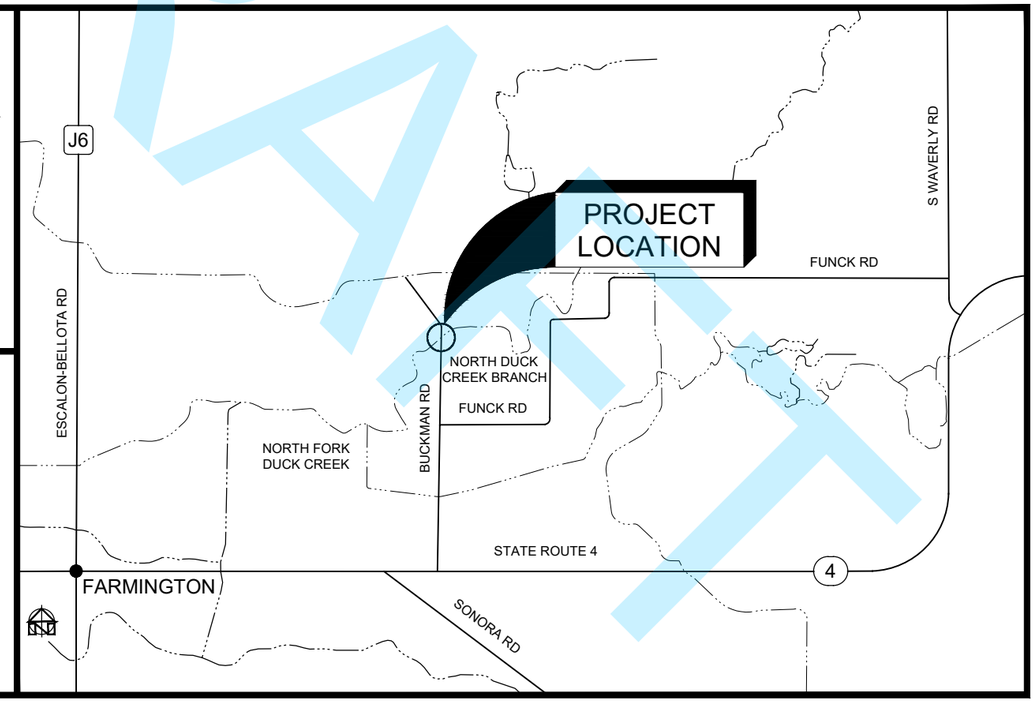
TO BE SUPPLEMENTED BY STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND STANDARD SPECIFICATIONS DATED 2018 AND SAN JOAQUIN COUNTY IMPROVEMENT STANDARDS DATED DECEMBER 2014 AND MODIFIED MAY 2015



LOCATION MAP
NTS



VICINITY MAP
NTS



PROJECT LOCATION MAP
NTS

COUNTY OF SAN JOAQUIN

Submitted _____, 20__.

FITZ BUCHMAN
DIRECTOR OF PUBLIC WORKS

INDEX OF SHEETS

REGISTERED PROFESSIONAL ENGINEER
STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024
CIVIL
STATE OF CALIFORNIA

STEPHEN HAWKINS, P.E.

The Contractor shall possess a Class A license at the time this contract is awarded.

USA NORTH 811
Call 811 Before You Dig

PROJECT ENGINEER	DATE	CHECKED BY	DATE	SUBMITTED	DATE	ACCEPTED	DATE
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022	MICHAEL CHUNG		NAJEE ZARIF	4/6/22
DRAWN BY	DATE	SHEET NAME			SCALE		
J. HERBERG	07/18/2022	**TITLE SHEET**			NTS		

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS BRIDGE DIVISION
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468 - 3000
FAX: (209) 468 - 2999

MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

SHEET NO.
1 of 23

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER NORTH DUCK CREEK BRANCH

Drawing Name: O:\594 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Plansheets\01-594-G-001.dwg
Last Opened: Jul 20, 2022 - 10:23am by James

DRAWER	SHEET NO.

CALTRANS STANDARD PLANS - 2018

	A3A	ABBREVIATIONS (SHEET 1 OF 3)
	A3B	ABBREVIATIONS (SHEET 2 OF 3)
	A3C	ABBREVIATIONS (SHEET 3 OF 3)
	A10A	LEGEND - LINES AND SYMBOLS (SHEET 1 OF 5)
	A10B	LEGEND - LINES AND SYMBOLS (SHEET 2 OF 5)
	A10C	LEGEND - LINES AND SYMBOLS (SHEET 3 OF 5)
	A10D	LEGEND - LINES AND SYMBOLS (SHEET 4 OF 5)
	A10E	LEGEND - LINES AND SYMBOLS (SHEET 5 OF 5)
	A20A	PAVEMENT MARKERS & TRAFFIC LINES - TYPICAL DETAILS
	A20B	PAVEMENT MARKERS & TRAFFIC LINES - TYPICAL DETAILS
	A62C	LIMITS OF PAVEMENT FOR EXCAVATION AND BACKFILL BRIDGE
	A73A	OBJECT MARKERS
RSP	A73B	MARKERS
	A77L2	MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)
	A77M1	MIDWEST GUARDRAIL SYSTEM STANDARD HARDWARE
	A77N2	MIDWEST GUARDRAIL SYSTEM STEEL POST AND NOTCHED WOOD BLOCK DETAILS
RSP	A77N3	MIDWEST GUARDRAIL SYSTEM TYPICAL LINE POST EMBEDMENT AND HINGE POINT OFFSET DETAILS
	A77N4	MIDWEST GUARDRAIL SYSTEM TYPICAL RAILING DELINEATION AND DIKE POSITIONING DETAILS
	A77U1	MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No. 1
	A77U2	MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No. 2
RSP	A77Q1	MIDWEST GUARDRAIL LAYOUTS FOR STRUCTURE APPROACH
RSP	A77Q4	MIDWEST GUARDRAIL LAYOUTS FOR STRUCTURE DEPARTURE
	A86	BARBED WIRE AND WIRE MESH FENCES
	A86A	BARBED WIRE AND WIRE MESH FENCE DETAIL ON SHARP BREAK IN GRADE
	T56	TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLLS)
RSP	B0-1	BRIDGE DETAILS
	B0-13	BRIDGE DETAILS
RSP	B11-81	CONCRETE BARRIER TYPE 842 DETAILS NO. 1
RSP	B11-82	CONCRETE BARRIER TYPE 842 DETAILS NO. 2
	RS-1	ROADSIDE SIGNS, TYPICAL INSTALLATION DETAILS No. 1
	RS-2	ROADSIDE SIGNS - WOOD POST - TYPICAL INSTALLATION DETAILS No. 2
	RS-4	ROADSIDE SIGNS - TYPICAL INSTALLATION DETAILS No. 4

GENERAL NOTES:

1. DIMENSIONS SHOWN ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. STATE STANDARD SPECIFICATION - 2018 EDITION.

UTILITY NOTES:

LOCATIONS FOR EXISTING UNDERGROUND FACILITIES ARE APPROXIMATE. EXACT DEPTH AND LOCATIONS ARE UNKNOWN. CONTRACTOR MUST FIELD LOCATE PRIOR TO THE START OF CONSTRUCTION.

**CALL UNDERGROUND SERVICE ALERT (USA) 811

LEGEND

—— – – ——	RIGHT OF WAY
——— – ———	CENTERLINE OF ROADWAY
– — — — –	LIMITS OF GRADING (CATCH SLOPE)
	ORIGINAL GROUND
———180———	PROPOSED CONTOUR
———180———	EXISTING CONTOUR
CP #130	SURVEY CONTROL POINTS
	CALTRANS STANDARD PLAN SHEET NO.
	DETAIL NO.

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022	
DRAWN BY	DATE	SHEET NAME		SCALE
J. PLEINBERG	07/18/2022	NOTES, SYMBOLS & ABBREVIATIONS		N/A

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER — STEPHEN HAWKINS — NO. 36656 — EXP. 06/30/2024 — CIVIL — STATE OF CALIFORNIA

STEPHEN HAWKINS
Project Manager (Consultant)

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS BRIDGE DIVISION
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468 - 3000
FAX: (209) 468 - 2999

MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

Drawing Name: O:\594 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Plansheets\02-594-G-002.dwg
Last Opened: Jul 20, 2022 - 10:23am by James

EXHIBIT G

DRAWER	SHEET NO.

0 30 60 90

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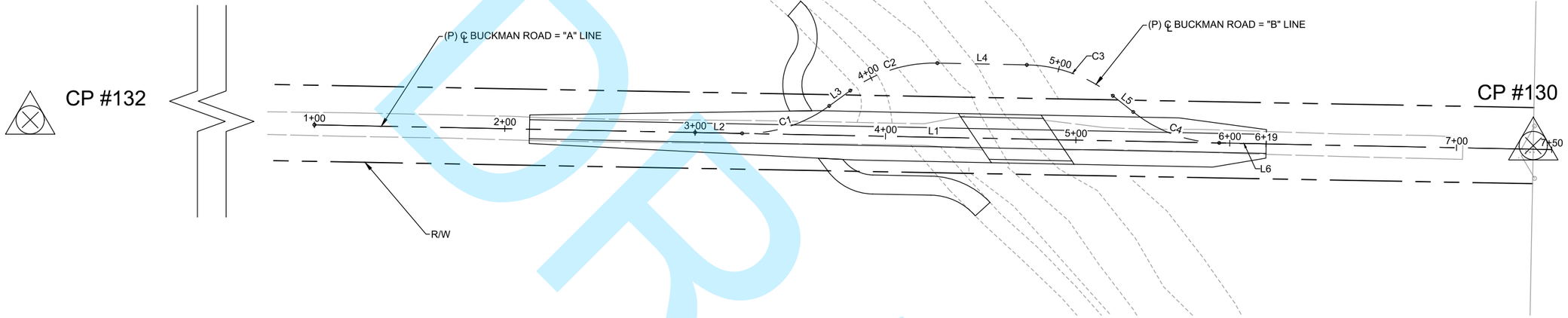

LINE TABLE - "A" LINE				
LINE #	LENGTH	DIRECTION	START POINT	END POINT
L1	650.00'	N1° 08' 41.34"E	(6424093.90,2165360.95)	(6424106.89,2166010.82)

LINE TABLE - "B" LINE				
LINE #	LENGTH	DIRECTION	START POINT	END POINT
L2	24.71'	N1° 08' 41.34"E	(6424097.90,2165560.89)	(6424098.39,2165585.59)
L3	13.67'	N36° 10' 35.87"W	(6424083.94,2165631.36)	(6424075.88,2165642.39)
L4	47.01'	N1° 08' 41.34"E	(6424061.43,2165688.16)	(6424062.37,2165735.17)
L5	13.67'	N38° 27' 58.56"E	(6424078.63,2165780.32)	(6424087.13,2165791.02)
L6	24.65'	N1° 08' 41.34"E	(6424103.40,2165836.18)	(6424103.89,2165860.83)

CURVE TABLE - "B" LINE						
CURVE #	RADIUS	LENGTH	Δ	CHORD DIRECTION	PT	PC
C1	75.00'	48.85'	37.321°	N17° 30' 57.26"W	(6424098.39,2165585.59)	(6424083.94,2165631.36)
C2	75.00'	48.85'	37.321°	N17° 30' 57.26"W	(6424075.88,2165642.39)	(6424061.43,2165688.16)
C3	75.00'	48.85'	37.321°	N19° 48' 19.95"E	(6424062.37,2165735.17)	(6424078.63,2165780.32)
C4	75.00'	48.85'	37.321°	N19° 48' 19.95"E	(6424087.13,2165791.02)	(6424103.40,2165836.18)

LEGEND

CP #130 CONTROL POINT

CONTROL POINT TABLE DATA		
POINT #	NORTHING, EASTING	DESCRIPTION
CP #130	2166001.12, 6424104.80	FOUND 7/8" REBAR
CP #132	2164128.05, 6424091.14	FOUND 2" REBAR

SURVEY NOTES:

BASIS OF BEARINGS AND COORDINATES: AZIMUTH 87°07'44" FROM #132 - #130 MEASURED BY GPS.

ALL TOPOGRAPHIC FEATURES SHOWN HEREON ARE BASED ON GROUND DISTANCES. TO OBTAIN GRID EQUIVALENTS, THE COMBINED GRID AND ELEVATION SCALE FACTOR FOR THIS SURVEY OF 0.99994142 SHOULD BE APPLIED.

BASIS OF ELEVATIONS: BASED ON NAVD 88, AS MEASURED FROM LEICA SMARTNET CONTROL NETWORK, RTCM REF-2074 BASE STATION IN STOCKTON, CA; LOCAL CONTROL POINTS IN TABLE HEREON.

PRESERVATION OF SURVEY MONUMENTS

CONTRACTOR IS RESPONSIBLE FOR PRESERVATION AND/OR PERPETUATION OF ALL EXISTING MONUMENTS WHICH CONTROL SUBDIVISIONS, TRACTS, BOUNDARIES, STREETS, HIGHWAYS, OR OTHER RIGHTS-OF-WAY EASEMENTS, OR PROVIDE SURVEY CONTROL WHICH WILL BE DISTURBED OR REMOVED DUE TO CONTRACTOR'S WORK. CONTRACTOR SHALL PROVIDE A MINIMUM OF 10 WORKING DAYS NOTICE TO BOTH HIS CIVIL ENGINEER AND THE COUNTY'S RESIDENT ENGINEER PRIOR TO DISTURBANCE OR REMOVAL OF EXISTING MONUMENTS. THE CONTRACTOR'S CIVIL ENGINEER OR SURVEYOR IN RESPONSIBLE CHARGE OF THE WORK SHALL COORDINATE WITH CONTRACTOR TO RESET MONUMENTS OR PROVIDE PERMANENT WITNESS MONUMENTS AND FILE THE REQUIRED DOCUMENTATION WITH THE COUNTY SURVEYOR PURSUANT TO BUSINESS AND PROFESSIONS CODE SECTION 8771.

NOTE

THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIALS.

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022	
DRAWN BY	DATE	SHEET NAME		SCALE
J. FLEHBERG	07/18/2022	**SURVEY CONTROL**		1"=30'

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024
CIVIL
STATE OF CALIFORNIA

STEPHEN HAWKINS
Project Manager (Consultant)

COUNTY OF SAN JOAQUIN
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1810 EAST HAZELTON AVENUE
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FAX: (209) 468 - 2999

MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

SHEET NO.
3 of 23

Drawing Name: O:\564 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Plansheets\03-564-V-101.dwg
Last Opened: Jul 20, 2022 - 10:23am by James

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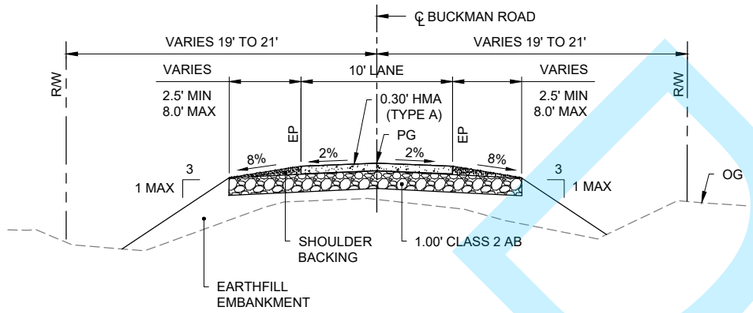
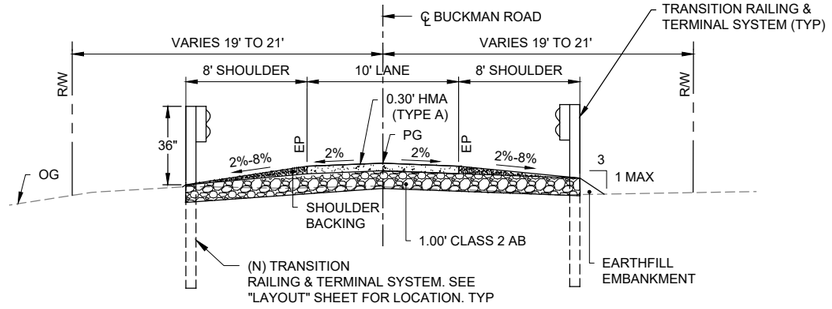
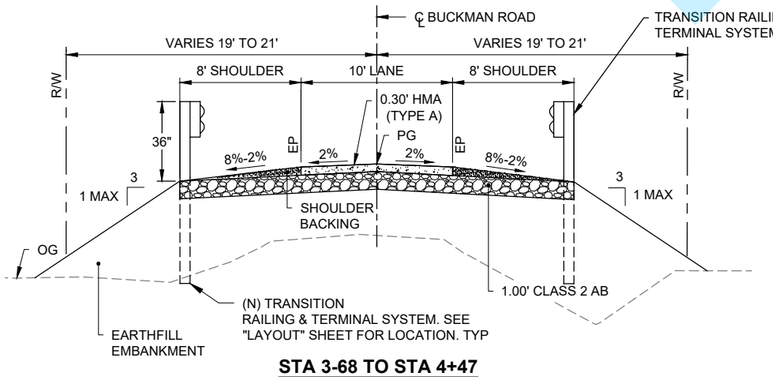


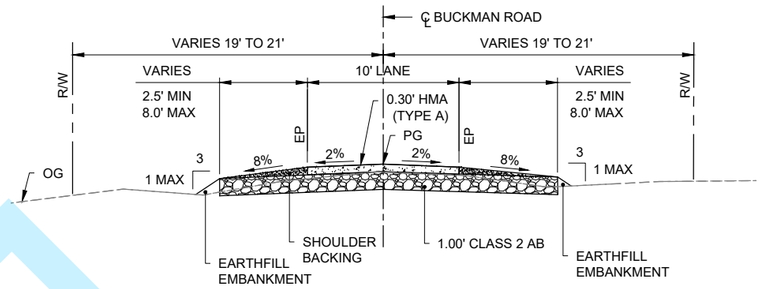
STA 2+13 TO STA 3+68
NOT TO SCALE



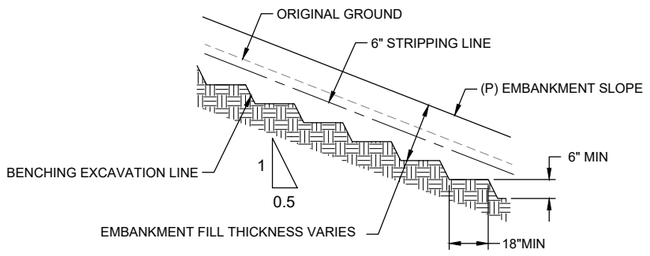
STA 4+90 TO STA 5+70
NOT TO SCALE



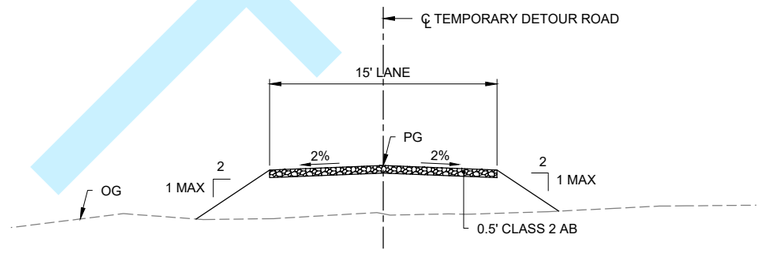
STA 3-68 TO STA 4+47
NOT TO SCALE



STA 5+70 TO STA 6+00
NOT TO SCALE



TYPICAL BENCHING DETAIL
NOT TO SCALE



TEMPORARY DETOUR ROAD TYPICAL SECTION
NOT TO SCALE

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022	
DRAWN BY	DATE	SHEET NAME		SCALE
J. PEARBERG	07/18/2022	TYPICAL SECTIONS & DETAILS		N/A

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024
CIVIL
STATE OF CALIFORNIA

STEPHEN HAWKINS
Project Manager (Consultant)

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC
WORKS BRIDGE DIVISION
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468 - 3000
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MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

SHEET NO.
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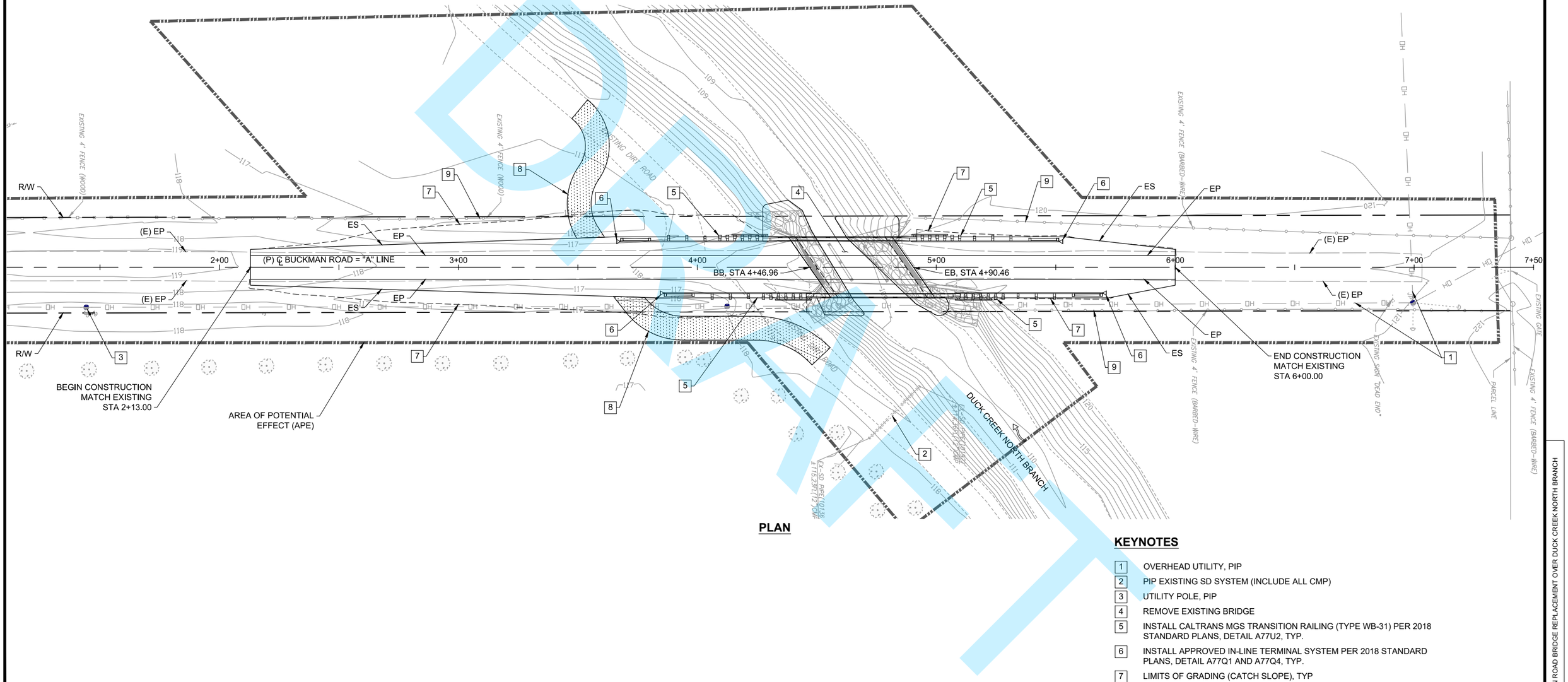
PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

Drawing Name: O:\594 Buckman Road Bridge\San Joaquin Co\06 CAD\Production\Plansheets\04-594-G-003-SECT.dwg
Last Opened: Jul 20, 2022 - 10:23am by James

EXHIBIT G



PLAN

KEYNOTES

1	OVERHEAD UTILITY, PIP
2	PIP EXISTING SD SYSTEM (INCLUDE ALL CMP)
3	UTILITY POLE, PIP
4	REMOVE EXISTING BRIDGE
5	INSTALL CALTRANS MGS TRANSITION RAILING (TYPE WB-31) PER 2018 STANDARD PLANS, DETAIL A77U2, TYP.
6	INSTALL APPROVED IN-LINE TERMINAL SYSTEM PER 2018 STANDARD PLANS, DETAIL A77Q1 AND A77Q4, TYP.
7	LIMITS OF GRADING (CATCH SLOPE), TYP
8	RE-ROUTE DIRT ROAD
9	REMOVE FENCE AS NEEDED AND REPLACE AFTER CONSTRUCTION

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

Drawing Name: O:\594 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Pltsheets\05-594-C-101.dwg
Last Opened: Jul 20, 2022 - 10:23am by James

PROJECT ENGINEER	DATE	CHECKED BY	DATE		
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022		
DRAWN BY	DATE	SHEET NAME			SCALE
J. PLEZBERG	07/18/2022	LAYOUT			1"=20'

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024

STEPHEN HAWKINS
Project Manager (Consultant)

COUNTY OF SAN JOAQUIN
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SHEET NO.
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EXHIBIT G

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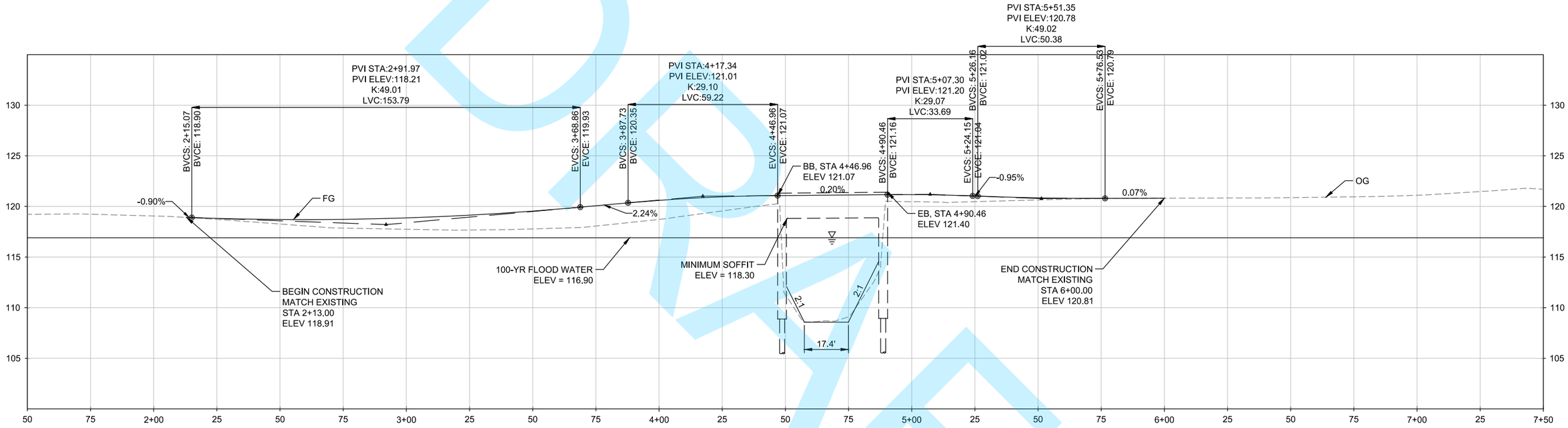

PROFILE

0 20 40 60

SCALE 1"=20' HORIZONTAL
1"=5' VERTICAL

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022	
DRAWN BY	DATE	SHEET NAME		SCALE
J. PLENBERG	07/18/2022	**PROFILE**		1"=20'

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024
CIVIL
STATE OF CALIFORNIA

STEPHEN HAWKINS
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MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

SHEET NO.
6 of 23

Drawing Name: O:\604 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Plansheets\06-594-C-102.dwg
Last Opened: Jul 20, 2022 - 10:24am by James

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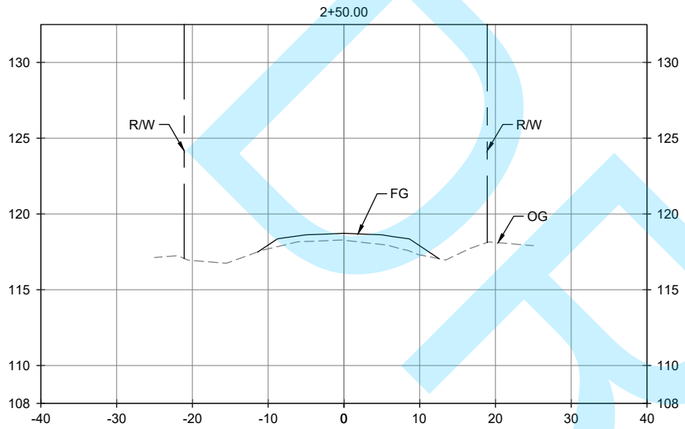

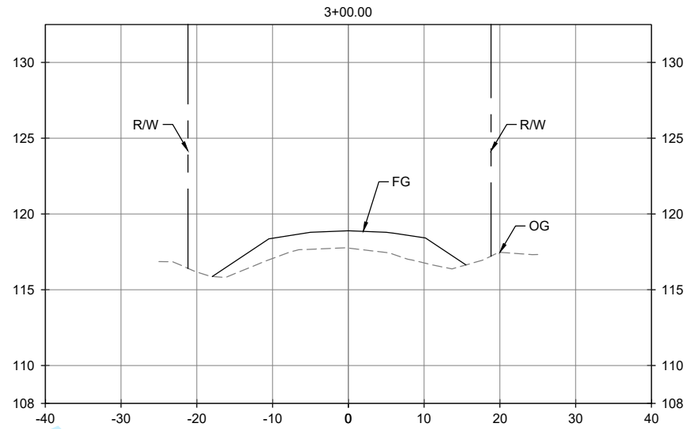

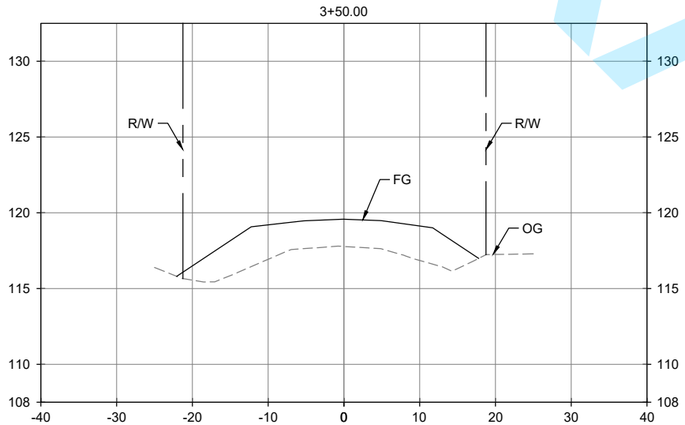

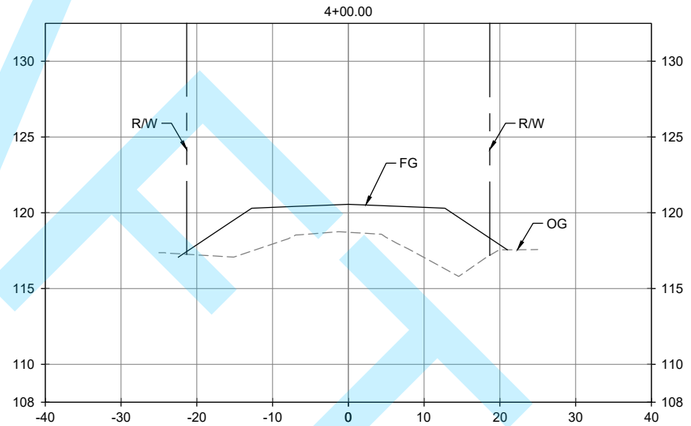

0 10 20 30

SCALE 1"=10' HORIZONTAL
1"=5' VERTICAL

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

Drawing Name: O:\594 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Plts\sheets\07-594-CROS-SECT.dwg
Last Opened: Jul 20, 2022 - 10:24am by: James

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022	
DRAWN BY	DATE	SHEET NAME		SCALE
J. PLERBERG	07/18/2022	**CROSS SECTIONS 1 OF 2**		N/A

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024
CIVIL
STATE OF CALIFORNIA

STEPHEN HAWKINS
Project Manager (Consultant)

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1810 EAST HAZELTON AVENUE
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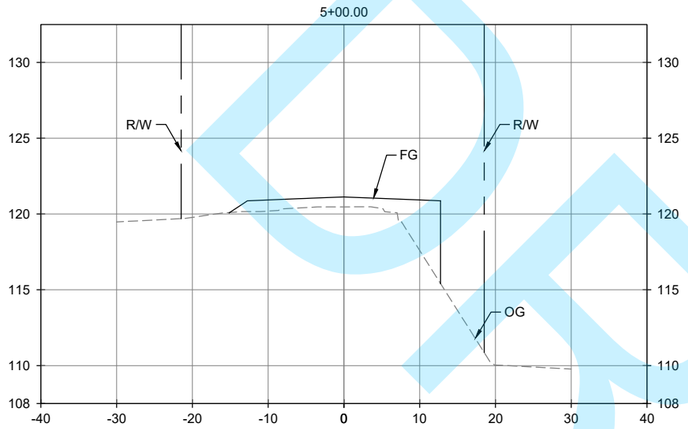
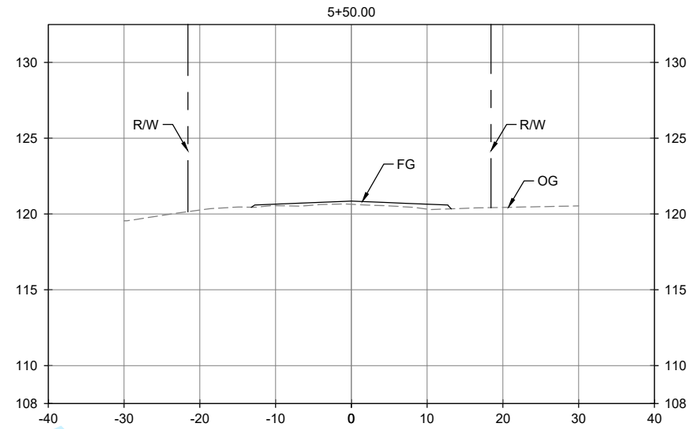
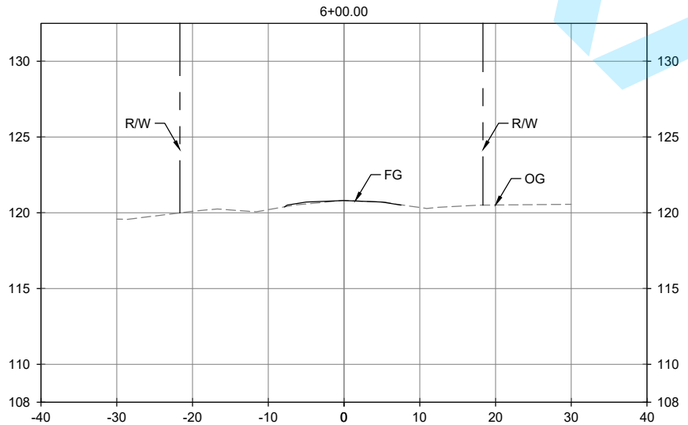
SHEET NO.
7 of **23**

DRAWER	
SHEET NO.	







0 10 20 30

SCALE 1"=10' HORIZONTAL
1"=5' VERTICAL

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

Drawing Name: O:\594 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Plansheets\06-594-CROS-SECT.dwg
Last Opened: Jul 20, 2022 - 10:24am by: James

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022	
DRAWN BY	DATE	SHEET NAME		SCALE
J. PLEARBERG	07/18/2022	**CROSS SECTIONS 2 OF 2**		N/A

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024
CIVIL
STATE OF CALIFORNIA

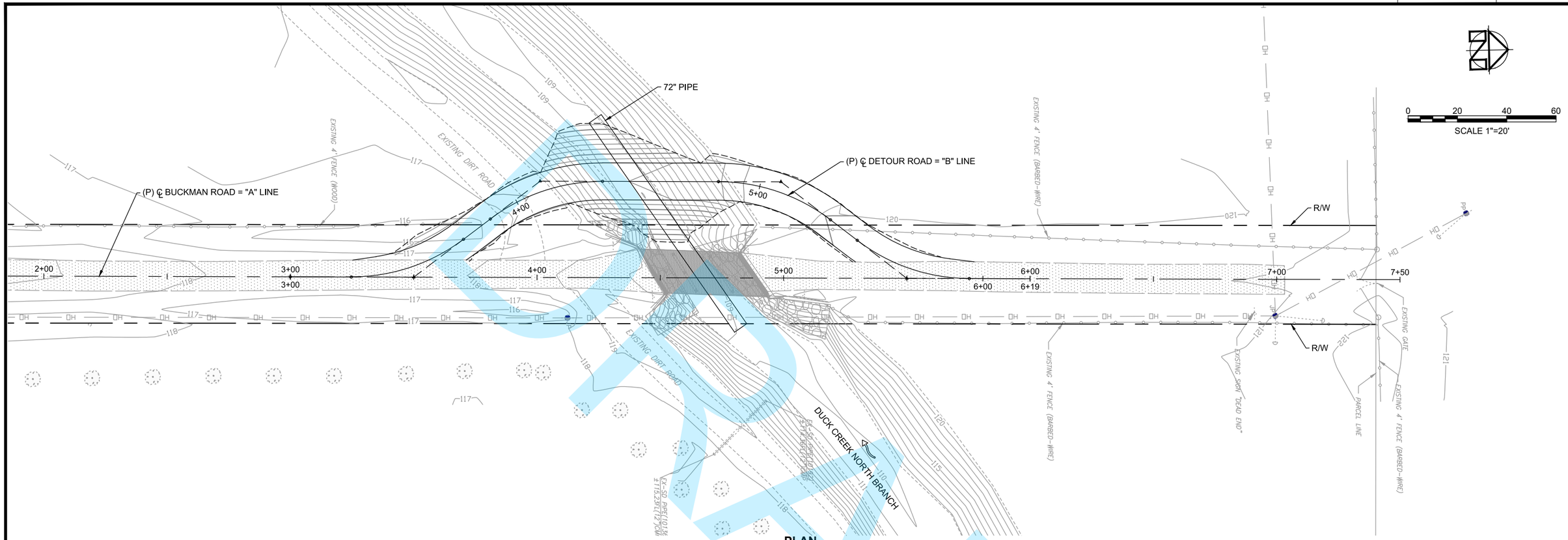
STEPHEN HAWKINS
Project Manager (Consultant)

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS BRIDGE DIVISION
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468 - 3000
FAX: (209) 468 - 2999

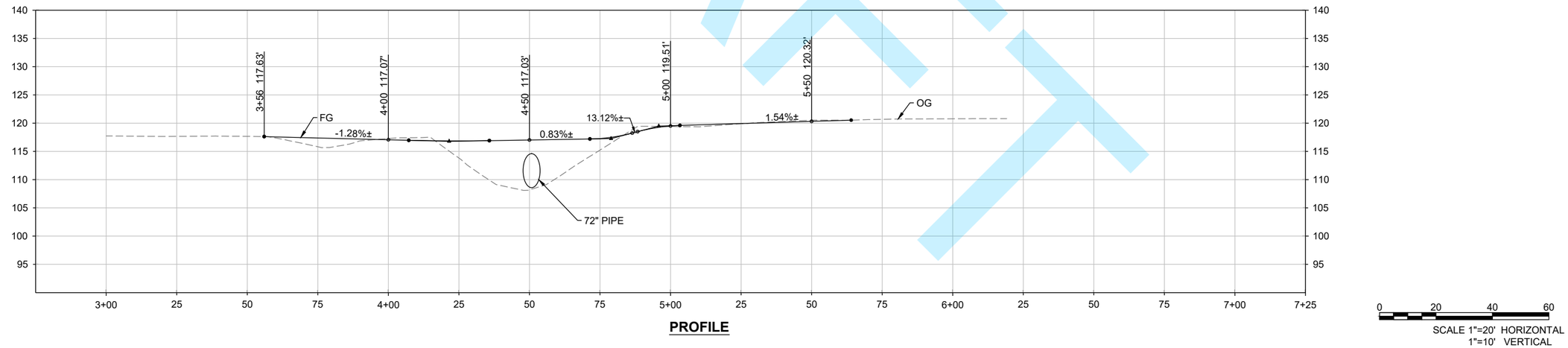
MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

EXHIBIT G

DRAWER	SHEET NO.



PLAN



PROFILE

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022	
DRAWN BY	DATE	SHEET NAME		SCALE
J. PLENBERG	07/18/2022	**TEMPORARY DETOUR PLAN & PROFILE**		1"=20'

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024
CIVIL
STATE OF CALIFORNIA

STEPHEN HAWKINS
Project Manager (Consultant)

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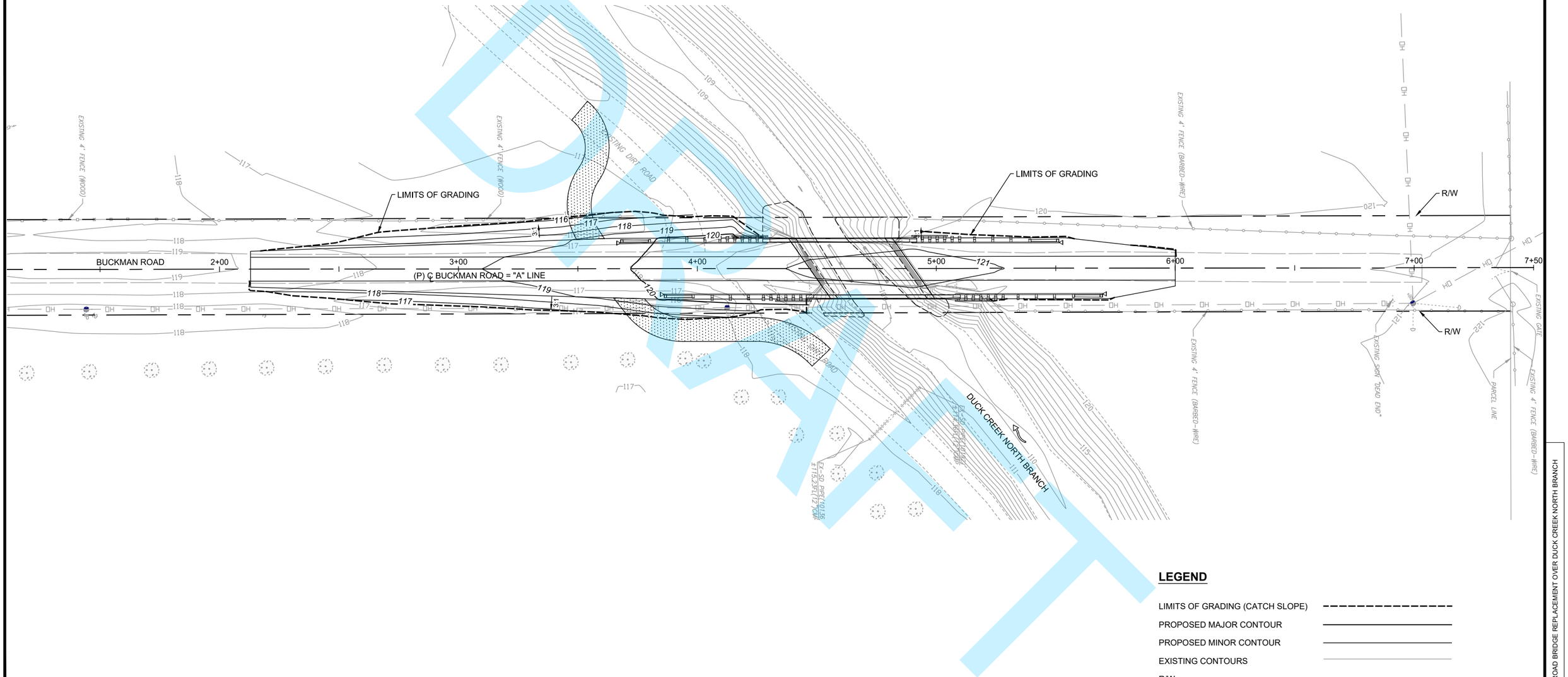
Sacramento, California 95831 (916) 421-1000

SHEET NO.
9 of **23**

EXHIBIT G

DRAWER	SHEET NO.



LEGEND

LIMITS OF GRADING (CATCH SLOPE)	- - - - - - - -
PROPOSED MAJOR CONTOUR	———
PROPOSED MINOR CONTOUR	———
EXISTING CONTOURS	———
R/W	—— — — ——

Drawing Name: O:\594 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Pltsheets\10-594-GRAD.dwg
Last Opened: Jul 20, 2022 - 10:24am by James

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022

DRAWN BY	DATE	SHEET NAME	SCALE
J. PLEHBERG	07/18/2022	**GRADING PLAN**	1"=20'

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024

STEPHEN HAWKINS
Project Manager (Consultant)

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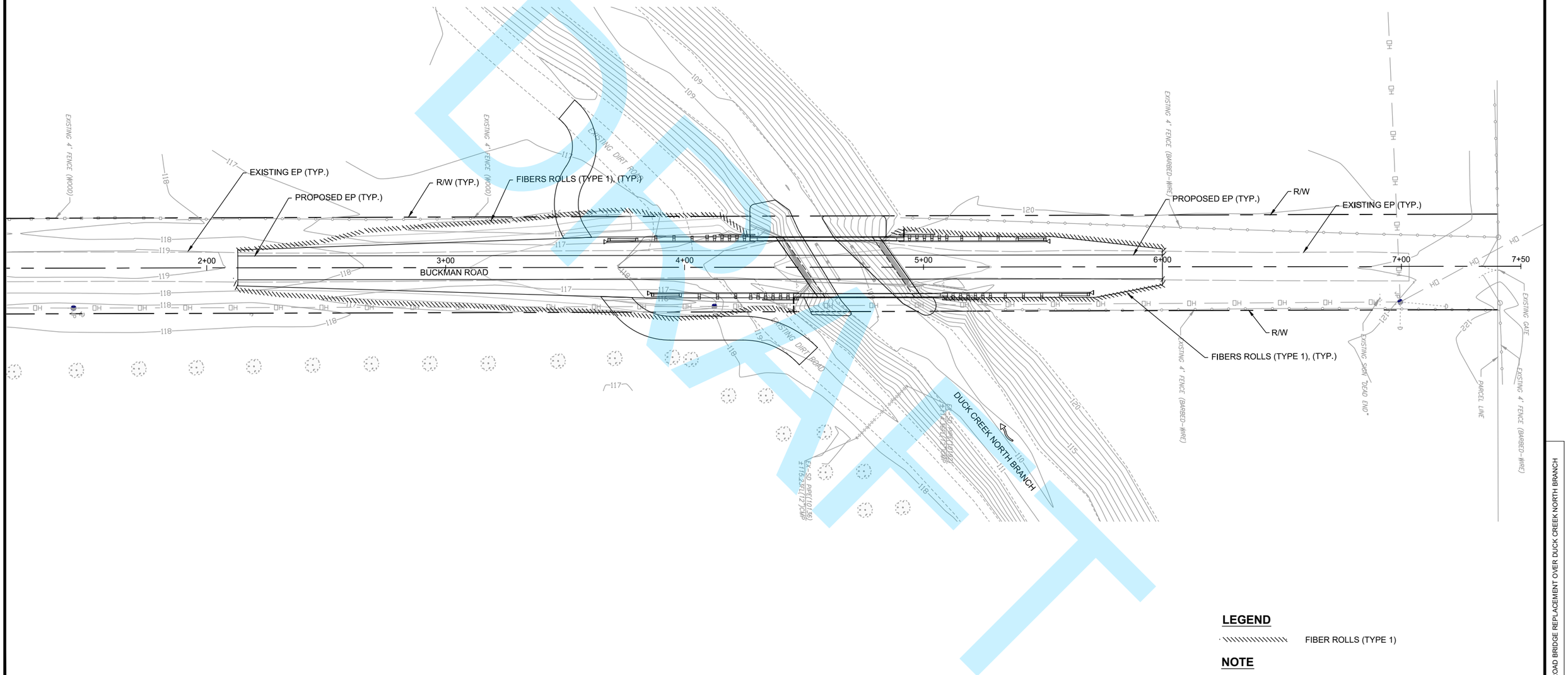
SHEET NO.
10 of 23

EXHIBIT G

DRAWER	SHEET NO.

0 20 40 60
SCALE 1"=20'



LEGEND

FIBER ROLLS (TYPE 1)

NOTE

EROSION CONTROL MEASURES ARE MINIMUM REQUIRED. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY EROSION CONTROL MEASURES REQUIRED BY THE APPROVED CONTRACTOR PREPARED WATER POLLUTION CONTROL PLAN OR SWPPP.

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022	
DRAWN BY	DATE	SHEET NAME		SCALE
J. PLENBERG	07/18/2022	TEMPORARY EROSION CONTROL PLAN		1"=20'

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024
CIVIL
STATE OF CALIFORNIA

STEPHEN HAWKINS
Project Manager (Consultant)

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MGE ENGINEERING INC.
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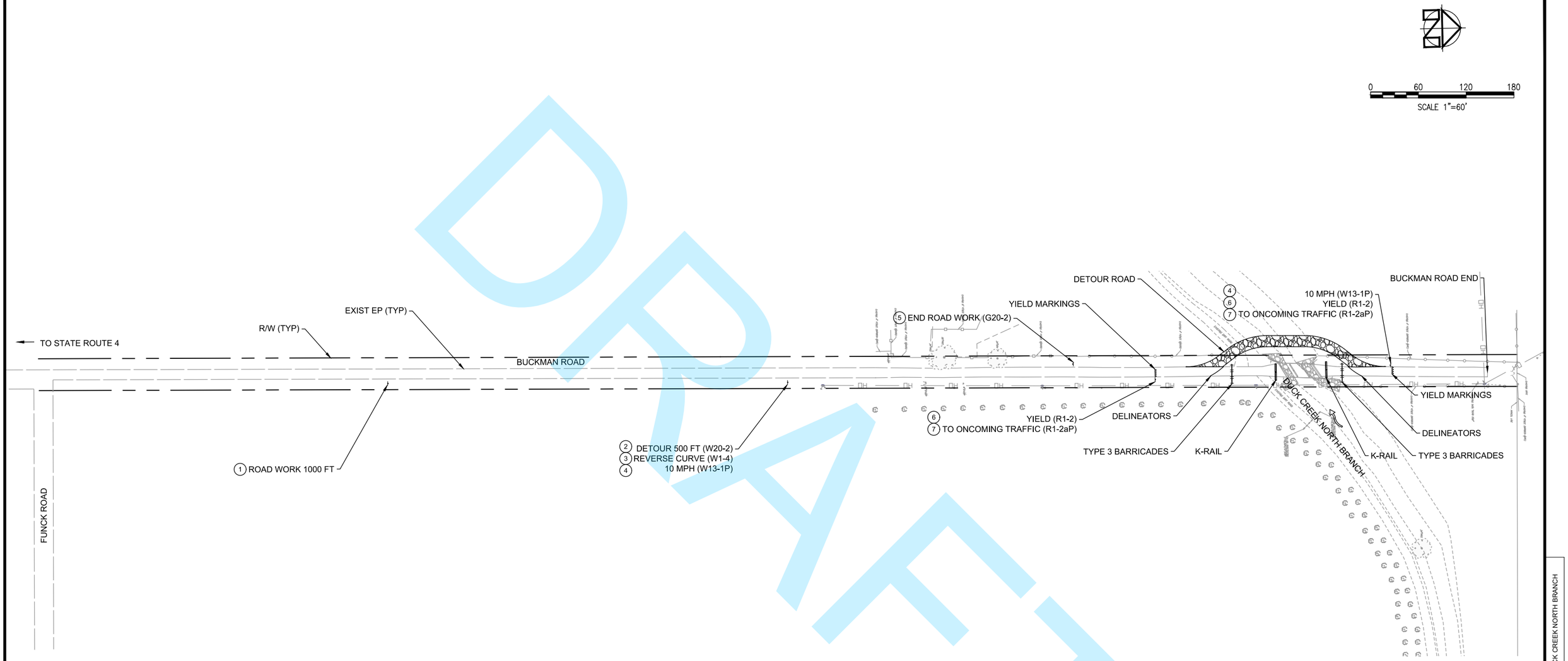
Sacramento, California 95831 (916) 421-1000

SHEET NO.
11 of 23

Drawing Name: O:\594 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Plansheets\11-594-TEMP EC.dwg
Last Opened: Jul 20, 2022 - 10:25am by JaimeA

EXHIBIT G

DRAWER	SHEET NO.



SIGN LEGEND				
SIGN ID	CA MUTCD SIGN CODE	TEXT (OPTIONS)	# OF SIGNS	DIMENSIONS (INCHES)
1	W20-1	ROAD WORK 1000 FT	1	36 x 36
2	W20-2	DETOUR 500 FT	1	36 x 36
3	W1-4	REVERSE CURVE	1	30 x 24
4	W13-1P	ADVISORY SPEED PLAQUE "10 MPH"	4	24 x 24
5	G20-2	END ROAD WORK	2	30 x 24
6	R1-2	YIELD	2	30 x 30 x 30
7	R1-2aP	TO ONCOMING TRAFFIC	2	30 x 30

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022	
DRAWN BY	DATE	SHEET NAME		SCALE
J. PLENBERG	07/18/2022	CONSTRUCTION AREA SIGNS		1"=60'

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024
STATE OF CALIFORNIA
CIVIL

STEPHEN HAWKINS
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MGE ENGINEERING INC.
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Sacramento, California 95831 (916) 421-1000

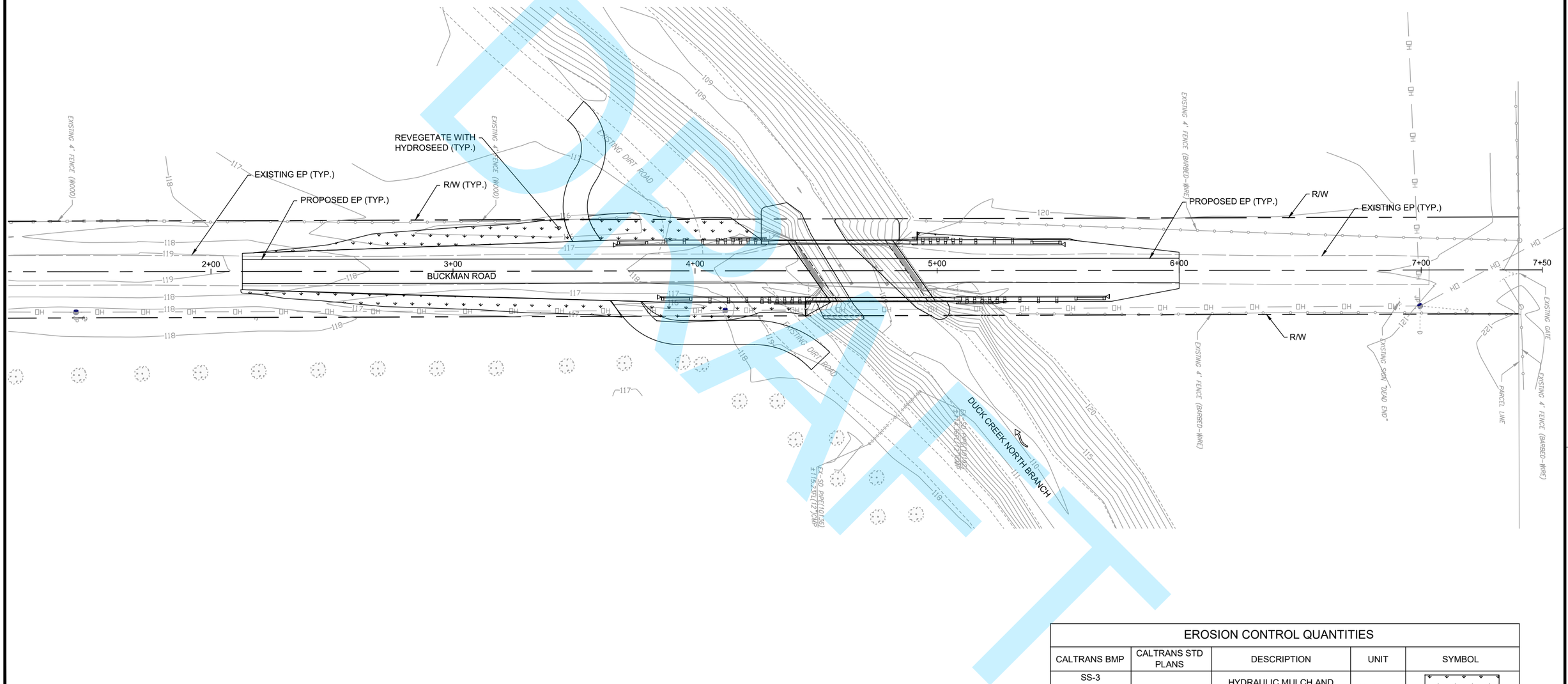
SHEET NO.
12 of 23

Drawing Name: O:\9594 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Plansheets\12-594-SIGNS.dwg
Last Opened: Jul 20, 2022 - 10:25am by James

EXHIBIT G

DRAWER	SHEET NO.

0 20 40 60
SCALE 1"=20'



EROSION CONTROL QUANTITIES				
CALTRANS BMP	CALTRANS STD PLANS	DESCRIPTION	UNIT	SYMBOL
SS-3 & SS-4	N/A	HYDRAULIC MULCH AND HYDROSEEDING	2,613 SF	

NOTE: PLACE NATIVE BACKFILL ON THE TOP TWO THIRDS OF THE CREEK TO PROVIDE A SUBSTRATE FOR HYDROSEED AND PLANT GROWTH.

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022	
DRAWN BY	DATE	SHEET NAME		SCALE
J. PLEINBERG	07/18/2022	**PERMANENT EROSION CONTROL PLAN**		1"=20'

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024
CIVIL
STATE OF CALIFORNIA

STEPHEN HAWKINS
Project Manager (Consultant)

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MGE ENGINEERING INC.
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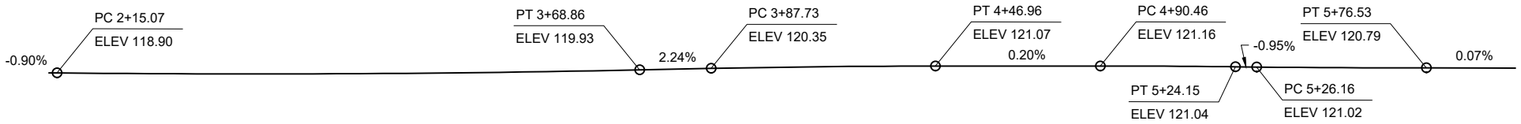
SHEET NO.
13 of 23

Drawing Name: O:\594 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Plansheets\13-594-PERM EC.dwg
Last Opened: Jul 20, 2022 - 10:25am by James

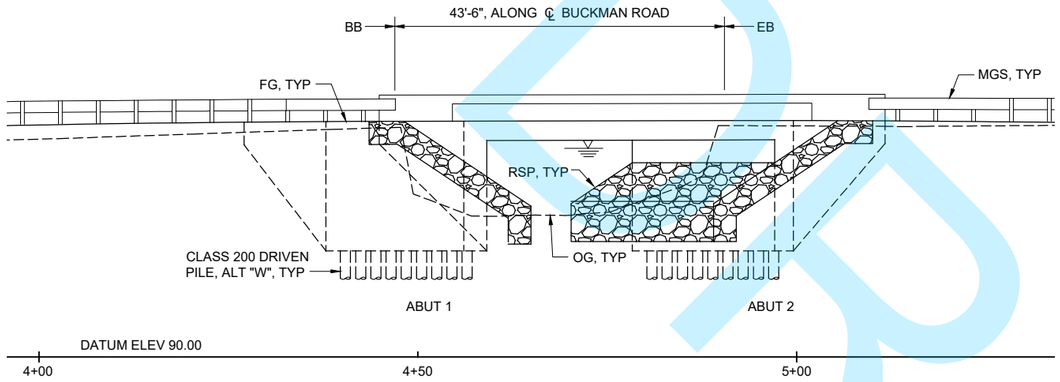
EXHIBIT G

DRAWER	
SHEET NO.	



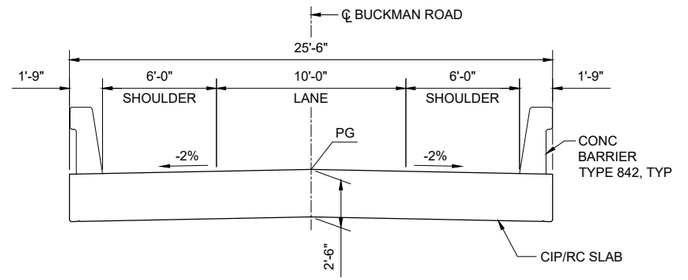
PROFILE GRADE

NO SCALE



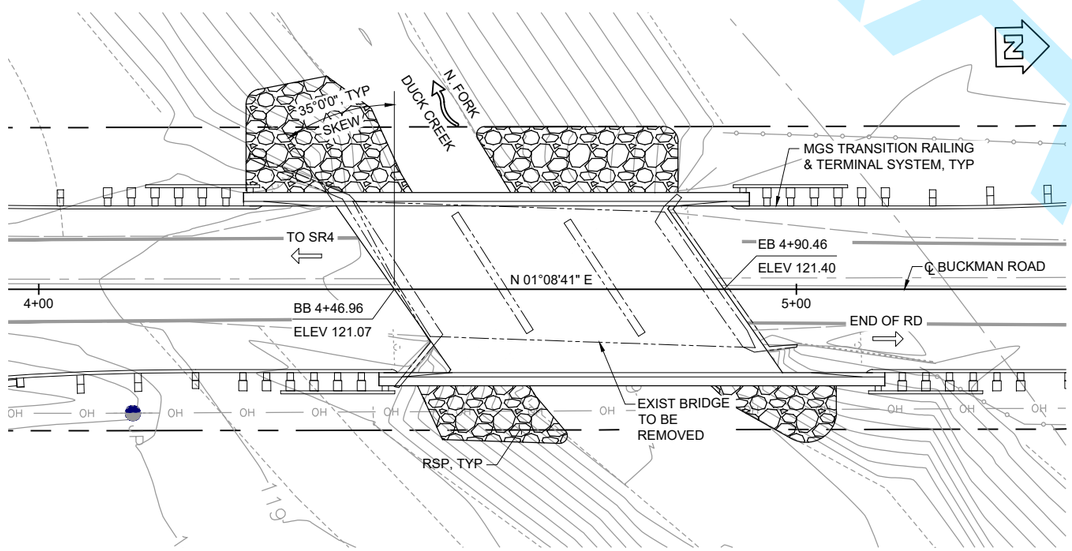
ELEVATION

1" = 10'



TYPICAL SECTION

1/4" = 1'-0"



PLAN

1" = 10'

LEGEND

- INDICATES NEW CONSTRUCTION
- INDICATES EXISTING CONSTRUCTION
- INDICATES DIRECTION OF TRAVEL
- INDICATES DIRECTION OF FLOW
- FOR HYDROLOGIC SUMMARY, SEE "FOUNDATION PLAN" SHEET

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE
R. SENNETT	06/2022		
DRAWN BY	DATE	SHEET NAME	SCALE
P. ZHAO	06/2022	GENERAL PLAN	

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
R. E. SENNETT IV
NO. 3976
EXP. 12/31/2022
STRUCTURAL
STATE OF CALIFORNIA

ROBERT E. SENNETT
Project Manager (Consultant)

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC
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1810 EAST HAZELTON AVENUE
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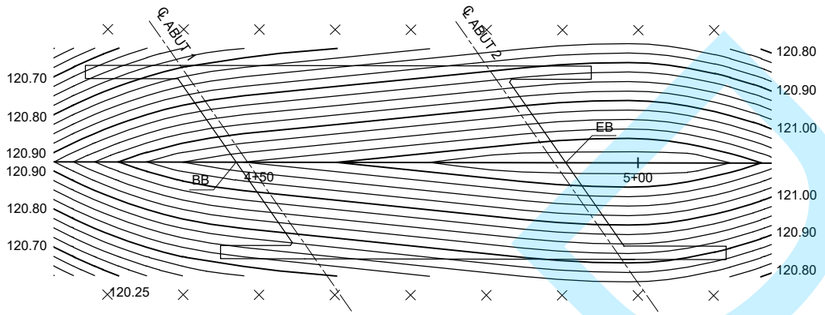
MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

SHEET NO.
14 of 23

Drawing Name: P:\594 Buckman Road Bridge San Joaquin Co\06 CAD\Structure\594 GP.dwg
Last Opened: Jun 29, 2022 - 4:48pm by Peter

EXHIBIT G

DRAWER	SHEET NO.

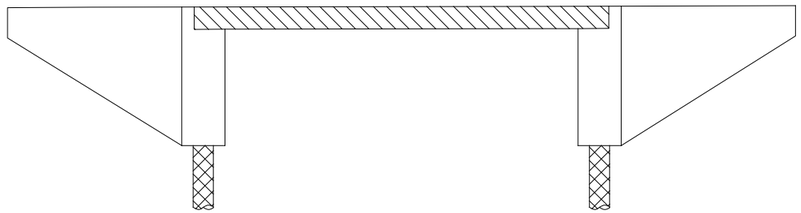


DECK CONTOURS

1" = 10'

NOTES:

1. CONTOUR INTERVAL = 0.025 FT
2. CONTOURS DO NOT INCLUDE CAMBER
3. × INDICATES 10' STATION INTERVALS ALONG ℄ BUCKMAN ROAD



CONCRETE STRENGTH AND TYPE LIMITS

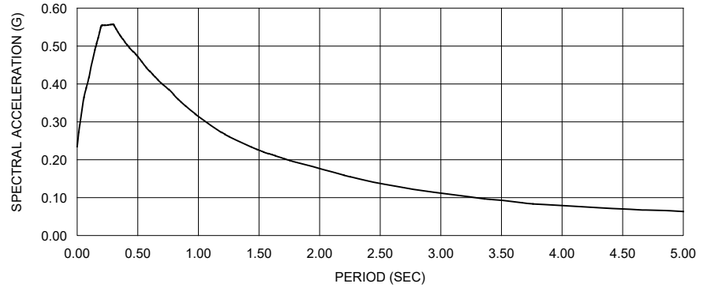
NO SCALE

LEGEND

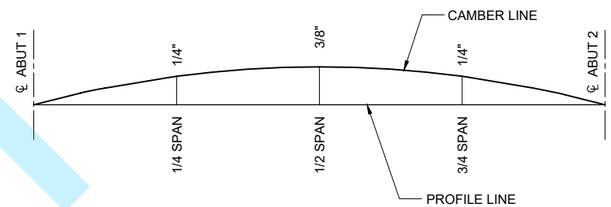
- STRUCTURAL CONCRETE, BRIDGE f'c = 3.6 ksi AT 28 DAYS
- STRUCTURAL CONCRETE, BRIDGE f'c =3.6 ksi AT 28 DAYS
- CLASS 200 DRIVEN PILE, ALT "W"

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION AND THE CALTRANS AMENDMENTS, PREFACE, DATED APRIL 2019
SEISMIC DESIGN:	CALTRANS SEISMIC DESIGN CRITERIA (SDC) VERSION 2.0, APRIL, 2019
DEAD LOAD:	INCLUDES 35 PSF FOR FUTURE WEARING SURFACE.
LIVE LOAD:	HL93 AND PERMIT DESIGN VEHICLE
SEISMIC LOAD:	SHEAR WAVE VELOCITY, V_{S30} = 260 m/s MAXIMUM MAGNITUDE = 6.8 PEAK GROUND ACCELERATION = 0.23g
REINFORCED CONCRETE:	fy = 60,000 PSI f'c = SEE 'CONCRETE STRENGTH AND TYPE LIMITS' n = 8



RESPONSE SPECTRA



CAMBER DIAGRAM

NO SCALE

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	06/2022			
DRAWN BY	DATE	SHEET NAME		SCALE
P. ZHAO	06/2022	DECK CONTOURS AND GENERAL NOTES		

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
R. E. SENNETT IV
NO. 3976
EXP. 12/31/2022
STRUCTURAL
STATE OF CALIFORNIA

ROBERT E. SENNETT
Project Manager (Consultant)

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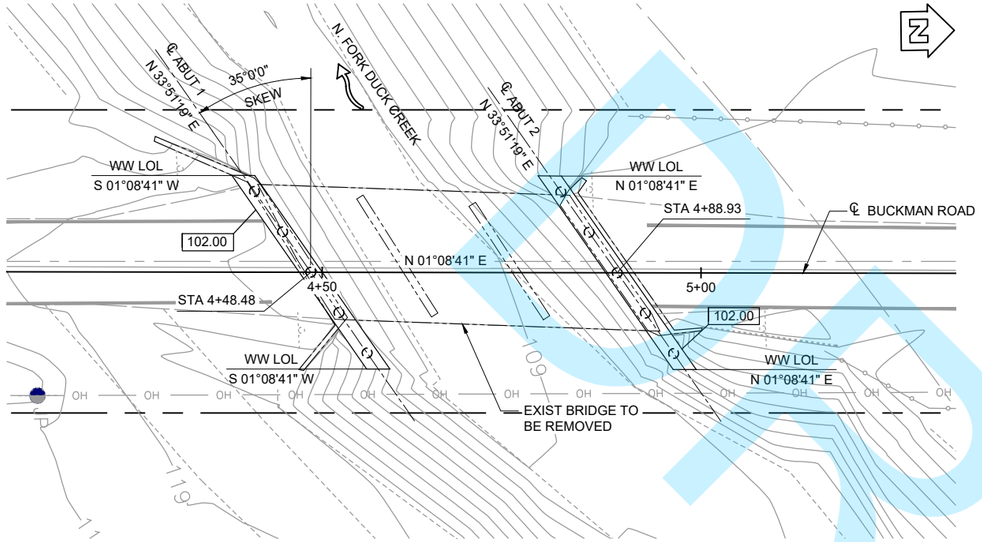
SHEET NO.
15 of 23

Drawing Name: P:\594 Buckman Road Bridge San Joaquin Co\06 CAD\Structure\594 GP.dwg
Last Opened: Jun 28, 2022 - 4:12pm by Peter

DRAWER	
SHEET NO.	



FOUNDATION PLAN

1" = 10'

HYDROLOGIC SUMMARY

DRAINAGE AREA 14.4 SQUARE MILES

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (YEARS)	50	100
DISCHARGE (CUBIC FEET PER SECOND)	1590	1890
WATER SURFACE (ELEVATION AT BRIDGE)	116.3	116.9

SCOUR DATA TABLE

SUPPORT NO.	LONG TERM (DEGRADATION AND CONTRACTION) SCOUR DEPTH (FEET)	SHORT TERM (LOCAL) SCOUR DEPTH (FEET)
ABUT 1	6.2	7.0
ABUT 2	6.2	3.3

FOUNDATION FACTORED DESIGN LOADS

SUPPORT LOCATION	SERVICE-I LIMIT STATE (kips)		STRENGTH/CONSTRUCTION LIMIT STATE (CONTROLLING GROUP, kips)				EXTREME EVENT LIMIT STATE (CONTROLLING GROUP, kips)			
	TOTAL LOAD PER SUPPORT	PERMANENT LOADS PER SUPPORT	COMPRESSION		TENSION		COMPRESSION		TENSION	
			PER SUPPORT	MAX. PER PILE	PER SUPPORT	MAX. PER PILE	PER SUPPORT	MAX. PER PILE	PER SUPPORT	MAX. PER PILE
ABUT 1	680	495	940	105	N/A	N/A	515	60	N/A	N/A
ABUT 2	680	495	940	105	N/A	N/A	515	60	N/A	N/A

LEGEND

- INDICATES NEW CONSTRUCTION
- INDICATES EXISTING CONSTRUCTION
- INDICATES DIRECTION OF FLOW
- XXX.XX INDICATES BOTTOM OF ABUTMENT ELEVATION
- INDICATES CLASS 200 DRIVEN PILE, ALT "W"

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	07/2022			
DRAWN BY	DATE	SHEET NAME		SCALE
P. ZHAO	07/2022	**FOUNDATION PLAN**		

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER — R. E. SENNETT IV — NO. 3976 — EXP. 12/31/2022 — STRUCTURAL — STATE OF CALIFORNIA

ROBERT E. SENNETT
Project Manager (Consultant)

COUNTY OF SAN JOAQUIN
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1810 EAST HAZELTON AVENUE
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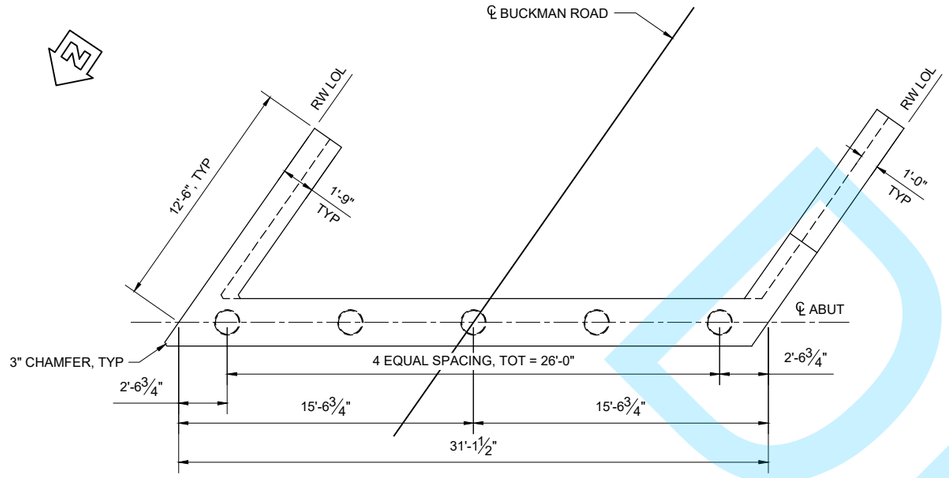
SHEET NO.
16 of 23

Drawing Name: P:\694 Buckman Road Bridge San Joaquin Co\06 CAD\Structure\694 GP.dwg
Last Opened: Jul 18, 2022 - 2:31pm by Peter

EXHIBIT G

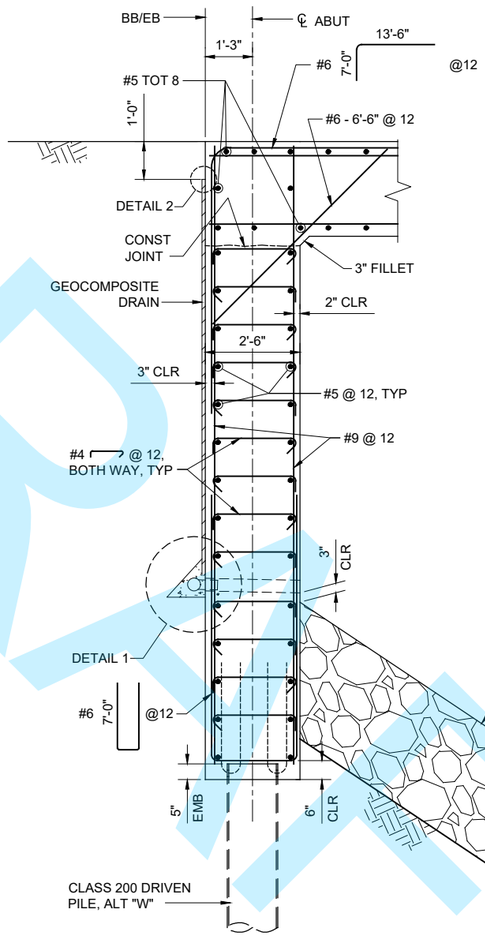
DRAWER	
SHEET NO.	



ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR.

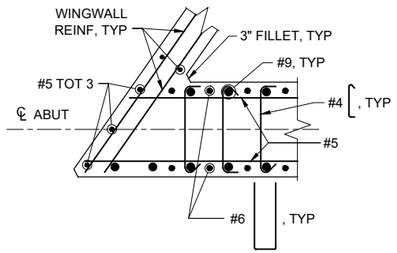
PLAN

1/4 = 1'-0"



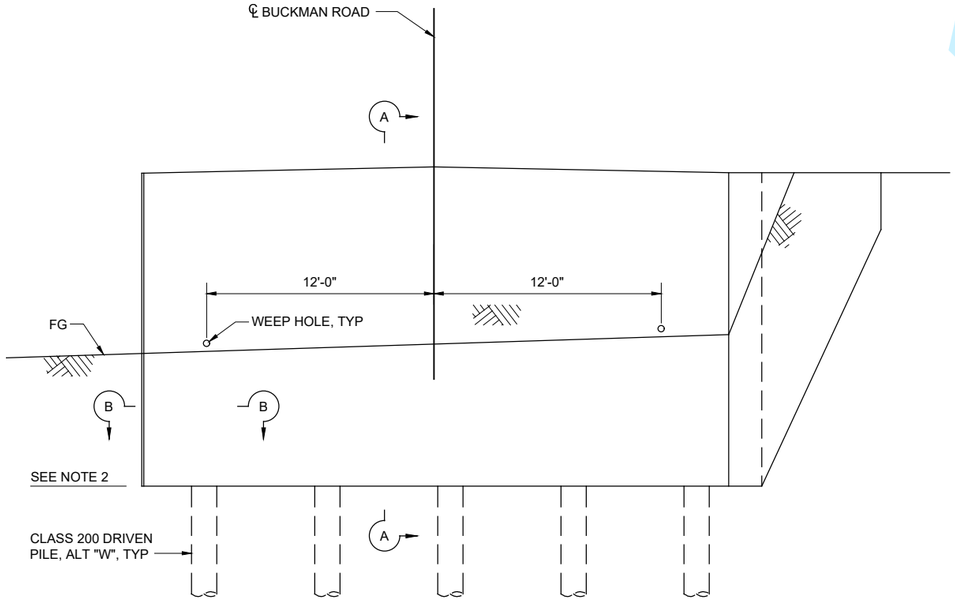
SECTION A-A

1/2" = 1'-0"



SECTION B-B

1/2" = 1'-0"



ELEVATION

1/4 = 1'-0"

NOTES:

1. FOR DETAIL 1 AND DETAIL 2, SEE "ABUTMENT DETAILS NO. 2" SHEET.
2. SEE "FOUNDATION PLAN" SHEET FOR BOTTOM OF ABUTMENT ELEVATIONS.

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	06/2022			
DRAWN BY	DATE	SHEET NAME		SCALE
P. ZHAO	06/2022	**ABUTMENT DETAILS NO. 1**		

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER — R. E. SENNETT IV — NO. 3976 — EXP. 12/31/2022 — STRUCTURAL — STATE OF CALIFORNIA

ROBERT E. SENNETT
Project Manager (Consultant)

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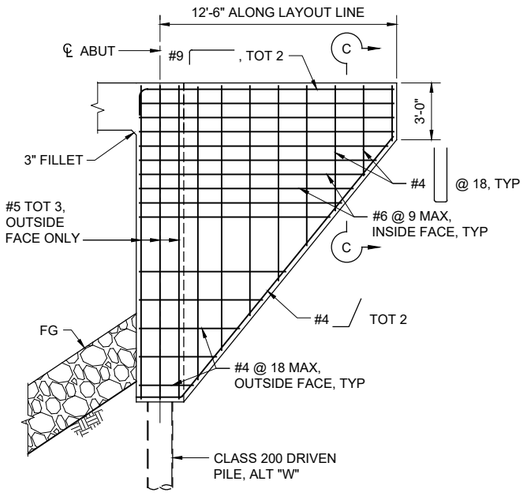
Sacramento, California 95831 (916) 421-1000

SHEET NO.
17 of 23

Drawing Name: P:\594 Buckman Road Bridge San Joaquin Co\06 CAD\Structure\594 DETAILS.dwg
Last Opened: Jun 30, 2022 - 5:36pm by Peter

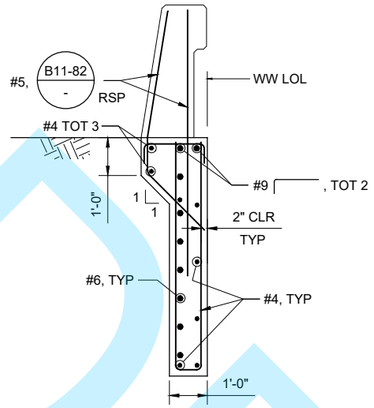
EXHIBIT G

DRAWER	
SHEET NO.	



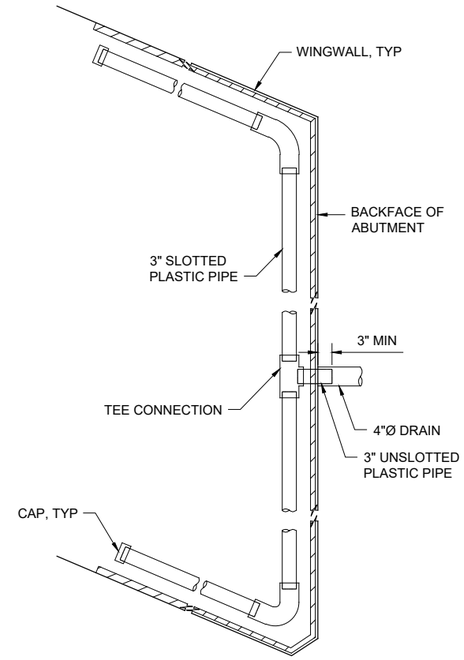
WINGWALL ELEVATION

1/4" = 1'-0'



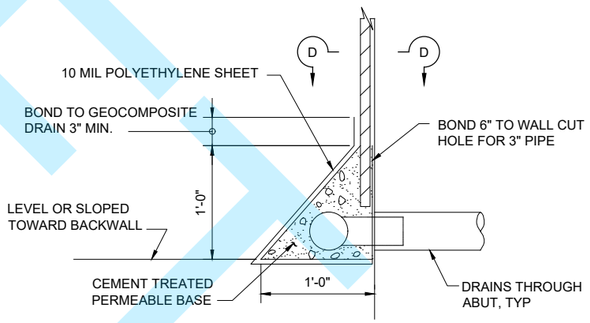
SECTION C-C

1/2" = 1'-0'

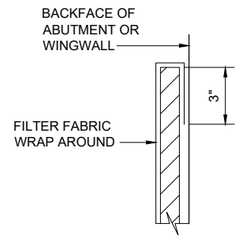


SECTION D-D

3/4" = 1'-0"



DETAIL 1



DETAIL 2

WEEP HOLE AND GEOCOMPOSITE DRAIN

NO SCALE

NOTES:

1. GEOCOMPOSITE DRAIN, CEMENT TREATED PERMEABLE BASE, AND 3"Ø SLOTTED PLASTIC PIPE CONTINUOUS BEHIND ABUTMENT & WINGWALLS. CAP ENDS OF PIPE. PROVIDE "TEE" CONNECTION AT EACH 4"Ø DRAIN.

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	06/2022			
DRAWN BY	DATE	SHEET NAME		SCALE
P. ZHAO	06/2022	**ABUTMENT DETAILS NO. 2**		

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER — R. E. SENNETT IV — NO. 3976 — EXP. 12/31/2022 — STRUCTURAL — STATE OF CALIFORNIA

ROBERT E. SENNETT
Project Manager (Consultant)

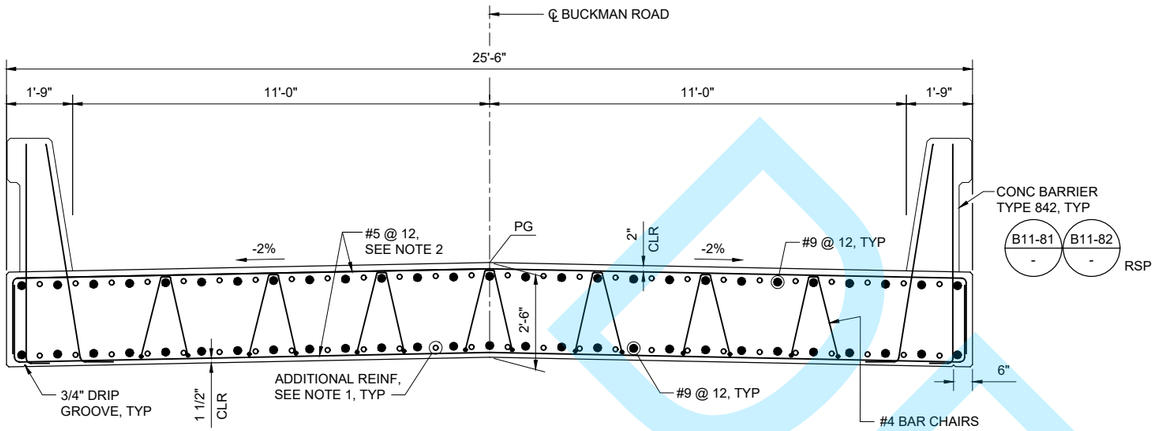
COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS BRIDGE DIVISION
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468 - 3000
FAX: (209) 468 - 2999

MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

SHEET NO.
18 of 23

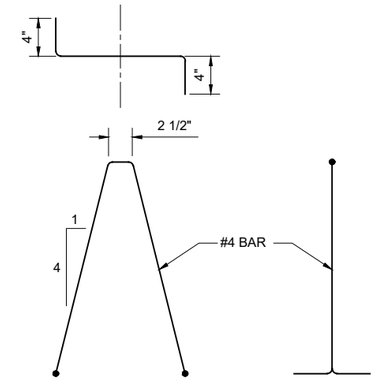
Drawing Name: P:\694 Buckman Road Bridge San Joaquin Co\06 CAD\Structure\694 DETAILS.dwg
Last Opened: Jul 04 2022 - 2:02pm by Peter

DRAWER	
SHEET NO.	



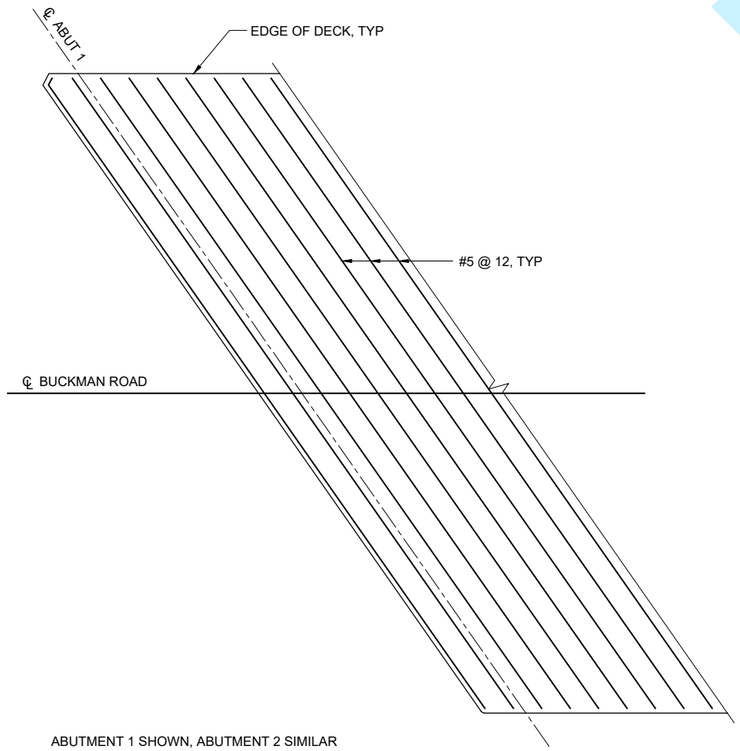
TYPICAL SECTION

1/2 = 1'-0"



BAR CHAIR DETAIL

1 1/2" = 1'-0'



ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR

PARTIAL TRANSVERSE REINFORCEMENT LAYOUT

3/8" = 1'-0'

NOTES:

1. FOR ADDITIONAL REINFORCEMENT DETAILS, SEE "ADDITIONAL DECK REINFORCEMENT" SHEET.
2. PLACE REINF PARALLEL TO ℄ ABUT, SPACE ALONG ℄ BUCKMAN ROAD.

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	06/2022			
DRAWN BY	DATE	SHEET NAME		SCALE
P. ZHAO	06/2022	**TYPICAL SECTION**		

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
R. E. SENNETT IV
NO. 3976
EXP. 12/31/2022
STRUCTURAL
STATE OF CALIFORNIA

ROBERT E. SENNETT
Project Manager (Consultant)

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS BRIDGE DIVISION
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468 - 3000
FAX: (209) 468 - 2999

MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

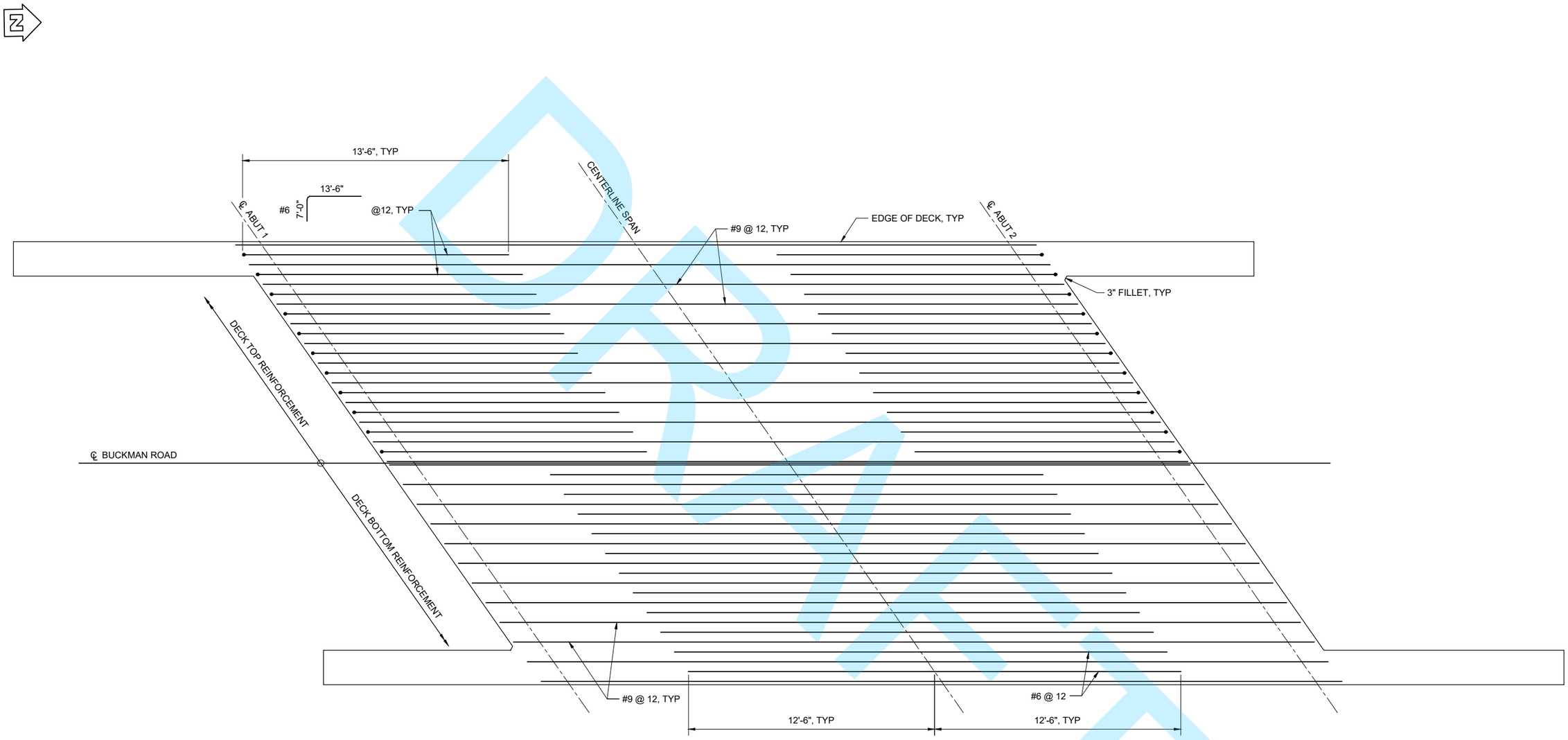
SHEET NO.
19 of 23

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

Drawing Name: P:\5929 Buckman Road Bridge San Joaquin Co\06 CAD\Structure\594 DETAILS.dwg
Last Opened: Jul 01 2022 - 11:20am by Peter

EXHIBIT G

DRAWER	SHEET NO.



ADDITIONAL DECK REINFORCEMENT

3/8" = 1'-0"

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE
R. SENNETT	06/2022		
DRAWN BY	DATE	SHEET NAME	SCALE
P. ZHAO	06/2022	**ADDITIONAL DECK REINFORCEMENT**	

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
R. E. SENNETT IV
NO. 3976
EXP. 12/31/2022
CIVIL STRUCTURAL
STATE OF CALIFORNIA

ROBERT E. SENNETT
Project Manager (Consultant)

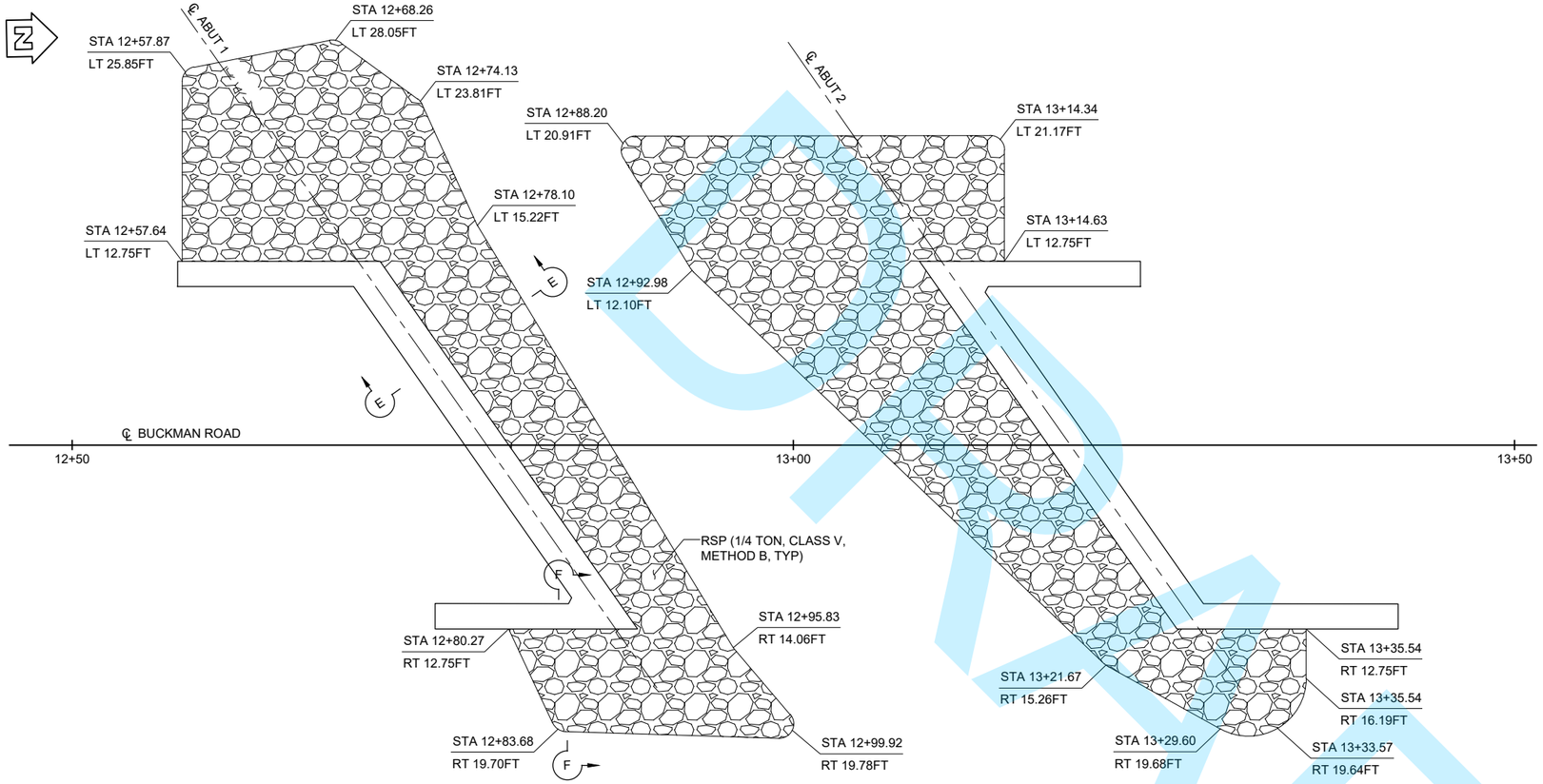
COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS BRIDGE DIVISION
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468 - 3000
FAX: (209) 468 - 2999

MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

SHEET NO.
20 of **23**

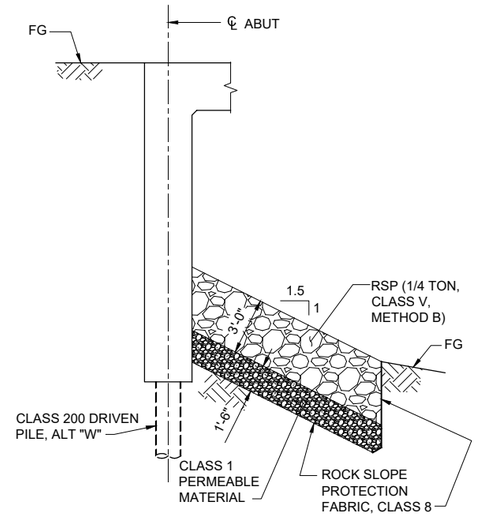
Drawing Name: P:\654 Buckman Road Bridge San Joaquin Co\06 CADStructure\594 DETAILS.dwg
Last Opened: Jul 01 2022 - 2:55pm by Peter

DRAWER	SHEET NO.



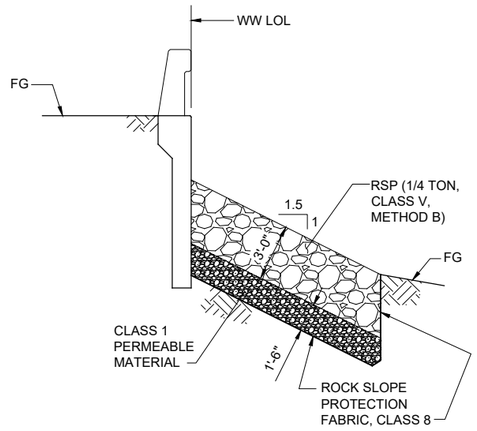
PLAN

1" = 5'



SECTION E-E

1/4" = 1'-0'



SECTION F-F

1/4" = 1'-0'

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE	
R. SENNETT	06/2022			
DRAWN BY	DATE	SHEET NAME		SCALE
P. ZHAO	06/2022	**ROCK SLOPE PROTECTION DETAILS**		

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
R. E. SENNETT IV
NO. 3976
EXP. 12/31/2022
STRUCTURAL
STATE OF CALIFORNIA

ROBERT E. SENNETT
Project Manager (Consultant)

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS BRIDGE DIVISION
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468 - 3000
FAX: (209) 468 - 2999

MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

SHEET NO.
21 of **23**

Drawing Name: P:\5929 Buckman Road Bridge San Joaquin Co\06 CAD\Structure\05ht DETAILS.dwg
Last Opened: Jul 01, 2022 - 5:06pm by Peter

EXHIBIT G

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	C.R.	X.X/X.X		

BENCH MARK:
See "Road Plans"

DATUM:
NAVD88

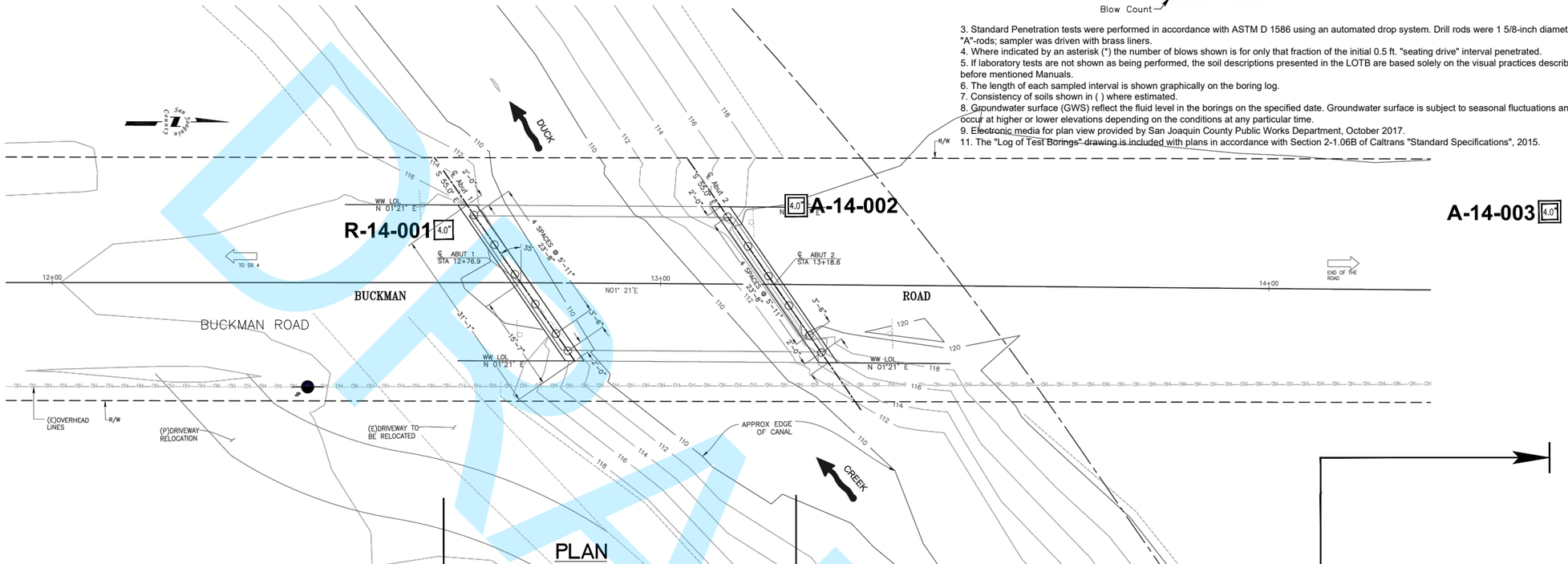
LEGEND:
- Direction of Water Flow
- Direction of Traffic
- Right–of–Way
- Overhead Utility Line
- Utility Pole

NOTES:

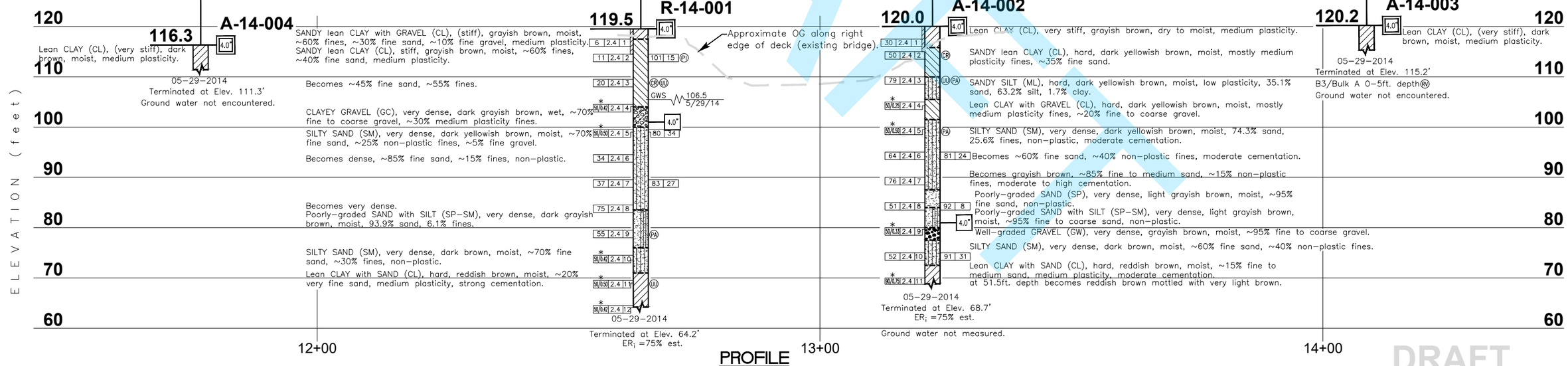
1. Field classification of soils was in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual 2010.
2. Legends sheets are not included in plan set. See Caltrans Standard Plans, 2015 Edition, sheets A10F, A10G (soil legends), and A10H (rock legend). Sample Moisture and Dry Density are shown on the boring logs as;

Sample ID — Sample Size (in.) — Blow Count: 16 | 2.4 | 1
Dry Density (pcf) — Moisture (%): 100 | 13

3. Standard Penetration tests were performed in accordance with ASTM D 1586 using an automated drop system. Drill rods were 1 5/8-inch diameter "A"-rods; sampler was driven with brass liners.
4. Where indicated by an asterisk (*) the number of blows shown is for only that fraction of the initial 0.5 ft. "seating drive" interval penetrated.
5. If laboratory tests are not shown as being performed, the soil descriptions presented in the LOTB are based solely on the visual practices described in the before mentioned Manuals.
6. The length of each sampled interval is shown graphically on the boring log.
7. Consistency of soils shown in ( ) where estimated.
8. Groundwater surface (GWS) reflect the fluid level in the borings on the specified date. Groundwater surface is subject to seasonal fluctuations and may occur at higher or lower elevations depending on the conditions at any particular time.
9. Electronic media for plan view provided by San Joaquin County Public Works Department, October 2017.
11. The "Log of Test Borings" drawing is included with plans in accordance with Section 2-1.06B of Caltrans "Standard Specifications", 2015.



PLAN



PROFILE

DRAFT

PROJECT ENGINEER	DATE	CHECKED BY	DATE
Don Rodgers	6/14/2018	David Morrell	10/20/17
DRAWN BY	DATE	SHEET NAME	SCALE
Mike Robertson	10/18/17		1"=10'

BUCKMAN ROAD BRIDGE NO. 29C-307
REPLACEMENT PROJECT
(AT N. FORK DUCK CREEK)
FEDERAL AID PROJECT NO. BRLO-5929 (241)

REGISTERED PROFESSIONAL ENGINEER — DAVID J. MORRELL — NO. GE 2843 — GEOTECHNICAL — STATE OF CALIFORNIA

David J. Morrell
Blackburn Consulting
File No. 2510.x 01

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS BRIDGE DIVISION
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468 - 3000
FAX: (209) 468 - 2999

BUCKMAN ROAD BRIDGE OVER NORTH FORK DUCK CREEK

Log of Test Borings

SHEET NO.	TOTAL SHEETS
X	X

6/14/2018 2510.x 001 Buckman Rd Bridge at NF Duck Crk LOTB 2017.dwg

DRAWER	SHEET NO.

NO.	ITEM CODE	CONTRACT ITEM	QTY	UNIT
1	05 0000	CONSTRUCTION SURVEY	1	LS
2	12 0090	CONSTRUCTION AREA SIGNS	1	LS
3	12 0100	TRAFFIC CONTROL SYSTEM	1	LS
4	13 0100	JOB SITE MANAGEMENT	1	LS
5	13 0200	PREPARE WATER POLLUTION CONTROL PROGRAM	1	LS
6	13 1201	TEMPORARY CREEK DIVERSION SYSTEM	1	LS
7	17 0103	CLEARING AND GRUBBING	1	LS
8	19 0101	ROADWAY EXCAVATION	324	CY
9	19 0185	SHOULDER BACKING	45	TON
10	19 2020	STRUCTURE EXCAVATION (TYPE D)	185	CY
11	19 3003	STRUCTURE BACKFILL (BRIDGE)	80	CY
12	19 8010	IMPORTED BORROW	14	CY
13	19 8050	EMBANKMENT	146	CY
14	21 0430	HYDROSEED	2,613	SQFT
15	26 0203	CLASS 2 AGGREGATE BASE	286	CY
16	39 0132	HOT MIX ASPHALT (TYPE A)	77	TON
17	48 0000	TEMPORARY DETOUR ROADWAY	1	LS
18	49 0782	FURNISH PILING (CLASS 200) (ALTERNATIVE W)	550	LF
19	49 0783	DRIVE PILE (CLASS 200) (ALTERNATIVE W)	18	EA
20	51 0053	STRUCTURAL CONCRETE, BRIDGE	193	CY
21	52 0102	BAR REINFORCING STEEL (BRIDGE)	24,097	LB
22	60 0097	BRIDGE REMOVAL	1	LS
23	68 2022	CLASS 1 PERMEABLE MATERIAL	0	CY
24	72 3050	ROCK SLOPE PROTECTION (1/4 T, CLASS V, METHOD B)	153	CY
25	72 9011	ROCK SLOPE PROTECTION FABRIC (CLASS 8)	254	SQYD
26	80 0007	FENCE (TYPE BW, 5-STRAND, METAL POST)	500	LF
27	80 3030	REMOVE FENCE (TYPE BW)	500	LF
28	82 0134	OBJECT MARKER (TYPE P)	4	EA
29	83 9543	TRANSITION RAILING (TYPE WB-31)	4	EA
30	83 9539	TERMINAL SYSTEM MSKT-SP-MGS (TL2)	4	EA
31	83 9746	CONCRETE BARRIER (TYPE 842)	130	LF
32	84 0656	PAINT TRAFFIC STRIPE (2-COAT)	387	LF

PROJECT NAME: BUCKMAN ROAD BRIDGE REPLACEMENT OVER DUCK CREEK NORTH BRANCH

PROJECT ENGINEER	DATE	CHECKED BY	DATE
R. SENNETT	07/18/2022	S. HAWKINS	07/18/2022
DRAWN BY	DATE	SHEET NAME	SCALE
J. PLENBERG	07/18/2022	**SUMMARY OF QUANTITIES**	1"=20'

BUCKMAN ROAD BRIDGE REPLACEMENT
FEDERAL AID PROJECT NO. BRLO-5929(241)

REGISTERED PROFESSIONAL ENGINEER
STEPHEN HAWKINS
NO. 36556
EXP. 06/30/2024
CIVIL
STATE OF CALIFORNIA

STEPHEN HAWKINS
Project Manager (Consultant)

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS BRIDGE DIVISION
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95205
PHONE: (209) 468 - 3000
FAX: (209) 468 - 2999

MGE ENGINEERING INC.
7415 Greenhaven Dr. Suite 100
Sacramento, California 95831 (916) 421-1000

SHEET NO.
23 of 23

Drawing Name: O:\694 Buckman Road Bridge San Joaquin Co\06 CAD\Production\Plsheets\27-694-QUANT.dwg
Last Opened: Jul 20, 2022 - 10:25am by James

65% Special Provisions

BRIDGE REPLACEMENT
BUCKMAN ROAD BRIDGE OVER
NORTH DUCK CREEK BRANCH

San Joaquin County, California

65% Design Submittal

July 2022

Prepared For:
County of San Joaquin
Department of Public Works
1810 East Hazelton Avenue
Stockton, CA 95205

For use in conjunction with:
State of California Department of Transportation
Standard Specifications dated 2018

Prepared By:
MGE ENGINEERING, INC.
7415 Greenhaven Drive, Suite 100
Sacramento, CA 95831

STANDARD PLANS LIST

The standard plan sheets applicable to this Contract include those listed below. The applicable revised standard plans (RSPs) listed below are included in the project plans.

	ABBREVIATIONS, LINES, SYMBOLS, AND LEGEND
A3A	**Abbreviations (Sheet 1 of 3)**
A3B	**Abbreviations (Sheet 2 of 3)**
A3C	**Abbreviations (Sheet 3 of 3)**
A10A	**Legend - Lines and Symbols (Sheet 1 of 5)**
A10B	**Legend - Lines and Symbols (Sheet 2 of 5)**
A10C	**Legend - Lines and Symbols (Sheet 3 of 5)**
A10D	**Legend - Lines and Symbols (Sheet 4 of 5)**
A10E	**Legend - Lines and Symbols (Sheet 5 of 5)**
	PAVEMENT MARKERS, TRAFFIC LINES, AND PAVEMENT MARKINGS
A20A	**Pavement Markers and Traffic Lines - Typical Details**
A20B	**Pavement Markers and Traffic Lines - Typical Details**
	EXCAVATION AND BACKFILL
A62C	**Limits of Payment for Excavation and Backfill - Bridge**
	OBJECT MARKERS, DELINEATORS, CHANNELIZERS, AND BARRICADES
A73A	**Object Markers**
RSP A73B	**Markers**
	MIDWEST GUARDRAIL SYSTEM - STANDARD RAILING SECTIONS
A77L2	**Midwest Guardrail System - Standard Railing Section (Steel Post with Notched Wood or Notched Recycled Plastic Block)**
A77M1	**Midwest Guardrail System - Standard Hardware**
A77N2	**Midwest Guardrail System - Steel Post and Notched Wood Block Details**
RSP A77N3	**Midwest Guardrail System - Typical Line Post Embedment and Hinge Point Offset Details**
A77N4	**Midwest Guardrail System - Typical Railing Delineation and Dike Positioning Details**
	MIDWEST GUARDRAIL SYSTEM - TYPICAL LAYOUTS FOR STRUCTURES
RSP A77Q1	**Midwest Guardrail System - Typical Layouts for Structure Approach**
RSP A77Q4	**Midwest Guardrail System - Typical Layouts for Structure Departure**
	MIDWEST GUARDRAIL SYSTEM - CONNECTION DETAILS AND TRANSITION RAILING TO BRIDGE RAILINGS, ABUTMENTS AND WALLS
A77U1	**Midwest Guardrail System - Connections to Bridge Railings without Sidewalks Details No. 1**
A77U2	**Midwest Guardrail System - Connections to Bridge Railings without Sidewalks Details No. 2**
A86	**Barbed Wire and Wire Mesh Fences**
A86A	**Barbed Wire and Wire Mesh Fence Detail on Sharp Break in Grade**
	TEMPORARY WATER POLLUTION CONTROL
T56	**Temporary Water Pollution Control Details (Temporary Fiber Roll)**
	BRIDGE DETAILS
RSP B0-1	**Bridge Details**
B0-13	**Bridge Details**
	BRIDGE CONCRETE BARRIERS
RSP B11-81	**Concrete Barrier Type 842 Details No. 1**
RSP B11-82	**Concrete Barrier Type 842 Details No. 2**

ROADSIDE SIGNS

RS1	**Roadside Signs - Typical Installation Details No. 1**
RS2	**Roadside Signs - Wood Post - Typical Installation Details No. 2**
RS4	**Roadside Signs - Typical Installation Details No. 4**

ORGANIZATION

Special provisions are under headings that correspond with the main-section headings of the *Standard Specifications*. A main-section heading is a heading shown in the table of contents of the *Standard Specifications*.

Each special provision begins with a revision clause that describes or introduces a revision to the *Standard Specifications* as revised by any revised standard specification.

Any paragraph added or deleted by a revision clause does not change the paragraph numbering of the *Standard Specifications* for any other reference to a paragraph of the *Standard Specifications*.

^^

DIVISION I GENERAL PROVISIONS

Add to section 1-1.01:

The work embraced herein must be done in accordance with the Department of Transportation Standard Specifications dated 2018, hereinafter referred to as the Standard Specifications, and the Department of Transportation Standard Plans dated 2018, hereinafter referred to as the Standard Plans, insofar as the same may apply and in accordance with the following special provisions.

In case of conflict between the Standard Specifications and these Special Provisions, the Special Provisions must take precedence over and be used in lieu of such conflicting portions.

Revised Standard Specifications set forth in these Special Provisions must be considered as part of the Standard Specifications for the purposes set forth in Section 5-1.02, "Contract Components".

Replace the last paragraph of section 1-1.05 with:

Where in the Standard Specifications, Special Provisions, Notice to Bidders, bid, contract or other contract documents, the following terms are revised, added or used, the intent and meaning must be interpreted as follows:

Agency	County of San Joaquin
Attorney General	County Counsel of San Joaquin, or a qualified legal representative acting directly or through a properly authorized agent or consultants.
State, or County	County of San Joaquin, except for specific references related to CA Regulatory Agencies, regulations and laws, as appropriate.
Department	County of San Joaquin
Director	Board of Supervisors, County of San Joaquin
District	County of San Joaquin, Department of Public Works

State of California	County of San Joaquin, except for specific references to CA regulatory agencies, CA regulations and laws, where required or appropriate.
Engineer and Deputy Director	Director of Public Works, County of San Joaquin acting either directly or through properly authorized agent and consultants

Add the following to the Abbreviations Table of section 1-1.06:

NTP	Notice to Proceed
QA	quality assurance
QC	Quality Control

Revise, add, or use the following definitions of section 1-1.07B with:

Agency: County of San Joaquin

Authorized Laboratory: Independent testing laboratory (1) not employed by any subcontractor or subcontractor's affiliate providing other services for the Contract and (2) authorized by the Department or Engineer.

Bid Item List: List of bid items and the associated quantities. The verified Bid Item List with verified prices. The Contract Proposal of Low Bidder is verified Bid Item List. After Contract award, interpret reference to the Bid Item List as a reference to the verified Bid Item List.

Bidder's Exchange: References to Bidder's Exchange means www.bidexpress.com managed by San Joaquin County Department of Public Works.

Board of Supervisors: Board of Supervisors of San Joaquin County, State of California.

California Test: Caltrans-developed test for determining work quality. For California Tests, go to the METS Web site.

Caltrans: California Department of Transportation as defined in the State & Hwy Code Section 20 and authorized in State & Hwy Code section 90, its authorized representative.

Contract documents: The Contract documents consist of: Notice to Bidders, the prevailing rate of per diem wage rates as determined by the CA Department of Industrial Relations, the accepted Bid and Bid Schedule, List of Subcontractors, Non-Collusion Affidavit, Bid Security or Bid Bond, this Contract Agreement, Workers Compensation Certificate, Performance Bond, Payment Bond, Notice of Award, Notice to Proceed, Notice of Completion, Special Provisions, Revised Standard Specifications, CA 2018 Standard Specifications, CA Labor Surcharge and Equipment Rental Rates, Drawings, Addenda, Change Orders, Work Directives and any other applicable documents not listed including modifications incorporated in these documents.

County: County of San Joaquin, a political subdivision of the State of California.

Engineer or Office Engineer: San Joaquin County Director of Public Works, acting either directly or through properly authorized agents, and such agents acting within the scope of the particular duties delegated to them.

Improvement Specifications and Standards: Improvement Specifications and Standards of County of San Joaquin, Department of Public Works

Notice to Contractors: References to Notice to Contractors or Notice to Bidders are the same documents.

Purchasing Agent: The Purchasing Manager, of County, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties delegated to them.

Submittal:
When a submittal is identified to be made to METS or to OSD, submit the items to the Engineer unless otherwise directed.

Delete section 1-1.08.

Delete section 1-1.10.

Replace the "Address, Website & Telephone Numbers" of Office Engineer in section 1-1.11 with:

Reference or Agency or Department Name	Web site	Address	Telephone
Office Engineer	www.bidexpress.com	DESIGN ENGINEER COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS 1810 E. HAZELTON AVE. STOCKTON, CA 95205	(209) 468-3000

Replace the first paragraph of section 1-1.12 with:

Make checks and bonds payable to the “County of San Joaquin.”

^^

2 BIDDING

Delete section 2-1.04.

Replace section 2-1.05 with:

2-1.05 CONFLICT OF INTEREST

In conformance with Public Contracts Code 7106, a Noncollusion Affidavit is included in the Bid documents. Signing the Bid shall also constitute signature of the Noncollusion Affidavit.

The Contractor, sub-recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in performance of the contract. The contractor shall carry out applicable requirements of Title 49 CFR (Code of Federal Regulations), Part 26 in the award and administration of US DOT- assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of the is contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate. Each subcontract signed by the bidder must be include this assurance.

Replace section 2-1.06A with:

Standard Specifications and Standard Plans may be viewed at the Caltrans Bidders Exchange and may be purchased at the Caltrans Publication and Distribution Unit.

Bids and copies of the Plans and Specifications will be available at the Department of Public Works' Solicitation Page at BidExpress, found at www.bidexpress.com/businesses/23724/home?agency=true.

The "Specifications" includes the Special Provisions, Notice to Bidders, Bid and Contract.

Replace paragraphs 3 through 8 in section 2-1.06B with:

Supplemental Project Information, if any, will be available and can be downloaded at www.bidexpress.com.

2-1.12 DISADVANTAGED BUSINESS ENTERPRISES

Replace paragraph 2 in section 2-1.12B(2) with:

Submit Construction Contract DBE Commitment (Exhibit 15-G), DBE Information – Good Faith Efforts (Exhibit 15-H), Bidder's List of Subcontractor (DBE and Non-DBE) (Exhibit 12-B), and Bidder DBE Trucking Information Form.

DBE Commitment may be submitted with the bid, using BidExpress at https://www.bidexpress.com, on or before the date and closing time specified in the "Notice to Bidders."

Delete section 2-1.15.

Delete section 2-1.18.

Delete section 2-1.27.

Delete section 2-1.31.

Replace section 2-1.33A with:

Complete and submit the bids electronically under the Department of Public Works' Solicitation Page at the BidExpress website, found at www.bidexpress.com/businesses/23724/home?agency=true.

To bid electronically, all bidders must be registered and create a Digital ID with BidExpress. Please allow at least (5) business days to complete the electronic bidding registration process for the first time. It is highly recommended that a Digital ID be active 48 hours in advance of submitting an electronic bid.

Your authorized digital signature is your confirmation of and agreement to all certifications and statements contained in the Bid. On forms and certifications that you submit through the electronic bidding service, you agree that each form and certification where a signature is required is deemed as having your signature.

Replace the first sentence of the first paragraph of section 2-1.33B(1) with:

Bid forms are included in the advertised project Plans and Specifications and are specific to this contract.

Add to section 2-1.33B(1):

When more than one schedule of work to be performed is included, the lowest bid will be the lowest total of the bid prices on the Base Contract and those schedules taken in order as they appear in the bid and added to the base contract that are less or equal to a funding amount to be read publicly prior to bid opening. If no bids are less than the stated amount, the lowest bid will be the lowest cost base bid submitted.

A responsible bidder who submitted the lowest bid as determined by this section will be awarded the contract, if it is awarded. This section does not preclude the local agency from adding to or deducting from the contract any of the schedules after the lowest responsible bidder had been determined.

Replace the table titled "Bid Form Submittal Schedule for a Non-Informal Bid Federal Aid Contract with a DBE Goal" of section 2-1.33B(2)(b)(iii) with:

Bid Form Submittal Schedule for a
Non-Informal Bid Federal-Aid Contract with a DBE Goal

Form	Submittal deadline
Bid to the Department of Transportation	Time of bid except for the public works contractor registration number
Copy of the Bid to the Department of Transportation as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Subcontractor List	Time of bid except for the public works contractor registration number
Copy of the Subcontractor List as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Small Business Status	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations[a]	Time of bid
DBE Commitment	No later than 4 p.m. on the 4th day after bid opening[b]
DBE Confirmation	No later than 4 p.m. on the 4th day after bid opening[b]
DBE Good Faith Efforts Documentation	No later than 4 p.m. on the 4th day after bid opening[b]

[a]Submit only if you choose the option.

[b]If the last day for submitting the bid form falls on a Saturday or holiday, it may be submitted on the next business day with the same effect as if it had been submitted on the day specified.

Replace section 2-1.34 with:

All Bids must be accompanied by cash, a certified check, cashier's check, electronic bond (eBond), or bid bond of a corporate surety made payable to the County of San Joaquin, for a sum of at least 10 percent of the amount of bid. The bid bond must be signed by both principal and surety with each signature acknowledged before a Notary Public. Please note that the County considers the bid bond and bid as two separate documents, therefore the principal's signature is required to be notarized for both the bid and the bid bond. The bid bond must also contain the project name and the name, address and telephone number of the local agent of the surety bonding insurance company. Such guarantees must be forfeited to said County should the bidder to whom the contract is awarded fails to enter into a contract.

Electronic bidder's bond by an admitted surety insurer submitted using an electronic registry service approved by the Department is available for submission with bid.

Bid Security other than electronic bidder's bond must be received by the Department of Public Works prior to the bid opening date and closing time specified in the Notice to Bidders.

Replace section 2-1.37 with:

2-1.37 BID SUBMITTAL

All Bids must be submitted electronically using BidExpress, www.bidexpress.com, on or before the date and closing time specified in the "Notice to Bidders."

Only one bid per bidder will be accepted.

^^

3 CONTRACT AWARD AND EXECUTION

3-1.02 CONSIDERATION OF BIDS

Add to section 3-1.02A:

When more than one schedule of work to be performed is included, the lowest bide will be the lowest total of the bid prices on the Base Contract and those schedules taken in the order they appear in the bid and added to the Base Contract that are less or equal to a funding amount read publicly prior to the bid opening. If no bids are less than the stated amount, the lowest bid will be the lowest cost base bid submitted.

A responsible bidder who submitted the lowest bid as determined by this section will be awarded the contract, if it is awarded. This section does not preclude the local agency from adding or deduction from the contract any of the schedules after the lowest responsible bidder has been determined.

Replace section 3-1.02B with:

The Department breaks a tied bid with a coin toss.

Replace section 3-1.04 with:

Bid protests are to be delivered to the following address: San Joaquin County Counsel, 44 North San Joaquin Street, Suite 679, Stockton, California 95202.

The award of the contract, if it be awarded, will be the lowest responsible bidder whose bid complies with all the requirements prescribed. The award must be made within 60 days after bid opening. The Department may extend the award period if the bidder agrees.

In the extent that two or more bids are the same and the lowest, the County must award the contract in accordance with the highest DBE percentage submitted in the bids received by the tied bidders and verified by the County in the bid review process.

Replace section 3-1.05 with:

A surety bond of one hundred percent (100%) of the contract price will be required of the successful bidder to guarantee the faithful performance of said contract, and also required must be a separate "Labor and Materials" surety bond of one hundred percent (100%) requirements of Section 3247-3252, inclusive of the Civil Code of the State of California. A sample of the required Performance Bond verbiage has been provided with the Contract Forms.

Replace section 3-1.07 with:

The Contractor and subcontractors will be required to obtain all insurance required under this paragraph and no work will be allowed until such insurance has been approved by the County. Copies of insurance certificates evidencing the required coverage must be furnished to the County. Certificates of insurance must indicate that the coverage cannot be reduced or cancelled until thirty days' written notice has been furnished the County.

1. Compensation Liability Insurance: The Contractor must take out and maintain, during the life of this contract, workers' compensation insurance for all of his employees employed at the site of the project and, in case any work is sublet, the Contractor must require the subcontractor similarly to provide workers' compensation insurance for all of the latter's employees. If any class of employees engaged in hazardous work under this contract at the site of the project is not protected under the Workers' Compensation Statute, the Contractor must provide and must cause any subcontractor to provide insurance for the protection of employees engaged in hazardous work.
2. Bodily Injury Liability and Property Damage Liability Insurance: The Contractor must take out and maintain during the life of this contract such bodily injury liability and property damage liability insurance as must protect him from claims for damages for personal injury, including accidental death as well as from claims for property damage, including coverage on property in the care, custody and control of the Contractor which may arise from his operations under this contract, whether such operations by himself or by any subcontractor or by anyone directly or indirectly employed by either of them, and such insurance must be Public Liability Insurance, in an amount no less than $1,000,000 (combined single limit) per occurrence.

The above insurance must be of the broad form coverage type, affording coverage on property in the care, custody and control of the Contractor, and it is specifically required that the exclusions commonly referred to, in the insurance industry, as the "XCU Exclusions" must be deleted from the Contractor's insurance. Adequate proof of insurance in compliance with the above requirements must be furnished to the County.

An additional insured endorsement to Contractor's liability insurance policy naming the County its officers and employees as additional insureds must be furnished to the County. Notwithstanding the above, Contractor's liability insurance policy must be endorsed as primary insurance.

Contractor will indemnify and defend Owner from all claims, demands, or liability arising out of or encountered in connection with this contract or the prosecution of work under it, whether such claims, demands, or liability are caused by Contractor, Contractor's agents or employees, or subcontractors employed on the project, their agents or employees, or products installed on the project by Contractor or subcontractors, excepting only such injury or harm as may be caused solely and exclusively by Owner's fault or negligence. Such indemnification must extend to claims, demands, or liability for injuries occurring after completion of the project, as well as during the work's progress.

Delete section 3-1.08.

Delete section 3-1.11.

Replace section 3-1.18 with:

The contract must be executed by the successful bidder and must be returned with the following to County:

1. Bonds required in Section 3-1.05
2. Insurance required in Section 3-1.07

Contract and above listed documents must be returned to the Agency so that they are received within 10 days, not including Saturdays, Sundays, and legal holidays, after the bidder has received the contract for execution. Failure to do so must be just cause for forfeiture of the bid guaranty. The executed contract documents must be delivered to the following address: San Joaquin County Counsel, 44 North San Joaquin Street, Suite 679, Stockton, California 95202.

A successful bidder must be required to have a current W-9 form on file with the County. If not already on file, the form will be included in the contract documents to be executed by the successful bidder. The form must be completed and returned to the Agency by the successful bidder with the executed contract and contract bonds. A copy of the contract form is included in these special provisions

Replace section 3-1.19 with:

The bid guaranties accompanying the bids of the lowest three bidders will be retained until the contract has been awarded by the Board of Supervisors, after which all such guaranties, except the first lowest responsible bidder's guaranty, will be returned to the respective bidders whose bids they accompany. The bid guaranty of the first lowest responsible bidder will be retained until the contract documents have been fully executed and filed with the County Recorder's office.

^^

4 SCOPE OF WORK

Replace the second paragraph of section 4-1.13 with:

Do not remove warning, regulatory or guide signs until directed by the Engineer.
^^

5 CONTROL OF WORK

Replace the ninth paragraph of section 5-1.01 with:

Unless otherwise directed by Engineer, use contract administrative forms available at the CA Department of Transportation website. If question, request written direction from the Engineer.

Replace item 1 of the second paragraph of section 5-1.02 with:

1 Governing ranking of Contract Parts in descending order is:
- 1.1 Construction Contract
- 1.2 Special Provisions
- 1.3 Project Plans
- 1.4 Caltrans Traffic Manual
- 1.5 Revised Standard Specifications
- 1.6 Standard Specifications
- 1.7 Revised Standard Plans
- 1.8 Standard Plans
- 1.9 Supplemental Project Information

Delete the second paragraph of section 5-1.09A.

Delete section 5-1.13C.

Delete section 5-1.13D.

Replace section 5-1.26 with:

You provide the staking required for completion of the work.

Staking will consist of furnishing and setting construction stakes and markers by the Contractor to establish the lines and grades required for completion of the work as shown on the plans and as specified in the Standard Specifications and special provisions and as necessary for the Engineer to check lines, grades, alignment and elevation.

Construction staking must be performed by a licensed Land Surveying in the State of California as necessary to control the work. The Contractor will determine the work and staking required and must be verified by the Engineer. Construction stakes and marks must be furnished and set with accuracy adequate to assure that the completed work conforms to the lines, grades, and section shown on the plans. Contractor must reset any survey monumentation disturbed by construction.

All computations necessary to establish the exact position of the work from control points will be made by the Contractor. All computations, survey notes, and other records necessary to accomplish the work must be neat, legible, and accurate. Copies of such computation notes and other records must be furnished to the Engineer prior to beginning work that requires their use.

Construction stakes damaged from any cause during the progress of the work will be replaced by the Contractor at his expense, as required or at the direction of the Engineer. Construction stakes must be removed from the site of work when no longer needed.

Upon completion of construction staking and prior to acceptance of the contract all computations, survey notes, and other data used to accomplish the work must be furnished to the Engineer and will become the property of San Joaquin County.

The contract lump sum price paid for Construction Survey will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and doing all work involved in performing Construction Survey, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by engineer. [2]

5-1.27 RECORDS

Replace section 5-1.27E with:

Maintain Separate records for change order work costs. Change order bills must be submitted on forms approved by County.

Replace the second paragraph of section 5-1.32 with:

If sufficient area is not available within the contract limits, the Contractor is responsible for securing, at the contractor's expense, areas required for plant sites, storage of equipment or material, or for other purposes.

Delete the third paragraph of section 5-1.39C(1).

5-1.43 POTENTIAL CLAIMS AND DISPUTE RESOLUTION

Add to section 5-1.43A:

Where not preempted by Federal and/or State law, including but not limited to Public Contract Code 9204, Section 5-1.43, "Potential Claims and Dispute Resolution," of Standard Specifications and the following provisions, as modified herein, will be utilized as the remedy procedures for any disputes or claims arising under or related to performance of the contract.

At any time after the Engineer receives an Initial Potential Claim Record, you and the Department may agree in writing to different time limits than those set forth herein.

Add to section 5-1.43D:

If the Full and Final Potential Claim Record is timely submitted to the Engineer and the Engineer fails to furnish a response within the time limits prescribed for issuing a written statement under Public Contract Code, section 9204, subdivision (d)(1), the Engineer shall be deemed to have decided to reject the Full and Final Claim Record in its entirety.

Replace section 5-1.43E with:

5-1.43E CONSTRUCTION CLAIM PROCEDURES

Attention is directed to Sections 5-1.27E, "Change Order Bills", 8-1.04B, "Standard Start"; 5-1.43B, "Initial Potential Claim Record"; 9-1.17, "Payment After Contract Acceptance"; and 9-1.22, "Arbitration," of the Standard Specifications; and Section 1, "Specifications and Plans," of the Special Provisions. The above provisions, as modified herein, will be utilized as the remedy procedures for any disputes or claims arising under or related to performance of the contract.

5-1.43E(1) Dispute Resolution

Submit a request, in writing, for an informal, meet and confer conference if you dispute the Engineer's response to your Full and Final Potential Claim Record. The Engineer's receipt of the request for the meet and confer conference must be evidenced by postal return receipt.

The Engineer will schedule a meet and confer conference within 30 days for settlement of the dispute. Then Engineer will furnish you with a written statement within 10 days following conclusion of the meet and confer conference identifying the portions of the claim that remain in dispute and the portions that are undisputed. Any payment due on undisputed portions of the claim are made within 60 days after the written statement is furnished.

Identify any remaining portions of the claim in writing for submittal to non-binding mediation. Mediation costs shall be shared equally between you and the Department. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures, or as stated herein.

Claims (demands for monetary compensation or damages) arising under or relating to performance of the contract will be resolved by litigating the claim in a court of competent jurisdiction. Provided, however, if you and the Department mutually agree, in writing, to submit the claim to arbitration, the matter will go directly to arbitration proceedings. The agreement to pursue the matter through arbitration will be the parties' sole legal recourse such that the parties may not subsequently litigate the matter in any court proceeding except as to enforcement of the arbitration award or as otherwise provided in this section.

Arbitration, if expressly agreed upon in writing by the parties, will be pursuant to the provisions of California Code of Civil Procedure Section 1280 et seq., except wherever there are inconsistencies with those provisions and this section, this section will prevail. The arbitrator's award will be decided under and in accordance with the laws of this State, supported by law and substantial evidence and, in writing, contain the basis for the decision, findings of fact and conclusions of law. In addition to vacating an award on the grounds set out in Sections 1286.2 and 1286.4 of the California Code of Civil Procedure, a court will vacate the award if after review of the award it determines either that the award is not properly supported by substantial evidence or that it is based in whole or in part by an error of law. The arbitrator will have jurisdiction over the procedures and substantive matters relating to the claim as set out in the arbitration submittal agreement executed by the parties.

Arbitration will be initiated by a Complaint in Arbitration made in compliance with the requirements of said regulations. A Complaint in Arbitration by the Contractor will be made not later than 90 days after the

date of service in person or by mail on the Contractor of the final written decision by the Department on the claim.

^^

6 CONTROL OF MATERIALS

Not Modified

^^

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Replace the second paragraph of section 7-1.02K(2) with:

The Contractor is required to pay the higher wage rate as provided from the two sources listed below:

1. Prevailing Wage Rates are available at the Department of Labor Web site, http://www.wdol.gov/dba.aspx. Federal Wage rates for the project must be those in effect 10 calendar days prior to bid opening.

2. From the Department of Industrial Relations, general prevailing wage rates are available at http://www.dir.ca.gov/oprl/DPreWageDetermination.htm. These wage rates are not included in the Bid and Contract for the project. Changes, if any, to the general prevailing wage rates will be available at the Web site above.

Bidders are advised that a recent Department of Industrial Relation's determination indicates Fabricators are subject to prevailing wage requirements under the following conditions:

Workers employed by contractors or subcontractors are "employed in the execution of a contract for public works" when they are engaged in the off-site fabrication of items produced specially for the public works project and not for sale on the general market.

Where a contractor is producing products both for its own projects and for sale on the general market, the test for whether a pre-fabricated item is specially made for the public works project turns on factors such as whether the item was produced in accordance with the plans and specifications of the architects and/or engineers for that project and/or shop drawings based thereon such that the item differs from a standard, generic item.

Standard items must be considered to be produced specially for the public works project if they were modified to meet the specific requirements of that project.

For the foregoing reasons, prevailing wages must be paid to the employees of contractors and subcontractors engaged in the off-site fabrication or pre-fabrication of items specially produced for public works projects.

Replace paragraphs 6 through 10 of section 7-1.02K(3) with:

Certified payroll records must be submitted to San Joaquin County Department of Public Works, Attention: Field Engineering, P.O. Box 1810, Stockton, California 95201. Electronic submittal must not be accepted.

All contractors and subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner (aka Division of Labor Standards Enforcement).

Replace *Reserved* in section 7-1.02M(2) with:

Cooperate with local fire prevention authorities in eliminating hazardous fire conditions. Obtain the phone numbers of the nearest fire suppression agency. Submit these phone numbers to the Engineer before start of job site activities.

Replace section 7-1.06 with:

Refer to special provision Section 3, "Award and Execution of Contract," for insurance requirements.

Add to section 7-1.11A:

Each subcontract and any lower–tier subcontract that may in turn be made shall include the "Required Contract Provisions Federal-Aid Construction" in Section 7 of these special provision and referenced 2018 Standard Specifications.

Noncompliance shall be corrected. Payments for subcontracted work involved will be withheld from progress payments due or to become due, until correction is made. Failure to comply may result in termination of the contract.

8 PROSECUTION AND PROGRESS

Replace section 8-1.04B with:

The Contractor must not enter upon the site of the work or begin operations until he has submitted to County in proper form all contract, surety bonds, evidences of insurance and all other documents required of him in connection with the contract and all such documents have been approved and/or executed, as appropriate, by County. Written notice of approval must be issued by the Department of Public Works.

Submittals must be furnished within 15 calendar days after the contract is awarded and must show the estimated date of delivery. The Contractor must furnish the Engineer with a statement from the vendor that the traffic signal materials order required for this contract has been received and accepted by said vendor. (Alt C only)

The working days must begin on _____, contingent upon prior receipt of notice of approval. If the notice is not received before the specified date, working days must begin on the first working day of the week following the date of the notice of approval.

The beginning of working days may be rescheduled by mutual agreement between County and the Contractor by written correspondence. (Alt A and C Only.)

The Contractor must arrange an informational meeting for the General Public two weeks prior to the beginning of the working days concerning the project scope and timing. Meeting site must be in a public location (i.e.: school, park, fire house…) within three blocks of project site unless otherwise approved by the Engineer. A public address (PA) system will be required for the meeting. Location and time of the meeting must be approved by the Engineer. The Contractor must perform public outreach by advertising the meeting in the local newspaper and sending written notifications to the Residents that are within project limits. Full compensation for performing this meeting, including acquiring meeting site, supplying PA system, advertising, notifying, and all other incidentals must be considered as included in the prices paid for various contract items of work and no separate payment will be made therefor.[1]

The Contractor must arrange an informational meeting for the General Public two weeks prior to the beginning of the working days concerning the project scope and timing. Location and time of the meeting must be approved by the Engineer. The Contractor must perform public outreach by sending written notifications to the Residents that are within project limits. Full compensation for performing this meeting, including acquiring meeting site, notifying, and all other incidentals must be considered as included in the prices paid for various contract items of work and no separate payment will be made therefor.[2]

Replace the first and second paragraph of section 8-1.05 with:

The Contractor must complete all work before the expiration of ___________________ working days. (Alt A and C only.)

The Contractor must complete all work before ____________________. (Alt B Only)

^^

9 PAYMENT

Add to section 9-1.02C:

Final Pay Quantities will be identified by the letter (F) in parenthesis on the bid list quantity column.

Delete section 9-1.07.

9-1.16 PROGRESS PAYMENTS

Replace the second paragraph of section 9-1.16A with:

The Engineer's Monthly Estimate Period must begin on the first Monday following the 15th day of the month. Payment must be due the month following the Engineer's Monthly Estimate Period.

Replace section 9-1.16F with:

No retainage will be withheld by the agency from progress payments due the prime contractor. Retainage by the contractor or subcontractors is prohibited and no retainage will be held by the prime contractor from progress due subcontractors. Any violation of this provision must subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the California Business and Professions Code. This specification must not be construed to limit or impair any contractual, administrative or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor or deficient subcontract performance or noncompliance by a subcontractor.

^^^

DIVISION II GENERAL CONSTRUCTION

Add to section 10-1.02B:

Do not place the uppermost layer of new pavement until all underlying conduits and loop detectors are installed.[1]

Add to section 10-1.02E:

Excavation within 6 feet of the existing traveled way must not precede the paving operation by more than 5 working days unless:

1. Authorized.

2. Material is placed and compacted against the vertical cuts within 2 feet of the existing traveled way. (During excavation operations, native material may be used for this purpose except once the placement of the structural section starts, structural material must be used. Place the material up to the top of the existing pavement and taper at a slope of 4:1 (horizontal:vertical) or flatter to the bottom of the excavation. Do not use treated base for the taper.)

^^

11 WELDING

Not Modified

^^

12 TEMPORARY TRAFFIC CONTROL

Replace section 12-1.04 with:

Not used.

Replace the first paragraph in section 12-3.11A(1) with:

Section 12-3.11 includes specifications for placing, installing, maintaining, and removing construction area signs.

Unless otherwise described, advance warning and detour signs (when applicable) outside of the construction zone will be furnished, installed, and maintained by County forces. Applicable Advanced Warning Signs and/or Detour Plan will either be available in the appendix of these Project specifications or as supplemental information on www.bidexpress.com.

Replace *Reserved* in section 12-3.11B(5) with:

A construction project funding sign must comply with the details shown on the Department's Traffic Operations website.

The sign must be a wood-post sign complying with section 82-3.

The sign panels must be framed, single-sheet aluminum panels complying with section 82-2.

The background on the sign must be Type II retroreflective sheeting. The Type II retroreflective sheeting must be on the Authorized Material List for signing and delineation materials.

The legend must be retroreflective except for nonreflective black letters and numerals. The blue must match PR color no. 3 on FHWA's Color Tolerance Chart. The orange must match PR color no. 6 on FHWA's Color Tolerance Chart.

The legend for the type of project must read as follows:

BRIDGE REPLACEMENT

The legend for the types of funding on a construction project funding sign must read as follows and in the following order:

FEDERAL HIGHWAY TRUST FUNDS

STATE HIGHWAY FUNDS

SAN JOAQUIN COUNTY TRANSPORTATION FUNDS

The Engineer provides the year of completion for the legend on the sign. Install a sign overlay for the year of completion within 15 days of notification.

The legend for the year of completion on a construction project funding sign must read as follows:

YEAR OF COMPLETION 2023

Do not add information to the construction project funding sign unless authorized.

Replace *Reserved* in section 12-3.11C(3) with:

Install one Type 1 construction project funding sign at the location determined by the Engineer before starting major work activities visible to highway users.

Dispose of construction project funding signs upon completion of the project if authorized.

Add to section 12-4.01A:

Submit a traffic control system plan for review and approval. Allow 10 business days for review.

Replace section 12-4.01C with:

Not used.

Replace the first paragraph of section 12-4.02A(1) with:

Not used.

Add to section 12-4.02C(7)(a):

The traffic control system includes all temporary traffic control devices including temporary k-railing, barricades, temporary pavement markings, flashing beacons, flagging, or other devices used to ensure the safe passage of the public on the existing single-lane temporary detour roadway as shown on the plans. Temporary traffic control devices must comply with section 12-3.

Under one-way reversing traffic control operations, you may stop traffic in one direction for periods not to exceed 10 minutes. After each stoppage, all accumulated traffic for that direction must pass through the work zone before another stoppage is made.

Local traffic must be permitted to pass through construction operations at all times with as little inconvenience and delay as possible.

^^

13 WATER POLLUTION CONTROL

Replace section 13-12 with:

13-12 TEMPORARY CREEK DIVERSION SYSTEMS

13-12.01 GENERAL

13-12.01A Summary

Section 13-12 includes specifications for constructing, maintaining, reconstructing, and removing temporary creek diversion system (TCDS), and restoring creek bed to original condition. The temporary diversion system is used to divert upstream water flows to allow construction in a dry or dewatered location.

Divert any water in the creek into a 72-inch diameter temporary pipe through the project site as shown on the plans. The 72-inch temporary pipe must be sufficient to support the temporary roadway and surcharge loadings.

Refer to the requirements for the construction of the temporary detour roadway to be constructed over the 72-inch pipe elsewhere in these special provisions.

13-12.01B Definitions

Not Used

13-12.01C Submittals

13-12.01C(1) Temporary Creek Diversion System Plan

Within 20 days of Contract approval, submit 3 copies of the Temporary Creek Diversion System Plan (TCDSP). The TCDSP must include:

1. Installation and removal process, including equipment, platforms for equipment, and access locations.
2. Anticipated flow rates.
3. Calculations supporting the sizing of piping, channels, pumps, or other conveyance by using FHWA HY-8 or other equivalent method. Calculate the discharge water flow rate and velocity anticipated where it discharges on any erodible surface, so its conveyance does not cause erosion within the project or at the discharge to the water body. Temporary culverts attached to banks, walls, or other locations must be designed to hold the full weight of the culvert at capacity and restrain the culvert for any expected hydraulic forces.
4. Plans showing locations of diversion, including layouts, cross sections, and elevations.
5. Materials proposed for use, including MSDS if applicable.
6. Operation and maintenance procedures for the TCDS.
7. Restoration plans showing before and after conditions, including photos of existing conditions for areas disturbed during the installation, operation, and removal of the TCDS.
8. Monitoring and reporting plan to ensure applicable water quality objectives are met. This includes schedule of work including Temporary BMP implementation as part of the Construction Site BMP strategy, and SWPPP or WPCP as applicable. Use with section 13-3.01A.
9. Details of the pumping system, if used, including power source, debris handling, fish screens, and monitoring requirements.
10. Fish passage plan, following the Caltrans Fish Passage Design for Road Crossings, CA Department of Fish and Wildlife (CDFW), CA Salmonid Stream Habitat Restoration Manual, and National Marine Fisheries Service (NMFS), Guidelines for Salmonid Passage at Stream Crossings, as required by the applicable PLACs.
11 The TCDS design must demonstrate how it will comply with section 13-12.03A, water tightness, and prevent seepage.
12. Contingency plan to remove workers, equipment, materials, fuels, and any other work items that will cause pollution or violation of PLACs during a rain event out of the flow area. Develop the contingency plan for when a 12-inch freeboard cannot be maintained and overtopping of the coffer dams may occur.

If revisions are required, the Engineer notifies you of the date when the review stopped and provides comments. Submit a revised TCDSP within 15 days of receiving the comments. The Department's review resumes when a complete TCDSP has been resubmitted.

Submit an electronic copy on a read-only CD, DVD, or other Engineer-authorized data storage device and 4 printed copies of the authorized TCDSP.

If the RWQCB or other regulatory agency requires review of the authorized TCDSP, the Engineer submits it to the RWQCB for review and comment. If the Engineer orders changes to the TCDSP based on the RWQCB's comments, submit a revised TCDSP within 10 days.

All submittals which include plans, specifications, and calculations must be sealed and signed by a civil engineer registered in the State.

13-12.01D Quality Assurance

Not Used

13-12.02 MATERIALS

13-12.02A Gravel

Gravel must:

1. Be river run gravel obtained from a river or creek bed with gradation of 100 percent passing a 3/4 inch sieve and 0% passing a 3/8 inch sieve
2. Be clean, hard, sound, durable, uniform in quality, and free of any detrimental quantity of soft, thin, elongated or laminated pieces, disintegrated material, organic matter, or other deleterious substances
3. Be composed entirely of particles that have no more than 1 fractured face
4. Have a cleanliness value of at least 85, as determined by California Test 227

13-12.02B Impermeable Plastic Membrane

Impermeable plastic membrane must be:

1. Single ply, commercial quality, polyethylene with a minimum thickness of 10 mils complying with ASTM D2103. You must use stronger plastic membrane if required as part of design to resist hydraulic forces.
2. Free of holes, punctures, tears or other defects that compromise the impermeability of the material.
3. Suitable for use as an impermeable membrane.
4. Resistant to UV light, retaining a minimum grab breaking load of 70 percent after 500 hours under ASTM D4355.

13-12.02C Gravel-Filled Bags

Gravel-filled bags must comply with section 13-5.02G.

The 2nd paragraph of section 13-5.02G does not apply.

13-12.02D Plastic Pipes

Plastic pipe must comply with section 61-3.01 and must:

1. Be clean, uncoated, in good condition free of rust, paint oil dirt or other residues that could potentially contribute to water pollution
2. Be adequately supported for planned loads
3. Use watertight joints under section 61-2.01.
4 Be made of a material or combination of materials that are suitable for clean water and which do not contain banned, hazardous or unlawful substances
5. For temporary pipes not reused on the project you may use the following materials:
   - 5.1. PVC closed-profile wall pipe must comply with ASTM F1803
   - 5.2. PVC solid wall pipe must comply with ASTM D3034, ASTM F679, AWWA C900, AWWA C905, or ASTM D2241 and cell class 12454 defined by ASTM D1784
   - 5.3. HDPE solid wall pipe must comply with AASHTO M 326 and ASTM F714
   - 5.4. Polyethylene large-diameter-profile wall sewer and drain pipe must comply with ASTM F894

13-12.02E Rock

Rock layer must comply with the table titled *Rock Gradation for 7-inch-thick Layer* in section 72-4.02.

13-12.02F Pumping System

Pumping system must:

1. Comply with section 74-2.02B
2. Be equipped with secondary containment
3. Be free of fuel and oil leaks
4. Meet intake screen regulatory requirements

13-12.02G Seepage Pumping System

If seepage occurs in the dewatered work area, the water must be removed by sump pumps as part of the TCDS.

Seepage pumping system must:

1. Comply with section 74-2.02B
2. Ensure discharge water conform with PLACs or is treated on site
3. Be free of fuel and oil leaks

13-12.02H Discharge Water Energy Dissipation and Erosion Control

Discharge water from pumps, pipes, ditches, or other conveyances must have BMPs to dissipate the flows and velocity of water discharged from the temporary diversion system if erosion would otherwise occur.

Energy dissipation measures:

1. May be plastic sheeting, flared end sections, rubber matting, or other materials appropriate for the design hydraulics
2. Must be anchored to prevent movement by expected flows
3. Must be removed when the TCDS is removed

13-12.03 CONSTRUCTION

13-12.03A General

Do not use motorized equipment or vehicles in areas of flowing or standing water for the construction or removal of the TCDS in compliance with section 13-4.03.

Remove vegetation to ground level and clear away debris.

Place temporary or permanent fill as allowed by PLACs.

Place rock at outlet of diversion pipe under section 72-4.03, except motorized vehicles and equipment must not be used in areas of flowing or standing water.

Do not construct or reconstruct TCDS if the 72-hour forecasts predict a 50 percent or greater chance of rain in the project area.

Stop allwork and remove all material and equipment from the creek between upstream and downstream cofferdams if the 72-hour forecasts predict a 50 percent or greater chance of rain in the project area and the predicted rainfall is estimated to produce a flow rate exceeding the design capacity of the TCDS.

If the required freeboard cannot be maintained and overtopping may occur, implement contingency plan to remove all workers, equipment, and potential sources of pollution from the dry working area of the creek bed.

The TCDS must be constructed within the temporary impact footprint as described in the environmental commitments.

Lap and join joints between the edges of impermeable plastic membrane with commercial-quality waterproof tape with minimum 4-inch lapping at the edges.

Seal openings or penetrations through the impermeable plastic membrane with commercial quality waterproof tape.

The TCDS must be water tight to keep the work area dry for construction and prevent the creation of pollutants. Maintain all portions of the TCDS and fix leaks as soon as they are discovered.

Contact water agencies that discharge to the construction area to ensure that unexpected water is not discharged during construction which could compromise the TCDS.

13-12.03B Maintenance

Maintain the TCDS to provide a minimum freeboard of 12 inches between the water surface and the impermeable top of the cofferdams.

Do not discharge runoff from existing or proposed drainage systems into the dry work area between the cofferdams. Runoff from these systems may be connected to the diversion pipe or conveyed by pipes downstream of the cofferdam.

Prevent leaks in the TCDS. Provide seepage pumps as necessary and keep the work area dry to prevent the creation of sediment-laden water.

Repair holes, rips and voids in the impermeable plastic membrane with commercial-quality waterproof tape. Replace impermeable plastic membrane when patches or repairs compromise the impermeability of the material.

Repair TCDS within 24 hours after the damage occurs.

Prevent debris from entering the TCDS and receiving water.

Remove and immediately replace gravel, gravel-filled bags, impermeable plastic membrane, or plastic pipes contaminated by construction activities.

Remove sediment deposits and debris from the TCDS as needed. If removed sediment is deposited within project limits, it must be stabilized and not subject to erosion by wind or water, under sections 19-1.01 and 19-2.03 B.

13-12.03C Removal

When no longer required, remove all components of TCDS. Return the creek bed and banks to the original condition.

Do not excavate the native creek material. Backfill ground disturbance, including holes and depressions caused by the installation and removal of the TCDS with gravel. Maintain the original line and grade of the creek bed.

13-12.04 PAYMENT

Not Used

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14 ENVIRONMENTAL STEWARDSHIP

Add to the end of section 14-9.02:

The US EPA has established the National Emission Standards for Hazardous Air Pollutants (NESHAP). Under the Health & Safety Code § 39658(b)(1), your demolition and rehabilitation activities must comply with 40 CFR 61, Subpart M (National Emission Standard for Asbestos).

You must inspect and test the existing concrete for asbestos. Inspection and sampling of the existing concrete must be completed by an asbestos professional inspector.

Notify the US EPA and the California Air Resources Board of your demolition activities even if the activities will not disturb asbestos-containing material.

You may obtain an Asbestos NESHAP Notification of Demolition and Renovation Form at the California Air Resources Board's website:

http://www.arb.ca.gov/enf/asbestos/asbestos.htm

Instead of the 10 working days specified at the website, mail or deliver the form with the necessary attachments at least 15 days before starting demolition or rehabilitation activities to:

US EPA - REGION IX
ASBESTOS NESHAP NOTIFICATION (AIR-5)
75 HAWTHORNE ST
SAN FRANCISCO, CA 94105

Mail or fax a copy of the notification form to:

CALIFORNIA AIR RESOURCES BOARD
ENFORCEMENT DIVISION
ASBESTOS NESHAP NOTIFICATION
P.O. BOX 2815
SACRAMENTO, CA 95812
FAX: (916) 229-0645

Submit a copy of the notification form and attachments as informational submittals before starting demolition or rehabilitation activities.

If you discover unanticipated asbestos-containing material during the demolition or rehabilitation activities, immediately stop work in that area and notify the Engineer. The Department will use other forces to remove and dispose of the material. Do not resume work in the area until authorized.

Notify the US EPA Region IX and the California Air Resources Board of a change to your demolition or rehabilitation activities, including a revised work plan or the discovery of unanticipated asbestos-containing materials, within 2 days of the change or discovery.

Replace section 14-10.02 with:

Not used.

Add to the 1st paragraph of section 14-11.14A:

Wood removed from existing guardrail is treated wood waste.

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15 EXISTING FACILITIES

Not Modified

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16 TEMPORARY FACILITIES

Replace section 16-2.01A with:

Section 16-2 includes specifications for constructing, maintaining and removing miscellaneous temporary facilities.

Miscellaneous temporary facilities include the temporary detour roadway.

You are responsible for constructing the temporary detour roadway as shown on the plans, maintaining and removing the temporary detour roadway, and restoring site conditions within the footprint of the facility as shown on the plans and as directed by the Engineer.

Replace section 16-2.01B with:

Aggregate base must comply with section 26.

Replace section 16-2.01C with:

After receiving the Engineer's written approval, you may begin removing the temporary detour roadway and restoring the affected areas.

Dispose of all temporary facility materials not to be salvaged.

^^^

DIVISION III EARTHWORK AND LANDSCAPE

17 GENERAL

Replace paragraphs 4 and 5 of section 17-2.03A with:

Prior to applying any surface seals or performing any paving, reconstruction, repairs, and/or shoulder backing operations, clear and grub the entire length of the job site to the limits shown on the plans and as specified in the Standard Specifications and these Special Provisions.

Unless otherwise indicated on the plans, orchards, vineyards, and/or other cultivated areas must be protected in place.

Replace section 17-2.03B with:

For roadway areas without existing curb or sidewalk:

1. Clear the area above the ground of all objectionable material including: trees, vines, logs, upturned stumps, downed trees, plants, brush grass, weeds, concrete, masonry, and cold-mix asphalt concrete along edge of pavement.

2. Tree branches extending over the roadway pavement and which hang within 15 feet of the finished grade must be cut off in a workmanship like manner. Cut other branches to give each tree a balanced appearance. Pruning must include removal of deadwood, suckers, and broken and bruised branches 1 inch or larger in diameter. Cut off branches close to the trunk in accordance with section 20-3.01C(2), “Pruning.”

3. Trim oversized vegetation/trees that obstruct the visibility of traffic control devices and construction area signs.

Replace paragraph 1 in section 17-2.03D with:

Unless the contract includes a bid item for Duff as specified in section 21-2.02B “Duff,” dispose (off-site) of objectionable materials resulting from clearing and grubbing activities.

^^

18 DUST PALLIATIVES

Not Modified

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19 EARTHWORK

Replace section 19-1.03C with:

The surface of the grading plane must not be more than 0.05 foot above or below the grade established by the Engineer.

Before grade is approved by the Engineer, all earthwork (including driveways and slopes) must be compacted to grade.

Add to the 3rd paragraph in section 19-2.01A:

1. Breaking up existing pavement.

Replace the 2nd paragraph in section 19-2.01A with:

Roadway excavation consists of all excavation involved in the grading and construction of the roadway and relocation of the existing dirt road as shown on the plans and as directed by the Engineer except structure excavation and any excavation paid for as a separate bid item.

.Add to section 19-2.04:

Ditch excavation, as described, is paid for as Roadway Excavation unless a separate bid item is shown on the Bid Item List.

Add to the end of section 19-3.01A:

Structure backfill includes constructing the geocomposite drain system. The systems must comply with section 68-7.

Add to the beginning of section 19-3.03B(1):

At abutment locations, ground or surface water is expected to be encountered but seal course concrete is not needed.

Add to section 19-5.03A:

Relative compaction requirements will be as shown on the plans and/or indicated elsewhere in these Special Provisions. When not shown on the plans and/or not indicated elsewhere in these Special Provisions, compaction requirements will be 95 percent relative compaction.

Delete item 2 in paragraph 1 of section 19-5.03B.

Replace section 19-5.03C with:

Not used.

Add to the end of section 19-6.03A:

If an ordered change increases the quantity of excavation or decreases the quantity of embankment so that surplus excavation has to be disposed of, disposing of the surplus material is change order work.

If an ordered change either increases or decreases the quantity of borrow required to complete the planned embankments:

1. Supplying borrow to the job site is change order work.
2. Increase in embankment that requires an increase in borrow at the bid item price for embankment, as change order work. Agree with the Engineer on your payment method.
3. Increase in excavation that results in a decrease in borrow at the bid item price for excavation, but you must pay the Department the estimated cost of furnishing the quantity of the decrease in borrow, computed as if the work were performed on a force account basis. The Department deducts from sums due or that may become due you.
4. Department decrease the embankment quantity if there is a decrease in the borrow.

Add to section 19-6.03C:

Existing pavement used as embankment must be broken up into pieces not larger than 4 inches in greatest dimension.

Add to section 19-7.02A:

Obtaining imported borrow includes the following:

1. Constructing an access road as shown.
2. Clearing and grubbing the material site.
3. Selecting material within the source.
4. Screening and wasting from 30 to 60 percent of the finer material.
5. Washing materials so that the imported borrow complies with the sand equivalent requirements.

Add to section 19-7.02C:

Imported borrow must have a dry weight of not less than 100 pounds per cubic foot when compacted at 100 percent relative compaction.

Imported borrow placed within 4 feet of the finished grade must have an R-value of at least 14.

Process the imported borrow to comply with the grading requirements.

Strip materials that adversely affect the imported borrow properties.

Replace section 19-9.02 with:

The material for Shoulder Backing must be Class 2 Aggregate Base, and must conform to the requirements in Section 26, "Aggregate Base," of the Standard Specifications and these special provisions. Recycled 3/4-inch Class 2 Aggregate Base may be substituted for Class 2 Aggregate Base with the approval of the Engineer. The aggregate used in the Aggregate Base may include material processed from reclaimed Asphalt Concrete, Portland cement concrete, lean concrete base, cement treated base, or a combination of any of these materials.

Areas where topsoil is specified or as directed by the Engineer, the material for Shoulder Backing must be imported topsoil.

Add to section 19-9.03:

The compaction requirements of Section 19-5, “Compaction,” will not be required for existing embankment to receive Shoulder Backing.

At the time Shoulder Backing is spread, it must have a moisture content within 2 percent of laboratory optimum moisture for compaction.

Replace the 4th paragraph of section 19-9.03 with:

The completed Shoulder Backing must be thoroughly compacted and consolidated. Relative compaction of not less than 95 percent must be obtained in all aggregate base material including side slope. The finished surface must be flush with the edge of the pavement and free of loose, segregated or extraneous material.

Replace “Not Used” in section 19-9.04 with:

Payment quantity of constructed Shoulder Backing, as described, is determined in accordance with Section 9-1.02D, “Quantities of Aggregate and Other Roadway Materials,” and paid for by weight. Furnish weighmaster certified weight tickets to the Engineer at the point of delivery.

Said certificates must, at a minimum, include:

1. Name of Contractor and material producer;
2. Project title and County;
3. Truck number;
4. Date and time of loading;
5. Gross, tare, and net weights; and weighmaster’s signature.

^^

20 LANDSCAPE

Not Modified

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21 EROSION CONTROL

Add to section 21-2.01A:

Hydroseed includes (1) hydroseeding with fiber, seed, and fertilizer, (2) power applying (blowing) straw, and (3) applying tackifier and fiber over the top of the blown straw.

Add to section 21-2.02F:

Seed must consist of at least two species from Category A, at least four species from Category B, and one species from Category C from the following table:

Category	Scientific Name	Common Name	Type	Percentage Purity /& Germination (Minimum)	Pounds per acre
A	*Bromus carinatus*	California brome	Perennial grass	95/85	15
A	*Elymus glaucus*	Blue wild rye	Perennial grass	90/70	15
A	*Festuca californica*	California fescue	Perennial grass	90/70	15
A	*Hordeum brachyantherum ssp. californicum*	California barley	Perennial grass	90/70	15
A	*Nassella pulchra (=Stipa pulchra)*	Valley needlegrass	Perennial grass	90/70	15
B	*Poa secunda*	Pine bluegrass	Perennial grass	90/70	10
B	*Lotus purshianus*	Pursching's lotus	Flowering annual	90/70	10
B	*Lupinus Bicolor*	Miniature lupine	Flowering annual	90/70	10
B	*Lupinus succulents*	Arroyo lupine	Flowering annual	90/70	10
B	*Trifolium albopurpureum (any subspecies)*	Rancheria clover	Flowering annual	90/90	10
B	*Trifolium microcephalum*	Small-head clover	Flowering annual	90/90	10
B	*Trifolium willdenovii*	Tomcat clover	Flowering annual	90/90	10
C	*Achillea millefolium*	Yarrow	Flowering annual	90/80	5
C	*Clarkia purpurea (any species)*	Clarkia	Flowering annual	90/70	5
C	*Eschscholzia californica*	California poppy	Flowering annual	90/80	5

C	*Sisyrinchium bellum*	Blue-eyed grass	Flowering annual	90/70	5

^^^

22 FINISHING ROADWAY

Not Modified

^^

DIVISION IV SUBBASES AND BASES

23 GENERAL

Not Modified

^^^

24 STABILIZED SOILS

Not Modified

^^^

25 AGGREGATE SUBBASES

Not Modified

^^^

26 AGGREGATE BASES

Replace section 26-1.02A with:

Aggregate base must be Class 2 meeting the 3/4-inch maximum aggregate grading.

^^^

27 CEMENT TREATED BASES

Not Modified

^^^

28 CONCRETE BASES

Not Modified

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29 TREATED PERMEABLE BASES

Not Modified

^^

30 RECLAIMED PAVEMENT

Not Modified

^^

31–35 RESERVED

Not Modified

^^

DIVISION V SURFACINGS AND PAVEMENTS

36 GENERAL

Not Modified

^^

37 BITUMINOUS SEALS

Not Modified

^^

38 RESERVED

Not Modified

^^

39 ASPHALT CONCRETE

Add to section 39-2.01A(1):

The type of HMA to be produced and placed will be as shown on the plans and/or Bid Item List.

Add to paragraph 4 of section 39-2.01A(2):

8. Skin patches on roadway.

Replace paragraph 3 of section 39-2.01A(3)(b)(i) with:

Submit Job Mix Formula Proposals for HMA mix designs before HMA production at least 10 working days prior to the construction start date.

Replace paragraph 1 of section 39-2.01A(3)(c) with:

QC plans are only required for all types of RHMA.

Replace section 39-2.01A(4)(i)(ii) with:

The Engineer tests for Percent of Maximum Theoretical Density using California Test 375 (ASTM D2950 (c)), "Determining the In-Place Density and Relative Compaction of Hot Mix Asphalt Pavement Using Nuclear Gages," and Maximum Theoretical Density (Rice) using California Test 309, "Method of Test for Determining Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt." No single density result must represent more than the smaller of 500 tons or one day's production. Any single density result below 91% or over 97% must be subject to a reduction in pay per the following table:

Reduced Payment Factors for Percent of Maximum Theoretical Density

HMA percent of maximum theoretical density	Reduced payment factor	HMA percent of maximum theoretical density	Reduced payment factor
91.0	0.0000	97.0	0.0000
90.9	0.0125	97.1	0.0125
90.8	0.0250	97.2	0.0250
90.7	0.0375	97.3	0.0375
90.6	0.0500	97.4	0.0500
90.5	0.0625	97.5	0.0625
90.4	0.0750	97.6	0.0750
90.3	0.0875	97.7	0.0875
90.2	0.1000	97.8	0.1000
90.1	0.1125	97.9	0.1125
90.0	0.1250	98.0	0.1250
89.9	0.1375	98.1	0.1375
89.8	0.1500	98.2	0.1500
89.7	0.1625	98.3	0.1625
89.6	0.1750	98.4	0.1750
89.5	0.1875	98.5	0.1875
89.4	0.2000	98.6	0.2000
89.3	0.2125	98.7	0.2125
89.2	0.2250	98.8	0.2250
89.1	0.2375	98.9	0.2375
89.0	0.2500	99.0	0.2500
<89.0	Remove and replace	>99.0	Remove and replace

Replace paragraph 2 of section 39-2.01B(3) with:

Unless otherwise shown on the plans, the grade of asphalt binders for Type A HMA and RHMA-G must be PG 64-10 and PG 64-16, respectively.

Replace paragraph 2 of section 39-2.01B(9) with:

The asphalt binder for geosynthetic pavement interlayer must be PG 70-10.

Replace the 2nd sentence of paragraph 1 of section 39-2.01B(10) with:

Tack coat must be SS1h.

Replace items 1 and 2 of paragraph 1 of section 39-2.01B(11) with:

1. For miscellaneous areas, use 1/2-inch Type A HMA aggregate gradation and asphalt binder Grade PG-64-10, unless otherwise shown.

2. For dikes, use 3/8-inch Type A HMA aggregate gradation and asphalt binder Grade PG-64-10, unless otherwise shown.

Add to paragraph 1 of section 39-2.01C(2)(a):

6. A ski device is required for longitudinal control. The minimum length of the device must be 27 feet.

Add to section 39-2.01C(3)(a):

Existing pavement markers must be removed and disposed of, unless otherwise shown on the plans. During the removal of ceramic type pavement markers, screens or other protective devices must be furnished to contain any fragments as provided for in Section 7-1.04, "Public Safety."

Add between sentences 1 and 2 of paragraph 1 of section 39-2.01C(3)(g):

Binder must not be placed when weather conditions will not remain suitable to complete the placement of the interlayer and hot mix asphalt resurfacing.

Replace paragraph 2 of section 39-2.01C(3)(g) with:

Before placing the interlayer or asphalt binder:

1. Spalled areas on the existing pavement surface, less than 4 square feet and less than four 4 inches deep, must be tack coated, filled with hot mix asphalt and compacted as directed by the Engineer. Compensation for this work is considered as included in the contract unit price paid for Hot Mix Asphalt and no separate payment will be made thereof.

2. Clean the pavement of loose and extraneous material.

Add to section 39-2.01C(3)(g):

Placement of the interlayer must be limited to 1,500 feet in advance of the paving machine during any work shift unless otherwise authorized by the Engineer.

A small quantity of hot mix asphalt or sand, to be determined by the Engineer, may be spread over the fabric immediately in advance of placing hot mix asphalt surfacing in order to prevent fabric from being picked up by construction equipment. If sand is chosen to prevent interlayer pickup, it must be spread evenly at a rate not to exceed 2 pounds per square yard. The sand must be rolled into the fabric prior to placing HMA and excess sand must be swept off.

Where geosynthetic pavement interlayer is shown to be placed in milled areas, increase the binder application in milled areas by an additional 0.05-0.10 gallons per square yard.

Replace the first sentence of paragraph 7 of section 39-2.01C(3)(g) with:

Overlap the interlayer borders between 2 to 6 inches.

Add to section 39-2.01C(5):

Prior to placing hot mix asphalt or concrete pavement for mainline, grade the shoulder material 1-foot minimum width where the tapered edge will be placed to provide a foundation that will support the placement of the tapered edge.

If additional shoulder material is needed for foundation, import Class 2 Aggregate Base (shoulder backing) to fill in areas of low spots to provide a foundation that will support the placement of the tapered edge.

Replace paragraphs 6 and 7 of section 39-2.01C(5) with:

For tapered edge treatment, the angle of the slope must not deviate by more than ± 10 degrees from the angle shown. The angle will be measured from the plane of the adjacent finished pavement surface.

Replace paragraph 1 of section 39-2.01C(15)(b) with:

Use method compaction when placing HMA.

Add to section 39-2.01D:

Payment for HMA will be reduced by five dollars ($5.00) for every linear foot of tapered edge treatment not in compliance with these special provisions and plan details.

Replace paragraph 1 of section 39-2.02B(4)(b) with:

Hot Mix Asphalt (Type A) must comply with the 1/2-inch gradation for Type A HMA unless otherwise specified.

Replace paragraph 1 of section 39-2.02C with:

Hot Mix Asphalt (Type A) must be placed as shown in the following table:

Total Thickness	No. of	Top Layer Thickness (foot)		Next LowerLayer Thickness (foot)		All Other LowerLayer Thickness (foot)	
Shown on Plans[a]	Layers	Min.	Max.	Min.	Max.	Min.	Max.
0.24 - foot or less	1	–	–	–	–	–	–
0.25 - 0.29 foot	2	0.12	0.13	0.12	0.17	–	–
0.30 - 0.45 foot	2	0.15	0.20	0.15	0.25	–	–
0.46 - foot or more	b	0.15	0.20	0.15	0.25	0.15	0.4

a. When Geosynthetic Pavement Interlayer (Paving Fabric), mat or grid is shown to be placed between layers of HMA, the thickness of HMA above the Geosynthetic Pavement Interlayer (Paving Fabric) must be considered to be the "Total Thickness Shown on Plans" for the purpose of spreading and compacting the HMA above the Geosynthetic Pavement Interlayer (Paving Fabric). The minimum lift thickness of HMA over Geosynthetic Pavement Interlayer (Paving Fabric), mat or grid must be 0.12 foot.

b. At least 2 layers must be placed if total thickness is 0.45 - foot. At least 3 layers must be placed if total thickness is more than 0.45 - foot and less than 0.90 - foot. At least 4 layers must be placed if total thickness is 0.90 - foot or more. For Miscellaneous Areas or Pavement Repair, at least 2 layers must be placed if total thickness is 0.50 foot.

Add to section 39-2.02C:

When hot mix asphalt gutters are designated on the plans, a string line or wire grade reference will be required to control longitudinal grade of the gutter. The gutter will be water tested before acceptance. The maximum deviation from a true grade must not result in ponding water for depth exceeding 0.04 foot.

Portable delineators in conformance with Section 12-3.04, "Portable Delineators," must be furnished and placed at a maximum spacing of 300 feet on tangents and 100 feet on curves along any edge of new surfacing which has a drop off of more than 0.10 foot. Delineators must be staggered when required on both sides of traffic.

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40 CONCRETE PAVEMENT

Not Modified

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41 EXISTING CONCRETE PAVEMENT

Not Modified

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42 GROOVE AND GRIND CONCRETE

Not Modified

^^

43–44 RESERVED

Not Modified

^^

DIVISION VI STRUCTURES

45 GENERAL

Not Modified

^^

46 GROUND ANCHORS AND SOIL NAILS

Not Modified

^^

47 EARTH RETAINING SYSTEMS

Not Modified

^^

48 TEMPORARY STRUCTURES

Not Modified

^^

49 PILING

Add to section 49-1.03:

Expect difficult pile installation due to the following conditions:Dense sand and gravel layers

Add to section 49-2.01A(3)(a):

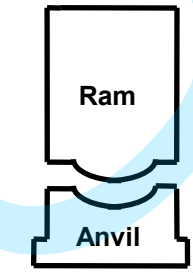
Before installing driven piles, submit a Pile and Driving Data Form.

EXHIBIT G

CALIFORNIA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION LABORATORY

PILE AND DRIVING DATA FORM

Structure Name :_____ Contract No.:_____
_____ Project:_____
Structure No.:_____ Pile Driving Contractor or
Dist./Co./Rte./Post Mi:_____ Subcontractor_____(Pile Driven By)



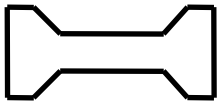
Hammer

Manufacturer:_____ Model:_____
Type:_____Serial No.:_____
Min Rated Energy: _____ at ___ Length of Stroke ____ Fuel Setting
Max Rated Energy: _____ at ___ Length of Stroke ____ Fuel Setting
Ram Weight:_____kips

Modifications: _____
_____
_____

Capblock (Hammer Cushion)

Material:_____
Thickness:_____in Area:_____in^2
Modulus of Elasticity - E:_____ksi
Coefficient of Restitution - e:_____



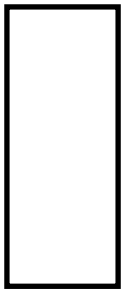
Pile Cap

Helmet
Bonnet
Anvil Block
Drivehead

Weight: kips

Pile Cushion

Material:_____
Thickness:_____in Area: _____in^2
Modulus of Elasticity - E:_____ksi
Coefficient of Restitution - e:_____



Pile

Pile Type:_____
Length (In Leads):_____ft
Lb/ft.:_____Taper:_____
Wall Thickness:_____in
Cross Sectional Area:_____in^2
Design Pile Capacity:_____kips
Description of Splice:_____
_____
Tip Treatment Description:_____
_____

DISTRIBUTE:

- ☐ Translab, Foundation Testing
- ☐ Translab, Geotechnical Design
- ☐ Resident Engineer

Note: If mandrel or follower is used to drive the pile, attach separate manufacturer's detail sheet(s) including weight and dimensions.

Submitted By:_____
Date:_____Phone No.:_____

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50 PRESTRESSING CONCRETE

Not Modified

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51 CONCRETE STRUCTURES

Not Modified

^^

52 REINFORCEMENT

Not Modified

^^

53 SHOTCRETE

Not Modified

^^

54 WATERPROOFING

Not Modified

^^

55 STEEL STRUCTURES

Not Modified

^^

56 OVERHEAD SIGN STRUCTURES, STANDARDS, AND POLES

Not Modified

^^

57 WOOD AND PLASTIC LUMBER STRUCTURES

Not Modified

^^

58 SOUND WALLS

Not Modified

^^

59 STRUCTURAL STEEL COATINGS

Not Modified

^^

60 EXISTING STRUCTURES

Add to section 60-2.01A:

Remove the existing bridge superstructure, bents, and abutments. The existing bridge consists of a 41-foot long by 19-foot wide, 3-span timber girder superstructure with timber decking and an asphalt concrete wearing surface. The bridge is supported on reinforced concrete abutments and timber post bents. Foundation types are unknown.

Add to section 60-2.02C(1):

Provide a protective cover to prevent debris from falling into the creek during bridge removal operations. Protective cover must comply with section 60-2.02C(2).

^^

DIVISION VII DRAINAGE FACILITIES

61 GENERAL

Not Modified

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62–63 RESERVED

Not Modified

^^

64 PLASTIC PIPE

Not Modified

^^

65 CONCRETE PIPE

Not Modified

^^

66 CORRUGATED METAL PIPE

Not Modified

^^

67 STRUCTURAL PLATE CULVERTS

Not Modified

^^^

68 SUBSURFACE DRAINS

Not Modified

^^^

69 OVERSIDE DRAINS

Not Modified

^^^

70 MISCELLANEOUS DRAINAGE FACILITIES

Not Modified

^^^

71 EXISTING DRAINAGE FACILITIES

Not Modified

^^

DIVISION VIII MISCELLANEOUS CONSTRUCTION

72 SLOPE PROTECTION

Not Modified

^^^

73 CONCRETE CURBS AND SIDEWALKS

Not Modified

^^^

74 PUMPING EQUIPMENT AND CONTROLS

Not Modified

^^^

75 MISCELLANEOUS METAL

Not Modified

^^^

76 WELLS

Not Modified

^^^

77 LOCAL INFRASTRUCTURE

Not Modified

^^

78 INCIDENTAL CONSTRUCTION

Not Modified

^^

79 RESERVED

Not Modified

^^

80 FENCES

Replace *Reserved* in section 80-2.02A with:

Posts must be metal.

Add to the end of section 80-2.02B:

Galvanize posts under section 75-1.02B.

Paint posts green.

^^

DIVISION IX TRAFFIC CONTROL DEVICES

81 MISCELLANEOUS TRAFFIC CONTROL DEVICES

Not Modified

^^

82 SIGNS AND MARKERS

Not Modified

^^

83 RAILINGS AND BARRIERS

Replace *Reserved* in section 83-2.02C(3) with:

The offset from the face of the Type WB-31 transition railing to the hinge point must be at least 3'-6".

The offset from the face of the adjacent midwest guardrail system to the hinge point must be transitioned from the offset at the Type WB-31 transition railing to 4'-0" using a ratio of 6:1.

Replace *Reserved* in sections 83-2.04B and 83-2.04C with:

Terminal systems must be compliant with the Manual for Assessing Safety Hardware (MASH) and on the current Caltrans Authorized Materials List (AML). Submit a certificate of compliance for terminal systems meeting MASH compliance.

Terminal systems must be furnished and installed in accordance with the manufacturer's instructions and as described. Each terminal system installed must be identified by painting the type of terminal system in

neat black letters and figures 2 inches high on the back side of the rail element between system posts number 4 and 5.

Excavated material to install terminal system must be disposed of outside the right-of way.

Replace *Reserved* in sections 83-2.04D with:

Payment quantity of each type of terminal system, as described, is measured by the actual count of each installed system.

^^

84 MARKINGS

Replace section 84-2.02D with:

Glass beads applied to paint must comply with the following specifications:

Gradation: The glass spheres must conform to the following gradations requirements when tested according with ASTM method D 1214:

U.S. Mesh	Microns	% Retained
18	1000	5-15
30	600	20-35
50	300	55-75
100	150	0-5

Color / Clarity: Beads must be colorless / clear and free of carbon residues.

Roundness: All +20US Mesh beads must be 85% minimum rounds. Overall rounds must be 75% minimum. ASTM-1155 test method for all beads except the +20 US Mesh which are inspected visually.

Index of Refraction: Minimum 1.51 by oil immersion method.

Resistance to Acid: When place 10 g of the beads in a 100 mL beaker and cover with a 1N sulfuric acid. Let soak for 5 minutes. Rinse the beads 3 times with distilled water. Dry, then examine the beads under a microscope and compare with the untreated sample, the beads must not develop any surface haze or dulling.

Resistance to Calcium Chloride: When place 10 g of the beads in a 100 mL beaker and cover with a 1N calcium chloride solution. Let soak for 3 hours. Rinse the beads 3 times with distilled water. Dry, then examine the beads under a microscope and compare with the untreated sample, the beads must not develop any surface haze or dulling.

Resistance to Sodium Sulfide: When place 10 g of the beads in a glass stopper bottle and cover with a solution containing by weight 50% sodium sulfide, 48% distilled water, and 2% of an anionic wetting agent. Soak the beads for one hour and then rinse the beads 3 times with distilled water. Dry, then examine the beads under a microscope and compare with untreated sample, the sodium sulfide solution must not darken the beads.

Water Resistance: When place 10 g of the beads in a 20 x 80 mm extraction thimble. Place the thimble in a large (No. 3) Soxhlet extractor with a 125 mL boiling flask. Add 100 mL of distilled water, and reflux for two hours. Rinse the beads 3 times with distilled water. Remove the beads, dry, then examine the beads under a microscope and compare with untreated beads. Add five drops of one percent phenolphthalein indicator to the content of the boiling flask and titrate with 0.1N hydrochloric acid to the phenolphthalein indicator end point, the water must not produce dulling or hazing of the beads, and not more than 4.5 ml of 0.1N hydrochloric acid must be used for the titration.

Coating: T-20 MR/AC-Waterborne Coating

Arsenic, Antimony and Lead Content: The glass spheres must not contain more than 200 ppm (total) arsenic, 200 ppm (total) antimony, nor more than 200 ppm (total) lead, when tested according to EPA

Methods 3052 and 6010B. Other suitable x-ray fluorescence spectrometry analysis methods may be used to screen samples of glass spheres for arsenic, antimony and lead content.

Appearance: A minimum of 85% of the beads by count must be colorless, true spheres, free of dark spots, milkiness, air inclusions and surface scratches when viewed under 20X magnification. The beads must be clean and free from foreign matter in accordance with high grade commercial practice.

Replace section 84-2.02C with:

The paint for traffic stripes and pavement markings must be acrylic water-based paint and comply with the specifications for the paint type and color shown in following table:

Property	White	Yellow	Test
Pigment – Percent by weight, minimum	62.0	62.0	ASTM D 3723
Total Solids – Percent by weight, minimum	75.0	75.0	ASTM D 2369
Nonvolatile vehicle – Percent by weight vehicle, minimum*	35.0	37.0	FTMS 4051
Viscosity, KU @ 77 degrees F	80 – 95	80 – 95	ASTM D 562
Density, lb/gal, minimum	14.1	13.8	ASTM D 1475
Volatile Organic Content (VOC) – g/l maximum	100	100	EPA Method 24
Contrast Ratio, 5 mils wet, minimum	.95	.95	ASTM D 2805
Directional Reflectance Minimum	90.0	50.0	ASTM E 1347
Dry Opacity – Minimum (5 mils wet)	0.95	0.95	ASTM D 2805

* Binder – 100 percent acrylic cross-linking polymer, by weight, as determined by infrared analysis and other chemical analysis available to the Department. Refer to ASTM D 2205.

Paint must not smear or track five minutes after application to the roadway using standard application equipment, at the mil thickness required, and with an ambient shaded temperature of at least 50 degrees F.

Paint must be free of lead or other related heavy metals. Refer to ASTM D 5381. Refer to ASTM D 2743 and ASTM D 5381 for tests used to verify paint samples meet ASTM requirements.

Add to section 84-2.03A:

Before obliterating or applying any surfacing over any existing traffic stripes, pavement markings, and pavement markers to be replaced at the same location, reference the stripes, markings, and markers. Include limits and transitions with control points to reestablish the new stripes, markings, and markers. Submit your references to the control points at least 5 working days before obliterating or applying any surfacing over the stripes, markings, and markers. The Contractor will be responsible for preserving all reference control points.

The Contractor must contact the Engineer a minimum of 2 days prior to the placement of stripes, pavement markings, and pavement markers to obtain approval for the alignment of traffic stripes and all layouts for pavement markings.

Establish control points at 100-ft intervals on tangent and at 50-ft intervals on curves.

Maintain the line within 2 inches of the established control points and mark the roadway between control points as needed.

Remove paint that is not placed within tolerance of the established control points and replace at no cost to the Department.

Maintain the line dimension within 10 percent of the width and length dimensions defined in Standard Drawings.

Add to section 84-2.03C(1):

Begin striping operations no later than 24 hours after ordered by the Engineer.

Add to section 84-2.03C(3)(a):

Apply paint at a wet thickness of 20-25 mils.

Replace the 14th paragraph of section 84-2.03C(3)(a) with:

Apply 2-coat paint at the following rates:

4 inch Solid Line – From 190 to 240 ft/gal

4 inch Broken Line – From 760 to 960 ft/gal

8 inch Solid Line – From 95 to 120 ft/gal.

Replace the 15th paragraph of section 84-2.03C(3)(a) with:

Apply glass beads at a minimum rate of 7 lb of beads per gallon of paint.

Replace the 5th paragraph of section 84-2.04 with:

A double traffic stripe consisting of two 4-inch-wide yellow stripes separated by a 3-inch-wide gap is measured as two traffic stripes.

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85 RESERVED

Not Modified

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DIVISION X ELECTRICAL WORK

86 GENERAL

Not Modified

^^^

87 ELECTRICAL SYSTEMS

Not Modified

^^

88 RESERVED

Not Modified

^^

DIVISION XI MATERIALS

89 AGGREGATE

Not Modified

^^^

90 CONCRETE

Not Modified

^^^

91 PAINT

Not Modified

^^^

92 ASPHALT BINDERS

Not Modified

^^^

93 RESERVED

Not Modified

^^^

94 ASPHALTIC EMULSIONS

Not Modified

^^^

95 EPOXY

Not Modified

^^^

96 GEOSYNTHETICS

Not Modified

^^^

97–98 RESERVED

Not Modified

^^

DIVISION XII BUILDING CONSTRUCTION

99 BUILDING CONSTRUCTION

Not Modified