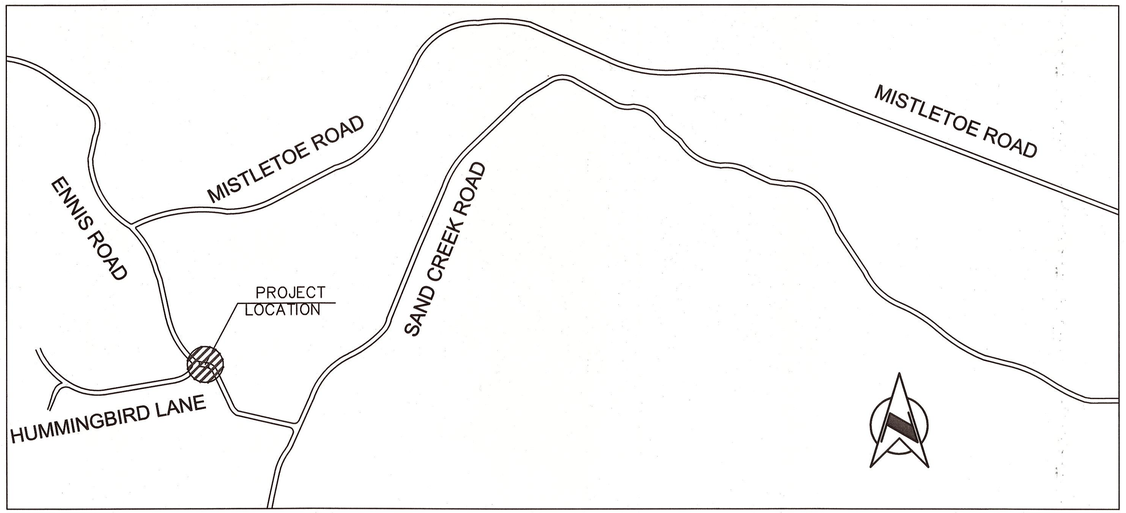
PLANS FOR CONSTRUCTION

FEDERAL BRIDGE REPLACEMENT PROJECT

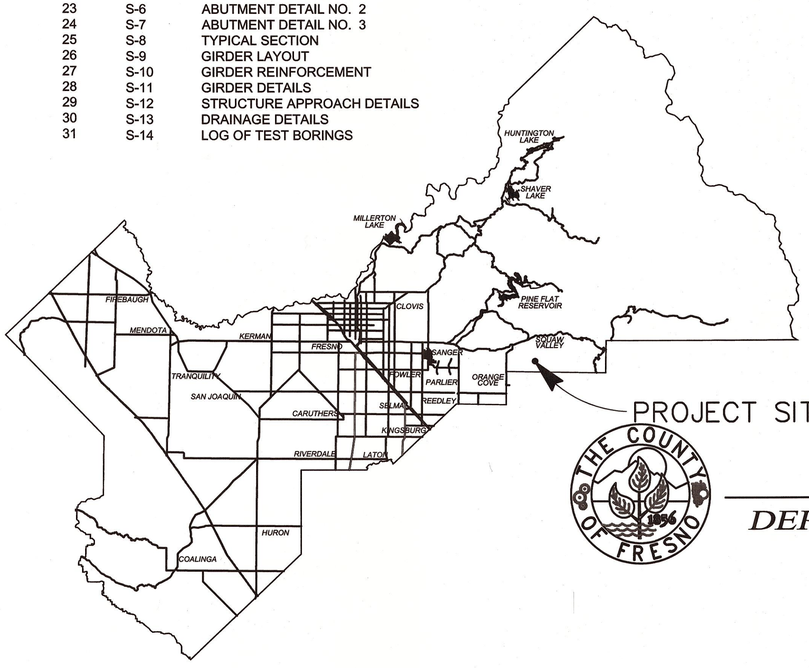
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

FEDERAL PROJECT NUMBER: BRLO-5942(238)
BRIDGE NO: 42CO697



0 500' 1000'

SHEET NO:		
	GENERAL:	
1	T-1	TITLE SHEET
2	T-2	CONSTRUCTION NOTES AND ABBREVIATIONS
	ROADWAY PLANS:	
3	A-1	AERIAL SITE CONTROL PLAN
4	X-1	TYPICAL SECTIONS
5	X-2	TYPICAL SECTIONS
6	DM-1	DEMOLITION PLAN
7	PP-1	PLAN AND PROFILE ENNIS ROAD STA 9+00-13+50
8	PP-2	PLAN AND PROFILE ENNIS ROAD STA 13+50-17+00
9	PP-3	PLAN AND PROFILE HUMMINGBIRD LANE STA 10+00-STA 12+25
	STORM DRAIN:	
10	SD-1	STORM DRAIN PLAN AND PROFILE
	CONSTRUCTION DETAILS:	
11	CD-1	CONSTRUCTION DETAILS
12	CD-2	CONSTRUCTION DETAILS
	EROSION CONTROL:	
13	EC-1	EROSION CONTROL
	SIGNING AND STRIPING, AND DETOUR:	
14	SS-1	SIGNING PLAN
	STAGE CONSTRUCTION AND DETOUR PLAN:	
15	SC-1	STAGE CONSTRUCTION -STAGE 1
16	SC-2	STAGE CONSTRUCTION -STAGE 2
17	DE-1	DETOUR PLAN
	BRIDGE PLANS:	
18	S-1	GENERAL PLAN
19	S-2	DECK CONTOURS
20	S-3	FOUNDATION PLAN
21	S-4	ABUTMENT LAYOUT
22	S-5	ABUTMENT DETAIL NO. 1
23	S-6	ABUTMENT DETAIL NO. 2
24	S-7	ABUTMENT DETAIL NO. 3
25	S-8	TYPICAL SECTION
26	S-9	GIRDER LAYOUT
27	S-10	GIRDER REINFORCEMENT
28	S-11	GIRDER DETAILS
29	S-12	STRUCTURE APPROACH DETAILS
30	S-13	DRAINAGE DETAILS
31	S-14	LOG OF TEST BORINGS



BENCH MARK AND DATUM				
MONUMENT	COORDINATES		ELEVATION	DESCRIPTION/LOCATION
	NORTHING	EASTING		
HN1G	2002915.567	6372176.001	252.141	COORDINATE VALUES WERE GPS DERIVED IN CALIFORNIA STATE PLAN COORDINATES, ZONE 4, EPOCH 2011 (NAD83) USING CSDS CONTINUALLY MONITORING STATION "HN1G", LOCATED IN HANFORD, CA. VERTICAL DATUM = NAVD88

NOTE: ALL DIMENSIONS HEREON ARE GRID DISTANCES. TO CONVERT FROM GRID TO GROUND, MULTIPLY THE GRID DISTANCE BY THE COMBINED SCALE FACTOR OF 0.999897'.

Steve Brandau	Chairman	2nd	District
Brian Pacheco	Vice Chairman	1st	District
Sal Quintero		3rd	District
Ernest Buddy Mendes		4th	District
Nathan Magsig		5th	District

Jean M. Rousseau
County Administrative Officer

APPROVED _____

Steven E. White, Director
Department of Public Works and Planning

CALIFORNIA CONTRACTOR'S LICENSES REQUIRED FOR THIS PROJECT					
CLASS A, GENERAL ENGINEERING					
DRAWING NO.	ROAD NO.	BRIDGE NO.	FISCAL YR.	SHEET NO.	TOTAL
11257	2824-2825	42C0697	2020/2021	1	31
CONTRACT NO. 20-01-C					

RECORD DRAWING		
CONTRACTOR		
NAME		
ADDRESS		
CITY	STATE	ZIP
PHONE		
DATE AWARDED		
DATE STARTED		
DATE COMPLETED		
RESIDENT ENGINEER		
NAME	SIGNATURE	
NAME	SIGNATURE	

THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING

ABBREVIATIONS

AB	AGGREGATE BASE
ACB	ARTICULATED CONCRETE BLOCK
BB	BEGIN BRIDGE
BC	BEGIN CURVE
BEG	BEGIN
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
℄	CENTERLINE
CA	CALIFORNIA
CP	CATCH POINT
CSDS	CALIFORNIA SURVEYING AND DRAFTING SERVICES
DIA	DIAMETER
E	EAST/EASTING
EA	EACH
EB	END BRIDGE
EC	END CURVE
EL	ELEVATION
ELEC	ELECTRICAL
EP	EDGE OF PAVEMENT
ETW	EDGE OF TRAVEL WAY
EX.	EXISTING
FG	FINISHED GROUND
FR	FIBER ROLLS
FS	FINISHED SURFACE
FT	FEET
G	GRADE
GB	GRADE BREAK
H	HEIGHT
HMA	HOT MIX ASPHALT
INTER	INTERSECTION
L	LENGTH
LF	LINEAR FEET
LN	LANE
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MAX	MAXIMUM
MGS	MIDWEST GUARDRAIL SYSTEM
MIN	MINIMUM
MOD	MODIFIED
MPH	MILES PER HOUR
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTHING
NTS	NOT TO SCALE
O.C.	ON CENTER
OG	ORIGINAL GROUND
OH	OVERHEAD
P	PAVEMENT
PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PR.	PROPOSED
PSI	POUNDS PER SQUARE INCH
PUE	PUBLIC UTILITY EASEMENT
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
RD	ROAD
RT	RIGHT
R/W	RIGHT OF WAY
S	SOUTH
SD	STORM DRAIN
SHLD	SHOULDER
STD	STANDARD
T	TANGENT
TCE	TEMPORARY CONSTRUCTION EASEMENT
TYP	TYPICAL
W	WEST/WIDITH
WWLOL	WING WALL LAYOUT LINE

CONSTRUCTION NOTES

1. PROTECT IN PLACE UTILITY POLE
2. CONSTRUCT 3" HMA OVER 9" AB
3. PROTECT IN PLACE OVERHEAD LINES
4. CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN-LINE TERMINAL END TREATMENT, USING TYPE 12A LAYOUT PER CALTRANS RSP A77Q1
5. CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN-LINE TERMINAL END TREATMENT, USING TYPE 12AA LAYOUT PER CALTRANS RSP A77Q4
6. RELOCATE UTILITY POLE AND OVERHEAD LINE (BY OTHERS)
7. REMOVE EXISTING TREE
8. PROTECT IN PLACE SHED STRUCTURE
9. INSTALL TRANSITIONAL RAILING TYPE WB-31 PER CALTRANS STD PLAN RSP A77U4
10. INSTALL PIPE CULVERT WINGWALL (W=1') PER CALTRANS STD PLAN D86B
11. INSTALL 24" RCP CULVERT PER CALTRANS STD PLAN A62D
12. CONSTRUCT 10" CLASS II AGGREGATE BASE
13. INSTALL MUTCD STANDARD TYPE E WHITE RETROREFLECTOR (2-SIDED) GUARDRAIL DELINEATOR; SPACING TO BE EVERY 20 FT
14. PROTECT IN PLACE GATE
15. REMOVE ASPHALT CONCRETE PAVEMENT
16. REMOVE EXISTING METAL BEAM GUARDRAIL
17. REMOVE EXISTING WOOD POST AND WIRE FENCE
18. REMOVE EXISTING 24" STORM DRAIN PIPE
19. CONSTRUCT HOT MIX ASPHALT DIKE TYPE C PER CALTRANS STANDARD PLAN RSP A87B PER PLACEMENT AS INDICATED ON CALTRANS STANDARD PLAN A77N4
20. CONSTRUCT SHOULDER BACKING MATERIAL AT A DEPTH OF 0.30'
21. CONCRETE BARRIER, SEE STRUCTURAL PLANS
22. SAWCUT, MATCH EXISTING
23. INSTALL CLASS III RSP
24. INSTALL 10'X10' CLASS V RSP CENTERED ON PIPE AT TOE OF SLOPE
25. CONSTRUCT CONCRETE LINED V-DITCH
26. CONSTRUCT DIP CROSSING
27. CONSTRUCT SPLASH WALL

SIGNING NOTES

- [E] PROTECT IN PLACE EXISTING SIGN UNLESS OTHERWISE NOTED
- [1] REMOVE EXISTING SIGN
- [2] INSTALL SIGN AND POST AS INDICATED. EXISTING SHALL BE REMOVED AND DISPOSED

Note:
These plans shall be supplemented by the Caltrans Standard Plans dated 2018.

T-2

		RECORD DRAWING		SCALE
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	DATE	AS SHOWN
DRAWN: LS	3/12/2021			
CHECKED: SA	3/12/2021			

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

BkF
4670 Willow Rd., Ste 250
Pleasanton, CA 94588
925.398.7700

REGISTERED PROFESSIONAL ENGINEER
SHEILA AMPARO
78003
Exp 9-30-21
CIVIL
STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING
CONSTRUCTION NOTES AND ABBREVIATIONS
DRAWING NO. 11257 SHEET NO. 2 TOTAL 31

AT-4
MAG IN AC
N: 2132002.558
E: 6501095.716
EL 1007.692

AT-5
NAIL (TO BE REMOVED)
N: 2132247.409
E: 6500468.927
EL 991.526

AT-6
MAG IN AC
N: 2132779.434
E: 6499968.654
EL 1033.785

ENNIS RD

ENNIS RD

HUMMINGBIRD LN

AT-3
MAG IN AC
N: 2131256.648
E: 6500744.714
EL 991.985

AT-2
NAIL (TO BE REMOVED)
N: 2131540.680
E: 6500065.349
EL 965.188

AT-1
MAG IN AC
N: 2131902.818
E: 6499623.350
EL 991.513

GRAPHIC SCALE
0 35 70 140 210
(IN FEET)
1 INCH = 70 FT.

A-1

	DATE	RECORD DRAWING	
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	DATE
DRAWN: LS	3/12/2021		
CHECKED: SA	3/12/2021		

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SCALE
AS SHOWN

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REGISTERED PROFESSIONAL ENGINEER
SHEILA AMDAHO
78003
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CIVIL
STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT
ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

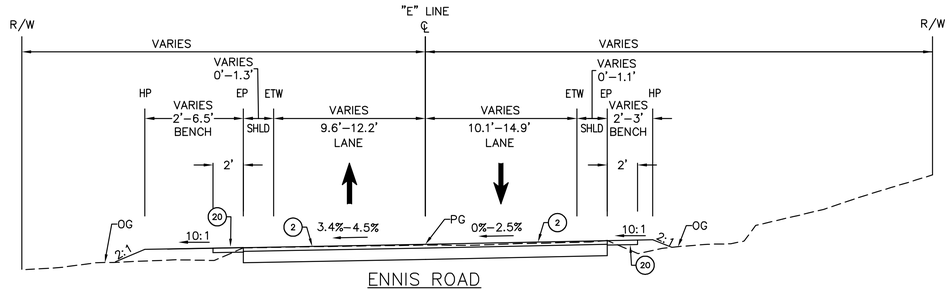
THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING

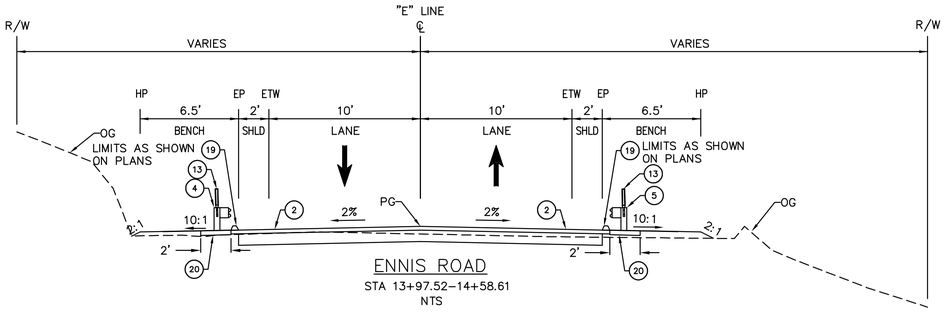
AERIAL SITE CONTROL PLAN

DRAWING NO. 11257 SHEET NO. 3 TOTAL 31

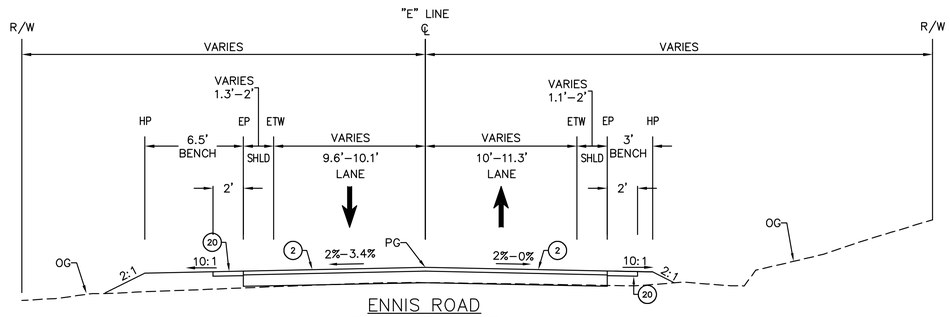
P:\ENG14\20141070_FRESNO-SAND_CREEK_BRIDGE_ON_ENNIS_ROAD\ENG\SHEETS\A-1



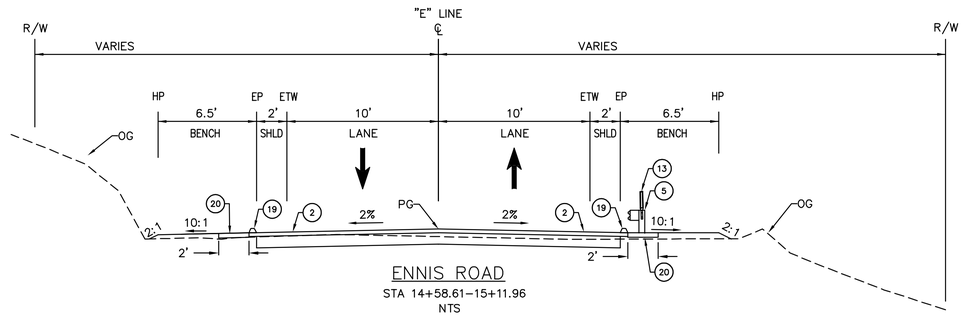
ENNIS ROAD
STA 10+00.00–10+41.66
NTS



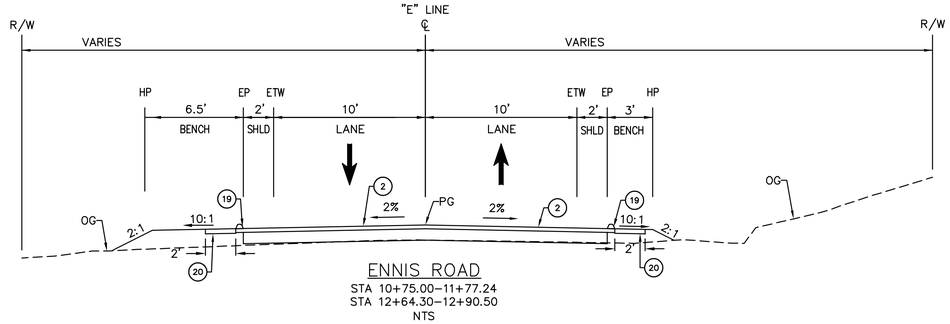
ENNIS ROAD
STA 13+97.52–14+58.61
NTS



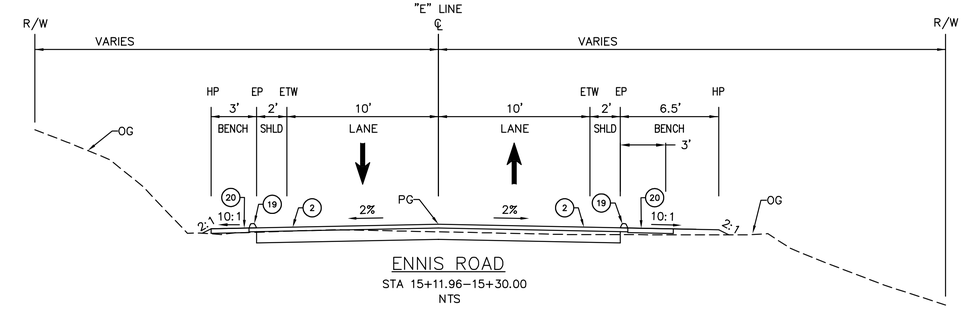
ENNIS ROAD
STA 10+41.66–10+75.00
NTS



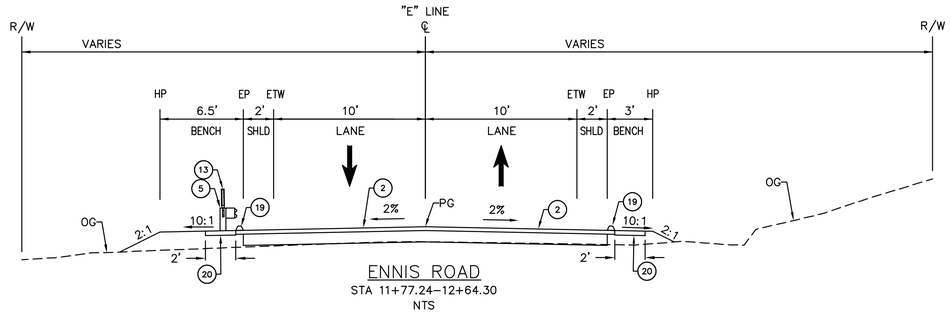
ENNIS ROAD
STA 14+58.61–15+11.96
NTS



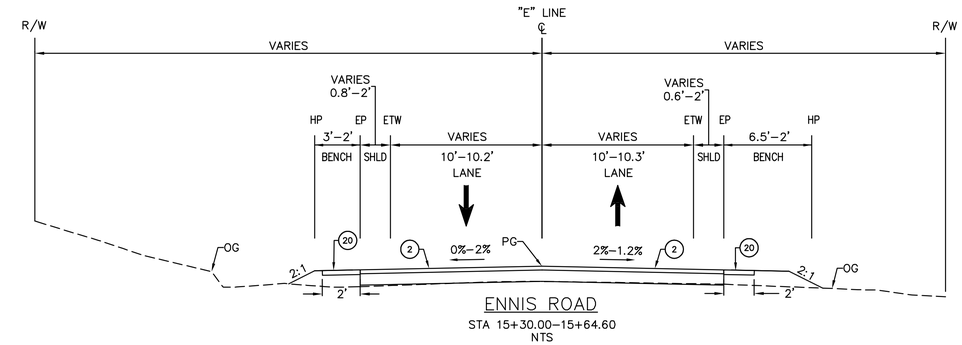
ENNIS ROAD
STA 10+75.00–11+77.24
STA 12+64.30–12+90.50
NTS



ENNIS ROAD
STA 15+11.96–15+30.00
NTS



ENNIS ROAD
STA 11+77.24–12+64.30
NTS



ENNIS ROAD
STA 15+30.00–15+64.60
NTS

CONSTRUCTION NOTES:

(2) CONSTRUCT 3" HMA OVER 9" AB

(4) CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN–LINE TERMINAL END TREATMENT, USING TYPE 12A LAYOUT PER CALTRANS RSP A77Q1

(5) CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN–LINE TERMINAL END TREATMENT, USING TYPE 12AA LAYOUT PER CALTRANS RSP A77Q4

(13) INSTALL MUTCD STANDARD TYPE E WHITE RETROREFLECTOR (2–SIDED) GUARDRAIL DELINEATOR; SPACING TO BE EVERY 20 FT

(19) CONSTRUCT HOT MIX ASPHALT DIKE TYPE C PER CALTRANS STANDARD PLAN RSP A87B PER PLACEMENT AS INDICATED ON CALTRANS STANDARD PLAN A77N4

(20) CONSTRUCT SHOULDER BACKING MATERIAL AT A DEPTH OF 0.30'

X-1

	DATE	RECORD DRAWING	
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	DATE
DRAWN: LS	3/12/2021		
CHECKED: SA	3/12/2021		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BKF
4670 Willow Rd., Ste 250
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925.398.7700

REGISTERED PROFESSIONAL ENGINEER
SHIELA A NAPARO
78003
Exp 9-30-21
CIVIL
STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO

DEPARTMENT OF PUBLIC WORKS AND PLANNING

TYPICAL SECTIONS

DRAWING NO. 11257 SHEET NO. 4 TOTAL 31

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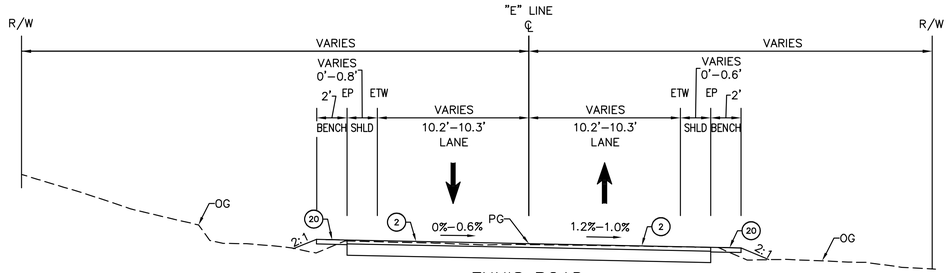
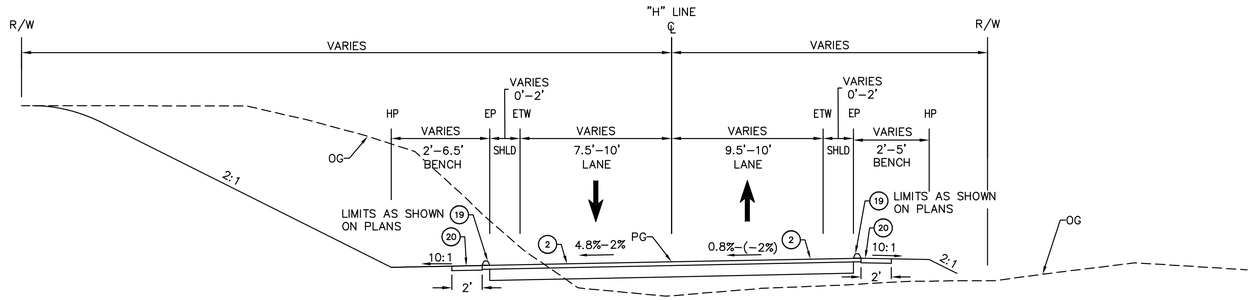


ENNIS ROAD

STA 15+64.60–15+75.00

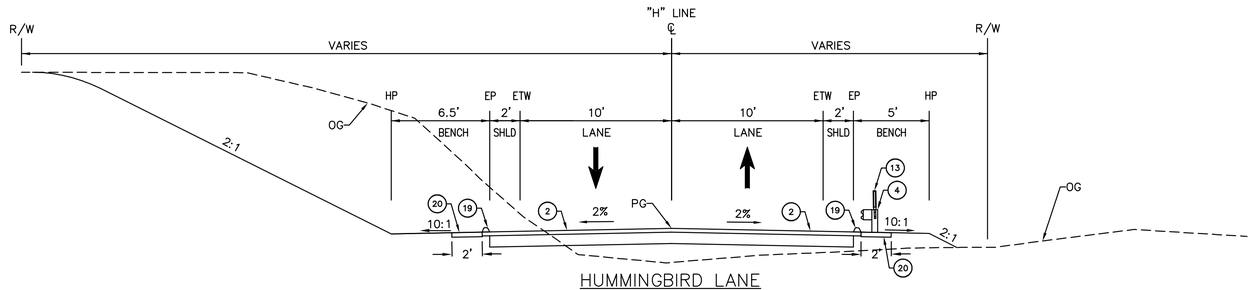
NTS



HUMMINGBIRD LANE

STA 10+00.00–10+50.00

NTS



HUMMINGBIRD LANE

STA 10+50.00–12+39.56

NTS

CONSTRUCTION NOTES:

(2) CONSTRUCT 3" HMA OVER 9" AB

(4) CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN–LINE TERMINAL END TREATMENT, USING TYPE 12A LAYOUT PER CALTRANS RSP A77Q1

(5) CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN–LINE TERMINAL END TREATMENT, USING TYPE 12AA LAYOUT PER CALTRANS RSP A77Q4

(13) INSTALL MUTCD STANDARD TYPE E WHITE RETROREFLECTOR (2–SIDED) GUARDRAIL DELINEATOR; SPACING TO BE EVERY 20 FT

(19) CONSTRUCT HOT MIX ASPHALT DIKE TYPE C PER CALTRANS STANDARD PLAN RSP A87B PER PLACEMENT AS INDICATED ON CALTRANS STANDARD PLAN A77N4

(20) CONSTRUCT SHOULDER BACKING MATERIAL AT A DEPTH OF 0.30'

X-2

	DATE	RECORD DRAWING	
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	DATE
DRAWN: LS	3/12/2021		
CHECKED: SA	3/12/2021		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BkF
4670 Willow Rd., Ste 250
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925.396.7700

REGISTERED PROFESSIONAL ENGINEER
SHEILA AMPARO
78003
Exp 9-30-21
CIVIL
STATE OF CALIFORNIA

PROJECT

SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

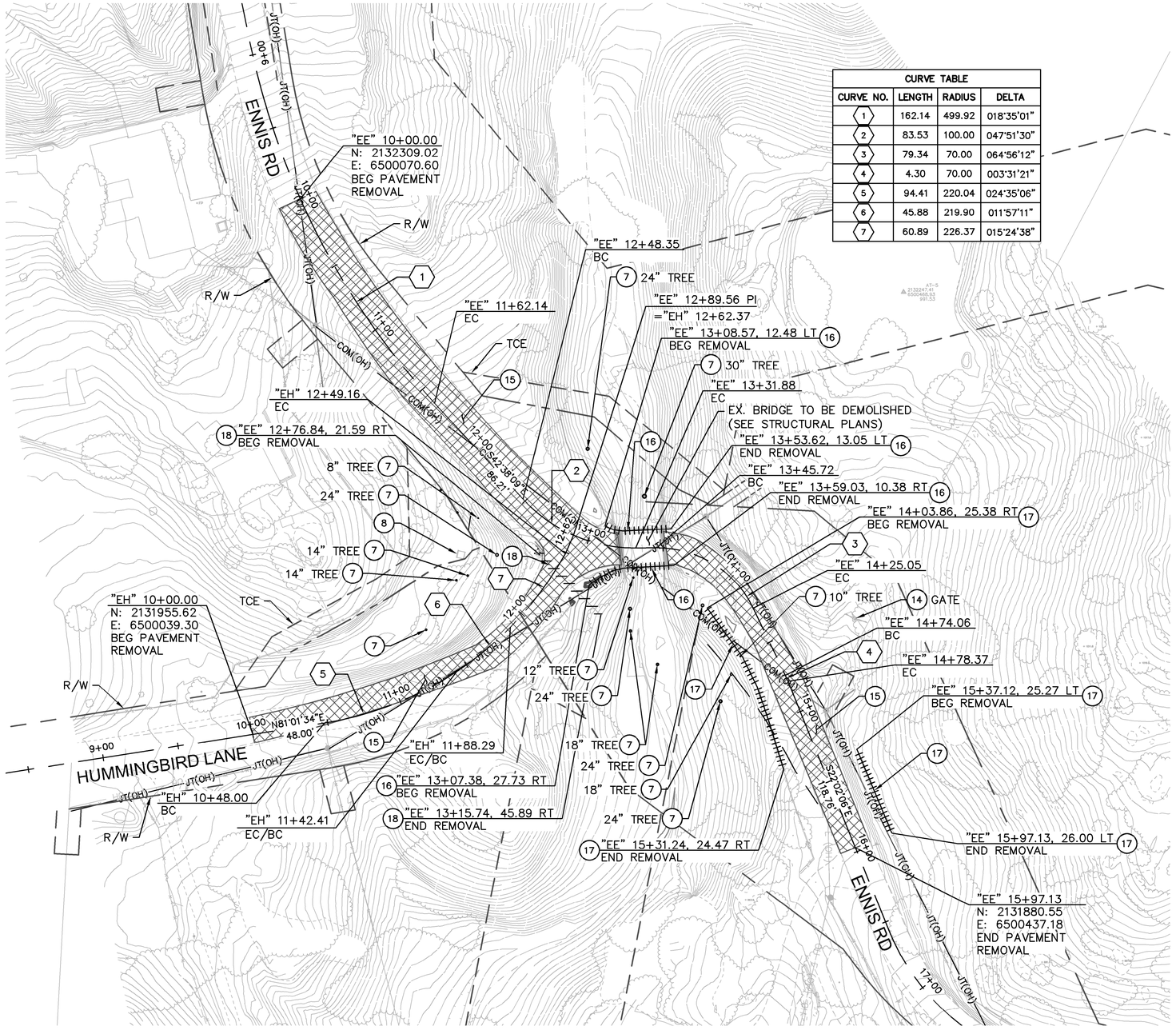
THE COUNTY OF FRESNO

DEPARTMENT OF PUBLIC WORKS AND PLANNING

TYPICAL SECTION

DRAWING NO. 11257 SHEET NO. 5 TOTAL 31

P:\ENG14\20141070_FRESNO–SAND_CREEK_BRIDGE_ON_ENNIS_ROAD\ENG\SHEETS\X–1



CURVE TABLE			
CURVE NO.	LENGTH	RADIUS	DELTA
1	162.14	499.92	018°35'01"
2	83.53	100.00	047°51'30"
3	79.34	70.00	064°56'12"
4	4.30	70.00	003°31'21"
5	94.41	220.04	024°35'06"
6	45.88	219.90	011°57'11"
7	60.89	226.37	015°24'38"

CONSTRUCTION NOTES:

7. REMOVE EXISTING TREE
8. PROTECT IN PLACE SHED STRUCTURE
14. PROTECT IN PLACE GATE
15. REMOVE EXISTING ASPHALT CONCRETE PAVEMENT
16. REMOVE EXISTING METAL BEAM GUARDRAIL
17. REMOVE EXISTING WOOD POST AND WIRE FENCE
18. REMOVE EXISTING 24" STORM DRAIN PIPE

LEGEND

- EX. OVERHEAD ELECTRICAL
- EX. OVERHEAD TELECOMMUNICATIONS
- ROW
- TCE
- EX. TREE
- EX. UTILITY POLE
- EX. ASPHALT CONCRETE PAVEMENT REMOVAL
- EX. FENCE REMOVAL
- EX. STORM DRAIN REMOVAL

NOTES:

1. FOR BRIDGE DEMOLITION, SEE STRUCTURAL PLANS.
2. SEE PP SHEETS FOR EXISTING UTILITY DISPOSITIONS.
3. SEE SHEET SS-1 FOR EXISTING SIGNING REMOVAL AND IMPROVEMENTS.

GRAPHIC SCALE
0 20 40 80 120
(IN FEET)
1 INCH = 40 FT.

DM-1

	DATE	RECORD DRAWING	DATE
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	
DRAWN: LS	3/12/2021		
CHECKED: SA	3/12/2021		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BkF
4670 Willow Rd., Ste 250
Pleasanton, CA 94588
925.398.7700

REGISTERED PROFESSIONAL ENGINEER SHEILA AMPARO 78003 Exp 9-30-21 CIVIL STATE OF CALIFORNIA

PROJECT: SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

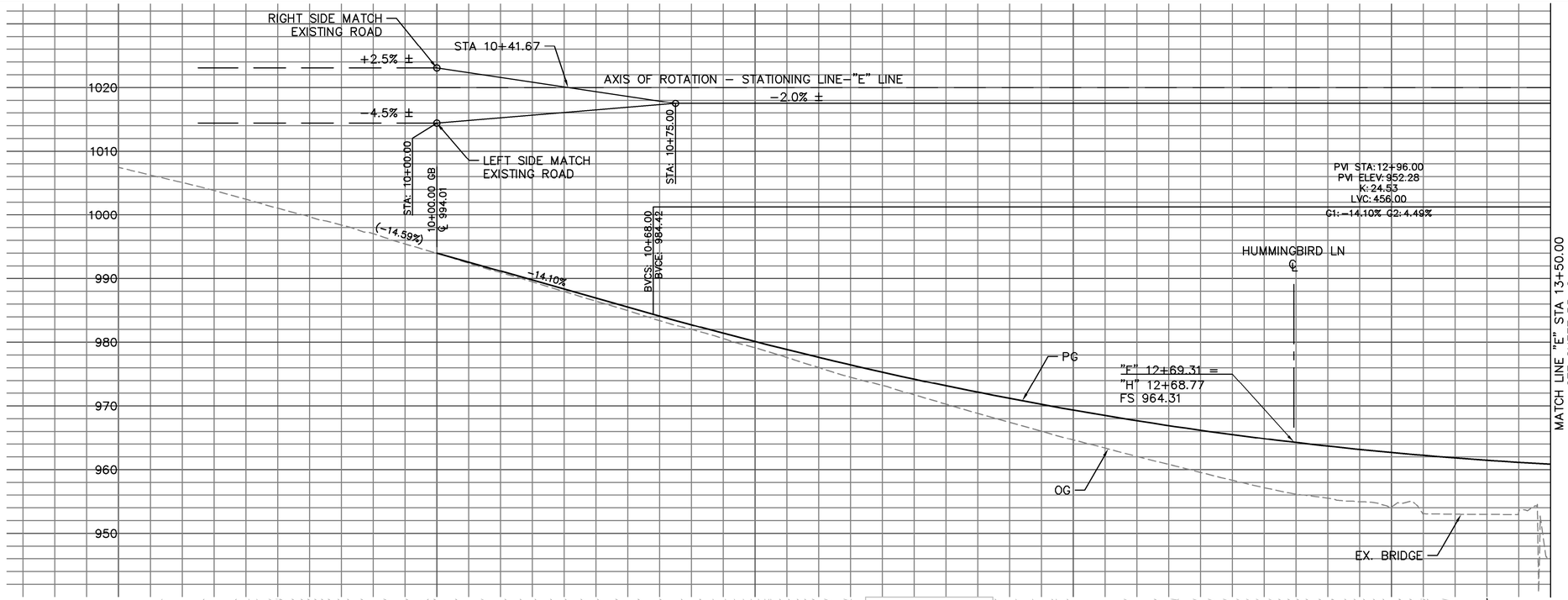
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING

DEMOLITION PLAN

DRAWING NO. 11257 SHEET NO. 6 TOTAL 31



CONSTRUCTION NOTES:

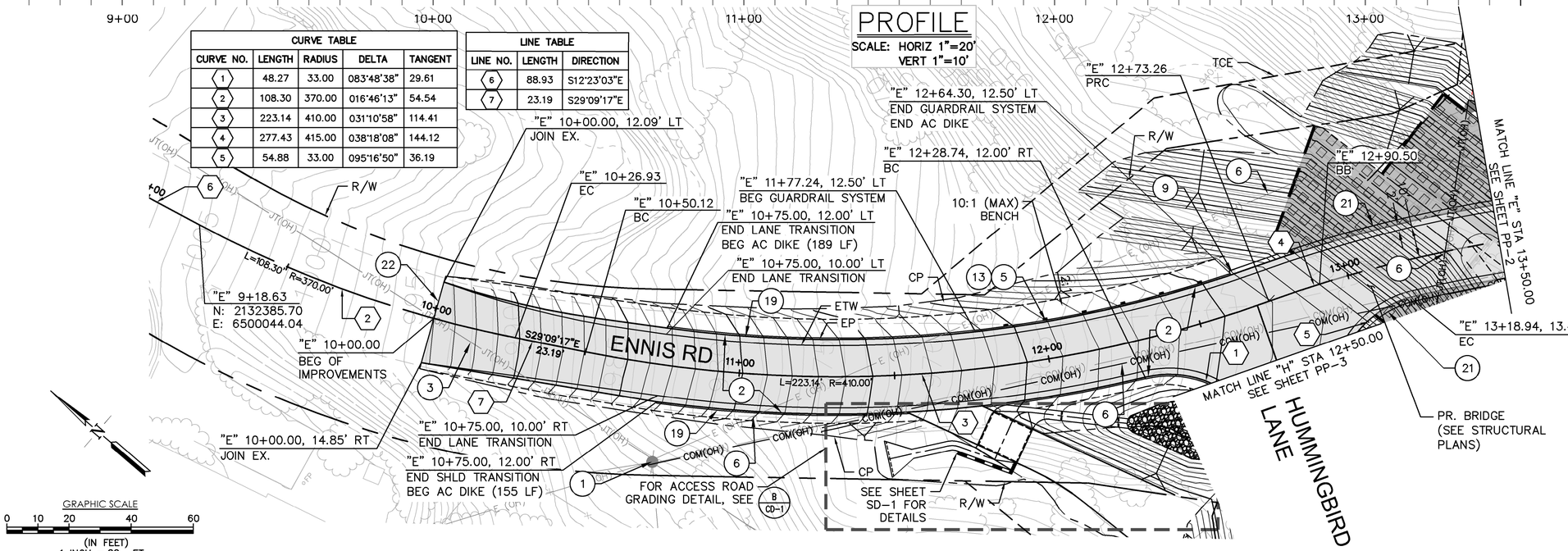
1. PROTECT IN PLACE UTILITY POLE
2. CONSTRUCT 3" HMA OVER 9" AB
3. PROTECT IN PLACE OVERHEAD LINES
4. CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN–LINE TERMINAL END TREATMENT, USING TYPE 12A LAYOUT PER CALTRANS RSP A77Q1
5. CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN–LINE TERMINAL END TREATMENT, USING TYPE 12AA LAYOUT PER CALTRANS RSP A77Q4
6. RELOCATE UTILITY POLE AND OVERHEAD LINE (BY OTHERS)
9. INSTALL TRANSITIONAL RAILING TYPE WB–31 PER CALTRANS STD PLAN RSP A77U4
13. INSTALL MUTCD STANDARD TYPE E WHITE RETROREFLECTOR (2–SIDED) GUARDRAIL DELINEATOR; SPACING TO BE EVERY 20 FT
19. CONSTRUCT HOT MIX ASPHALT DIKE TYPE C PER CALTRANS STANDARD PLAN RSP A87B PER PLACEMENT AS INDICATED ON CALTRANS STANDARD PLAN A77N4
21. CONCRETE BARRIER, SEE STRUCTURAL PLANS
22. SAWCUT, MATCH EXISTING

PROFILE

SCALE: HORIZ 1"=20'
VERT 1"=10'

CURVE TABLE				
CURVE NO.	LENGTH	RADIUS	DELTA	TANGENT
1	48.27	33.00	083°48'38"	29.61
2	108.30	370.00	016°46'13"	54.54
3	223.14	410.00	031°10'58"	114.41
4	277.43	415.00	038°18'08"	144.12
5	54.88	33.00	095°16'50"	36.19

LINE TABLE		
LINE NO.	LENGTH	DIRECTION
6	88.93	S12°23'03"E
7	23.19	S29°09'17"E



LEGEND

- EX. UTILITY POLE
- E (OH) — EX. OVERHEAD ELECTRICAL
- R/W
- TCE
- PR. DAYLIGHT
- PR. BENCH
- PR. MGS
- PR. PAVEMENT
- ACB SLOPE PROTECTION (SEE SHEET CD–02)

GRAPHIC SCALE
0 10 20 40 60
(IN FEET)
1 INCH = 20 FT.

PP-1

	DATE	RECORD DRAWING	DATE
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	
DRAWN: LS	3/12/2021		
CHECKED: SA	3/12/2021		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BkF
4670 Willow Rd., Ste 250
Pleasanton, CA 94588
925.398.7700

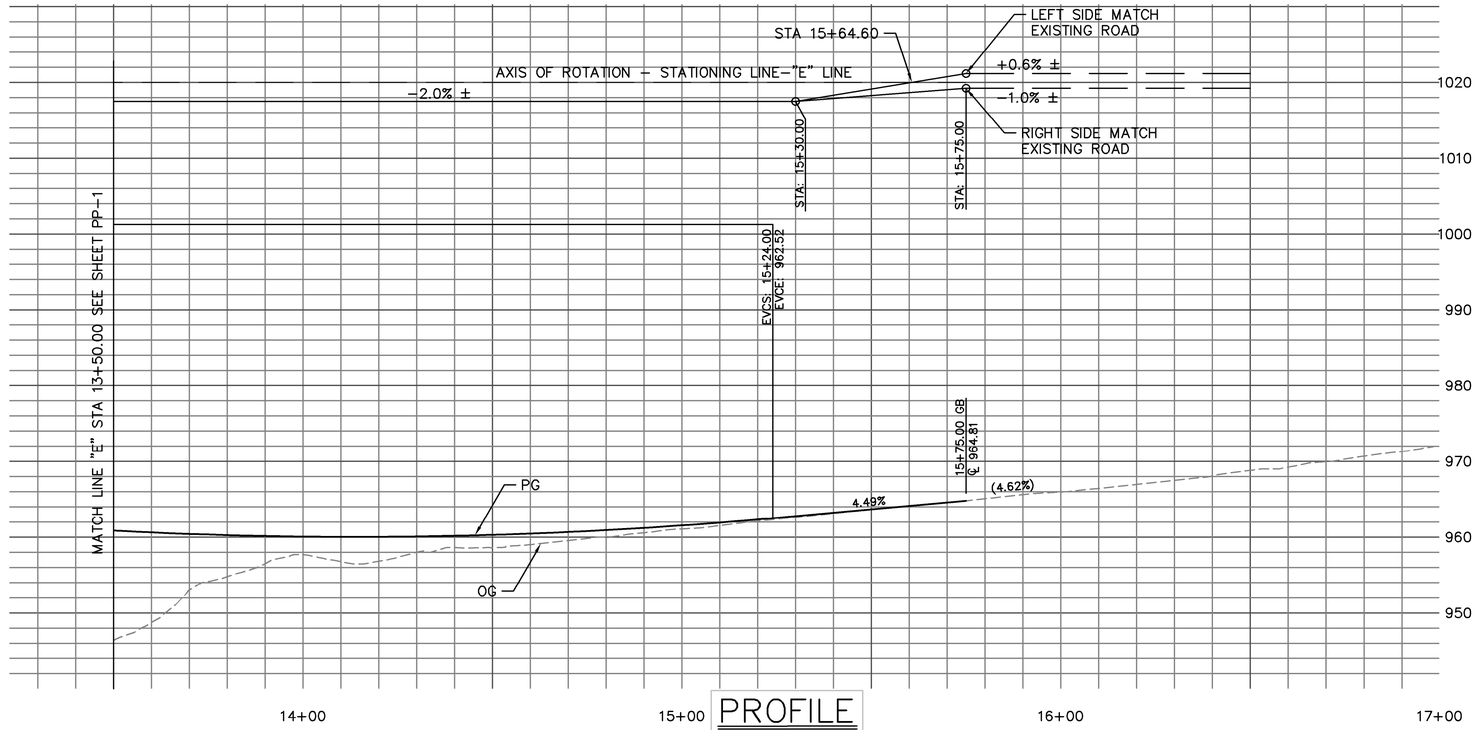
REGISTERED PROFESSIONAL ENGINEER SHEILA AMPARO 78003 Exp 9-30-21 CIVIL STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO 1856

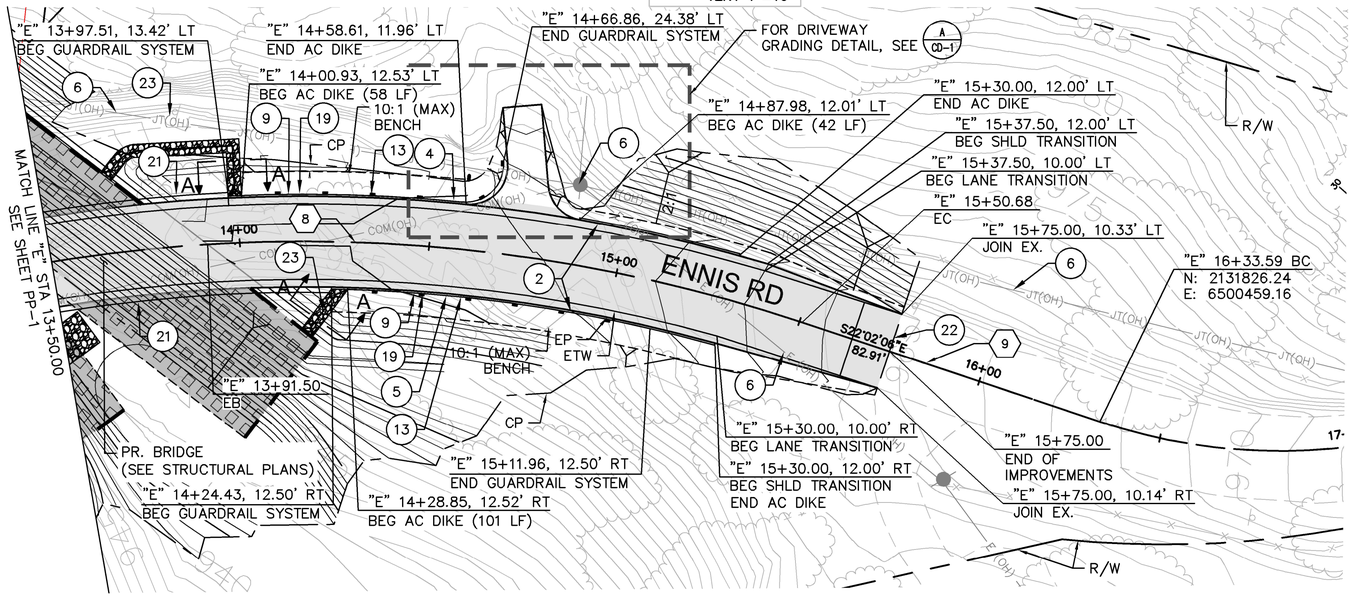
DEPARTMENT OF PUBLIC WORKS AND PLANNING
PLAN AND PROFILE
ENNIS ROAD STA 9+00.00-13+50.00
DRAWING NO. 11257 SHEET NO. 7 TOTAL 31

P:\ENG14\20140170_FRESNO-SAND_CREEK_BRIDGE_ON_ENNIS_ROAD\ENG\SHEETS\PP-1



PROFILE

SCALE: HORIZ 1"=20'
VERT 1"=10'



GRAPHIC SCALE
0 10 20 40 60
(IN FEET)
1 INCH = 20 FT.

CONSTRUCTION NOTES:

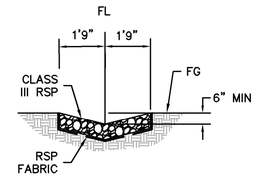
1. PROTECT IN PLACE UTILITY POLE
2. CONSTRUCT 3" HMA OVER 9" AB
4. CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN–LINE TERMINAL END TREATMENT, USING TYPE 12A LAYOUT PER CALTRANS RSP A77Q1
5. CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN–LINE TERMINAL END TREATMENT, USING TYPE 12AA LAYOUT PER CALTRANS RSP A77Q4
6. RELOCATE UTILITY POLE AND OVERHEAD LINE (BY OTHERS)
9. INSTALL TRANSITIONAL RAILING TYPE WB–31 PER CALTRANS STD PLAN RSP A77U4
13. INSTALL MUTCD STANDARD TYPE E WHITE RETROREFLECTOR (2–SIDED) GUARDRAIL DELINEATOR; SPACING TO BE EVERY 20 FT
19. CONSTRUCT HOT MIX ASPHALT DIKE TYPE C PER CALTRANS STANDARD PLAN RSP A87B PER PLACEMENT AS INDICATED ON CALTRANS STANDARD PLAN A77N4
21. CONCRETE BARRIER, SEE STRUCTURAL PLANS
22. SAWCUT, MATCH EXISTING
23. INSTALL CLASS III RSP

LEGEND

- EX. UTILITY POLE
- E (OH) — EX. OVERHEAD ELECTRICAL
- R/W
- TCE
- PR. DAYLIGHT
- PR. BENCH
- PR. MGS
- PR. PAVEMENT
- ACB PROTECTION (SEE SHEET CD–02)

CURVE TABLE				
CURVE NO.	LENGTH	RADIUS	DELTA	TANGENT
7	277.43	415.00	038°18'08"	144.12

LINE TABLE		
LINE NO.	LENGTH	DIRECTION
8	82.91	S22°02'06"E



SECTION A–A
SCALE: NTS

PP-2

	DATE	RECORD DRAWING		SCALE
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	DATE	AS SHOWN
DRAWN: LS	3/12/2021			
CHECKED: SA	3/12/2021			

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

BkF
4670 Willow Rd., Ste 250
Pleasanton, CA 94588
925.398.7700

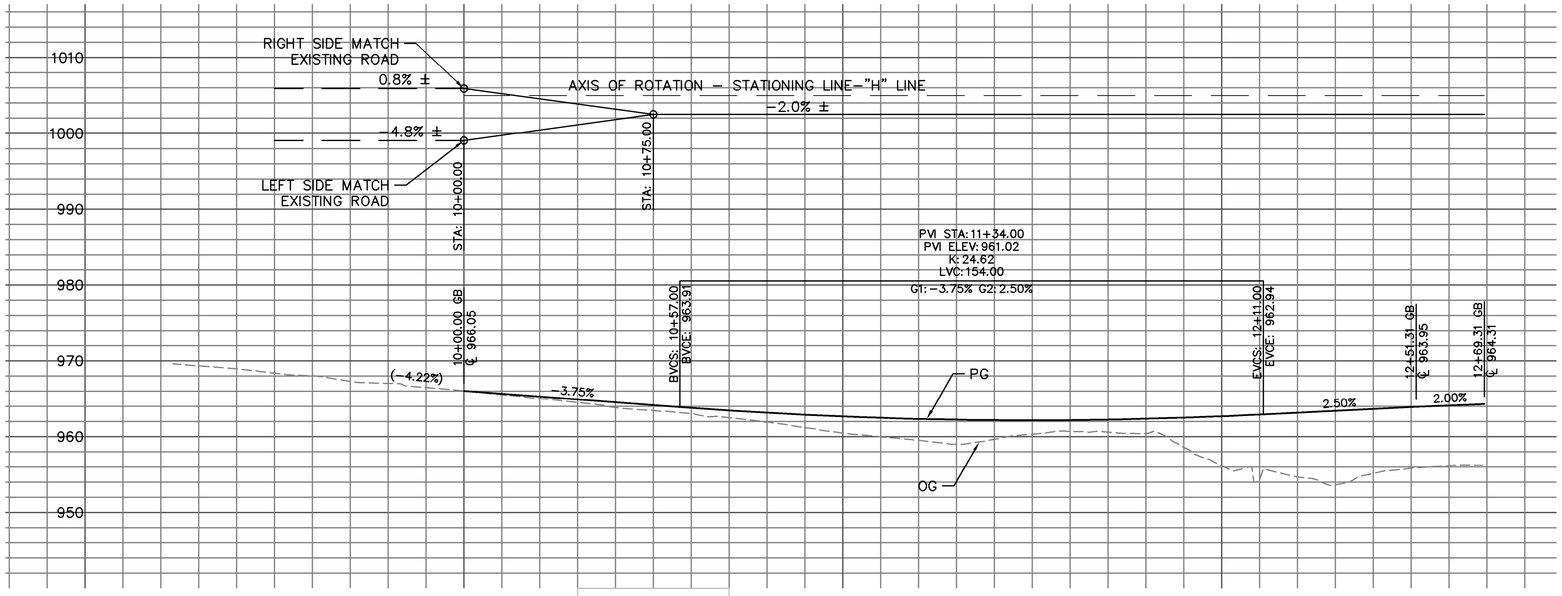
REGISTERED PROFESSIONAL ENGINEER SHEILA AMPATO 78003 Exp 9-30-21 CIVIL STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING
PLAN AND PROFILE
ENNIS ROAD STA 13+50.00-17+00.00
DRAWING NO. 11257 SHEET NO. 8 TOTAL 31

P:\ENG14\20141070_FRESNO-SAND_CREEK_BRIDGE_ON_ENNIS_ROAD\ENG\SHEETS\PP-1



PROFILE

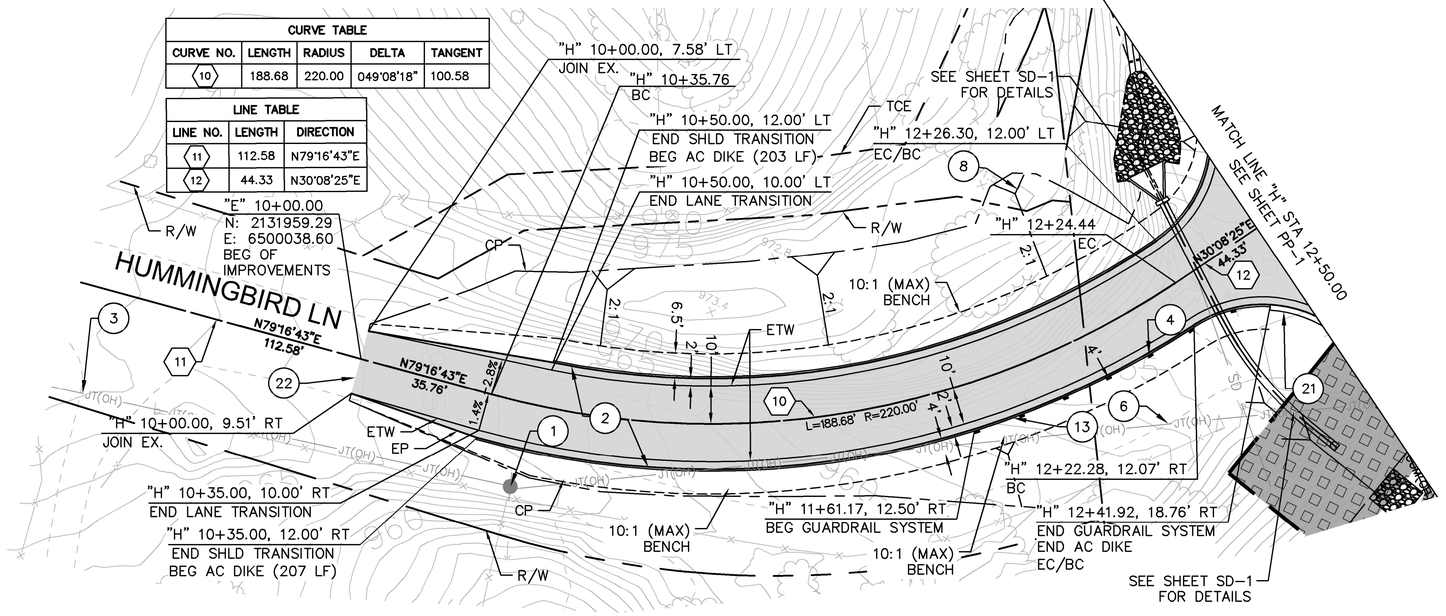
SCALE: HORIZ 1"=20'
VERT 1"=10'

CONSTRUCTION NOTES:

1. PROTECT IN PLACE UTILITY POLE
2. CONSTRUCT 3" HMA OVER 9" AB
3. PROTECT IN PLACE OVERHEAD LINES
4. CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN–LINE TERMINAL END TREATMENT, USING TYPE 12A LAYOUT PER CALTRANS RSP A77Q1
6. RELOCATE UTILITY POLE AND OVERHEAD LINE (BY OTHERS)
8. PROTECT IN PLACE SHED STRUCTURE
13. INSTALL MUTCD STANDARD TYPE E WHITE RETROREFLECTOR (2–SIDED) GUARDRAIL DELINEATOR; SPACING TO BE EVERY 20 FT
19. CONSTRUCT HOT MIX ASPHALT DIKE TYPE C PER CALTRANS STANDARD PLAN RSP A87B PER PLACEMENT AS INDICATED ON CALTRANS STANDARD PLAN A77N4
21. CONCRETE BARRIER, SEE STRUCTURAL PLANS
22. SAWCUT, MATCH EXISTING

CURVE TABLE				
CURVE NO.	LENGTH	RADIUS	DELTA	TANGENT
10	188.68	220.00	049°08'18"	100.58

LINE TABLE		
LINE NO.	LENGTH	DIRECTION
11	112.58	N79°16'43"E
12	44.33	N30°08'25"E



LEGEND

- EX. UTILITY POLE
- E (OH) — EX. OVERHEAD ELECTRICAL
- R/W
- TCE
- PR. DAYLIGHT
- PR. BENCH
- PR. MGS
- PR. PAVEMENT
- ACB SLOPE PROTECTION (SEE SHEET CD–02)

GRAPHIC SCALE
0 10 20 40 60
(IN FEET)
1 INCH = 20 FT.

PP-3

	DATE	RECORD DRAWING	
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	DATE
DRAWN: LS	3/12/2021		
CHECKED: SA	3/12/2021		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

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4670 Willow Rd., Ste 250
Pleasanton, CA 94588
925.396.7700

REGISTERED PROFESSIONAL ENGINEER SHEILA AMPANO 78003 Exp 9-30-21 CIVIL STATE OF CALIFORNIA

PROJECT

SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING

PLAN AND PROFILE
HUMMINGBIRD LANE STA 10+00.00-12+25.00

DRAWING NO. 11257 SHEET NO. 9 TOTAL 31

P:\ENG14\20141070_FRESNO-SAND_CREEK_BRIDGE_ON_ENNIS_ROAD\ENG\SHEETS\PP-1

CONSTRUCTION NOTES:

(10) INSTALL PIPE CULVERT WARPED WING WALL (W=1') PER CALTRANS STD PLAN D86B

(11) INSTALL 24" RSP CULVERT PER CALTRANS STD PLAN A62D

(23) INSTALL CLASS III RSP

(24) INSTALL 10'X10' CLASS V RSP CENTERED ON PIPE AT TOE OF SLOPE

(25) CONSTRUCT CONCRETE LINED V-DITCH, SEE DETAIL 2 ON THIS SHEET FOR DIMENSIONS

(26) CONSTRUCT DIP CROSSING

(27) CONSTRUCT SPLASH WALL

LEGEND

- R/W
- TCE
- PR. DAYLIGHT
- PR. BENCH
- PR. MGS
- PR. PAVEMENT
- ACB SLOPE PROTECTION (SEE SHEET CD-02)
- ROCK SLOPE PROTECTION

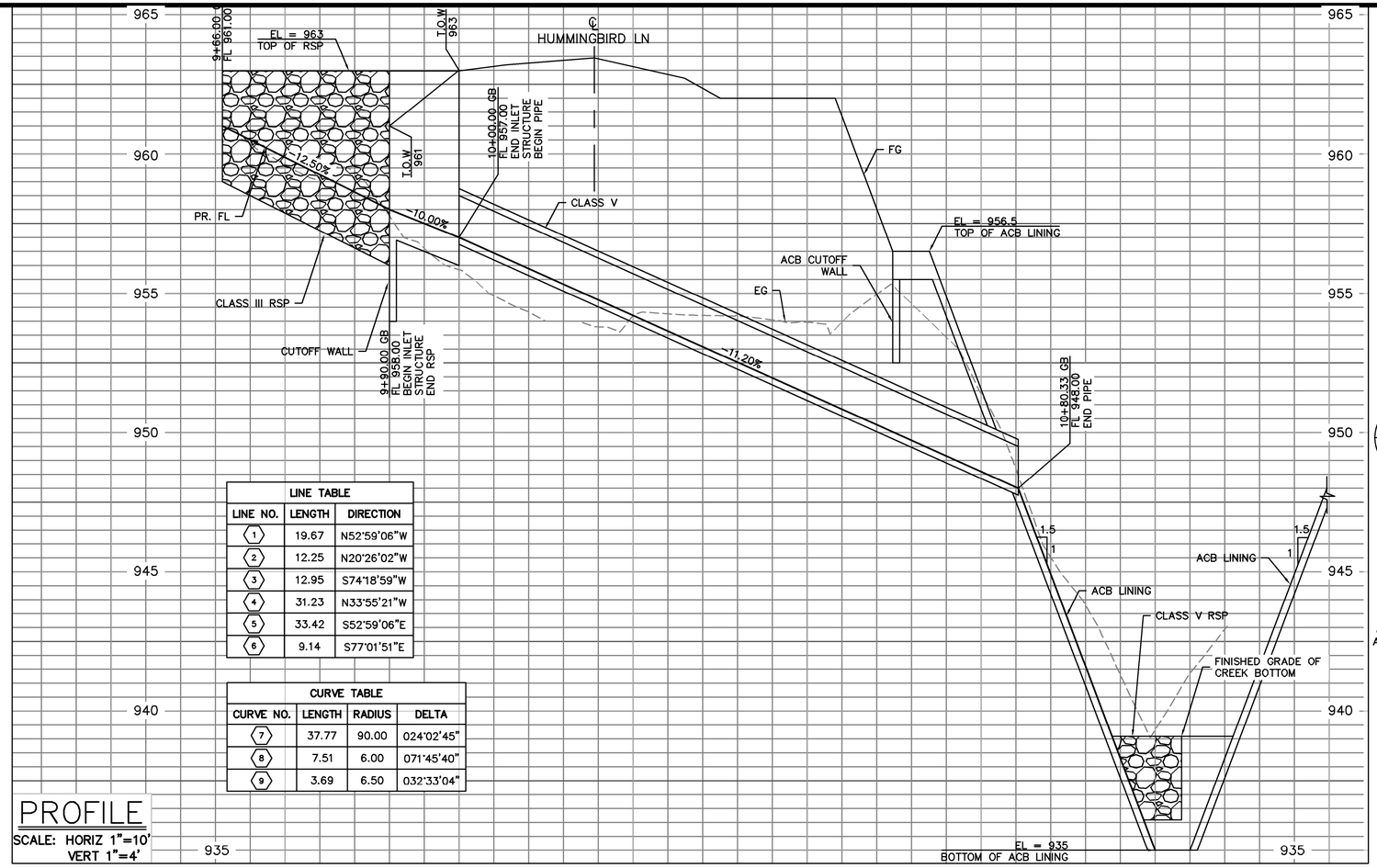
GRAPHIC SCALE

0 5 10 20 30

(IN FEET)
1 INCH = 10 FT.

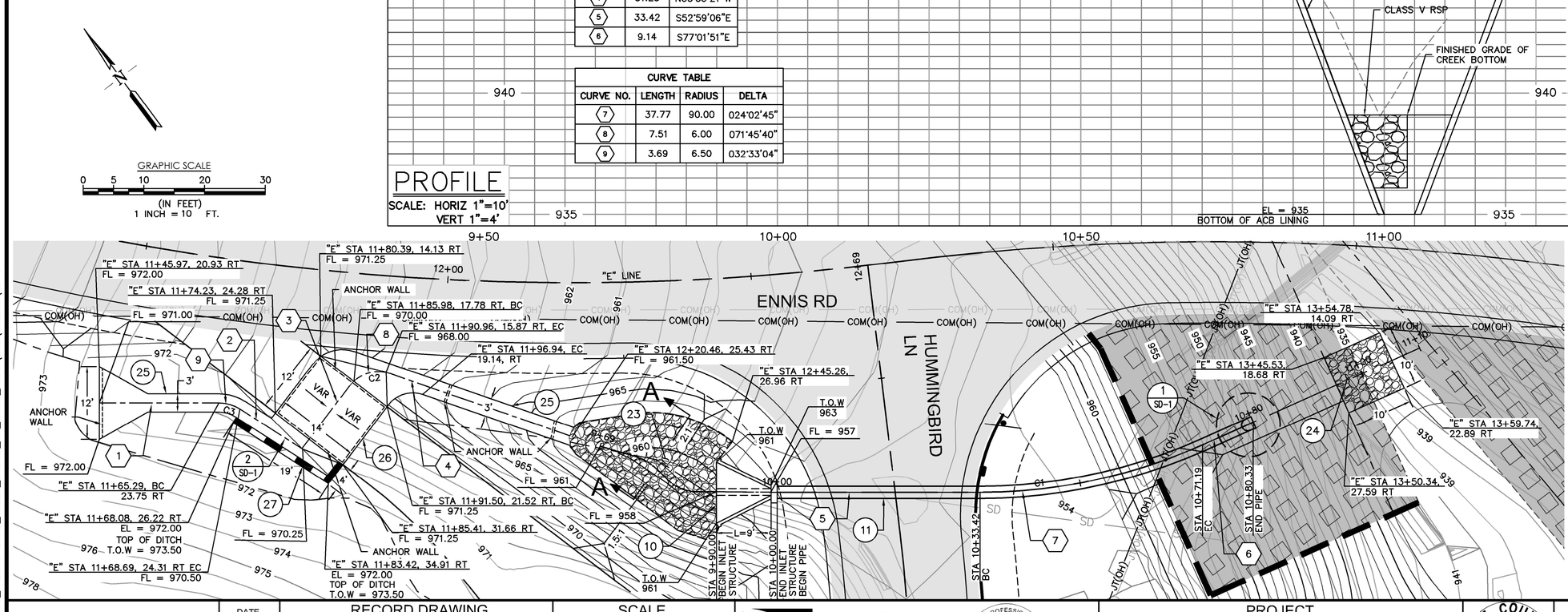
LINE TABLE		
LINE NO.	LENGTH	DIRECTION
1	19.67	N52°59'06"W
2	12.25	N20°26'02"W
3	12.95	S74°18'59"W
4	31.23	N33°55'21"W
5	33.42	S52°59'06"E
6	9.14	S77°01'51"E

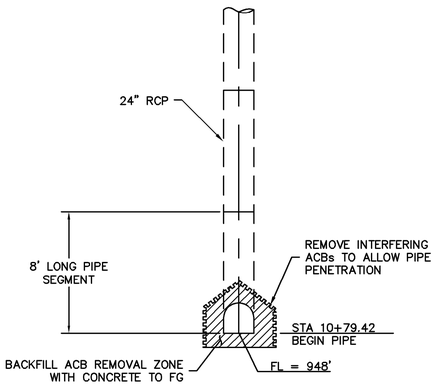
CURVE TABLE			
CURVE NO.	LENGTH	RADIUS	DELTA
7	37.77	90.00	024°02'45"
8	7.51	6.00	071°45'40"
9	3.69	6.50	032°33'04"



PROFILE

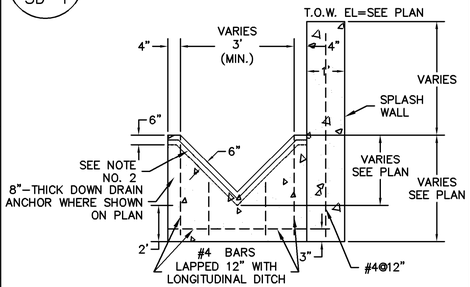
SCALE: HORIZ 1"=10'
VERT 1"=4'





1 / SD-1 PIPE INTERCEPT DETAIL

SCALE: N.T.S

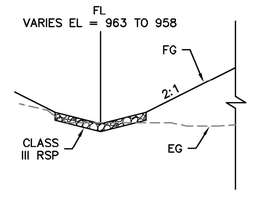


NOTES:

1. CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH AT 28 DAYS OF 2500 PSI. CONCRETE MAY BE PNEUMATICALLY PLACED AND SHALL CONFORM TO SECTION 1924 OF THE UNIFORM BUILDING CODE.
2. REINFORCING SHALL BE 6"X6" – W1.4 X W1.4 WELDED WIRE MESH (W.W.M.) OR APPROVED EQUAL.
3. GROUNDED SHALL BE PRE-WETTED TO THE SATISFACTION OF THE ENGINEER PRIOR TO PLACEMENT OF CONCRETE. MOISTURE LOSS RETARDANT SHALL BE USED WHEN REQUIRED BY THE ENGINEER.

2 / SD-1 V-DITCH DETAIL

SCALE: N.T.S



SECTION A-A

SCALE: NTS

SD-1

	DATE	RECORD DRAWING	DATE
DESIGNED: SA DV	3/12/2021	RESIDENT ENGINEER	
DRAWN: LS	3/12/2021		
CHECKED: DV	3/12/2021		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BkF
4670 Willow Rd., Ste 250
Pleasanton, CA 94588
925.398.7700

REGISTERED PROFESSIONAL ENGINEER DANIEL D. VILLINES 55210 Exp 6/30/22 C/V IL STATE OF CALIFORNIA

PROJECT

SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

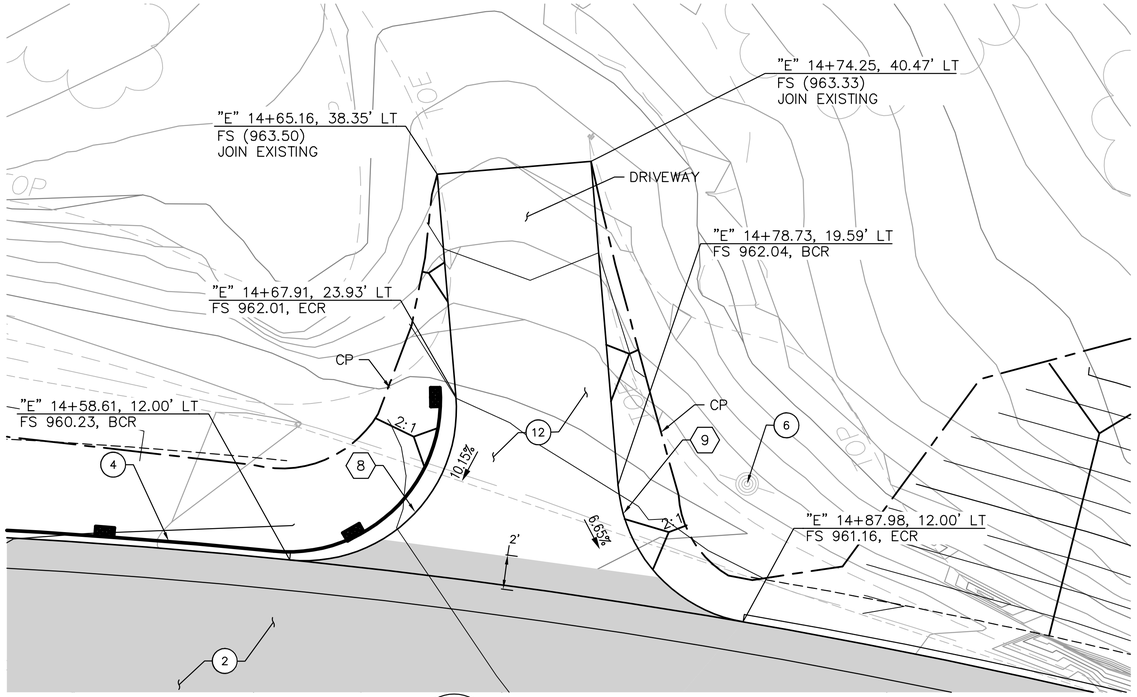
THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING

STORM DRAIN PLAN AND PROFILE

DRAWING NO. 11257 SHEET NO. 10 TOTAL 31

P:\ENG14\20141070_FRESNO-SAND_CREEK_BRIDGE_ON_ENNIS_ROAD\ENG\SHEETS\SD-1



A CD-1 DRIVEWAY GRADING DETAIL
SCALE: 1"=5'

CONSTRUCTION NOTES:

(2) CONSTRUCT 3" HMA OVER 9" AB

(4) CONSTRUCT GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS RSP A77L1 WITH CALTRANS APPROVED 31" IN-LINE TERMINAL END TREATMENT, USING TYPE 12A LAYOUT PER CALTRANS RSP A77Q1

(6) RELOCATE UTILITY POLE AND OVERHEAD LINE (BY OTHERS)

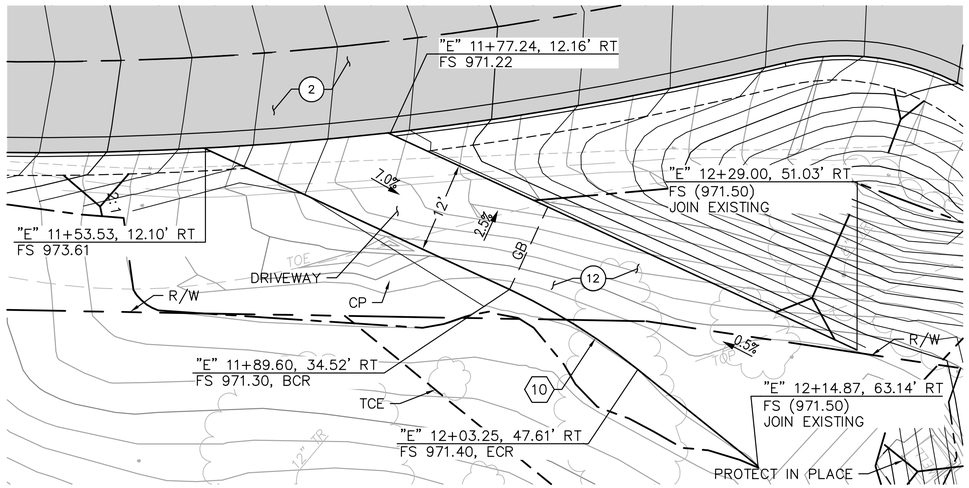
(12) CONSTRUCT 10" CLASS II AGGREGATE BASE

LEGEND

- R/W
- PR. TCE
- PR. DAYLIGHT
- PR. BENCH
- PR. CUT OFF WALL
- PR. MGS
- PR. PAVEMENT

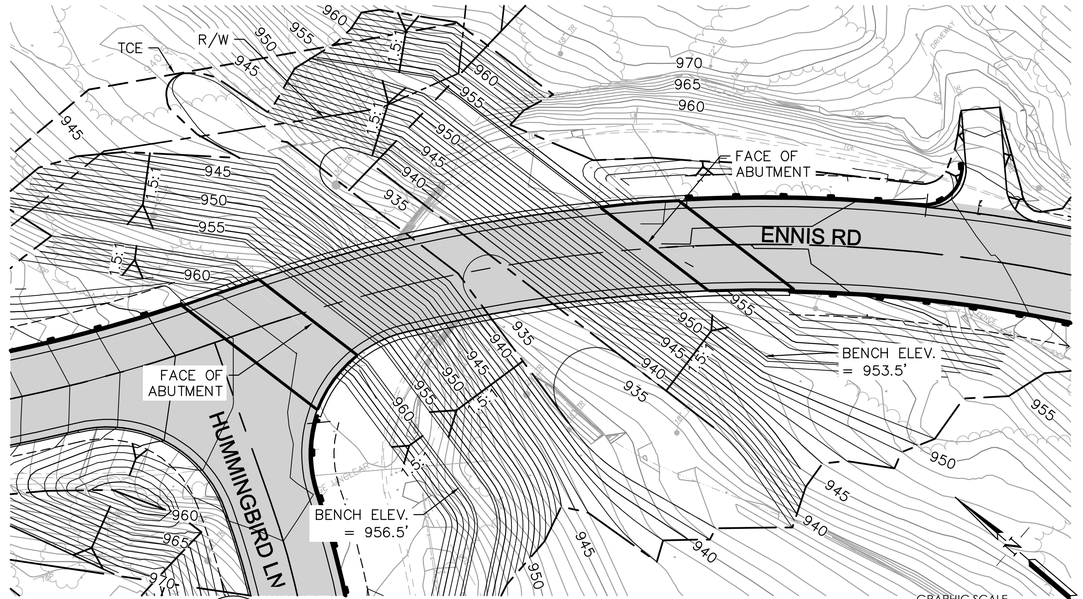
GRAPHIC SCALE
0 2.5 5 10 15
(IN FEET)
1 INCH = 5 FT.

CURVE TABLE			
CURVE NO.	LENGTH	RADIUS	DELTA
(8)	17.54	10.00	100°30'28"
(9)	13.17	10.00	075°26'17"
(10)	19.98	80.00	014°18'30"



GRAPHIC SCALE
0 5 10 10 30
(IN FEET)
1 INCH = 10 FT.

B CD-1 ACCESS ROAD GRADING DETAIL
SCALE: 1"=10'



GRAPHIC SCALE
0 10 20 40 60
(IN FEET)
1 INCH = 20 FT.

C CD-1 SLOPE AND CREEK GRADING DETAIL
SCALE: 1"=20'
*NOTE: GRADING DEPICTS SURFACE OF ACB WHERE APPLIED

CD-1

	DATE	RECORD DRAWING	DATE
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	
DRAWN: LS	3/12/2021		
CHECKED: SA	3/12/2021		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BkF
4670 Willow Rd., Ste 250
Pleasanton, CA 94588
925.396.7700

REGISTERED PROFESSIONAL ENGINEER SHEILA AMPARO 78003 Exp 9-30-21 Civil STATE OF CALIFORNIA

PROJECT: SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

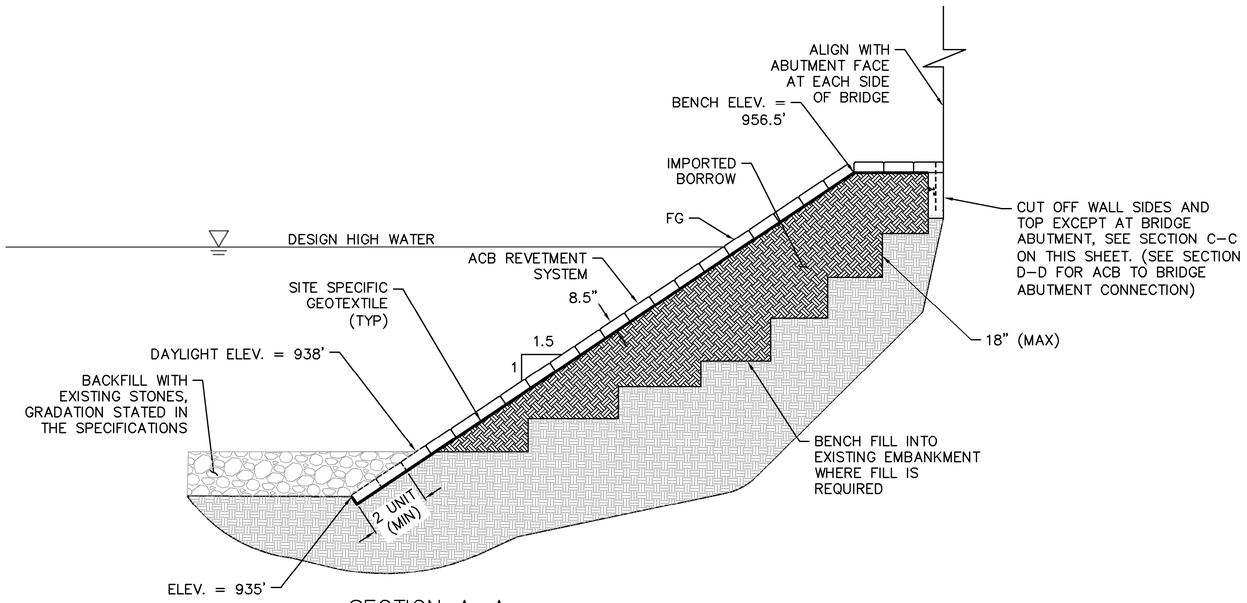
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

COUNTY OF FRESNO

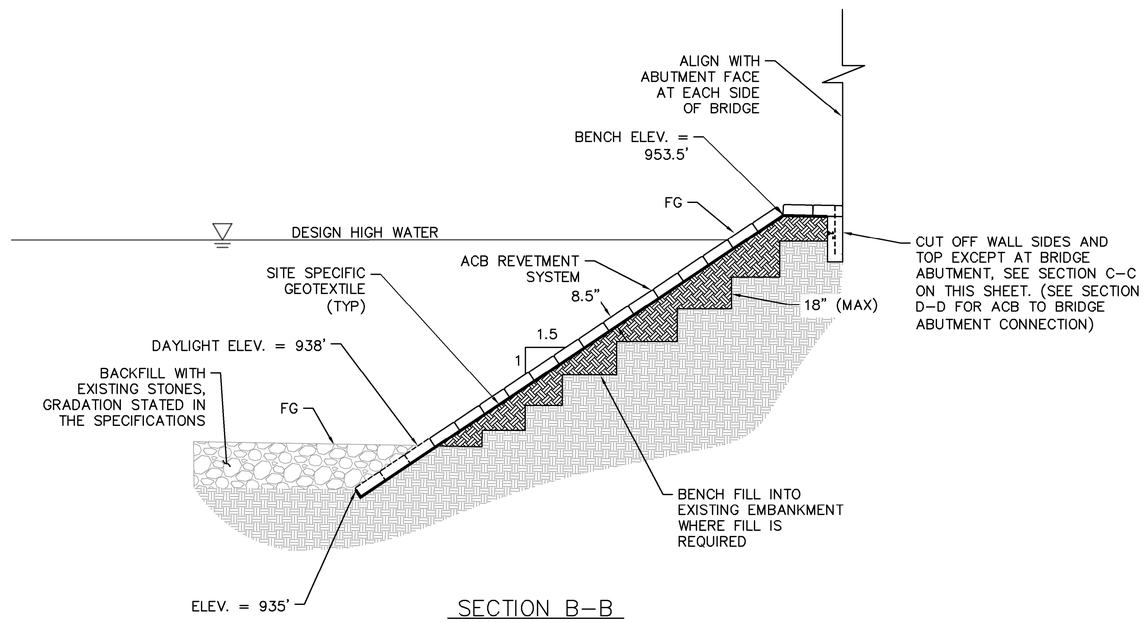
DEPARTMENT OF PUBLIC WORKS AND PLANNING

CONSTRUCTION DETAILS

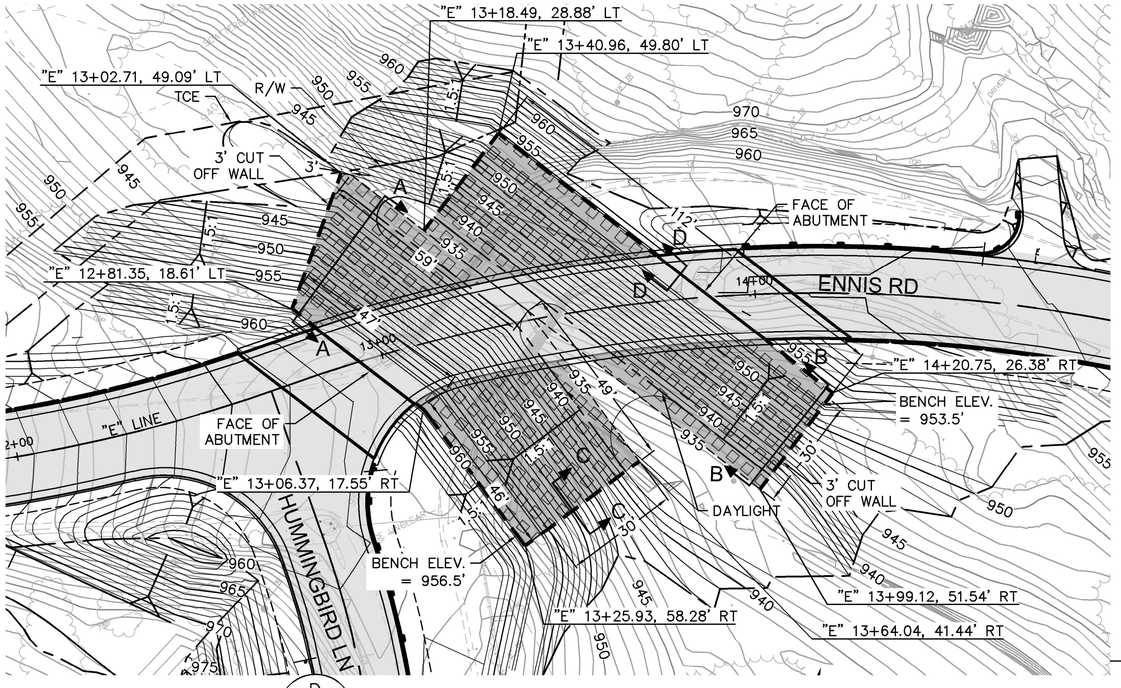
DRAWING NO. 11257 SHEET NO. 11 TOTAL 31



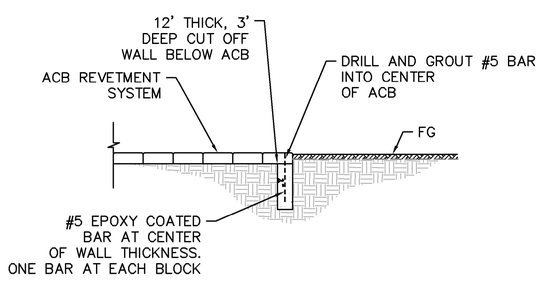
SECTION A–A
SCALE: NTS



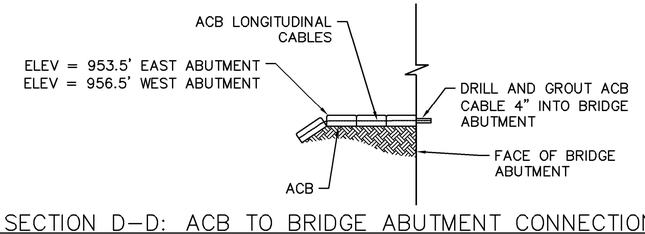
SECTION B–B
SCALE: NTS



D
CD–2
SLOPE PROTECTION DETAIL
SCALE: 1"=20'



SECTION C–C: TYPICAL CUTOFF WALL DETAIL
SCALE: NTS



SECTION D–D: ACB TO BRIDGE ABUTMENT CONNECTION
SCALE: NTS

NOTES:

1. DESIGN OF ARTICULATED CONCRETE BLOCK (ACB) SLOPE PROTECTION IS BASED ON THE REPORT TITLED "PRELIMINARY DESIGN HYDRAULIC STUDY ENNIS ROAD BRIDGE OVER SAND CREEK (BRIDGE 42C0697), FRESNO COUNTY, CALIFORNIA," PREPARED BY AVILA AND ASSOCIATES, DATED NOVEMBER 6, 2019.
2. FOR BRIDGE GENERAL PLAN, SEE STRUCTURAL SHEET S–1.

LEGEND

- R/W
- PR. TCE
- PR. DAYLIGHT
- PR. BENCH
- PR. CUT OFF WALL
- PR. MGS
- PR. PAVEMENT
- ACB SLOPE PROTECTION

GRAPHIC SCALE
0 10 20 40 60
(IN FEET)
1 INCH = 20 FT.

CD-2

	DATE	RECORD DRAWING	DATE
DESIGNED: DV	3/12/2021	RESIDENT ENGINEER	
DRAWN: LS	3/12/2021		
CHECKED: DV	3/12/2021		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

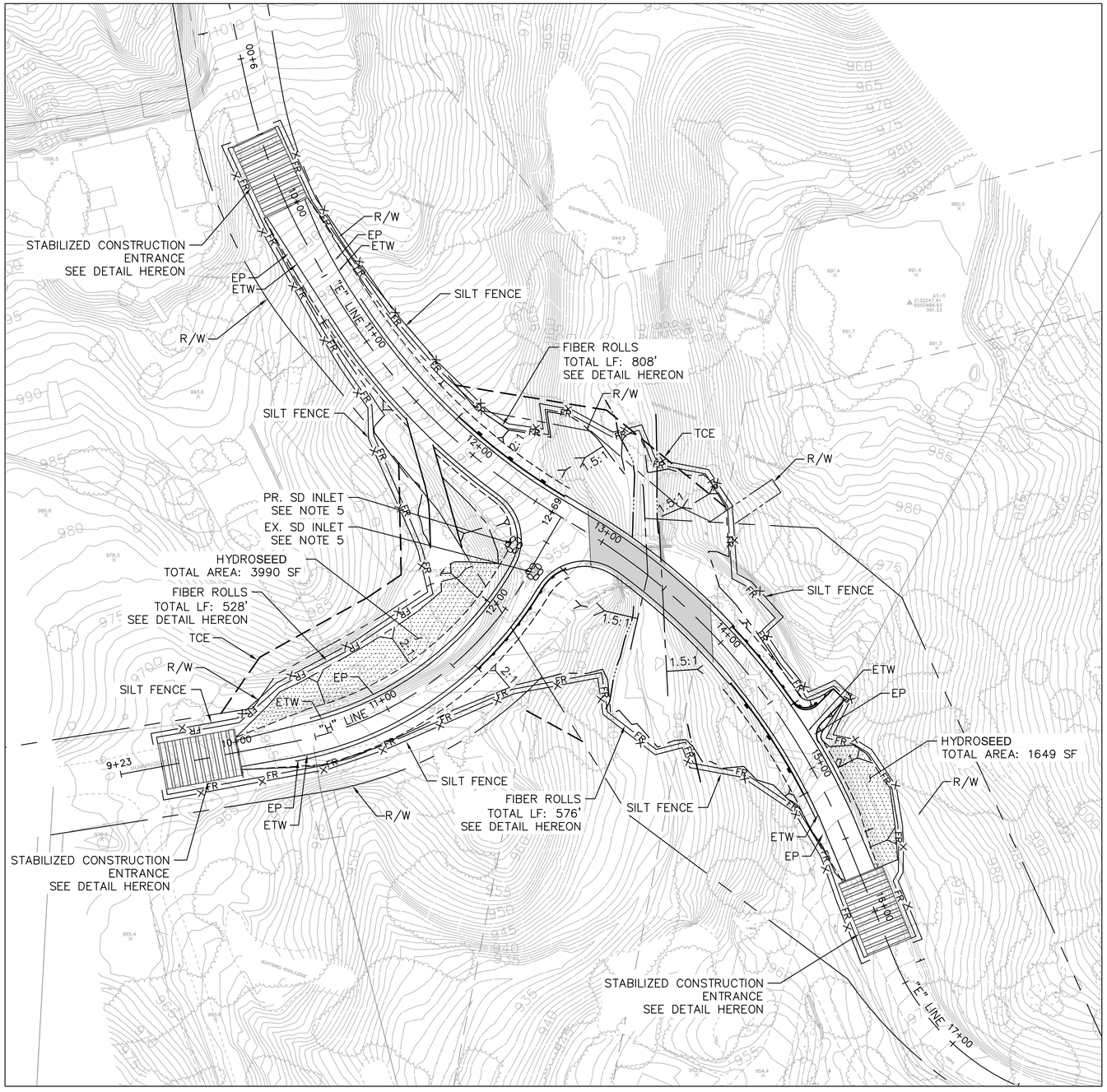
BkF
4670 Willow Rd., Ste 250
Pleasanton, CA 94588
925.398.7700

REGISTERED PROFESSIONAL ENGINEER DANIEL D. VILLINES 55210 Exp 6/30/22 CIVIL STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

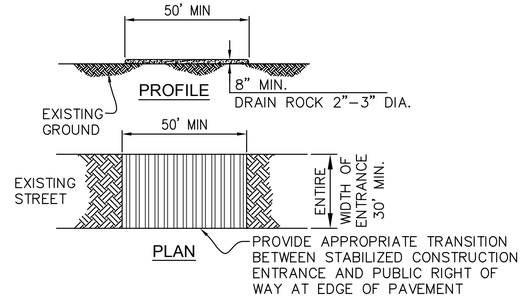
THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING
CONSTRUCTION DETAILS
DRAWING NO. 11257 SHEET NO. 12 TOTAL 31

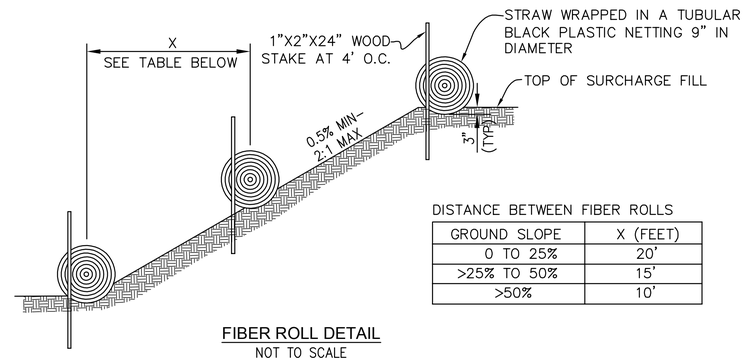


EROSION CONTROL NOTES:

1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE EFFECTIVE FOR CONSTRUCTION IN DISTURBED AREAS THAT WILL NOT BE WORKED FOR 14 DAYS.
2. ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIALS AND DEBRIS, THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT–LADEN RUNOFF FROM ENTERING SAND CREEK.
3. ALL FIBER ROLLS TO REMAIN IN PLACE AFTER COMPLETION OF CONSTRUCTION.
4. CONTRACTOR SHALL REVISE EROSION CONTROL PLAN TO ACCOMMODATE CONSTRUCTION SCHEDULE AND PHASING.
5. FOR TEMPORARY DRAINAGE INLET PROTECTION, SEE CALTRANS STANDARD PLAN T62. INLET PROTECTION LOCATION WILL CHANGE DEPENDING ON CONSTRUCTION STAGE.



STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



DISTANCE BETWEEN FIBER ROLLS

GROUND SLOPE	X (FEET)
0 TO 25%	20'
>25% TO 50%	15'
>50%	10'

FIBER ROLL DETAIL
NOT TO SCALE

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

EC-1

	DATE	RECORD DRAWING	DATE
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	
DRAWN: LS	3/12/2021		
CHECKED: SA	3/12/2021		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BkF
4670 Willow Rd., Ste 250
Pleasanton, CA 94588
925.396.7700

REGISTERED PROFESSIONAL ENGINEER SHEILA AMPARO 78003 Exp 9-30-21 CIVIL STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

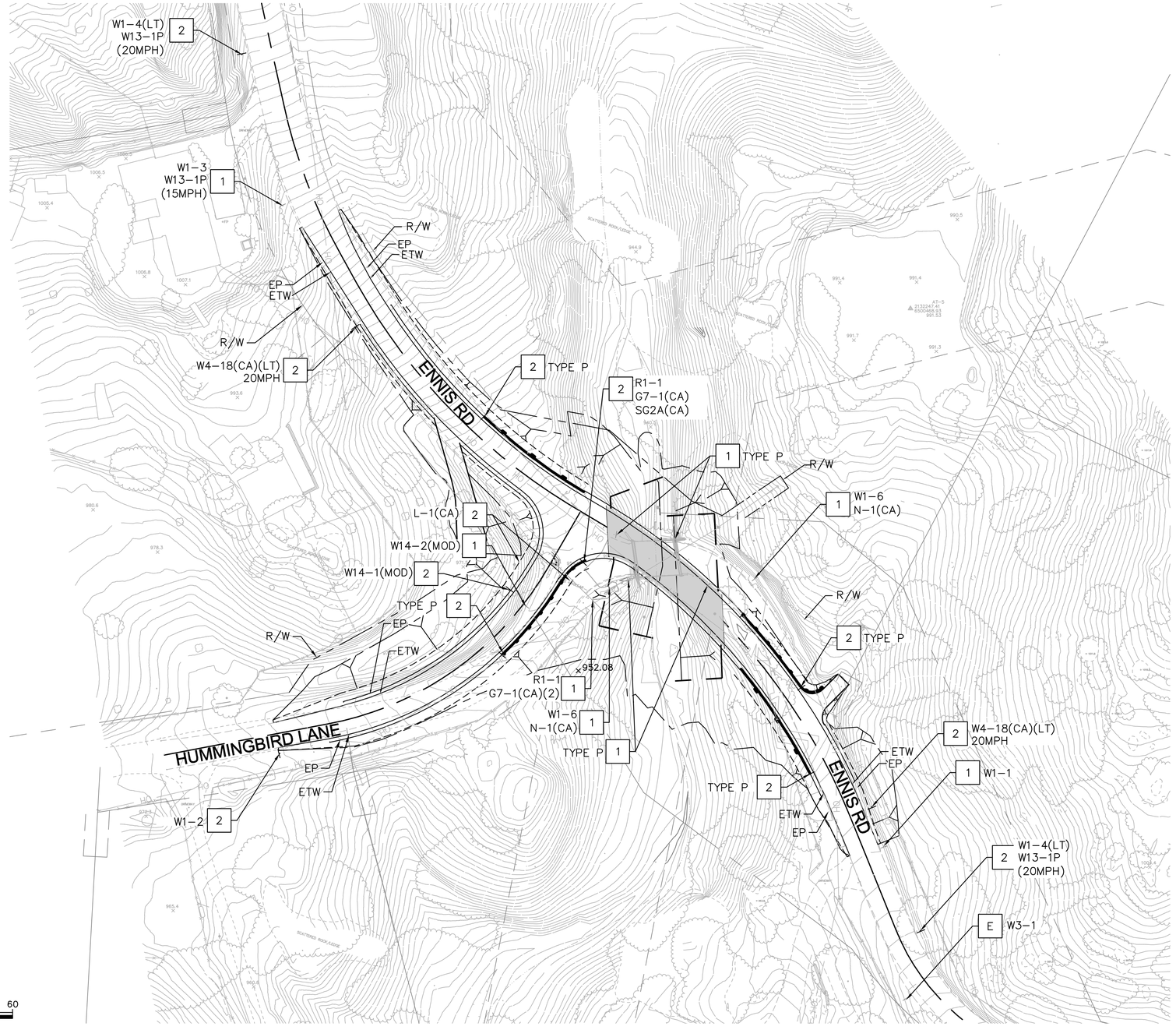
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO

DEPARTMENT OF PUBLIC WORKS AND PLANNING

EROSION CONTROL

DRAWING NO. 11257 SHEET NO. 13 TOTAL 31



SIGNING NOTES:

E	PROTECT IN PLACE EXISTING SIGN UNLESS OTHERWISE NOTED
1	REMOVE EXISTING SIGN
2	INSTALL SIGN AND POST AS INDICATED. EXISTING SHALL BE REMOVED AND DISPOSED

LEGEND

- EX. UTILITY POLE
- E (OH) — EX. OVERHEAD ELECTRICAL
- R/W
- PR. TCE
- PR. DAYLIGHT
- PR. BENCH
- PR. MGS
- EX. SIGN
- PR. SIGN

GRAPHIC SCALE
0 10 20 40 60
(IN FEET)
1 INCH = 20 FT.

SS-1

	DATE	RECORD DRAWING	DATE
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	
DRAWN: LS	3/12/2021		
CHECKED: SA	3/12/2021		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

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4670 Willow Rd., Ste 250
Pleasanton, CA 94588
925.398.7700

REGISTERED PROFESSIONAL ENGINEER
SHEILA AMPARO
78003
Exp 9-30-21
CIVIL
STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

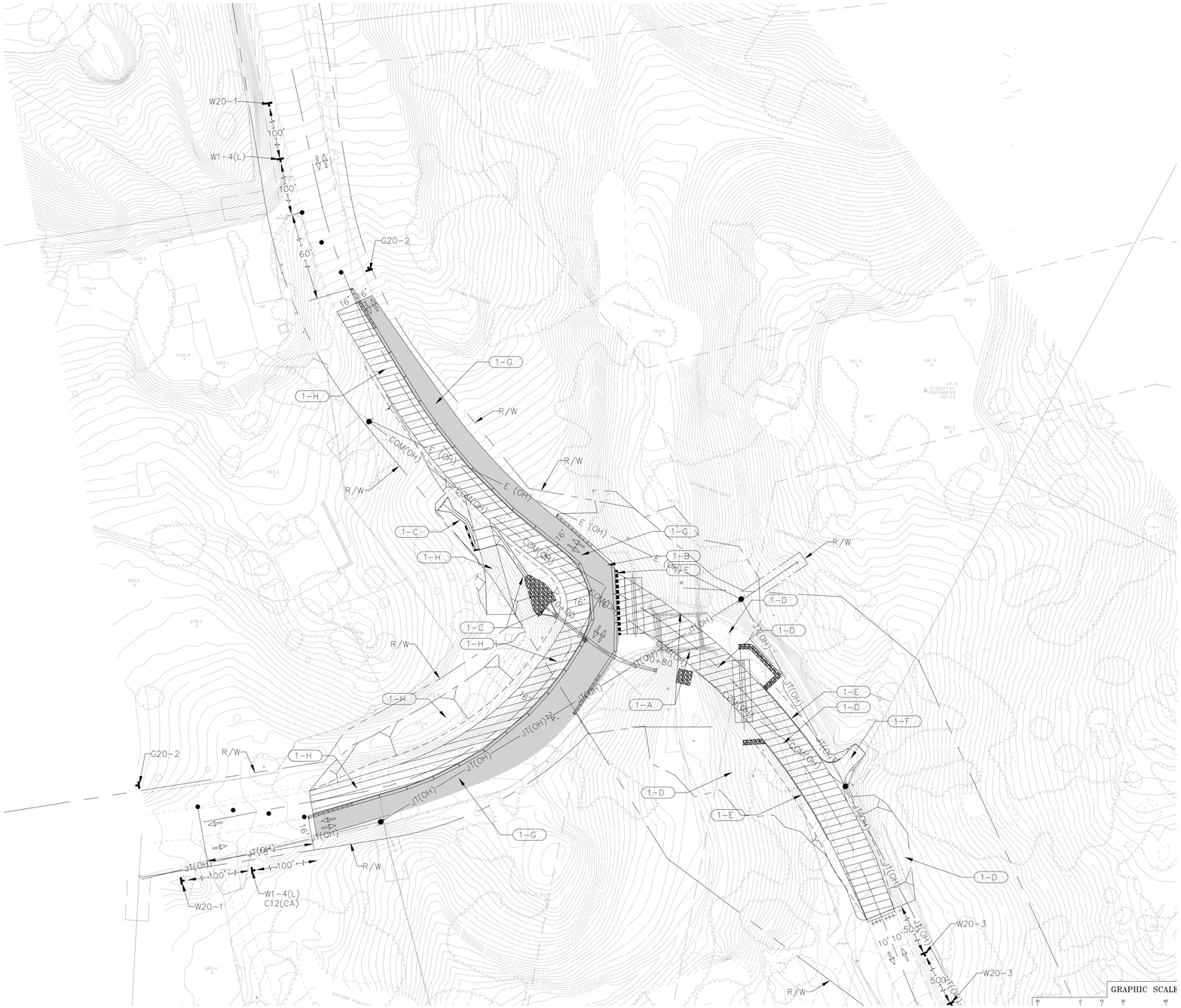
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

COUNTY OF FRESNO

DEPARTMENT OF PUBLIC WORKS AND PLANNING

SIGNING PLAN

DRAWING NO. 11257 SHEET NO. 14 TOTAL 31



NOTE:

1. CONTRACTOR SHALL PREPARE AND SUBMIT TRAFFIC CONTROL PLANS FOR COUNTY APPROVAL.
2. CONTRACTOR SHALL PROVIDE ACCESS TO DRIVEWAYS AT ALL TIMES.

LEGEND

- SURFACE MOUNTED CHANNELIZER
- CONSTRUCTION AREA
- GRADE EMBANKMENT PER PLAN
- TEMPORARY OR PERMANENT ASPHALT CONCRETE AS NOTED IN STAGE CONSTRUCTION CALL-OUTS.
- K-RAIL (10-FOOT OR 20-FOOT SEGMENTS)
- ABSORB 350
- TYPE II BARRICADE
- TYPE III BARRICADE
- GEOTEXTILE FABRIC
- TRAFFIC DIRECTION
- MIDWEST GUARDRAIL SYSTEM
- 24"x24" CATCH BASIN
- TEMPORARY ROADSIDE SIGN

STAGE 1 CONSTRUCTION

(1-A) DEMOLISH EXISTING BRIDGE

(1-B) INSTALL TEMPORARY K-RAIL, BARRICADES, SURFACE MOUNTED CHANNELIZERS AND TEMPORARY SIGNS.

(1-C) CONSTRUCT PIPE CULVERT WARPED WINGWALL, RSP AND STORM DRAIN. CONSTRUCT 24"x24" CATCH BASIN AND CONNECT TO EXISTING 24" STORM DRAIN FOR TEMPORARY DRAINAGE.

(1-D) CONSTRUCT NEW ROADWAY SECTION ALONG ENNIS ROAD. CONSTRUCT NEW BRIDGE ALONG ENNIS ROAD. GRADE SLOPE EMBANKMENTS ALONG ENNIS ROAD EAST OF HUMMINGBIRD LANE, AS SHOWN PER PLANS. INSTALL ACB SLOPE PROTECTION

(1-E) INSTALL GEOTEXTILE FABRIC OR OTHER MEANS AND METHOD (APPROXIMATELY H=10 FEET) TO RETAIN EXPOSED SOIL. INSTALL GUARDRAIL SYSTEM ALONG ENNIS ROAD.

(1-F) REGRADE EXISTING DRIVEWAYS TO MEET NEW FINISHED GRADE OR SURFACE PER PLAN. DRIVEWAY SHALL REMAIN ACCESSIBLE DURING CONSTRUCTION.

(1-G) CONSTRUCT TEMPORARY AC PAVEMENT WHERE NEEDED TO MEET A 16 FT WIDE ROAD BED ALONG ENNIS ROAD AND HUMMINGBIRD LANE.

(1-H) CONSTRUCT SOUTH BOUND SIDE OF ROADWAY SECTION OF ENNIS ROAD. CONSTRUCT WEST BOUND SIDE OF ROADWAY SECTION OF HUMMINGBIRD LANE. CONSTRUCT ACCESS ROAD. GRADE SLOPE EMBANKMENTS AS SHOWN ON PLANS. INSTALL CRASH CUSHION AND GUARDRAIL SYSTEM.

GRAPHIC SCALE
0 20 40 80 120
(IN FEET)
1 INCH = 40 FT.

SC-1

	DATE	RECORD DRAWING		SCALE
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	DATE	AS SHOWN
DRAWN: LS	3/12/2021			
CHECKED: SA	3/12/2021			

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

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REGISTERED PROFESSIONAL ENGINEER SHEILA AMPARO 78003 Exp 9-30-21 Civil STATE OF CALIFORNIA

PROJECT

SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING

STAGE CONSTRUCTION - STAGE1

DRAWING NO. 11257 SHEET NO. 15 TOTAL 31

NOTE:

1. CONTRACTOR SHALL PREPARE AND SUBMIT TRAFFIC CONTROL PLANS FOR COUNTY APPROVAL.
2. CONTRACTOR SHALL PROVIDE ACCESS TO DRIVEWAYS AT ALL TIMES.

LEGEND

- SURFACE MOUNTED CHANNELIZER
- CONSTRUCTION AREA
- GRADE EMBANKMENT PER PLAN
- TEMPORARY OR PERMANENT ASPHALT CONCRETE AS NOTED IN STAGE CONSTRUCTION CALL-OUTS.
- K-RAIL 910-FOOT OR 20-FOOT SEGMENTS)
- ABSORB 350
- TYPE II BARRICADE
- TYPE III BARRICADE
- GEOTEXTILE FABRIC
- TRAFFIC DIRECTION
- MIDWEST GUARDRAIL SYSTEM
- TEMPORARY ROADSIDE SIGN

STAGE 2 CONSTRUCTION

(2-A) SWITCH EXISTING TRAFFIC TO WEST SIDE OF ENNIS ROAD, PERMANENT ASPHALT CONCRETE CONSTRUCTED DURING STAGE 1.

(2-B) DEMOLISH TEMPORARY CATCH BASIN CONNECTION CONSTRUCTED IN STAGE 1. DEMOLISH EXISTING STORM DRAIN SYSTEM. CONSTRUCT STORM DRAIN, RSP, AND OUTLET PROTECTION.

(2-C) DEMOLISH TEMPORARY ASPHALT CONCRETE PAVEMENT. CONSTRUCT NORTH BOUND SIDE OF ENNIS ROAD. CONSTRUCT EAST BOUND SIDE OF HUMMINGBIRD LANE. GRADE SLOPE EMBANKMENTS ALONG ENNIS ROAD AS SHOWN ON PLANS INSTALL ACB SLOPE PROTECTION.

(2-D) INSTALL GUARDRAIL SYSTEM ALONG ENNIS ROAD AND HUMMINGBIRD LANE.

GRAPHIC SCALE
0 20 40 80 120
(IN FEET)
1 INCH = 40 FT.

SC-2

	DATE	RECORD DRAWING		SCALE
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	DATE	AS SHOWN
DRAWN: LS	3/12/2021			
CHECKED: SA	3/12/2021			

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

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REGISTERED PROFESSIONAL ENGINEER
SHEILA AMPARO
78003
Exp 9-30-21
CIVIL
STATE OF CALIFORNIA

PROJECT

SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

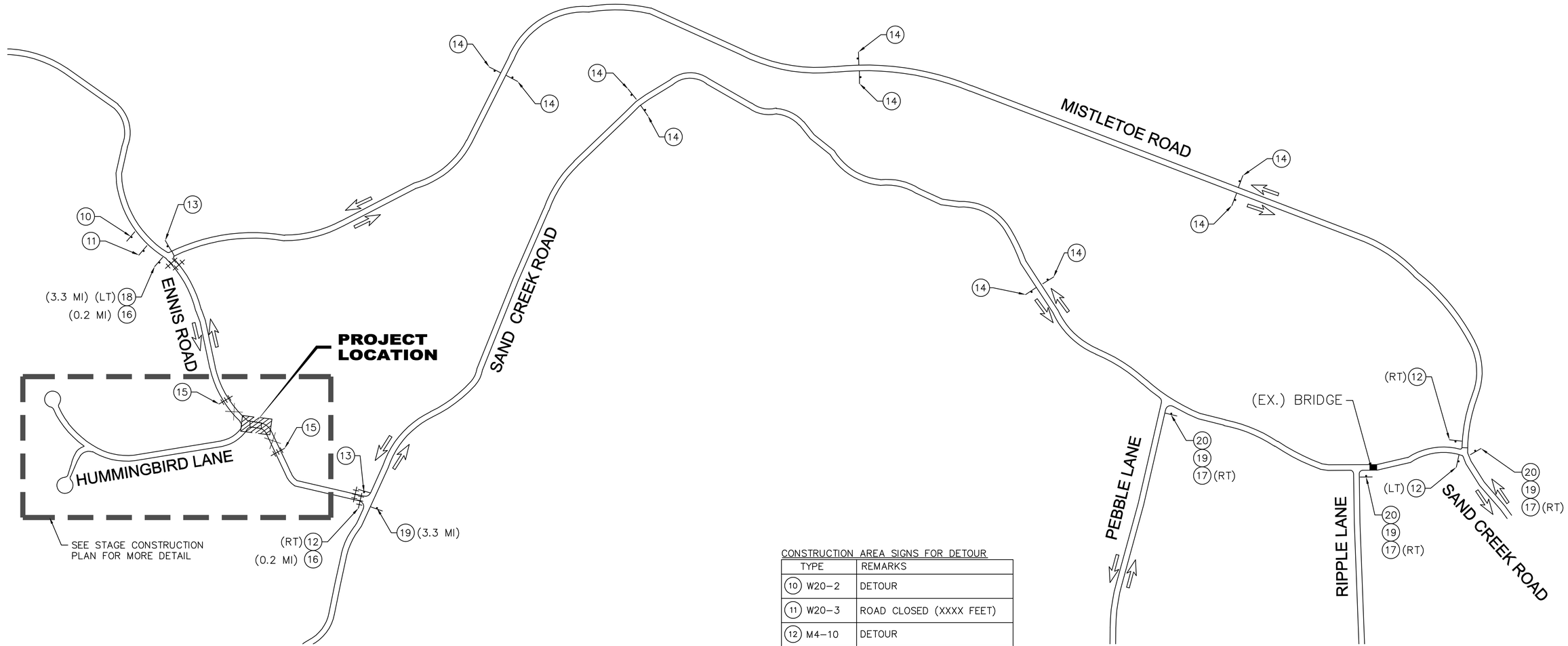
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING

STAGE CONSTRUCTION - STAGE 2

DRAWING NO. 11257 SHEET NO. 16 TOTAL 31



CONSTRUCTION AREA SIGNS FOR DETOUR

TYPE	REMARKS
10 W20-2	DETOUR
11 W20-3	ROAD CLOSED (XXXX FEET)
12 M4-10	DETOUR
13 M4-8A	END DETOUR
14 M4-8	DETOUR
15 R11-2	ROAD CLOSED
16 R11-3a	ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
17 W1-6	"ARROW"
18 M4-9	DETOUR
19 SC3 (CA)	DETOUR
20 MOD	ROAD CLOSED AHEAD ON ENNIS ROAD LOCAL TRAFFIC ONLY USE MISTLETOE ROAD

NOTES:

1. LOCATION OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.
2. ALL SIGNS ARE STATIONARY MOUNTED.
3. SIGNAGE SHALL COMPLY WITH 2014 CA MUTCD.

LEGEND:

- PROPOSED ROADSIDE SIGN
- ROADWAY CLOSURE
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE

N

GRAPHIC SCALE
0 150 300 600 900
(IN FEET)
1 INCH = 300 FT.

DE-1

	DATE	RECORD DRAWING	DATE
DESIGNED: SA	3/12/2021	RESIDENT ENGINEER	
DRAWN: LS	3/12/2021		
CHECKED: SA	3/12/2021		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

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925.398.7700

REGISTERED PROFESSIONAL ENGINEER
SHIELA A AMPARO
78003
Exp 9-30-21
CIVIL
STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO

DEPARTMENT OF PUBLIC WORKS AND PLANNING

DETOUR PLAN

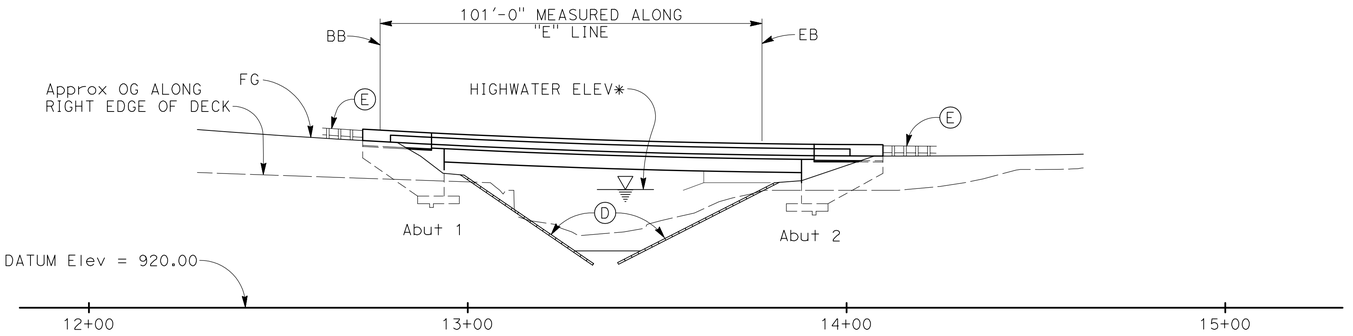
DRAWING NO. 11257 SHEET NO. 17 TOTAL 31

P:\ENG14\20141070_FRESNO-SAND_CREEK_BRIDGE_ON_ENNIS_ROAD\ENG\SHEETS\DETOUR.DWG

FOR ACCURATE RIGHT OF WAY AND
ACCESS DATA, SEE 'ROADWAY PLANS'

PROFILE GRADE

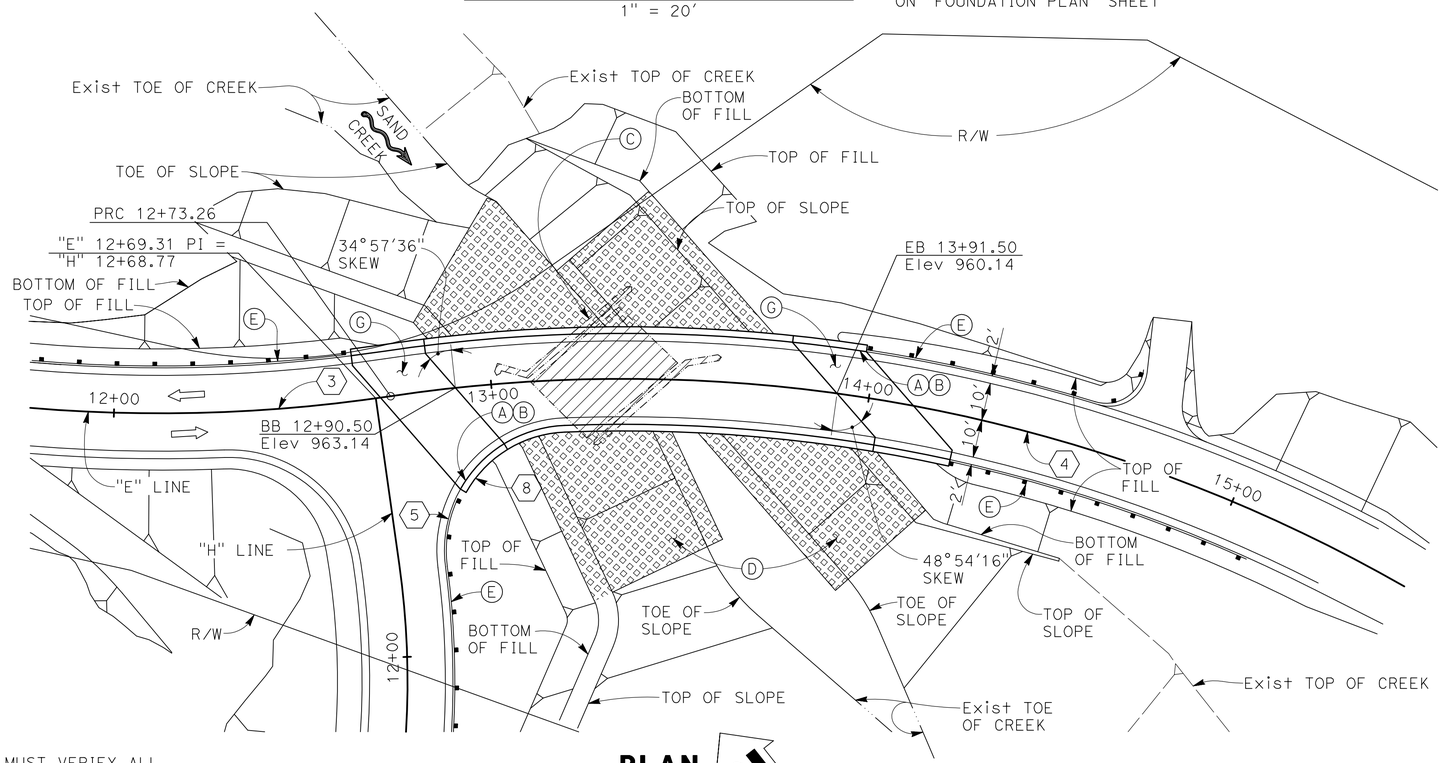
NO SCALE



DEVELOPED ELEVATION

1" = 20'

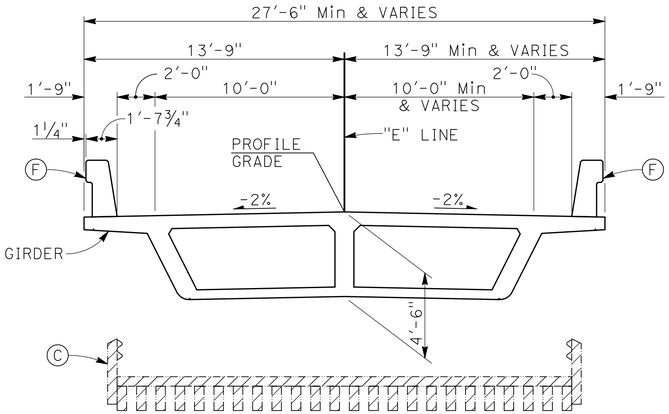
* SEE "HYDROLOGIC SUMMARY" ON "FOUNDATION PLAN" SHEET



PLAN

1" = 20'

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL



TYPICAL SECTION

1/4" = 1'-0"

(3) Curve Data Layout Line
R = 410'
△ = 31°10'58"
T = 114.41'
L = 223.14'

(4) Curve Data Layout Line
R = 415'
△ = 38°18'08"
T = 144.12'
L = 277.43'

(5) Curve Data Layout Line
R = 33'
△ = 95°16'50"
T = 36.19'
L = 54.88'

(8) Curve Data Layout Line
R = 31.25'
△ = 58°29'47
T = 17.50'
L = 31.90'

NOTES:
(A) Paint "BRIDGE No. 42C0697"
(B) Paint "SAND CREEK BRIDGE"
(C) Remove existing Sand Creek Bridge
(D) ACB Revetment System, see "ROADWAY PLANS"
(E) MGS, See "ROADWAY PLANS"
(F) Concrete Barrier Type 836
(G) Structure Approach Slab
1. For "GENERAL NOTES", see "DECK CONTOURS" sheet
2. For "SPREAD FOOTING DATA TABLE", see "FOUNDATION PLAN" sheet

LEGEND:
Bridge Removal
Indicates Existing Structure
Indicates Traffic Direction

S-1

	DATE	RECORD DRAWING	
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	DATE
DRAWN: AR	1/25/21		
CHECKED: ML	1/25/21		
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.			

SCALE: AS SHOWN

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
5250 N. Palm Avenue, Suite 211
Fresno, California 93704
559-449-8686

REGISTERED PROFESSIONAL ENGINEER — Marvin D. Biggs — No. S6280 Exp.12/31/22 — STRUCTURAL — STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

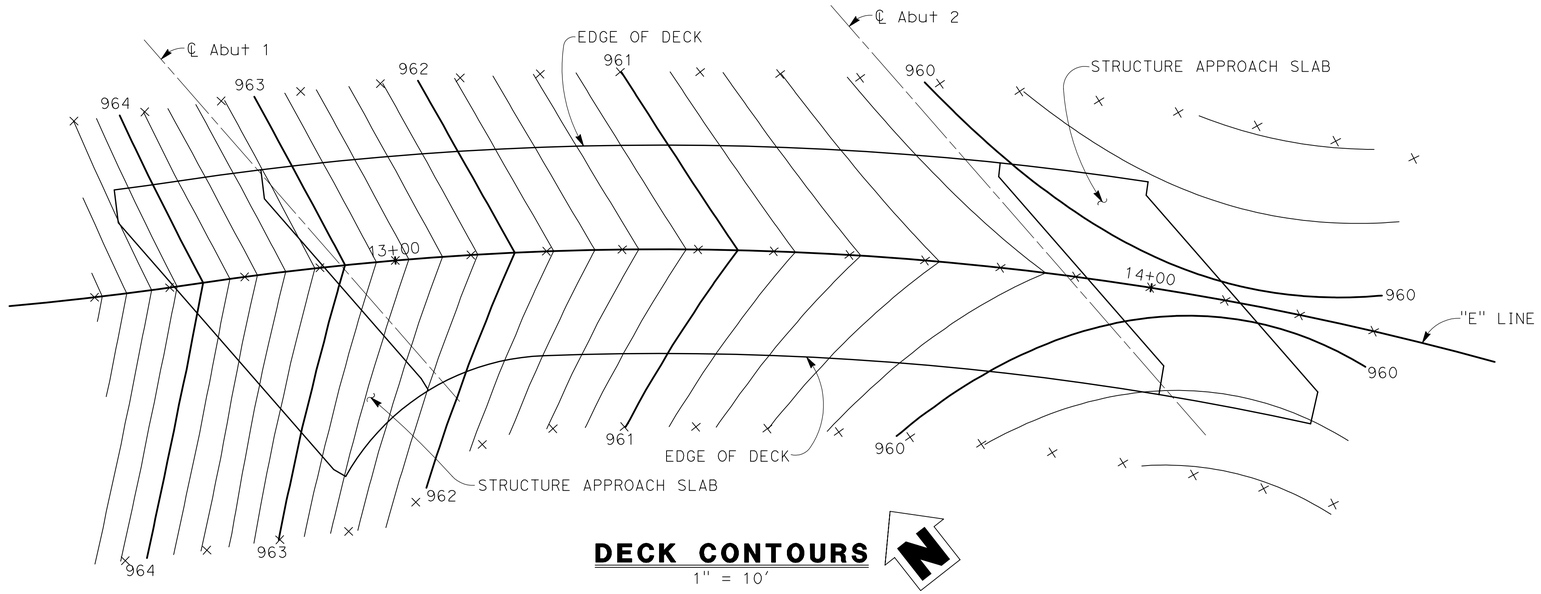
THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING

GENERAL PLAN

DRAWING NO. 11257 SHEET NO. 18 TOTAL 31

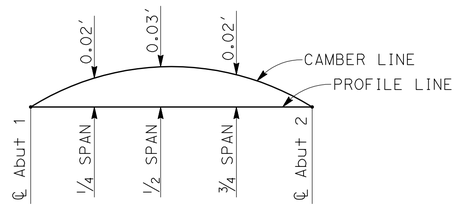
2015134 (2015134S1)



DECK CONTOURS

1" = 10'

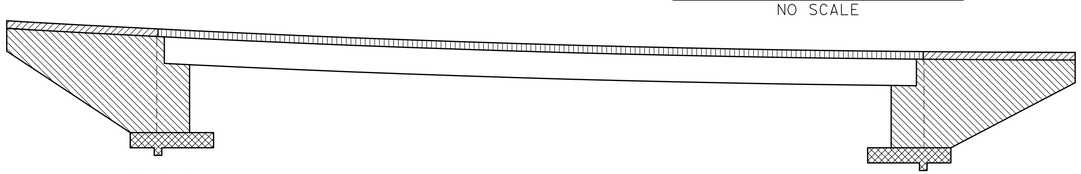
NOTES:
1. Contours indicate top of deck elevation.
2. × Indicates 10 foot intervals measured along "E" Line.
3. Contour interval = 0.2'
4. Contours do not include camber or falsework settlement.



NOTE:
Camber does not include allowance for falsework settlement

CAMBER DIAGRAM

NO SCALE



LEGEND:

- STRUCTURAL CONCRETE, BRIDGE (f'c = 4.0 ksi AT 28 DAYS)
- STRUCTURAL CONCRETE, BRIDGE
- STRUCTURAL CONCRETE, BRIDGE FOOTING
- STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER) (f'c = 4.0 ksi AT 28 DAYS)
- STRUCTURAL CONCRETE, APPROACH SLAB

CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

LEGEND:

- B7-11 / U42 — Indicates Standard Plan sheet No. / Indicates Detail No.
- A / S5 — Indicates Section No. / Indicates sheet No. shown on
- 1 / S6 — Indicates Detail No. / Indicates sheet No. shown on

GENERAL NOTES
LOAD & RESISTANCE FACTOR DESIGN

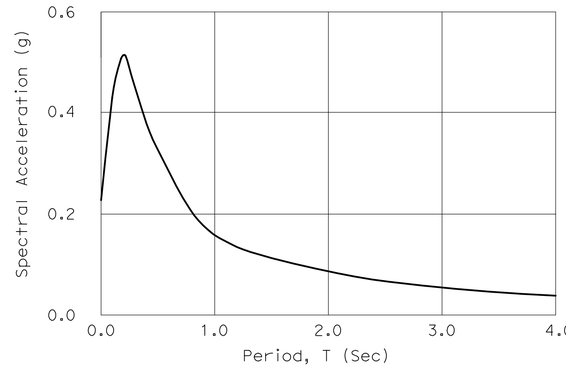
DESIGN: AASHTO LRFD Bridge Design Specifications, 6th Edition and California Amendments, preface dated January 2014

SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC) Version 1.7

DEAD LOAD: Includes 35 psf for future wearing surface.

LIVE LOAD: HL93 and permit design load

SEISMIC LOAD: Soil profile: C, Vs30 = 500 m IS
Moment magnitude: M6.2
Peak ground acceleration: 0.22g



ARS DESIGN CURVE

NO SCALE

CONCRETE: fy = 60 ksi
f'c = 3.6 ksi (except as shown on "CONCRETE STRENGTH & TYPE LIMITS" diagram)
n = 8

CALTRANS 2015 STANDARD PLANS

	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)
RSP	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)
	BO-1	BRIDGE DETAILS
	BO-5	BRIDGE DETAILS
	BO-13	BRIDGE DETAILS
	B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
	B7-1	BOX GIRDER DETAILS
RSP	B8-5	CAST-IN-PLACE POST-TENSIONED GIRDER DETAILS
	B14-5	WATER SUPPLY LINE (DETAILS) (PIPE SIZES LESS THAN 4")

CALTRANS 2018 STANDARD PLANS

RSP	B11-79	CONCRETE BARRIER TYPE 836 DETAILS No. 1
RSP	B11-80	CONCRETE BARRIER TYPE 836 DETAILS No. 2

	DATE	RECORD DRAWING	DATE
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	
DRAWN: SMH	1/25/21		
CHECKED: ML	1/25/21		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

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REGISTERED PROFESSIONAL ENGINEER — BRIAN G. SUMPTER — No. S6280 — Exp. 12/31/22 — STRUCTURAL — STATE OF CALIFORNIA

PROJECT: SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

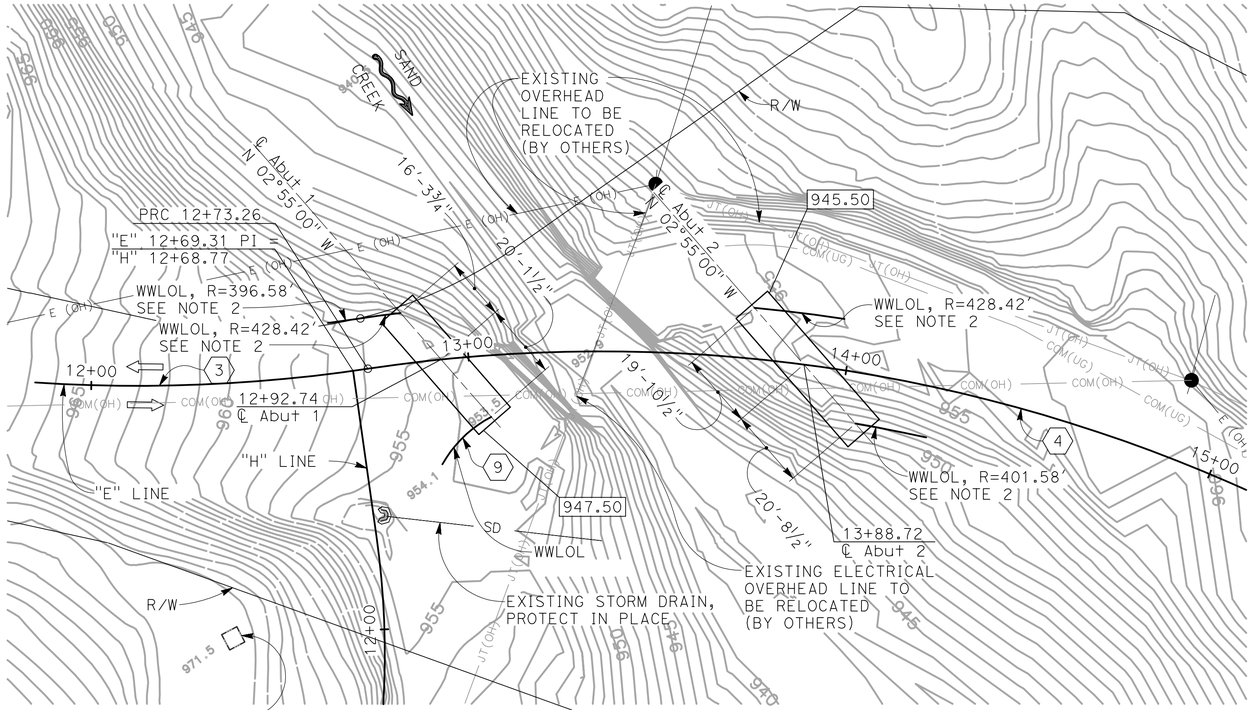
DEPARTMENT OF PUBLIC WORKS AND PLANNING

DECK CONTOURS

DRAWING NO. 11257 SHEET NO. 19 TOTAL 31

2015134 (201513452)

FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, SEE 'ROADWAY PLANS'



FOUNDATION PLAN

1" = 20'

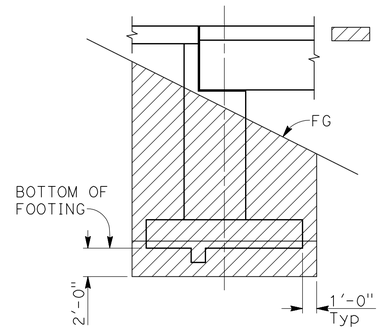
3 Curve Data Layout Line	4 Curve Data Layout Line	5 Curve Data Layout Line	9 Curve Data Layout Line
R = 410'	R = 415'	R = 33'	R = 31.58'
△ = 31°10'58"	△ = 38°18'08"	△ = 95°16'50"	△ = 33°02'06"
T = 114.41'	T = 144.12'	T = 36.19'	T = 9.37'
L = 223.14'	L = 277.43'	L = 54.88'	L = 18.21'

NOTES:
1. Verify utility locations with "ROADWAY PLANS".
2. WWLOL is concentric with "E" line.

LEGEND:

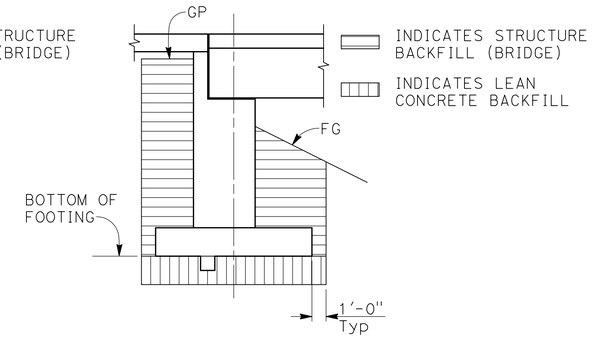
945.50 Indicates bottom of footing elevation

29.6 Indicates spot elevation



LIMITS OF PAYMENT FOR EXCAVATION

NO SCALE



LIMITS OF PAYMENT FOR BACKFILL

NO SCALE

HYDROLOGIC SUMMARY

(PROVIDED BY AVILA & ASSOCIATES - 11/6/2019)

DRAINAGE AREA: 18.2 SQUARE MILES	DESIGN FLOOD	DESIGN FLOOD
FREQUENCY (YEARS)	50	100
DISCHARGE (CUBIC FEET PER SECOND)	2770	3345
WATER SURFACE (ELEVATION AT BRIDGE)	950.2	951.2

FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO MEET FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY BIGGS CARDOSA ASSOCIATES AND INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATION.

SPREAD FOOTING DATA TABLE

LOCATION	SERVICE[2] PERMISSIBLE NET CONTACT STRESS (SETTLEMENT) (ksf)	STRENGTH / CONSTRUCTION[3] FACTORED GROSS NOMINAL BEARING RESISTANCE φ_b = 0.45 (ksf), SEE NOTE 4	EXTREME EVENT[3] FACTORED GROSS NOMINAL BEARING RESISTANCE φ_h = 1.00 (ksf)
ABUTMENT 1	9.0	28.0	N/A
ABUTMENT 2	9.0	28.0	N/A

NOTES:
1. Controlling load combination is the one resulting in the highest ratio of q_{gu}/q_R for foundations on soil, or $q_{g\ max}/q_R$ for foundation on rock.
2. Controlling load combination for Service Limit State is the one resulting in the highest ratio of q_{nu}/q_{pn} for foundations on soil, or $q_{g\ max}/q_R$ for foundations on rock.
3. Controlling load combination for Strength, Construction, and Extreme Event is the one resulting in the highest ratio of q_{gu}/q_R for foundations on soil, or $q_{g\ max}/q_R$ for foundations on rock.
4. The value below is the Gross Nominal Bearing Capacity. The Resistance Factor of 0.45 has not been applied.

BENCH MARK AND DATUM

MONUMENT	COORDINATES NORTHING	COORDINATES EASTING	ELEVATION	DESCRIPTION/LOCATION
HN1G	2002915.567	6372176.001	252.141	COORDINATE VALUES WERE GPS DERIVED IN CALIFORNIA STATE PLAN COORDINATES, ZONE 4, EPOCH 2011 (NAD83) USING CSDS CONTINUALLY MONITORING STATION "HN1G", LOCATED IN HANFORD, CA VERTICAL DATUM = NAVD 88

SCOUR DATA TABLE

SUPPORT No.	LONG TERM (DEGRADATION AND CONTRACTION) SCOUR ELEVATION (ft)	SHORT TERM (LOCAL) SCOUR DEPTH (ft)
ABUTMENT 1	N/A	N/A
ABUTMENT 2	N/A	N/A

* FOUNDATION IS EMBEDDED INTO ROCK. NO SCOUR ANALYSIS REQUIRED.

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

S-3

	DATE	RECORD DRAWING	DATE
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	
DRAWN: AR	1/25/21		
CHECKED: ML	1/25/21		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BIGGS CARDOSA ASSOCIATES INC
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REGISTERED PROFESSIONAL ENGINEER — MARTIN G. SUMPTER — No. S6280 — Exp. 12/31/22 — STRUCTURAL — STATE OF CALIFORNIA

PROJECT: SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

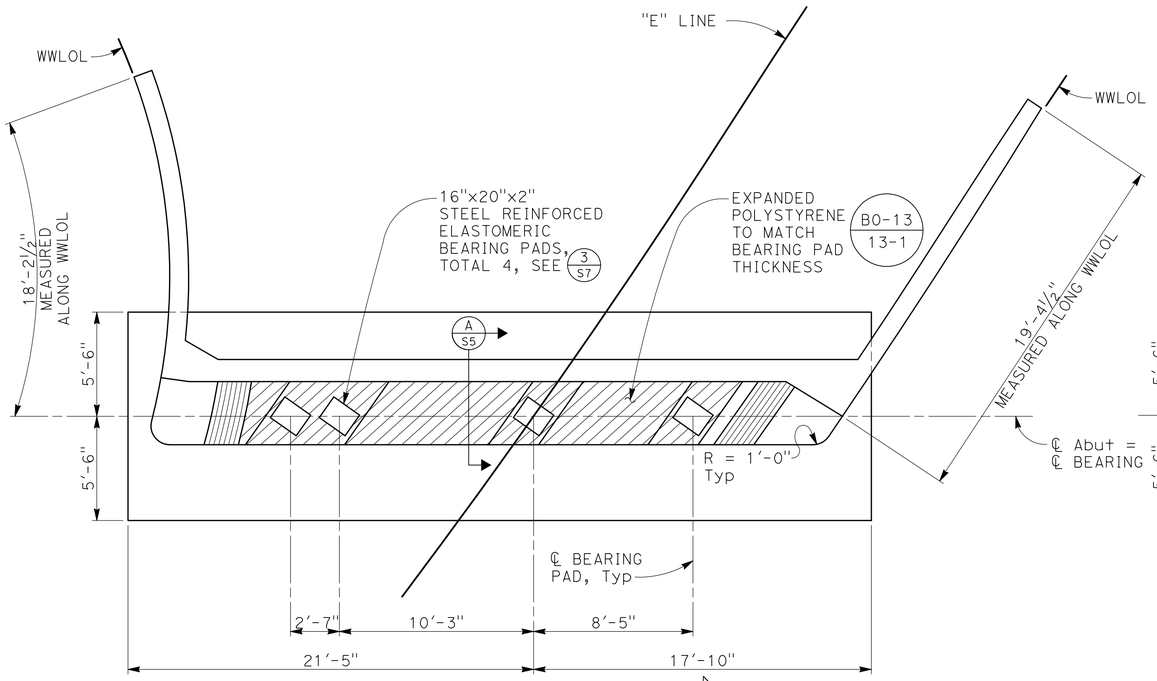
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

DEPARTMENT OF PUBLIC WORKS AND PLANNING

FOUNDATION PLAN

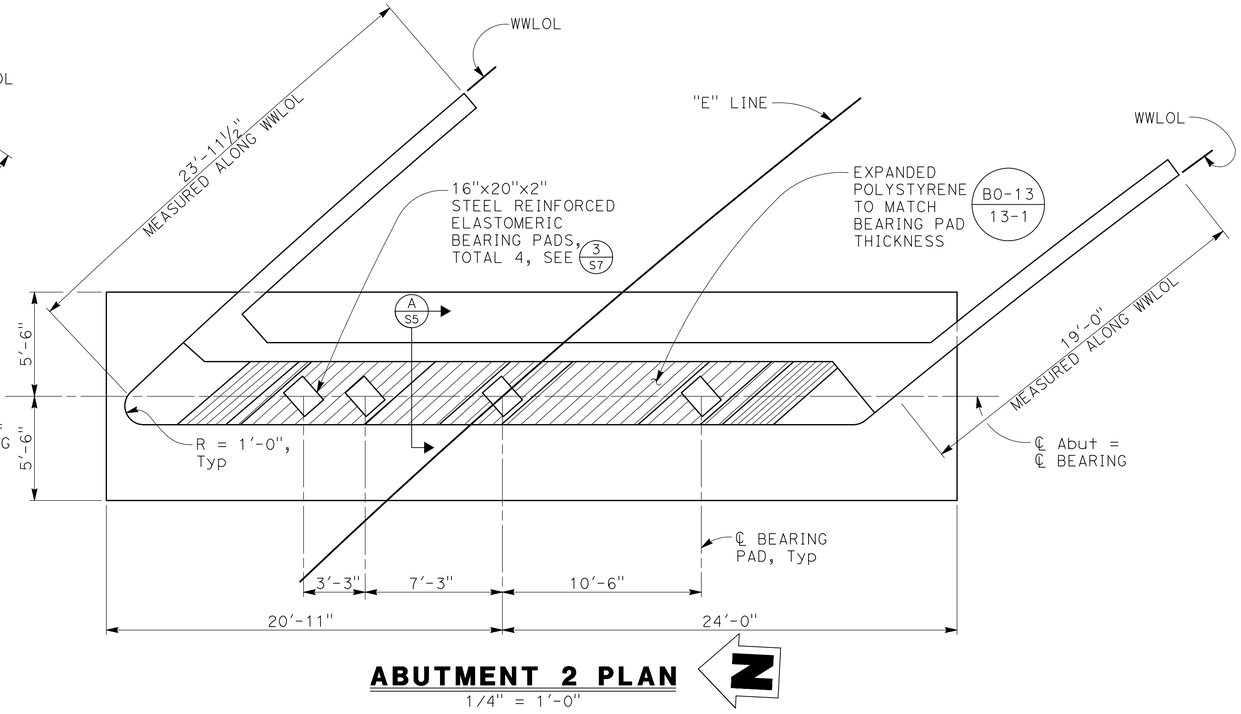
DRAWING NO. 11257 SHEET NO. 20 TOTAL 31

2015134 (201513453)



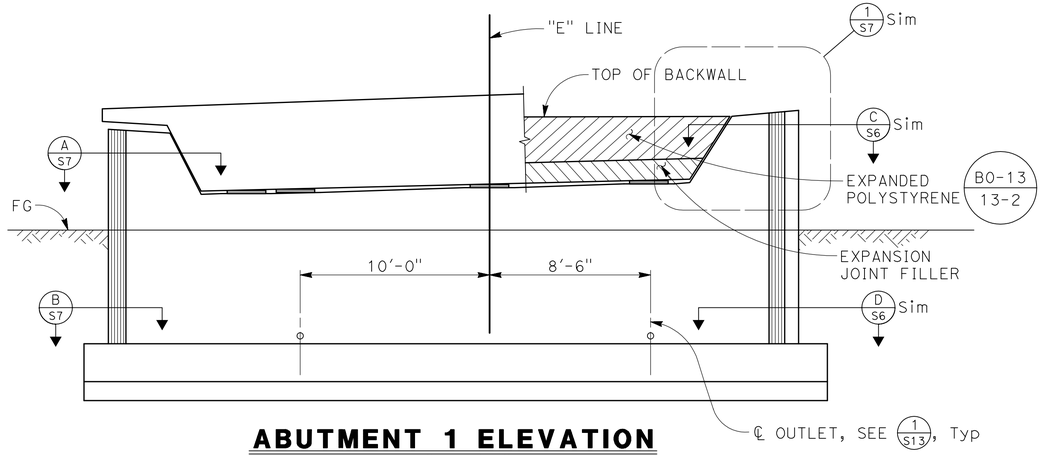
ABUTMENT 1 PLAN

1/4" = 1'-0"



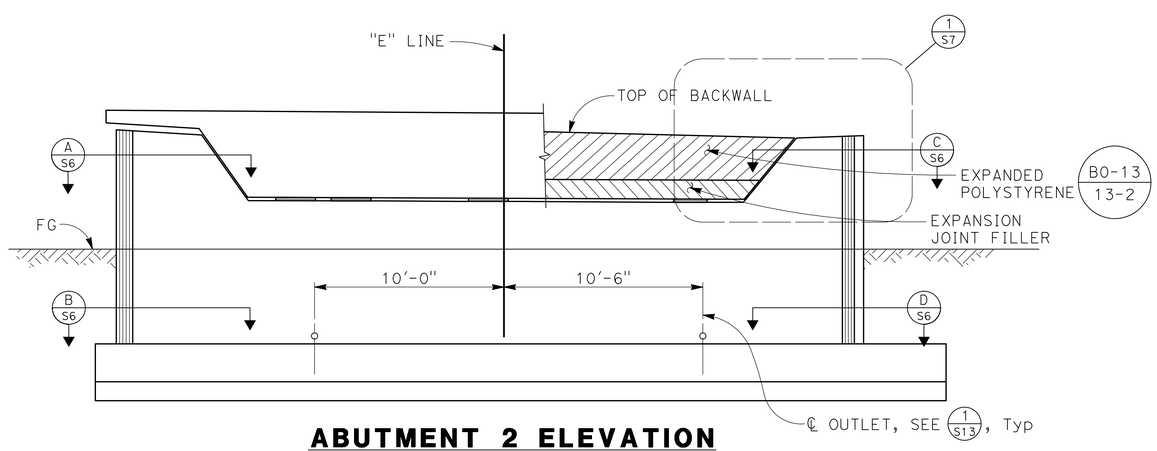
ABUTMENT 2 PLAN

1/4" = 1'-0"



ABUTMENT 1 ELEVATION

1/4" = 1'-0"



ABUTMENT 2 ELEVATION

1/4" = 1'-0"

NOTE:
THE CONTRACTOR MUST VERIFY ALL
CONTROLLING FIELD DIMENSIONS BEFORE
ORDERING OR FABRICATING ANY MATERIAL

S-4

	DATE	RECORD DRAWING		SCALE
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	DATE	AS SHOWN
DRAWN: AR	1/25/21			
CHECKED: ML	1/25/21			

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
5250 N. Palm Avenue, Suite 211
Fresno, California 93704
559-449-8686

BCA

REGISTERED PROFESSIONAL ENGINEER
STEPHEN G. SUMPTER
No. S6280
Exp.12/31/22
STRUCTURAL
STATE OF CALIFORNIA

PROJECT

SAND CREEK BRIDGE REPLACEMENT
ON ENNIS ROAD

ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO 1856

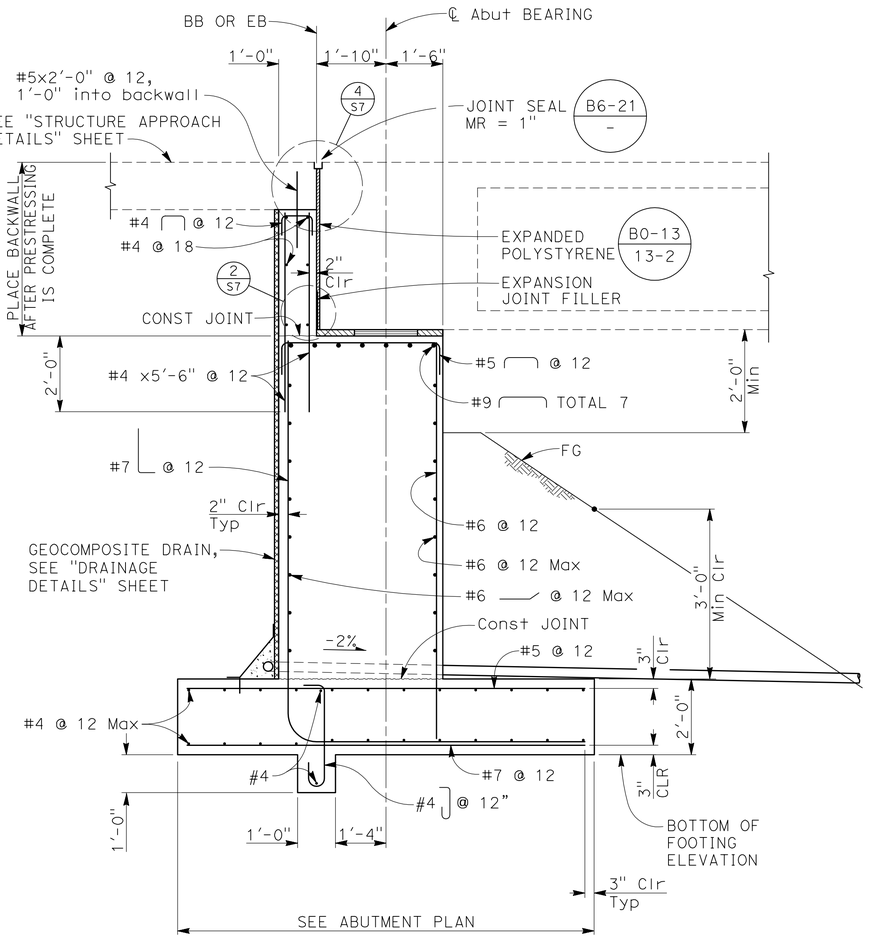
DEPARTMENT OF PUBLIC WORKS AND PLANNING

ABUTMENT LAYOUT

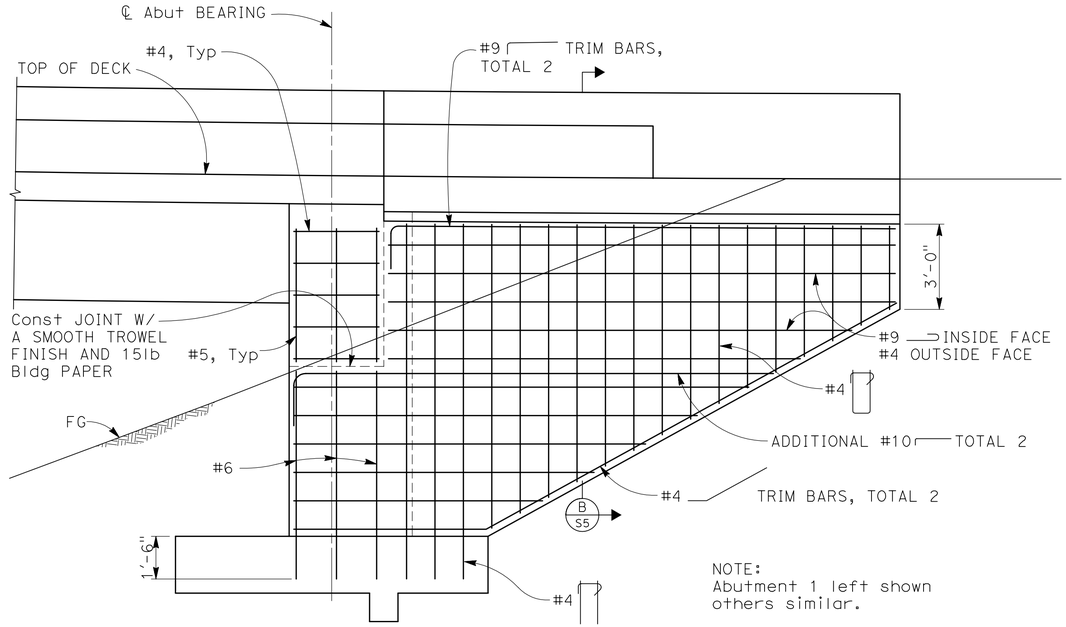
DRAWING NO. 11257 SHEET NO. 21 TOTAL 31

(2015134S4)

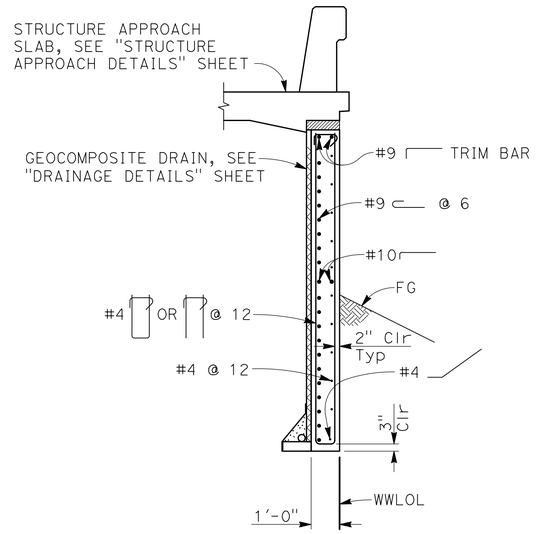
2015134



SECTION A S5
1/2" = 1'-0"



ABUTMENT WINGWALL ELEVATION
3/8" = 1'-0"



SECTION B S5
3/8" = 1'-0"

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

S-5

	DATE	RECORD DRAWING	
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	DATE
DRAWN: AR	1/25/21		
CHECKED: ML	1/25/21		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

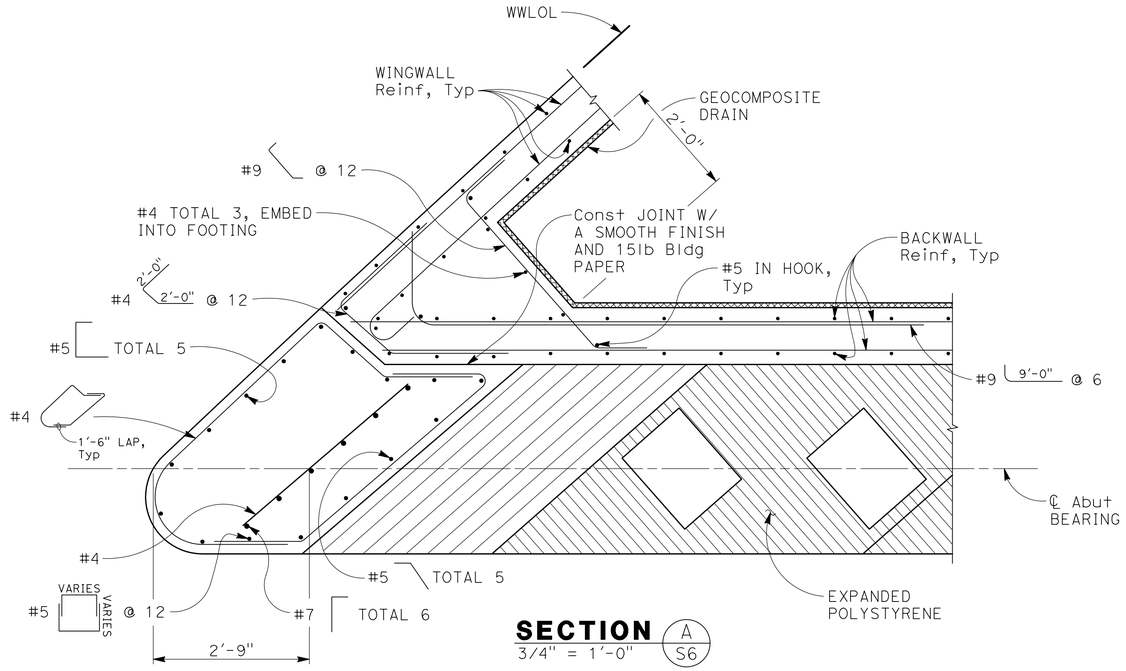
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
5250 N. Palm Avenue, Suite 211
Fresno, California 93704
559-449-8686

REGISTERED PROFESSIONAL ENGINEER — WILLIAM G. SUMPTER — No. S6280 — Exp.12/31/22 — STRUCTURAL — STATE OF CALIFORNIA

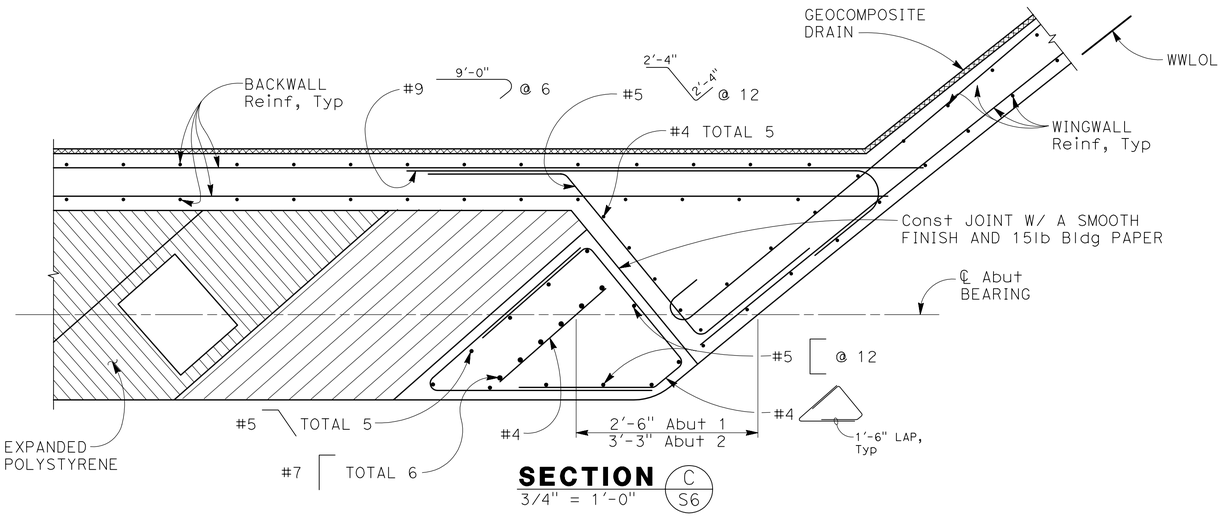
PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

DEPARTMENT OF PUBLIC WORKS AND PLANNING
ABUTMENT DETAILS No. 1
DRAWING NO. 11257 SHEET NO. 22 TOTAL 31

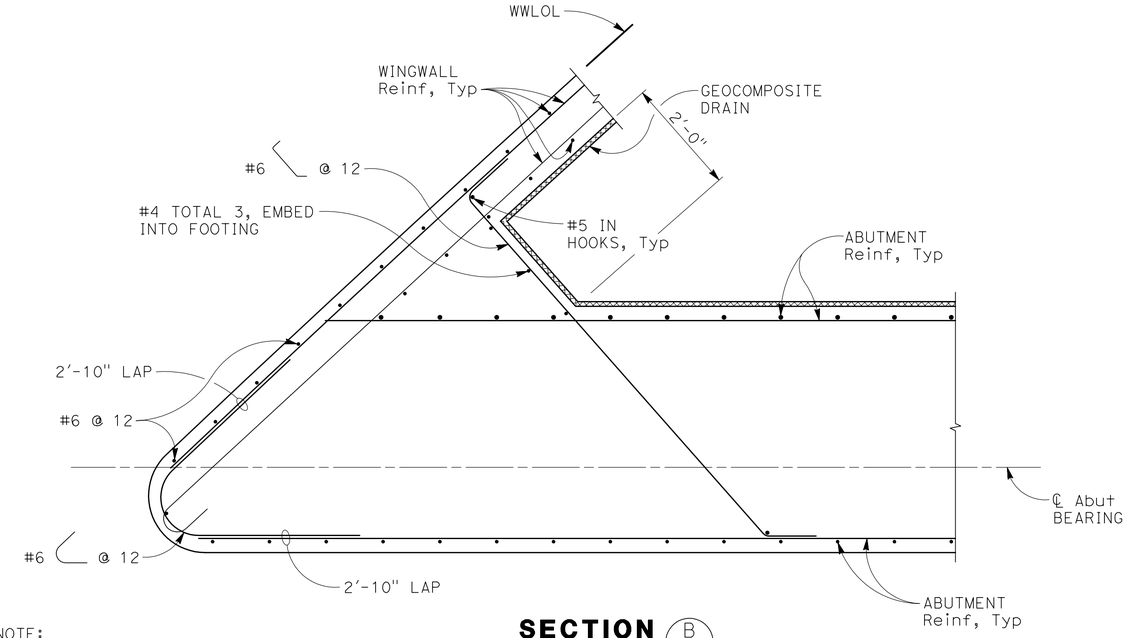
(20151345S)
20151345



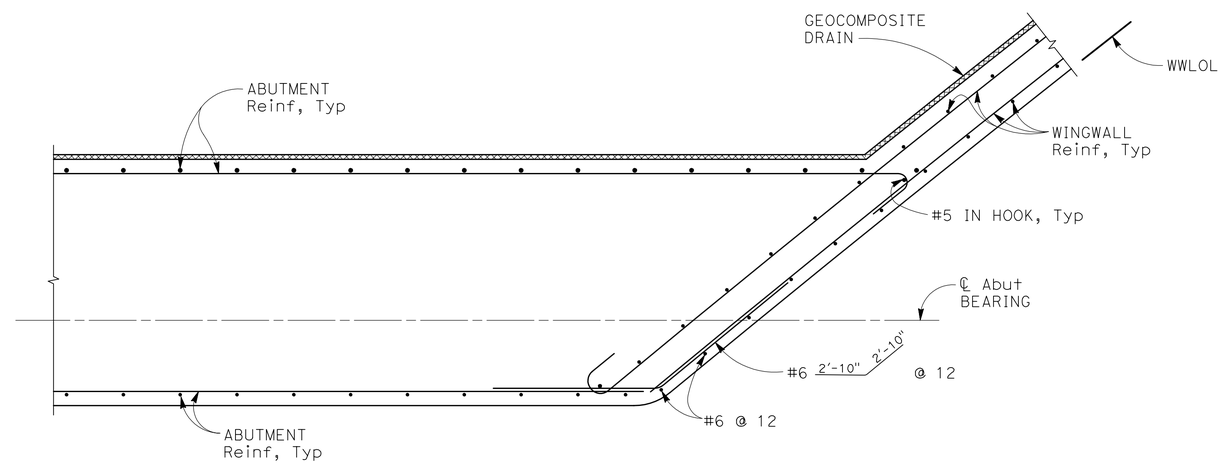
SECTION A — 3/4" = 1'-0" — S6



SECTION C — 3/4" = 1'-0" — S6



SECTION B — 3/4" = 1'-0" — S6



SECTION D — 3/4" = 1'-0" — S6

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

S-6

	DATE	RECORD DRAWING		SCALE
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	DATE	AS SHOWN
DRAWN: AR	1/25/21			
CHECKED: ML	1/25/21			

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BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
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Fresno, California 93704
559-449-8686

REGISTERED PROFESSIONAL ENGINEER — BRIAN G SUMPTER — No. S6280 — Exp. 12/31/22 — STRUCTURAL — STATE OF CALIFORNIA

PROJECT

SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

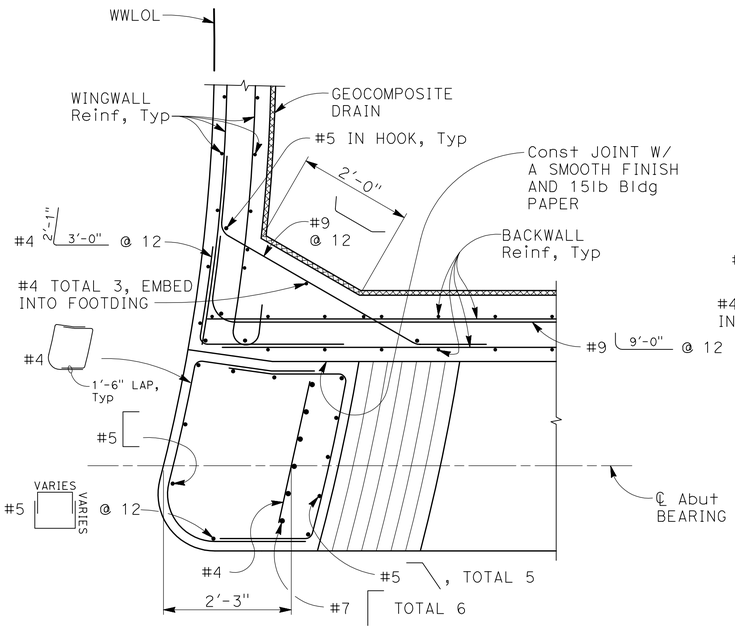
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

DEPARTMENT OF PUBLIC WORKS AND PLANNING

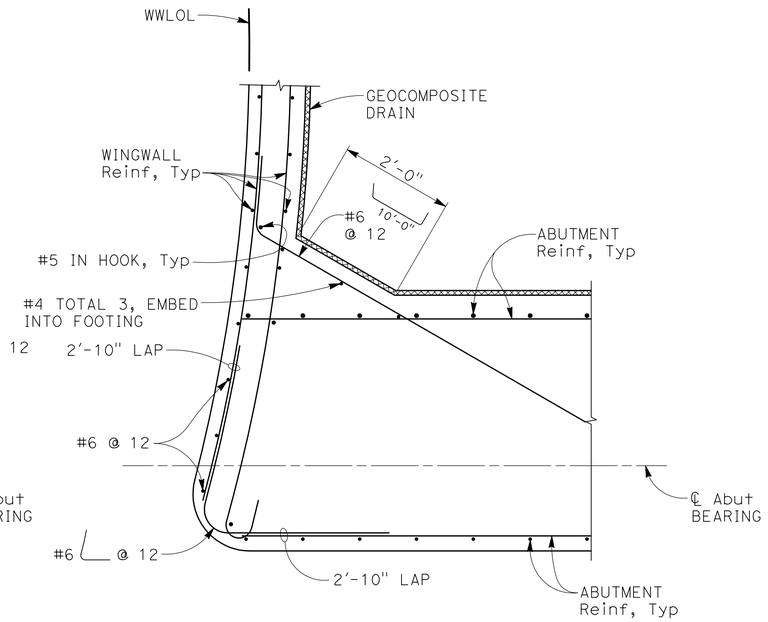
ABUTMENT DETAILS No. 2

DRAWING NO. 11257 SHEET NO. 23 TOTAL 31

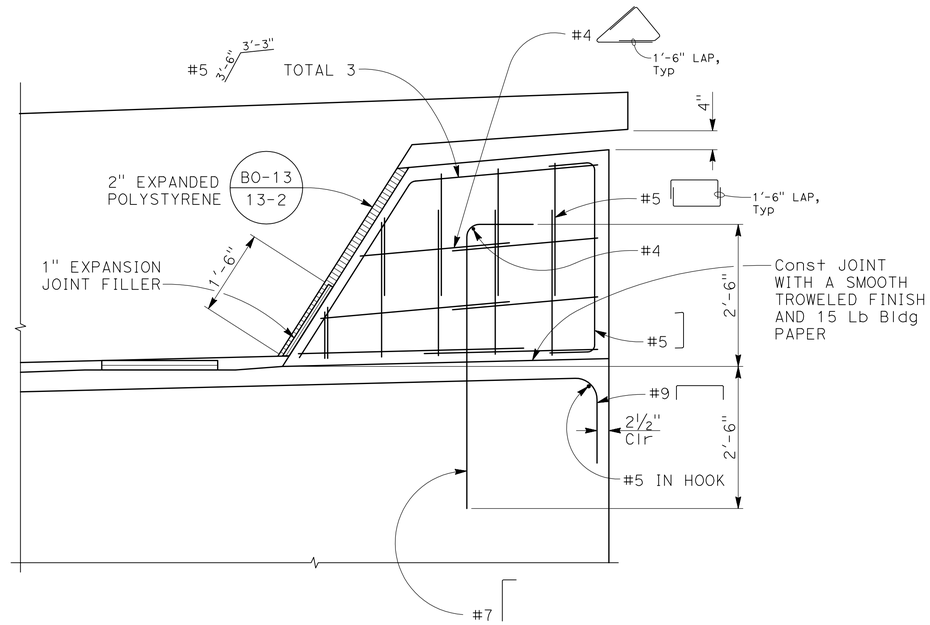
(2015134) 2015134



SECTION A
3/4" = 1'-0" S7

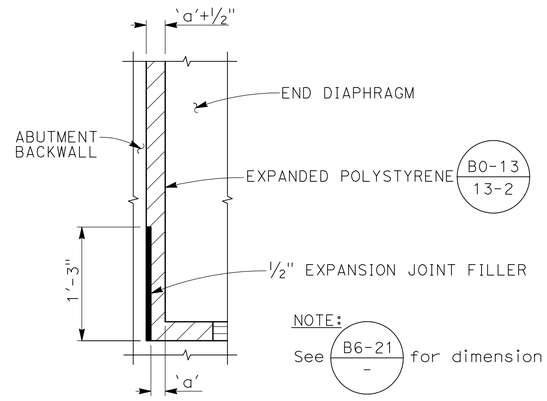


SECTION B
3/4" = 1'-0" S7



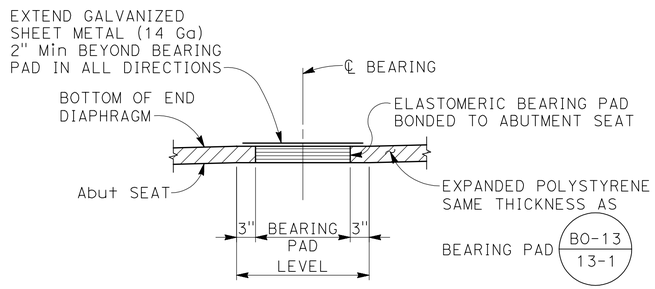
DETAIL 1
3/4" = 1'-0" S7

NOTE:
Abut 2 SHOWN
Abut 1 SIMILAR



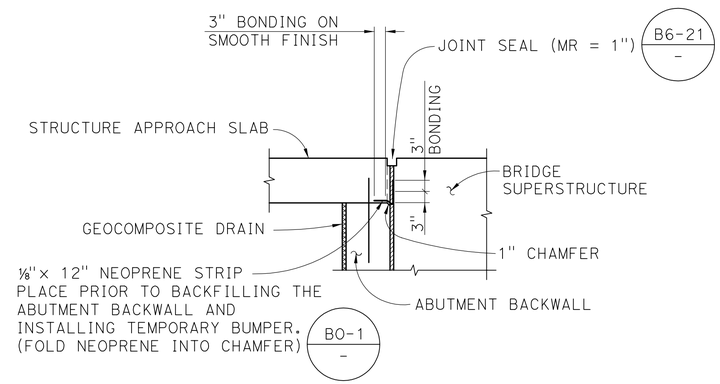
NOTE:
See B6-21 - for dimension 'a'
and see A S5 for Movement Rating

DETAIL 2
NO SCALE S7



DETAIL 3
1" = 1'-0" S7

NOTE:
Coat top of bearing pad with grease



JOINT PROTECTION DETAIL 4
NO SCALE S7

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

S-7

	DATE	RECORD DRAWING		SCALE
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	DATE	AS SHOWN
DRAWN: AR	1/25/21			
CHECKED: ML	1/25/21			

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

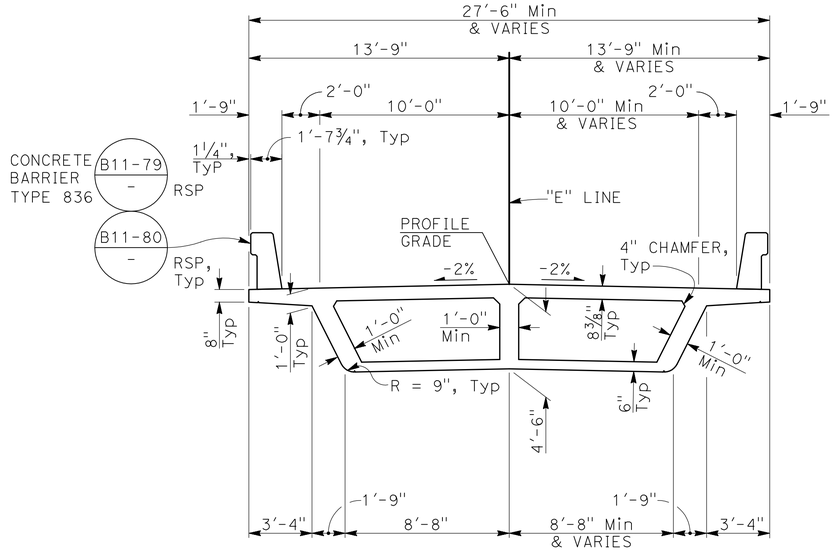
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
5250 N. Palm Avenue, Suite 211
Fresno, California 93704
559-449-8686

REGISTERED PROFESSIONAL ENGINEER — Shawn D. Schaub — No. S6280 — Exp.12/31/22 — STRUCTURAL — STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

DEPARTMENT OF PUBLIC WORKS AND PLANNING
ABUTMENT DETAILS No. 3
DRAWING NO. 11257 SHEET NO. 24 TOTAL 31

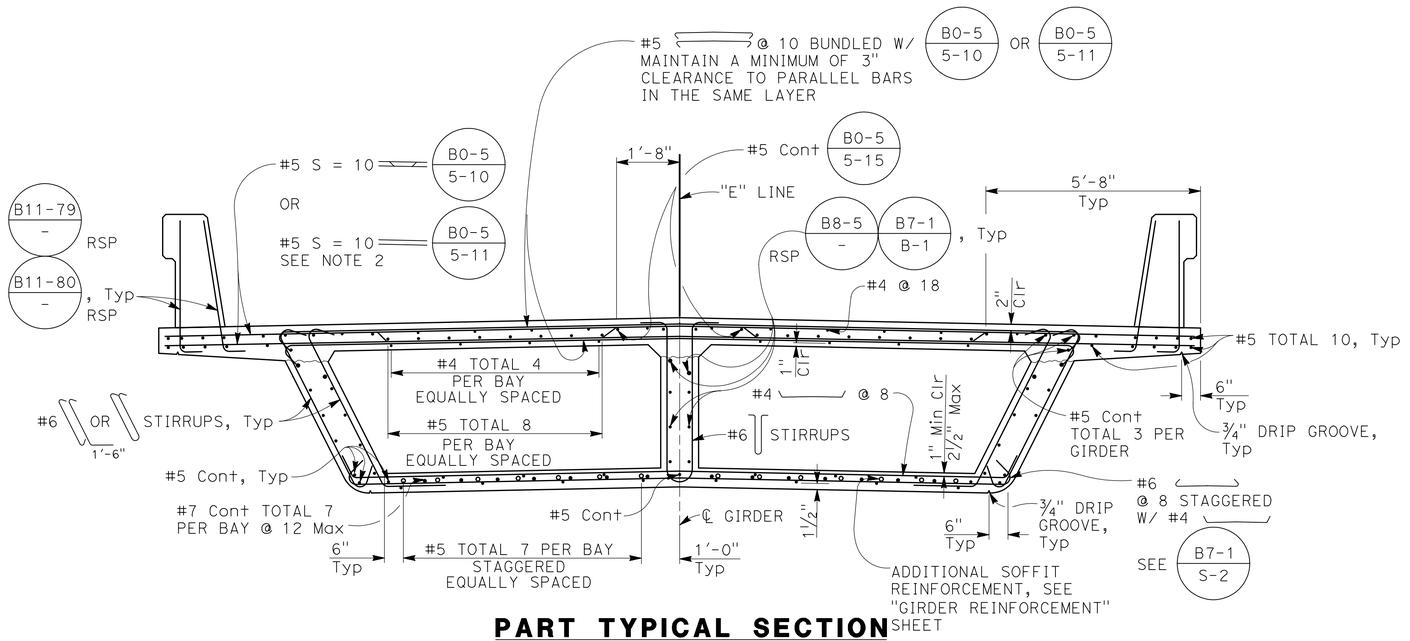
(2015134S7)
2015134



TYPICAL SECTION

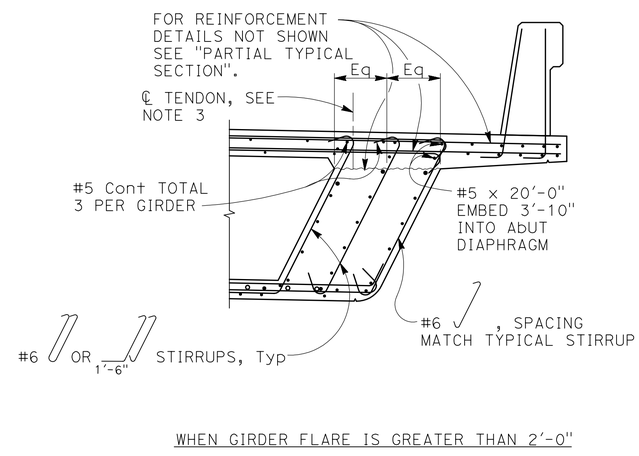
1/4" = 1'-0"

NOTES:
1. All dimensions are measured perpendicular to the "E" Line.
2. Transverse deck and soffit reinforcement shall be placed normal to the "E" Line and shall be spaced along "E" Line.
3. Horizontal tendon radius must be greater than 400 feet.



PART TYPICAL SECTION

1/2" = 1'-0"



WHEN GIRDER FLARE IS GREATER THAN 2'-0"

PARTIAL TYPICAL SECTION

1/2" = 1'-0"

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

S-8

	DATE	RECORD DRAWING		SCALE
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	DATE	AS SHOWN
DRAWN: AR	1/25/21			
CHECKED: ML	1/25/21			

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
5250 N. Palm Avenue, Suite 211
Fresno, California 93704
559-449-8686

REGISTERED PROFESSIONAL ENGINEER
MARTIN G. SUMPTER
No. S6280
Exp. 12/31/22
STRUCTURAL
STATE OF CALIFORNIA

PROJECT

SAND CREEK BRIDGE REPLACEMENT
ON ENNIS ROAD

ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO 1856

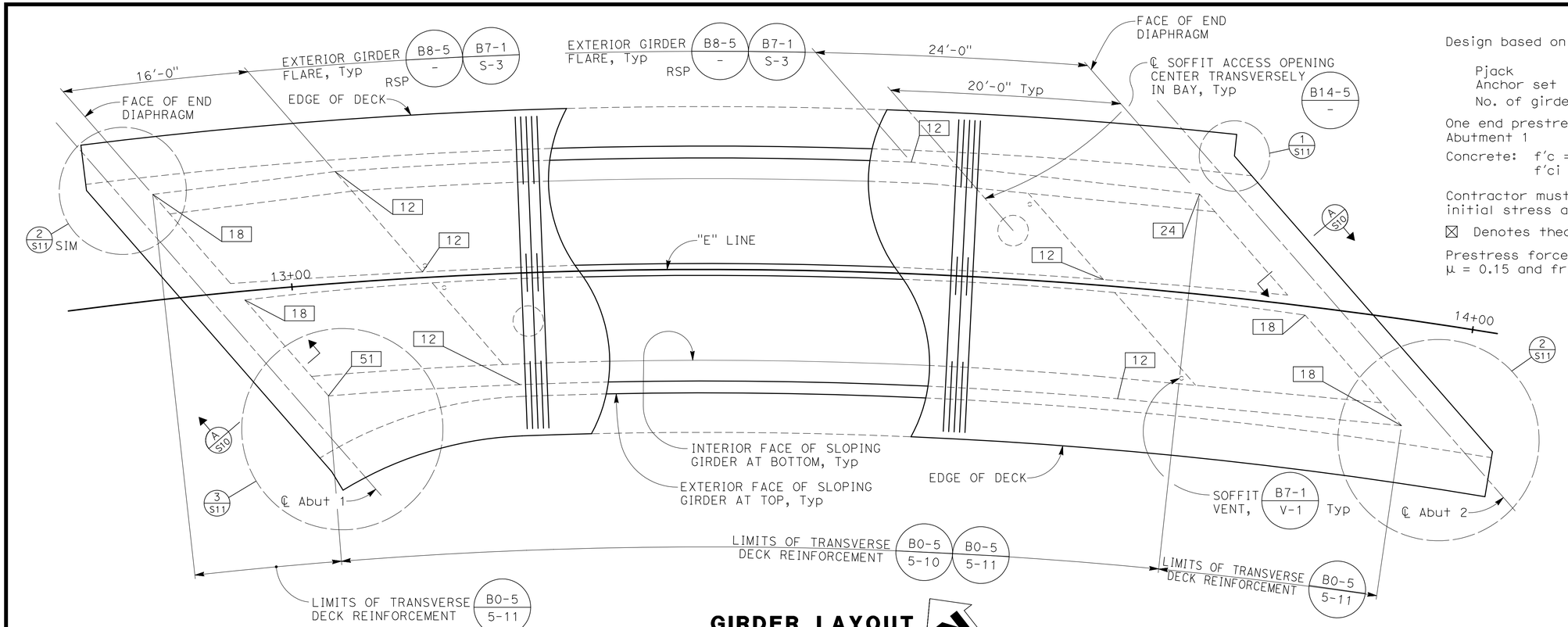
DEPARTMENT OF PUBLIC WORKS AND PLANNING

TYPICAL SECTION

DRAWING NO. 11257 SHEET NO. 25 TOTAL 31

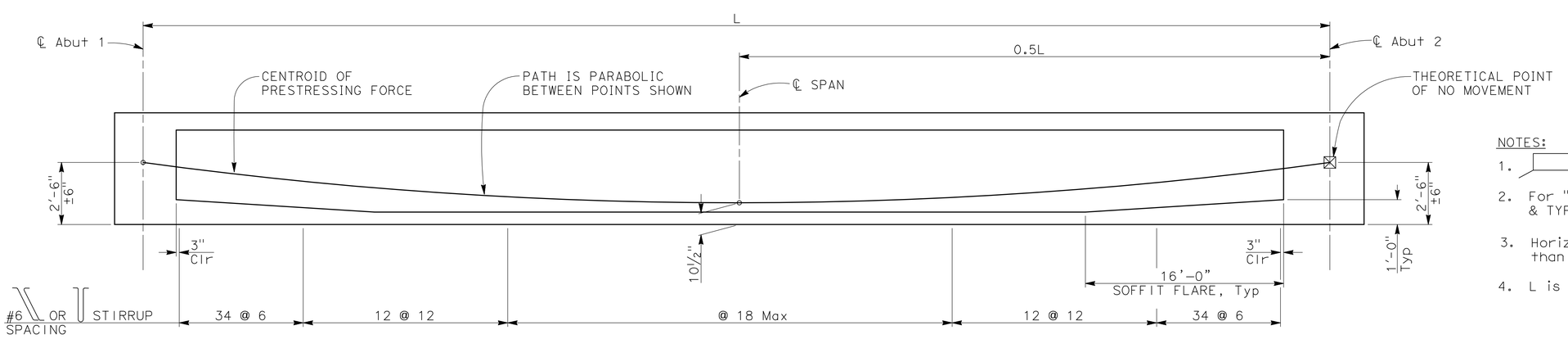
(2015134S8)

2015134



GIRDER LAYOUT

1" = 5'



LONGITUDINAL SECTION

NO SCALE

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

PRESTRESSING NOTES

Design based on 270 ksi Low Relaxation Strand:

Pjack	= 5900 kips
Anchor set	= 3/8 in
No. of girders	= 3

One end prestressing shall be performed from Abutment 1

Concrete: f'c = 4000 psi @ 28 days
f'ci = 3500 psi @ time of stressing

Contractor must submit elongation calculations based on initial stress at ☒ = 0.939 times jacking stress

☒ Denotes theoretical point of no movement

Prestress force design is based on friction coefficient μ = 0.15 and friction wobble coefficient k=0.0002/ft.

NOTES:

1. ▭ Indicates girder stem width in inches
2. For "CAMBER DIAGRAM" and "CONCRETE STRENGTH & TYPE LIMITS", see "DECK CONTOURS" sheet.
3. Horizontal tendon radius must be greater than 400 feet.
4. L is measured along the ℄ of each girder.

S-9

	DATE	RECORD DRAWING	
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	DATE
DRAWN: AR	1/25/21		
CHECKED: ML	1/25/21		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
5250 N. Palm Avenue, Suite 211
Fresno, California 93704
559-449-8686

REGISTERED PROFESSIONAL ENGINEER — MAURO G. SUMPAYAO — No. S6280 — Exp. 12/31/22 — STRUCTURAL — STATE OF CALIFORNIA

PROJECT: SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

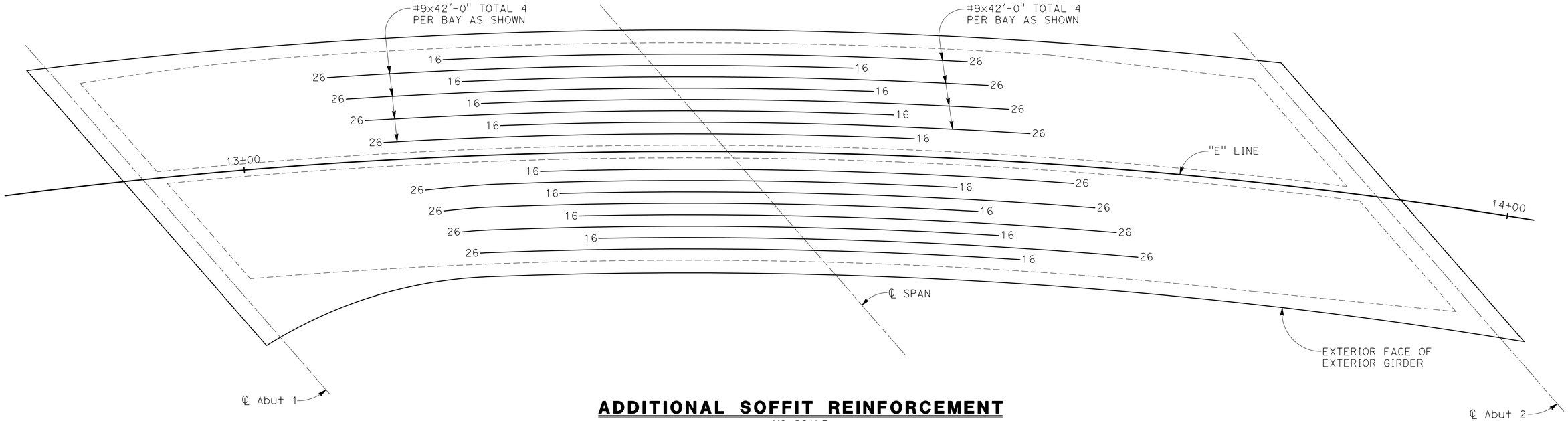
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

DEPARTMENT OF PUBLIC WORKS AND PLANNING

GIRDER LAYOUT

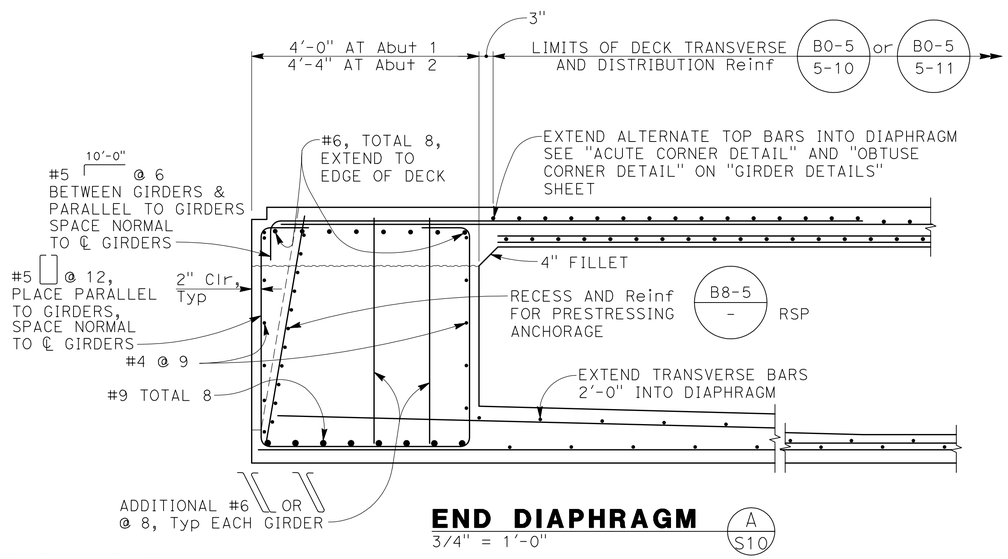
DRAWING NO. 11257 SHEET NO. 26 TOTAL 31

2015134 (201513459)



ADDITIONAL SOFFIT REINFORCEMENT

NO SCALE



END DIAPHRAGM

3/4" = 1'-0"

A
S10

NOTE:
THE CONTRACTOR MUST VERIFY ALL
CONTROLLING FIELD DIMENSIONS BEFORE
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NOTES:

1. Reinforcement shown is in addition to reinforcement on "TYPICAL SECTION" sheet.
2. All bars shall be evenly spaced within each bay.
3. Reinforcement shall be placed parallel to "E" Line.
4. Additional deck reinforcement not required. See "TYPICAL SECTION" sheet for all deck reinforcement.
5. No splices allowed in #9x42'-0" additional reinforcement.
6. Number at end of bar indicates distance in feet from ℄ Span.

S-10

	DATE	RECORD DRAWING	DATE
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	
DRAWN: AR	1/25/21		
CHECKED: ML	1/25/21		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
5250 N. Palm Avenue, Suite 211
Fresno, California 93704
559-449-8686

REGISTERED PROFESSIONAL ENGINEER
MARK D. RATLIFF
No. S6280
Exp. 12/31/22
STRUCTURAL
STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT
ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

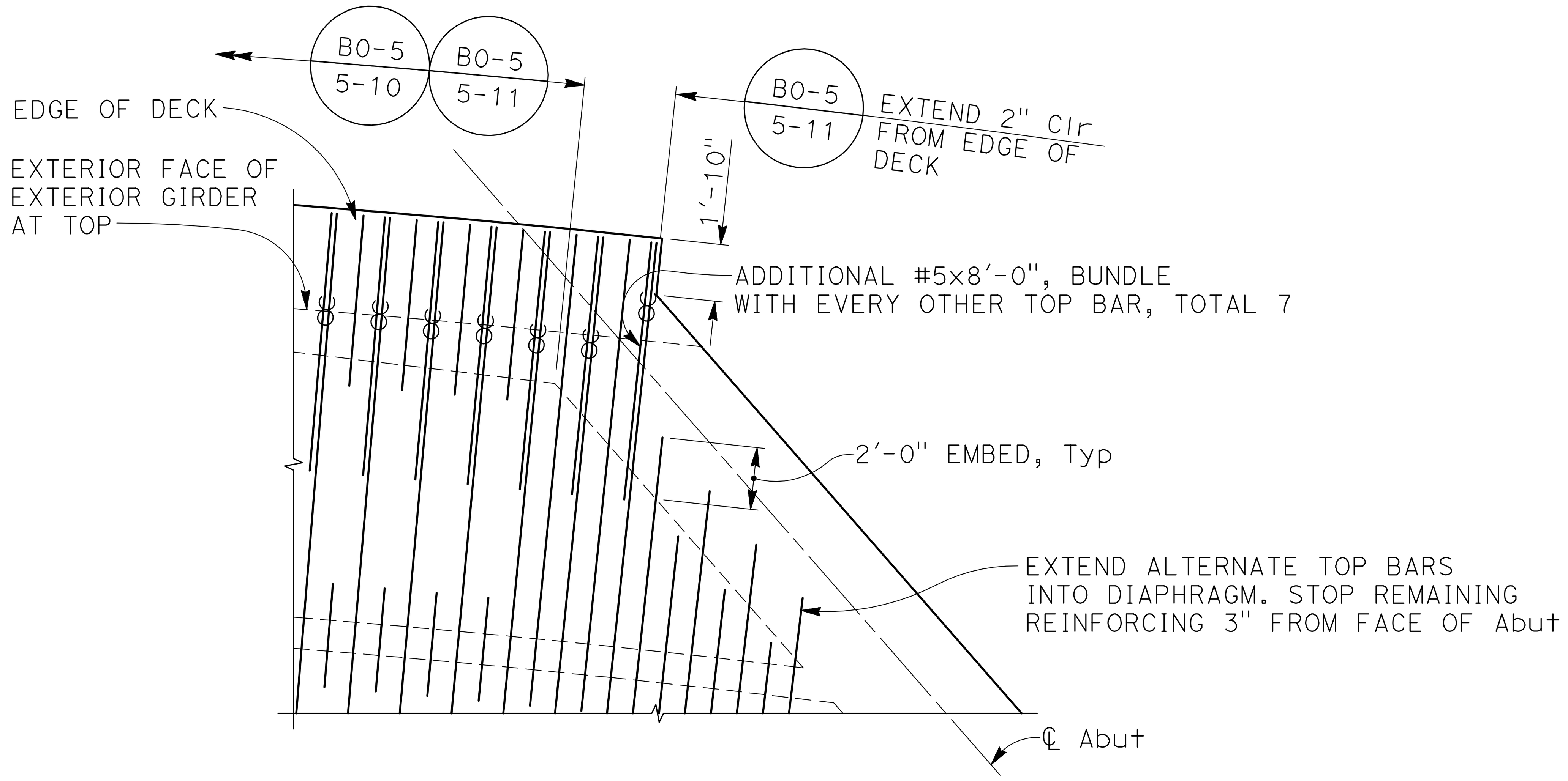
THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING

GIRDER REINFORCEMENT

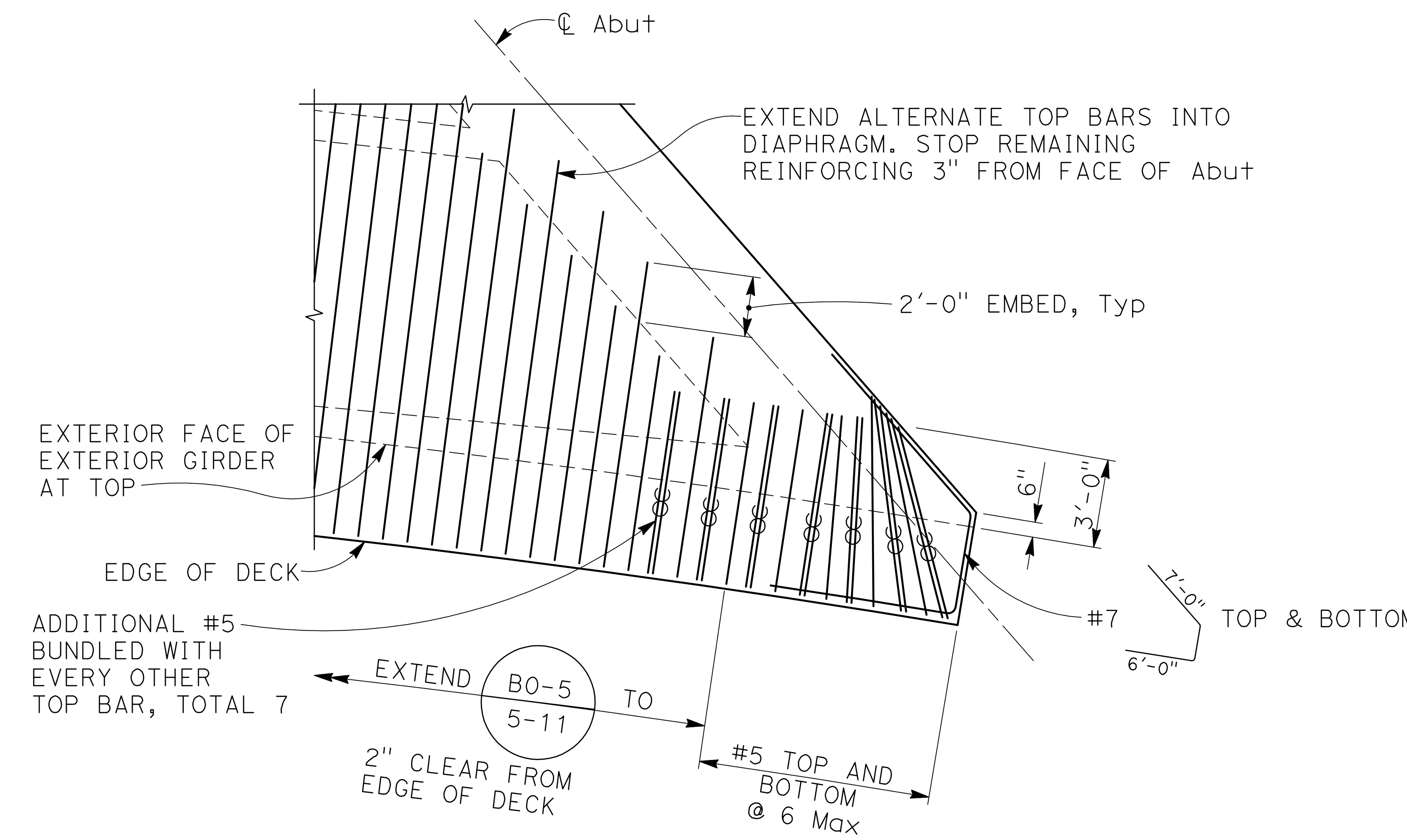
DRAWING NO. 11257 SHEET NO. 27 TOTAL 31

2015134 (2015134S10)



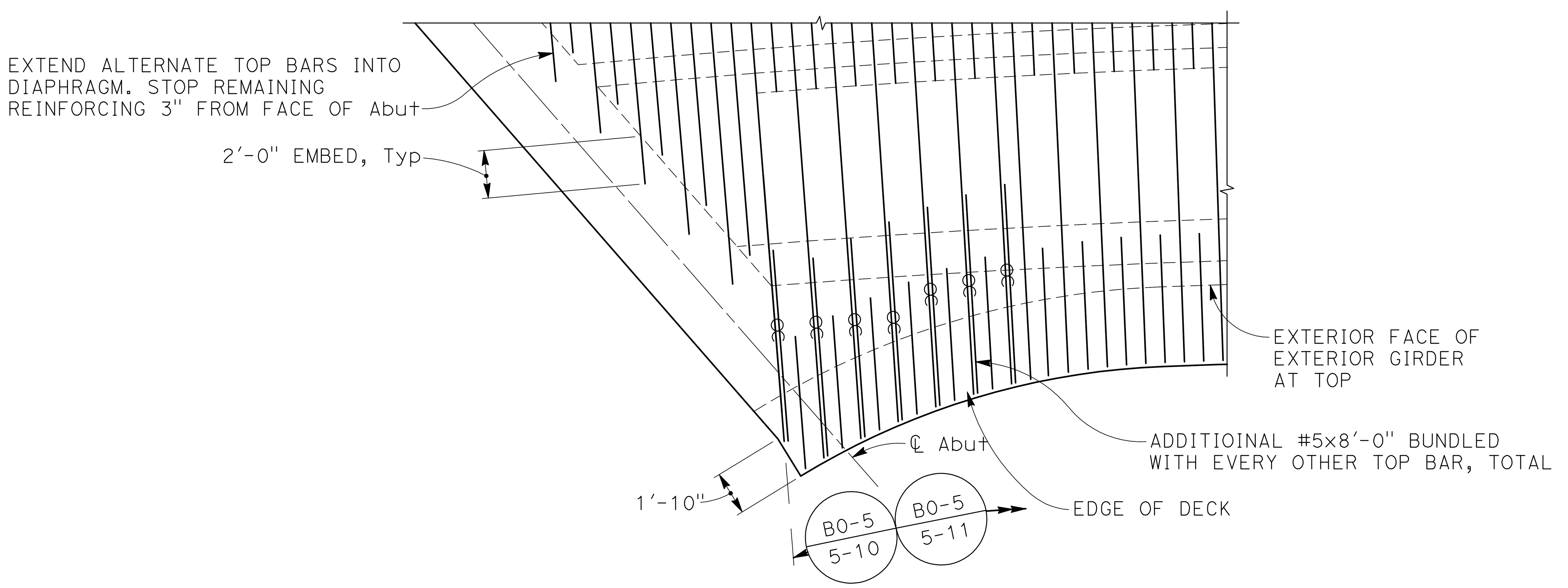
OBTUSE CORNER DETAIL 1/S11

NO SCALE



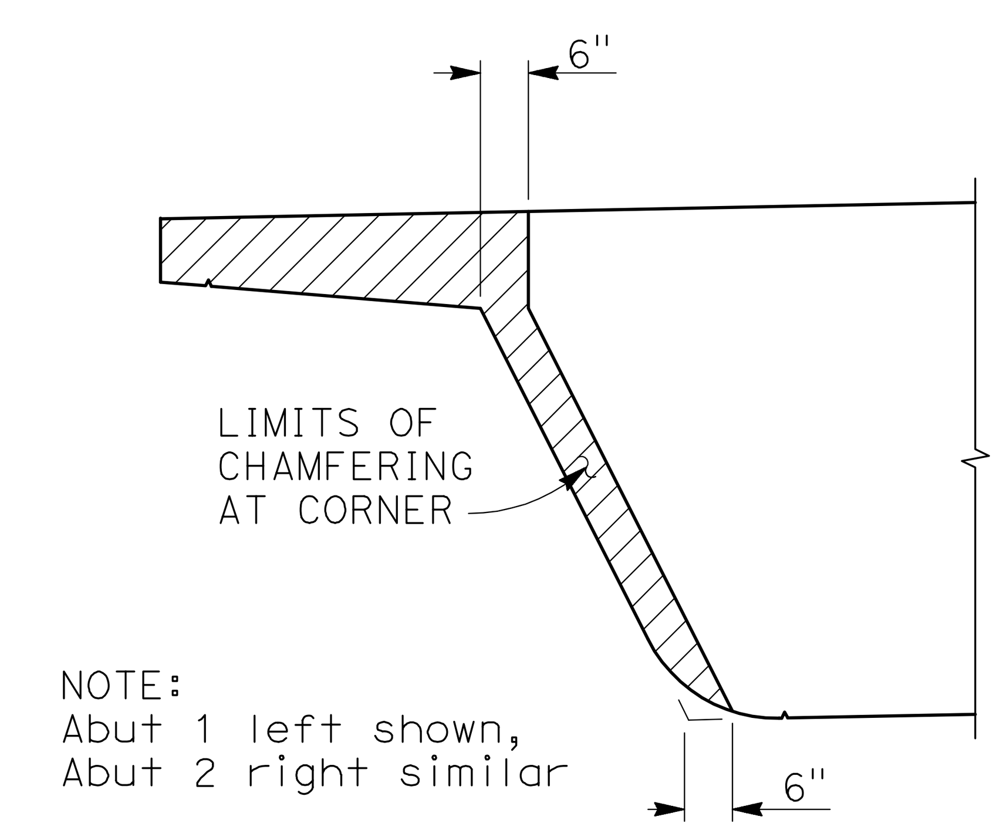
ACUTE CORNER DETAIL 2/S11

NO SCALE



OBTUSE CORNER DETAIL 3/S11

NO SCALE



SECTION A/S11

1/2" = 1'-0"

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

S-11

	DATE	RECORD DRAWING	
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	DATE
DRAWN: SMH	1/25/21		
CHECKED: ML	1/25/21		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
5250 N. Palm Avenue, Suite 211
Fresno, California 93704
559-449-8686

REGISTERED PROFESSIONAL ENGINEER SHAUN G SUMP No. S6280 Exp.12/31/22 STRUCTURAL STATE OF CALIFORNIA

PROJECT: SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD

ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

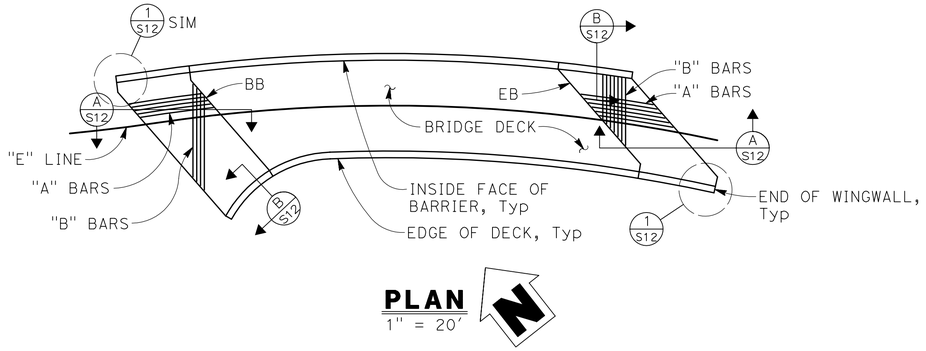
THE COUNTY OF FRESNO 1856

DEPARTMENT OF PUBLIC WORKS AND PLANNING

GIRDER DETAILS

DRAWING NO. 11257 SHEET NO. 28 TOTAL 31

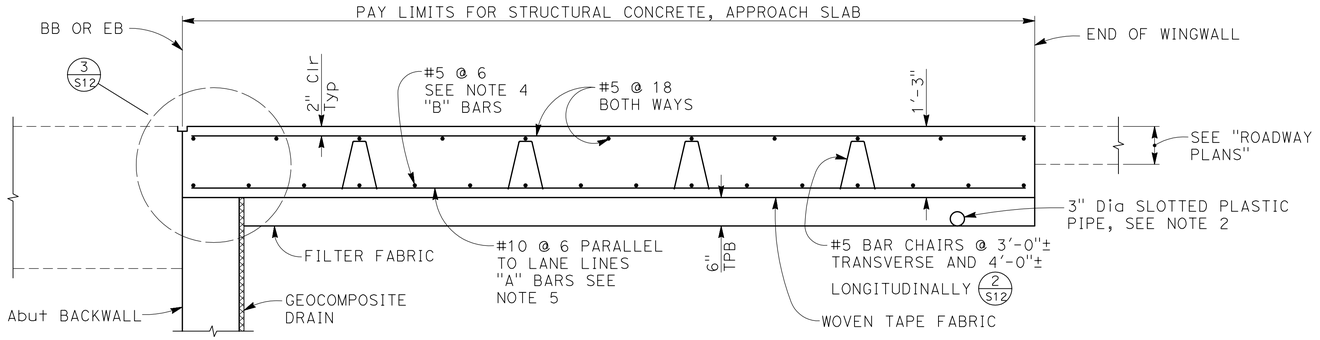
2015134 (2015134S11)



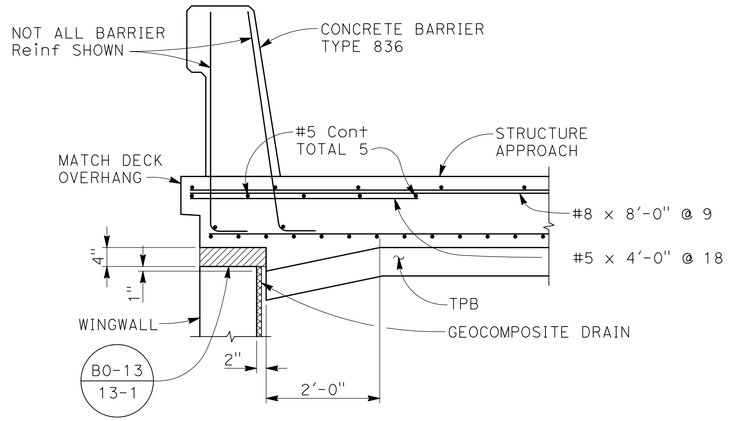
PLAN
1" = 20'

NOTES:
1. Longitudinal construction joints,when permitted by the Engineer, shall be located on lane lines.
2. For drainage details, see "DRAINAGE DETAILS" sheet.
3. At the contractor's option, approach slab transverse reinforcement may be placed parallel to BB or EB. Spacing of transverse reinforcement is measured along ℄ roadway.
4. Provide cross slope to match deck surface grade. See "TYPICAL SECTION" and "DECK CONTOURS" sheets.
5. Space "A" bars at 6" max at BB and 9" max at end of approach slab at the southwest approach slab quadrant.

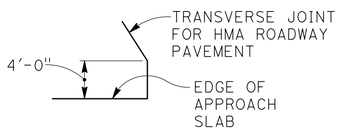
LEGEND:
Remove all polystyrene after concrete is cured.



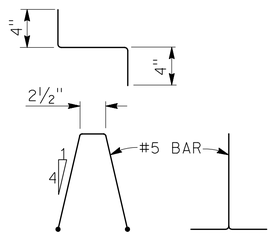
SECTION A/S12
3/4" = 1'-0"



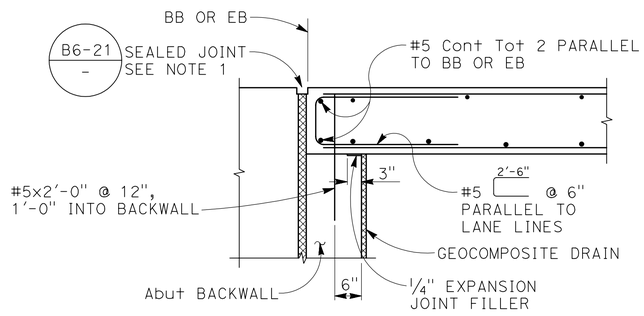
SECTION B/S12
3/4" = 1'-0"



DETAIL 1/S12
NO SCLAE



BAR CHAIR DETAIL 2/S12
1 1/2" = 1'-0"



SEAT TYPE ABUTMENT TIE DETAILS 3/S12
3/4" = 1'-0"

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

S-12

	DATE	RECORD DRAWING		SCALE
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	DATE	AS SHOWN
DRAWN: AR	1/25/21			
CHECKED: ML	1/25/21			

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
5250 N. Palm Avenue, Suite 211
Fresno, California 93704
559-449-8686

REGISTERED PROFESSIONAL ENGINEER — KATHLEEN G. SUMPTER — No. S6280 Exp.12/31/22 — STRUCTURAL — STATE OF CALIFORNIA

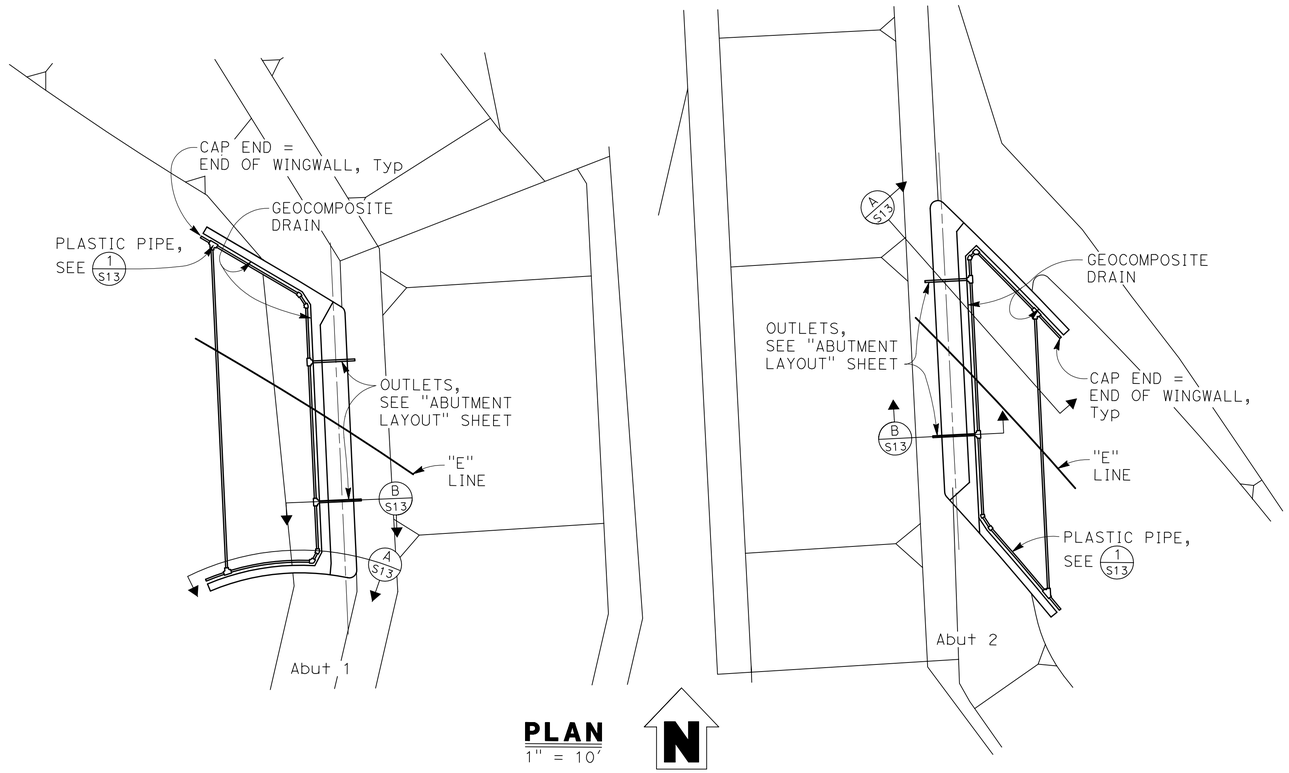
PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

THE COUNTY OF FRESNO 1856

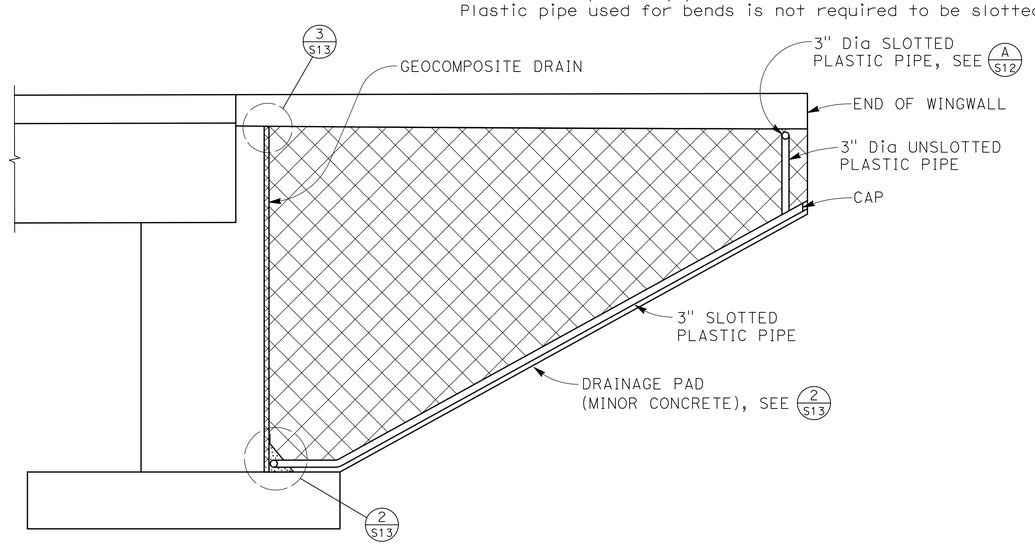
DEPARTMENT OF PUBLIC WORKS AND PLANNING
STRUCTURE APPROACH DETAILS
DRAWING NO. 11257 SHEET NO. 29 TOTAL 31

2015134 (2015134S12)

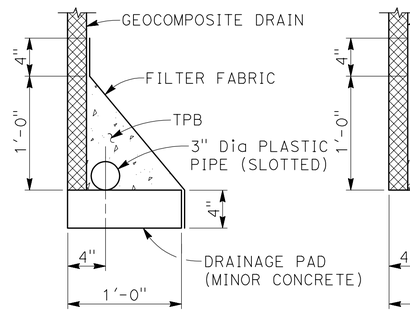
NOTES:
1. 4" dia drains at locations shown on abutment elevations. Exposed wall drains shall be located 3"± Min above finished grade.
2. Geocomposite drain, treated permeable base, and 3" dia slotted plastic pipe continuous behind abutment. Cap ends of pipe. Provide "Tee" connection at each 4" dia drain.
3. All bends in plastic pipe must have 3'-0" minimum radius. Plastic pipe used for bends is not required to be slotted.



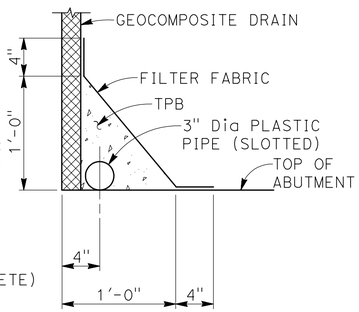
PLAN
1" = 10'



SECTION A/S13
3/8" = 1'-0"



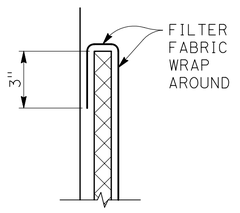
WITHOUT FOOTING



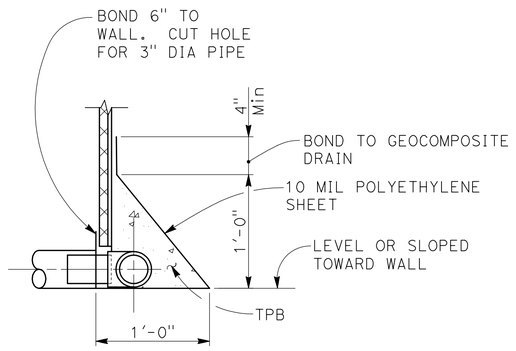
WITH FOOTING

NOTES:
1. 4" dia drains at locations shown on abutment elevations and at 25' max center to center along wingwall. Exposed wall drains shall be located 3"± above finished grade.
2. Geocomposite drain, cement treated permeable base, and 3" dia slotted plastic pipe continuous behind retaining wall or abutment. Cap ends of pipe. Provide "Tee" connection at each 4" dia drain.
3. Connect the low end of plastic pipe to the main outlet pipe as applicable.

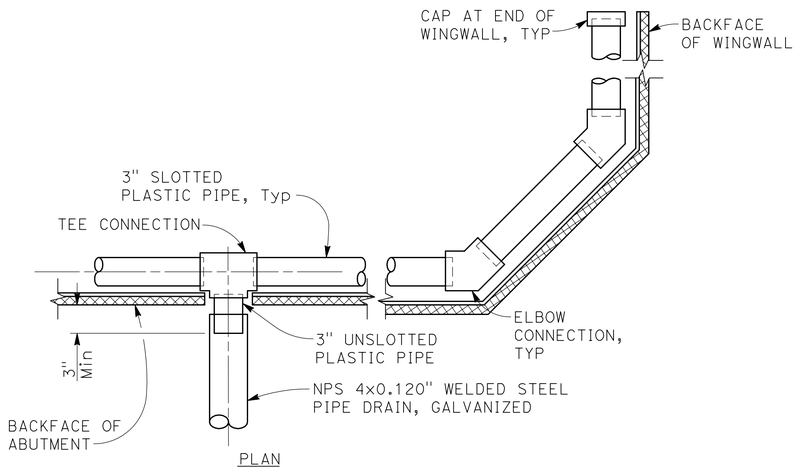
DETAIL 2/S13
NO SCALE



DETAIL 3/S13
1 1/2" = 1'-0"



SECTION B/S13
1 1/2" = 1'-0"



PLAN

DETAIL 1/S13
1 1/2" = 1'-0"

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

S-13

	DATE	RECORD DRAWING	DATE
DESIGNED: SGS	1/25/21	RESIDENT ENGINEER	
DRAWN: AR	1/25/21		
CHECKED: ML	1/25/21		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE: AS SHOWN

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
5250 N. Palm Avenue, Suite 211
Fresno, California 93704
559-449-8686

REGISTERED PROFESSIONAL ENGINEER — MARTIN G. SUMPTER — No. S6280 — Exp.12/31/22 — STRUCTURAL — STATE OF CALIFORNIA

PROJECT
SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD
ROAD NO. 2824-2825 BRIDGE NO. 42C0697, BRLO-5942(238)

DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAINAGE DETAILS
DRAWING NO. 11257 SHEET NO. 30 TOTAL 31

2015134 (20151345I3)

Notes:
Standard Penetration Test Sampler: I.D. = 1.4"; O.D. = 2"
Modified California Sampler: I.D. = 2.5"; O.D. = 3"
Hammer Assembly: A 140 lb hammer with a 30" drop (Automatic Hammer)

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock, Logging, Classification, and Presentation Manual (2010)

See Caltrans 2015 Standard Plans A10F, A10G and A10H for Soil and Rock Legends.

All dimensions are in feet unless otherwise shown.

Base map is provided by Biggs Cardosa Associates Inc 2016.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
6	Fresno	LOCAL			

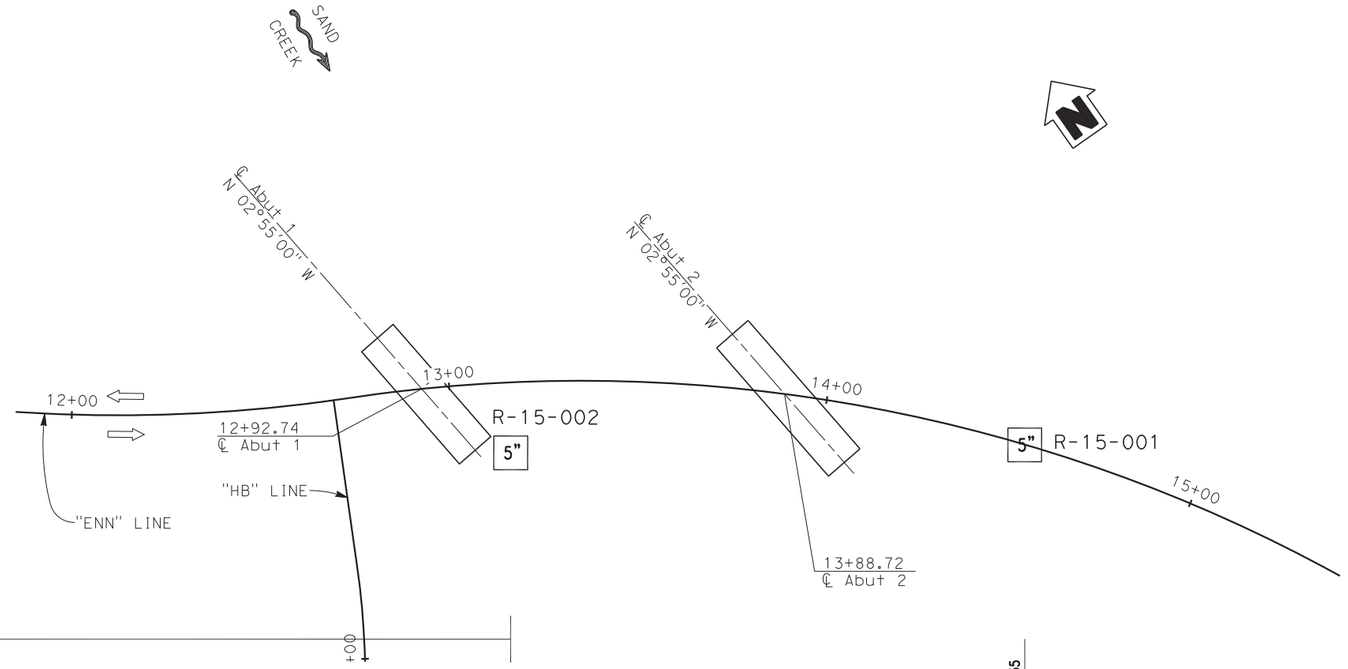
GEOTECHNICAL PROFESSIONAL — 10/28/16 DATE

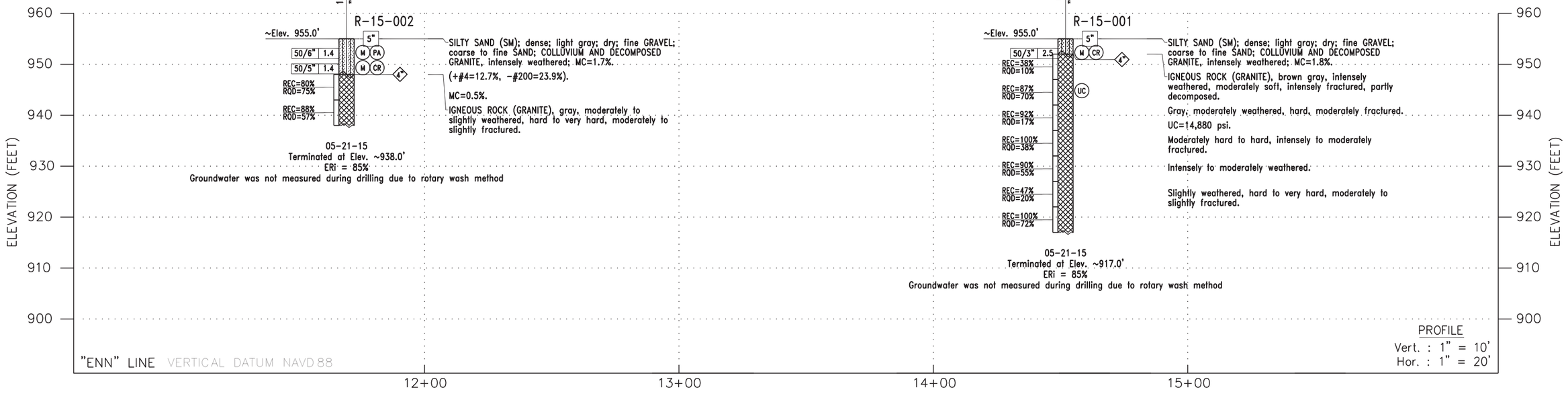
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/17 — GEOTECHNICAL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

The County of Fresno or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

PARIKH CONSULTANTS, INC.
2360 QUME DRIVE, SUITE A
SAN JOSE, CA 95131





DRAWN BY	KIM OUYANG	V. SANTOS	PETER WEI	BIGGS CARDOSA ASSOCIATES INC STRUCTURAL ENGINEERS	PROJECT	DEPARTMENT OF PUBLIC WORKS AND PLANNING
CHECKED BY	PETER WEI	FIELD INVESTIGATION BY: DATE: MAY 2015	PROJECT ENGINEER	5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686 BCA	SAND CREEK BRIDGE REPLACEMENT ON ENNIS ROAD	LOG OF TEST BORINGS
					ROAD NO. BRIDGE NO. 42C-0099, BRLO-5942(238)	DRAWING NO. SHEET NO. 31 TOTAL 31

(20151345I)
2015134