THE CONTRACTOR MUST POSSESS THE CLASS (OR CLASSES) OF LICENSES AS SPECIFIED IN THE "NOTICE TO BIDDERS."

CALL BEFORE YOU DIG

THE CONTRACTOR SHALL CALL "UNDERGROUND SERVICE ALERT" (USA) AT 800-227-2600 AT LEAST 2 WORKING DAYS PRIOR TO PERFORMING ANY EXCAVATION

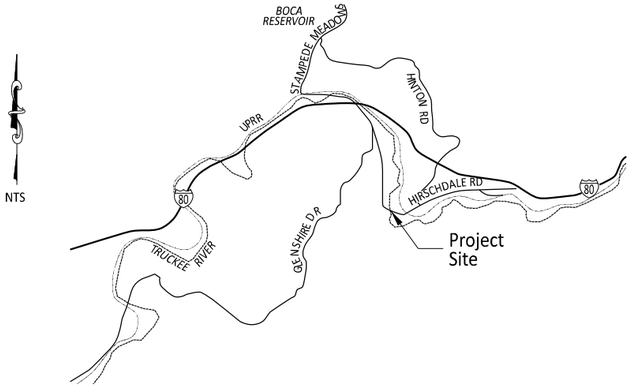
NEVADA COUNTY
Department of Public Works Project Plans

for

Hirschdale Road Over Truckee River Bridge Replacement Project

Federal Project No. BRLO-5917 (092)

To be supplemented by the Nevada County Standards and Standard Road Drawings and the California Department of Transportation Standard Plans and Specifications dated 2023.



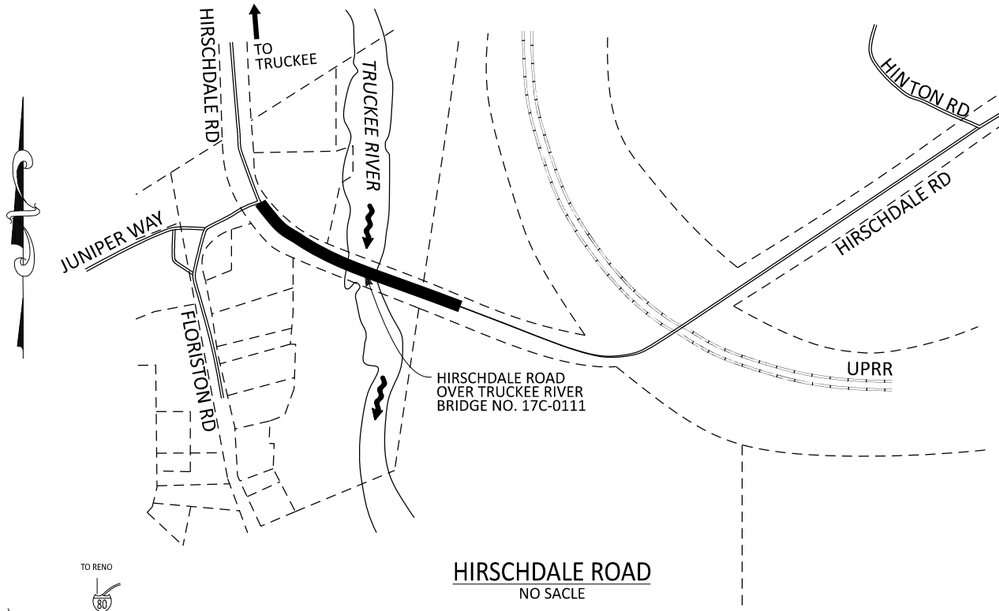
NTS

VICINITY MAP

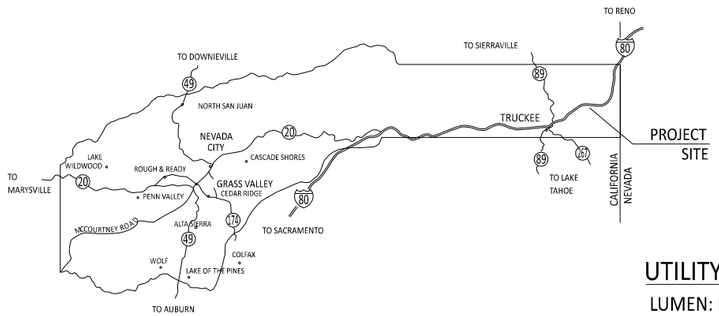
SHEET INDEX

SHEET NO	DESCRIPTION
1	COVER SHEET
2	TYPICAL SECTIONS
3	PROJECT CONTROL
4-5	LAYOUT PLAN
6-7	PROFILE AND SUPERELEVATION
8-9	CONSTRUCTION DETAILS
10-11	CONTOUR GRADING
12-13	UTILITY PLAN
14-15	DETOUR PLANS
16	QUANTITIES
17-18	REVEGETATION PLAN
19-20	EROSION CONTROL
21-52	STRUCTURE PLANS

FOR SURVEY CONTROL DATA, SEE PROJECT CONTROL SHEET



HIRSCHDALE ROAD
NO SACLE



INDEX MAP

0 5 10 20
Scale in miles

UTILITY CONTACTS

LUMEN: Marlo Shelton, Marlo.Shelton@lumen.com, 510-708-8210
Zayo: Monica Pino, monica.pino@zayo.com, 916-804-0573
AT&T: Lee Nieto, LN1985@att.com, 916-505-7308
AT&T Legacy/Shasta Consulting Group (AT&T Corp): Jake Carnes, jakecarnes@shastagroup.net, 530-643-6756

PLANS REVIEWED BY:

Patrick Perkins, R.C.E. 52684
Principal Engineer, Department of Public Works — Date

George Schureck
Interim Director, Department of Public Works — Date

Chairperson
Board of Supervisors — Date

Lee C. Nieto
AT&T — Date

Marlo shelton 6/25/2024
Marlo Shelton
LUMEN Technologies — Date

Monica Pino
ZAYO Group LLC — Date

6-25-24
Jake Carnes
AT&T Legacy/Shasta Consulting Group (AT&T Corp) — Date

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING
FOR
NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

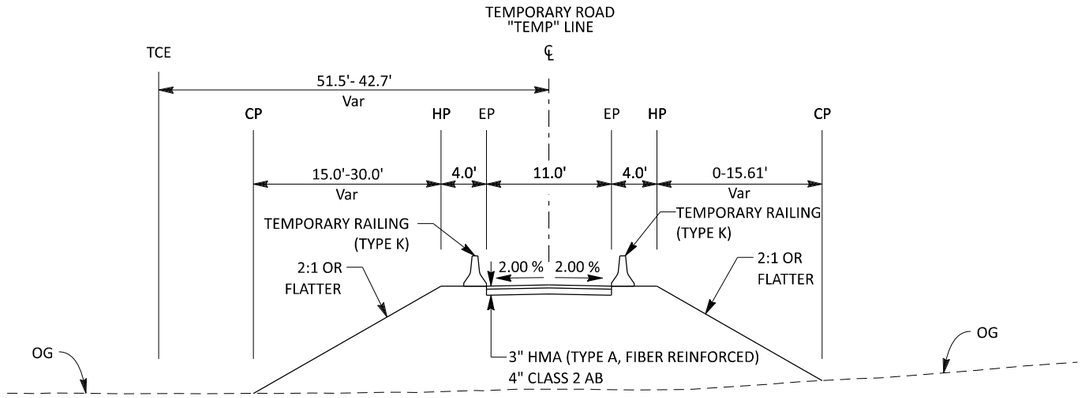
TRUCKEE RIVER BRIDGE
COVER SHEET

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET 1 OF 52 SHEETS

NOTE

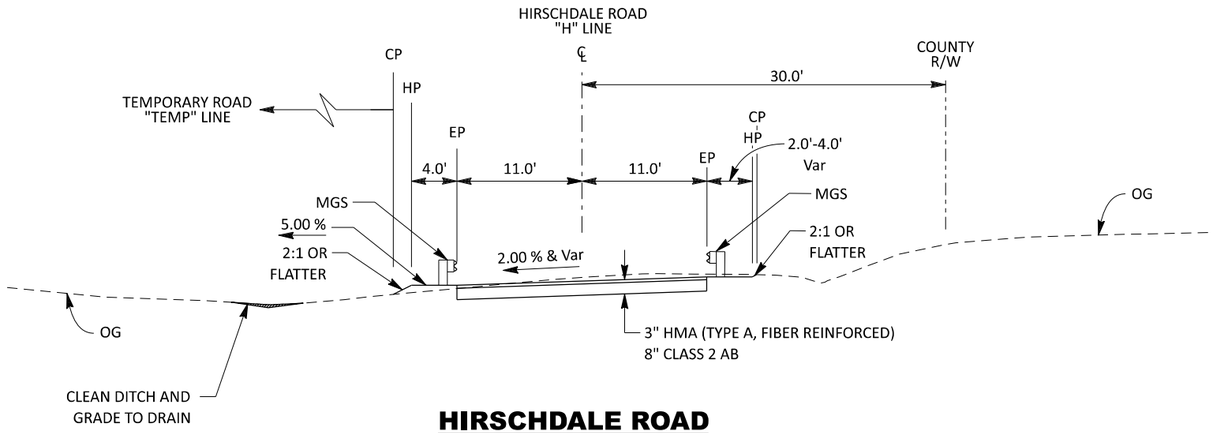
FOR BRIDGE TYPICAL SECTIONS, SEE STRUCTURE PLANS.



TEMPORARY ROAD

"TEMP" LINE 9+82.00 TO BB 10+57.00

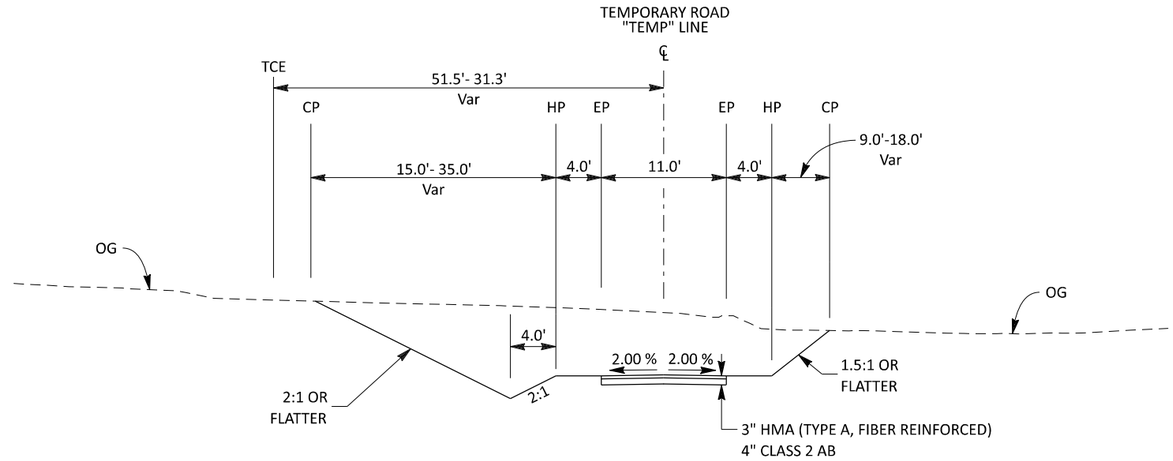
"TEMP" LINE EB 13+32.00 TO 15+20.31



HIRSCHDALE ROAD

"H" LINE EB STA 102+83.92 TO 103+13.92

"H" LINE STA 99+76.08 TO BB 100+06.08



TEMPORARY ROAD

"TEMP" LINE STA 8+80.00 TO 9+82.00

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

NEVADA COUNTY

DEPARTMENT OF PUBLIC WORKS

DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

TYPICAL SECTIONS

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET

2

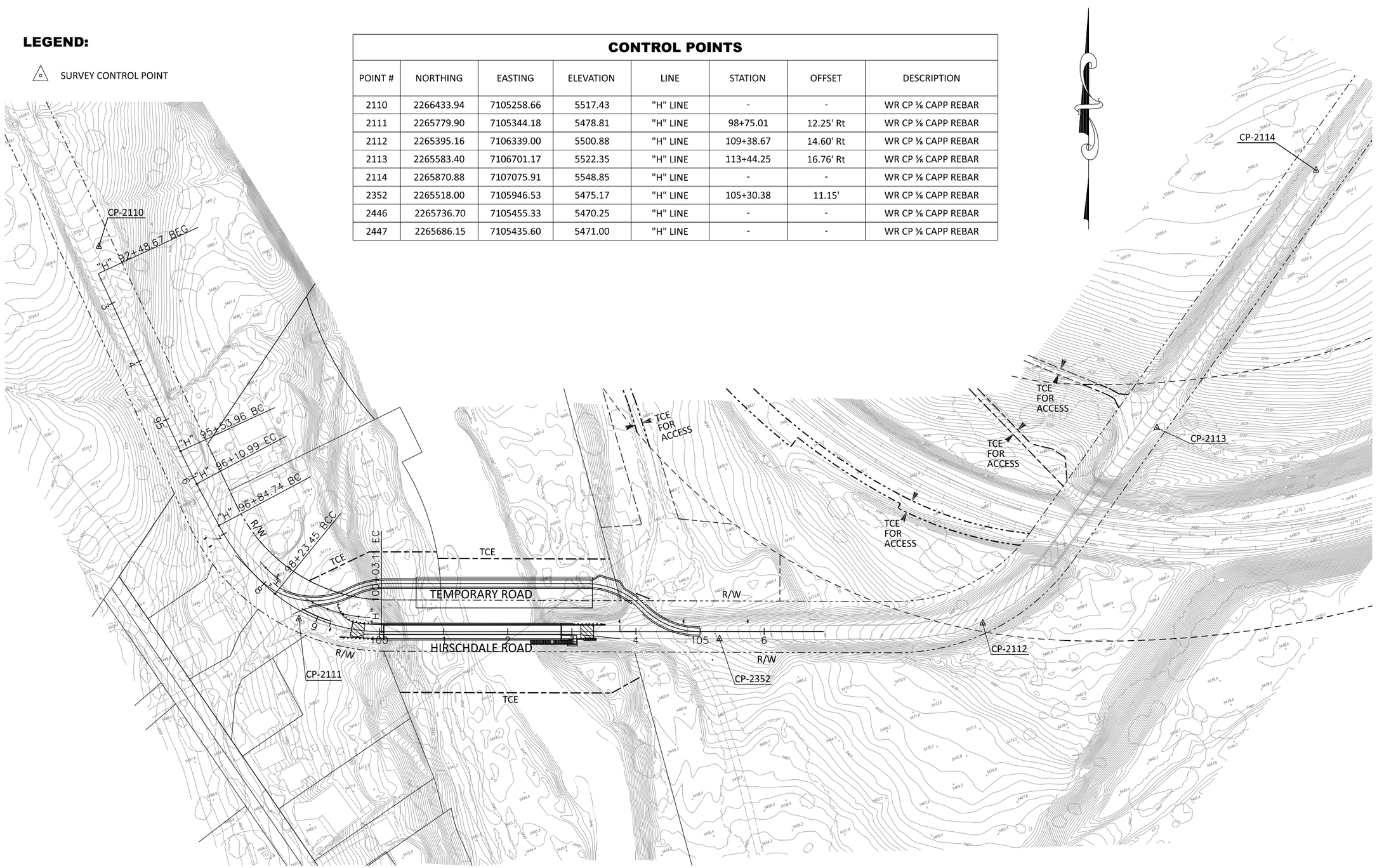
OF 52 SHEETS

LEGEND:

△ SURVEY CONTROL POINT

CONTROL POINTS

POINT #	NORTHING	EASTING	ELEVATION	LINE	STATION	OFFSET	DESCRIPTION
2110	2266433.94	7105258.66	5517.43	"H" LINE	-	-	WR CP ⅝ CAPP REBAR
2111	2265779.90	7105344.18	5478.81	"H" LINE	98+75.01	12.25' Rt	WR CP ⅝ CAPP REBAR
2112	2265395.16	7106339.00	5500.88	"H" LINE	109+38.67	14.60' Rt	WR CP ⅝ CAPP REBAR
2113	2265583.40	7106701.17	5522.35	"H" LINE	113+44.25	16.76' Rt	WR CP ⅝ CAPP REBAR
2114	2265870.88	7107075.91	5548.85	"H" LINE	-	-	WR CP ⅝ CAPP REBAR
2352	2265518.00	7105946.53	5475.17	"H" LINE	105+30.38	11.15'	WR CP ⅝ CAPP REBAR
2446	2265736.70	7105455.33	5470.25	"H" LINE	-	-	WR CP ⅝ CAPP REBAR
2447	2265686.15	7105435.60	5471.00	"H" LINE	-	-	WR CP ⅝ CAPP REBAR



PLAN

NO SCALE

BASIS OF BEARING AND DATUM

HORIZONTAL DATUM: CALIFORNIA STATE PLANE COORDINATE SYSTEM ZONE 2 BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83)

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)

NOTES:

FOR LIMITS OF TCE'S SEE APPENDIX OF SPECIAL PROVISIONS.

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

NEVADA COUNTY

DEPARTMENT OF PUBLIC WORKS

DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

PROJECT CONTROL

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET 3 OF 52 SHEETS

CALL BEFORE YOU DIG

THE CONTRACTOR SHALL CALL "UNDERGROUND SERVICE ALERT" (USA) AT 800-227-2600 AT LEAST 2 WORKING DAYS PRIOR TO PERFORMING ANY EXCAVATION

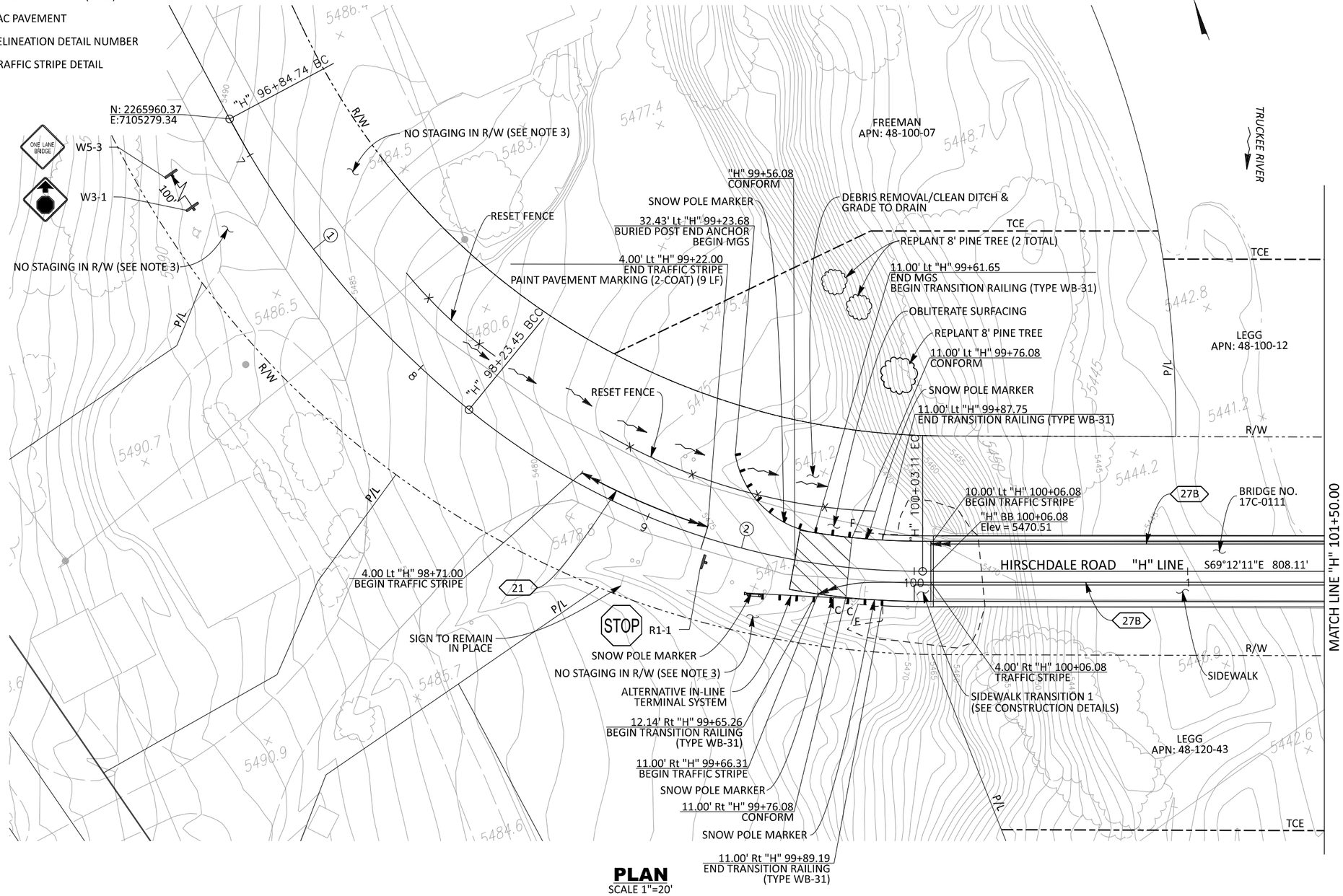
LEGEND

- FILL/ CUT, LIMITS OF GRADING
- MIDWEST GUARDRAIL SYSTEM (MGS)
- COLD PLANE AC PAVEMENT
- No. PAVEMENT DELINEATION DETAIL NUMBER
- BEGIN/END TRAFFIC STRIPE DETAIL

NOTES:

1. FOR CONFORM DETAIL SEE CONSTRUCTION DETAIL SHEET C-1
2. FOR TRAFFIC SIGN METAL POST CONSTRUCTION DETAIL, SEE FEDERAL PROJECT NO. BRLO-5917 (097).
3. THE COUNTY RIGHT OF WAY MAY NOT BE USED FOR STAGING OR EMPLOYEE PARKING FROM THE BRIDGE TO 700 FT NORTHWESTERLY ON HIRSCHDALE ROAD.
4. SIGN PLACEMENT IS APPROXIMATE. EXACT LOCATIONS TO BE APPROVED BY ENGINEER.

CURVE DATA				
No	RADIUS (FT)	DELTA	TANGENT (FT)	LENGTH (FT)
1	350.00	22°42'27"	70.28'	138.71'
2	262.59	39°11'59"	93.50'	179.65'



PLAN
SCALE 1"=20'

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

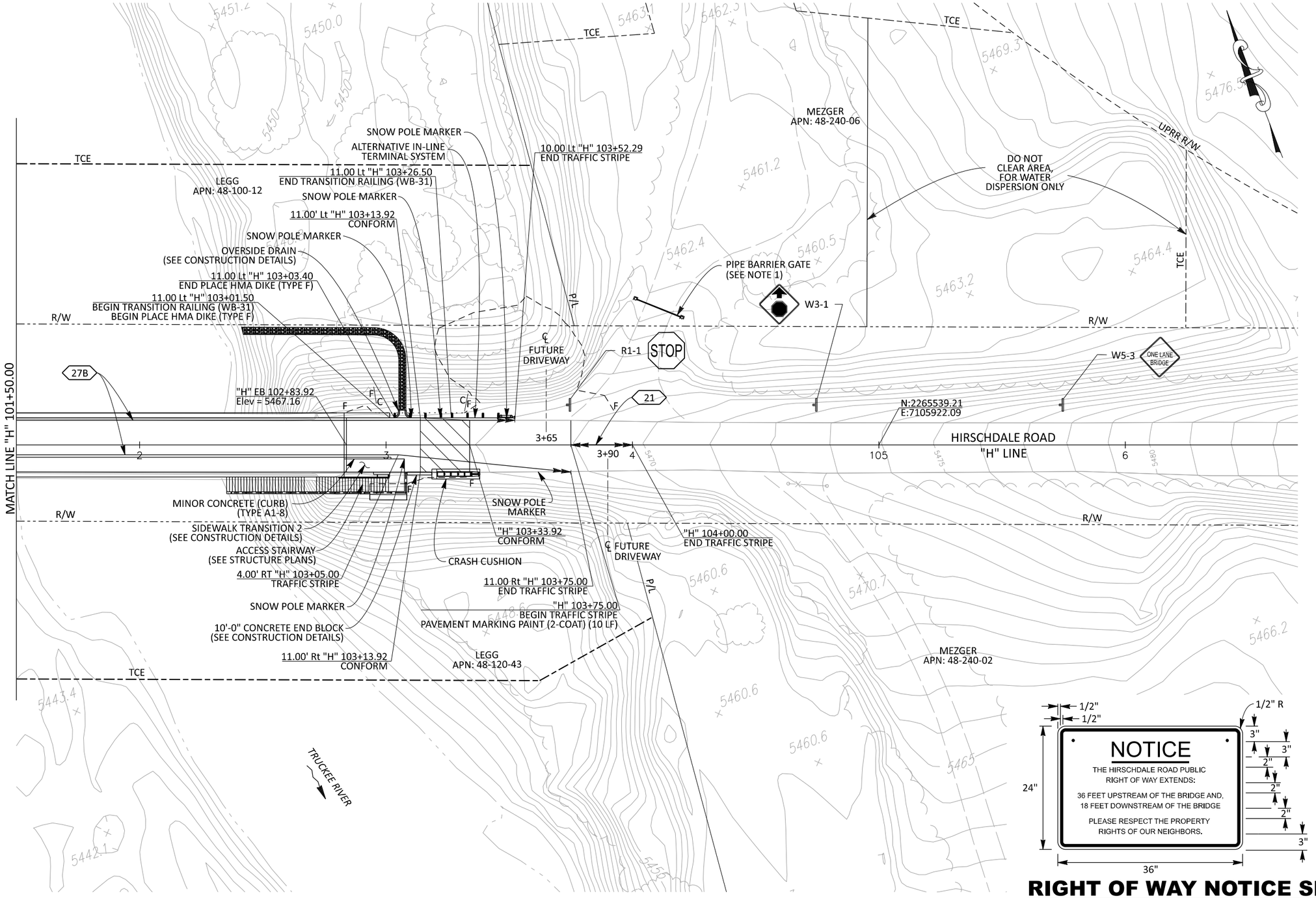
NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

LAYOUT PLAN NO. 1

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET 4 OF 52 SHEETS



PLAN
SCALE 1"=20'

NOTES:

1. FOR PIPE BARRIER GATE CONSTRUCTION DETAIL, SEE FEDERAL PROJECT NO. BRLO-5917 (097).
2. SIGN PLACEMENT IS APPROXIMATE. EXACT LOCATIONS TO BE APPROVED BY ENGINEER.

RIGHT OF WAY NOTICE SIGN

1. RIGHT OF WAY NOTICE SIGN TO BE BOLTED TO THE ABUTMENT NEAR THE BOTTOM OF THE STAIRS. EXACT LOCATION OF THE SIGN TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. BROWN BACKGROUND WITH WHITE LEGEND.
3. TEXT SIZE AND SPACING IS 1" UNLESS NOTED OTHERWISE.

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

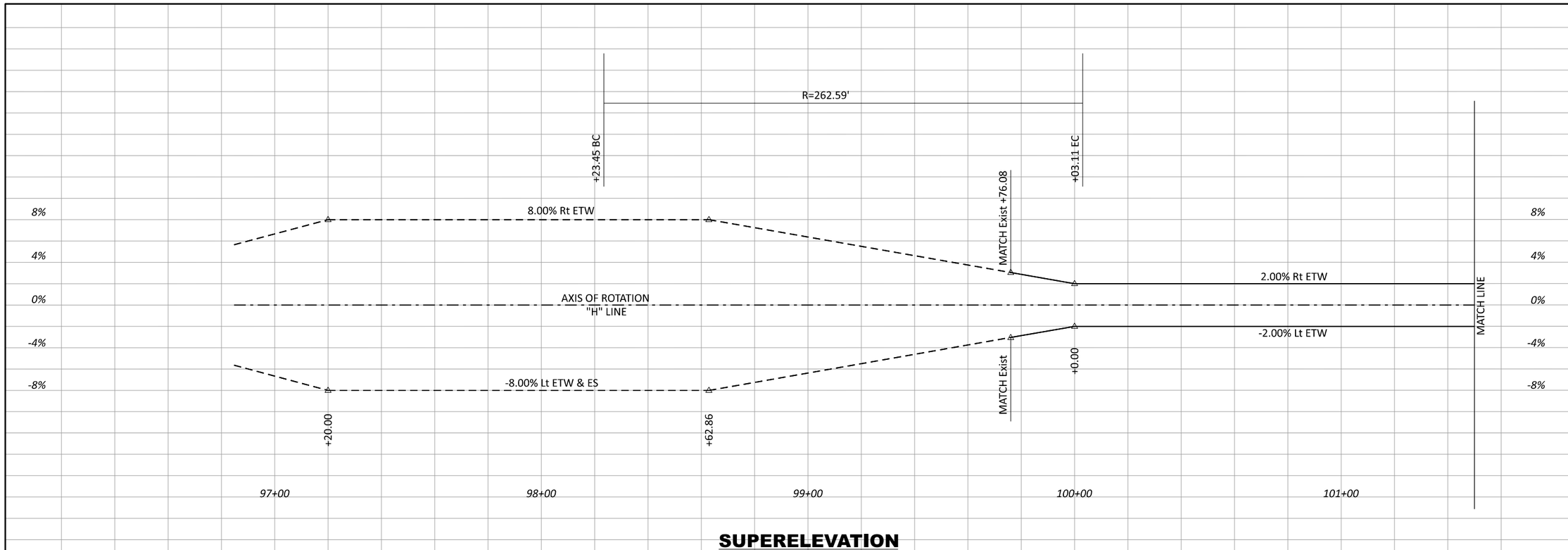
NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

LAYOUT PLAN NO. 2

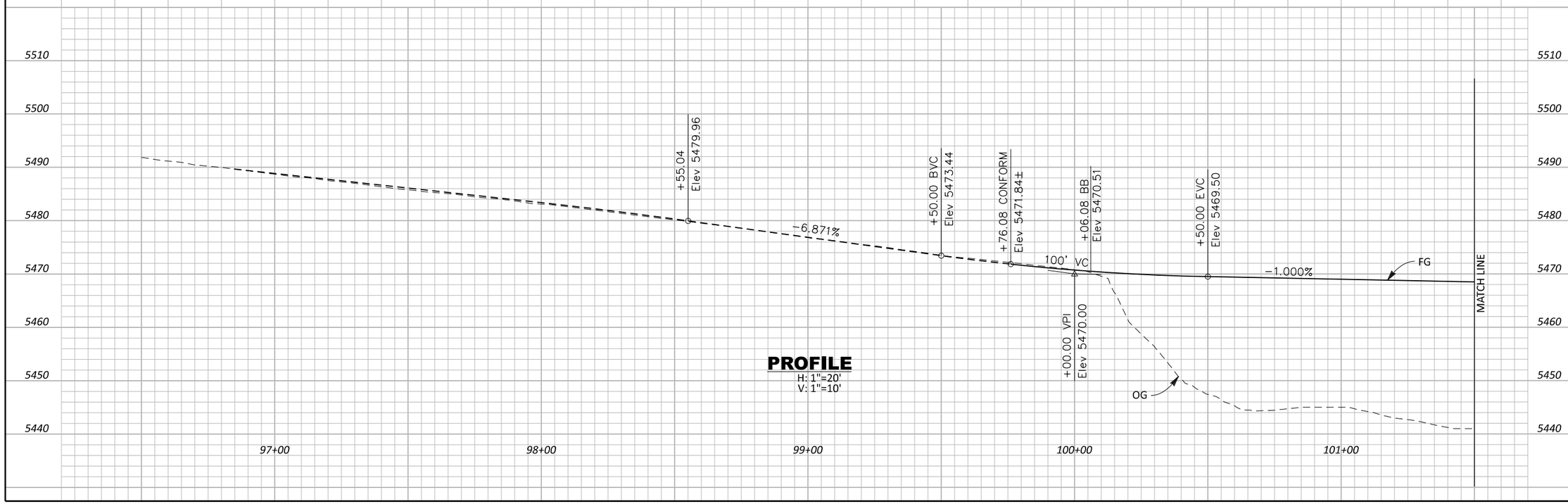
BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET 5 OF 52 SHEETS



SUPERELEVATION

SCALE 1"=20'



PROFILE

H: 1"=20'
V: 1"=10'

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

NEVADA COUNTY

DEPARTMENT OF PUBLIC WORKS

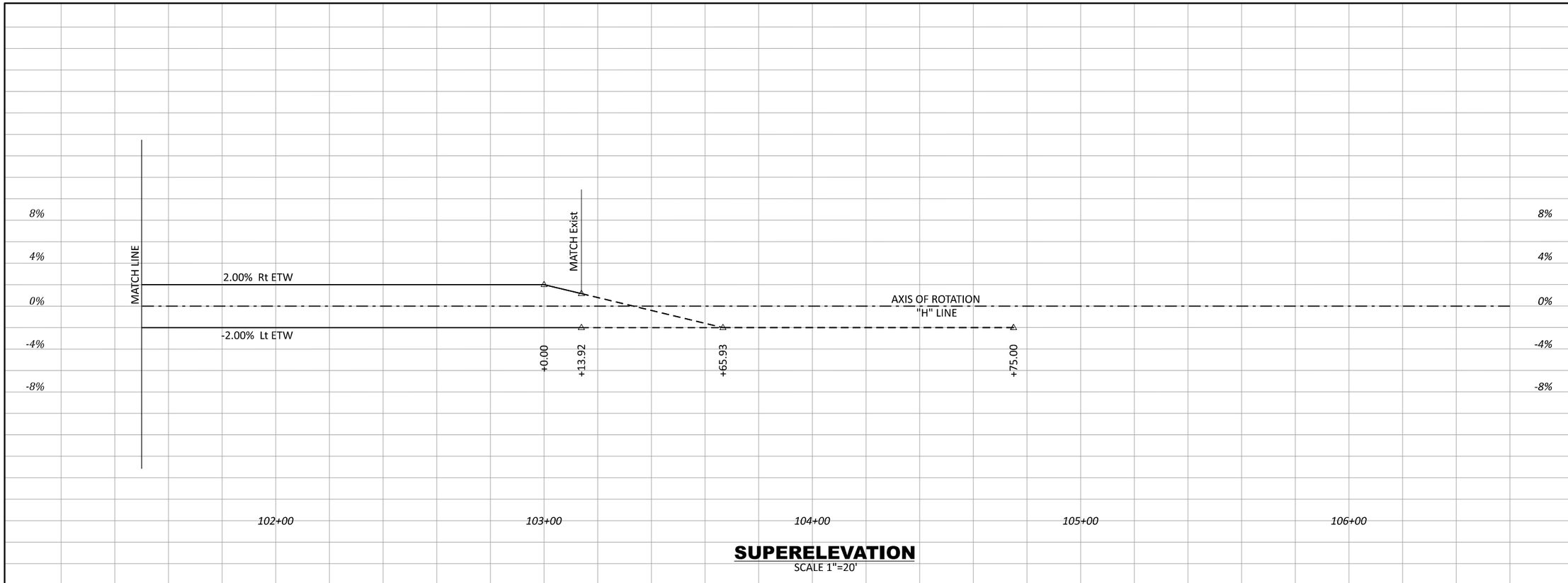
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

PROFILE AND SUPERELEVATION NO.1

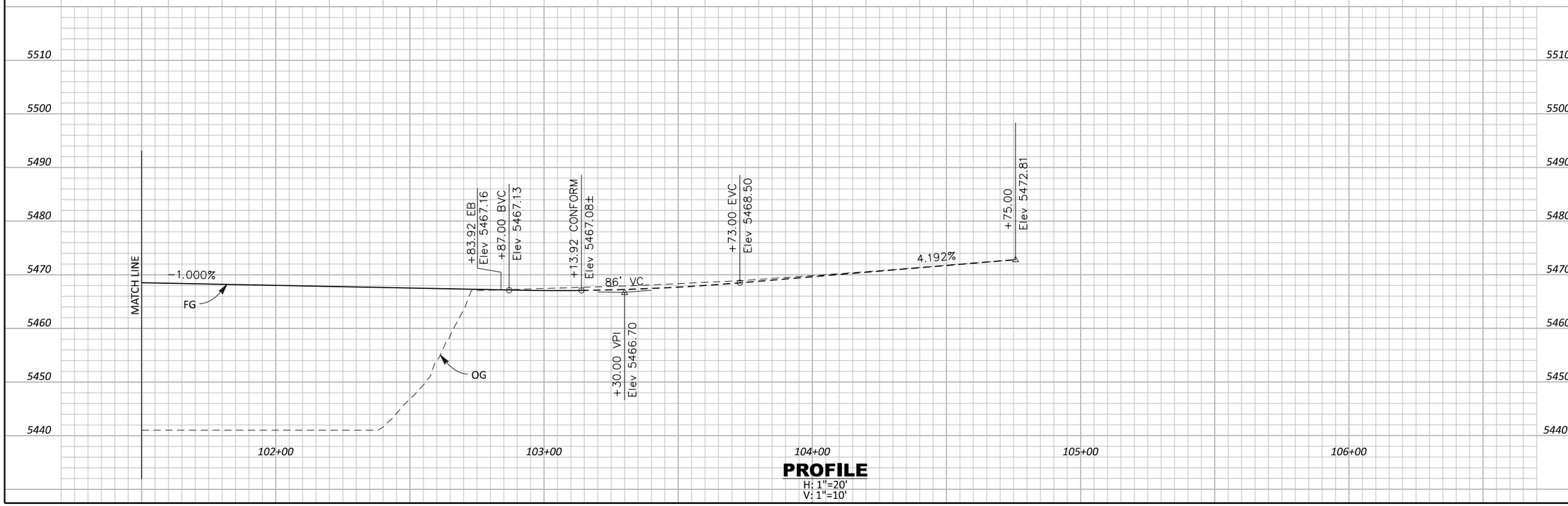
BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET 6 OF 52 SHEETS



SUPERELEVATION

SCALE 1"=20'



PROFILE

H: 1"=20'
V: 1"=10'

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

NEVADA COUNTY

DEPARTMENT OF PUBLIC WORKS

DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

PROFILE AND SUPERELEVATION NO. 2

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
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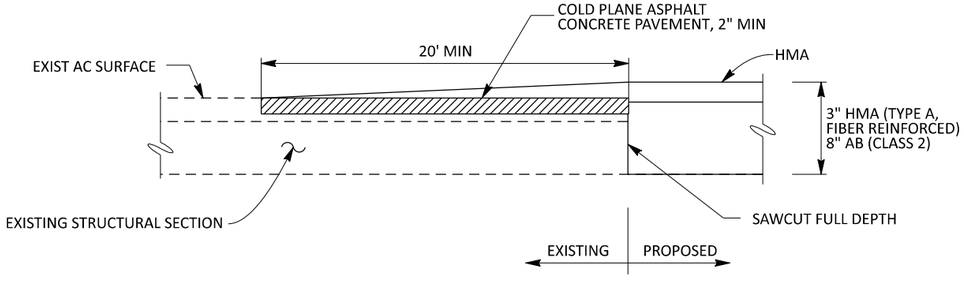
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

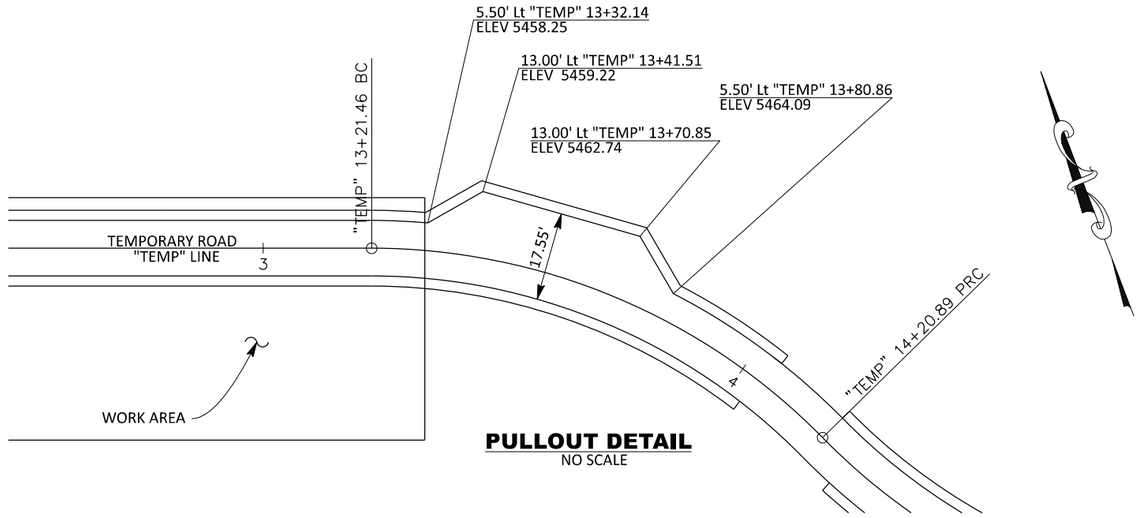
SHEET

7

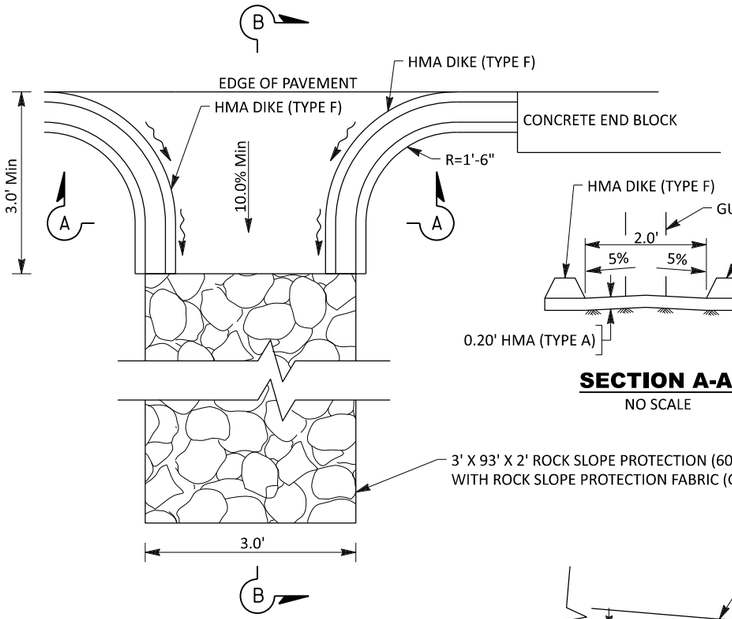
OF 52 SHEETS



CONFORM DETAIL
NO SCALE



PULLOUT DETAIL
NO SCALE



OVERSIDE DRAIN DETAIL
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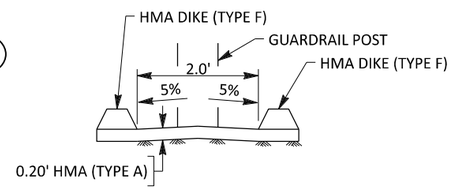
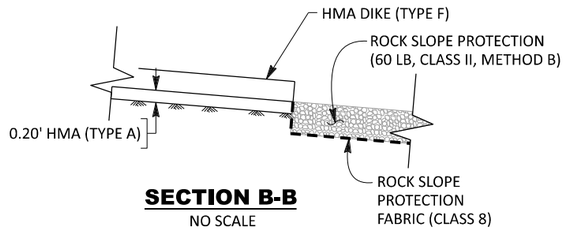


SECTION A-A
NO SCALE



SECTION B-B
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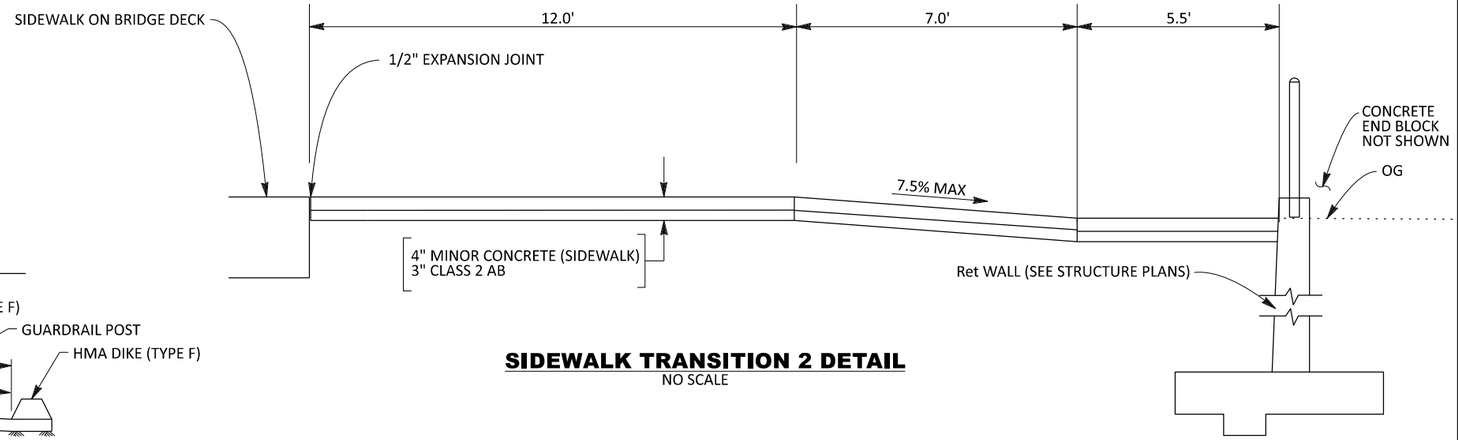
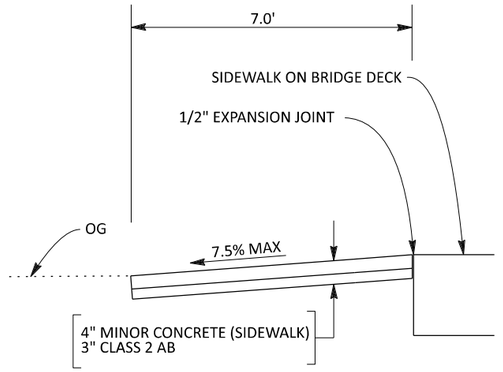


SIDEWALK TRANSITION 2 DETAIL
NO SCALE



SIDEWALK TRANSITION 1 DETAIL
NO SCALE

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

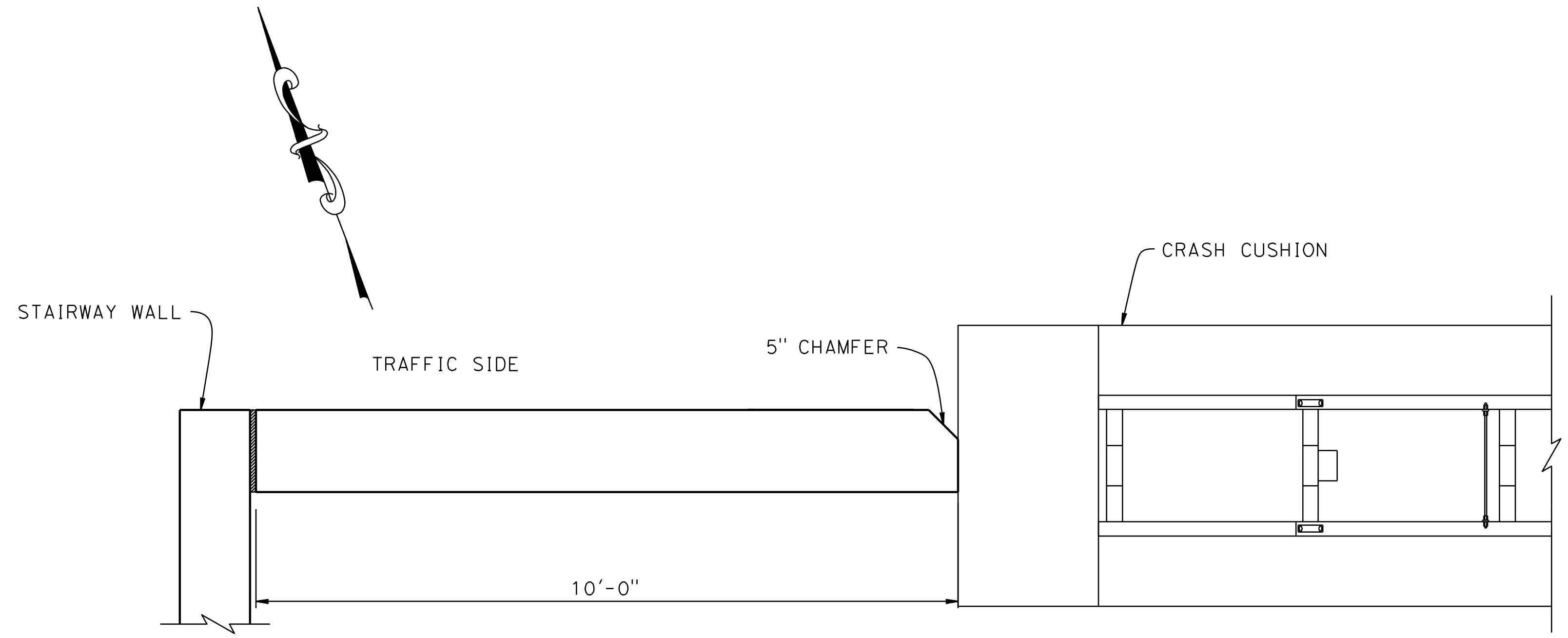
FOR
NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER
BRIDGE

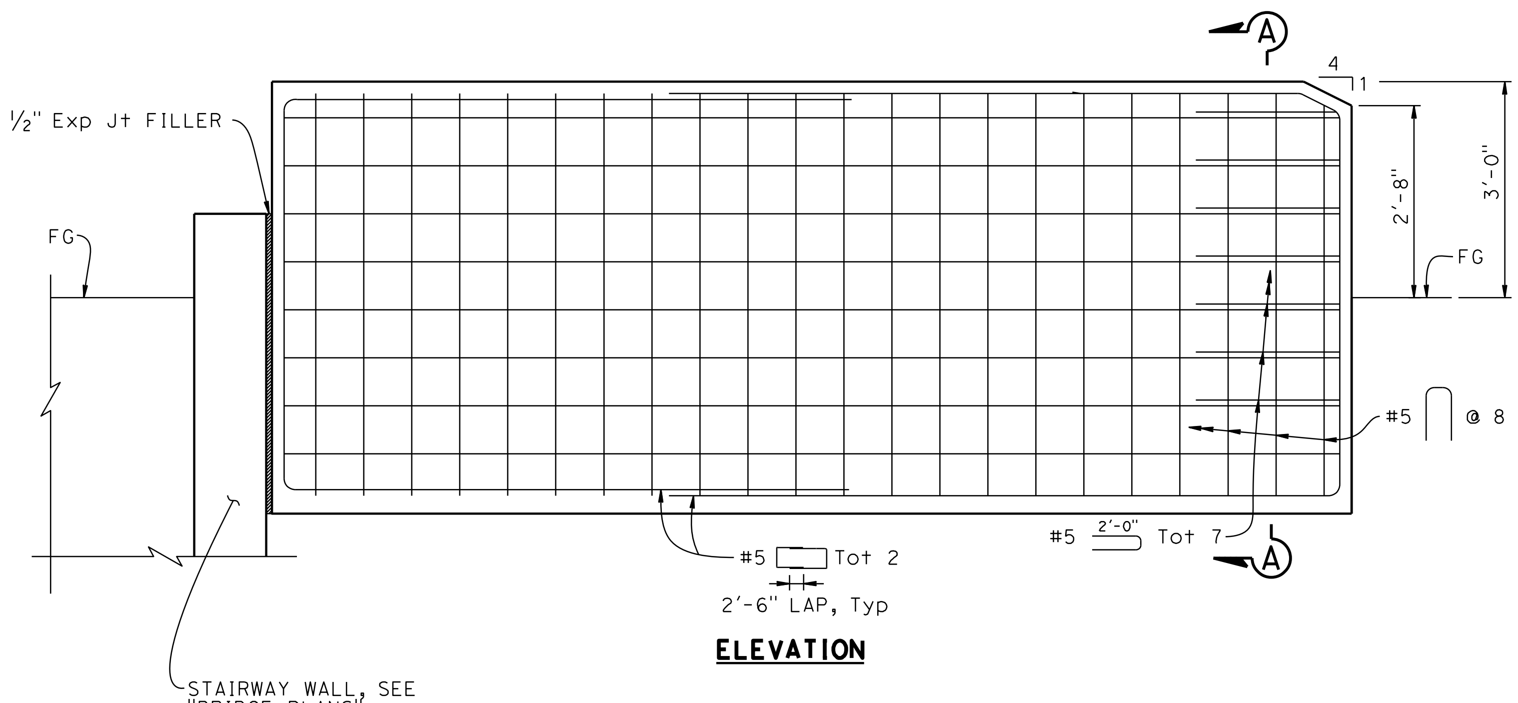
CONSTRUCTION DETAILS No. 1

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET
8
OF 52 SHEETS



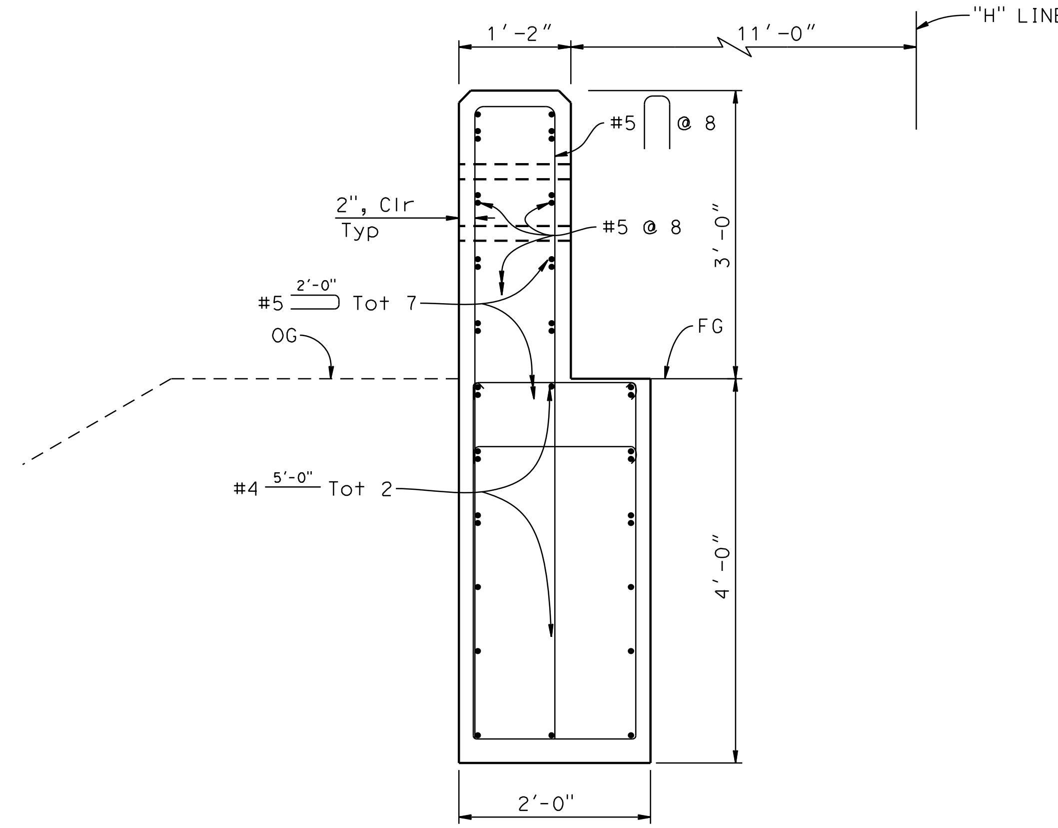
PLAN



ELEVATION

CONCRETE END BLOCK

NO SCALE



SECTION A-A

NO SCALE

REVISIONS			
NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING FOR

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

CONSTRUCTION DETAILS No. 2

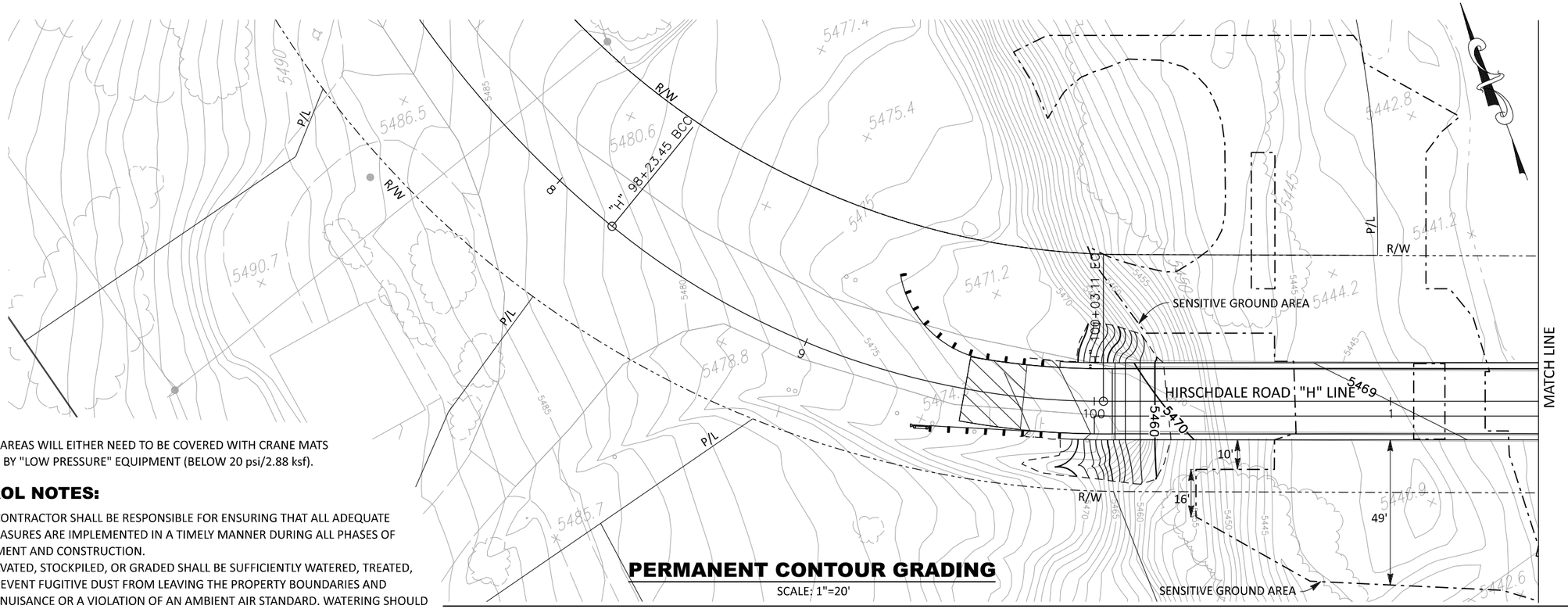
BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

NOTES:

1. SENSITIVE GROUND AREAS WILL EITHER NEED TO BE COVERED WITH CRANE MATS OR ONLY ACCESSED BY "LOW PRESSURE" EQUIPMENT (BELOW 20 psi/2.88 ksf).

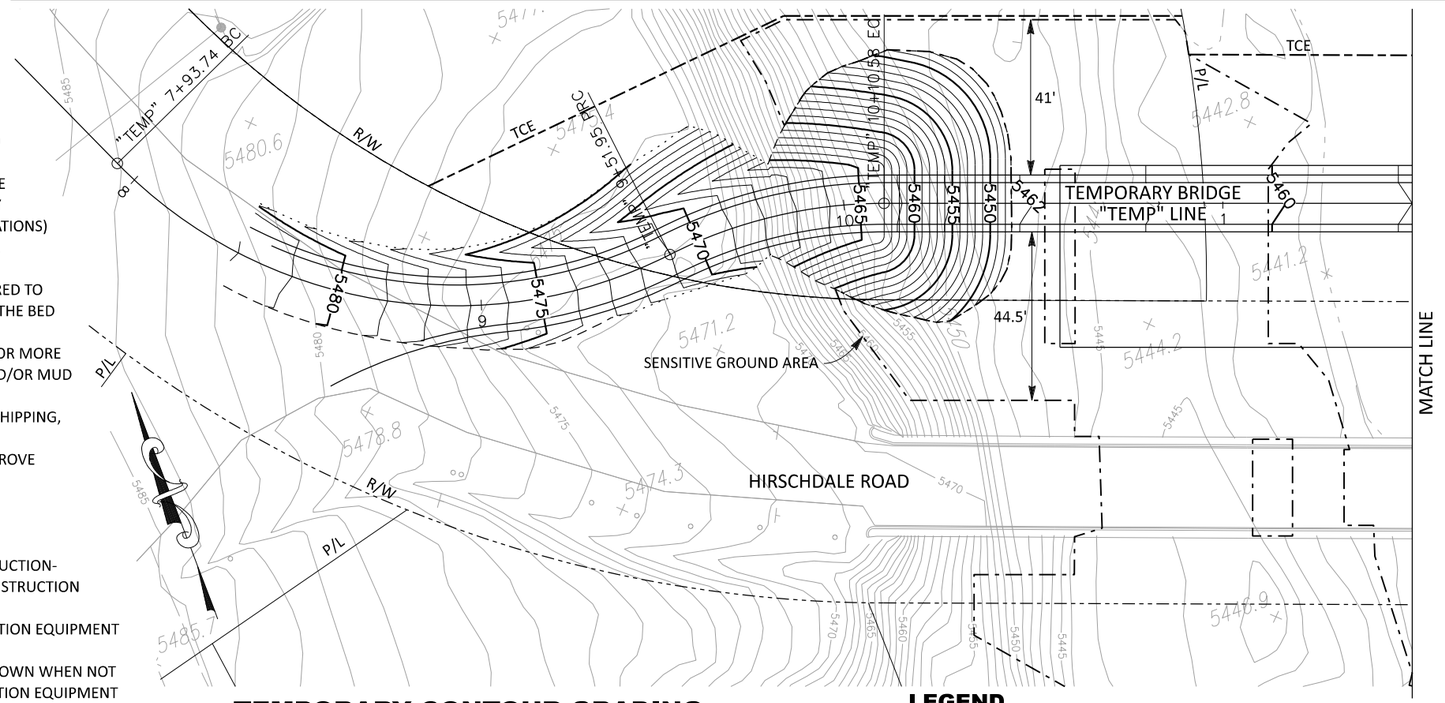
DUST CONTROL NOTES:

1. THE COUNTY AND CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL ADEQUATE DUST CONTROL MEASURES ARE IMPLEMENTED IN A TIMELY MANNER DURING ALL PHASES OF PROJECT DEVELOPMENT AND CONSTRUCTION.
2. ALL MATERIAL EXCAVATED, STOCKPILED, OR GRADED SHALL BE SUFFICIENTLY WATERED, TREATED, OR COVERED TO PREVENT FUGITIVE DUST FROM LEAVING THE PROPERTY BOUNDARIES AND CAUSING A PUBLIC NUISANCE OR A VIOLATION OF AN AMBIENT AIR STANDARD. WATERING SHOULD OCCUR AT LEAST TWICE DAILY, WITH COMPLETE SITE COVERAGE.
3. ALL UNPAVED AREAS WITH VEHICLE TRAFFIC SHALL BE WATERED OR HAVE DUST PALLIATIVE APPLIED AS NECESSARY FOR REGULAR STABILIZATION OF DUST EMISSIONS.
4. ALL ON-SITE VEHICLE TRAFFIC SHALL BE LIMITED TO A SPEED OF 15 MILES PER HOUR (MPH) ON UNPAVED ROADS.
5. ALL LAND CLEARING, GRADING, EARTH MOVING, OR EXCAVATION ACTIVITIES ON A PROJECT SHALL BE SUSPENDED AS NECESSARY TO PREVENT EXCESSIVE WINDBLOWN DUST WHEN WINDS ARE EXPECTED TO EXCEED 20 MPH
6. ALL INACTIVE PORTIONS OF THE PROJECT SITE SHALL BE COVERED, SEEDED WITH A STERILE OR NATIVE SEED MIX, OR WATERED UNTIL A SUITABLE COVER IS ESTABLISHED. ALTERNATIVELY, THE COUNTY MAY APPLY COUNTY-APPROVED NON-TOXIC SOIL STABILIZERS (ACCORDING TO MANUFACTURE'S SPECIFICATIONS) TO ALL INACTIVE CONSTRUCTION AREAS (PREVIOUSLY GRADED AREAS WHICH REMAIN INACTIVE FOR 96 HOURS) IN ACCORDANCE WITH THE LOCAL GRADING ORDINANCE.
7. ALL MATERIAL TRANSPORTED OFF-SITE SHALL BE EITHER SUFFICIENTLY WATERED OR SECURELY COVERED TO PREVENT PUBLIC NUISANCE, AND THERE MUST BE A MINIMUM OF SIX (6) INCHES OF FREEBOARD IN THE BED OF THE TRANSPORT VEHICLE.
8. PAVED STREETS ADJACENT TO THE PROJECT SHALL BE SWEPT OR WASHED AT THE END OF EACH DAY, OR MORE FREQUENTLY IF NECESSARY, TO REMOVE EXCESSIVE OR VISIBLY RAISED ACCUMULATIONS OF DIRT AND/OR MUD WHICH MAY HAVE RESULTED FROM ACTIVITIES AT THE PROJECT SITE.
9. OPEN BURNING OF VEGETATIVE MATERIAL SHALL BE PROHIBITED. SUITABLE ALTERNATIVES INCLUDE CHIPPING, MULCHING, OR CONVERSION TO BIOMASS FUEL.
10. TEMPORARY TRAFFIC CONTROL SHALL BE PROVIDED DURING ALL PHASES OF CONSTRUCTION TO IMPROVE TRAFFIC FLOW, AS DEEMED APPROPRIATE BY THE COUNTY TO IMPROVE TRAFFIC FLOW.
11. THE CONSTRUCTION CONTRACTOR SHALL DIRECT ANY GENERATOR OR COMPRESSOR EXHAUST IN A DIRECTION AWAY FROM RESIDENCES AND RESIDENTIAL OUTDOOR USE AREAS.
12. THE CONSTRUCTION CONTRACTOR SHALL MEET THE NORTHERN SIERRA AIR QUALITY MANAGEMENT DISTRICT AND CALIFORNIA AIR RESOURCES BOARD REQUIREMENTS FOR THE REDUCTION OF CONSTRUCTION-RELATED EMISSIONS BY ENSURING THAT THE FOLLOWING IS DONE EITHER PRIOR TO OR DURING CONSTRUCTION OF THE PROJECT.
    i. THE CONSTRUCTION CONTRACTOR SHALL PROPERLY AND ROUTINELY MAINTAIN ALL CONSTRUCTION EQUIPMENT AS RECOMMENDED BY THE MANUFACTURERS' MANUALS, TO CONTROL EXHAUST EMISSIONS;
    ii. THE CONSTRUCTION CONTRACTOR SHALL ENSURE THAT CONSTRUCTION EQUIPMENT IS SHUT DOWN WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME TO REDUCE EMISSIONS ASSOCIATED WITH CONSTRUCTION EQUIPMENT IDLING; AND,
    iii. THE CONSTRUCTION CONTRACTOR SHALL LIMIT THE HOURS OF OPERATION OF HEAVY DUTY EQUIPMENT AND/OR THE AMOUNT OF EQUIPMENT IN USE SIMULTANEOUSLY.



PERMANENT CONTOUR GRADING

SCALE: 1"=20'



TEMPORARY CONTOUR GRADING

SCALE: 1"=20'

LEGEND

- SENSITIVE GROUND AREA
- MINOR CONTOUR
- MAJOR CONTOUR

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

NEVADA COUNTY

DEPARTMENT OF PUBLIC WORKS

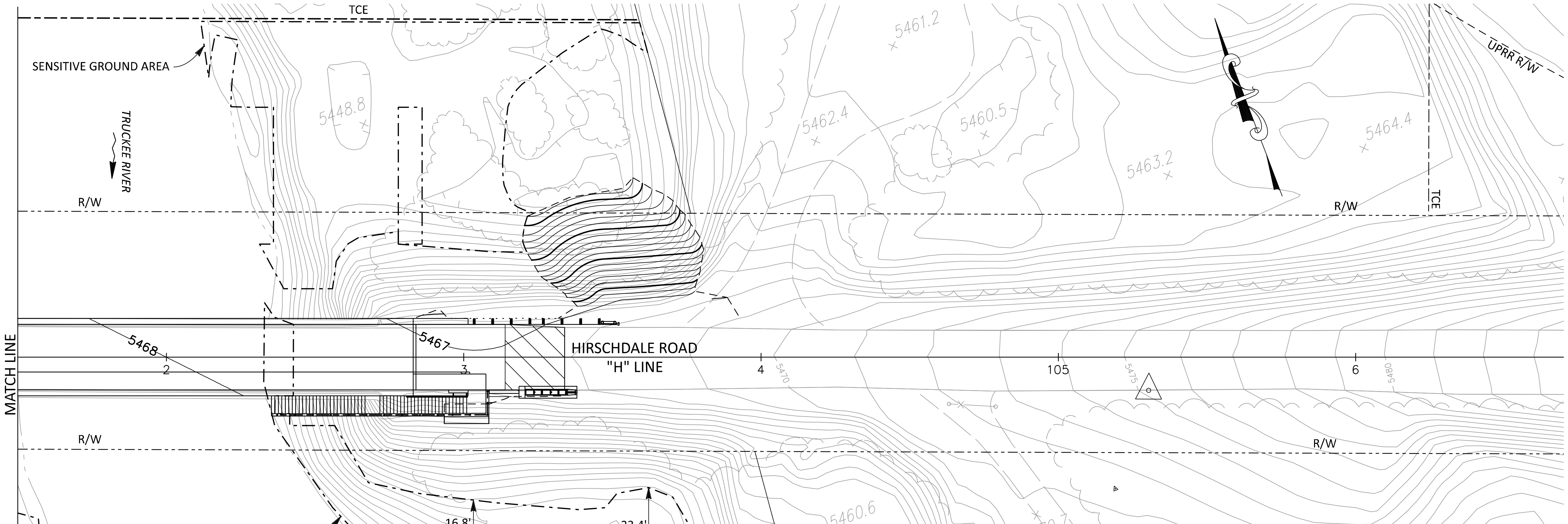
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

CONTOUR GRADING NO.1

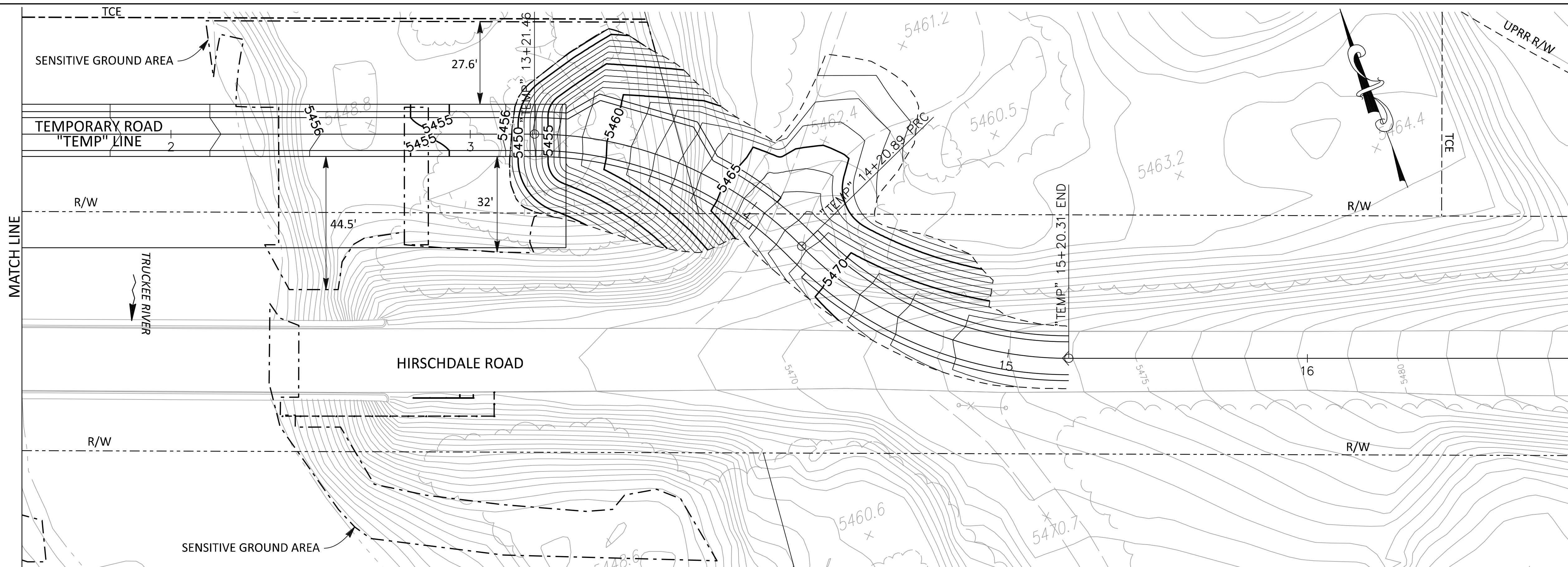
BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET 10 OF 52 SHEETS



PERMANENT CONTOUR GRADING

SCALE: 1"=20'



TEMPORARY CONTOUR GRADING

SCALE: 1"=20'

NOTES:

1. SENSITIVE GROUND LOCATIONS WILL EITHER NEED TO BE COVERED WITH CRANE MATS OR ONLY ACCESSED BY "LOW PRESSURE" EQUIPMENT (BELOW 20 psi/2.88 ksf).

LEGEND

— · — · —	SENSITIVE GROUND AREA
——— (thin)	MINOR CONTOUR
——— (thick)	MAJOR CONTOUR

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
CONTOUR GRADING NO.2

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR MUST CONTACT UNDERGROUND SERVICE ALERT (1-800-227-2600) TWO WORKING DAYS PRIOR TO WORK COMMENCEMENT.
2. UTILITY OWNERSHIP:

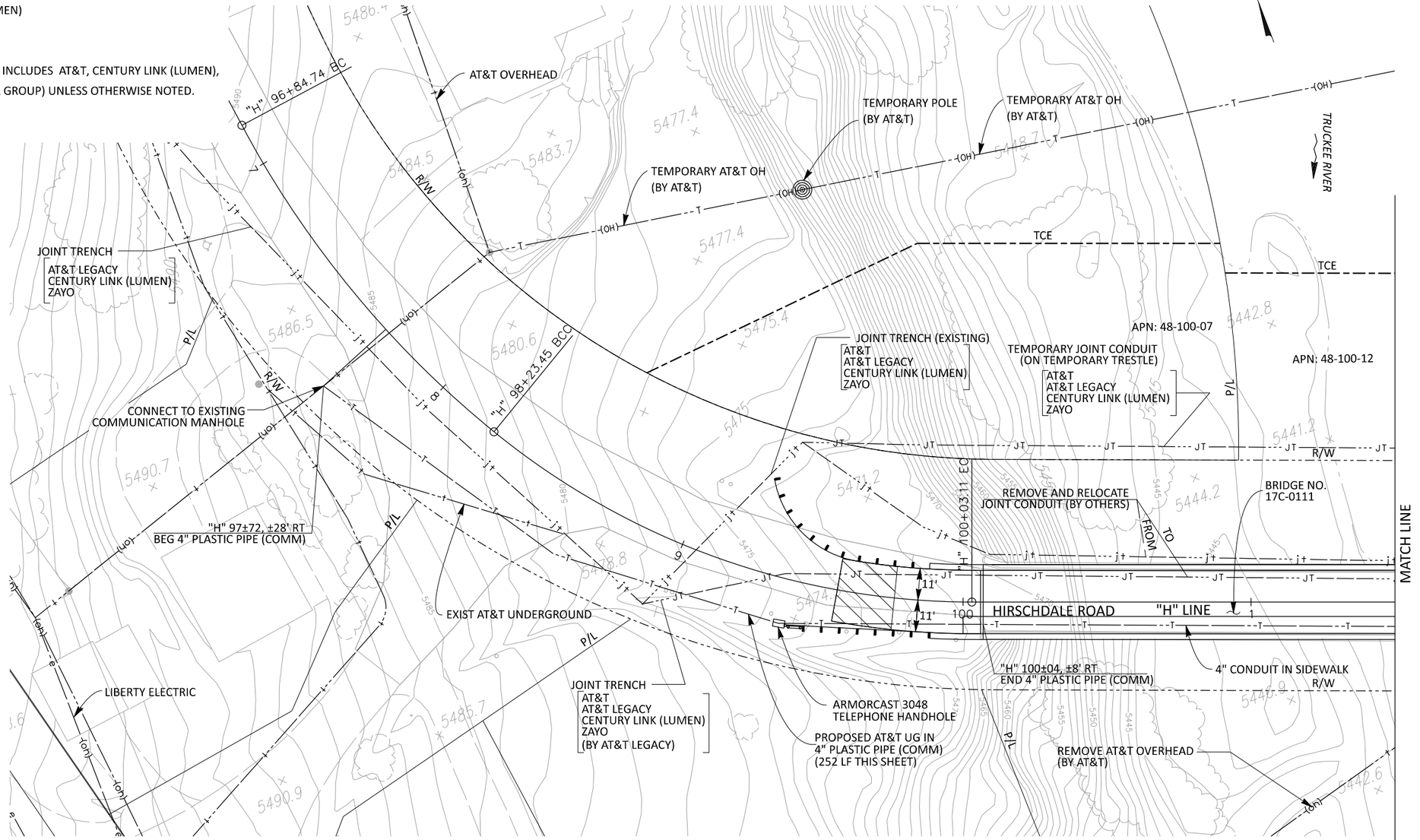
ELECTRICAL - LIBERTY
FIBER OPTIC - AT&T
FIBER OPTIC - AT&T LEGACY (SHASTA GROUP)
FIBER OPTIC - CENTURY LINK (LUMEN)
FIBER OPTIC - ZAYO

3. EXISTING JOINT UNDERGOUND INCLUDES AT&T, CENTURY LINK (LUMEN), ZAYO, AND AT&T LEGACY (SHASTA GROUP) UNLESS OTHERWISE NOTED.

CALL BEFORE YOU DIG
THE CONTRACTOR SHALL CALL "UNDERGROUND SERVICE ALERT" (USA) AT 800-227-2600 AT LEAST 2 WORKING DAYS PRIOR TO PERFORMING ANY EXCAVATION

LEGEND

- JOINT UNDERGROUND (EXISTING)
- JOINT UNDERGROUND (PROPOSED)
- LIBERTY ELECTRIC OVERHEAD
- AT&T UNDERGROUND
- AT&T OVERHEAD
- AT&T OVERHEAD (PROPOSED)



PLAN
SCALE 1"=20'

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

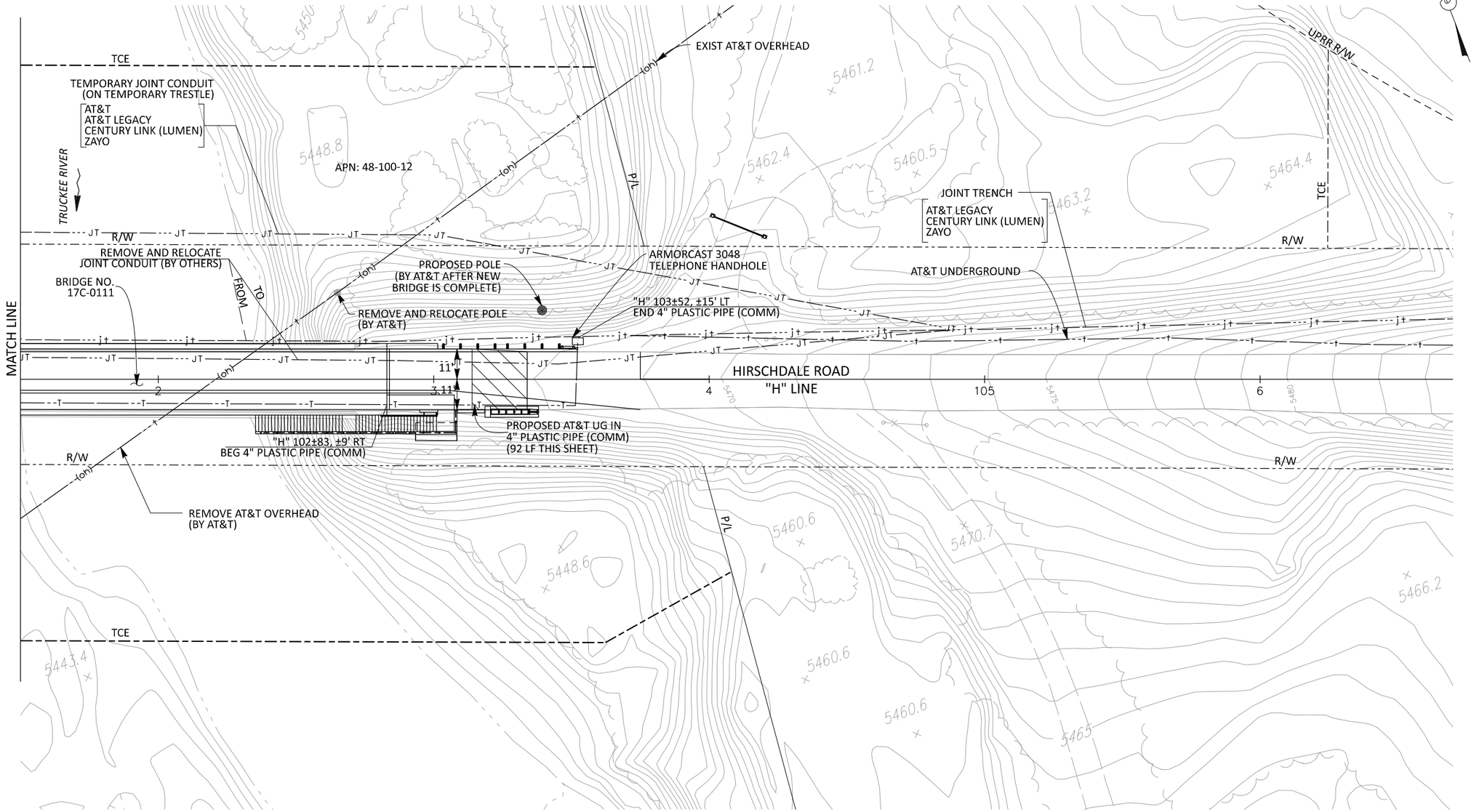
FOR
NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

UTILITY PLAN No.1

BRIDGE No.	17C-0111
DESIGNED:	J. BARAJAS
DRAWN:	J. BARAJAS
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET
12
OF 52 SHEETS



PLAN
SCALE 1"=20'

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER
BRIDGE

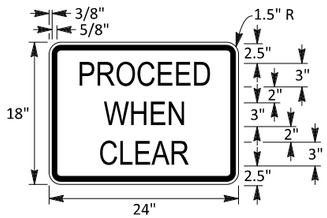
UTILITY PLAN No.2

BRIDGE No.	17C-0111
DESIGNED:	J. BARAJAS
DRAWN:	J. BARAJAS
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET
13
OF 52 SHEETS

NOTES:

SIGN PLACEMENT IS APPROXIMATE. VERIFY THAT ALL TEMPORARY SIGNS ARE VISIBLE TO THE TRAVELING PUBLIC AT ALL TIMES. EXACT LOCATIONS TO BE APPROVED BY ENGINEER.

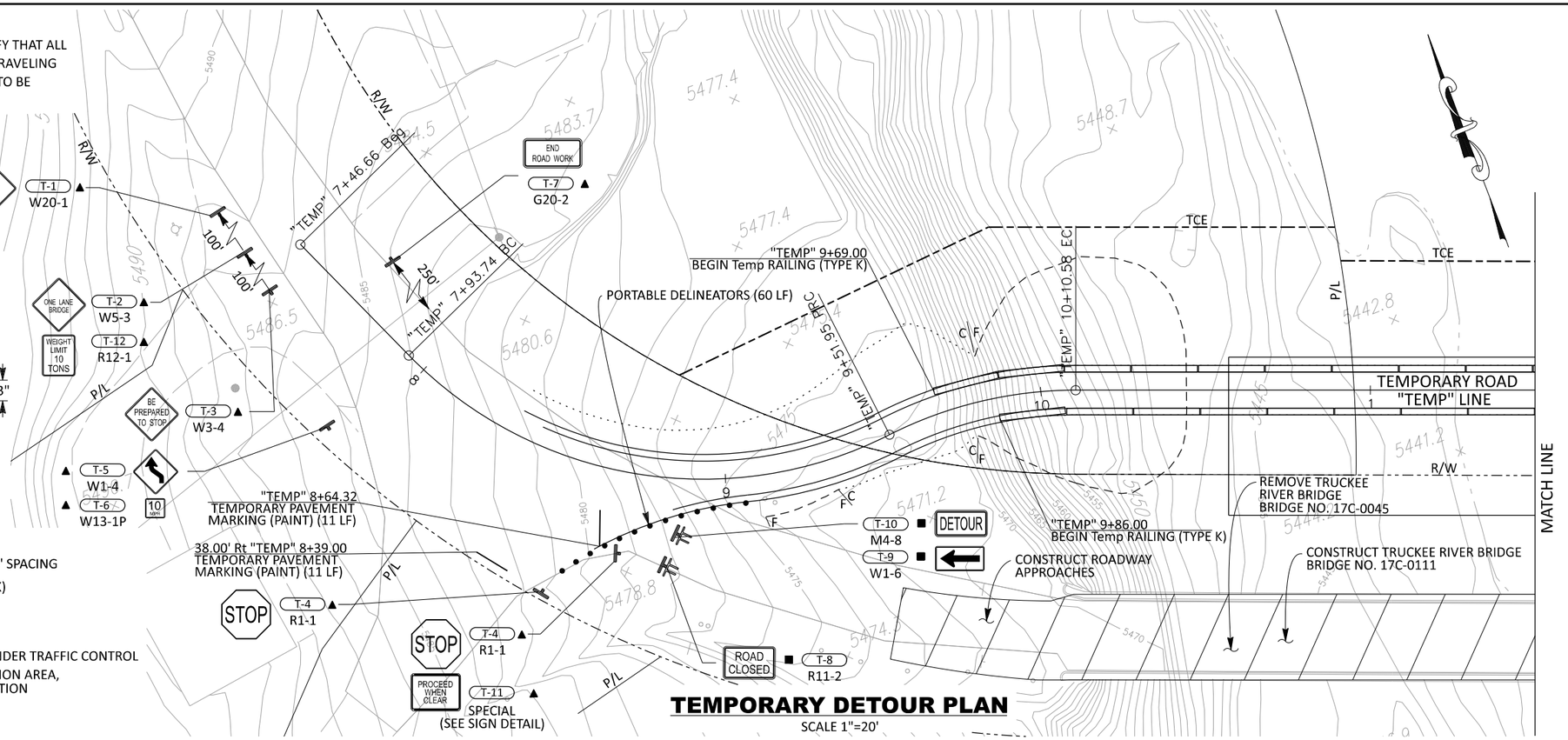


* WHITE BACKGROUND WITH BLACK LEGEND

SIGN DETAIL

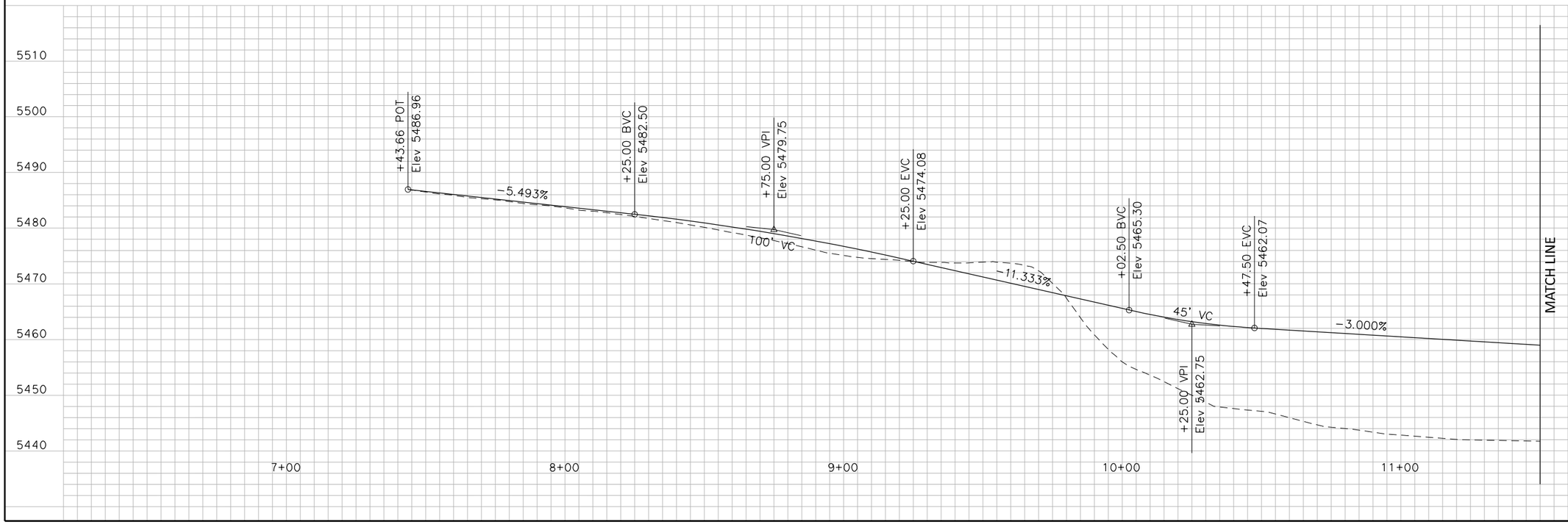
LEGEND

- PORTABLE DELINEATORS AT 5' SPACING
- TEMPORARY RAILING (TYPE K)
- SIGN
- TYPE III BARRICADE
- WORK TO BE COMPLETED UNDER TRAFFIC CONTROL
- TEMPORARY WATER DISPERSION AREA, DO NOT CLEAR EXIST VEGETATION
- ▲ CONSTRUCTION AREA SIGN
- ■ TEMPORARY DETOUR SIGN



TEMPORARY DETOUR PLAN

SCALE 1"=20'



REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

NEVADA COUNTY

DEPARTMENT OF PUBLIC WORKS

DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

DETOUR PLAN/PROFILE NO. 1

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET

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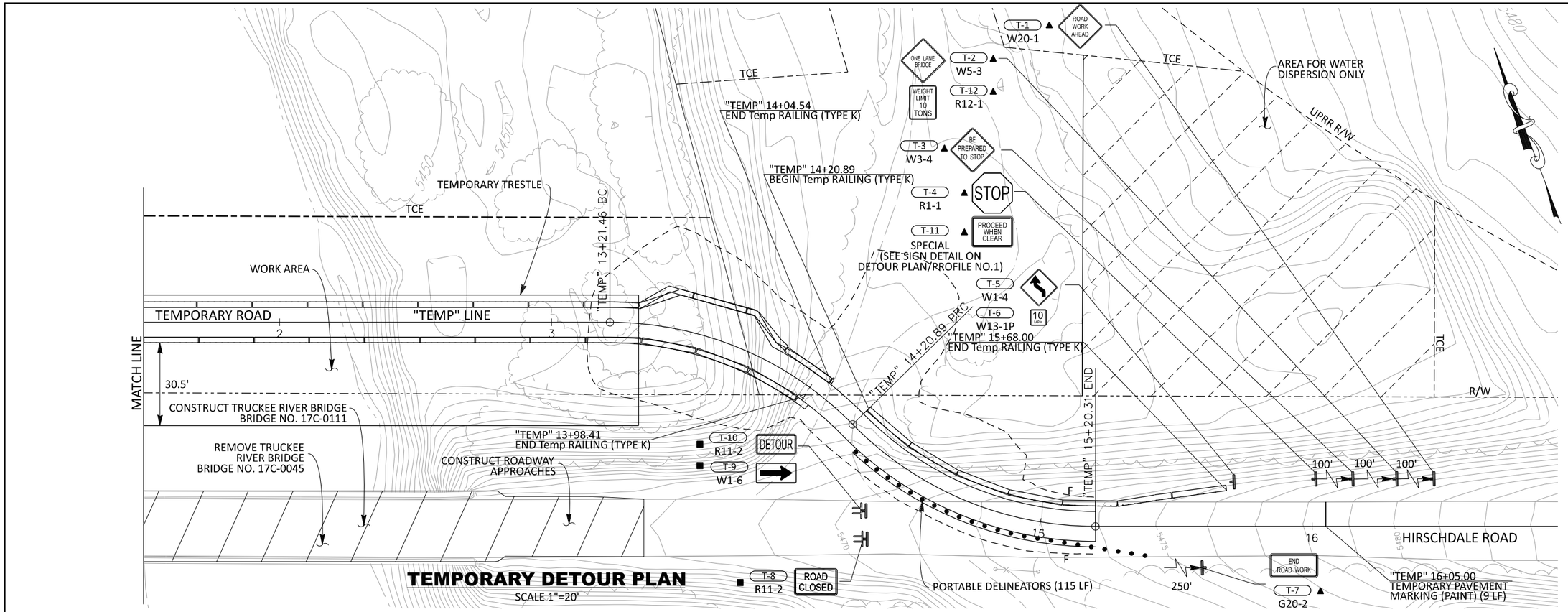
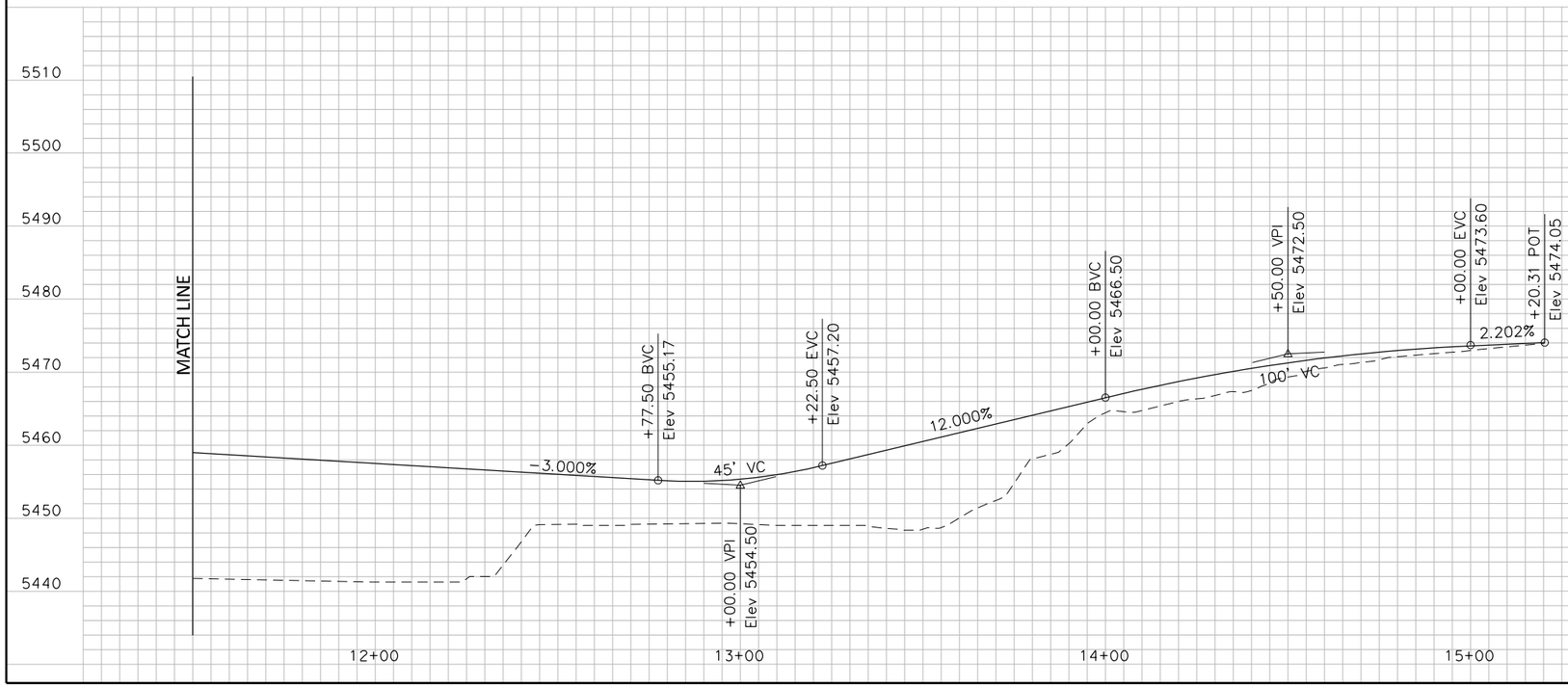
OF 52 SHEETS





REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

NEVADA COUNTY

DEPARTMENT OF PUBLIC WORKS

DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

DETOUR PLAN/PROFILE NO.2

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET

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OF 52 SHEETS

ROADWAY QUANTITIES

LOCATION	AGGREGATE BASE (CLASS 2)	HMA (TYPE A, FIBER REINFORCED)	COLD PLANE ASPHALT CONCRETE PAVEMENT	PLACE HMA DIKE (TYPE F)	PLACE HMA (MISCELLANEOUS AREA)	OBLITERATE SURFACING	DITCH EXCAVATION	RESET FENCE	REPLANT 8' PINE TREE	PIPE BARRIER GATE	ROADSIDE SIGN - ONE POST	FURNISH SINGLE SHEET ALUMINUM SIGN (0.63"-UNFRAMED)	SNOW POLE MARKER
	CY	TON	SQYD	LF	SQYD	SQYD	CY	LF	EA	EA	EA	SQFT	EA
"H" LINE	31	35	97	2	2	31	94	151	3	1	6	48.5	10
"TEMP" LINE	57	83											
TOTAL	88	118	97	2	2	31	94	151	3	1	6	48.5	10

EARTHWORK QUANTITIES (ALL VALUES IN CY)

STAGE	LOCATION	ROADWAY EXCAVATION	ROADWAY EMBANKMENT BACKFILL (N)	EARTHWORK TOTAL (N)	IMPORT BORROW REQUIRED (F)	EXCESS MATERIAL (N)
TEMPORARY	REMOVE Exist "H" LINE 99+76.08 TO 100+06.08	23	0	-	-	-
	REMOVE Exist "H" LINE 102+83.92 TO 103+13.92	29	0	-	-	-
	"TEMP" LINE 7+93.74 TO 10+45.00	229	664	-	-	-
	"TEMP" LINE 13+00.00 TO 15+20.31	17	1224	-	-	-
SUBTOTAL		298	1888	1620	1620	0
FINAL	"H" LINE 99+76.08 TO 100+06.08	0	5	-	-	-
	"H" LINE 102+83.92 TO 103+13.92	0	1	-	-	-
	REMOVE "TEMP" LINE 7+93.74 TO 10+45.00	664	0	-	-	-
	REMOVE "TEMP" LINE 13+00.00 TO 15+20.31	1224	0	-	-	-
SUBTOTAL		1888	6	(1693)	0	1695
TOTAL		2186	1894	(73)	1620	1695

* EARTHWORK TOTAL PER STAGE IS DETERMINED BY THE EQUATION:
ROADWAY EMBANKMENT BACKFILL - [ROADWAY EXCAVATION x SHRINKAGE FACTOR].

SHRINKAGE FACTORS ARE 0.9 FOR ROADWAY EXCAVATION.

(N) - NOT A PAY ITEM, FOR INFORMATION ONLY

DRAINAGE QUANTITIES

LOCATION	RSP PROTECTION FABRIC (CLASS 8)	RSP (20 lb, CLASS I, METHOD B)
	SQYD	CY
"H" LINE	74	21

TEMPORARY ROADSIDE SIGN QUANTITES

Sign NO.	SIGN CODE	SIGN MESSAGE	SIGN QUANTITY
			EA
T-1	W20-1	ROAD WORK AHEAD	2
T-2	W5-3	ONE LANE BRIDGE	2
T-3	W3-4	BE PREPARED TO STOP	2
T-4	R1-1	STOP	3
T-5	W1-4	ARROW	2
T-6	W13-1P	10 MPH	2
T-7	G20-2	END ROAD WORK AHEAD	2
T-8	R11-1	ROAD CLOSED	2
T-9	W1-6	ARROW	2
T-10	M4-8	DETOUR	2
T-11	SPECIAL	PROCEED WHEN CLEAR	2
T-12	R12-1	WEIGHT LIMIT 10 TONS	2

GUARDRAIL QUANTITIES

LOCATION	MGS	ALTERNATIVE IN-LINE TERMINAL SYSTEM	TRANSITION RAILING (WB-31)	CRASH CUSHION
	LF	EA	EA	EA
"H" LINE	44	2	3	1
TOTAL	44	2	3	1

MINOR CONCRETE QUANTITIES

LOCATION	MINOR CONCRETE (SIDEWALK)	MINOR CONCRETE (CURB)
	CY	CY
"H" LINE	3	1
TOTAL	3	1

TRAFFIC HANDLING QUANTITIES

LOCATION	TEMPORARY RAILING (TYPE K)	PORTABLE DELINEATORS	TYPE III BARRICADE	TEMPORARY PAVEMENT MARKING (PAINT)
	LF	EA	EA	SQFT
"TEMP" LINE	1000	37	4	31
TOTAL	1000	37	4	31

PAVEMENT STRIPING AND MARKING QUANTITIES

DETAIL No.	FROM	TO	PAVEMENT TRAFFIC STRIPE (2-COAT)	PAINT PAVEMENT MARKING (2-COAT)
			LF	SQFT
21	"H" 98+71.08	"H" 104+00.00	75	9
27B	"H" 98+71.08	"H" 104+00.00	751	10
		TOTAL	826	19

* DOUBLE STRIPE DETAILS ARE QUANTIFIED AS A SINGLE STRIPE

EROSION CONTROL

STATION	HYDROSEED	BONDED FIBER MATRIX	FIBER ROLL	ROLLED EROSION CONTROL PRODUCT (JUTE MESH)	TEMPORARY FIBER ROLL	TEMPORARY HYDROSEED	HIGH-VISIBILITY FENCE
	SQFT	SQFT	LF	SQFT	LF	SQYD	LF
"H" 98+97.70 to 101+50.00	30105	22310	945	22580			
"H" 101+50.00 TO 105+00	36500	14475	1065	27375			
"TEMP" 8+29.70 TO 11+50.00					583	2023	275
"TEMP" 11+50.00 TO 15+20.00					448	2562	287
TOTAL	66605	36785	2010	49955	1031	4765	562

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

SUMMARY OF QUANTITIES

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET 16 OF 52 SHEETS

LEGEND

- FIBER ROLL
- ROLLED EROSION CONTROL PRODUCT (JUTE MESH)
- BITTERBRUSH SERIES AREA
- FLOODPLAIN AREA
- RIPARIAN AREA
- MOUNTAIN ALDER (15' SPACING)
- PACIFIC WILLOW (8' SPACING) (30 TOTAL)

NOTES:

1. PLANTINGS SHOULD OCCUR DURING FALL PER 1602 (SEE 2.15 OF MMRP).

2. PLANTINGS SHOULD BE SOURCED FROM A NURSERY LOCATED WITHIN 100 MILES OF THE SITE. WILLOW CUTTINGS MAY BE TAKEN FROM EXISTING ON-SITE VEGETATION.

BITTERBRUSH SERIES EROSION CONTROL

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE
		DESCRIPTION	TYPE	
STEP 1	HYDROSEED	SEED	BITTERBRUSH	78.7 LB/acre
		BONDEDFIBER MATRIX	WOOD	2000 LB/acre
STEP 2	ROLLED EROSION CONTROL PRODUCT	JUTE MESH	-	-
STEP 3	FIBER ROLL	FIBER ROLL	8" TO 10" Dia	-

BITTERBRUSH SERIES SEED MIX

Common Name	% PURITY	% GERM	LB/acre
Shrubs			
Antelope Bush (*Purshia tridentata*)	95	75	38.7
Great Basin Sagebrush (*Artemisia tridentata*)	10	65	3.0
Rubber Rabbitbush (Chrysothamnus nauseosus)	15	50	10.5
Grasses			
Bent Grass (*Agrostis exarata*)	95	80	0.3
Bottlebrush Squirreltail (*Elymus elymoides*)	90	75	5.2
California Brome (*Bromus carinatus*)	95	90	12.2
Slender Wheatgrass (*Elymus trachycaulus*)	90	85	7.6
Tufted Hairgrass (*Deschampsia cespitosa*)	90	80	1.0
	Total Pounds Per Acre		78.7

RIPARIAN TERRACE SEED MIX

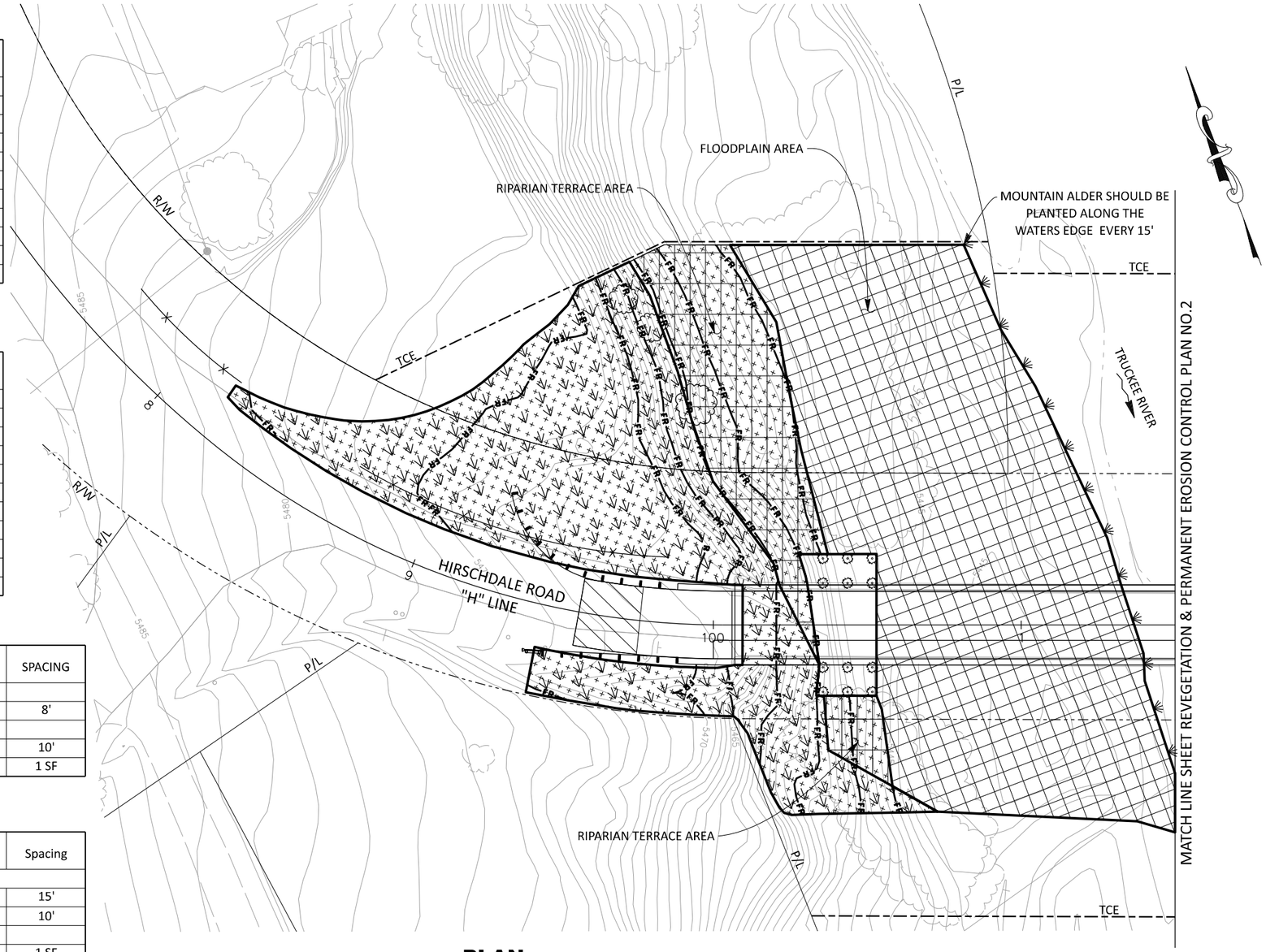
Common Name	% PURITY	% GERM	LB/acre
Shrubs			
Big sagebrush (*Artemisia tridentata*)	10	65	0.44
Bitterbrush (*Purshia tidentata*)	95	75	27.23
Grasses and Forbs			
Bentgrass (*Agrostis exarata*)	90	85	0.11
Common Spikerush (*Eleocharis macrostachya*)	90	40	1.16
Field Sedge (*Carex praegracilis*)	95	90	0.91
Meadoz Lupine (*Lupinus polyphyllus*)	95	80	19.45
Tufted Hairgrass (*Deschampsia cespitosa*)	90	80	0.33
White Yarrow (*Achillea millefolium*)	98	8	0.16
	Total Pounds Per Acre		49.79

RIPARIAN TERRACE PLANTING

Scientific Name	Common Name	SIZE	Quantity	SPACING
Trees				
Salix iasiandra	Pacific Willow	Group H	70	8'
Shrubs & Groundcover				
Artemisia tridentata	Big sagebrush	Group A	500	10'
Carex angustata	Narrow Leaved Sedge	Group P	400	1 SF

FLOODPLAIN PLANTINGS

Scientific Name	Common Name	SIZE	Quantity	Spacing
Trees				
Alnus licana ssp. tenuifolia	Mountain Alder	Group H	60	15'
Salix exigua	Narrowleaf Willow	Group H	140	10'
Shrubs & Groundcover				
Carex angustata	Narrow Leaved Sedge	Group P	475	1 SF



PLAN

SCALE: 1"=20'

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

NEVADA COUNTY

DEPARTMENT OF PUBLIC WORKS

DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

REVEGETATION & PERMANENT EROSION CONTROL PLAN

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET

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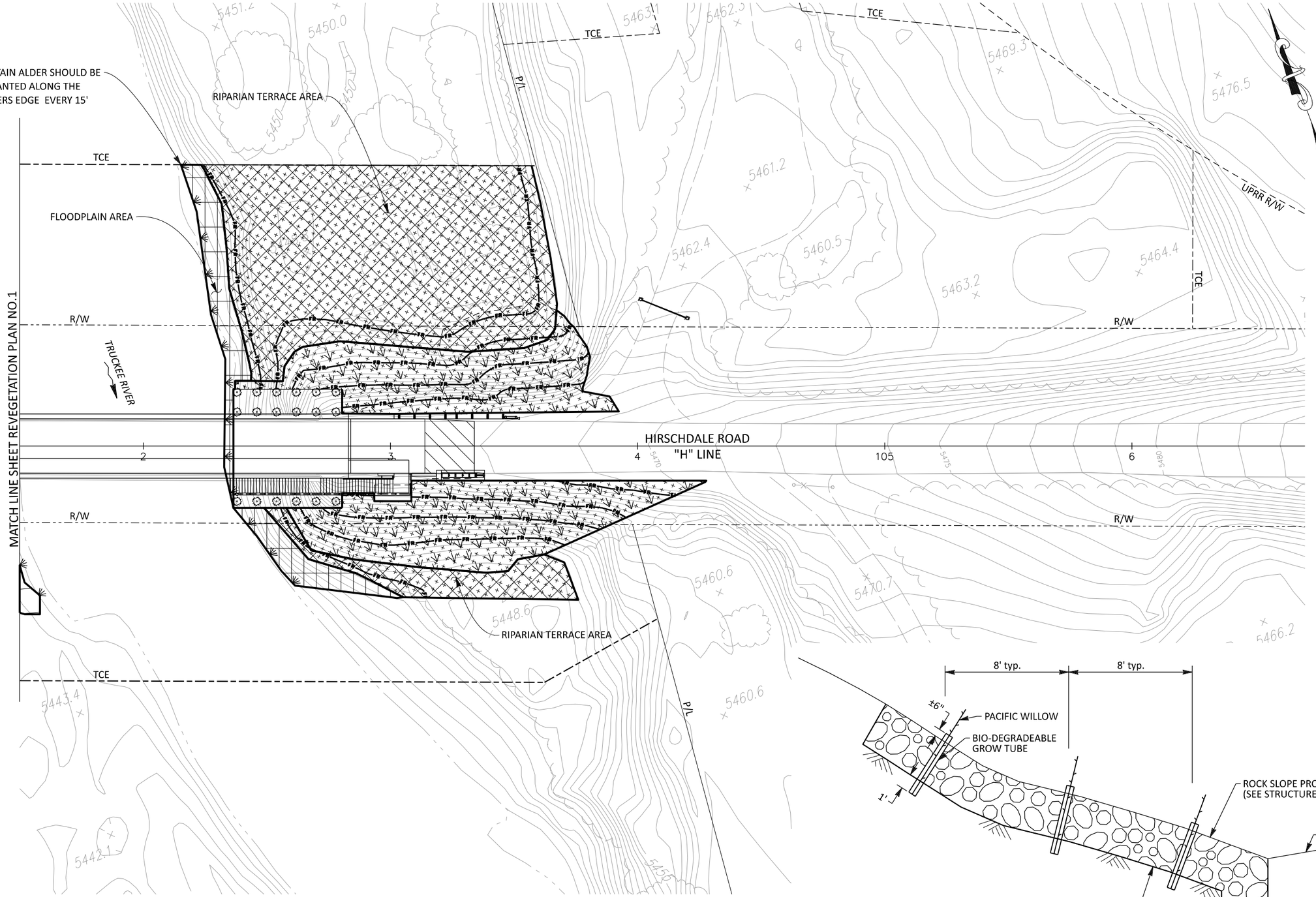
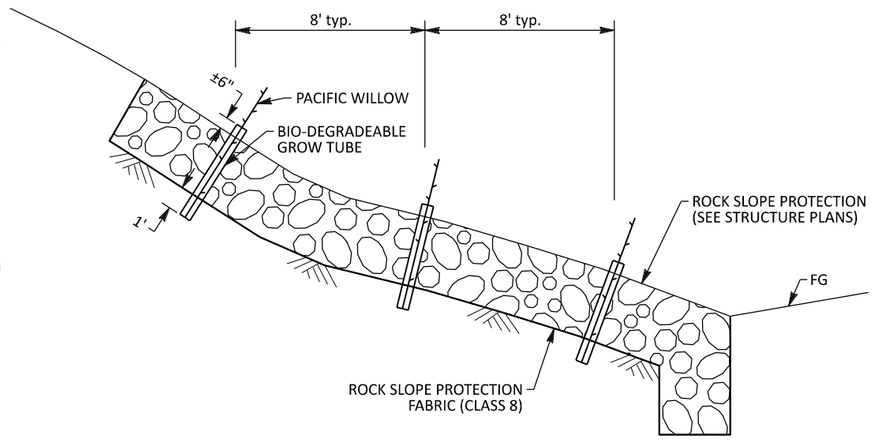
OF 52 SHEETS



PLAN
SCALE: 1"=20'



PACIFIC WILLOW CUTTING DETAIL

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER
BRIDGE
REVEGETATION & PERMANENT
EROSION CONTROL PLAN

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET
18
OF 52 SHEETS

TEMPORARY HYDROSEED MIX

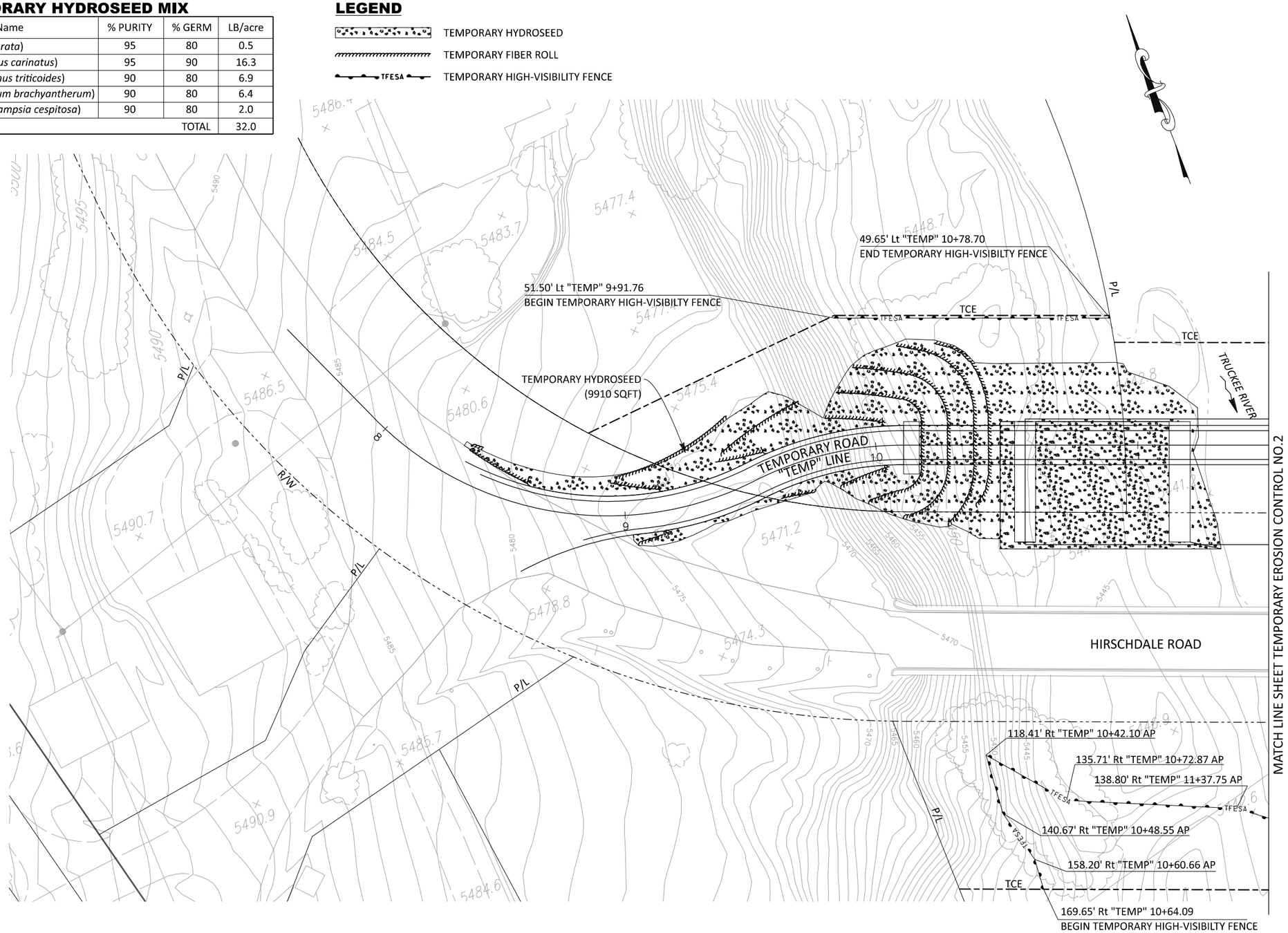
Common Name	% PURITY	% GERM	LB/acre
Bent Grass (*Agrostis exarata*)	95	80	0.5
California Brome (*Bromus carinatus*)	95	90	16.3
Creeping Wild Rye (*Elymus triticoides*)	90	80	6.9
Meadow Barley (*Hordeum brachyantherum*)	90	80	6.4
Tufted Hairgrass (*Deschampsia cespitosa*)	90	80	2.0
		TOTAL	32.0

LEGEND

TEMPORARY HYDROSEED

TEMPORARY FIBER ROLL

TFESA — TEMPORARY HIGH-VISIBILITY FENCE



PLAN

SCALE: 1"=20'

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

FOR

NEVADA COUNTY

DEPARTMENT OF PUBLIC WORKS

DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

TEMPORARY EROSION CONTROL NO. 1

BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET

19

OF 52 SHEETS

37.87' Lt "TEMP" 12+18.31
BEGIN TEMPORARY HIGH-VISIBILTY FENCE

43.27' Lt "TEMP" 13+59.78
END TEMPORARY HIGH-VISIBILTY FENCE

TCE

TFESA

TEMPORARY ROAD
"TEMP" LINE

R/W

TRUCKEE RIVER

TEMPORARY HYDROSEED (10275 SQFT)

TEMPORARY HYDROSEED (1160 SQFT)

UPRR R/W

HIRSCHDALE ROAD

TEMPORARY HYDROSEED (95 SQFT)

MATCH LINE SHEET TEMPORARY EROSION CONTROL NO.1

135.27' Rt "TEMP" 12+66.61
BEGIN TEMPORARY HIGH-VISIBILTY FENCE

140.84' Rt "TEMP" 13+11.04 AP

143.07' Rt "TEMP" 11+65.30
END TEMPORARY HIGH-VISIBILTY FENCE

126.84' Rt "TEMP" 13+85.17 AP

143.07' Rt "TEMP" 11+52.04 AP

137.19' Rt "TEMP" 13+91.41
END TEMPORARY HIGH-VISIBILTY FENCE

P/L

PLAN
SCALE: 1"=20'

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY DOKKEN ENGINEERING

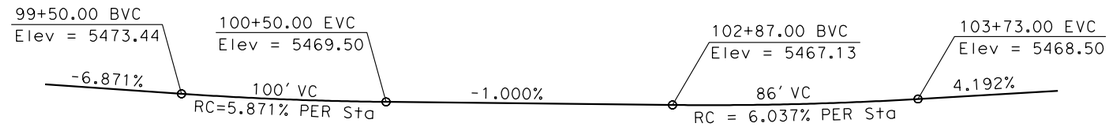
FOR

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER
BRIDGE
TEMPORARY EROSION
CONTROL NO. 2

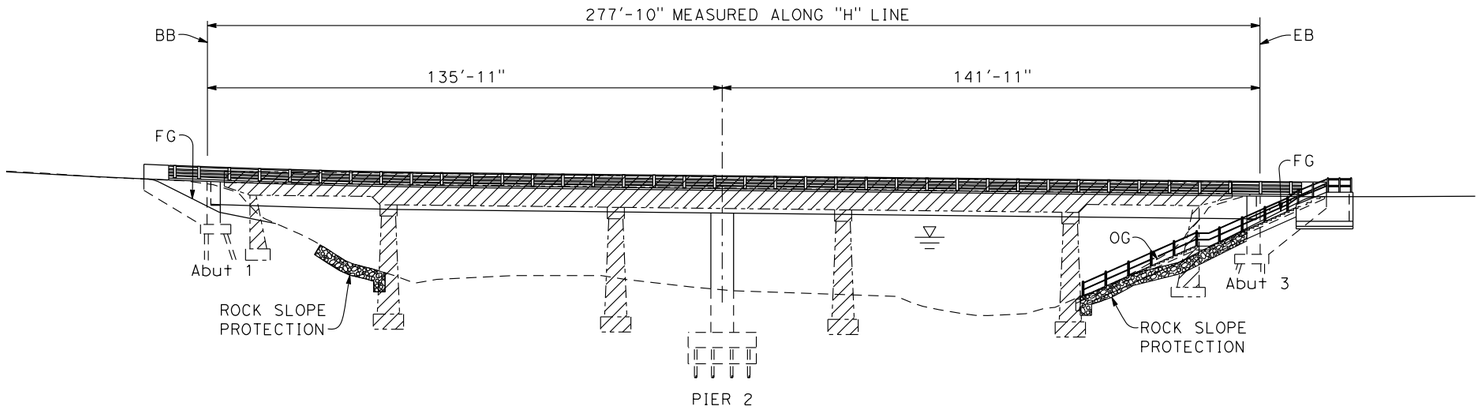
BRIDGE No.	17C-0111
DESIGNED:	K. MOE
DRAWN:	K. MOE
CHECKED:	R. SANDERS
JOB NO:	2247
DATE:	MARCH 2024

SHEET
20
OF 52 SHEETS



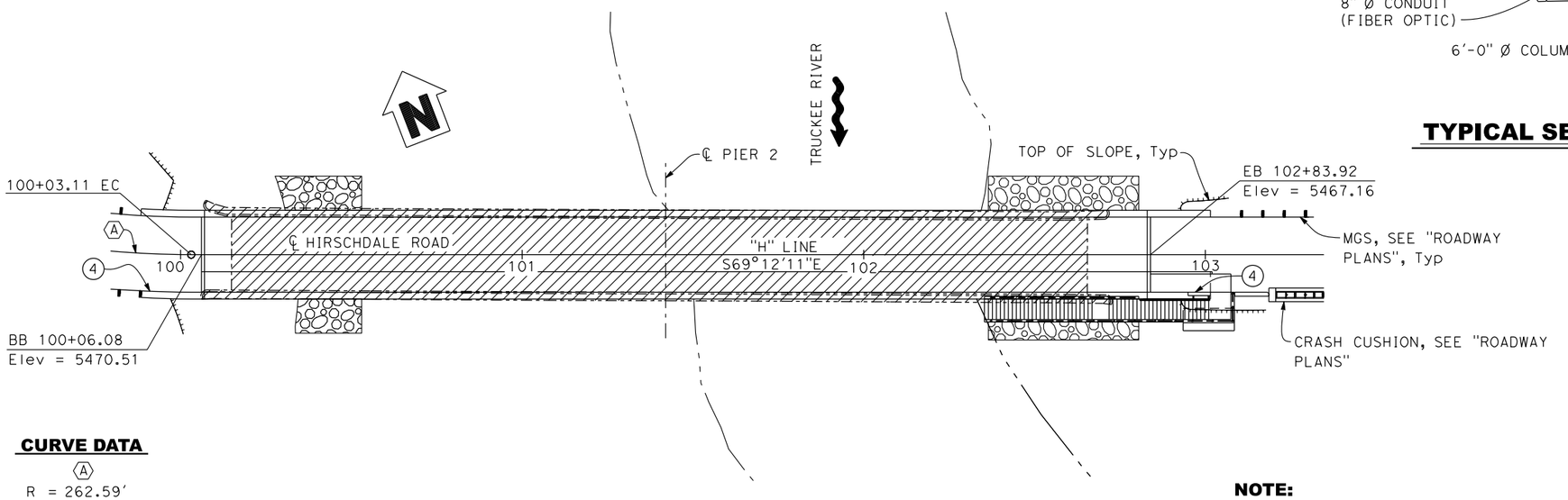
PROFILE GRADE

NO SCALE



ELEVATION

1" = 20'



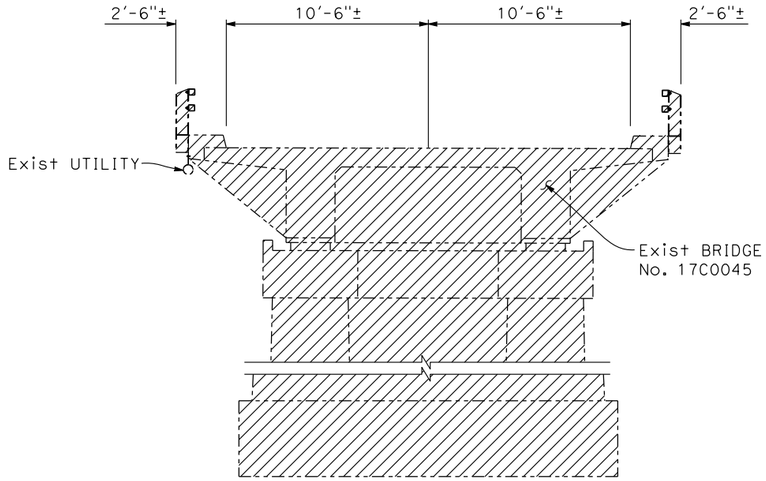
PLAN

1" = 20'

CURVE DATA

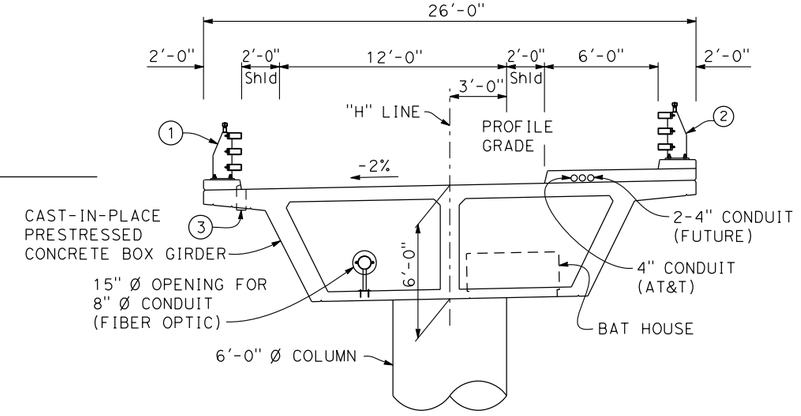
Ⓐ

R = 262.59'
△ = 39°11'59"
T = 93.50'
L = 179.65'



TYPICAL SECTION - REMOVAL LIMITS

1/4" =1'-0"



TYPICAL SECTION - NEW STRUCTURE

1/4" =1'-0"

LEGEND

1. CALIFORNIA ST-75 BRIDGE RAIL WITH TUBULAR BICYCLE RAILING
2. SEE "CALIFORNIA ST-75SW BRIDGE RAIL DETAILS No. 1" SHEET
3. DECK DRAIN TYPE B (B7-5 / 7-3)
4. PAINT "BRIDGE No. 17C0111" & YEAR CONSTRUCTED

▽ High water surface elevation, see "HYDROLOGIC SUMMARY" on "FOUNDATION PLAN" sheet.

-------- Denotes existing structure

▨ Denotes bridge removal

NOTE:

FOR BAT EXCLUSION AND SWALLOW REQUIREMENTS, SEE SECTION 14 OF THE SPECIAL PROVISIONS

REVISIONS

NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
GENERAL PLAN

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET 21 OF 52 SHEETS

INDEX TO PLANS

SHEET NO.	TITLE
21	GENERAL PLAN
22	INDEX TO PLANS
23	DECK CONTOURS
24	FOUNDATION PLAN
25	ABUTMENT 1 LAYOUT
26	ABUTMENT 3 LAYOUT
27	ABUTMENT DETAILS NO. 1
28	ABUTMENT DETAILS NO. 2
29	PIER LAYOUT
30	PIER DETAILS NO. 1
31	PIER DETAILS NO. 2
32	TYPICAL SECTION
33	GIRDER LAYOUT
34	GIRDER DETAILS
35	STEEL REINFORCED ELASTOMERIC BEARINGS
36	STRIP JOINT SEAL ASSEMBLY MAXIMUM MOVEMENT RATING = 4"
37	JOINT ARMOR FOR PEDESTRIAN WALKWAYS
38	ROCK SLOPE PROTECTION
39	BAT HOUSE DETAILS
40	CALIFORNIA ST-75 BRIDGE RAIL DETAIL No.1
41	CALIFORNIA ST-75 BRIDGE RAIL DETAIL No.2
42	CALIFORNIA ST-75 BRIDGE RAIL DETAIL No.3
43	CALIFORNIA ST-75 BRIDGE RAIL DETAIL No.4
44	CALIFORNIA ST-75 BRIDGE RAIL DETAIL No.5
45	CALIFORNIA ST-75SW BRIDGE RAIL DETAIL No.1
46	CALIFORNIA ST-75SW BRIDGE RAIL DETAIL No.2
47	CALIFORNIA ST-75SW BRIDGE RAIL DETAIL No.3
48	CALIFORNIA ST-75SW BRIDGE RAIL DETAIL No.4
49	CALIFORNIA ST-75SW BRIDGE RAIL DETAIL No.5
50	STAIRWAY DETAILS
51	LOG OF TEST BORINGS NO. 1
52	LOG OF TEST BORINGS NO. 2

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

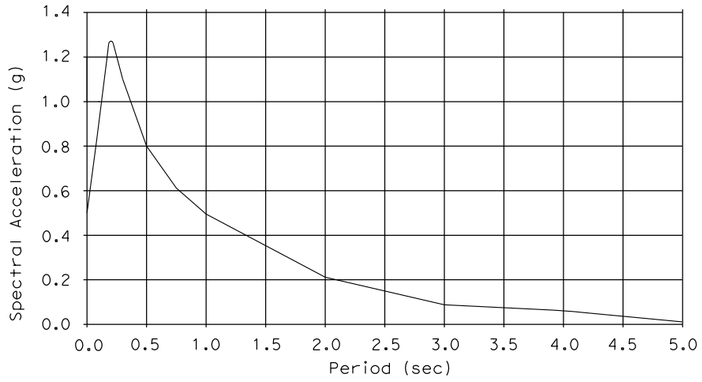
DESIGN: AASHTO LRFD Bridge Design Specifications, 8th Edition with California Amendments

SEISMIC DESIGN: CALTRANS SEISMIC DESIGN CRITERIA (SDC) Version 2.0, April 2019

DEAD LOAD: Includes 0.035 ksf for future wearing surface

LIVE LOAD: HL-93, Caltrans' "Low Boy" and CA P-15 Permit, design vehicular loads.

SEISMIC LOAD: Soil profile : V_{S30} = 1600 ft/s
Moment Magnitude : 6.5
Peak Rock Acceleration = 0.50g



REINFORCED CONCRETE: f_y = 60 ksi
f'_c = See "CONCRETE STRENGTH AND TYPE LIMITS".
n = 8

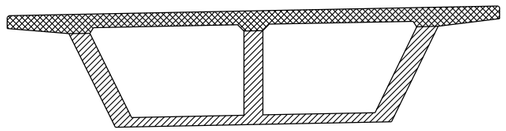
MICROPILE: Grout : f'c = 4 ksi
HSS Casing : A500 Grade B, fy = 46 ksi
Bar Reinforcement : fy = 60 ksi
HS Steel Bar : fy = 120 ksi
Steel Plate : fy = 50 ksi

PRESTRESSED CONCRETE: See "PRESTRESSING NOTES" on "GIRDER LAYOUT" sheet.

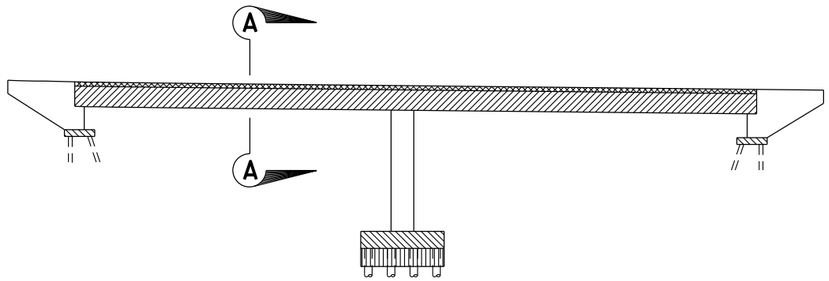
STANDARD PLANS DATED 2023

Sheet No.	Title
A3A	ABBREVIATIONS (SHEET 1 OF 3)
A3B	ABBREVIATIONS (SHEET 2 OF 3)
A3C	ABBREVIATIONS (SHEET 3 OF 3)
A10A	LINES AND SYMBOLS (SHEET 1 OF 5)
A10B	LINES AND SYMBOLS (SHEET 2 OF 5)
A10C	LINES AND SYMBOLS (SHEET 3 OF 5)
A10D	LINES AND SYMBOLS (SHEET 4 OF 5)
A10E	LINES AND SYMBOLS (SHEET 5 OF 5)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B7-1	BOX GIRDER DETAILS
B7-5	DECK DRAINS
B7-6	DECK DRAINS TYPES D-1 AND D-2
B7-8	DECK DRAINAGE DETAILS
B7-10	UTILITY OPENING BOX GIRDER
B7-11	UTILITY DETAILS
B8-5	CAST-IN-PLACE POST-TENSIONED GIRDER DETAILS

STANDARD PLAN SHEET NO.
DETAIL NO.



SECTION A-A
NO SCALE



SEAL COURSE CONCRETE
STRUCTURAL CONCRETE, BRIDGE (f'c = 3.60 KSI)*
STRUCTURAL CONCRETE, BRIDGE FOOTING (f'c = 3.60 KSI)
STRUCTURAL CONCRETE, BRIDGE (f'c = 4.00 KSI)
STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER) (f'c = 4.00 KSI)

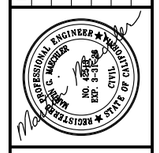
CONCRETE STRENGTH AND TYPE LIMITS
No Scale
* INCLUDES CONCRETE BARRIERS AND SIDEWALKS.

QUANTITIES

ITEM	QUANTITY	UNIT
STRUCTURE EXCAVATION (BRIDGE)	374	CY
STRUCTURE EXCAVATION (TYPE A)	293	CY
STRUCTURE BACKFILL	191	CY
CLASS 2 AGGREGATE BASE	10	CY
TEMPORARY TRESTLE	1	LS
MICROPILE	43	EA
PRESTRESSING CIP CONCRETE	1	LS
SEAL COURSE CONCRETE	51	CY
STRUCTURAL CONCRETE, BRIDGE FOOTING	100	CY
STRUCTURAL CONCRETE, BRIDGE	390	CY
STRUCTURAL CONCRETE, POLYMER FIBER	211	CY
PRECAST CONCRETE BAT HOUSE	6	EA
JOINT SEAL ASSEMBLY (MR = 2 1/2")	52	LF
BAR REINFORCING STEEL (BRIDGE)	50,014	LBS
BAR REINFORCING STEEL (EPOXY COATED)	70,183	LBS
BRIDGE REMOVAL	1	LS
ROCK SLOPE PROTECTION (1/4 T, CLASS V, METHOD B)	380	CY
ROCK SLOPE PROTECTION FABRIC (CLASS 8)	437	SQYD
MISCELLANEOUS METAL (BRIDGE)	268	LB
PIPE HANDRAILING (TYPE 1)	131	LF
PIPE HANDRAILING (TYPE 2)	23	LF
CALIFORNIA ST-75SW BRIDGE RAIL	315	LF
CALIFORNIA ST-70 BRIDGE RAIL	315	LF

REVISIONS

NO.	DESCRIPTION	BY	DATE



NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
INDEX TO PLANS

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC. 2023

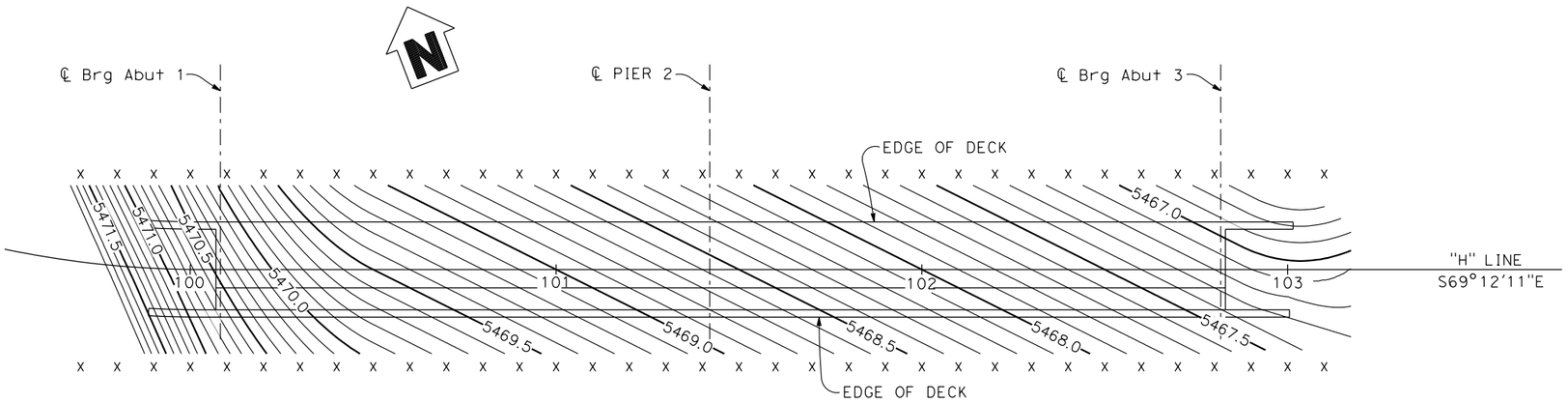
SHEET
22
OF 52 SHEETS

NOTES:

Contours do not include camber, falsework settlement, or allowance for deck grinding and grooving.

Contour interval is 0.10'

X Denotes 10' interval along "H" LINE



PLAN

1" = 20'

REVISIONS			
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
DECK CONTOURS

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET 23 OF 52 SHEETS

HYDROLOGIC SUMMARY

DRAINAGE AREA: 874.6 square miles

	DESIGN FLOOD	BASE FLOOD	OVERTOPPING FLOOD
FREQUENCY (Years)	50	100	N/A
DISCHARGE (Cubic feet per second)	18,600	21,500	-
WATER SURFACE (Elevation at bridge)	5452.0	5452.7	-

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 the State, County, or consultants and interested or affected parties should make their own investigations.

SCOUR DATA TABLE

Support Location	Long Term (Degradation and Contraction) Scour Elevation (ft)	Short Term (Local) Scour Depth (ft)
Abut 1	5462.5	3.3
Pier 2	5438.8 *	11.7
Abut 3	5458.5	9.4

* ELEVATION REFERENCES THE THALWEG ELEVATION OF THE CHANNEL.

BENCHMARK:

See "PROJECT CONTROL" sheet in ROADWAY PLANS.

LEGEND

XXXX.XX' Denotes bottom of footing elev

Denotes micro pile

Denotes micropile verification test location

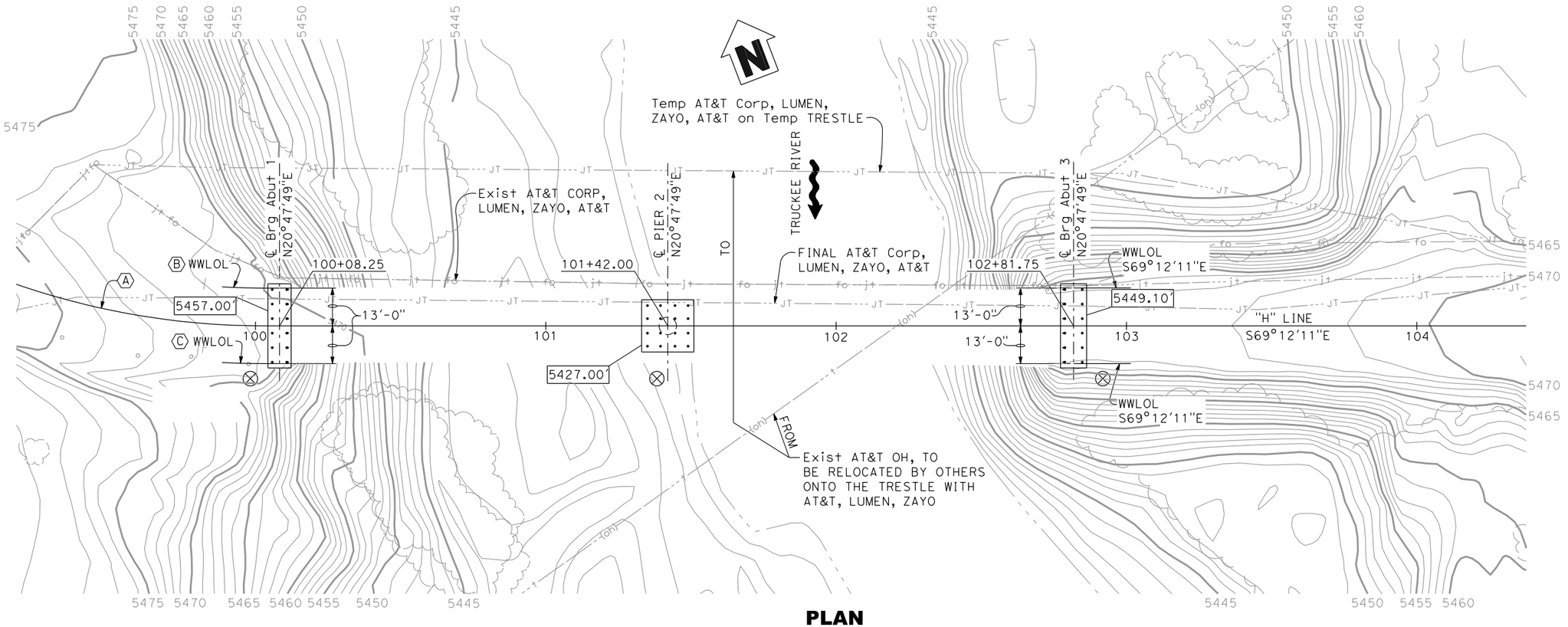
PILE DATA TABLE

Location	Pile Type	Nominal Resistance		Design Tip Elevation (ft)	Specified Tip Elevation (ft)
		Compression "C"	Tension "T"		
Abut 1	8" MICRO PILE WITH CASING	230 kips	0 kips	**	**
PIER 2	8" MICRO PILE WITH CASING	380 kips	90 kips	**	**
Abut 3	8" MICRO PILE WITH CASING	250 kips	0 kips	**	**

** CONTRACTOR TO DETERMINE PILE LENGTH, SEE SPECIAL PROVISIONS.

CURVE DATA

(A)	(B)	(C)
R = 262.59'	R = 249.59'	R = 275.59'
△ = 39°11'59"	△ = 3°21'14"	△ = 3°02'15"
T = 93.50'	T = 7.31'	T = 7.31'
L = 179.65'	L = 14.61'	L = 14.61'



PLAN

1" = 20'

REVISIONS

NO.	DESCRIPTION	BY	DATE

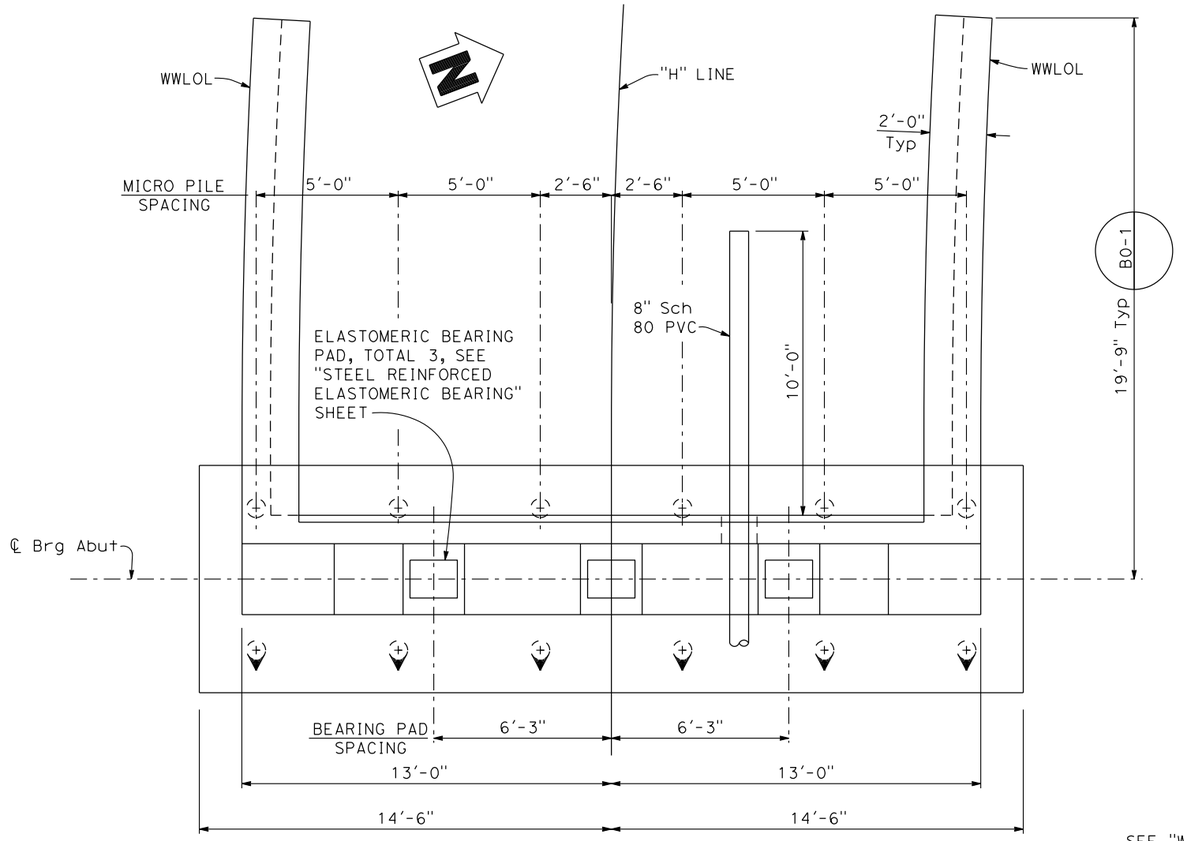
NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

FOUNDATION PLAN

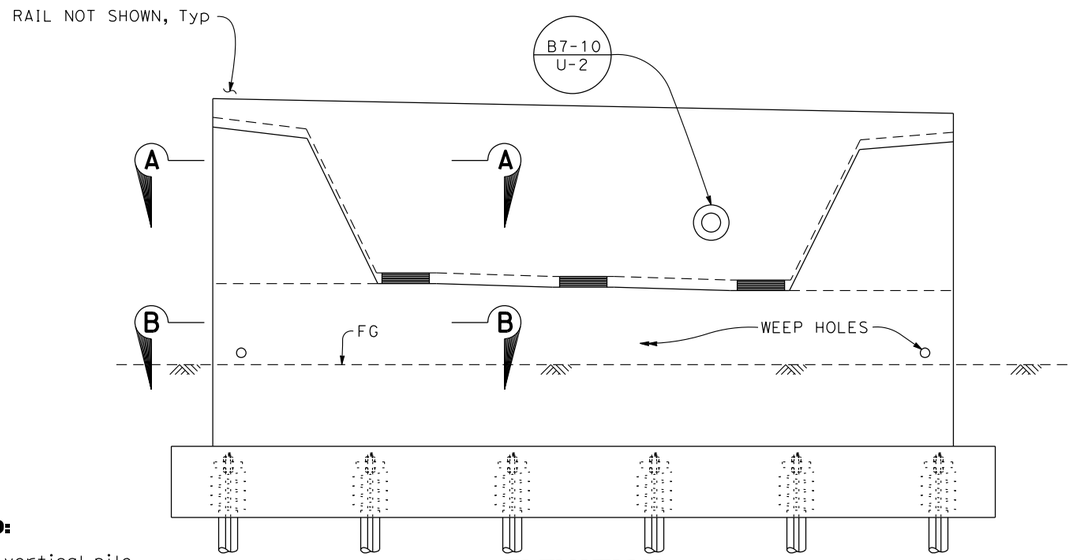
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET 24 OF 52 SHEETS



PLAN

3/8" = 1'-0"



ELEVATION

3/8" = 1'-0"

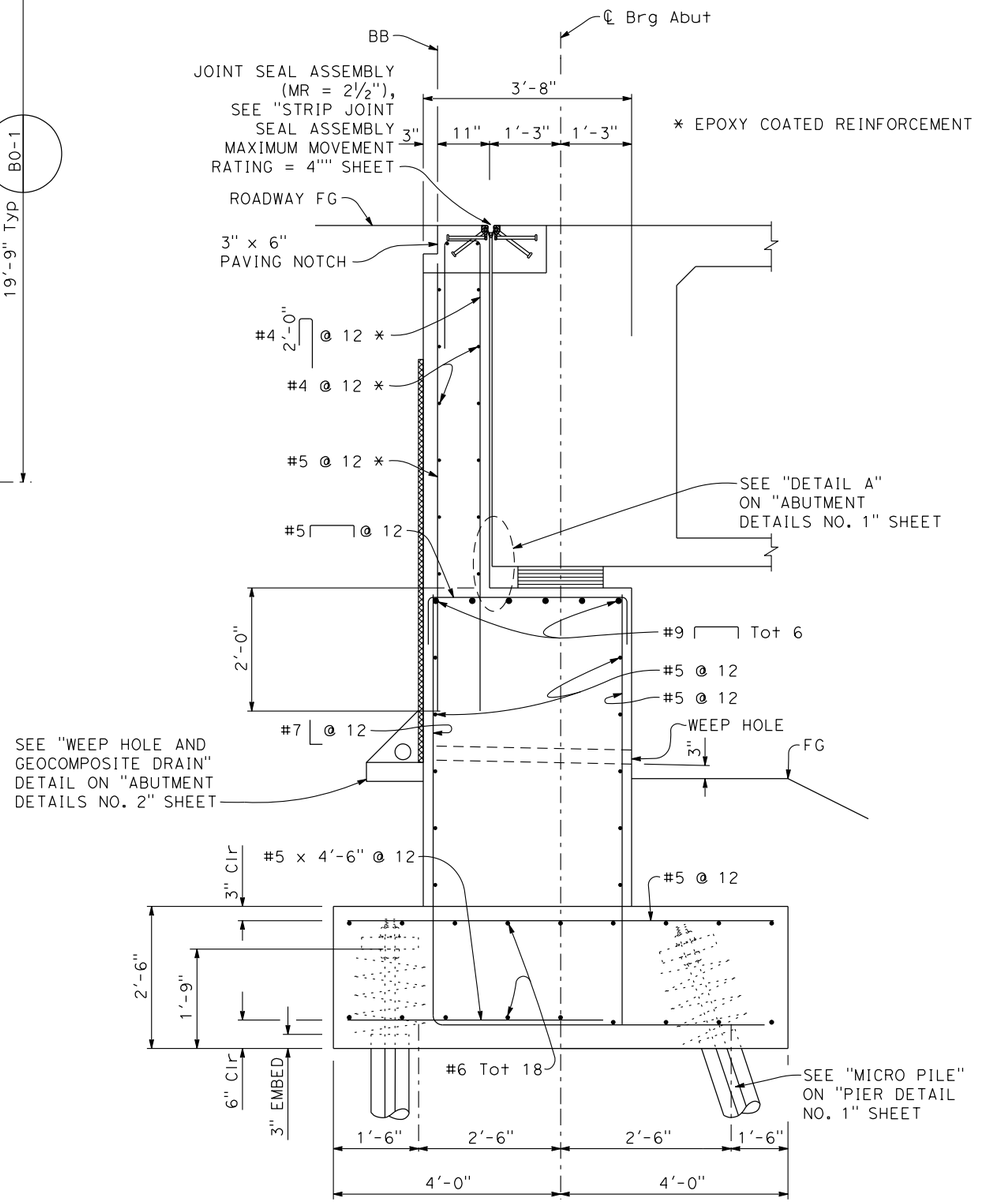
LEGEND:

⊕ Denotes vertical pile

⊕ Denotes 1:3 battered pile

NOTE:

For Sections A-A & B-B, see "ABUTMENT DETAILS NO. 2" sheet.



ABUTMENT TYPICAL SECTION

3/4" =1'-0"

REVISIONS

NO.	DESCRIPTION	BY	DATE

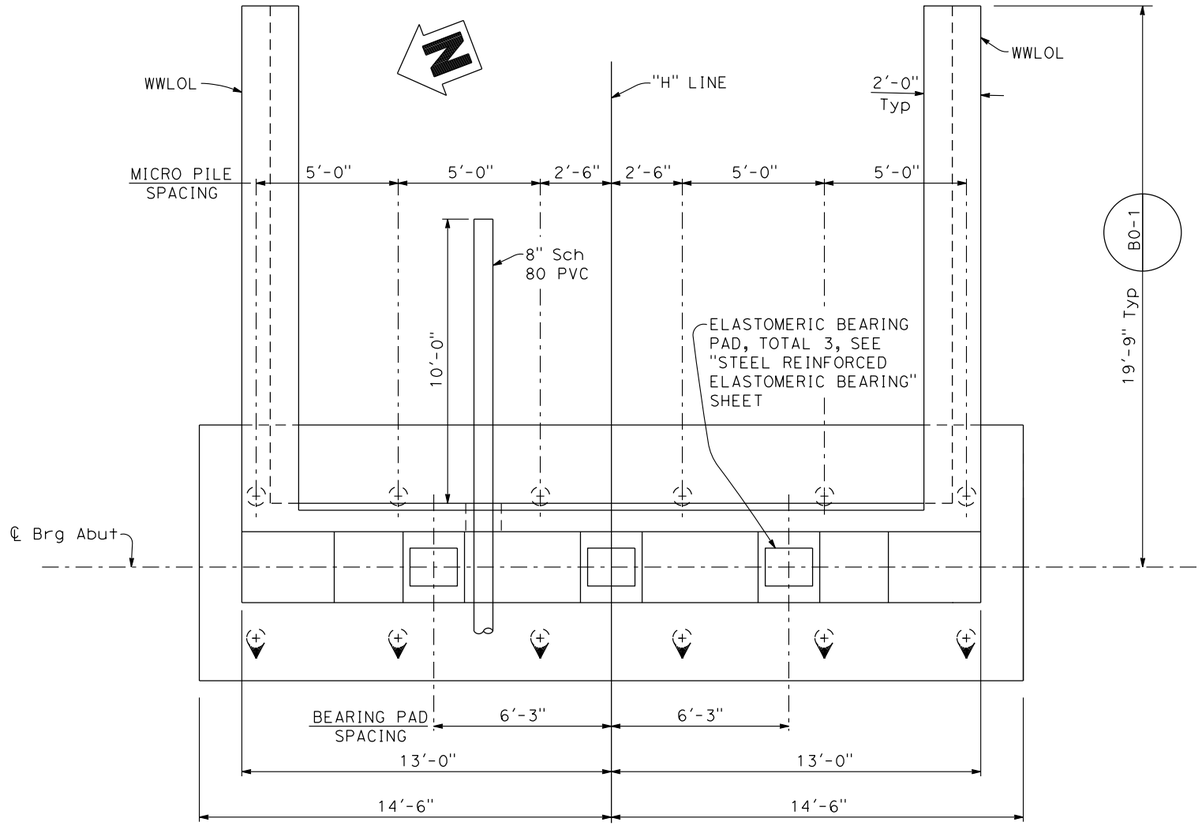
NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

ABUTMENT 1 LAYOUT

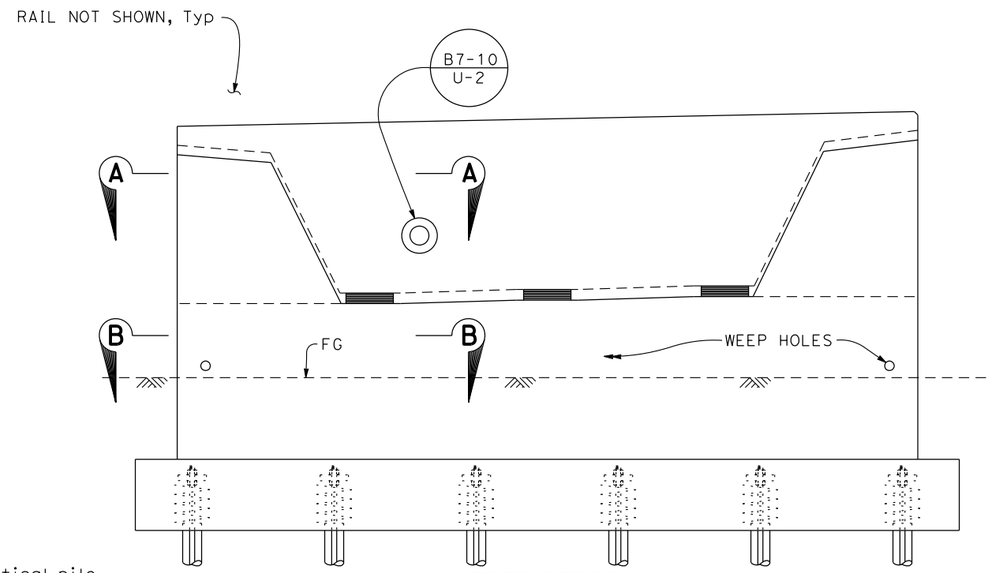
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET 25 OF 52 SHEETS



PLAN

3/8" = 1'-0"



ELEVATION

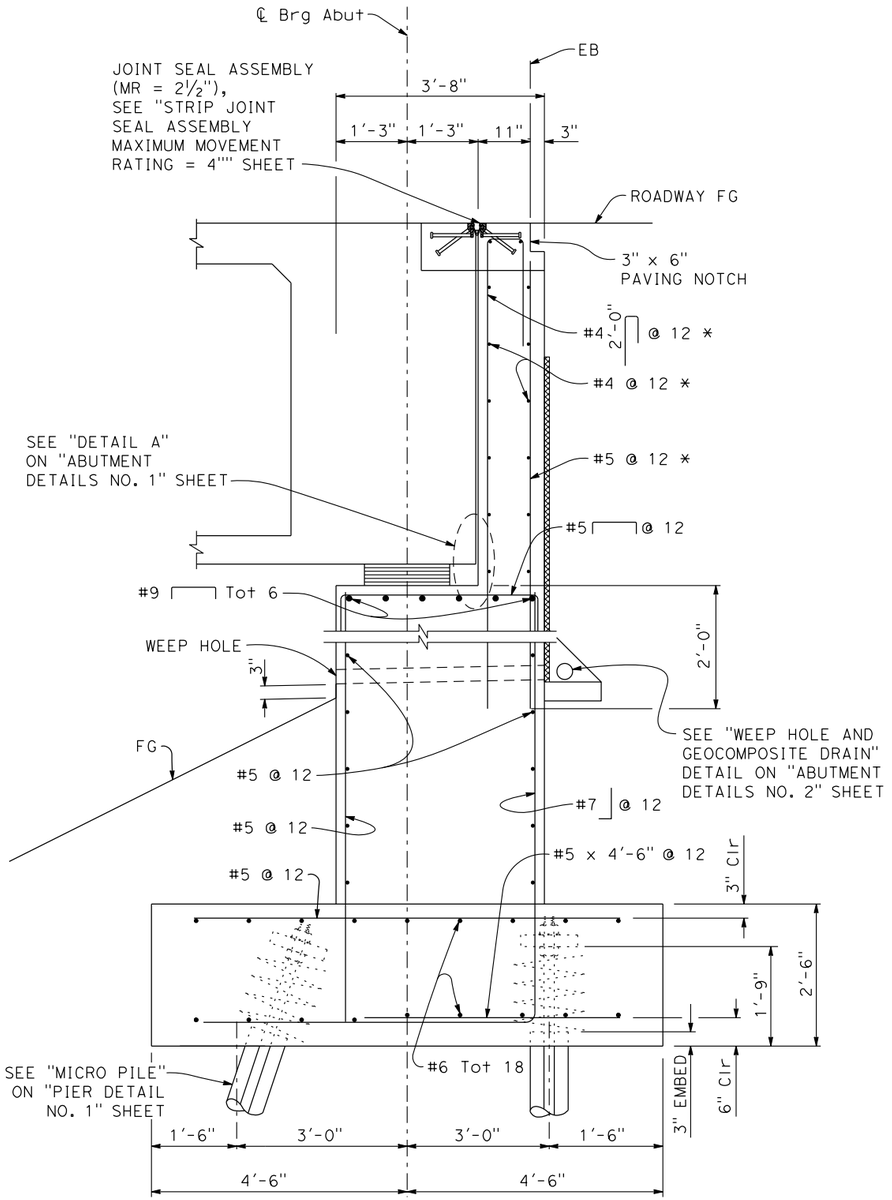
3/8" = 1'-0"

LEGEND:

- ⊕ Denotes vertical pile
- ⊕ Denotes 1:3 battered pile

NOTE:

For Sections A-A & B-B, see "ABUTMENT DETAILS NO. 2" sheet.



ABUTMENT TYPICAL SECTION

3/4" =1'-0"

* EPOXY COATED REINFORCEMENT

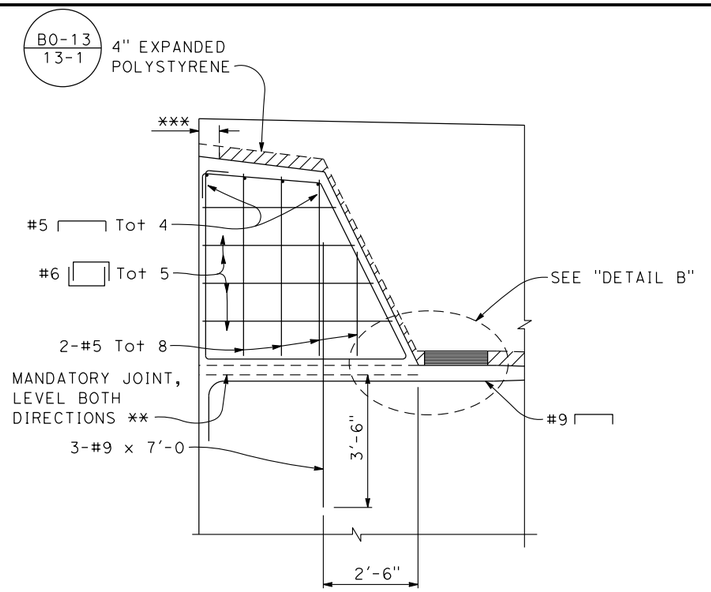
REVISIONS			
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
ABUTMENT 3 LAYOUT

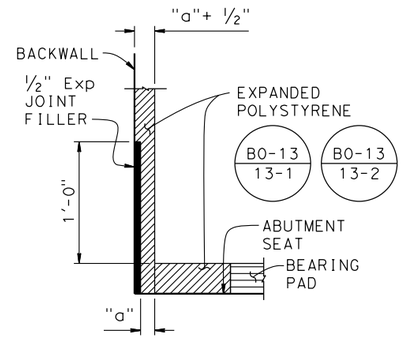
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET 26 OF 52 SHEETS



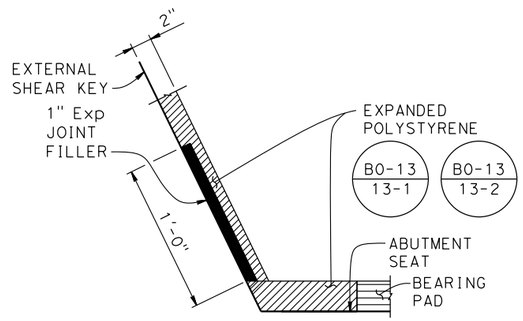
EXTERNAL SHEAR KEY

½" =1'-0"



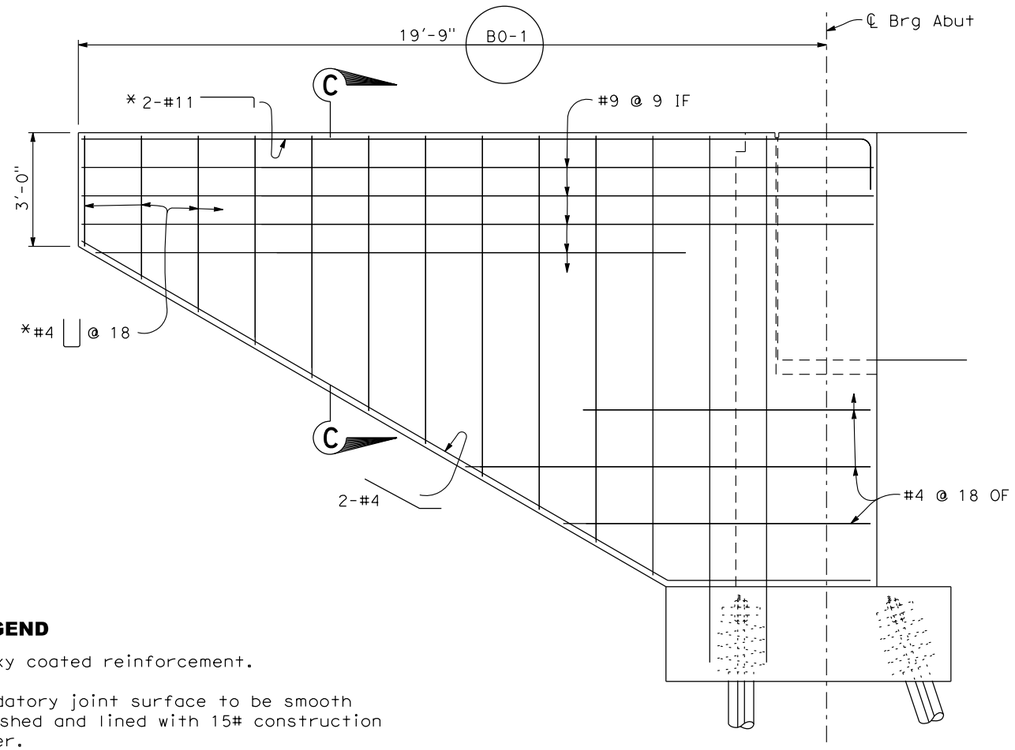
DETAIL A

NO SCALE



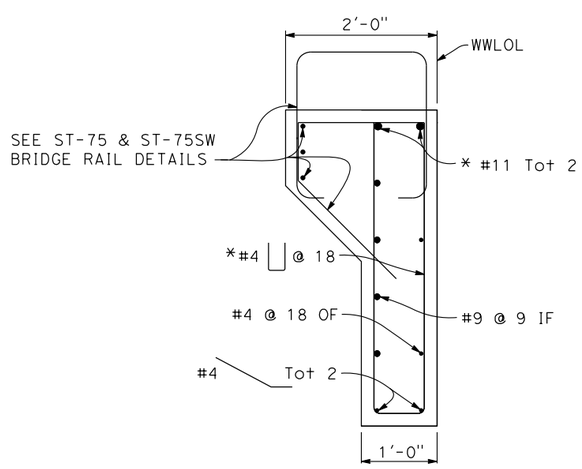
DETAIL B

NO SCALE



WINGWALL ELEVATION

½" = 1'-0"



SECTION C-C

1" = 1'-0"

LEGEND

* Epoxy coated reinforcement.

** Mandatory joint surface to be smooth finished and lined with 15# construction paper.

*** Remove outer 6" of expanded polystyrene after concrete sets.

REVISIONS

NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

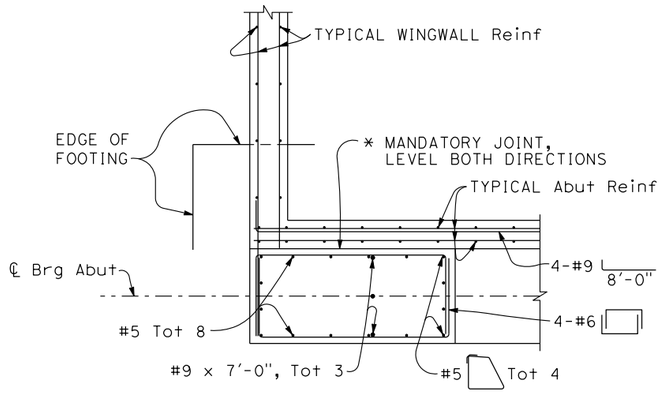
TRUCKEE RIVER
BRIDGE

ABUTMENT DETAILS NO. 1

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

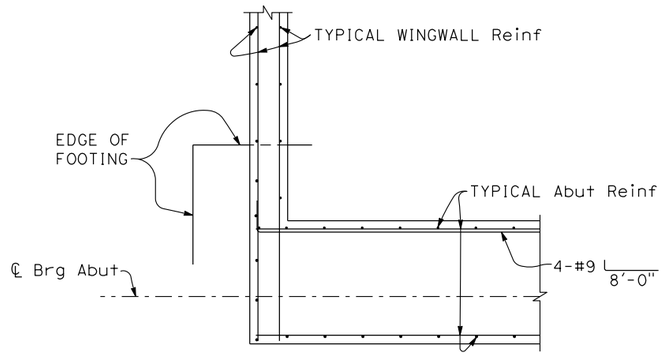
SHEET
27
OF 52 SHEETS

* Mandatory joint surface to be smooth finished and lined with 15# construction paper.



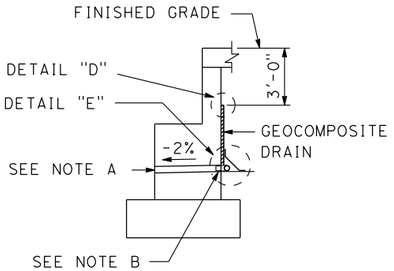
SECTION A-A

½" = 1'-0"

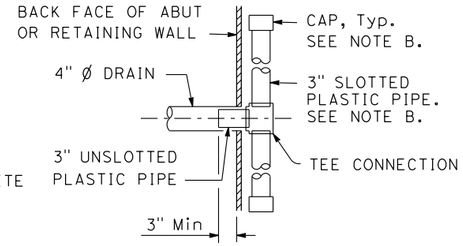


SECTION B-B

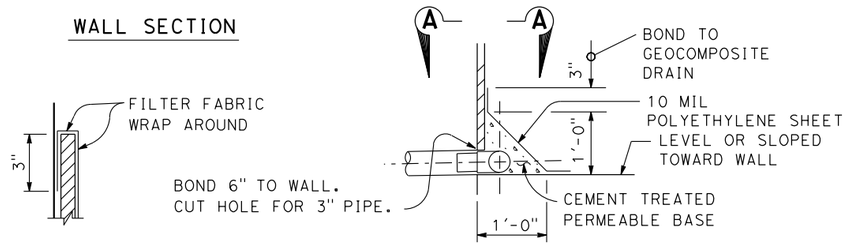
½" = 1'-0"



WALL SECTION



SECTION A-A



DETAIL "D"

DETAIL "E"

WEEP HOLE AND GEOCOMPOSITE DRAIN

ALTERNATIVE TO BRIDGE DETAIL B0-3 / 3-1

NOTES:

A. 4" Ø drains at intermediate sag points and at 25' maximum C-C (9'-0" C-C for Type 3 and 9'-3" C-C for Type 4 retaining walls). For walls adjacent to sidewalks or curbs, provide 4" cast iron or asbestos cement pipe under the sidewalk to discharge through curb face. Exposed wall drains shall be located 3"± above finished grade.

B. Geocomposite drain, cement treated permeable base and 3"Ø± slotted plastic pipe continuous behind retaining wall or abutment. Cap ends of pipe. Provide "Tee" connection at each 4" Ø drain.

C. Connect the low end of plastic pipe to the main outlet pipe as applicable.

REVISIONS

NO.	DESCRIPTION	BY	DATE

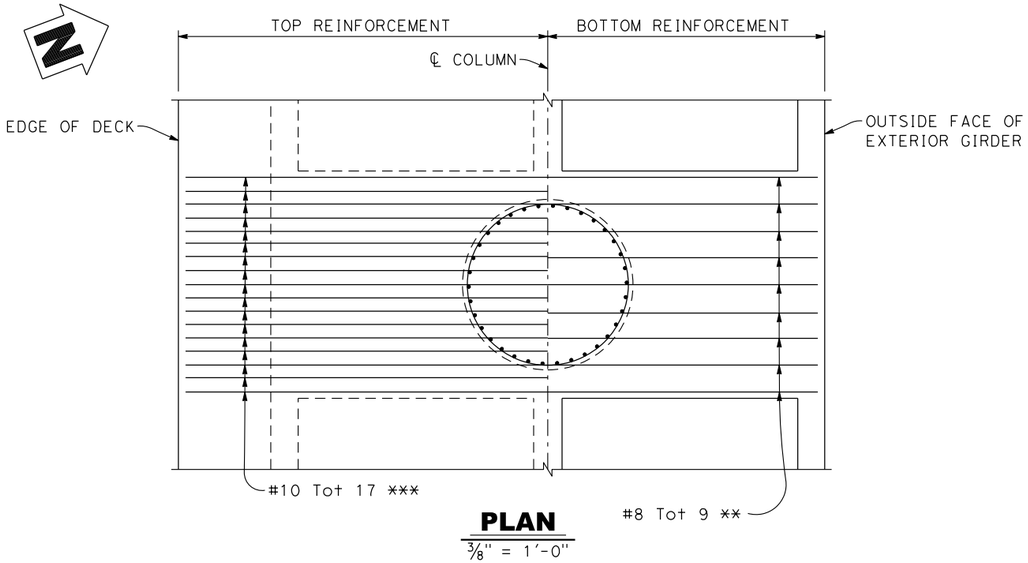
NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

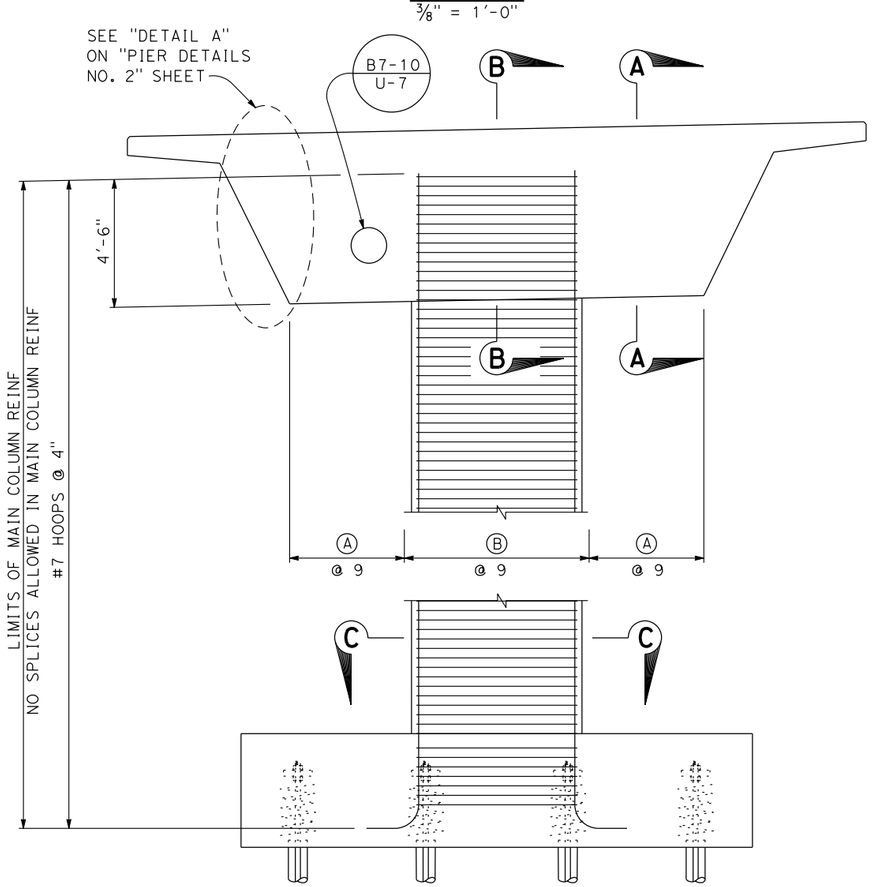
ABUTMENT DETAILS NO. 2

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET 28 OF 52 SHEETS



PLAN
3/8" = 1'-0"



ELEVATION
3/8" = 1'-0"

NOTE:

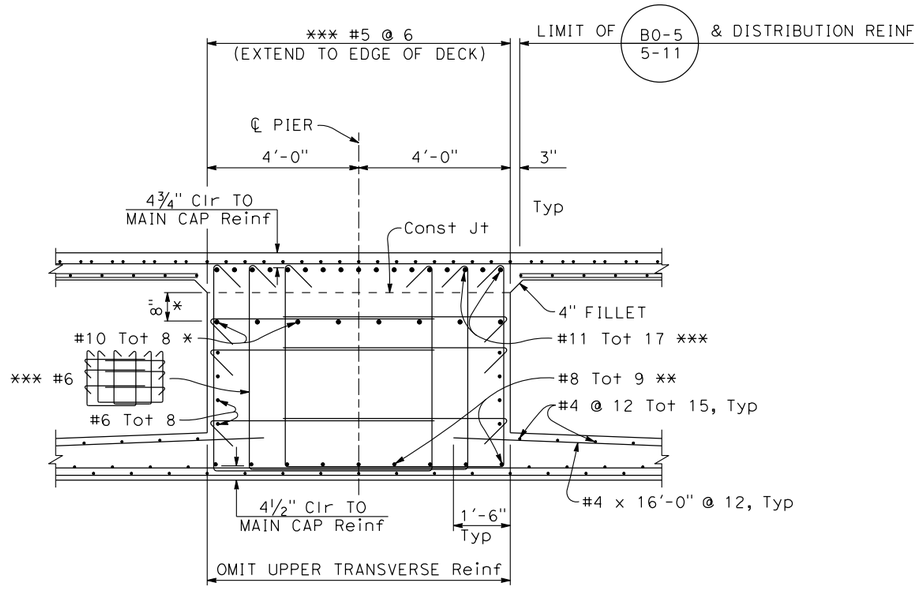
For "SECTION C-C" and "DETAIL A", see "PIER DETAILS NO. 2" sheet.

LEGEND

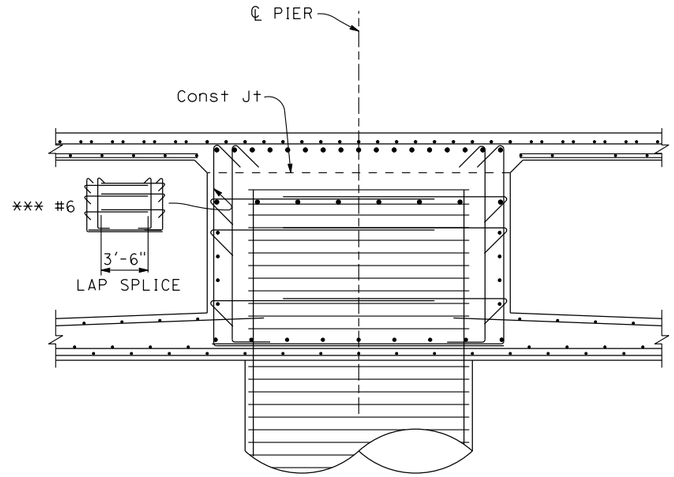
* Place as high as prestress ducts allow & adjust as needed to clear column reinf.

** Adjust to clear column reinf

*** Epoxy coated reinforcement



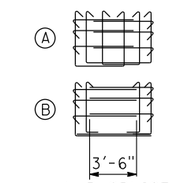
SECTION A-A
½" = 1'-0"



SECTION B-B
½" = 1'-0"

FOR DETAILS NOT SHOWN, SEE "SECTION A-A"

STIRRUP CONFIGURATION



REVISIONS

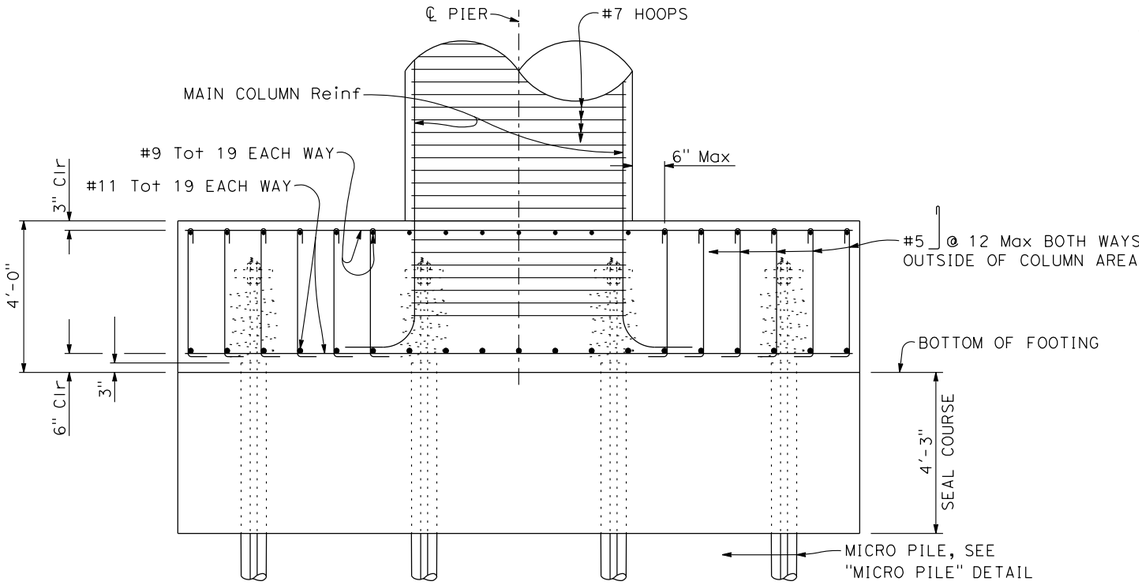
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER
BRIDGE
PIER LAYOUT

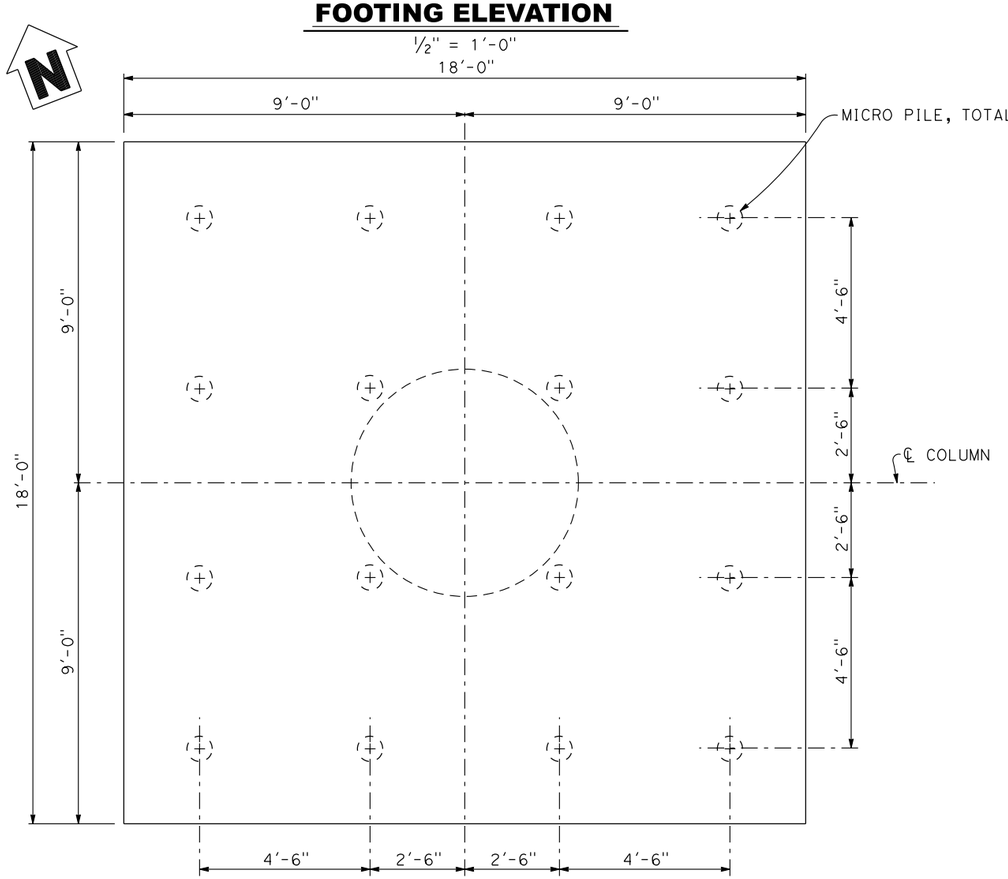
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC. 2023

SHEET
29
OF 52 SHEETS



FOOTING ELEVATION

½" = 1'-0"

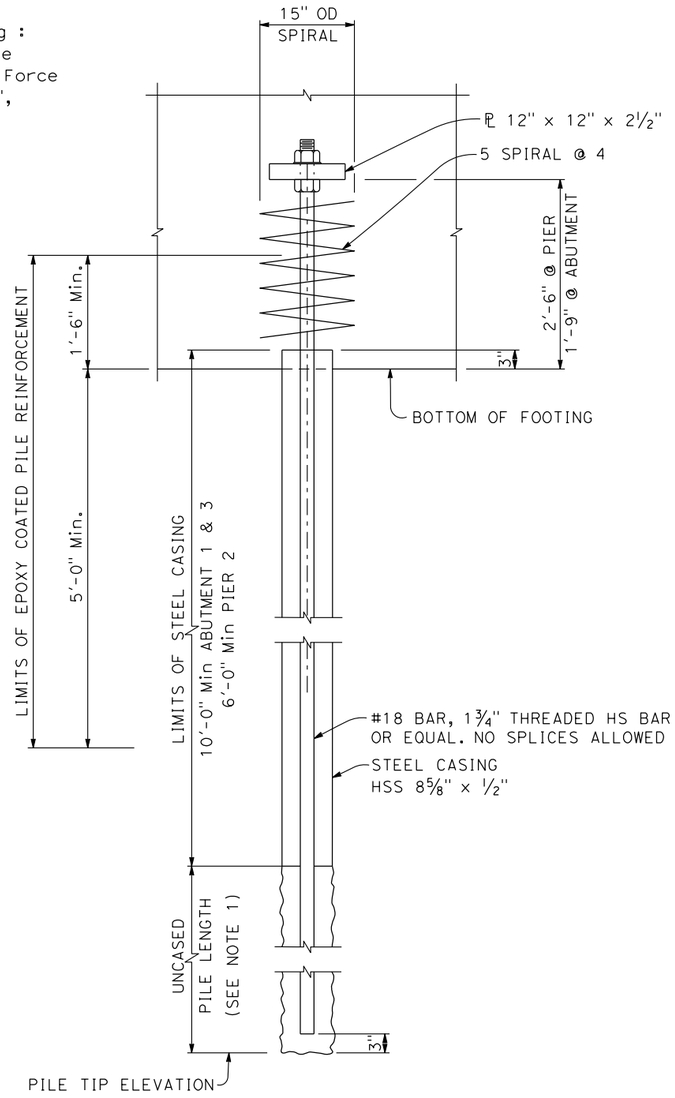


FOOTING PLAN

½" = 1'-0"

NOTE:

Bored-In-Place Pile Loading :
T = Nominal Tension Force
C = Nominal Compression Force
For values of "T" and "C", see "PILE DATA TABLE" on "FOUNDATION PLAN" sheet.



MICRO PILE

1" = 1'-0"

NOTE:

1. Contractor to determine pile length based on micropile verification test pile results. Requires sacrificial test micropile per footing, total 3.

REVISIONS

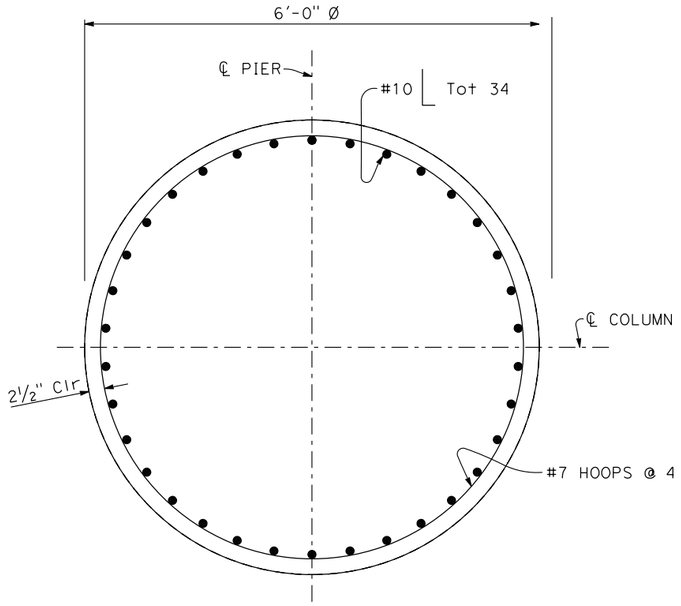
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
PIER DETAILS NO. 1

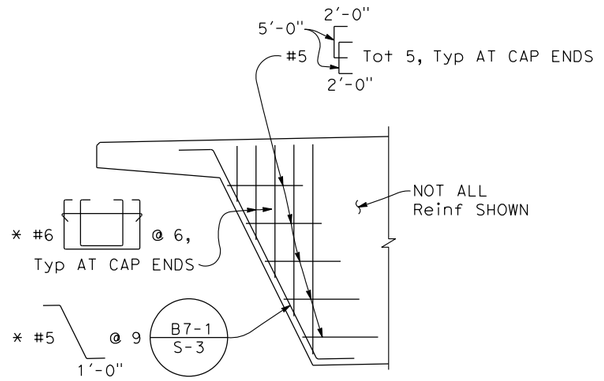
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET
30
OF 52 SHEETS



SECTION C-C

1" = 1'-0"



DETAIL A

½" = 1'-0"

* EPOXY COATED REINFORCEMENT

NOTE:

For locations of "SECTION C-C" and "DETAIL A", see "PIER DETAILS LAYOUT" sheet.

REVISIONS

NO.	DESCRIPTION	BY	DATE

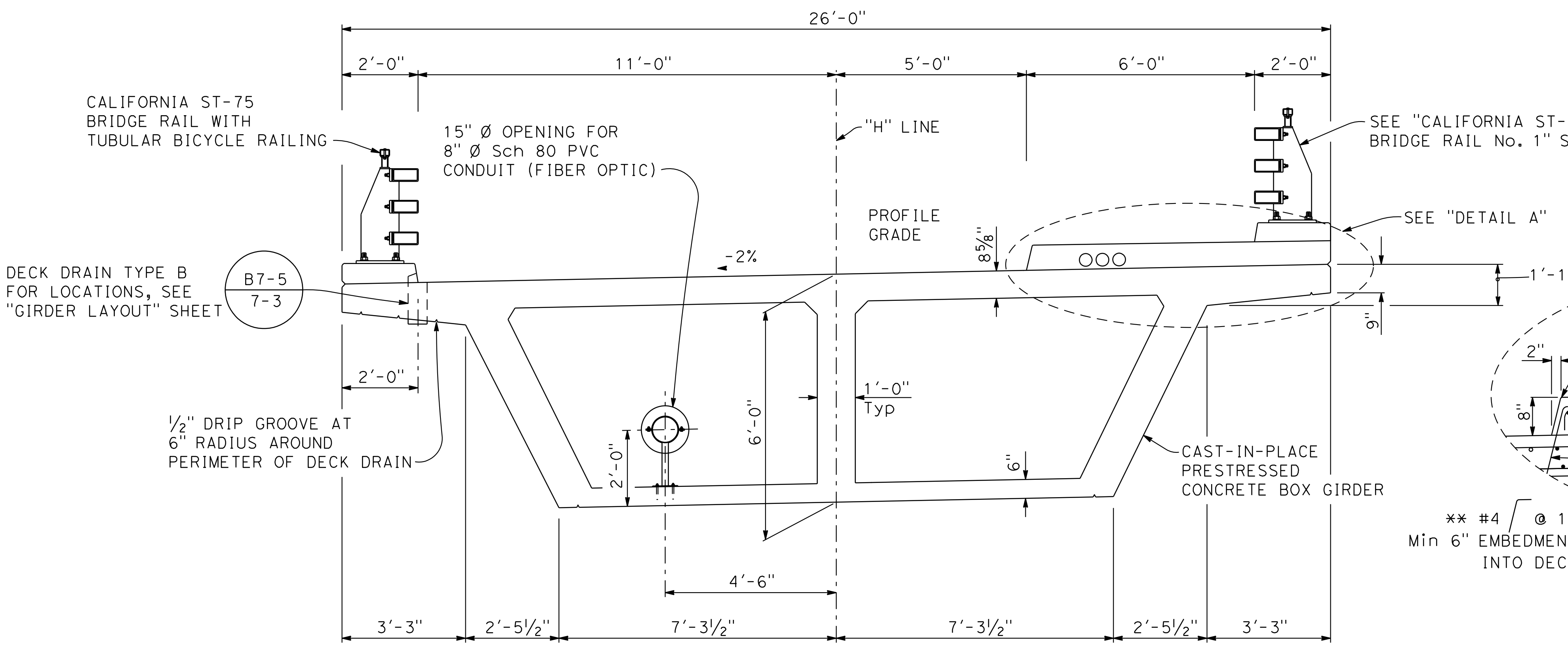
NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

PIER DETAILS NO. 2

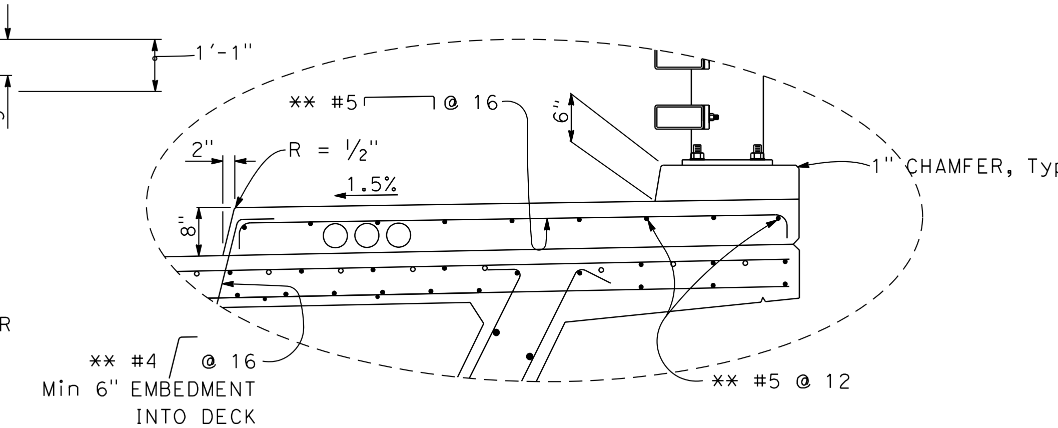
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET
31
OF 52 SHEETS



TYPICAL SECTION

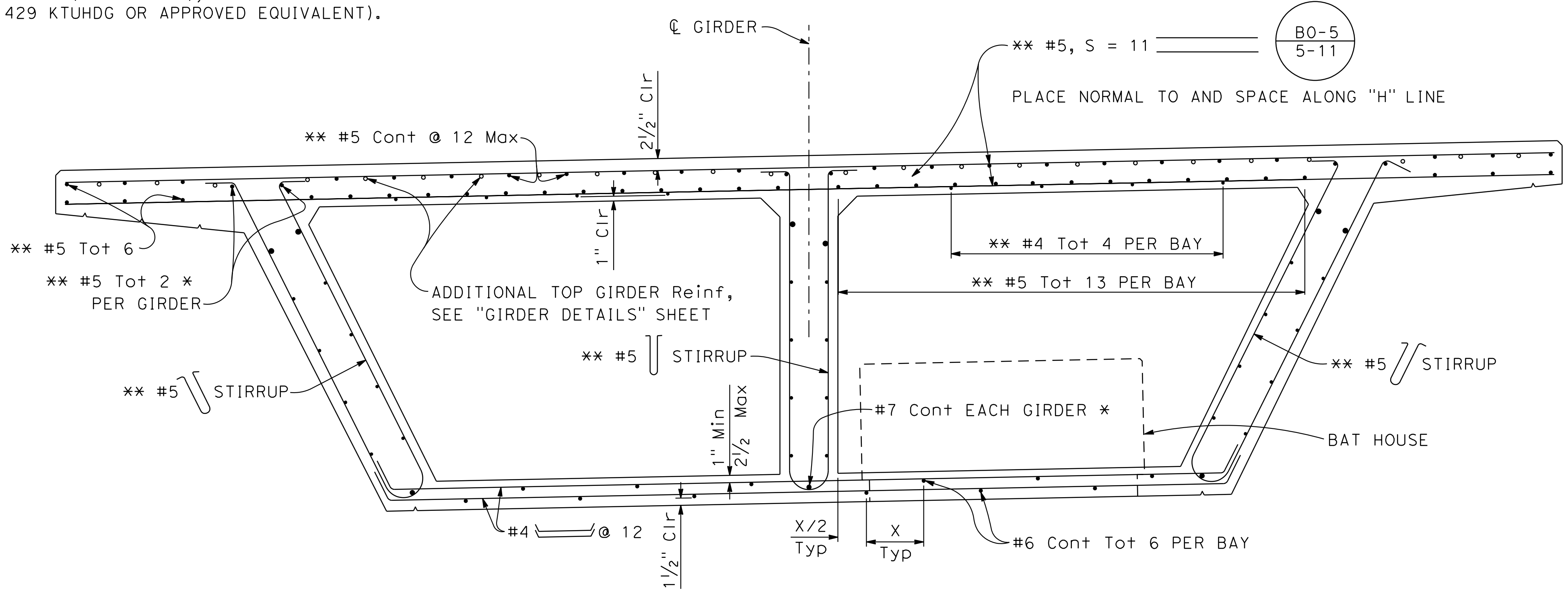
½" =1'-0"



DETAIL A

¾" =1'-0"

PIPE SADDLE SUPPORT @ 10' Max WITH 2" Ø Sch 40 EXTENSION PIPE, U-BOLT, 8" x 8" x ¼" BASE PLATE AND 4 EA ½" Ø MECHANICAL ANCHORS (GALVANIZED), BY EMPIRE INDUSTRIES FIGURE 429 KTUHDG OR APPROVED EQUIVALENT).



TYPICAL SECTION

¾" =1'-0"

B0-5 | B7-1 | B8-5

* SERVICE LEVEL COUPLERS REQUIRED. MAY BE SUBSTITUTED WITH A LAP SPLICE OF 2 TIMES STANDARD LAP LENGTHS IN 0.15L TO 0.3L AND 0.7L TO 0.85L REGIONS. (L = SPAN LENGTH MEASURED ALONG ℄ GIRDER)

** EPOXY COATED REINFORCEMENT

REVISIONS

NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

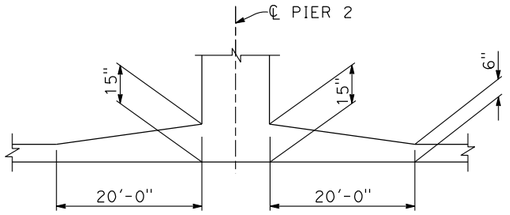
TRUCKEE RIVER BRIDGE
TYPICAL SECTION

BRIDGE No. 17C0111
DESIGNED: M.Maechler
DRAWN: K. Dang
CHECKED: D. Yang
JOB NO: 2247
DATE: DEC, 2023

NOTES:

Denotes girder stem width in inches.

L = distance measured along ℄ girder from ℄ Abut to ℄ Pier

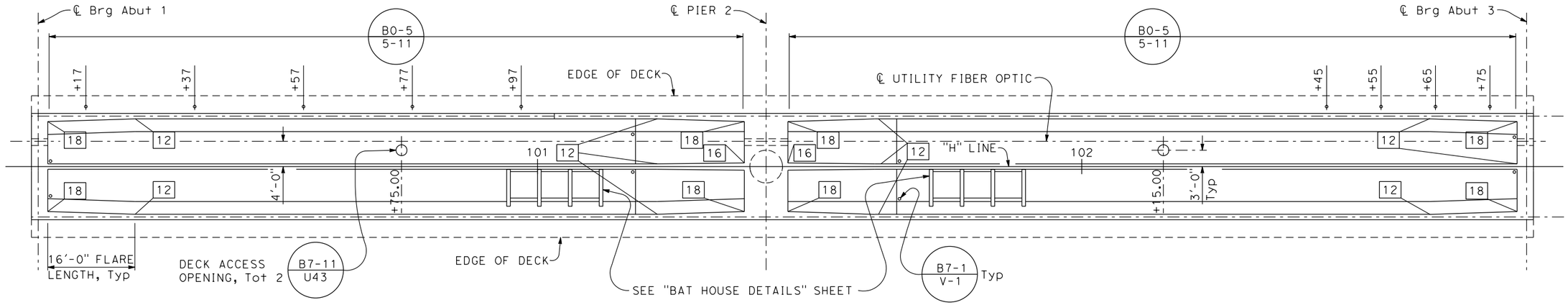


DETAIL A

NO SCALE

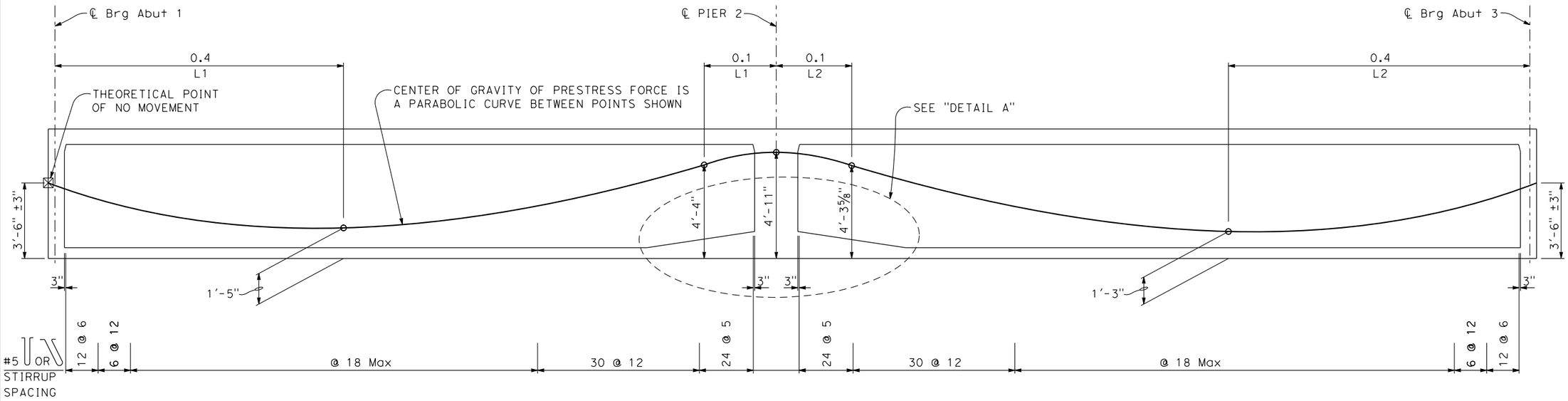
LEGEND

+XX — DENOTES DECK DRAIN LOCATIONS (TOTAL 9). ADJUST LOCATIONS AS NEED TO MISS BRIDGE RAIL POST ANCHORAGE.



PLAN

1" = 10'



LONGITUDINAL SECTION

NO SCALE

REVISIONS

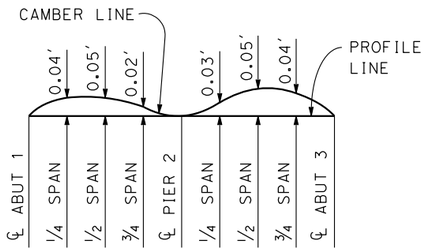
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
GIRDER LAYOUT

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

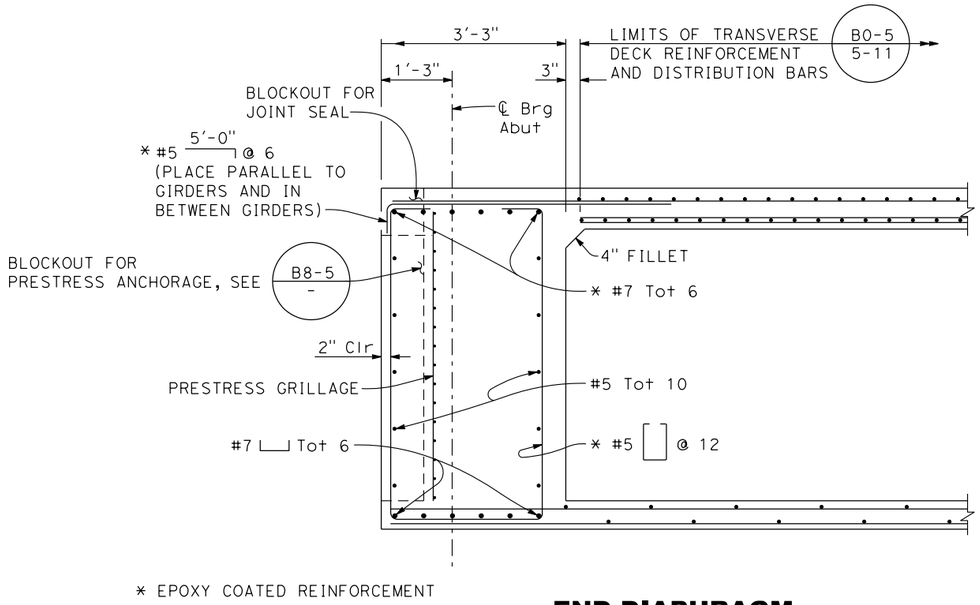
SHEET 33 OF 52 SHEETS



CAMBER DIAGRAM

NO SCALE

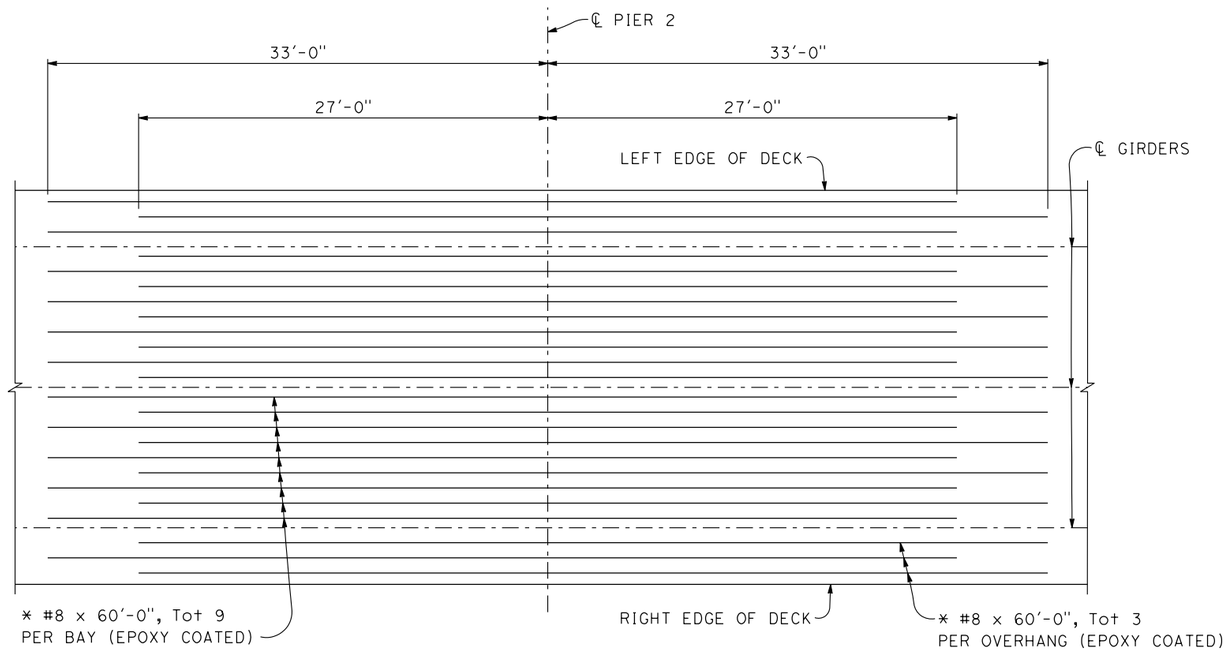
Does not include allowance for falsework settlement



* EPOXY COATED REINFORCEMENT

END DIAPHRAGM

¾" = 1'-0"



ADDITIONAL DECK REINFORCEMENT

¾" = 1'-0"

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:

P_{jack}	=	6,500	(kips)
Anchor Set	=	⅜	(in)
Friction curvature coefficient, μ	=	0.15	(1/rad)
Friction wobble coefficient, K	=	0.0002	(1/ft)
Assumed long term losses	=	20	(ksi)
Total Number of Girders	=	3	

The final force ratio (larger divided by smaller) between any two girders shall not exceed exceed the ratio of: 10 to 9

Concrete:

f'c = 4.0 psi @ 28 days

f'ci = 3.5 psi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at:

☒ = 0.875 times jacking stress.

One end stressing shall be performed from abutment 3.

REVISIONS

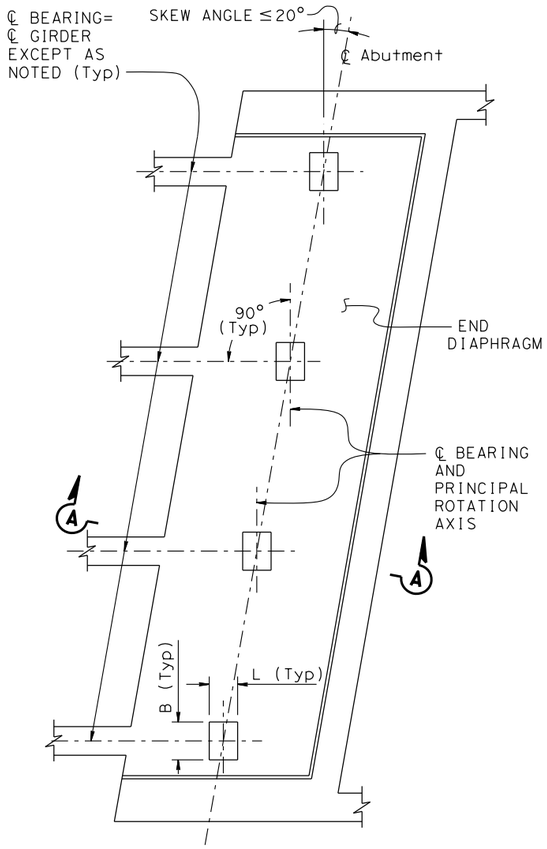
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
GIRDER DETAILS

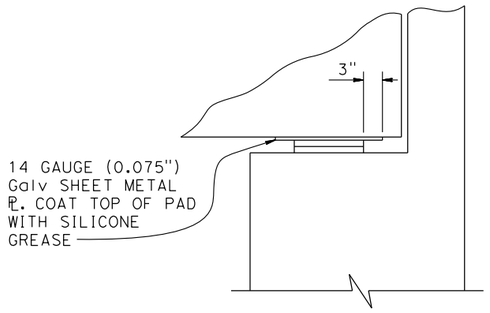
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET 34 OF 52 SHEETS

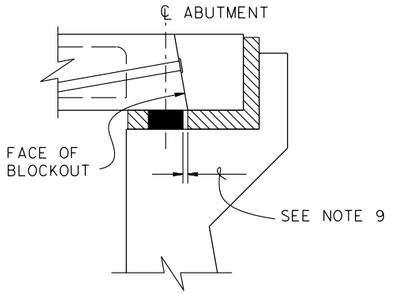


PLAN
BEARING AT GIRDER CENTERLINE
NO SCALE

STEEL REINFORCED BEARING TABLE								
LOCATION	MAXIMUM VERTICAL LOAD (kips) (SEE NOTE 7)	MINIMUM VERTICAL LOAD (kips) (SEE NOTE 8)	MAXIMUM HORIZONTAL DISPLACEMENT (in)	B(in)	L(in)	ELASTOMER ONLY THICKNESS T_r(in)	TOTAL BEARING THICKNESS (in)	SLIDING YES/NO
Abut 1	237	169	2.0	20	16	4.5	5.175	YES
Abut 3	248	179	2.1	20	16	4.5	5.175	YES



SLIDING BEARING DETAIL
NO SCALE

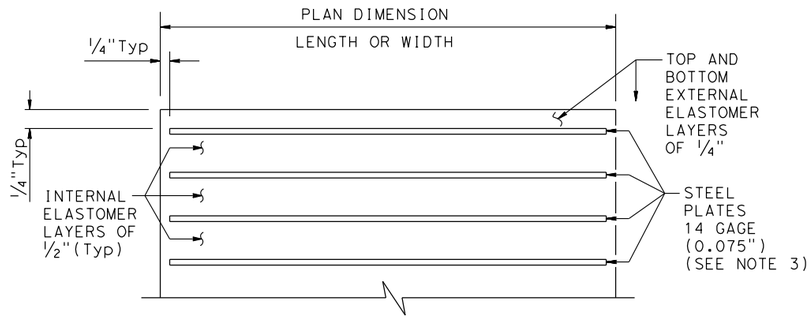


SECTION A-A
NO SCALE

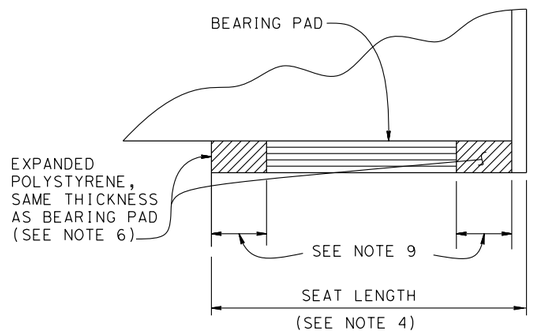
NOTES:

1. Bearing pads must be set level
2. No anchor rods through elastomeric bearings
3. All edges of the bearing steel plates must be ground or otherwise treated so that no sharp edges remain
4. Seat length normal to the center line of the bearing must not be less than 30 inches
5. Maximum horizontal bearing dimension is 30 inches
6. Remove expanded polystyrene from at least two bearing sides
7. Maximum unfactored vertical load per bearing
8. Minimum unfactored vertical load per bearing
9. Minimum edge distance must be equal to the actual bearing thickness or 3 inches whichever is greater
10. The sliding bearing detail must not be used in precast or steel girders

DESIGN AND ACTUAL THICKNESS OF ELASTOMERIC BEARINGS			
DESIGN THICKNESS (in)	NUMBER OF ½" LAYERS	NUMBER OF STEEL PLATES (14 gauge)	ACTUAL THICKNESS (in)
1.0	2	2	1.15
1.5	3	3	1.73
2.0	4	4	2.30
2.5	5	5	2.88
3.0	6	6	3.45
3.5	7	7	4.03
4.0	8	8	4.60
4.5	9	9	5.18
5.0	10	10	5.75
5.5	11	11	6.33
6.0	12	12	6.90



ELASTOMERIC BEARING DETAIL
NO SCALE



BEARING PLACEMENT DETAIL
NO SCALE

REVISIONS

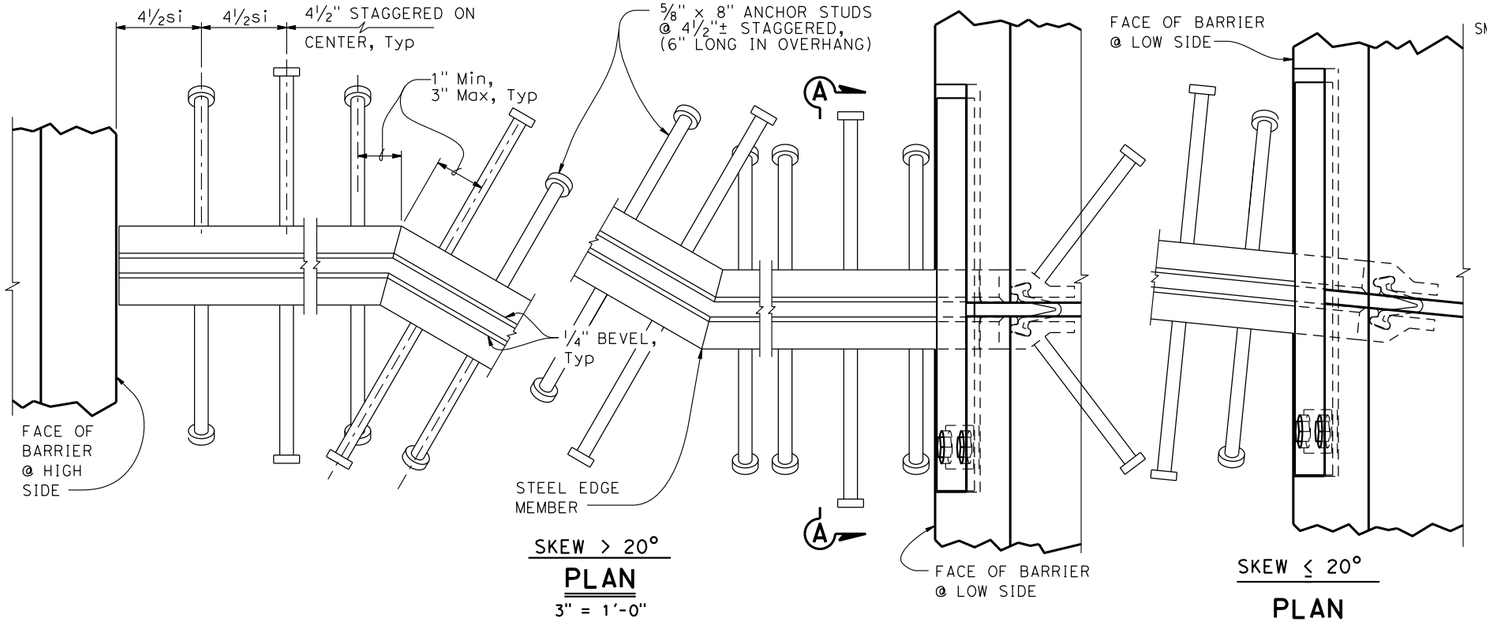
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
STEEL REINFORCED ELASTOMERIC BEARINGS

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET 35 OF 52 SHEETS



SKEW > 20°

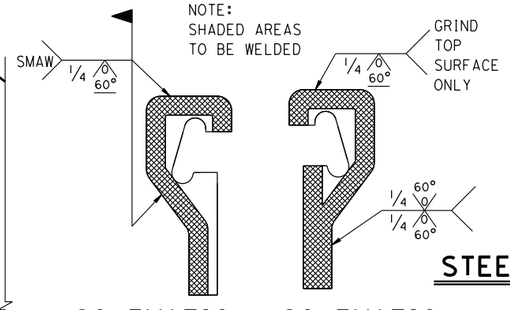
PLAN

3" = 1'-0"

SKEW ≤ 20°

PLAN

3" = 1'-0"



SCHEMATIC FIELD WELD DETAIL

NO SCALE

SCHEMATIC SHOP WELD DETAIL

NO SCALE

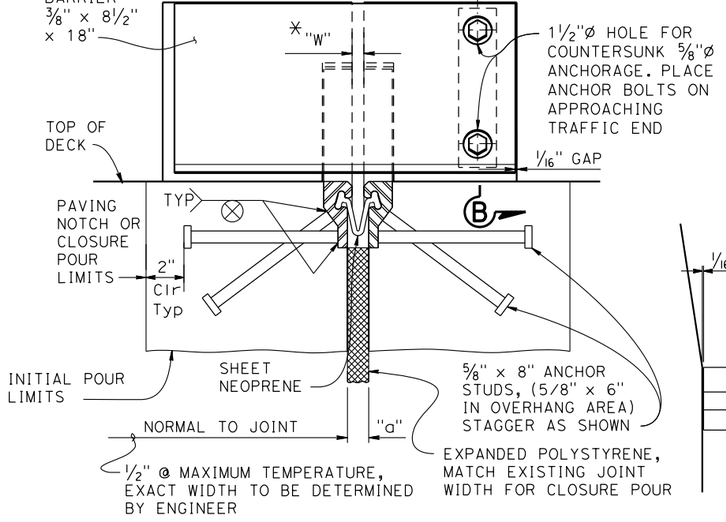
SCHEMATIC STEEL EDGE MEMBER

NO SCALE

NOTES:

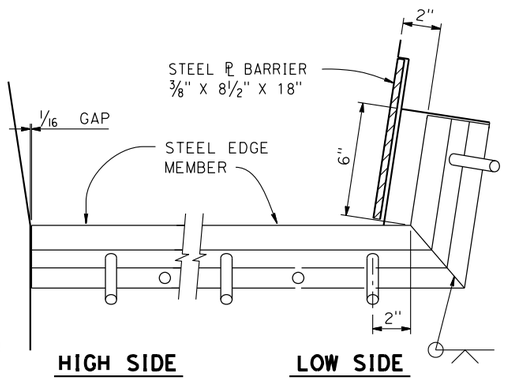
1. Alternatively, fillet or complete penetration welds may be used at anchor studs.
2. Alternate types of anchor studs may be permitted subject to the authorization by the Engineer.
3. Joint seal assembly to be used in conjunction with closure pour. (See other sheets for limits). Closure pour shall not be placed until final deck surface is within the tolerances specified.
4. Use joint at crown of roadway, at any change in traverse slope in deck and at changes in horizontal direction. Place other joints at or near lanes. All metal parts to be painted or galvanized after fabrication.
5. Sheet Neoprene shall be fabricated in one continuous piece and shall be fabricated to bend around corners. Field splices of the neoprene are not allowed.
6. Insert assembly or expansion anchorage for ⅝" x 1¾" bolts. Use installation bolts extended ½" minimum past nut and coat with bond breaker, after concrete has cured, remove installation bolts, install HS bolts and sheet neoprene.
7. Use sidewalk detail at all sidewalk joints. Use barrier detail low side at both sides if the roadway is crowned, or if the difference in elevation between the ends of the seal is 6 inches or less.
8. a_C, a_S, are the thermal expansion coefficients for concrete and steel respectively.
9. Anchor studs shall conform to ASTM 108.

JOINT INFORMATION			"a" DIMENSIONS		
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	SPRING & FALL	SUMMER
ABUTMENT 1	2½"	0°	1½"	1⅛"	¾"
ABUTMENT 3	2½"	0°	1½"	1⅛"	¾"



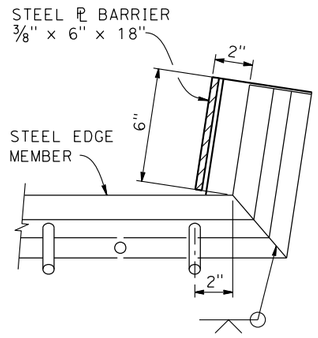
SECTION A-A

3" = 1'-0"



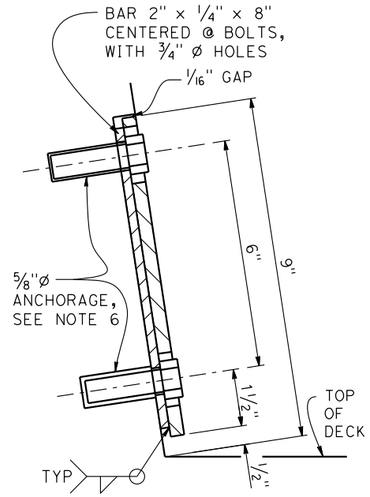
BARRIER DETAIL

3" = 1'-0"



SIDEWALK DETAIL

3" = 1'-0"



SECTION B-B

6" = 1'-0"

* TO SET MINIMUM JOINT OPENING "W"

"W" = { ½"+[(Max Str temperature in °F)-(actual Str temperature in °F)]*(a or a)(½2)(contributory L in feet)
{ ½" Minimum
{ a_C = 0.0000060
{ a_S = 0.0000065

REVISIONS

NO.	DESCRIPTION	BY	DATE

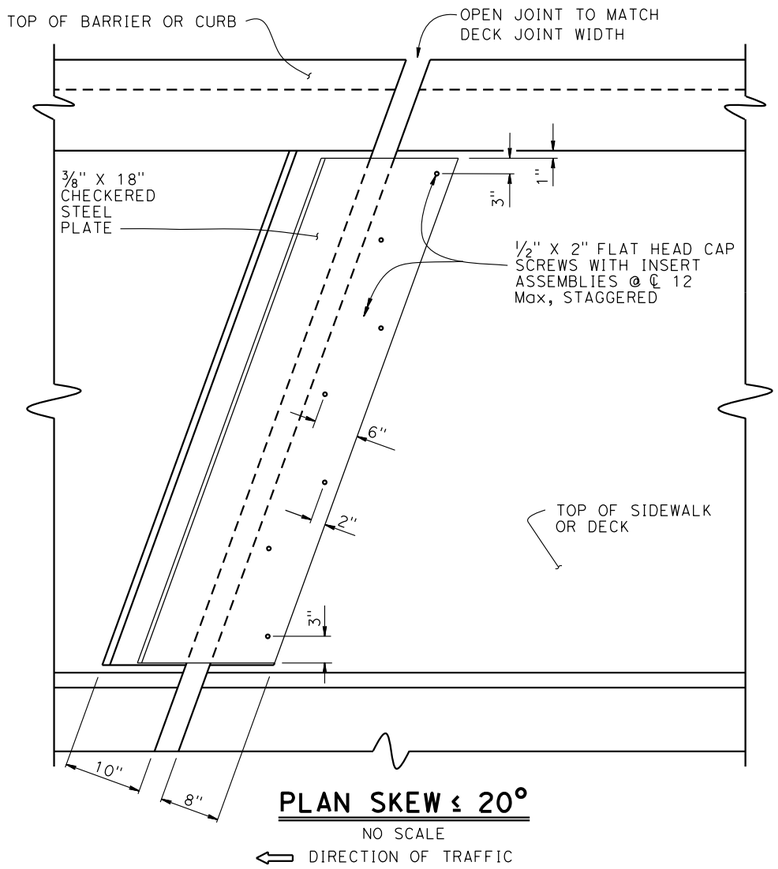
NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

STRIP JOINT SEAL ASSEMBLY MAXIMUM MOVEMENT RATING = 4"

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

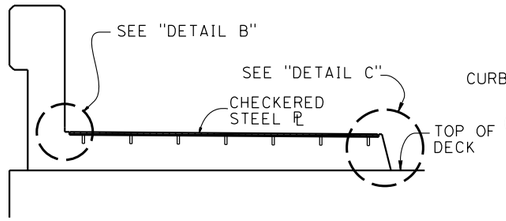
SHEET 36 OF 52 SHEETS



PLAN SKEW ≤ 20°

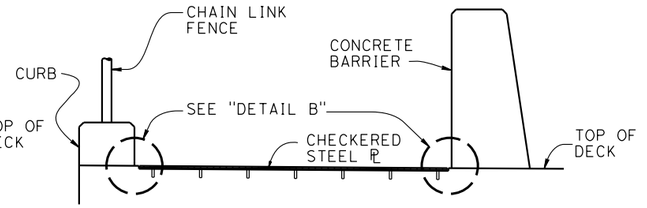
NO SCALE

⇦ DIRECTION OF TRAFFIC



SECTION A-A

NO SCALE

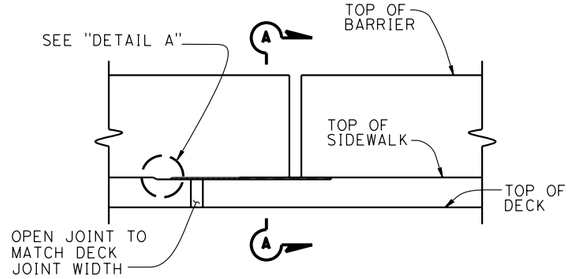


SECTION B-B

NO SCALE

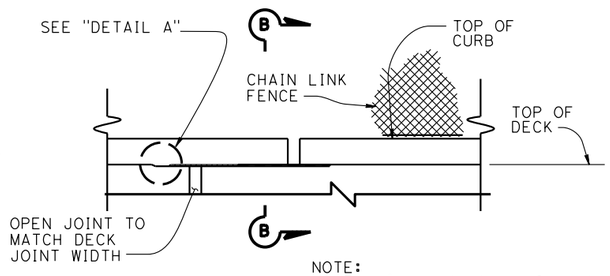
NOTES:

1. Utility openings and expansion joints not shown for clarity.
2. Recess concrete ½" for plates.
3. Plates to be galvanized.
4. Architectural treatment not shown



ELEVATION

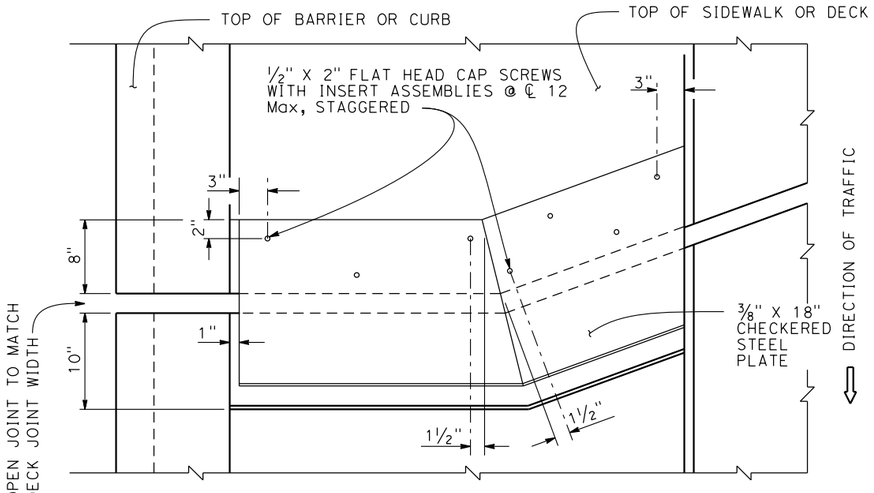
NO SCALE



NOTE:
Barrier not shown for clarity

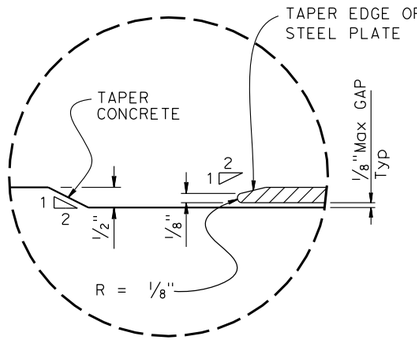
ELEVATION

NO SCALE



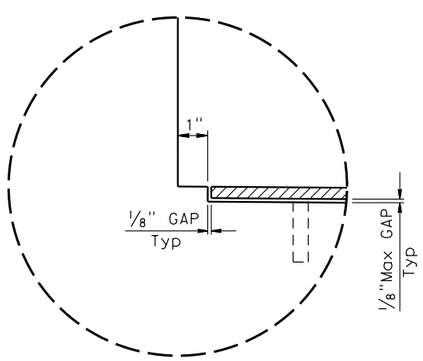
PLAN SKEW > 20°

NO SCALE



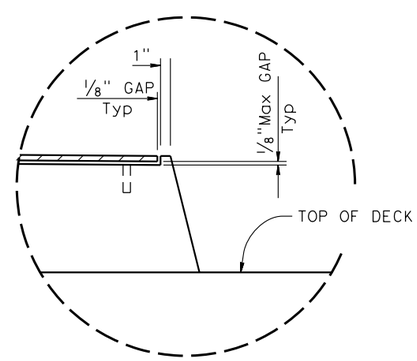
DETAIL A

NO SCALE



DETAIL B

NO SCALE



DETAIL C

NO SCALE

REVISIONS

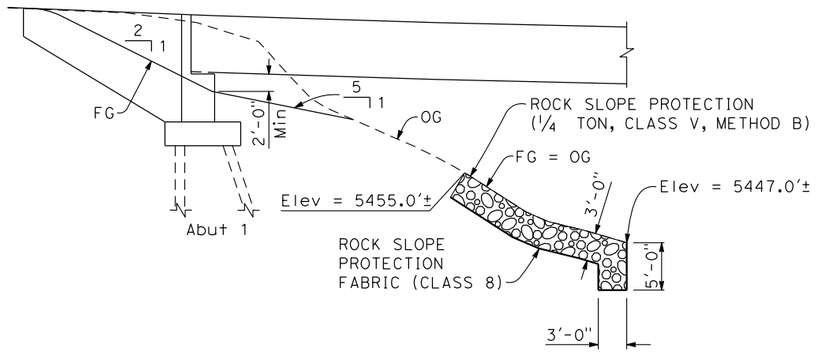
NO.	DESCRIPTION	BY	DATE

COUNTY of NEVADA
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
JOINT ARMOR FOR PEDESTRIAN WALKWAYS

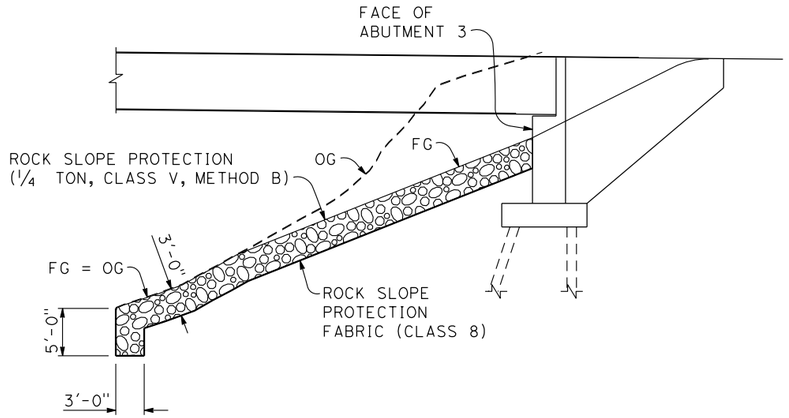
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

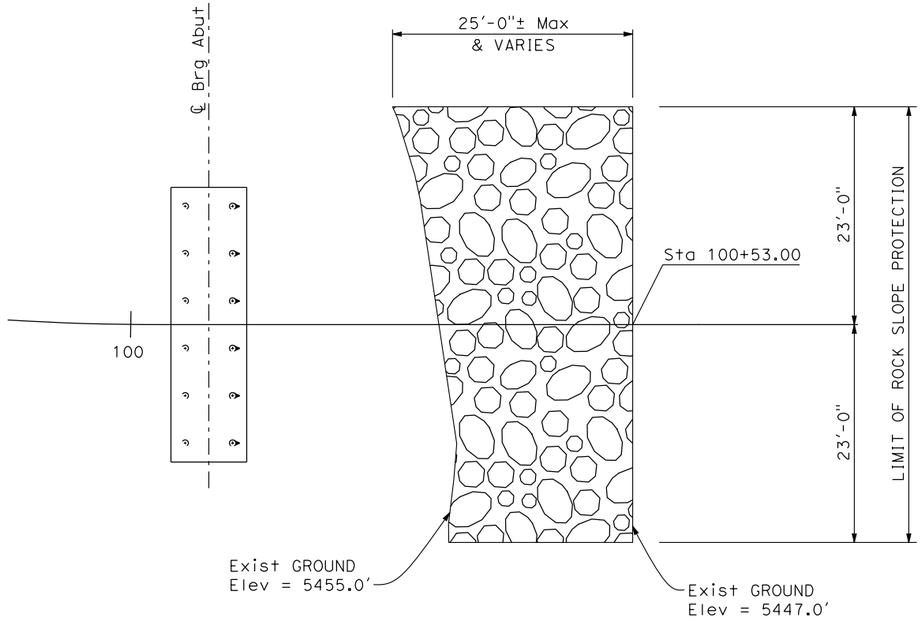
SHEET 37 OF 52 SHEETS

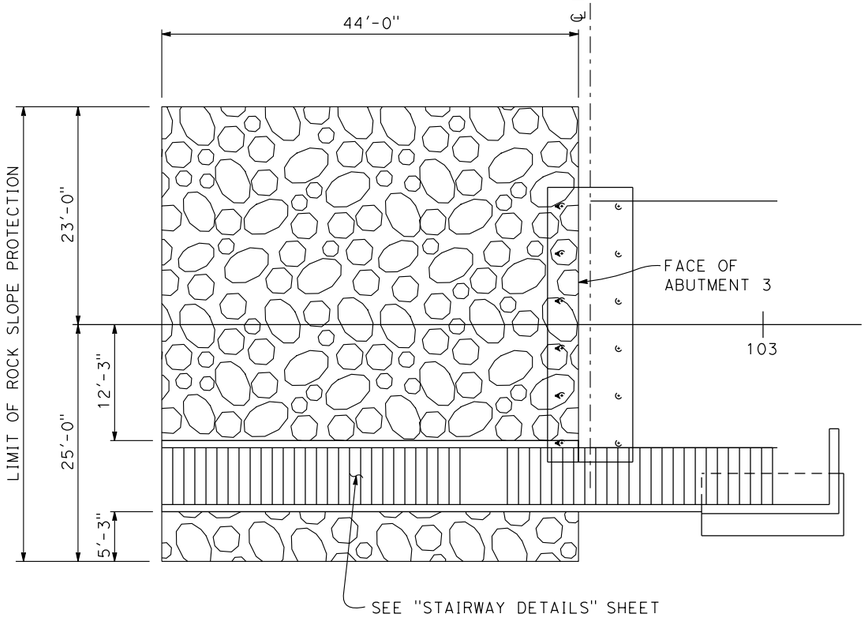


ELEVATION

1/8" = 1'-0"







PLAN

1/8" = 1'-0"

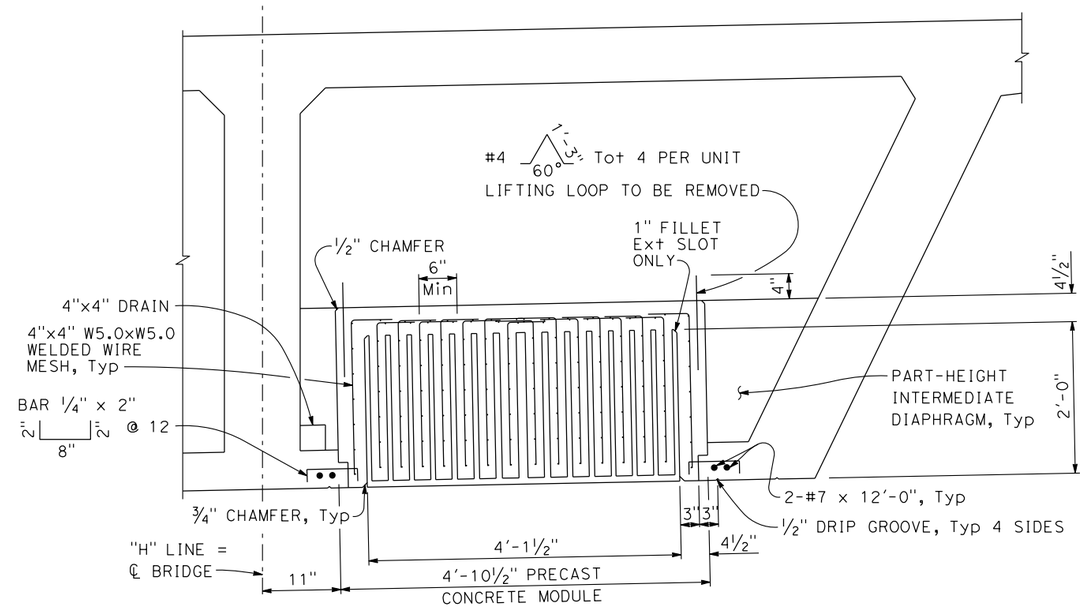
REVISIONS			
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
ROCK SLOPE PROTECTION

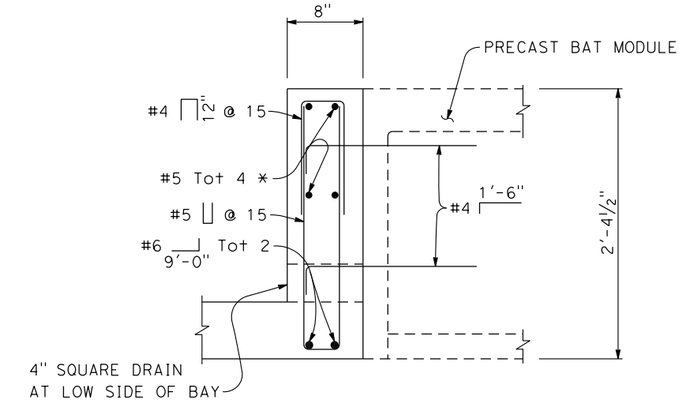
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET
38
OF 52 SHEETS



SECTION A-A

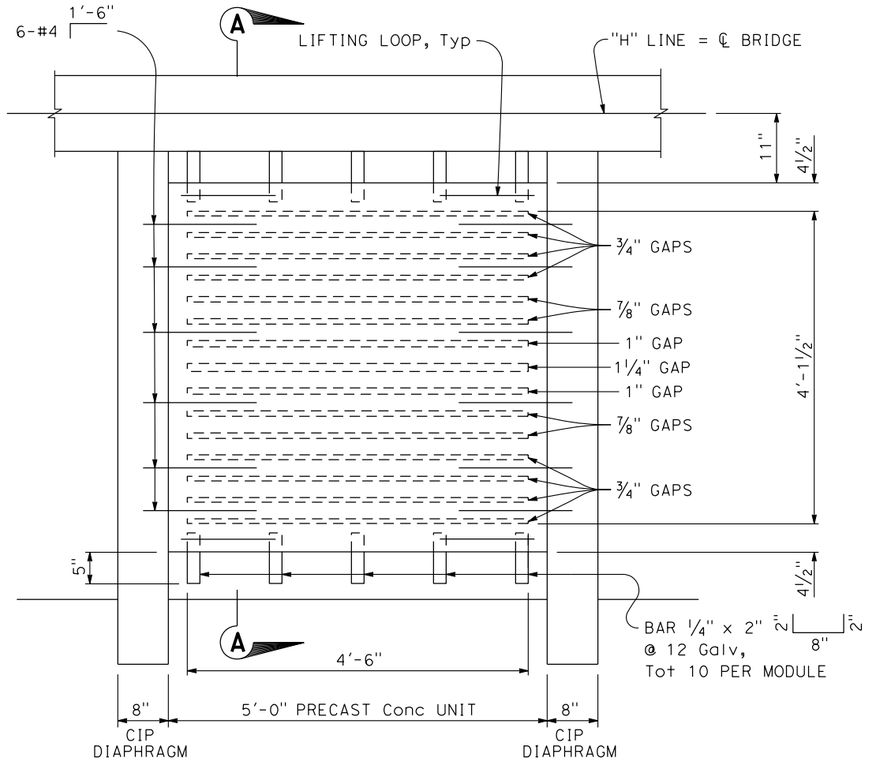
1" = 1'-0"



INTERMEDIATE DIAPHRAGM

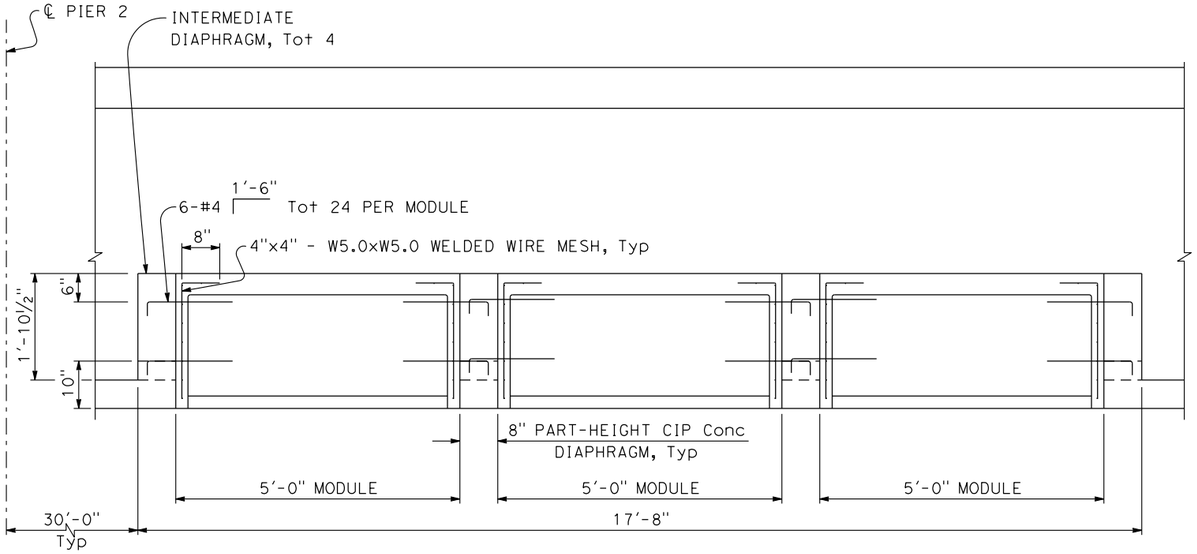
1½" = 1'-0"

* Extend reinforcement 8" into box girder stems.
Adjust location as needed to clear prestressing ducts.



PLAN

1" = 1'-0"



LONGITUDINAL SECTION THROUGH BAT MODULES

¾" = 1'-0"

REVISIONS

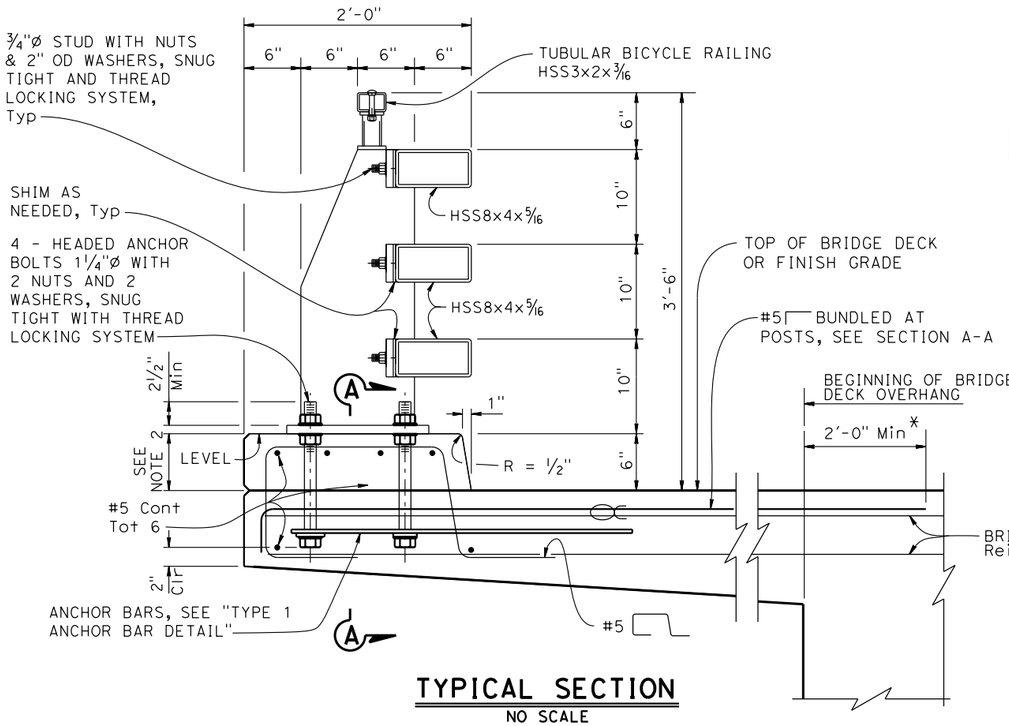
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
BAT HOUSE DETAILS

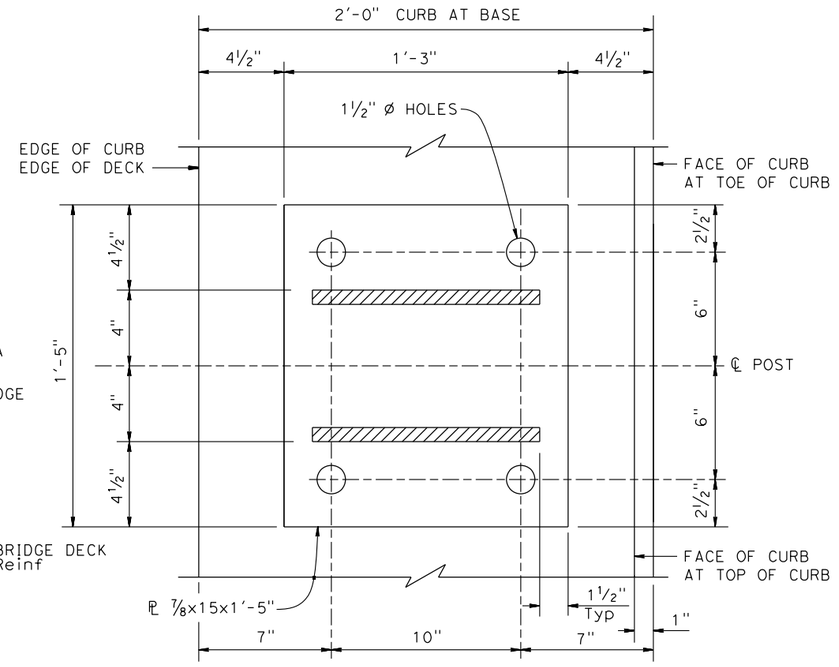
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET 39 OF 52 SHEETS

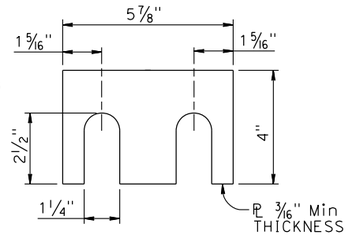


TYPICAL SECTION
NO SCALE

* #5 ⌐ Bundled at posts to extend 2'-0" Min beyond beginning of bridge deck overhang.

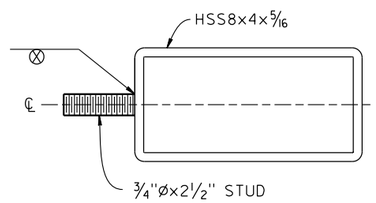


BASE PLATE
NO SCALE

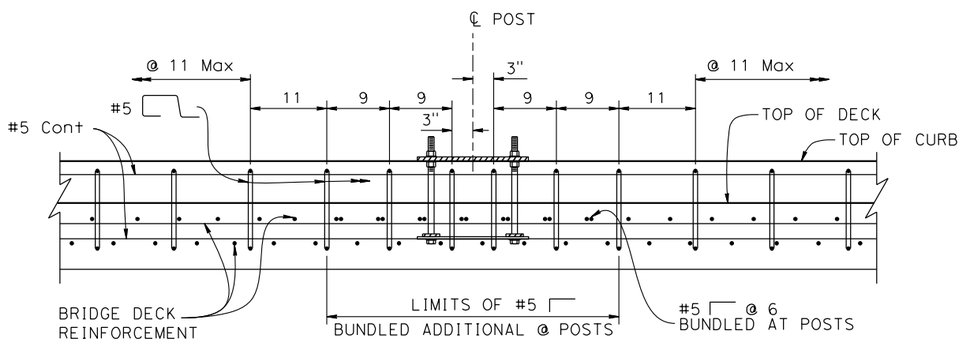


SHIM DETAIL
NO SCALE

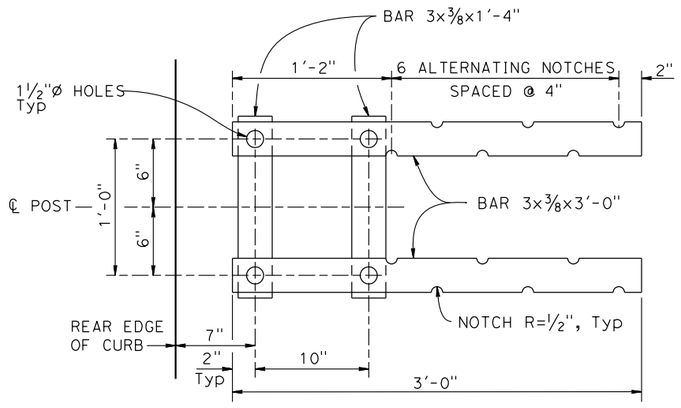
NOTE:
Shim as needed between posts and HSS rail tubes.



RAIL SECTION AT POST
NO SCALE



SECTION A-A
NO SCALE
NOTE: Post not shown for clarity.



TYPE 1 ANCHOR BAR DETAIL
NO SCALE

NOTES:

1. Anchor bolts may be tack welded to anchor bars.
2. Curb dimension at back side of rail will vary with bridge deck cross slope, and if overlay is placed on the bridge deck. For the same reasons, the anchor bolt lengths will vary.
3. Use extra thick washers for anchor bolts, with a minimum thickness of 0.305" and a maximum thickness of 0.375".
4. All reinforcement in railing concrete to be epoxy coated.

LEGEND:

⊂⊃ Bundled reinforcement

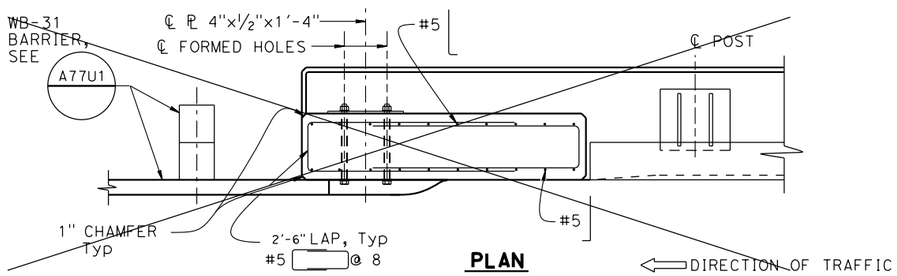
REVISIONS			
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
CALIFORNIA ST-75 BRIDGE RAIL
DETAILS No. 1

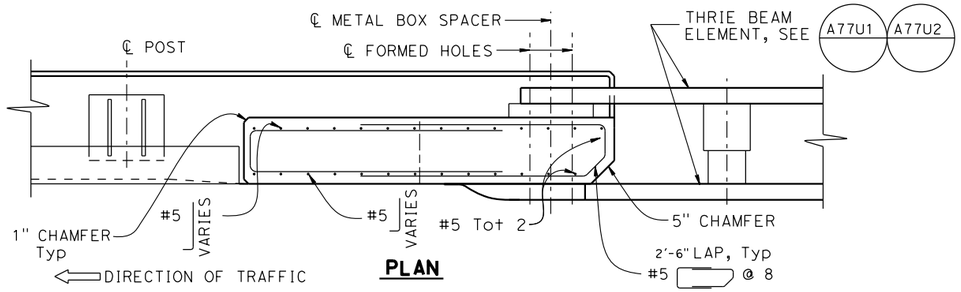
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET
40
OF 52 SHEETS



DEPARTURE END BLOCK DETAIL

NO SCALE

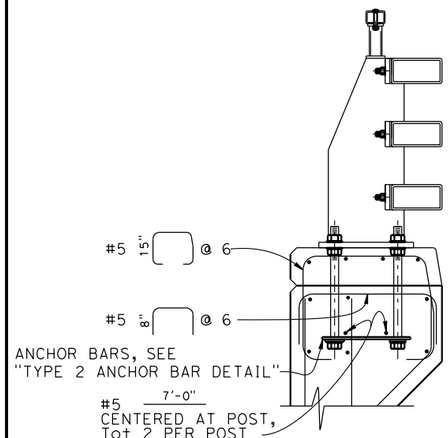


APPROACH TRANSITION END BLOCK DETAIL

NO SCALE

NOTES:

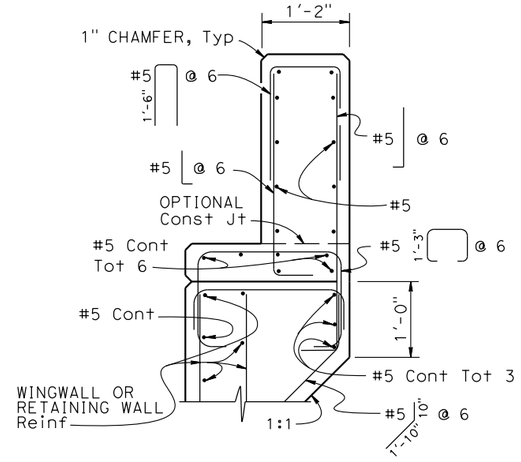
1. All horizontal members are parallel to longitudinal profile grade.
2. Posts are normal to profile grade of structure.
3. Posts are vertical to the transverse cross section.
4. If departure end block is within the Clear Recovery Zone (CRZ, 30 feet for expressways and freeways and 20 feet for conventional highways) of opposing traffic, then use the approach end block at the departure end.
5. Anchor bolts may be tack welded to anchor bars.
6. For parapet shoes details see "CALIFORNIA ST-76 BRIDGE RAIL DETAILS No. 5" SHEET.
7. All reinforcement in railing concrete to be epoxy coated.



SECTION B-B

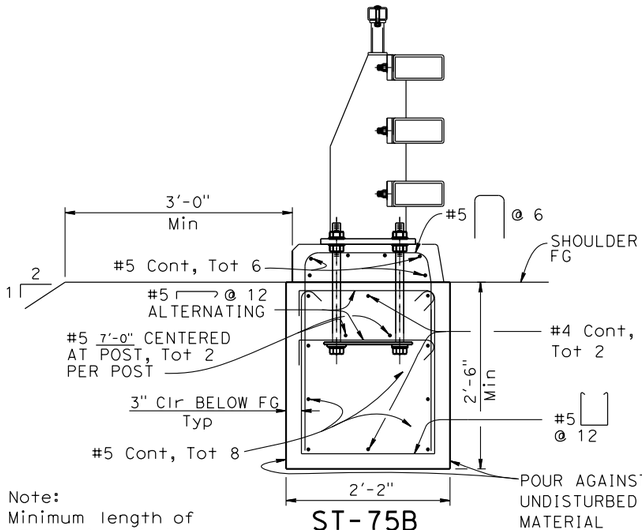
NO SCALE

NOTE:
For details not shown see "SECTION C-C"



SECTION C-C

NO SCALE

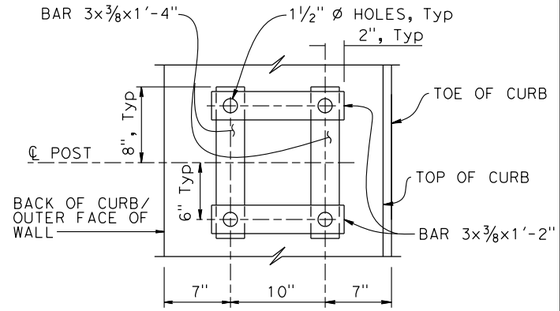


Note:
Minimum length of ST-75B is 40'-0".

ST-75B

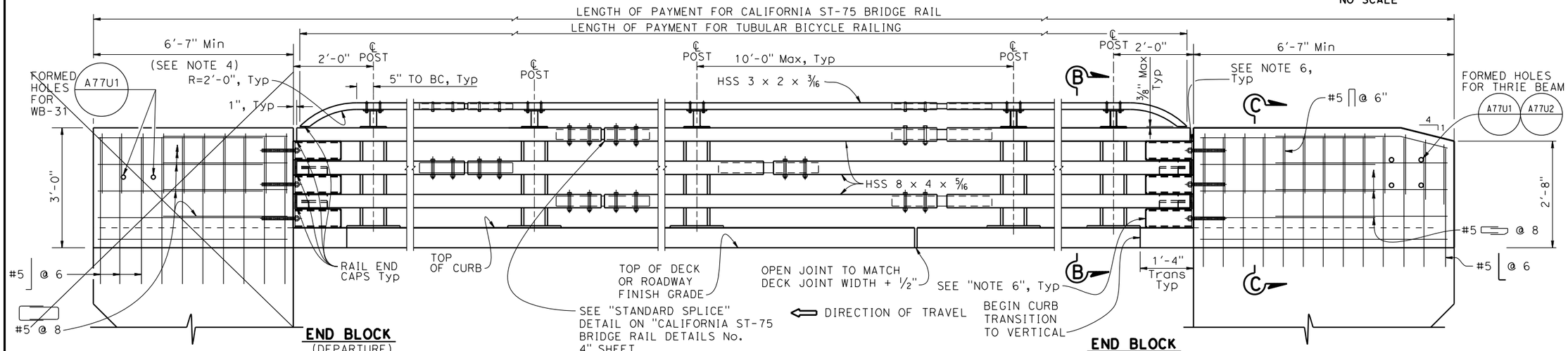
NO SCALE

AESTHETIC ALTERNATIVE TO GUARD RAIL



TYPE 2 ANCHOR BAR DETAIL

NO SCALE



ELEVATION

NO SCALE

NOTE: Not all reinforcement shown for clarity.

REVISIONS

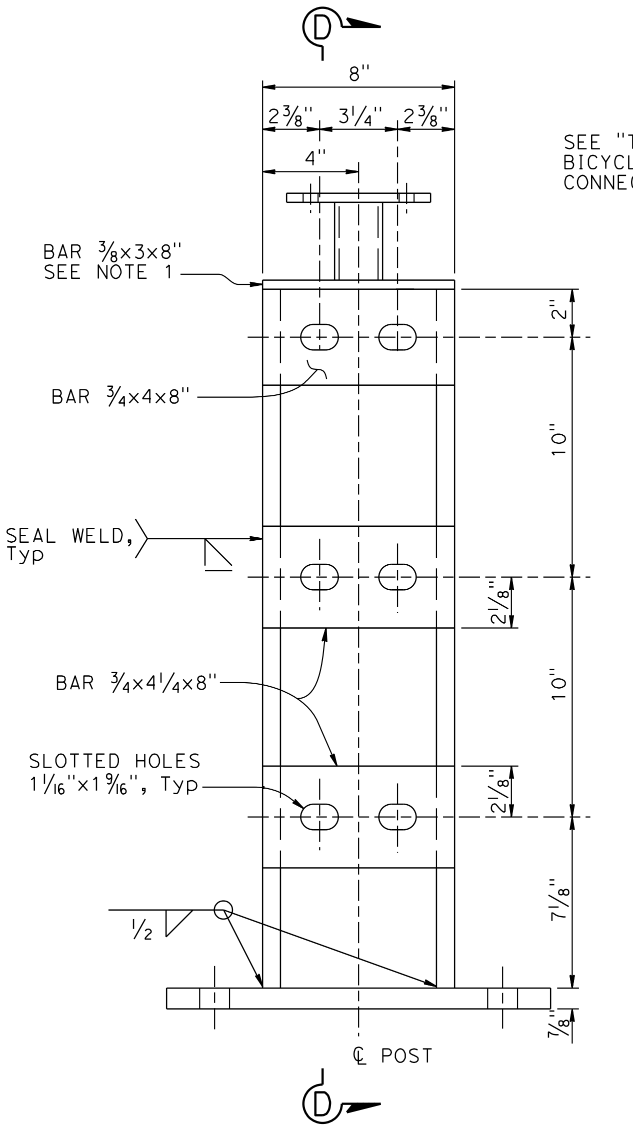
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
CALIFORNIA ST-75 BRIDGE RAIL
DETAILS No. 2

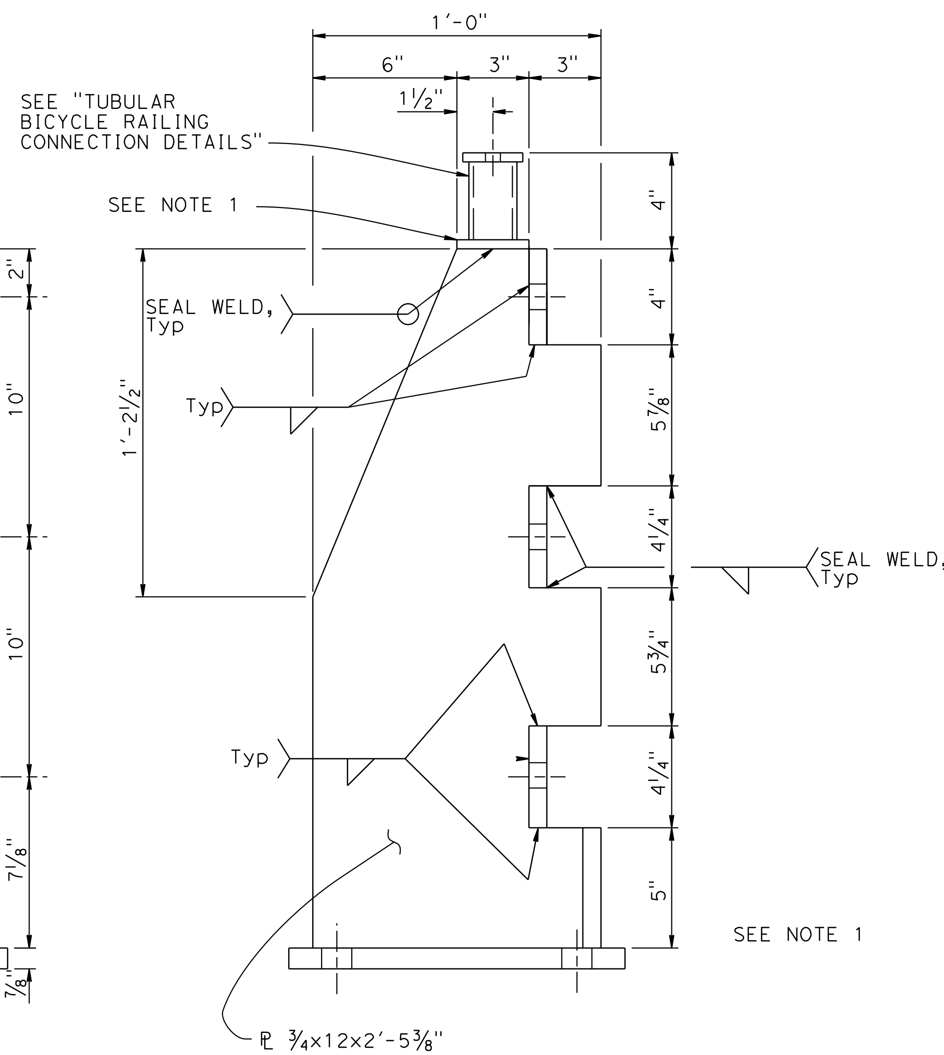
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET 41 OF 52 SHEETS



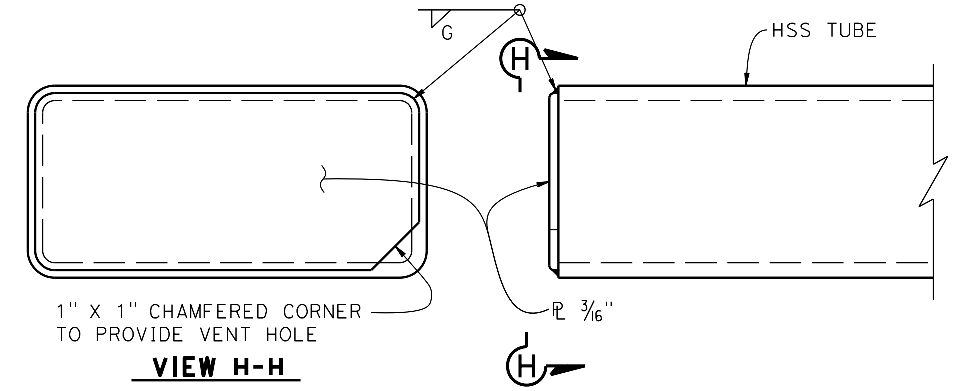
POST DETAIL

NO SCALE



SECTION D-D

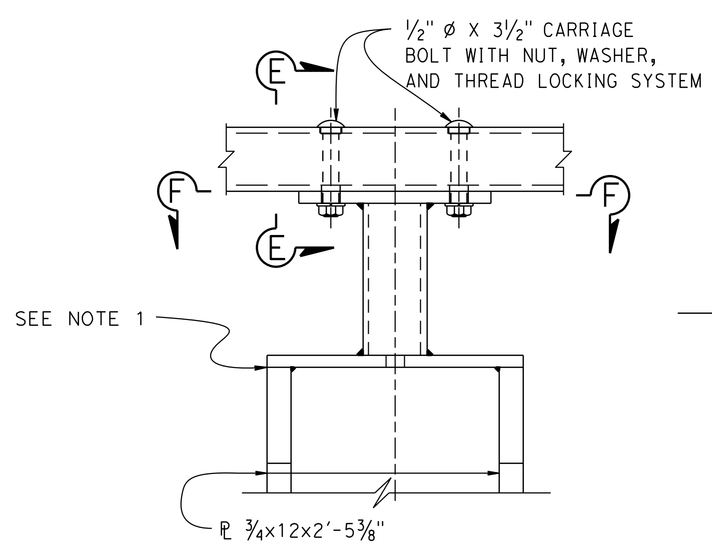
NO SCALE



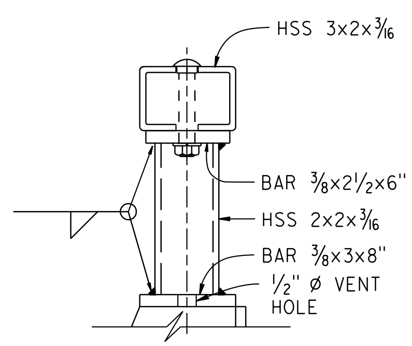
RAIL END CAP

NO SCALE

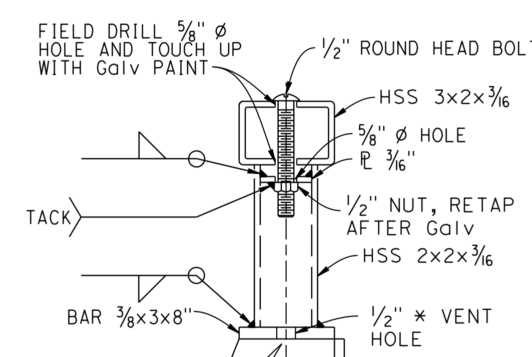
NOTE: For vehicular rail tube and bicycle railing tubes.



ELEVATION

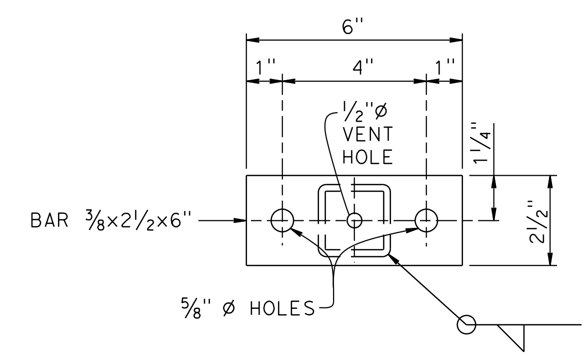


SECTION E-E



SECTION E-E

ALTERNATIVE



SECTION F-F

NOTE:

1. For access controlled freeways and expressways where bicycle traffic is prohibited by signage on the on-ramps, the bicycle railing (includes bar 3/8x3x8" and above) may be omitted.

TUBULAR BICYCLE RAILING CONNECTION DETAILS

NO SCALE

REVISIONS

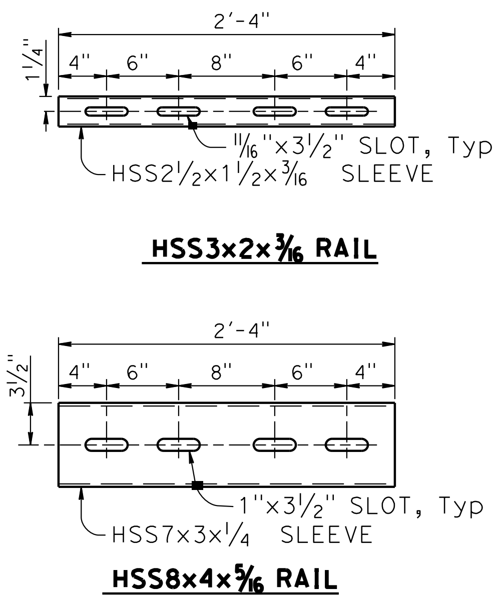
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
CALIFORNIA ST-75 BRIDGE RAIL
DETAILS No. 3

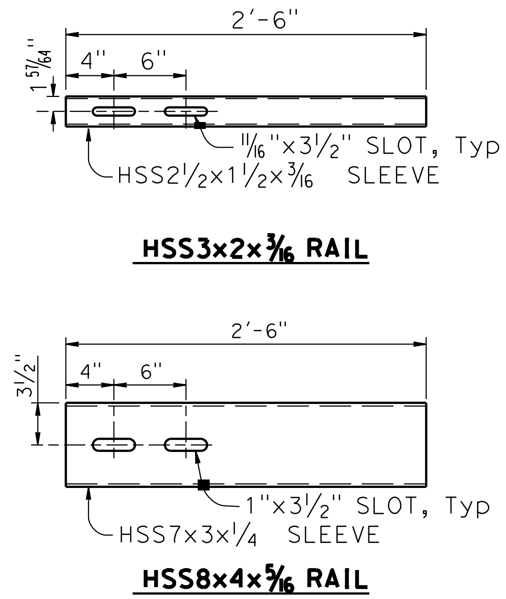
BRIDGE No. 17C0111
DESIGNED: M.Maechler
DRAWN: K. Dang
CHECKED: D. Yang
JOB NO: 2247
DATE: DEC, 2023

SHEET
42
OF 52 SHEETS



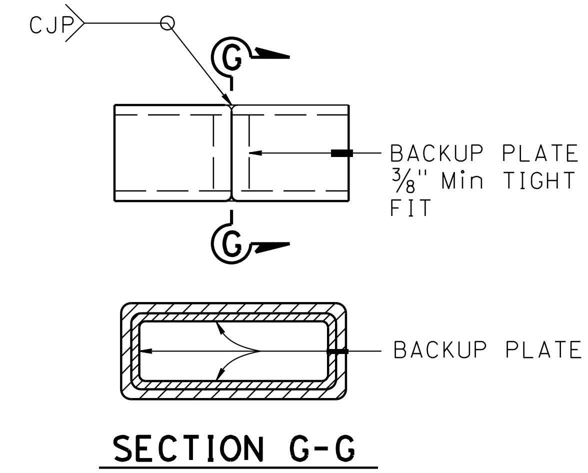
STANDARD SLEEVES DETAILS

NO SCALE



EXPANSION SLEEVES DETAILS

NO SCALE

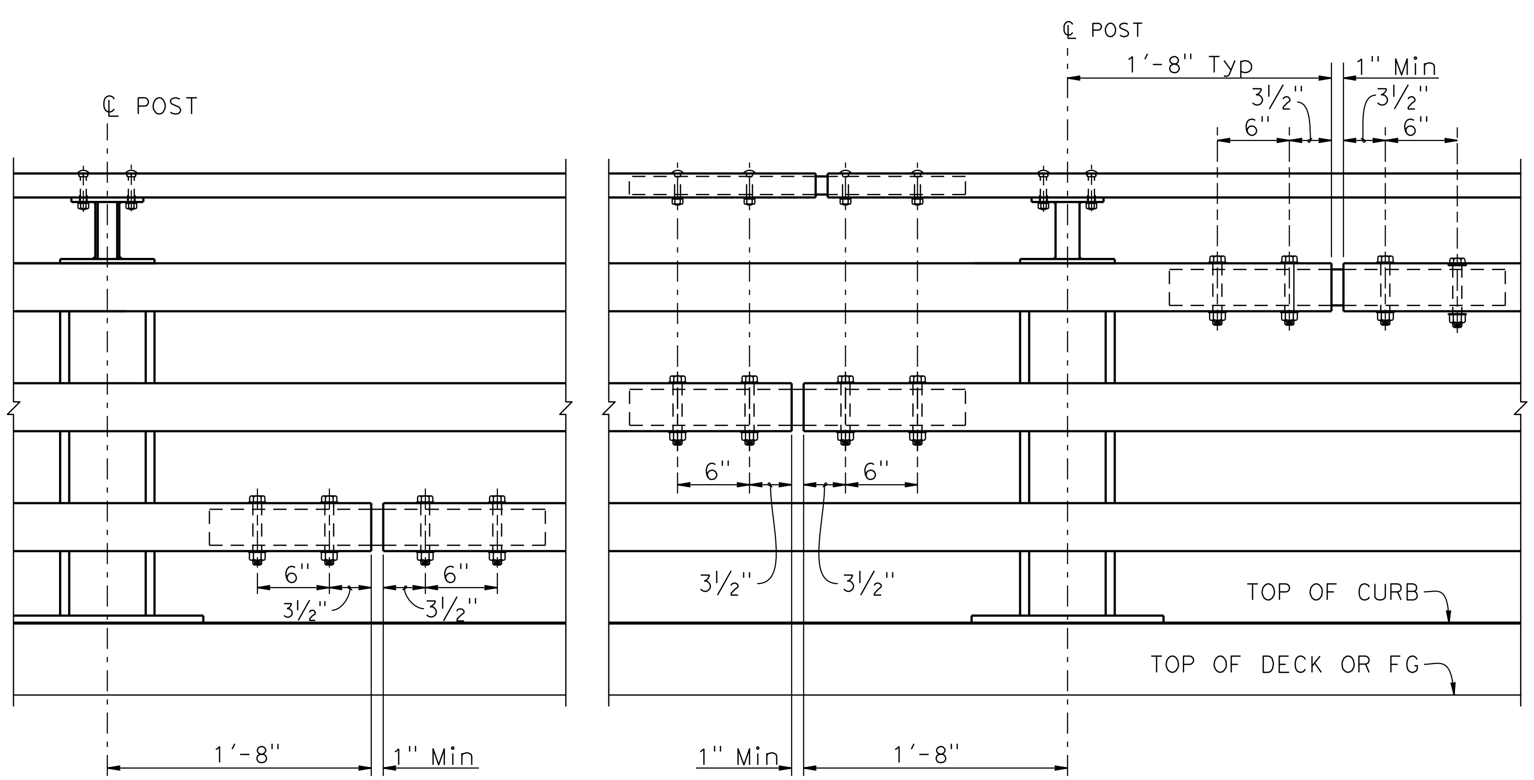


ALTERNATE TUBE WELDED STANDARD SPLICE

NO SCALE

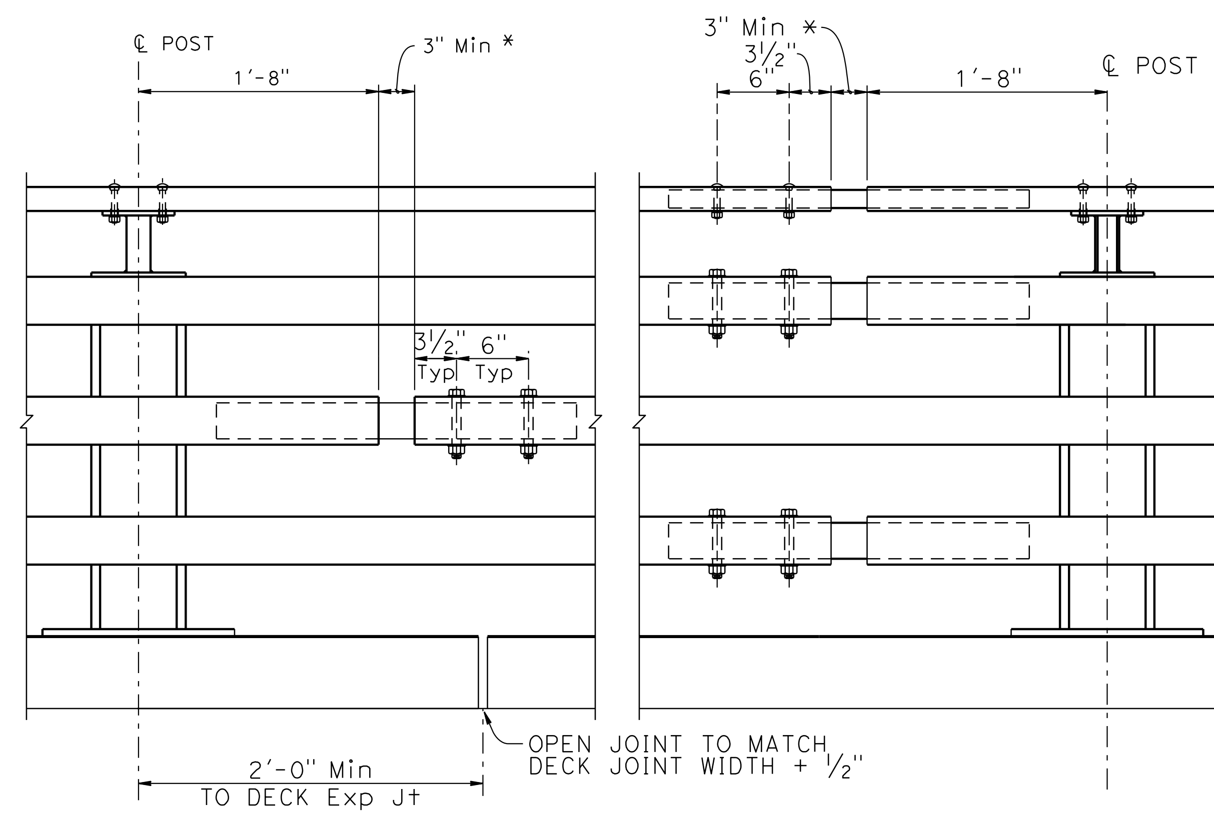
NOTES:

1. HS bolts with nut and washers, snug tightened, and thread locking system.
2. Use ½"Ø x 3 5/16 BOLTS (HSS3x2x3/16)
   Use ¾"Ø x 5 5/16 BOLTS (HSS8x4x5/16)
3. Each rail length must be continuous over a minimum of two posts.
4. The fabricator must check that the tubular sleeve splices conform to the dimensions indicated to assure proper clearance.
5. Except for expansion splices, not more than one splice permitted per same side of post.



STANDARD SPLICE

NO SCALE



EXPANSION SPLICE

NO SCALE

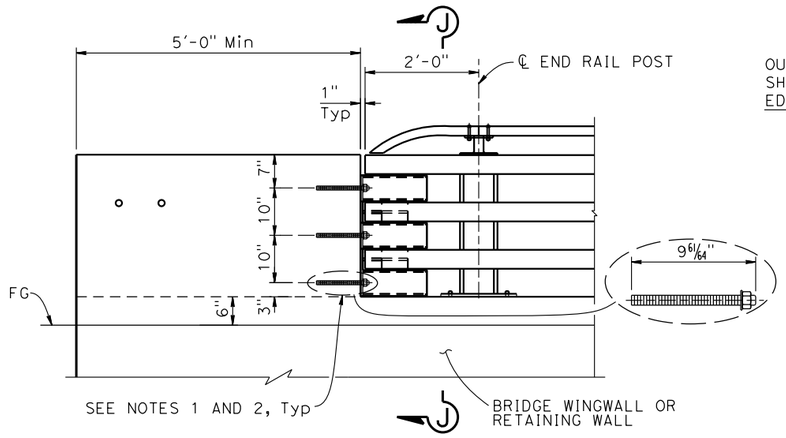
* Match deck or wall joint

REVISIONS			
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
CALIFORNIA ST-75 BRIDGE RAIL
DETAILS No. 4

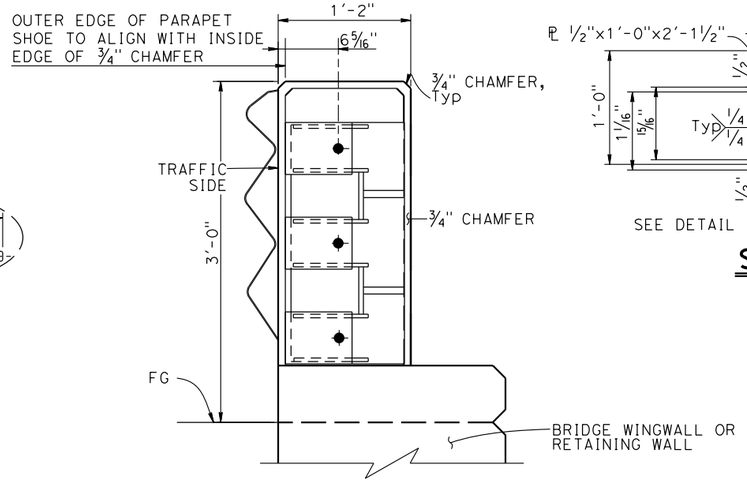
BRIDGE No. 17C0111
DESIGNED: M.Maechler
DRAWN: K. Dang
CHECKED: D. Yang
JOB NO: 2247
DATE: DEC, 2023



PARAPET SHOE AT DEPARTURE END BLOCK

3/4" = 1'-0"

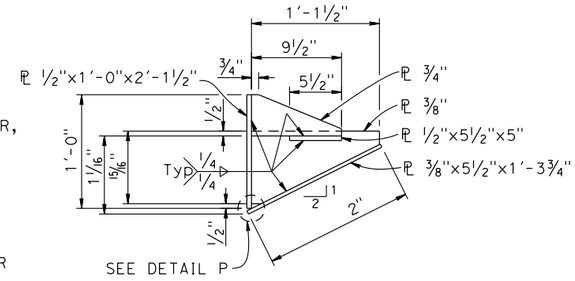
NOTE: Parapet shoe connection to approach end block is similar.



SECTION J-J

3/4" = 1'-0"

NOTE: Bridge railing not shown clarity.

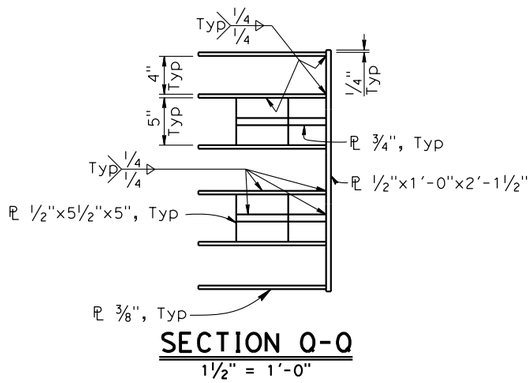


SECTION K-K

1 1/2" = 1'-0"

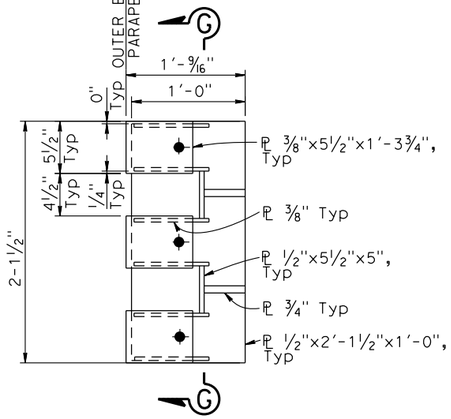
NOTES:

1. Anchor bolts must be 7/8" Dia and ASTM F1554 Grade 105 fully threaded rods with heavy hex nut and one hardened washer (1 3/4" OD) each. Embed threaded rods 8" into concrete anchor block with DRILL AND BOND (CHEMICAL ADHESIVE) anchorage system.
2. DRILL AND BOND (CHEMICAL ADHESIVE) anchorages is subjected to approval of Engineer. Installation procedure must comply with manufacture's instructions.



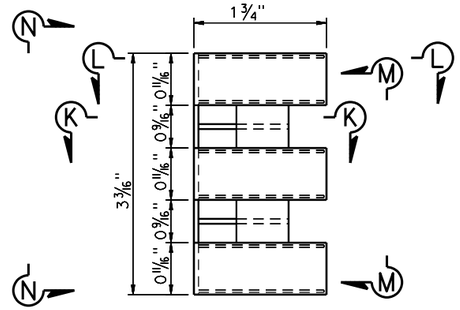
SECTION Q-Q

1 1/2" = 1'-0"



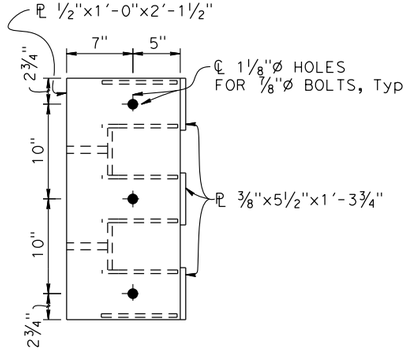
VIEW M-M

1 1/2" = 1'-0"



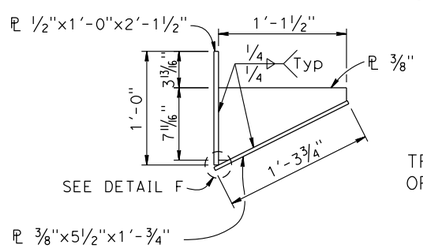
PARAPET SHOE ELEVATION

1 1/2" = 1'-0"



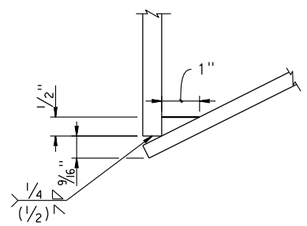
VIEW N-N

1 1/2" = 1'-0"



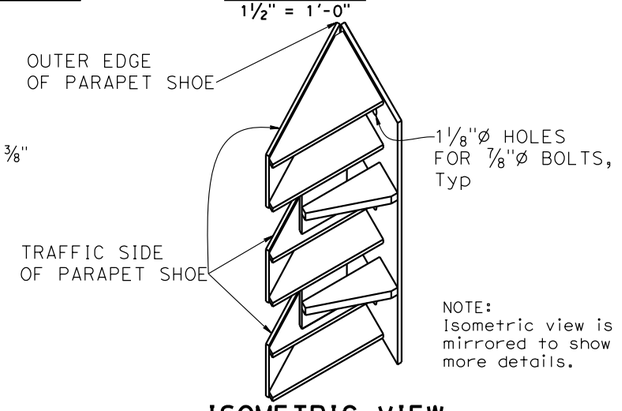
SECTION L-L

1 1/2" = 1'-0"



DETAIL F

6" = 1'-0"



NOTE:
Isometric view is mirrored to show more details.

ISOMETRIC VIEW

1 1/2" = 1'-0"

REVISIONS

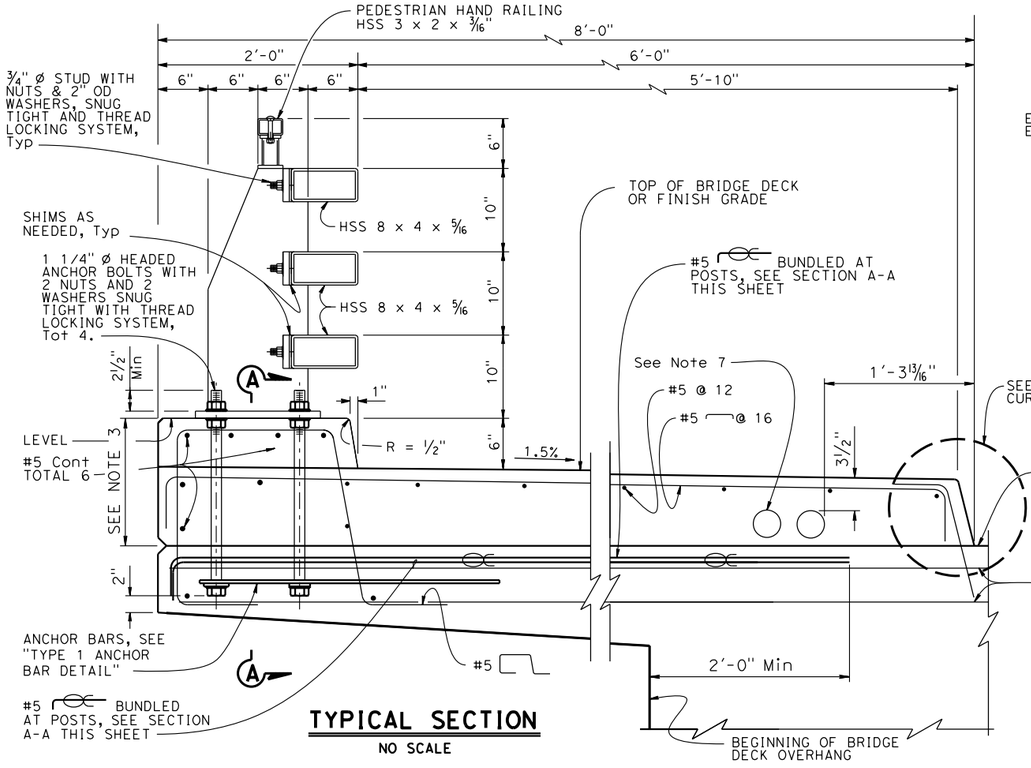
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
CALIFORNIA ST-75 BRIDGE RAIL
DETAILS No. 5

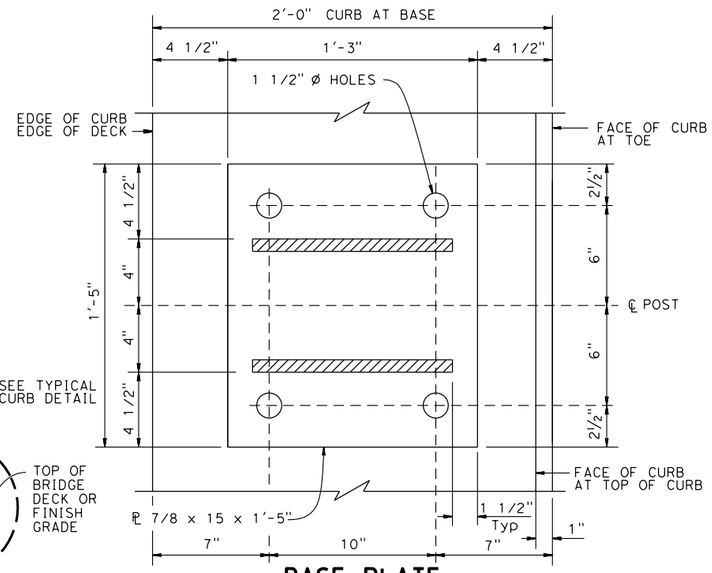
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET
44
OF 52 SHEETS



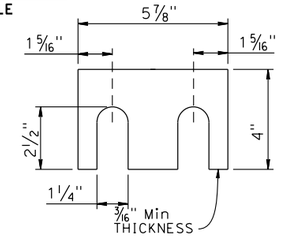
TYPICAL SECTION

NO SCALE



BASE PLATE

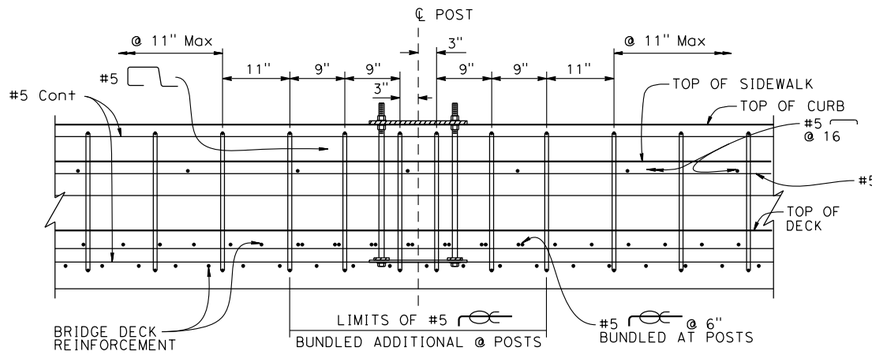
NO SCALE



SHIM DETAILS

NO SCALE

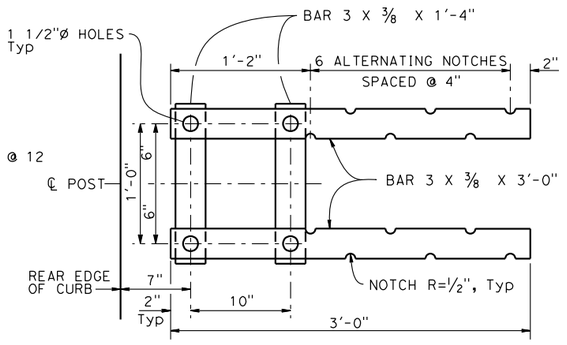
NOTE:
Shims as needed between posts and HSS rail tubes.



POST NOT SHOWN FOR CLARITY

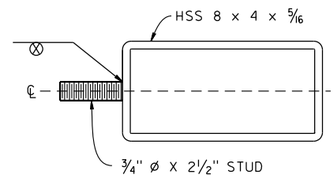
SECTION A-A

NO SCALE



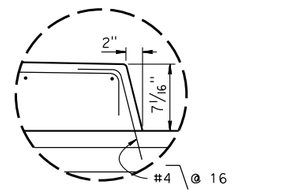
TYPE 1 ANCHOR BAR DETAIL

NO SCALE



RAIL SECTION AT POST

NO SCALE



TYPICAL CURB DETAIL

NO SCALE

NOTES:

1. This barrier is to be used only for posted speeds of 45 MPH or less. For speeds greater than 45 MPH, pedestrians must be protected by a separation traffic barrier.
2. Anchor bolts may be welded to anchor bars.
3. Dimensions will vary with cross slope of sidewalk and bridge deck, and sidewalk width, and if overlay is placed on deck. For the same reasons, anchor bolt lengths will vary.
4. Walls must be backfilled before curb and parapet is placed.
5. Clearance to reinforcing steel in curb and railing is 2" except as noted. Longitudinal reinforcement to stop at all expansion joints.
6. See Project Plans for "Joint Armor For Pedestrian Walkways and Sidewalks" details.
7. A minimum of two 4" round openings for future utilities and a maximum of six 4" round openings for a 6'-2" sidewalk. One 4" round opening can be added for each additional 1'-0" of sidewalk width. Utility opening must be a minimum of 6" from face of barrier parapet. Openings are to be sealed at ends and extended 8" minimum past end of sidewalk if not used. Duct forms are to be tied down. For exact number and placement of utility openings see other details. Minimum 2" clear between conduits.
8. See Project Plans for pull box location and type.
9. Use extra thick washers for anchor bolts, with a min. thickness of 0.305" and a max thickness of 0.375".
10. All reinforcement in railing and sidewalk concrete to be epoxy coated.

REVISIONS

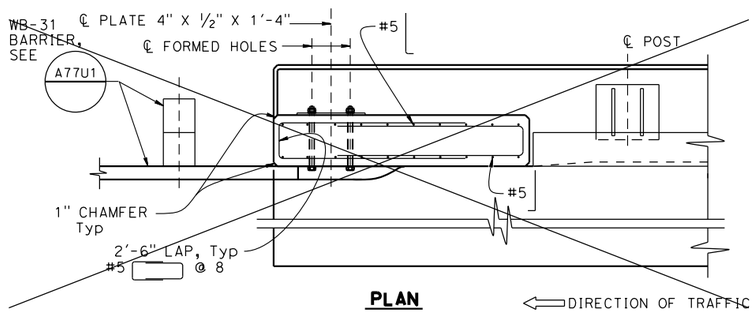
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
CALIFORNIA ST-75SW BRIDGE RAIL
DETAILS No. 1

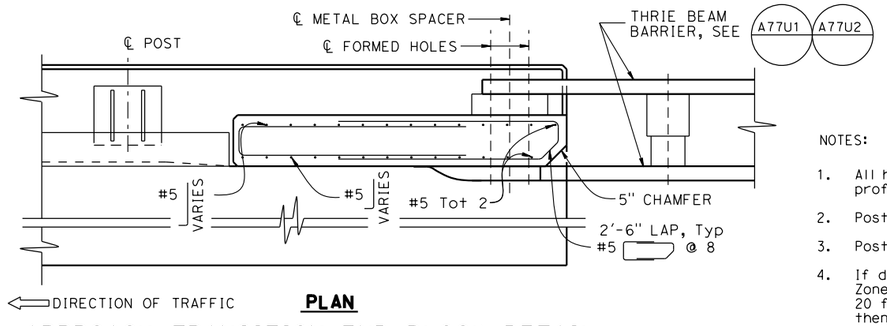
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET
45
OF 52 SHEETS



DEPARTURE END BLOCK DETAIL

NO SCALE

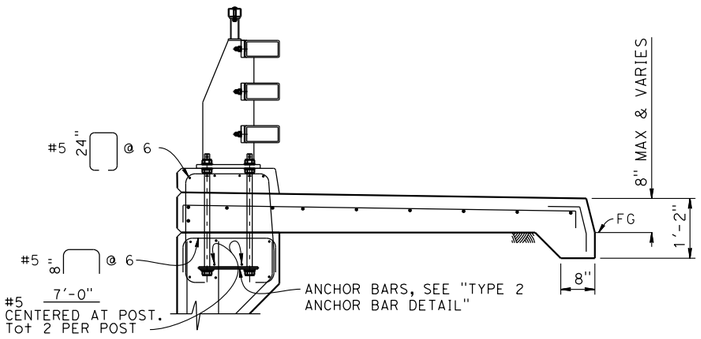


APPROACH TRANSITION END BLOCK DETAIL

NO SCALE

NOTES:

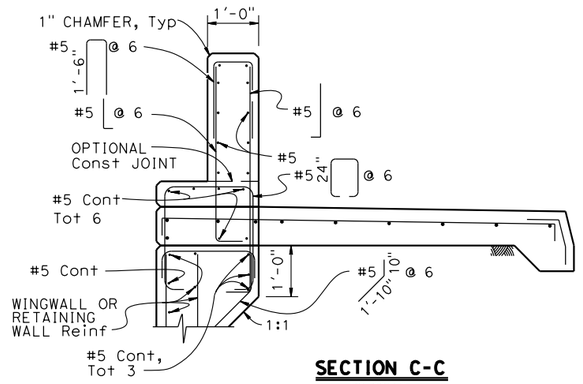
1. All horizontal members are parallel to longitudinal profile grade.
2. Posts are normal to profile grade of structure.
3. Posts are vertical to the transverse cross section.
4. If departure end block is within the Clear Recovery Zone (CRZ, 30 feet for expressways and freeways and 20 feet for conventional highways) of opposing traffic, then use the approach end block at the departure end.
5. Anchor bolts may be tack welded to anchorage.
6. For sidewalk reinforcement, see CALIFORNINIA ST-75SW BRIDGE RAIL-DETAILS No. 1 sheet,
7. All reinforcement in railing and sidewalk concrete to be epoxy coated.



SECTION B-B

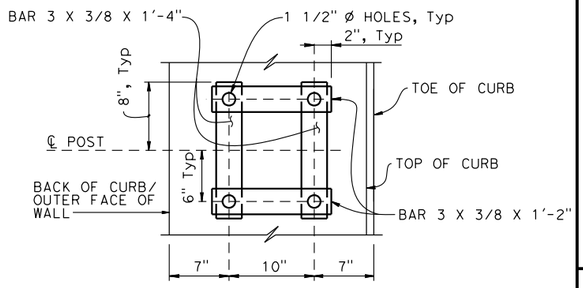
NO SCALE

NOTE:
For details not shown see "Section C-C"



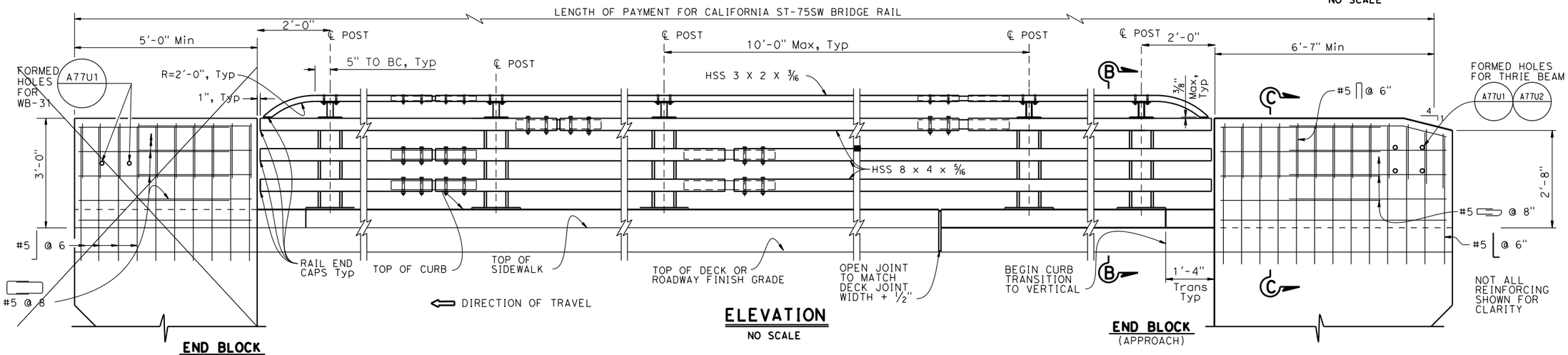
SECTION C-C

NO SCALE



TYPE 2 ANCHOR BAR DETAIL

NO SCALE



ELEVATION

NO SCALE

END BLOCK
(DEPARTURE)
SEE NOTE 4, USE APPROACH END BLOCK AT EACH END

END BLOCK
(APPROACH)

REVISIONS

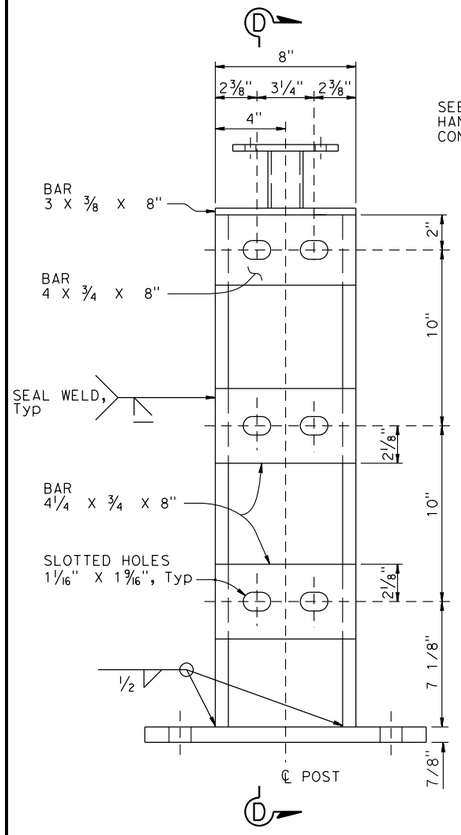
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
CALIFORNIA ST-75SW BRIDGE RAIL DETAILS No. 2

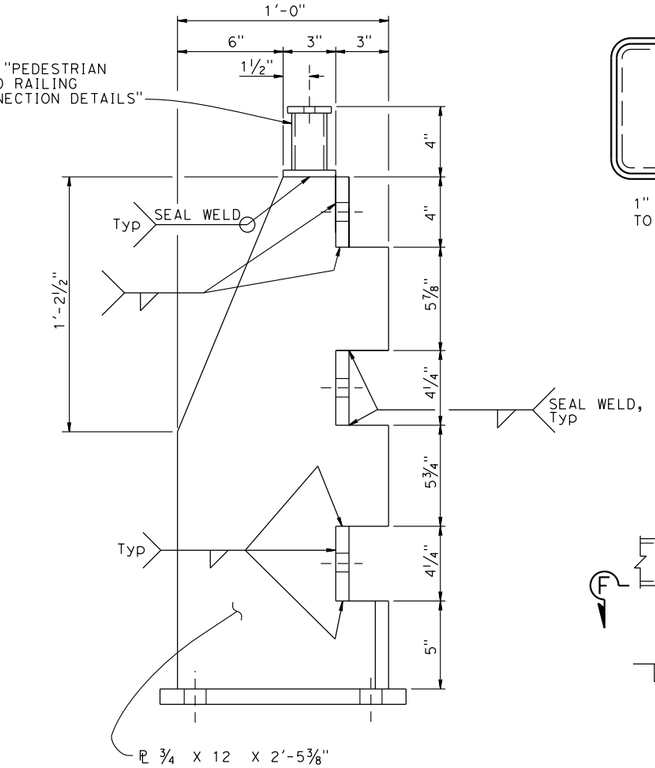
BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET
46
OF 52 SHEETS



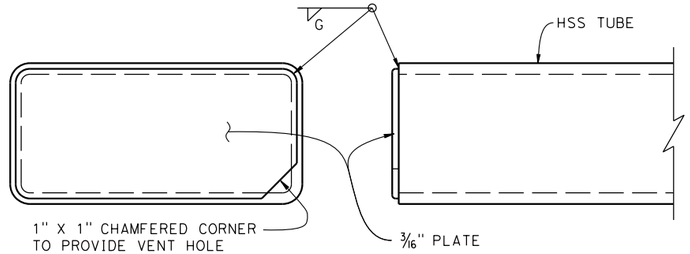
POST DETAIL

NO SCALE



SECTION D-D

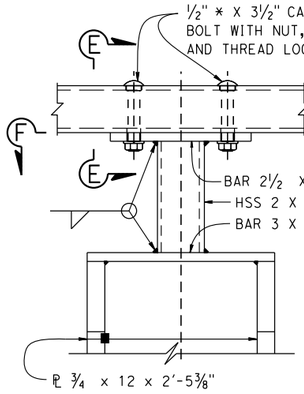
NO SCALE



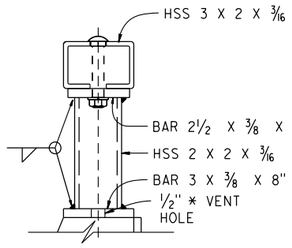
RAIL END CAP

NO SCALE

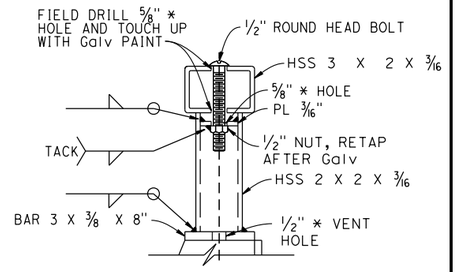
FOR VEHICULAR RAIL TUBES
AND PEDESTRIAN HAND RAILING TUBES



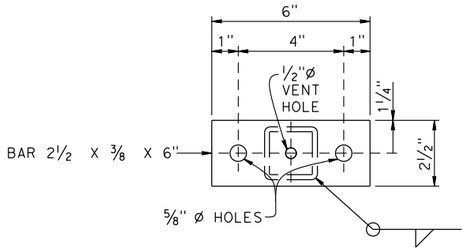
ELEVATION



SECTION E-E



SECTION E-E ALTERNATIVE



SECTION F-F

PEDESTRIAN HAND RAILING CONNECTION DETAILS

NO SCALE

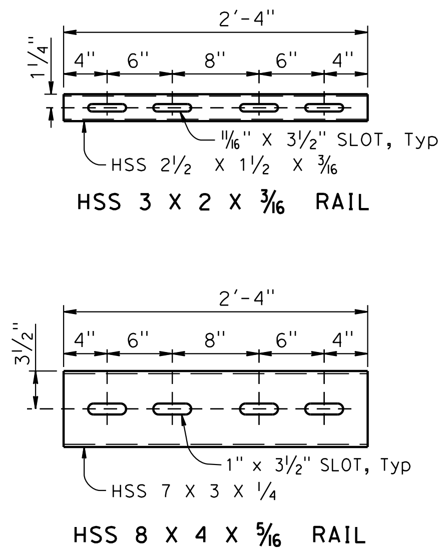
REVISIONS			
NO.	DESCRIPTION	BY	DATE

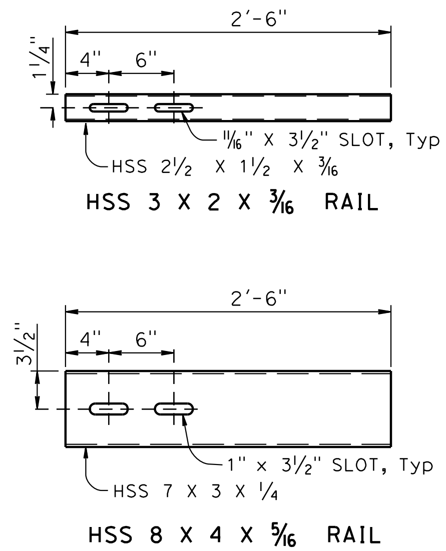
NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
CALIFORNIA ST-75SW BRIDGE RAIL
DETAILS No. 3

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET
47
OF 52 SHEETS



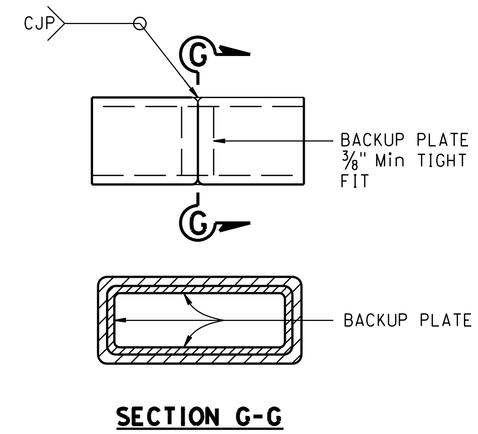


STANDARD SLEEVES DETAILS

NO SCALE

EXPANSION SLEEVES DETAILS

NO SCALE

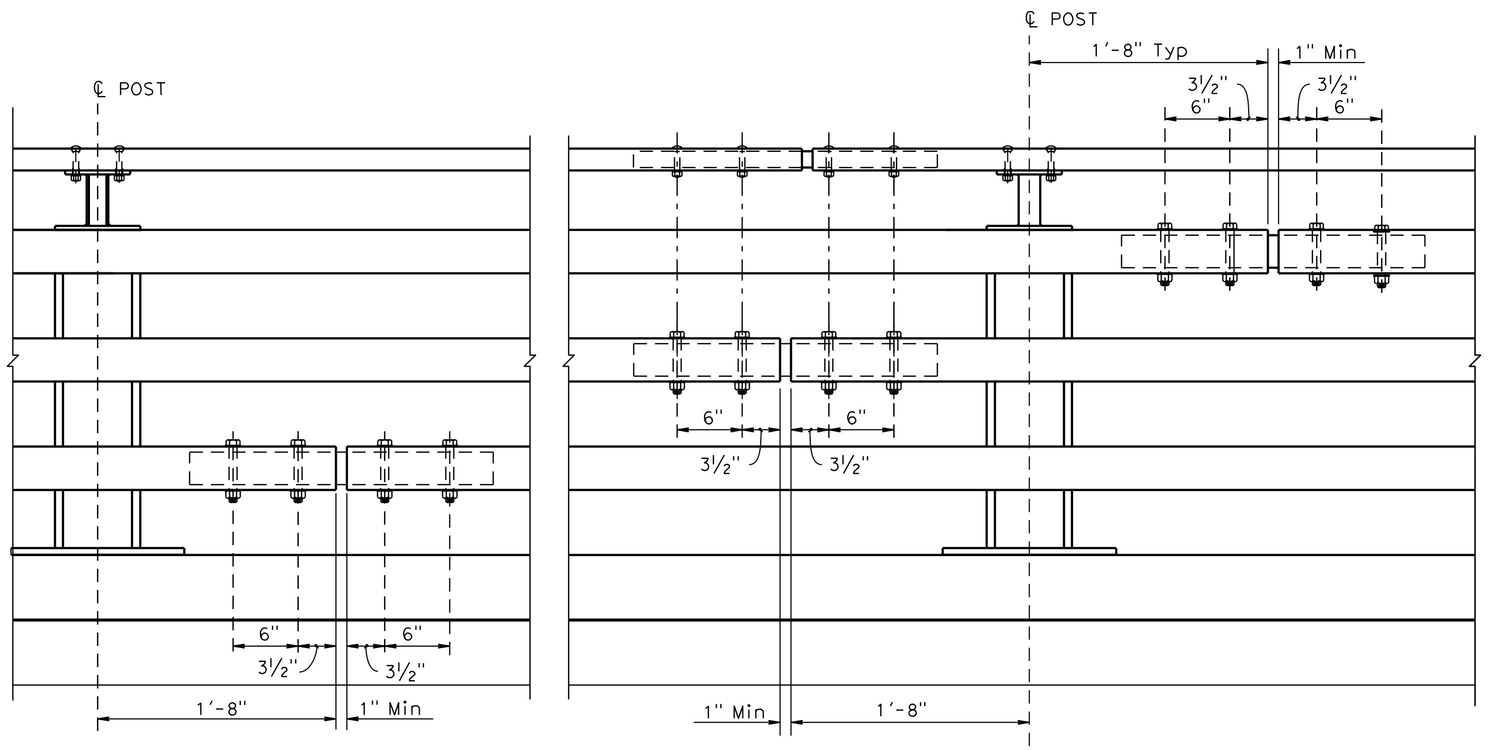


ALTERNATE TUBE WELDED STANDARD SPLICE

NO SCALE

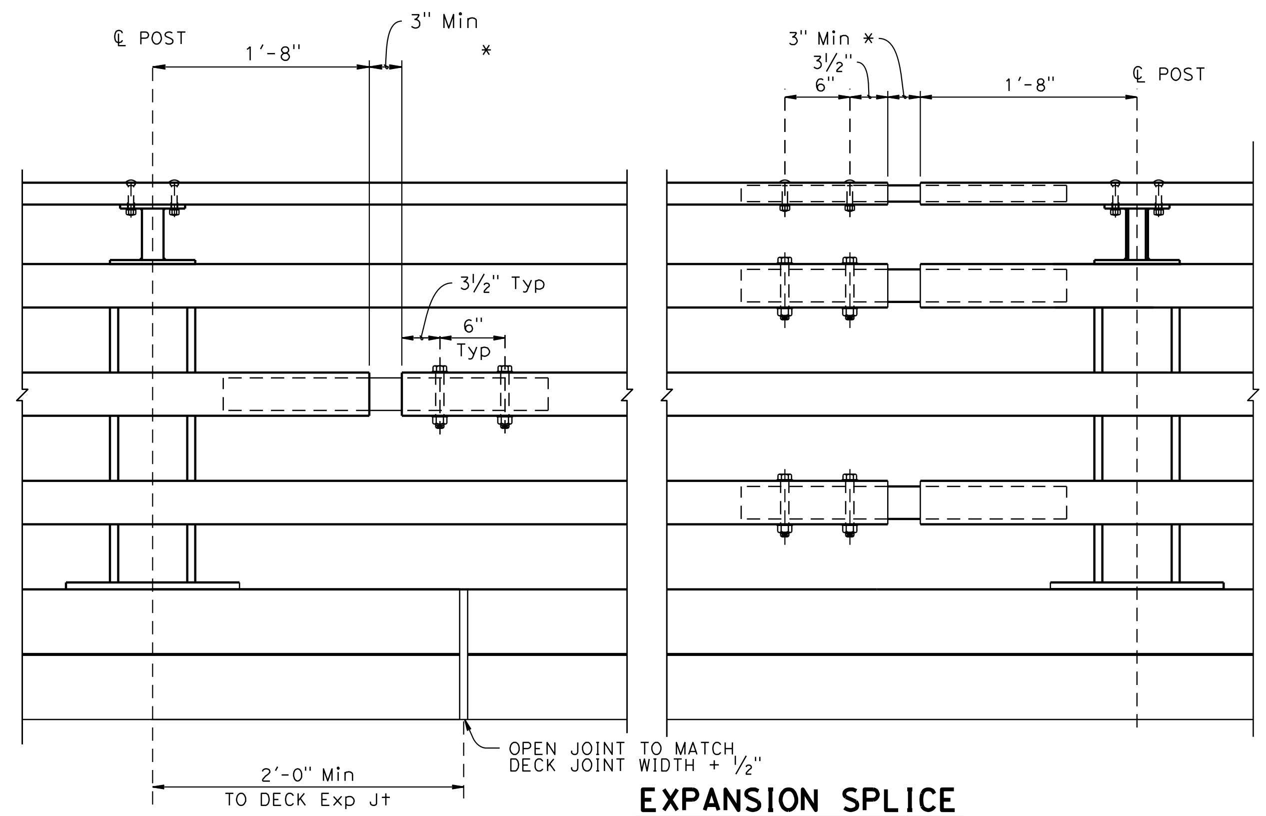
NOTES:

1. HS bolts with nut and washers, snug tightened, and thread locking system.
2. Use ½"* X 3 5/16 BOLTS (HSS 3 X 2 X 3/16)
   Use ¾"* X 5 5/16 BOLTS (HSS 8 X 4 X 5/16)
3. Each rail length must be continuous over a minimum of two posts.
4. The fabricator must check that the tubular sleeve splices conform to the dimensions indicated to assure proper clearance.
5. Except for expansion splices, not more than one splice permitted per same side of post.



STANDARD SPLICE

NO SCALE



EXPANSION SPLICE

NO SCALE

* MATCH DECK OR WALL JOINT

REVISIONS

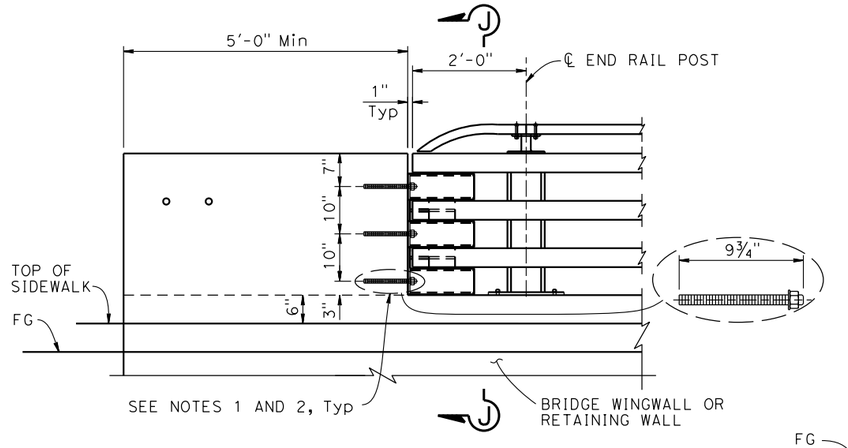
NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
CALIFORNIA ST-75SW BRIDGE RAIL
DETAILS No. 4

BRIDGE No. 17C0111
DESIGNED: M.Maechler
DRAWN: K. Dang
CHECKED: D. Yang
JOB NO: 2247
DATE: DEC, 2023

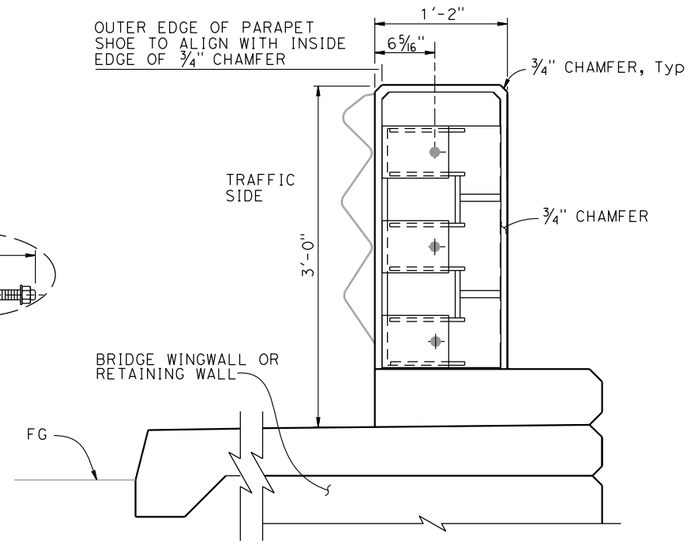
SHEET
48
OF 52 SHEETS



PARAPET SHOE AT DEPARTURE END BLOCK

¾" = 1'-0"

NOTE: Parapet shoe connection to approach end block is similar.



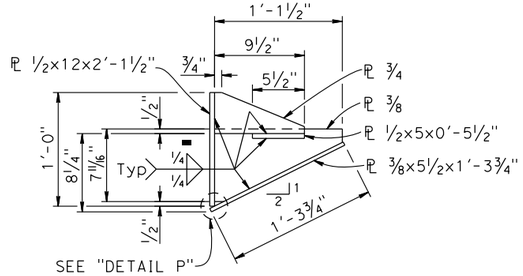
NOTE: Bridge railing not shown for clarity.

SECTION J-J

1½" = 1'-0"

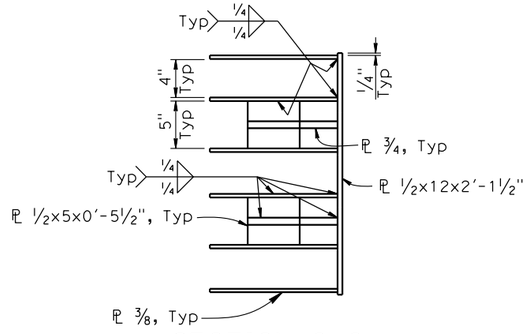
NOTES:

1. Anchor bolts must be ⅞"Ø and fully threaded rods with heavy hex nut and one hardened washer (1¾" OD) each. Embed threaded rods 8" into concrete anchor block with DRILL AND BOND (CHEMICAL ADHESIVE) anchorage system.
2. DRILL AND BOND (CHEMICAL ADHESIVE) anchorages are subjected to approval of Engineer. Installation procedure must comply with manufacturer's instructions.



SECTION K-K

1½" = 1'-0"



SECTION Q-Q

1½" = 1'-0"

VIEW M-M

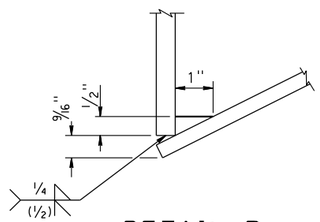
1½" = 1'-0"

PARAPET SHOE ELEVATION

1½" = 1'-0"

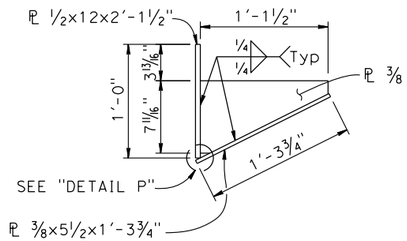
VIEW N-N

1½" = 1'-0"



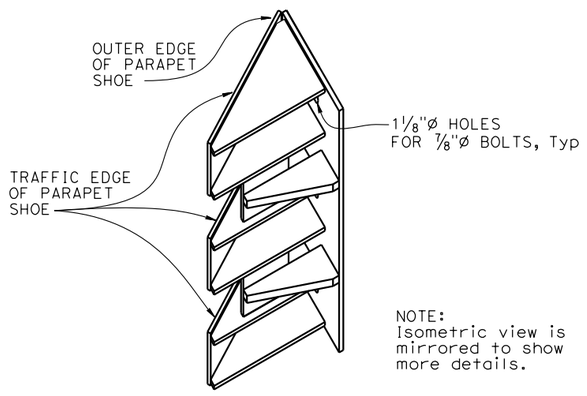
DETAIL P

3" = 1'-0"



SECTION L-L

1½" = 1'-0"



NOTE:
Isometric view is mirrored to show more details.

ISOMETRIC VIEW

1½" = 1'-0"

REVISIONS

NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
CALIFORNIA ST-75SW BRIDGE RAIL DETAILS No. 5

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

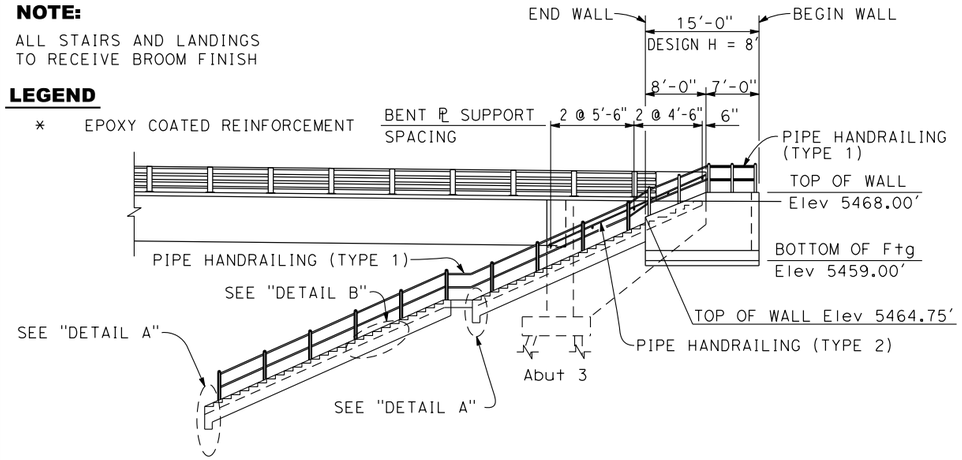
SHEET
49
OF 52 SHEETS

NOTE:

ALL STAIRS AND LANDINGS TO RECEIVE BROOM FINISH

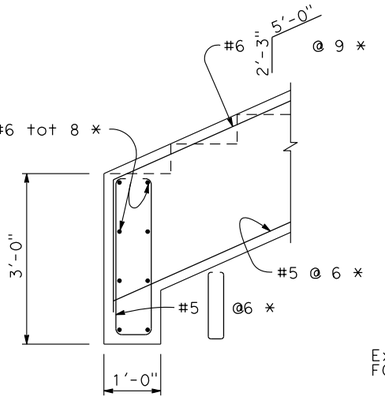
LEGEND

* EPOXY COATED REINFORCEMENT



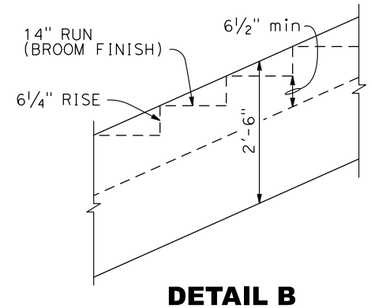
ELEVATION

1" = 10'



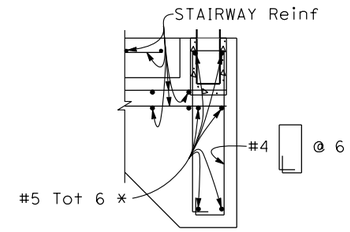
DETAIL A

¾" = 1'-0"



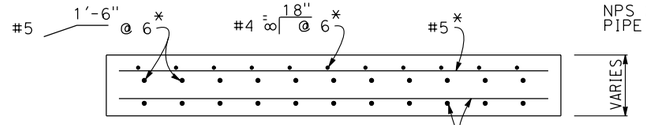
DETAIL B

¾" = 1'-0"



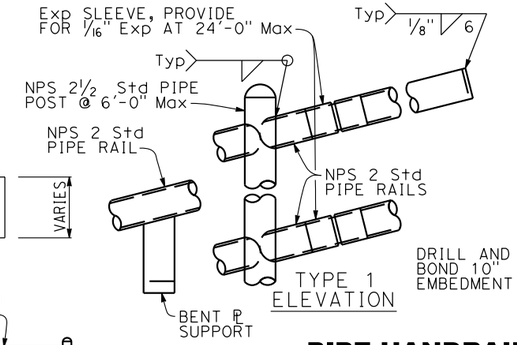
DETAIL D

1" = 1'-0"

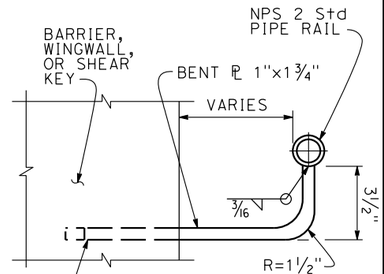


DETAIL C

1" = 1'-0"



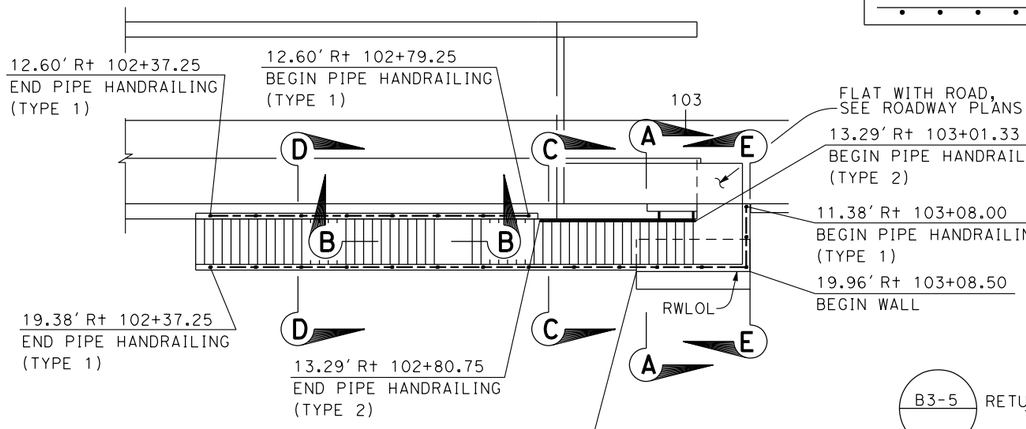
TYPE 1 ELEVATION



TYPE 2 TYPICAL SECTION

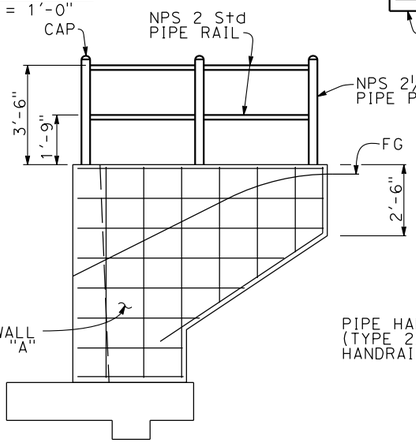
PIPE HANDRAILING DETAILS

NO SCALE



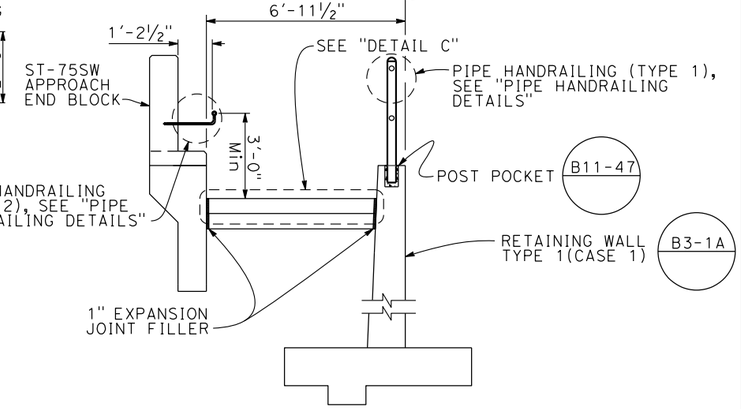
PLAN

1" = 10'



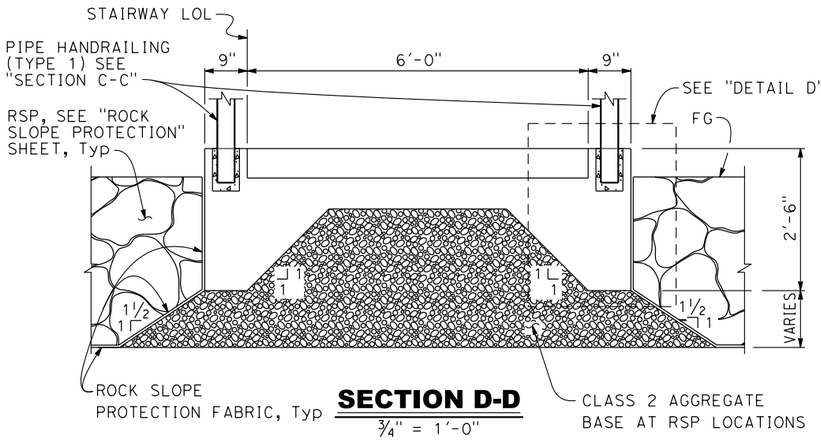
SECTION E-E

⅜" = 1'-0"



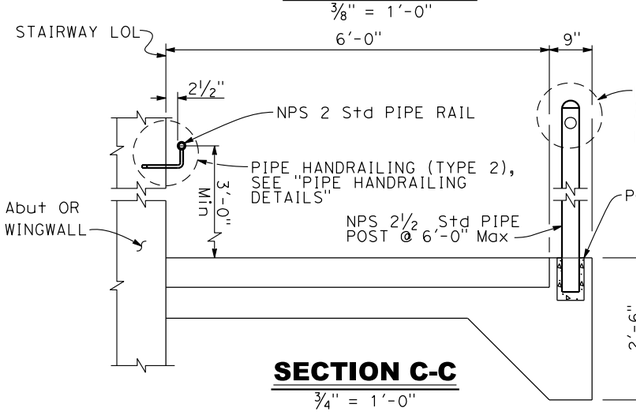
SECTION A-A

⅜" = 1'-0"



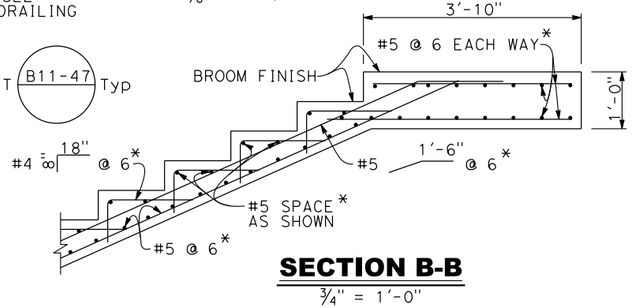
SECTION D-D

¾" = 1'-0"



SECTION C-C

¾" = 1'-0"



SECTION B-B

¾" = 1'-0"

REVISIONS

NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE

STAIRWAY DETAILS

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET 50 OF 52 SHEETS

ELEVATION REFERENCE:
See "PROJECT CONTROL" sheet in ROADWAY PLANS.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTA SHEE

REGISTERED CIVIL ENGINEER

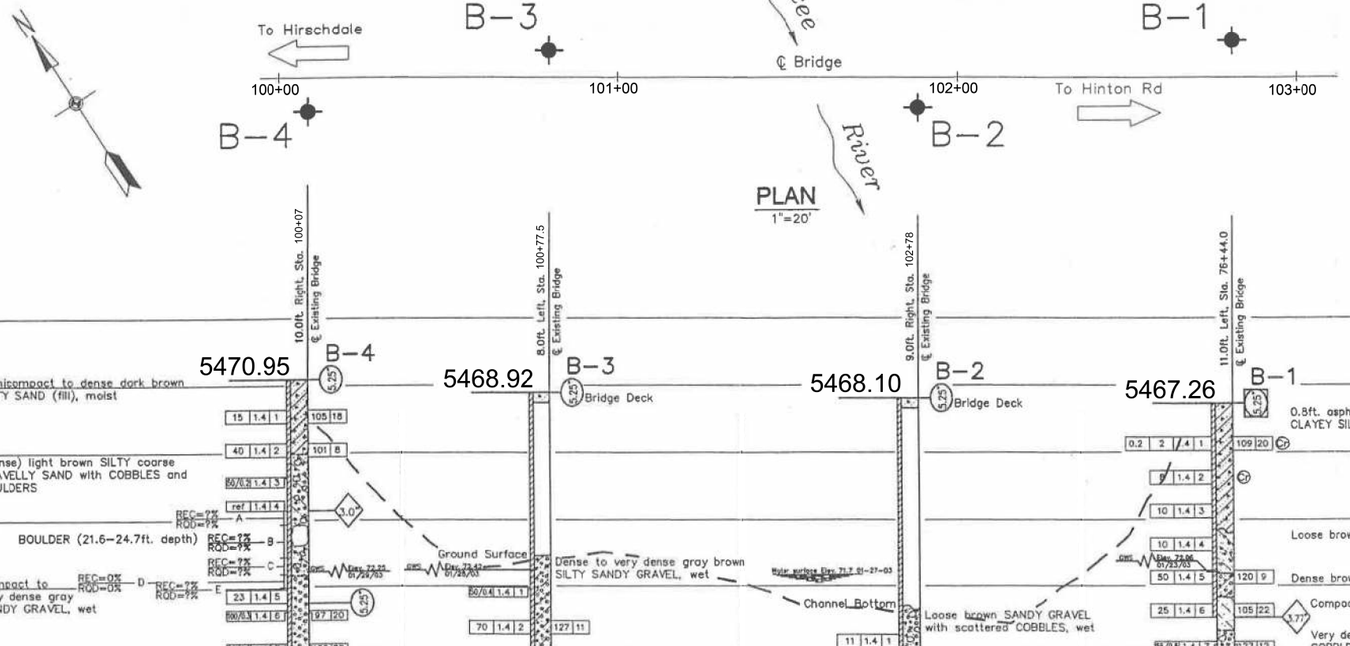
PLANS APPROVAL DATE

TABER CONSULTANTS
3911 West Capitol Avenue
West Sacramento, CA 95691-2116

JOB No. 1P2/301/217-1.1 LOCATION:

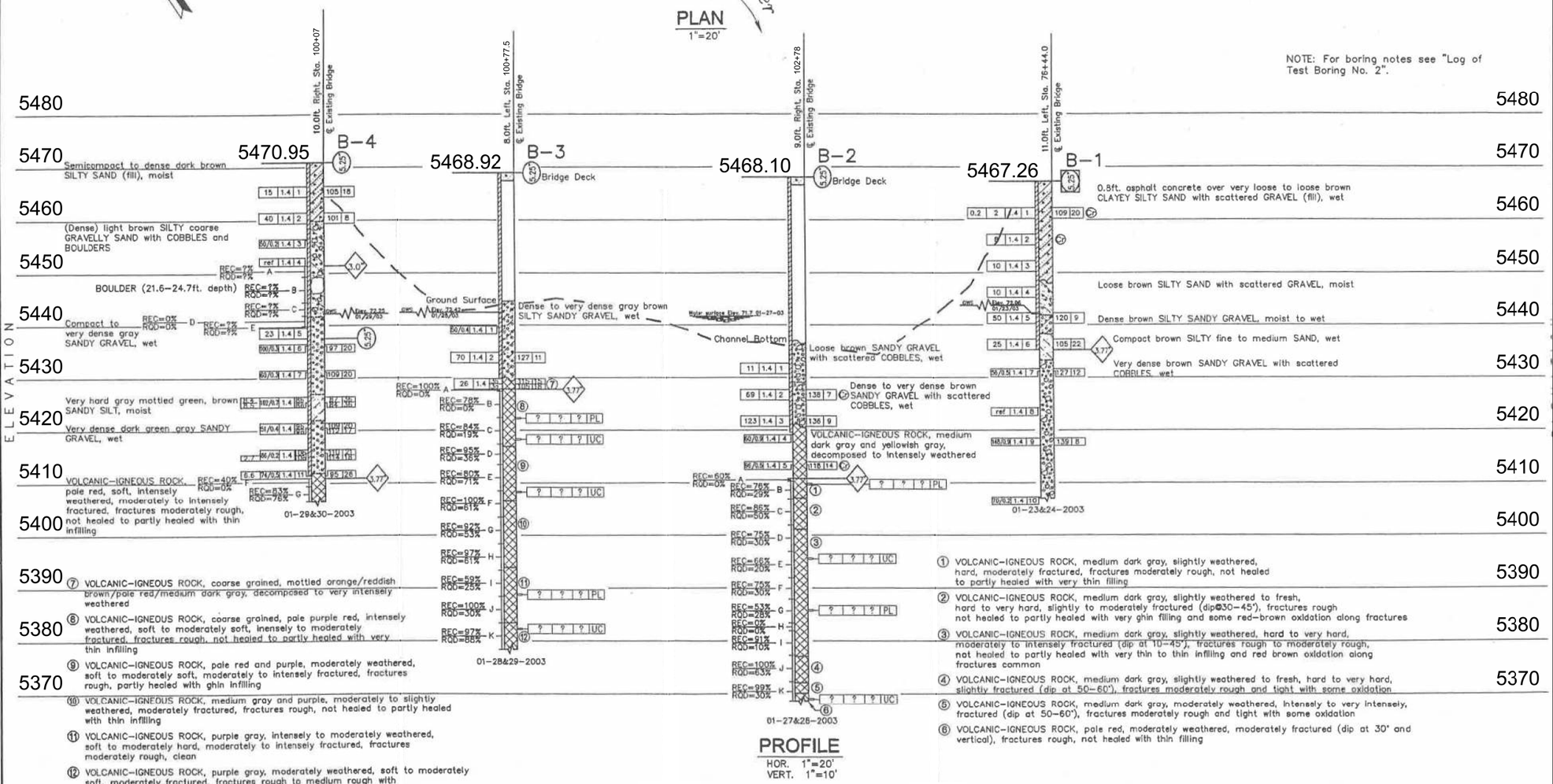
REVISIONS

NO.	DESCRIPTION	BY	DATE



PLAN
1"=20'

NOTE: For boring notes see "Log of Test Boring No. 2".



PROFILE
HOR. 1"=20'
VERT. 1"=10'

⑦ VOLCANIC–IGNEOUS ROCK, coarse grained, mottled orange/reddish brown/pale red/medium dark gray, decomposed to very intensely weathered

⑧ VOLCANIC–IGNEOUS ROCK, coarse grained, pale purple red, intensely weathered, soft to moderately soft, inensely to moderately fractured, fractures rough, not healed to partly healed with very thin infilling

⑨ VOLCANIC–IGNEOUS ROCK, pale red and purple, moderately weathered, soft to moderately soft, moderately to intensely fractured, fractures rough, partly healed with ghin infilling

⑩ VOLCANIC–IGNEOUS ROCK, medium gray and purple, moderately to slightly weathered, moderately fractured, fractures rough, not healed to partly healed with thin infilling

⑪ VOLCANIC–IGNEOUS ROCK, purple gray, intensely to moderately weathered, soft to moderately hard, moderately to intensely fractured, fractures moderately rough, clean

⑫ VOLCANIC–IGNEOUS ROCK, purple gray, moderately weathered, soft to moderately soft, moderately fractured, fractures rough to medium rough with CLAY filled fractures (dipping 50–60°) at 89ft. depth

① VOLCANIC–IGNEOUS ROCK, medium dark gray, slightly weathered, hard, moderately fractured, fractures moderately rough, not healed to partly healed with very thin filling

② VOLCANIC–IGNEOUS ROCK, medium dark gray, slightly weathered to fresh, hard to very hard, slightly to moderately fractured (dip@30–45°), fractures rough not healed to partly healed with very ghin filling and some red–brown oxidation along fractures

③ VOLCANIC–IGNEOUS ROCK, medium dark gray, slightly weathered, hard to very hard, moderately to intensely fractured (dip at 10–45°), fractures rough to moderately rough, not healed to partly healed with very thin to thin infilling and red brown oxidation along fractures common

④ VOLCANIC–IGNEOUS ROCK, medium dark gray, slightly weathered to fresh, hard to very hard, slightly fractured (dip at 50–60°), fractures moderately rough and tight with some oxidation

⑤ VOLCANIC–IGNEOUS ROCK, medium dark gray, moderately weathered, intensely to very intensely, fractured (dip at 50–60°), fractures moderately rough and tight with some oxidation

⑥ VOLCANIC–IGNEOUS ROCK, pale red, moderately weathered, moderately fractured (dip at 30° and vertical), fractures rough, not healed with thin filling

LEGEND OF BORING OPERATIONS

LEGEND OF EARTH MATERIALS
CLAYEY SILT · GRAVEL · PEAT and/or ORGANIC MATTER · SAND · FILL MATERIAL · SILT · IGNEOUS ROCK · CLAY · SEDIMENTARY ROCK · SANDY CLAY or CLAYEY SAND · METAMORPHIC ROCK · SANDY SILT or SILTY SAND · SILTY CLAY

CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test

Standard Penetration "N"-Values	Granular	Cohesive
0–5	Very Loose	Very soft
6–10	Loose	Soft
11–30	Semicompact	Stiff
31–50	Compact	Very stiff
51–70	Dense	Very hard
71 & over	Very dense	

NOTE: Classification of earth materials as shown on this sheet is based upon field inspection and is not to be construed as laboratory classification.

DESIGN OVERSIGHT	DRAWN BY	M. D. Robertson	R. C. Pickard FIELD INVESTIGATOR	PREPARED FOR NEVADA COUNTY DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER
SIGN OFF DATE	CHECKED BY		DATE January 2003		

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU
EA

BRIDGE NO.	TRUCKEE RIVER BRIDGE
17C-0045	LOG OF TEST BORINGS No. 1
POST MILE	

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

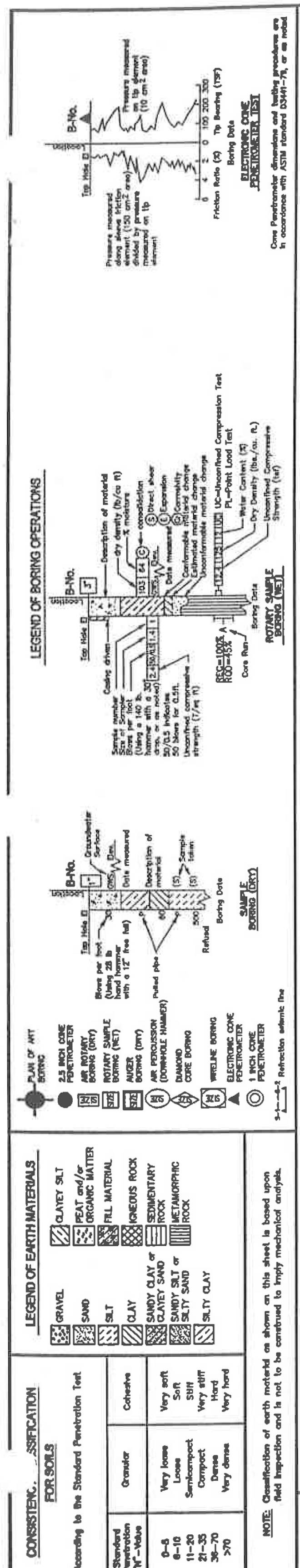
02/26/03 1P2301217-11a.dwg

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
LOG OF TEST BORINGS NO. 1

BRIDGE No.	17C0111
DESIGNED:	M.Maechler
DRAWN:	K. Dang
CHECKED:	D. Yang
JOB NO:	2247
DATE:	DEC, 2023

SHEET
51
OF 52 SHEETS



WEATHERING DESCRIPTORS

Descriptors	Diagnostic features: Chemical weathering–Discoloration and/or oxidation – Body of rock	Chemical weathering – Fracture surfaces †	Mechanical weathering–Grain boundary conditions (disaggregation) primarily for granitics and some coarse-grained sediments	Texture and solutioning – Texture	Texture and solutioning – Solutioning	General characteristic (strength, excavation, etc.) §
Fresh	No discoloration, not oxidized	No discoloration or oxidation	No separation, intact (tight)	No change	No solutioning	Hammer rings when crystalline rocks are struck. Almost always rock excavation except for naturally weak or weakly cemented rocks such as siltstones or shales.
Slightly weathered to fresh°						
Slightly weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull	Minor to complete discoloration or oxidation of most surfaces	No visible separation, intact (tight)	Preserved	Minor leaching of some soluble minerals may be noted	Hammer rings when crystalline rocks are struck. Body of rock not weakened. With few exceptions, such as siltstones or shales, classified as rock excavation.
Moderately to slightly weathered°						
Moderately weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty", feldspar crystals are "cloudy".	All fracture surfaces are discolored or oxidized	Partial separation of boundaries visible	Generally preserved	Soluble minerals may be mostly leached	Hammer does not ring when rock is struck. Body of rock is slightly weakened. Depending on fracturing, usually is rock excavation except in naturally weak rocks such as siltstones or shales.
Intensely to moderately weathered°						
Intensely weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in situ disaggregation, see grain boundary conditions.	All fracture surfaces are discolored or oxidized, surfaces friable	Partial separation, rock is friable; in semiarid conditions granitics are disaggregated	Texture altered by chemical disintegration (hydration, argillation)	Leaching of soluble minerals may be complete	Dull sound when struck with hammer, usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures, or veinlets. Rock is significantly weakened. Usually common excavation.
Very intensely weathered°						
Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay.		Complete separation of grain boundaries (disaggregated)	Resembles a soil, partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete		Can be granulated by hand. Always common excavation. Resistant minerals such as quartz may be present as "stringers" or "dikes".

NOTE: This chart and its horizontal categories are more readily applied to rocks with feldspars and mafic minerals. Weathering in various sedimentary rocks, particularly limestones and poorly indurated sediments, will not always fit the categories established. This chart and weathering categories may have to be modified for particular site conditions or alterations such as hydrothermal effects; however, the basic framework and similar descriptors are to be used.

° Combination descriptors are permissible where equal distribution of both weathering characteristics are present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, dual descriptors should not be used where significant, identifiable zones can be delineated. When given as a range, only two adjacent terms may be combined (i.e., decomposed to slightly weathered or moderately weathered to fresh) are not acceptable.

† Does not include directional weathering along shears or faults and their associated features. For example, a shear zone that carried weathering to great depths into a fresh rock mass would not require the rock mass to be classified as weathered.

§ These are generalizations and should not be used as diagnostic features for weathering or excavation classification. These characteristics vary to a large extent based on naturally weak materials or cementation and type of excavation.

IGNEOUS AND METAMORPHIC ROCK GRAIN SIZE DESCRIPTORS

Descriptor	Average crystal diameter
Very coarse-grained or pegmatic	> 7 3/8 inch
Coarse-grained	3/16–3/8 inch
Medium-grained	1/32–3/16 inch
Fine-grained	0.04–1/32 inch
Aphanitic (cannot be seen with the unaided eye)	<0.04 inch

BEDDING, FOLIATION, OR FLOW TEXTURE DESCRIPTORS

Descriptor	Thickness/spacing
Massive	Greater than 10 ft (3 m)
Very thickly, (bedded, foliated, or banded)	3 to 10 ft (1 to 3 m)
Thickly	1 to 3 ft (300 mm to 1 m)
Moderately	0.3 to 1 ft (100 to 300 mm)
Thinly	0.1 to 0.3 ft (30 to 100 mm)
Very thinly	0.03 [3/8 in] to 0.1 ft (10 to 30 mm)
Laminated (intensely foliated or banded)	Less than 0.03 ft [3/8 in] (<10 mm)

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

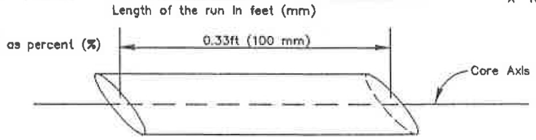
TABER CONSULTANTS
3911 West Capitol Avenue
West Sacramento, CA 95691-2116

JOB No. 1P2/301/217-1.1 LOCATION:

ROCK QUALITY DESIGNATION (RQD)

$$RQD = \frac{\text{Sum of length of solid core pieces} \geq 0.33 \text{ ft [4 in.] (100 mm) long}}{\text{Length of the run in feet (mm)}} \times 100$$

Expressed as percent (%)



ROCK HARDNESS/STRENGTH DESCRIPTORS

Descriptor	Criteria
Extremely hard	Core, fragment, or exposure cannot be scratched with knife or sharp pick; can only be chipped with repeated heavy hammer blows.
Very hard	Can be scratched with knife or sharp pick. Core or fragment breaks with repeated heavy hammer blows.
Hard	Can be scratched with knife or sharp pick with difficulty (heavy pressure). Heavy hammer blow required to break specimen.
Moderately hard	Can be scratched with knife or sharp pick with light or moderate pressure. Core or fragment breaks with moderate hammer blow.
Moderately soft	Can be grooved 1/16 inch (2 mm) deep by knife or sharp pick with moderate or heavy pressure. Core or fragment breaks with light hammer blow or heavy manual pressure.
Soft	Can be grooved or gouged easily by knife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very soft	Can be readily indented, grooved or gouged with fingernail, or carved with a knife. Breaks with light manual pressure.

Any bedrock unit softer than very soft, is to be described using USBR 5000 consistency descriptors.

NOTE: Although "sharp pick" is included in these definitions, descriptions of ability to be scratched, grooved or gouged by a knife is the preferred criteria.

FRACTURE DENSITY

FRACTURE DENSITY – Based on the spacing of all natural fractures in an exposure or core recovery lengths in drill holes; excludes mechanical breaks, shears, and shear zones; however, shear-distributed zones (fracturing outside the shear) are included. Descriptors for fracture density apply to all rock exposures such as tunnel walls, dozer trenches, outcrops, or foundation cut slopes and inverts, as well as boreholes. Descriptive criteria presented below are based on drill hole cores where lengths are measured along the core axis, for other exposures the criteria is distance measured between fractures (size of blocks).

UNFRACTURED: No/observed fractures.

VERY SLIGHTLY FRACTURED: Core recovered mostly in lengths greater than 3 feet (1 m).

SLIGHTLY TO VERY SLIGHTLY FRACTURED

SLIGHTLY FRACTURED: Core recovered mostly in lengths from 1 to 3 feet (300 to 1000 mm) with few scattered lengths less than 1 foot (300 mm) or greater than 3 feet (1000 mm).

MODERATELY TO SLIGHTLY FRACTURED

MODERATELY FRACTURED: Core recovered mostly in 0.33 to 1.0 foot (100 to 300 mm) lengths with most lengths about 0.67 foot (200 mm).

INTENSELY TO MODERATELY FRACTURED

INTENSELY FRACTURED: Lengths average from 0.1 to 0.33 foot (30 to 100 mm) with scattered fragmented intervals. Core recovered mostly in lengths less than 0.33 foot (100 mm).

VERY INTENSELY TO INTENSELY FRACTURED

VERY INTENSELY FRACTURED: Core recovered mostly as chips and fragments with a few scattered short core lengths.

* Combinations of fracture densities (e.g. very intensely to intensely fractured or moderately to slightly fractured) are used where equal distribution of both fracture density characteristics are present over a significant interval or exposure, or where characteristics are "in between" the descriptor definitions.

Notes:
1. Field classification of soils was in accordance with ASTM D 2488-93 "Description and Identification of Soils (Visual-Manual Procedure)".
2. Rock classification according to Caltrans "Soil & Rock Logging Classification Manual (Field Guide)", August 1996 and Bureau of Reclamation, U.S. Department of the Interior, USBR-5000, "Procedure for Determining Unified Soil Classification", Earth Manual, Part II, Third Edition, 1990.
3. Standard Penetration tests were performed in accordance with ASTM D 1586-99 using a safety hammer operated with cat-head, rope and pully. Drill rods were 1 5/8-inch diameter "A"-rods; sampler was driven with brass liners.
4. The length of each sampled interval is shown graphically on the boring log. Whole number blow counts ("N") represent the "standard penetration resistance" interval in accordance with ASTM D1586-99. Where less than 1 foot of penetration is achieved, the blow count shown is for that fraction of the "standard penetration resistance" interval actually penetrated.
5. 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.
6. Consistency of soils shown in ( ) where estimated.
7. Rock Quality Designation (RQD), Weathering, Rock Hardness/Strength, Bedding, and Fracture Density, as shown on this sheet, were used to describe all rock core from borings drilled in 2002. Descriptors were determined in the field.
8. REC = Percent Core Recovery.
9. RQD = Percent Rock Quality Designation.
10. Point Load (PL) Index Tests were run in the laboratory using a "Soiltest" Point Load Tester (Model RM-735). The failure load P ( ) was recorded and the Point Load Index determined.
11. Slake Durability (SD) index was determined in the laboratory in accordance with ASTM D 4644 test method.
12. Groundwater surface elevations in the borings indicated on the Log of Test Boring Sheets reflect the fluid level in the borings on the specified date.
13. Groundwater surface elevations are subject to seasonal fluctuations and may occur at higher or lower elevations depending on the conditions at any particular time.

Source: U.S. Department of Interior, Bureau of Reclamation "Engineering Geology Field Manual".

REVISIONS

NO.	DESCRIPTION	BY	DATE

NEVADA COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN/CONSTRUCTION DIVISION

TRUCKEE RIVER BRIDGE
LOG OF TEST BORINGS NO. 2

DESIGN OVERSIGHT	DRAWN BY	M. D. Robertson	R. C. Pickard FIELD INVESTIGATOR
SIGN OFF DATE	CHECKED BY		DATE January 2003

PREPARED FOR
NEVADA COUNTY
DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER

BRIDGE NO. 17C-0045
POST MILE

TRUCKEE RIVER BRIDGE
LOG OF TEST BORINGS No. 2

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU
EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES → REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

BRIDGE No. 17C0111
DESIGNED: M.Maechler
DRAWN: K. Dang
CHECKED: D. Yang
JOB NO: 2247
DATE: DEC, 2023