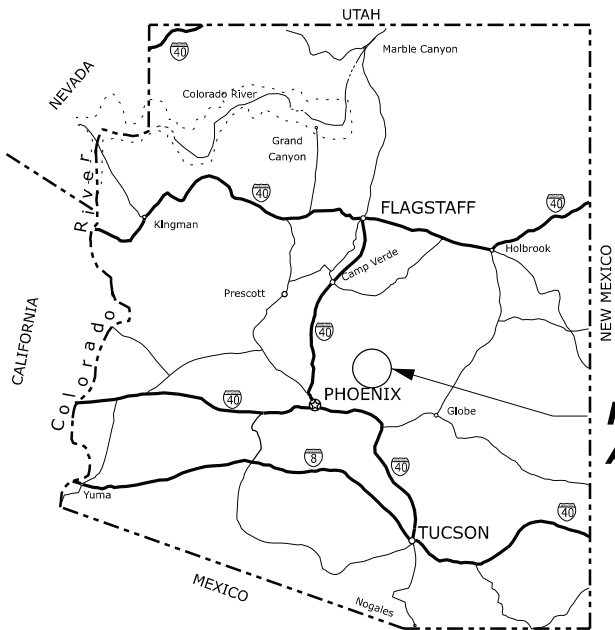


U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	A1



Project Location
AZ FTBR SALT 80(1)

PLANS FOR PROPOSED
AZ FTBR SALT 80(1)
HORSE MESA BRIDGE

TONTO NATIONAL FOREST
MARICOPA COUNTY
LENGTH 0.057 miles

INDEX TO SHEETS	
SHEET	DESCRIPTION
A1	TITLE SHEET
A2-A3	CONVENTIONAL PLAN SYMBOLS & ABBREVIATIONS
A4	SURVEY CONTROL SHEET
A5	SITE MAP
A6-A7	TYPICAL SECTIONS
B1-B2	SUMMARY OF QUANTITIES
B3	GRADING AND SURFACING SUMMARIES
B4-B5	MISCELLANEOUS SUMMARIES
C1	ROADWAY PLAN AND PROFILE SHEET
C2	APPROACH ROADS AND PULLOUT GRADING PLAN SHEET
G1	REINFORCED CONCRETE RETAINING WALL SPECIAL 258-A
S1-S11	BRIDGE SHEETS
T1-T4	TEMPORARY TRAFFIC CONTROL STANDARD SHEETS 635-1, 5, 13, 14
X1-X14	MAINLINE CROSS SECTIONS

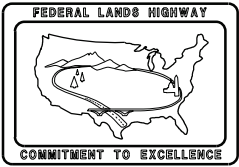
KEY MAP OF ARIZONA

TYPE OF CONSTRUCTION:
Bridge replacement, road realignment, and gravel surfacing.

DESIGN DESIGNATIONS:
ADT (2022) <100
ADT (2032) <100
DHV 15
T <1%
V 25 mph
e(max) 6%

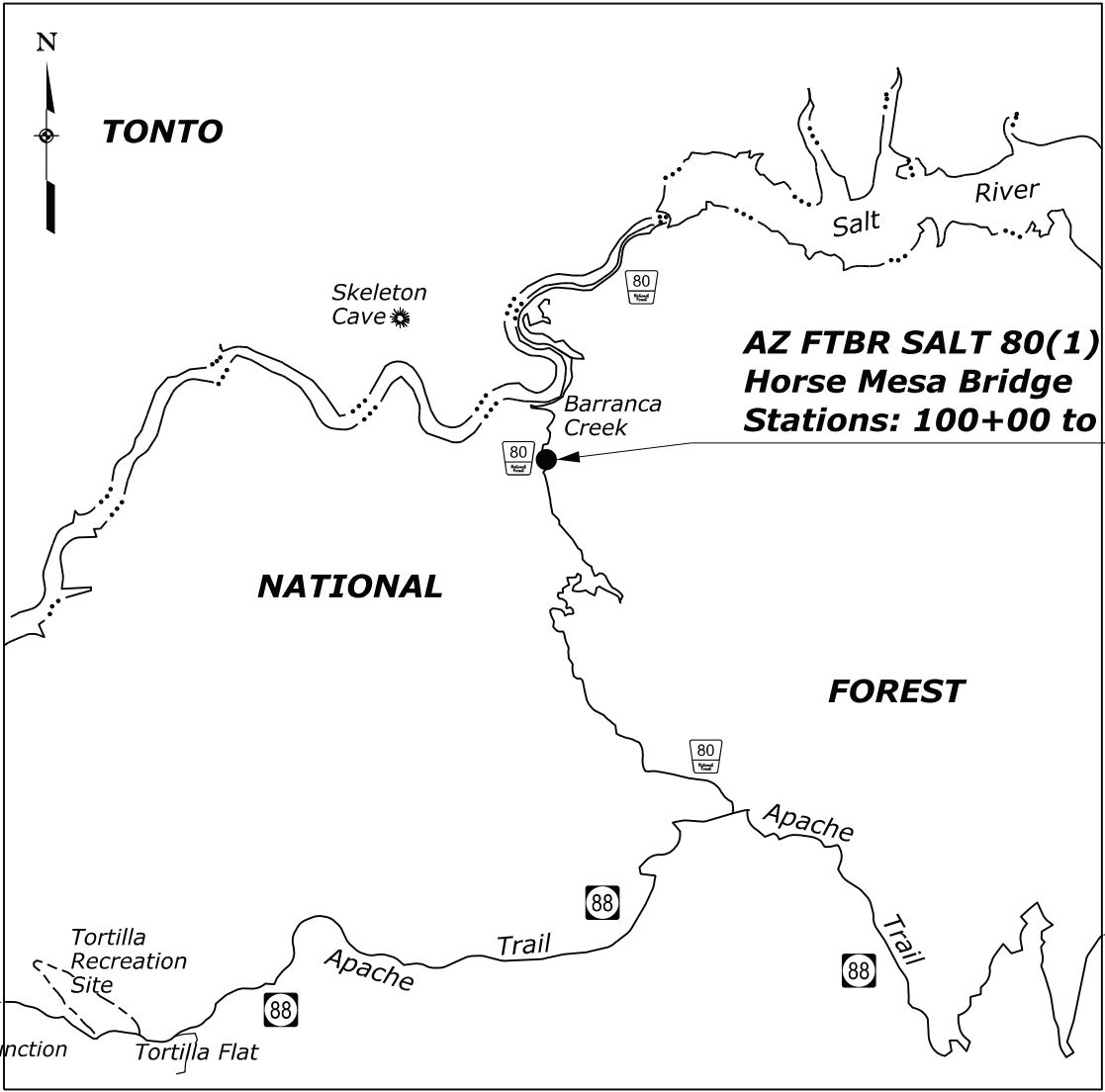
U.S. CUSTOMARY DIMENSIONS:
Slopes are expressed as RISE:RUN

SPECIFICATIONS:
"STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND
BRIDGES ON FEDERAL HIGHWAY PROJECTS, FP-14"



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PROJECT MANAGER	LEAD DESIGNER
T. Kubicz	W. Valentin



AZ FTBR SALT 80(1)
Horse Mesa Bridge
Stations: 100+00 to 102+98.70




PLANS PREPARED BY

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION
DENVER, CO









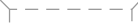





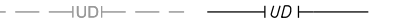

APPROVED:
CURTIS R SCOTT Digitally signed by CURTIS R SCOTT
Date: 2022.08.24 15:10 -06'00'
CHIEF OF ENGINEERING
CENTRAL FEDERAL LANDS HIGHWAY DIVISION
ALEXANDER SMITH Digitally signed by ALEXANDER SMITH
Date: 2022.08.11 09:11:41 -07'00' DATE:
PHOENIX AREA OFFICE MANAGER
BUREAU OF RECLAMATION



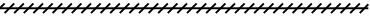






 DATE: 8/5/2022
HYDRO DIRECTOR
SALT RIVER PROJECT



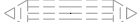


ABBREVIATIONS		
	centerline	
	curve delta	
	diameter	
A abut.	abutment	
ADT	average daily traffic	
aggr.	aggregate	
AH	ahead	
alt.	alternate	
appr.	approach	
asph.	asphalt	
B b.f.	both faces	
beg.	beginning, begin	
BK	back	
BM	bench mark	
BP	balance point	
br.	bridge	
brg.	bearing	
C CBC	concrete box culvert	
c-c	center to center	
clr.	clear	
CMP	corrugated metal pipe	
Co.	county	
col.	column	
conc.	concrete	
constr.	construction	
constr. jt.	construction joint	
cont.	continuous	
corr.	corrugated	
cr.	creek	
CS	point of curve to spiral	
ctrs.	centers	
CTSM	contingent sum	
culv.	culvert	
D decr.	decrement	
DHV	design hour volume	
DI	drop inlet	
dia. or D	diameter	
diag.	diagonal	
diaph.	diaphragm	
dist.	distance	
Dist.	district	
DLC	donation land claim	
dwg(s).	drawing(s)	
E E	east	
e	superelevation rate	
El. 94.066	elevation with number	
elev.	elevation	
emb.	embankment	
engr(s).	Engineer(s)	
EOP	edge of pavement	
EQ or eq.	equation	
ER	edge of road	
et al	and others	
et ux	and wife	
EW	edge of water	
exc.	excavation	
exp. jt.	expansion joint	
ext.	exterior	
F f.f.	fill face	
Fed.	federal	
FES	flared end section	
fin.	finish	
ftg.	footing	
G ga.	gage (gauge)	
galv.	galvanized	
gdr.	girder	
H hdl.	headwall	
HES	homestead entry survey	
hex.	hexagon	
horiz.	horizontal	
HW	high water	
hwy.	highway	
I ID	inside diameter	
incl.	inclusive, including	
incr.	increment	
int.	interior	
J jt.	joint	

L L	length of curve
lam.	lamination
lat.	latitude
long.	longitudinal
LPSM	lump sum
Lt. or LT	left
LW	low water
M mag.	magnetic
maint.	maintenance
matl.	material
max.	maximum
min.	minimum
mon.	monument
mtn(s).	mountain(s)
N N	north
NC	normal crown
neg.	negative
no. or #	number
O o.c.	on centers
o.f.	other face
OD	outside diameter
P PC	point of curve
PCC	point of compound curve
perf.	perforate
PI	point of intersection
pl.	plate
POC	point on curve
POS	point on spiral
POT	point on tangent
proj.	project
psi	pounds per square inch
PT	point of tangent
pvm.	pavement
Q quant., Qty	quantities
R R	radius
R.	range
R/W	right-of-way
rd.	road
rdwy.	roadway
reconst.	reconstruction
reinf.	reinforcement
reqd.	required
res.	reservoir
Res.	Reservation
ret. wall	retaining wall
RH	reference hub
Rt. or RT	right
rte.	route
S S	south
SADT	seasonal average daily traffic
SC	point of spiral to curve
sec.	section
shldr.	shoulder
spa.	spacing, Spaces or Spaced
spec.	specification
st.	street
ST	point of spiral to tangent
sta.	station
std.	standard
stiff.	stiffener
str.	straight
struc.	structural
sym.	symmetrical
T T	tangent length
T.	township
tan.	tangent
TBM	temporary bench mark
TCE	temporary construction easement
transv.	transverse
TS	point of tangent to spiral
typ.	typical
V V	design speed
vert.	vertical
vph	vehicles per hour
VPI	vertical point of intersection
W W	west

DRAINAGE SYMBOLS	
Ditch (Existing, Proposed)	
Flow Arrow	
Drainage or Small Creek	
Lake, Pond or Reservoir	
Large Creek	
Wetland	
River	
Spring	
Bridge (Existing, Proposed)	
Box Culvert (Existing, Proposed)	
Pipe Culvert (Existing, Proposed)	
With End Sections (Existing, Proposed)	
With Headwalls (Existing, Proposed)	
With Drop Inlet (Existing, Proposed)	
Underdrain (Existing, Proposed)	
Riprap Apron (Proposed)	

EROSION & SEDIMENT CONTROL SYMBOLS	
Bonded Fiber Matrix Mulching	
Check Dam	
Diversion Berm	
Rolled Erosion Control Product	
Riprap	
Fiber Roll (Ditch and/or Cut Slope)	
Silt Fence	
Temporary Inlet Protection	
Fiber Roll (Slope Protection)	

FENCE & CATTLEGUARD SYMBOLS	
Fence (Existing, Proposed)	
Fence w/ Gate (Existing, Proposed)	
Cattleguard (Existing, Proposed)	

GEOLOGIC SYMBOLS	
Boring Location (Existing, Proposed)	
Material Source	

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	A2

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

CONVENTIONAL PLAN SYMBOLS AND ABBREVIATIONS

Sheet 1 of 2

LANDSCAPING & VEGETATION SYMBOLS	STATE		PROJECT	SHEET
	AZ		AZ FTBR SALT 80(1) HORSE MESA BRIDGE	NUMBER A3
Tree				
Treeline				
MAPPING SYMBOLS				
Building (Existing, Proposed)				
Coordinate Grid Tick				
North Arrow				
Railroad				
Spot Elevation				
Trail				
Survey Control Point				
RIGHT-OF-WAY SYMBOLS				
Boundaries				
Easements				
GUARDRAIL, BARRIER & WALL SYMBOLS				
Guardrail (Existing, Proposed)				
Guardwall (Existing, Proposed)				
Median & Side Barrier (Existing, Proposed)				
Retaining Wall (Existing, Proposed)				
ROADWAY SYMBOLS				
Clearing/Construction Limits				
Slope Stake Limits				
Top of Cut				
Transition				
Toe of Fill				
Edge of Roadway				
Existing				
Proposed				
Roadway Centerline (With Station ticks)				
Roadway Obliteration				
SIGN SYMBOLS				
Signs				
UTILITY SYMBOLS				
Irrigation Ditch				
Support Pole (Existing, Proposed)				
Support Pole Anchor (Existing, Proposed)				
Street Light (Existing, Proposed)				
Telephone Booth (Existing, Proposed)				
Telephone Pedestal (Existing, Proposed)				
Underground Utility (Existing, Proposed)				
Overhead Utility Line (Existing, Proposed)				
PROJECT SPECIFIC SYMBOLS				
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION OFFICE OF FEDERAL LANDS HIGHWAY				
CONVENTIONAL PLAN SYMBOLS AND ABBREVIATIONS Sheet 2 of 2				

N:\AZ\salt80(1)\Roadway\CADD_Sheets\A-Gen_sht\AZ_sym.dgn [Sheet 2] 1 March 2022 10:38 AM

N:\AZ\salt80(1)\Roadway\CADD_Sheets\A-gen_sht\AZ_SALT_80(1)_Control_Sheet.dgn [Untitled-1 [Sheet]]9 March 2022 7:11 PM

Project : AZ SALT 80(1) Horse Mesa Bridge

Review FP14, Section 152.02

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	A4

Date Of Field Work : December, 2021
Date Of Final Adjustment : January, 2022

Project Units : US Survey Feet
Datum: Nad 1983 (Conus)
Zone: Arizona Central zone 0202
Geoid: Geoid12B (Conus)
Opus Epoc Date : 2010.0000
Vertical Datum : Navd88 All Elevations Are Modeled using Geoid12B holding OPUS
on point 1001

ALI File Dated : 2/20/22
ALI File Name : ALI_SALT80(1).dgn Alignment : BL

POINT NUMBER	STATE PLANE COORDINATES			GEO COORDINATES			MAPPING ANGLE	COMBINED FACTOR	STATION	OFFSET	DESCRIPTION
	NORTH	EAST	ELEVATION	LATITUDE	LONGITUDE	ELLIPSOID HEIGHT					
1001	936929.80	871175.18	1837.10	33°34'27.30000"N	111°21'16.74000"W	1743.30	0°18'40"	0.99985014	off alignment	off alignment	Found PC SGI
1002	937183.80	871216.04	1813.02	33°34'29.82000"N	111°21'16.23600"W	1719.23	0°18'40"	0.99985131	102+31.94	34.6	Found AC SGI
4001	937167.09	871192.39	1812.00	33°34'29.64000"N	111°21'16.52400"W	1718.22	0°18'40"	0.99985135	102+14.19	16.5	Found AC SGI
4002	937107.58	871133.07	1818.99	33°34'29.06400"N	111°21'17.20800"W	1725.20	0°18'40"	0.99985099	101+37.44	-17.7	BOLT
4003	937064.85	871149.39	1826.30	33°34'28.63200"N	111°21'17.02800"W	1732.51	0°18'40"	0.99985065	101+02.58	12.7	BOLT
4004	937068.70	871198.81	1813.05	33°34'28.66800"N	111°21'16.45200"W	1719.26	0°18'40"	0.99985130	101+24.54	57.5	BOLT

PROJECT AVERAGES = 0.99985096

NOTE: TO PRECISELY CHECK DISTANCES BETWEEN POINTS AS MEASURED ON THE GROUND :
INVERSE THE STATE PLANE COORDINATES AND DIVIDE THE COMPUTED DISTANCE
BY A MEAN COMBINED FACTOR OF THE TWO POINTS.

TO COMPUTE GEODETIC AZIMUTHS USE THE FOLLOWING FORMULA :
GEODETIC AZIMUTH = GRID AZIMUTH + MAPPING ANGLE

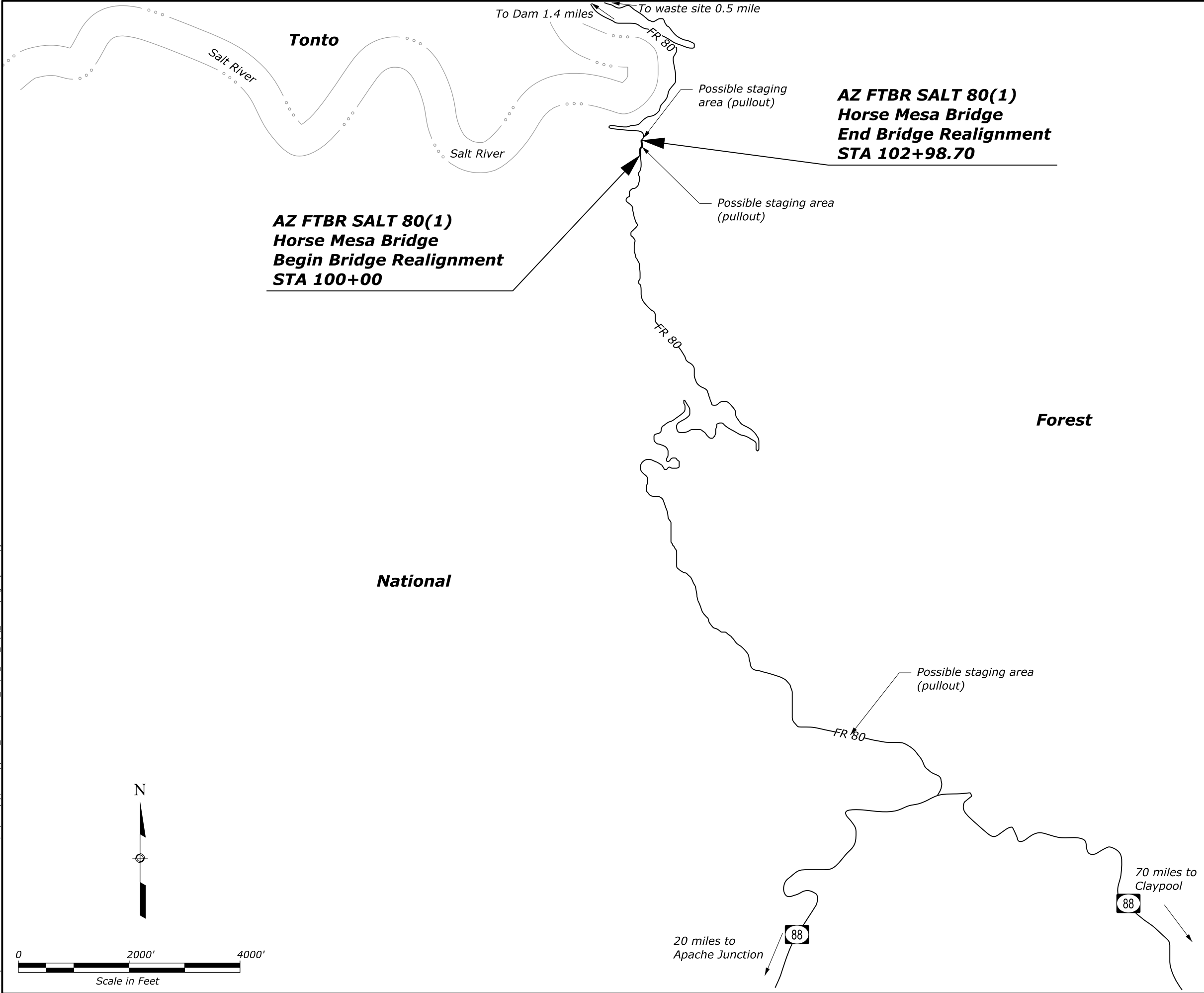
6			
5			
4			
3			
2			
1	Created	2/22/22	SJS
NO.	DESCRIPTION REVISIONS (OR CHANGE NOTICES)	DATE	INIT.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

SURVEY CONTROL SHEET

N:\AZ\salt80(1)\Roadway\CADD_Sheets\A-Gen_sht\AZ_SALT_80(1)_Site Map.dgn [Site Map] 18 July 2022 6:05 PM

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	A5



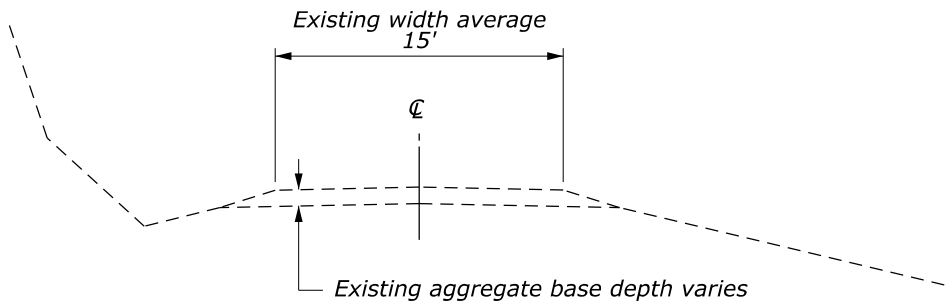
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

SITE MAP

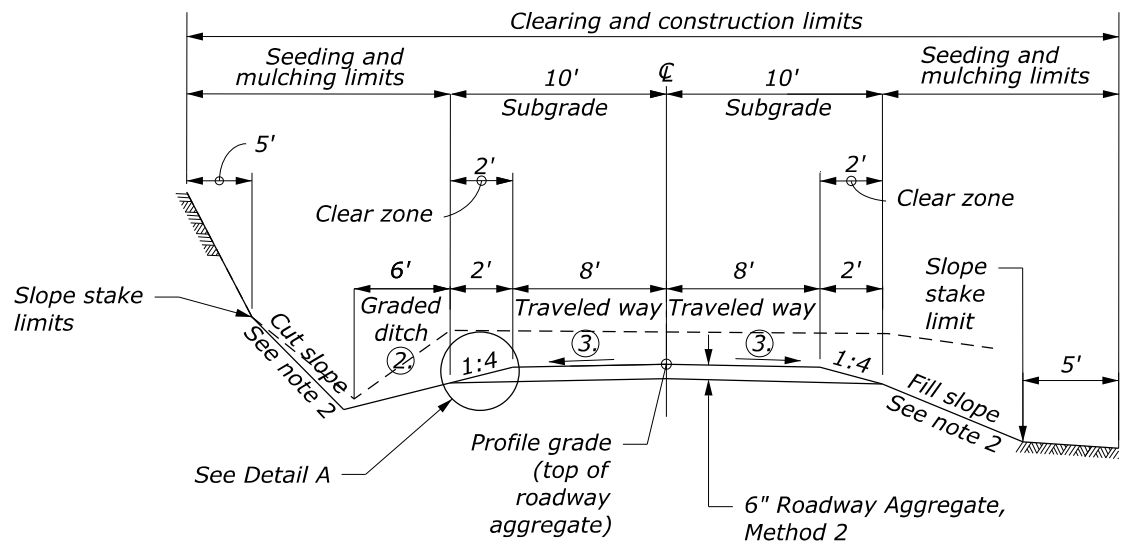
STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	A6

NOTE:

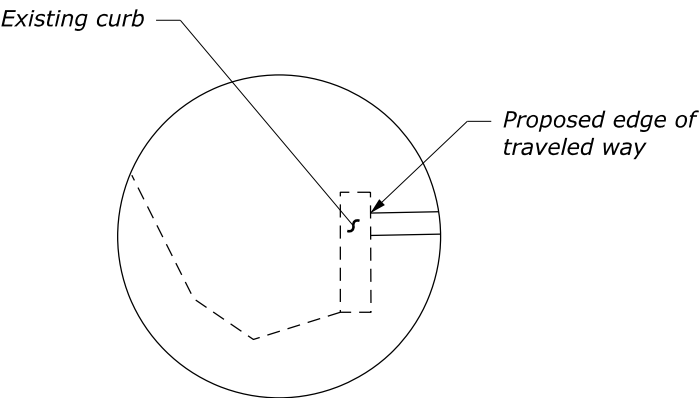
1. *The gradient and width of roadway ditches and the excavation and embankment slope ratios may be adjusted by the CO to assure adequate drainage and stability.*
- ② *See the cross sections for cut and fill slope ratios.*
- ③ *See the cross sections for cross slopes.*



EXISTING TYPICAL SECTION
Sta 100+00 to 102+98.70



TYPICAL SECTION
Sta 100+00 to 101+07.86
Sta 102+07.86 to 102+98.70



Detail A
Sta 102+88 to 102+98.70

LENGTH OF PROJECT		
<i>Station to Station</i>	<i>Roadway (ft)</i>	<i>Bridge (ft)</i>
<i>100+00 to 101+07.86</i>	<i>107.86</i>	
<i>101+07.86 to 102+07.86</i>		<i>100</i>
<i>102+07.86 to 102+98.70</i>	<i>90.84</i>	
<i>TOTALS (ft)</i>	<i>198.70</i>	<i>100</i>
<i>TOTALS (mi)</i>	<i>0.038</i>	<i>0.019</i>

NO SCALE

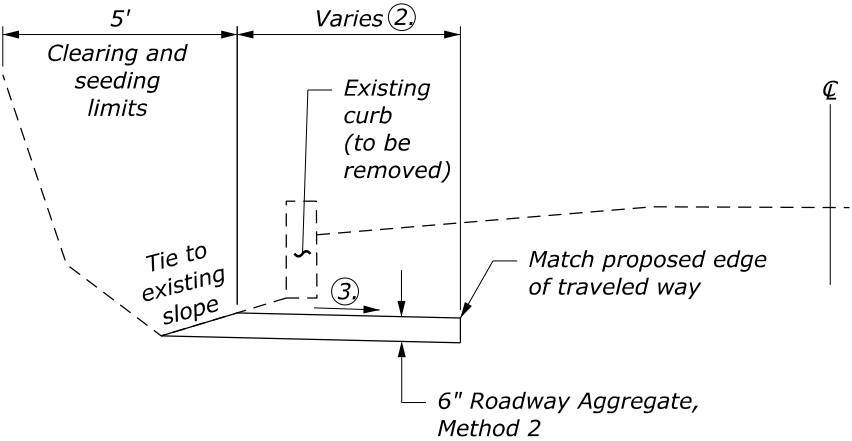
U.S. DEPARTMENT OF TRANSPORTATION
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OFFICE OF FEDERAL LANDS HIGHWAY

TYPICAL SECTIONS

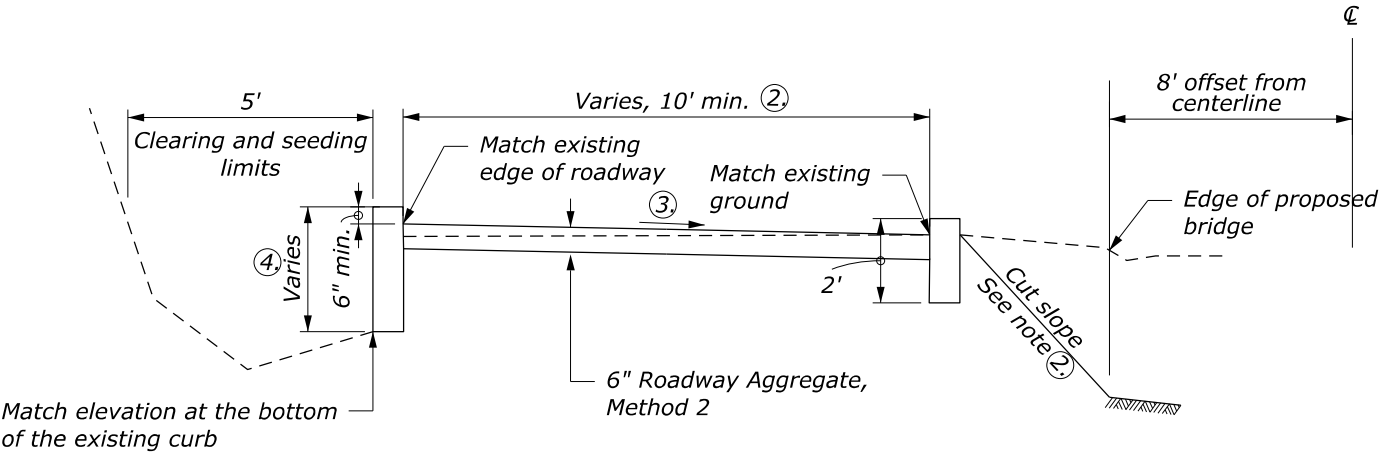
STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	A7

NOTE:

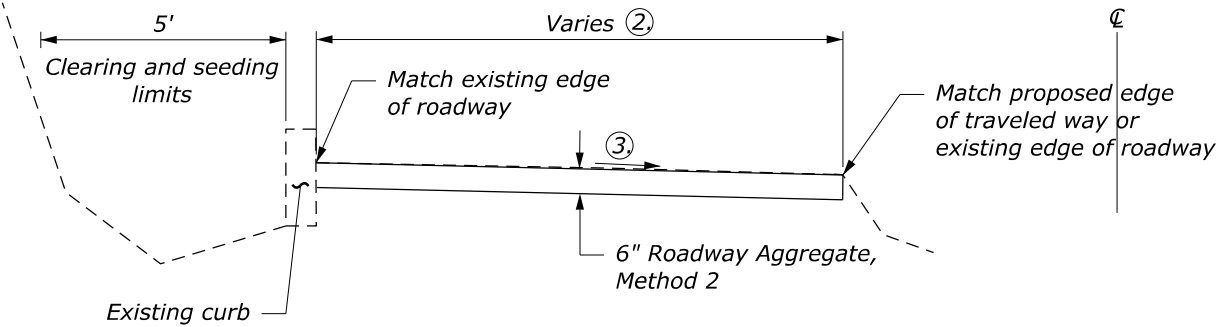
1. The gradient and width of roadway ditches and the excavation and embankment slope ratios may be adjusted by the CO to assure adequate drainage and stability.
- ② See Approach Roads And Pullouts Grading Plan Sheet for widths, elevations and offsets.
- ③ See the cross sections for cross slopes.
- ④ See Special 258-A for more details on the construction and dimensions of the proposed reinforced concrete retaining wall.



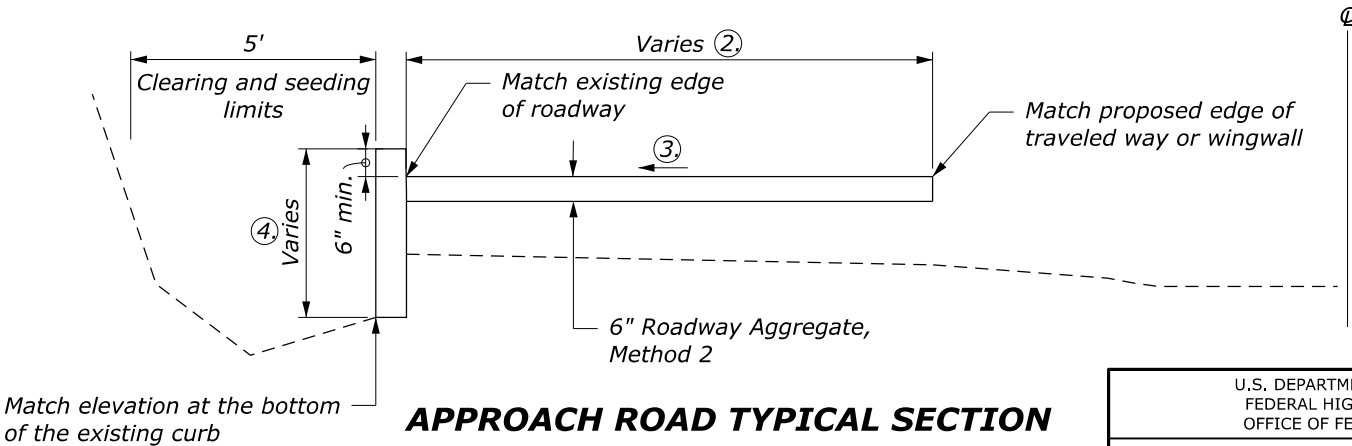
APPROACH ROAD TYPICAL SECTION
Sta 100+72 to 100+95



APPROACH ROAD TYPICAL SECTION
Sta 101+82 to 102+06.86



APPROACH ROAD TYPICAL SECTION
Sta 100+95 to 101+17



APPROACH ROAD TYPICAL SECTION
Sta 102+06.86 to 102+88

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

APPROACH ROAD
TYPICAL SECTIONS

NO SCALE

SUMMARY OF QUANTITIES - Schedule A

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	B1

A M E N D	Line Item No.	Pay Item Number	Pay Item Description	Unit	Sheet and Description											Estimated Quantities	Remarks and/or Determination of Estimated Quantity
					B3	B4	B5	S2									
					GRADING AND SURFACING SUMMARIES	MISCELLANEOUS SUMMARIES	MISCELLANEOUS SUMMARIES	BRIDGE SUMMARY							ALLOWANCE	Bid Schedule	
	A0001	15101-0000	MOBILIZATION	LPSM												ALL	
	A0021	15214-1000	SURVEY AND STAKING, BRIDGE	LPSM				All								ALL	
	A0041	15215-1000	SURVEY AND STAKING, APPROACH ROAD	EACH		2										2	
	A0061	15225-0000	SLOPE, REFERENCE, AND CLEARING AND GRUBBING CONTROL	MILE		0.037										0.037	
	A0081	15236-2000	SURVEY CONTROL, GRADE FINISHING	MILE		0.037										0.037	
	A0101	15301-0000	CONTRACTOR QUALITY CONTROL	LPSM												ALL	
	A0121	15401-0000	CONTRACTOR TESTING	LPSM												ALL	
	A0141	15501-0000	CONSTRUCTION SCHEDULE	LPSM												ALL	
	A0161	15701-0000	SOIL EROSION CONTROL	LPSM												ALL	
	A0181	15802-0000	WATERING FOR DUST CONTROL	LPSM												ALL	
	A0201	20101-0000	CLEARING AND GRUBBING	ACRE			0.33								0.02	0.35	
	A0221	20301-2300	REMOVAL OF SIGN/MARKER	EACH		3										3	
	A0241	20302-0500	REMOVAL OF CURB, CONCRETE	LNFT		157									8	165	
	A0261	20302-1200	REMOVAL OF GUARDRAIL	LNFT		6.5									3.5	10.0	
	A0281	20401-0000	ROADWAY EXCAVATION	CUYD	336										34	370	
	A0301	20801-0000	STRUCTURE EXCAVATION	CUYD				130								130	Contract Quantity
	A0321	20803-0000	STRUCTURAL BACKFILL	CUYD				45								45	Contract Quantity
	A0341	25801-0000	REINFORCED CONCRETE RETAINING WALL	SQFT			398								12	410	
	A0361	30202-2100	ROADWAY AGGREGATE, METHOD 2, SURFACE COURSE	TON	230										12	242	
	A0381	55201-0200	STRUCTURAL CONCRETE, CLASS A (AE)	CUYD				28								28	Contract Quantity
	A0401	55401-1000	REINFORCING STEEL	LB				3,600								3,600	Contract Quantity
	A0421	55504-0000	PRE-FABRICATED STEEL BRIDGE (16'x98')	LPSM				All								ALL	
	A0441	60101-0000	CONCRETE	CUYD				10								10	
	A0461	62201-0200	DUMP TRUCK, 8 CUBIC YARD MINIMUM CAPACITY	HOURL												20	
	A0481	62201-0550	BACKHOE LOADER, 6 CUBIC FOOT MINIMUM RATED CAPACITY BUCKET, 24-INCH WIDTH	HOURL												20	
	A0501	62201-0950	WHEEL LOADER, 3 CUBIC YARD MINIMUM RATED CAPACITY	HOURL												20	
	A0521	62201-2750	MOTOR GRADER	HOURL												20	
	A0541	62201-3350	HYDRAULIC EXCAVATOR, 1 CUBIC YARD MINIMUM CAPACITY	HOURL												20	
	A0561	62301-0000	GENERAL LABOR	HOURL												40	

MileStone: 100%
Date Completed: 08/03/22
Report Date: 08/03/22

SUMMARY OF QUANTITIES - Schedule A

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	B2

A M E N D	Line Item No.	Pay Item Number	Pay Item Description	Unit	Sheet and Description											Estimated Quantities	Remarks and/or Determination of Estimated Quantity
					B3	B4	B5	S2									
					GRADING AND SURFACING SUMMARIES	MISCELLANEOUS SUMMARIES	MISCELLANEOUS SUMMARIES	BRIDGE SUMMARY								ALLOWANCE	
	A0581	62302-1000	SPECIAL LABOR, HIRED TECHNICAL SERVICES	HOUR												40	
	A0601	62302-1100	SPECIAL LABOR, HIRED SURVEY SERVICES	HOUR												40	
	A0621	62303-1000	SPECIAL LABOR, HIRED TECHNICAL SERVICES (BIOLOGIST)	LPSM												ALL	
	A0641	62511-2000	SEEDING, HYDRAULIC METHOD	SQYD			814								41	855	
	A0661	62516-2000	MULCHING, HYDRAULIC METHOD	SQYD			814								41	855	
	A0681	63308-3000	OBJECT MARKER, TYPE 3	EACH			4									4	
	A0701	63309-0000	DELINEATOR	EACH			1									1	
	A0721	63316-1000	REMOVE AND RESET SIGN	EACH		1										1	
	A0741	63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM												ALL	

N:\AZ\salt80(1)\Roadway\CADD_Sheets\B-Summ\Alt B_Sheets.dgn [Grading Summary] 3 August 2022 4:05 PM

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	B3

GRADING SUMMARY											
Item Number			Roadway Excavation	Pay Item 20401-0000	For info only		Embankment For info only	For info only			
Station to Station			Prismoidal Volume	ROADWAY EXCAVATION	Shrink/Swell Factor	Total Excavation Available For Fills	Prismodial Volume	Total Embankment	Excavation- Embankment	WASTE (see note 2)	Remarks
100+00	-	101+07.86	310	310	0.9	279	1	1	277		Quantities include approach roads grading
102+07.86	-	102+98.70	26	26	0.9	24	155	155	-131		
TOTALS			336	336		303	156	156	146	146	

- NOTE:
- Quantities based on prismoidal (surface to surface) volumes.
 - Waste quantity calculated using volumes adjusted for shrink/swell. The average shrink/swell factor shown is computed by taking an average of recommended values over the specified range. Refer to the FHWA Geotechnical Memorandum for recommended shrink/swell factors.
 - The quantities shown herein are approximations. Payment will be made for the actual quantities of work performed.
 - BCY = Bank cubic yard - one cubic yard of material as it lies in the natural state.
CCY = Compacted cubic yard - one cubic yard of material after it has been compacted to specification density.

SURFACING SUMMARY		
Item Number	30202-2100	
Station to Station	ROADWAY AGGREGATE, METHOD 2, SURFACE COURSE	Remarks
	TON	
100+00 - 101+07.86	100	Quantities include approach roads and pullouts surfacing
102+07.86 - 102+98.70	130	
TOTALS	230	

Values used for estimating purposes:

Aggregate base 139 lb/ft3

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

GRADING AND SURFACING
SUMMARIES

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STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	B4

SURVEY AND STAKING SUMMARY							
Item Number				15215-1000	15225-0000	15236-2000	
Station to Station			Side	SURVEY AND STAKING, APPROACH ROAD	SLOPE, REFERENCE, AND CLEARING AND GRUBBING CONTROL	SURVEY CONTROL, GRADE FINISHING	Remarks
				EACH	MILE	MILE	
100+00	-	101+07.86			0.020	0.020	
100+67	-	101+17	LT	1			Access to existing bridge
101+82	-	102+98.70	LT	1			Access to existing bridge
102+07.86	-	102+98.70			0.017	0.017	
TOTAL				2	0.037	0.037	

REMOVALS SUMMARY							
Item Number				20301-2300	20302-0500	20302-1200	63316-1000
Station to Station			Side	REMOVAL OF SIGN/MARKER	REMOVAL OF CURB, CONCRETE	REMOVAL OF GUARDRAIL	REMOVE AND RESET SIGN
				EACH	LNFT	LNFT	EACH
100+00	-	100+28	LT		28		
100+36			RT				1
100+72	-	100+95	LT		23		
100+98			LT	1			
101+81.5	-	101+88	LT			6.5	
101+82	-	102+36	LT		54		
101+88			LT	1			
102+36	-	102+88	LT		52		
102+61			RT	1			
TOTAL				3	157	6.5	1

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

MISCELLANEOUS SUMMARIES
Sheet 1 of 2

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STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	B5

CLEARING AND SEEDING SUMMARY				
Item Number	20101-0000	62511-2000	62516-2000	
Station to Station	CLEARING AND GRUBBING	SEEDING, HYDRAULIC METHOD	MULCHING, HYDRAULIC METHOD	Remarks
	ACRE	SQYD	SQYD	
100+00 - 101+07.86	0.16	454	454	
102+07.86 - 102+98.70	0.17	360	360	
TOTAL	0.33	814	814	

PERMANENT SIGN SUMMARY							
				Item Number	63308-3000	63309-0000	Remarks
Station	Side	MUTCD Reference	Description	Sign Panel	OBJECT MARKER, TYPE 3	DELINEATOR	
				in x in	EACH	EACH	
101+07.86	Rt	OM3-R	Object Marker Type 3	12 x 36	1		
101+07.86	Lt	OM3-L	Object Marker Type 3	12 x 36	1		
102+07.86	Rt	OM3-R	Object Marker Type 3	12 x 36	1		
102+07.86	Lt	OM3-L	Object Marker Type 3	12 x 36	1		
102+61	Rt			12 x 6		1	
TOTALS					4	1	

WALL SUMMARY					
Item Number			25801-0000		
Station to Station		Side	REINFORCED CONCRETE RETAINING WALL	Remarks	
			SQFT		
101+82	- 102+06.86	LT	50		
101+82	- 102+36	LT	150		
102+36	- 102+88	LT	198		
TOTAL			398		

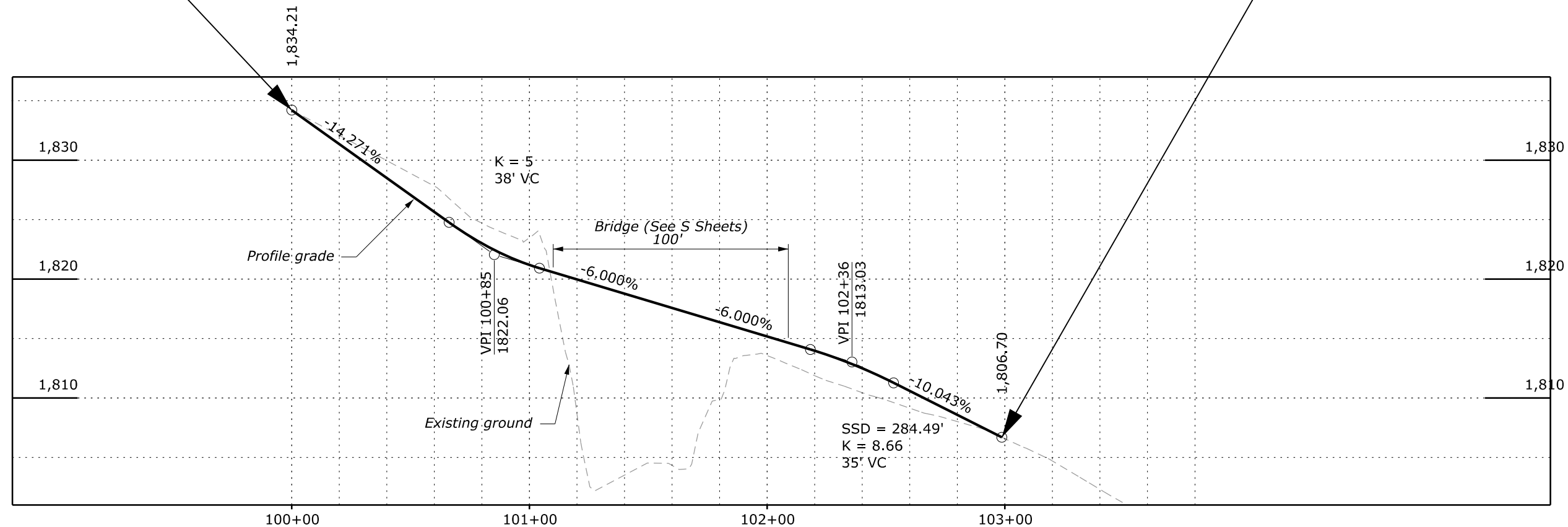
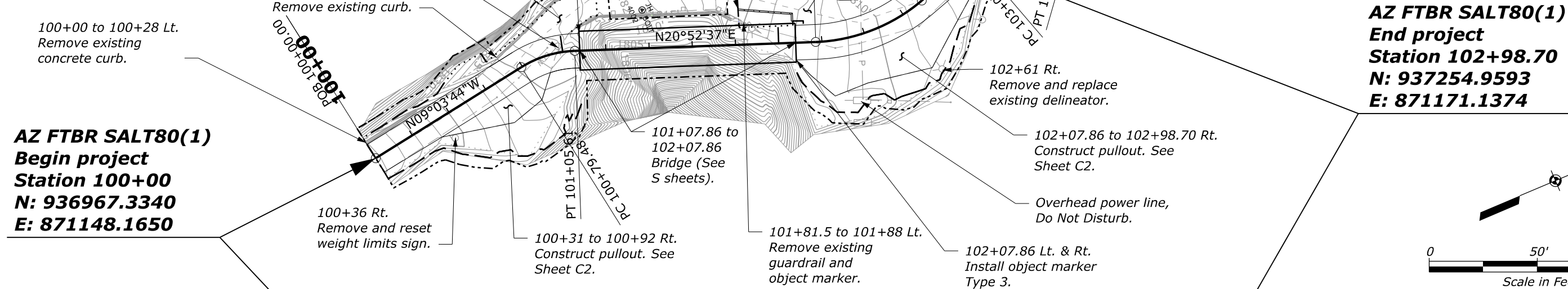
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

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STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	C1

PI 100+92.85
 $\Delta = 29^{\circ}56'20''$ (RT)
R = 50.00'
T = 13.37'
L = 26.13'

PI 102+45.02
 $\Delta = 38^{\circ}27'26''$ (LT)
R = 80.00'
T = 27.90'
L = 53.70'



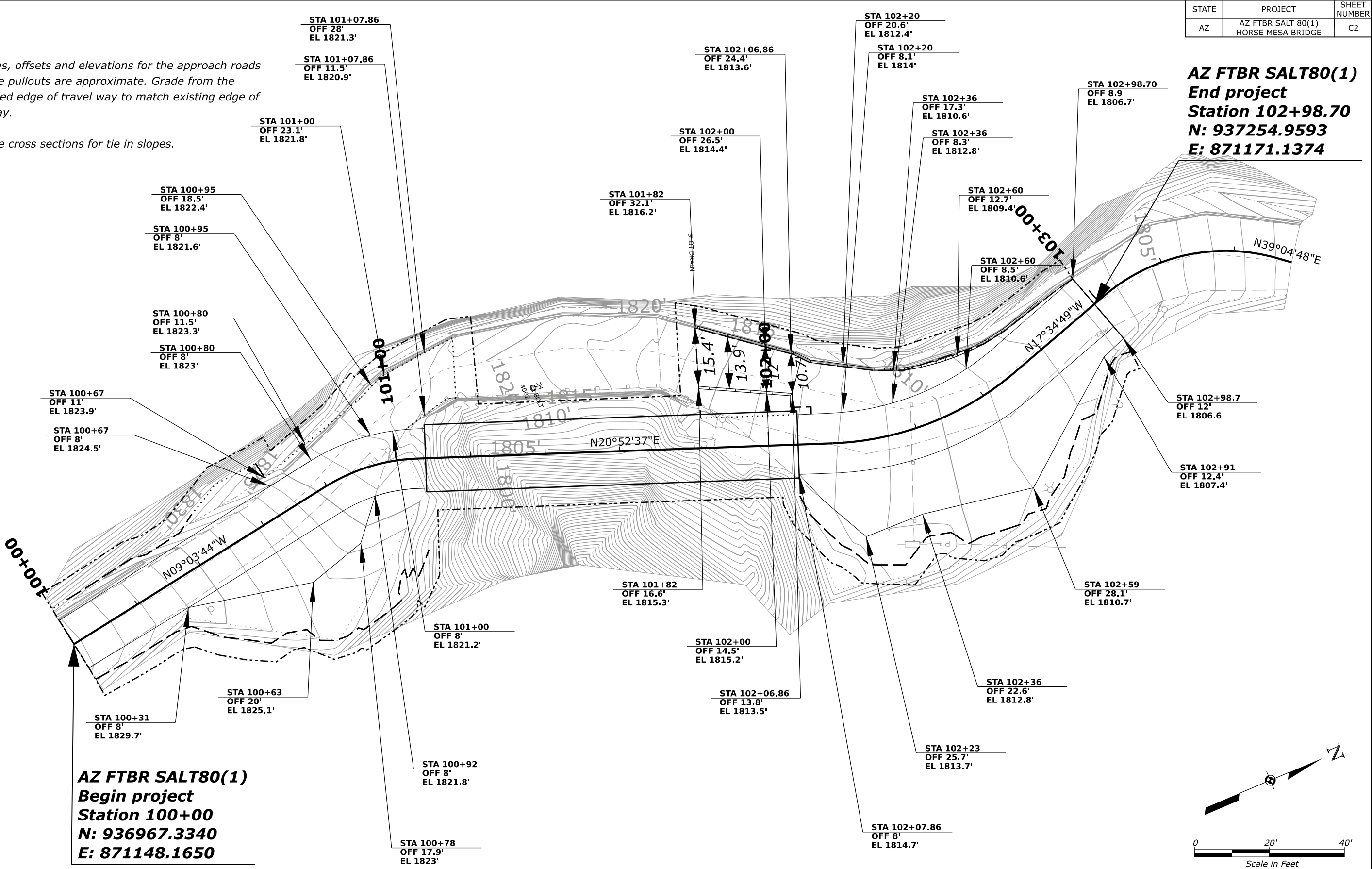
ROADWAY PLAN AND PROFILE SHEET

HORSE MESA BRIDGE
100+00 TO 102+98.70

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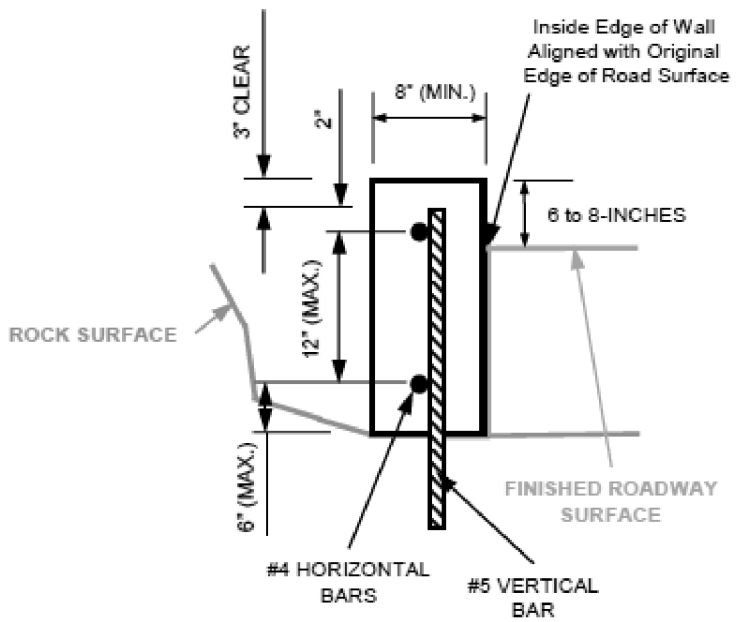
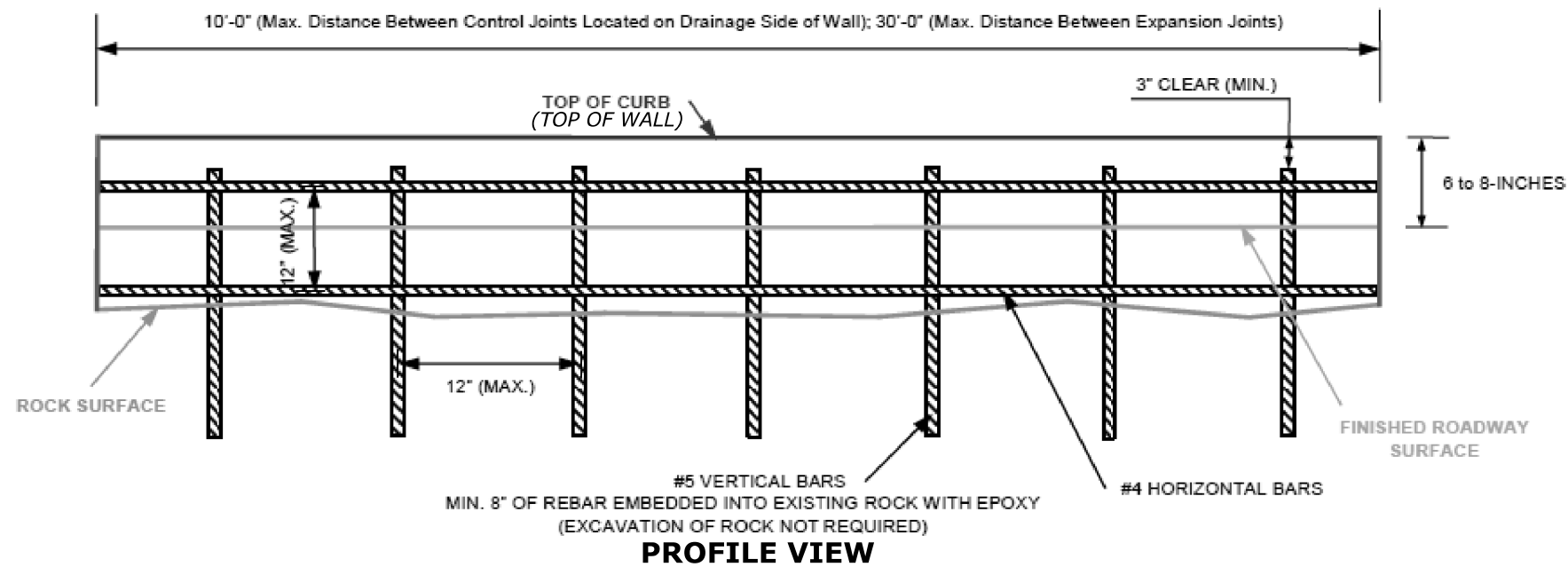
NOTE:

- 1. Stations, offsets and elevations for the approach roads and the pullouts are approximate. Grade from the proposed edge of travel way to match existing edge of roadway.
- 2. See the cross sections for tie in slopes.

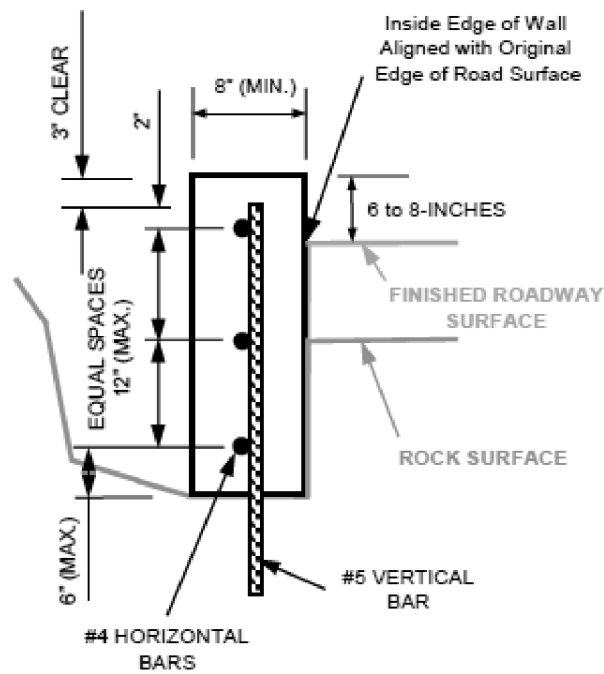
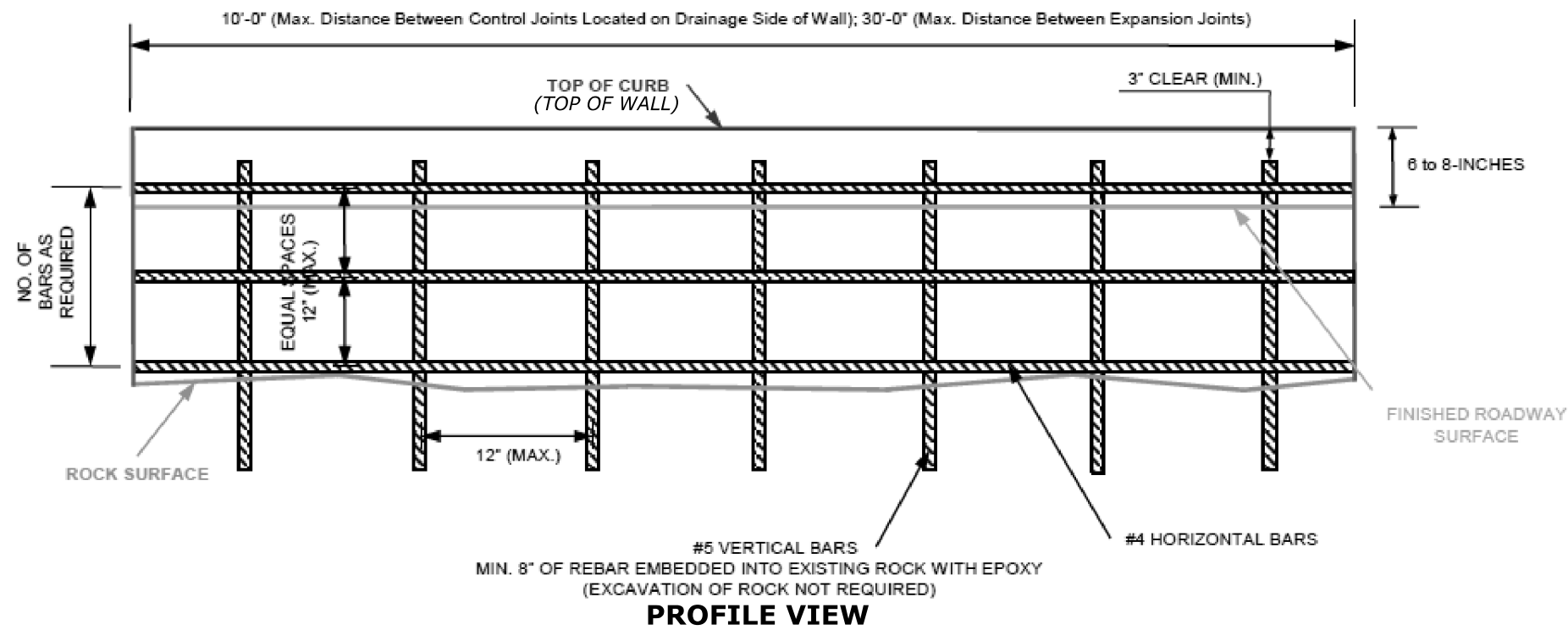


APPROACH ROADS AND PULLOUTS GRADING PLAN SHEET

HORSE MESA BRIDGE
100+00 TO 102+98.70



TYPICAL SECTION VIEW



TYPICAL SECTION VIEW

- NOTES: 1) A MINIMUM CLEAR DISTANCE OF 3-INCHES IS REQUIRED BETWEEN EDGE OF REBAR AND ALL CONCRETE SURFACES.
2) ALL REBAR MAY BE FIELD CUT.
3) ALL EXPOSED CONCRETE SURFACES TO BE FORMED.

Not to Scale

SRP – Civil Eng. Services

ADOPTED FROM SRP-CIVIL ENGINEERING SERVICES

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY
CFLHD SPECIAL

**REINFORCED CONCRETE
RETAINING WALL**

SPECIAL
258-A

N:\AZ\salt180(1)\Bridge\RG3249\CADD Files\DWG Files\rg3249_gndgn 7/28/2022

GENERAL NOTES:												STATE	PROJECT	SHEET NO.	
SPECIFICATIONS: DESIGN: AASHTO LRFD Bridge Design Specifications, 8 th Edition, 2017. CONSTRUCTION: Federal Highway Administration Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-14 (dual units).												AZ	AZ FTBR SALT 80(1) Horse Mesa Bridge	S2	
DEAD LOAD: CONCRETE: 150 lbs. per cubic foot. STRUCTURAL STEEL: 490 lbs. per cubic foot. SOIL: 125 lbs. per cubic foot. No allowance for future wearing surface															
LIVE LOAD: HL-93, single lane. Maximum Dynamic Load Allowance (Impact), IM = 33%.															
LATERAL EARTH PRESSURE: ACTIVE PRESSURE: Equivalent to a fluid unit weight of soil = 35 lbs. per cubic foot. AT REST PRESSURE: Equivalent to a fluid unit weight of soil = 50 lbs. per cubic foot. LIVE LOAD SURCHARGE: Equivalent to a height of soil. For Abutments h _{eq} = 3 feet. For wingwalls h _{eq} = 2 feet.															
WIND LOAD: Design Wind Speed (Strength III Limit State), V = 110 mph, Wind Exposure Category = C.															
SEISMIC: Peak Ground Acceleration (PGA = 0.074 g), modified by the Site Coefficient (F _{PGA} =1.0) to give a spectrum acceleration, A _s = 0.074 g. Short period acceleration at 0.2 seconds (S _s = 0.172 g) modified by the Site Coefficient (F _a = 1.0) to give the short period spectrum acceleration, S _{DS} = 0.172 g. Long period acceleration at 1.0 seconds (S ₁ = 0.050 g) modified by the Site Coefficient (F _V = 1.0) to give the long period spectrum acceleration, S _{D1} = 0.050 g. Site Class = B. Seismic Zone = A.															
DESIGN CRITERIA: CONCRETE: All cast in place concrete shall be Structural Concrete, Class A(AE), with a minimum 28-day compressive strength, f'c= 4500 psi. Chamfer exposed edges of all concrete ¾ inch, unless noted otherwise on the plans. All concrete shall be made with Type II cement.															
REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M31 or M322, Grade 60 deformed. The minimum concrete covering to the face of any bar shall be 2 inches, unless noted otherwise on the plans. Minimum splice lengths for all bar sizes shall be as shown on the plans. Bar splices other than those shown on the plans will not be paid for.															
PREFABRICATED STEEL BRIDGE: Provide modular steel girder bridge with open grid steel decking, and steel vehicular railing as shown on the plans. See Section 555 of the Special Contract Requirements for additional requirements.															
The steel fabricating company shall be Certified Bridge Fabricator - Intermediate under the AISC Quality Certification Program. All structural steel for girders, diaphragms, and bridge rail posts shall be high-strength low alloy steel conforming to AASHTO M270, Grade 50 (ASTM A709, Grade 50) unless otherwise shown on the plans. The contractor shall be responsible for the stability of the structure during all phases of construction. All field connections shall be designed as slip critical, friction type, and shall be made with fasteners conforming to ASTM F3125, Grade A325, Type 3. All structural steel components of bridge including girder, diaphragms, splices and connection bolts shall be galvanized after fabrication according to AASHTO M111 or AASHTO M232, as applicable. All welding shall conform to the ANSI/AASHTO/AWS D1.5, and shall be by a certified welder.															
Open grid steel decking shall conform to ASTM A709, Grade 50, or ASTM A572, Grade 50. All deck components and hardware shall be galvanized after fabrication according to AASHTO M111 or AASHTO M232, as applicable.															
Thrie-beam guardrail elements shall be galvanized steel conforming to AASHTO M180, Type I, Class B (10 gauge). Guardrail shall provide a minimum TL-2 crash test level rating.															
Anchor bolts shall conform to ASTM F1554, Grade 55 or 105. Hex nuts shall conform to ASTM A563, Grade A. All anchor bolt hardware shall be galvanized. Steel reinforced bearing pads shall conform to AASHTO M251, 60 Durometer hardness, elastomer grade 2 or higher. Design pads per AASHTO LRFD Design Method A.															
DRAINAGE: Drainage pipe shall conform to AASHTO M252.															
EXISTING BRIDGE: For existing bridge plans see Salt River Project Drawing No. A-650-6 "Horse Mesa Dam Access Road Crevice Crossing Bridge", final revision dated 06/2010.															
												U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION CENTRAL FEDERAL LANDS HIGHWAY DIVISION HORSE MESA BRIDGE FOREST ROAD 80 (FR 80) TONTONATIONAL FOREST MARICOPA COUNTY, ARIZONA			
												GENERAL NOTES & ESTIMATE			
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. BELCHER	B. ROBINSON	D. GERMANI	NONE	KARL EIKERMANN	2 of 11	JUNE 2022	RG3249- B

ESTIMATE				
Item No.	Item	Quantity	Unit	Notes
15214-1000	Survey and staking, bridge	All Req'd	LPSM	
20801-0000	Structure excavation	130	CUYD	(1)
20803-0000	Structural backfill	45	CUYD	(1)(4)
55201-0200	Structural concrete, class A(AE)	28	CUYD	(2)(1)
55401-1000	Reinforcing steel	3600	LB	(1)
55504-0000	Pre-fabricated steel bridge (16' wide x 98' long modular steel vehicular bridge)	All Req'd	LPSM	(3)
60101-0000	Concrete	10	CUYD	(5)

ESTIMATE NOTES

(1) Contract Quantity.

(2) Includes cost of furnishing and installing geocomposite sheet drain, (est. qty. = 25 square yards), weepholes, and drain grates.

(3) Includes cost of furnishing and erecting modular steel bridge including structural steel girders and diaphragms, steel railing posts, thrie beam railing, open steel grid decking, splice plates, elastomeric bearing pads, bearing plates, anchor bolts, and all associated hardware.

(4) Includes cost of furnishing and placing section 704.03 backfill material.

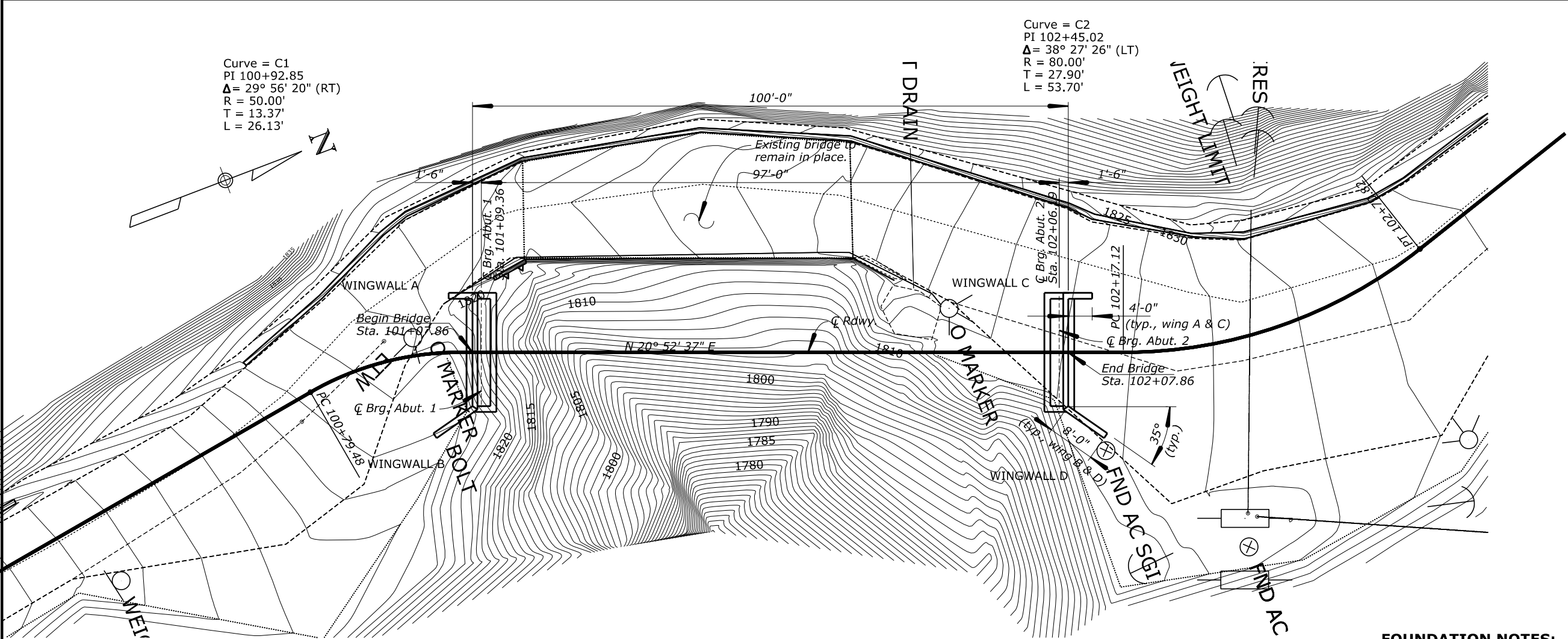
(5) Includes cost of minor concrete as required to meet footing embedment requirements.

ESTIMATE				
Item No.	Item	Quantity	Unit	Notes
15214-1000	Survey and staking, bridge	All Req'd	LPSM	
20801-0000	Structure excavation	130	CUYD	(1)
20803-0000	Structural backfill	45	CUYD	(1)(4)
55201-0200	Structural concrete, class A(AE)	28	CUYD	(2)(1)
55401-1000	Reinforcing steel	3600	LB	(1)
55504-0000	Pre-fabricated steel bridge (16' wide x 98' long modular steel vehicular bridge)	All Req'd	LPSM	(3)
60101-0000	Concrete	10	CUYD	(5)

ESTIMATE NOTES

- (1) Contract Quantity.
- (2) Includes cost of furnishing and installing geocomposite sheet drain, (est. qty. = 25 square yards), weepholes, and drain grates.
- (3) Includes cost of furnishing and erecting modular steel bridge including structural steel girders and diaphragms, steel railing posts, thrie beam railing, open steel grid decking, splice plates, elastomeric bearing pads, bearing plates, anchor bolts, and all associated hardware.
- (4) Includes cost of furnishing and placing section 704.03 backfill material.
- (5) Includes cost of minor concrete as required to meet footing embedment requirements.

STATE	PROJECT	SHEET NO.
AZ	AZ FTBR SALT 80(1) Horse Mesa Bridge	S3



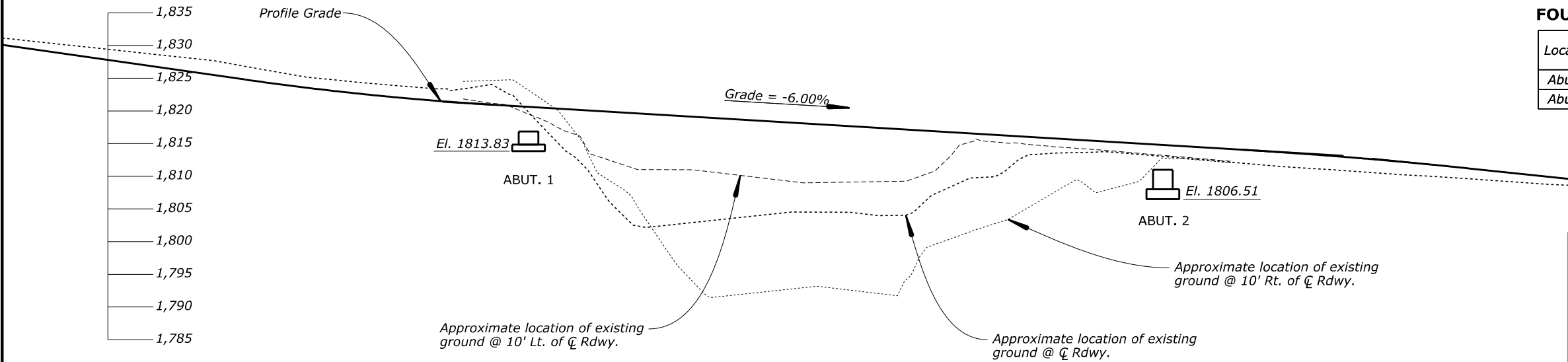
FOUNDATION PLAN

FOUNDATION NOTES:

See Geotechnical Technical Memorandum: Horse Mesa Bridge, dated July 18, 2022, prepared by U.S. Dept. of Transportation, Federal Highway Administration, Central Federal Lands Highway Division, Geotechnical Services Branch, Lakewood, Colorado.

FOUNDATION TABLE

Location	Max. Bearing Pressure
Abut. 1	5.5 ksf (Strength I)
Abut. 2	5.9 ksf (Strength I)



ELEVATION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

HORSE MESA BRIDGE
FOREST ROAD 80 (FR 80)
TONTON NATIONAL FOREST
MARICOPA COUNTY, ARIZONA

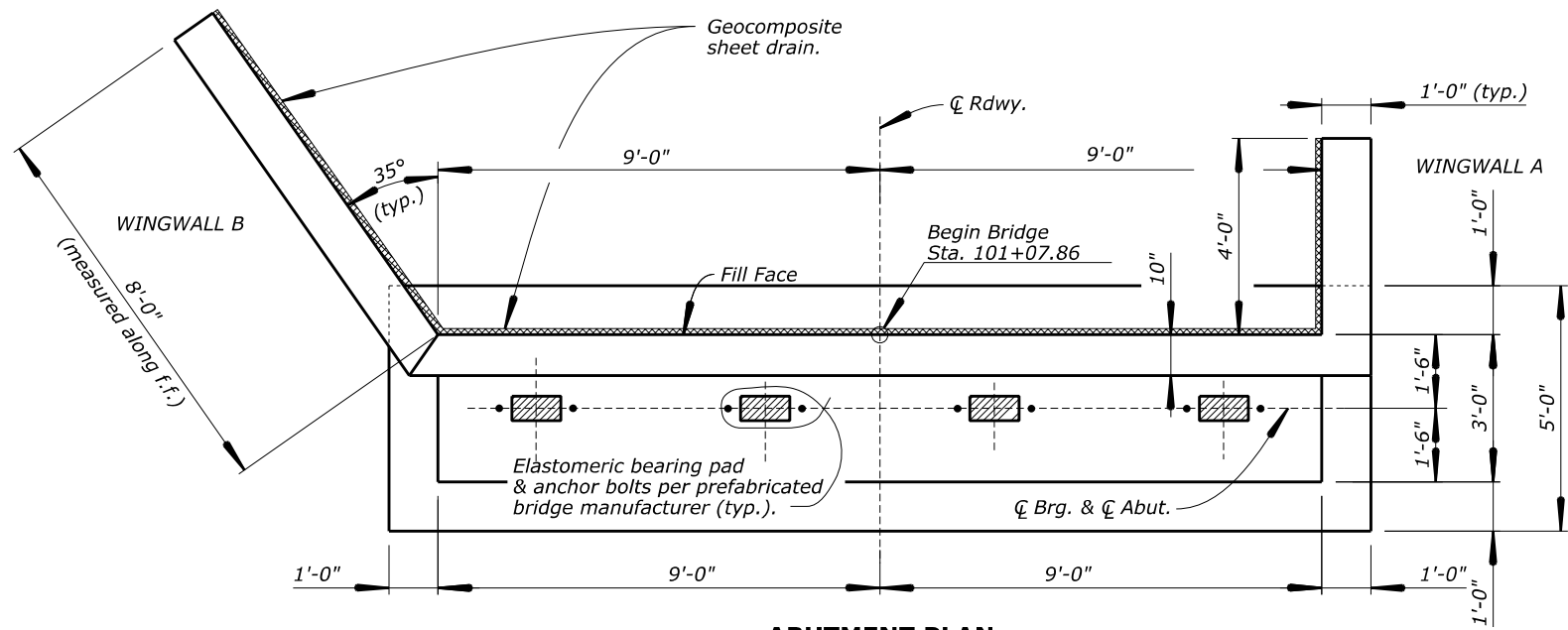
FOUNDATION PLAN

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. BELCHER	B. ROBINSON S. BELCHER	D. GERMANI	1"= 20'-0"	KARL EIKERMANN	3 of 11	JUNE 2022	RG3249-C

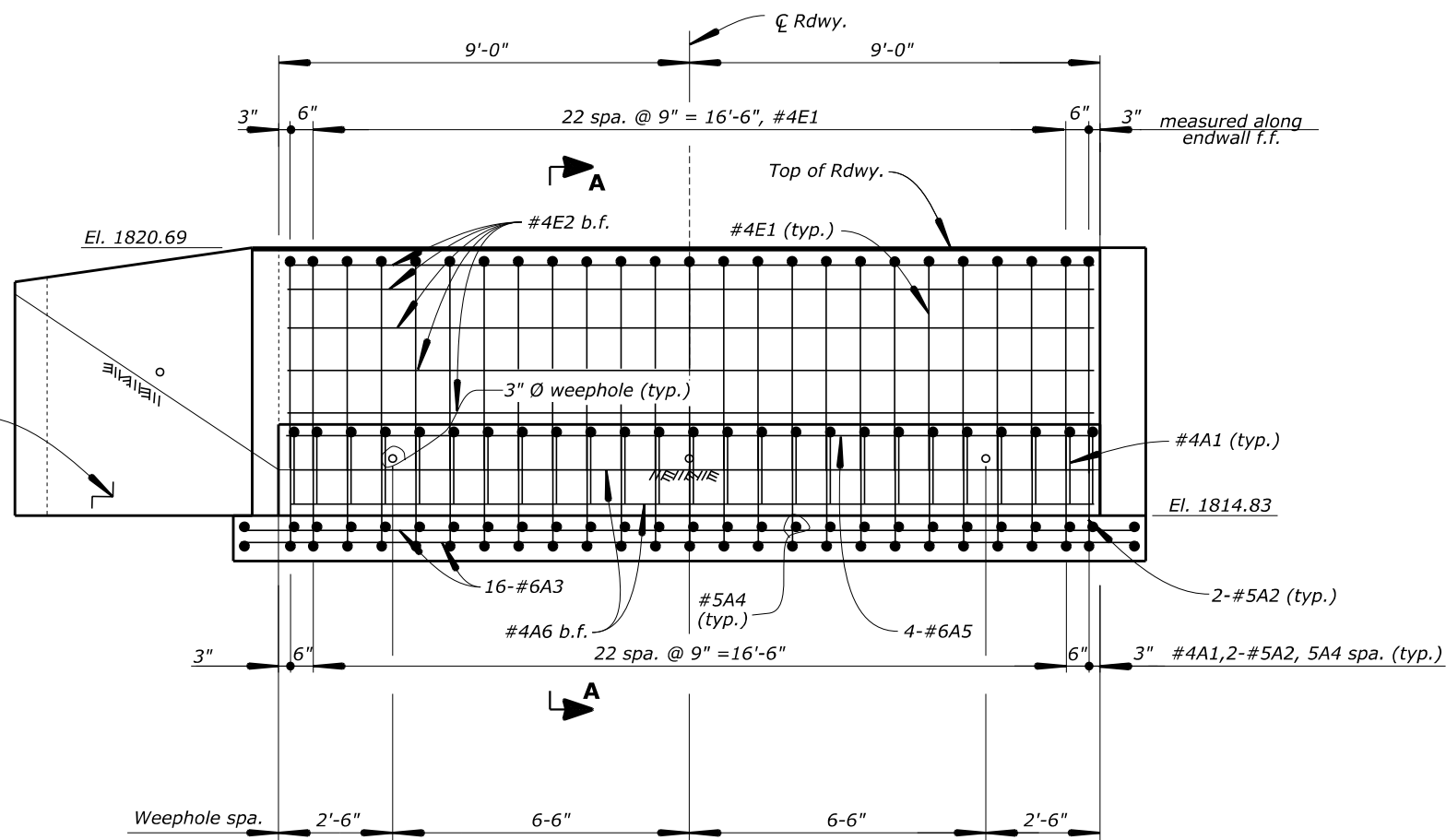
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7/28/2022

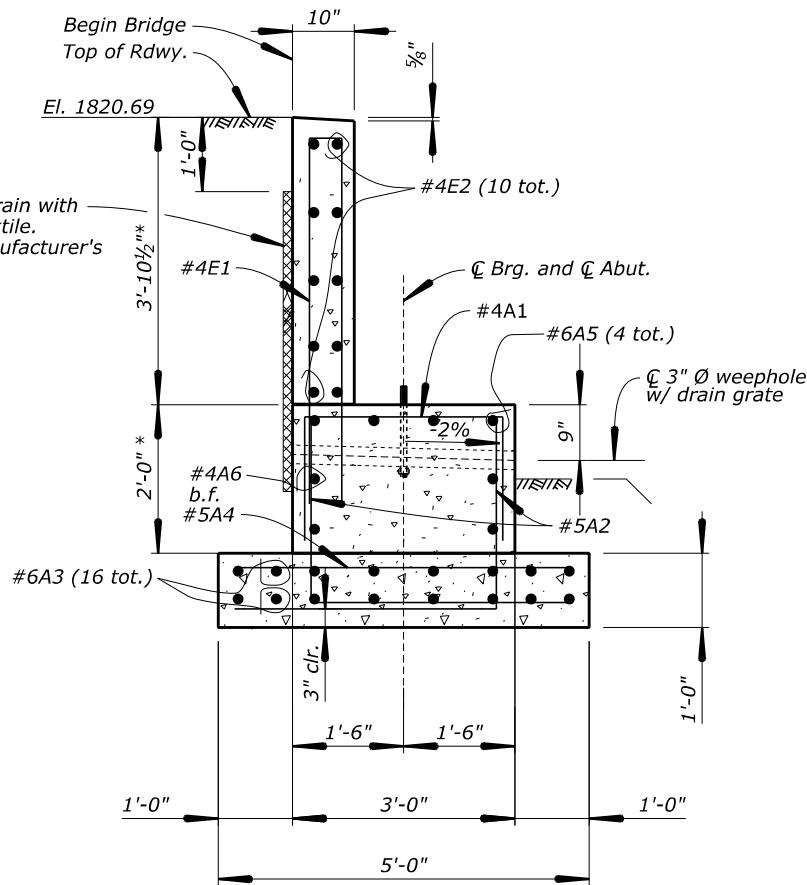
STATE	PROJECT	SHEET NO.
AZ	AZ FTBR SALT 80(1) Horse Mesa Bridge	S4



ABUTMENT PLAN



ABUTMENT ELEVATION



SECTION A-A

No Scale

ABBREVIATIONS:

f.f. = Fill face
o.f. = Other face
b.f. = Both faces

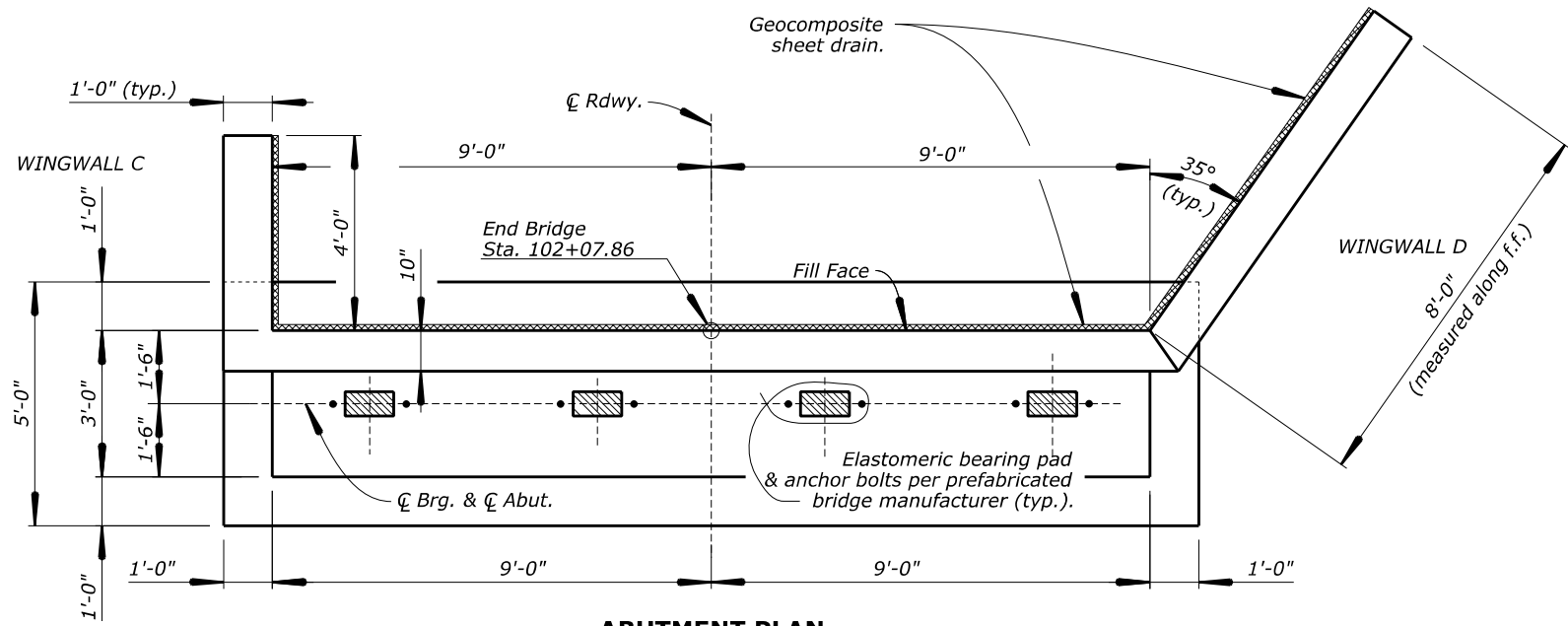
* Final dimensions & elevations to be coordinated with bridge manufacturer prior to ordering materials and constructing abutments.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

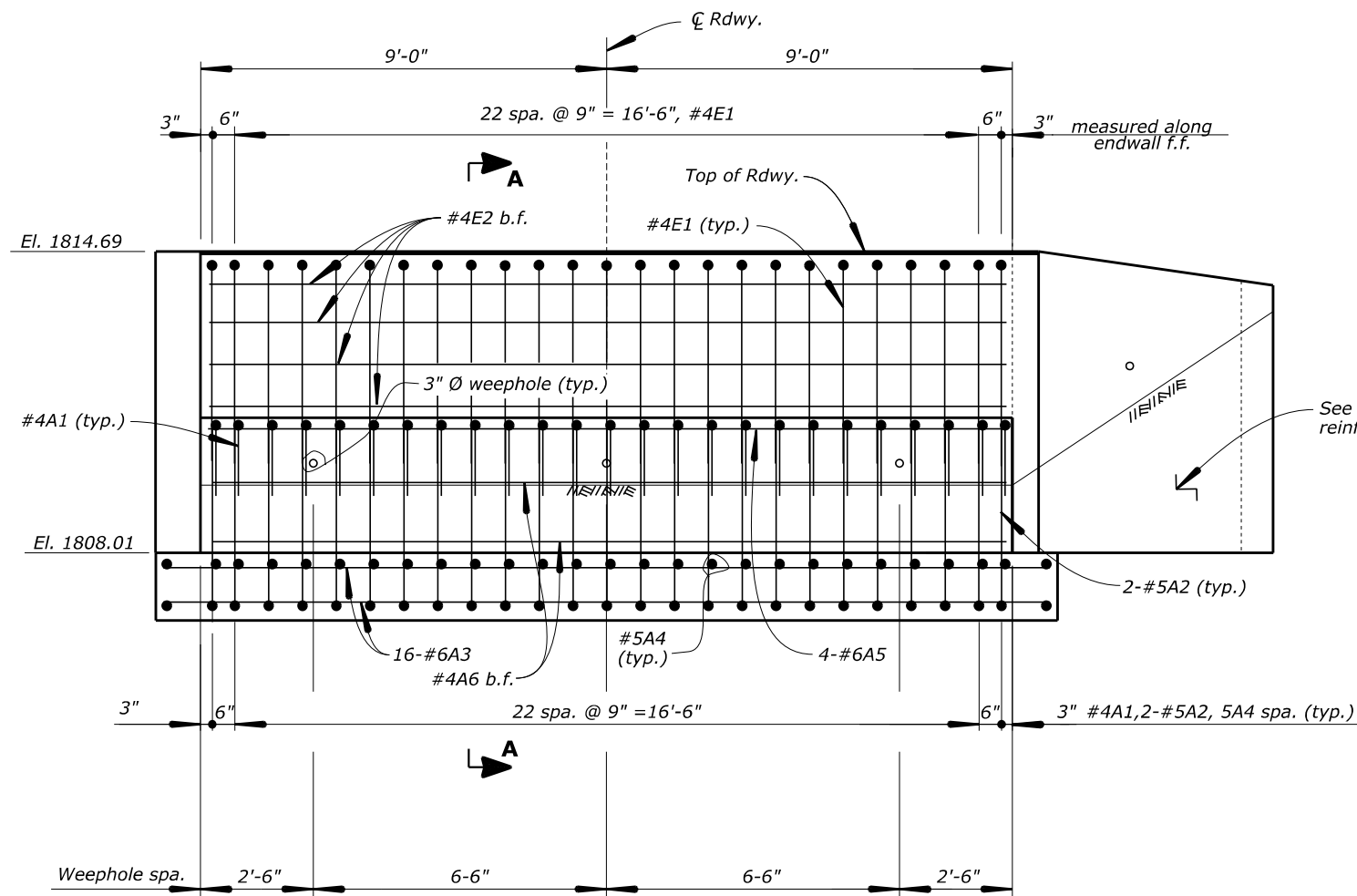
HORSE MESA BRIDGE
FOREST ROAD 80 (FR 80)
TONTON NATIONAL FOREST
MARICOPA COUNTY, ARIZONA

ABUTMENT 1

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. BELCHER	S. BELCHER	D. GERMANI	1/4" = 1'-0" UNLESS NOTED	KARL EIKERMANN	4 of 11	JUNE 2022	RG3249- D

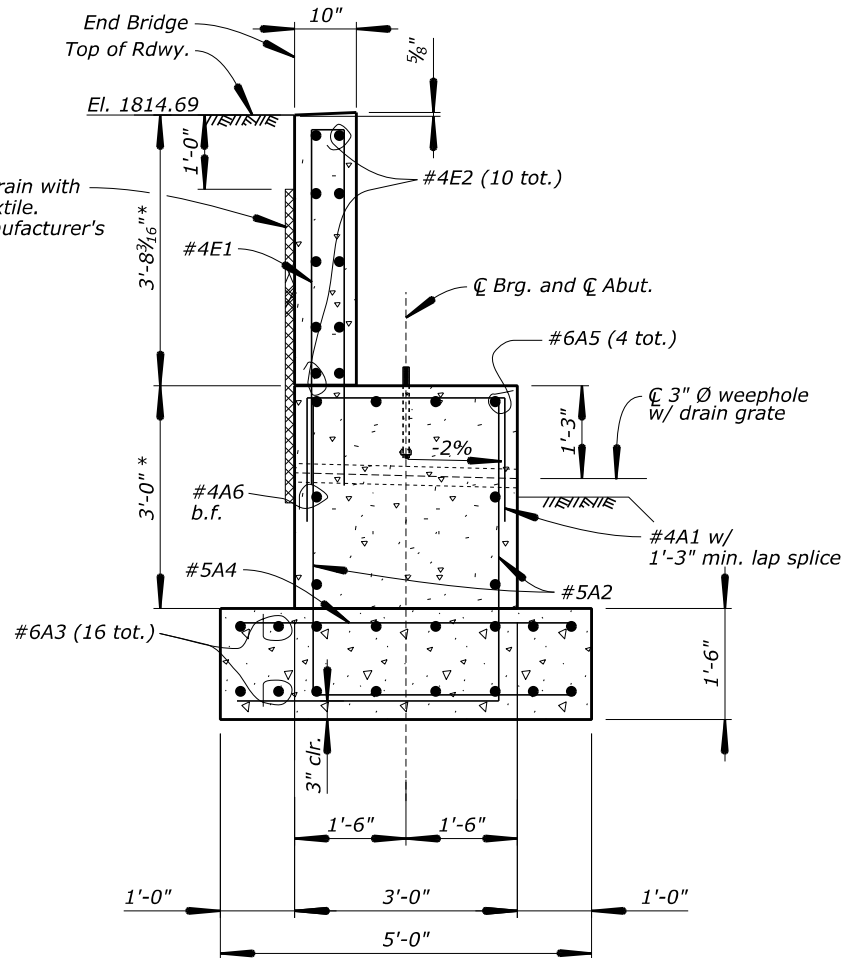


ABUTMENT PLAN



ABUTMENT ELEVATION

Geocomposite sheet drain with Class 2, Type C geotextile. Attach to wall per manufacturer's instructions.



SECTION A-A
No Scale

* Final dimensions & elevations to be coordinated with bridge manufacturer prior to ordering materials and constructing abutments.

ABBREVIATIONS:

f.f. = Fill face
o.f. = Other face
b.f. = Both faces

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

HORSE MESA BRIDGE
FOREST ROAD 80 (FR 80)
TONTON NATIONAL FOREST
MARICOPA COUNTY, ARIZONA

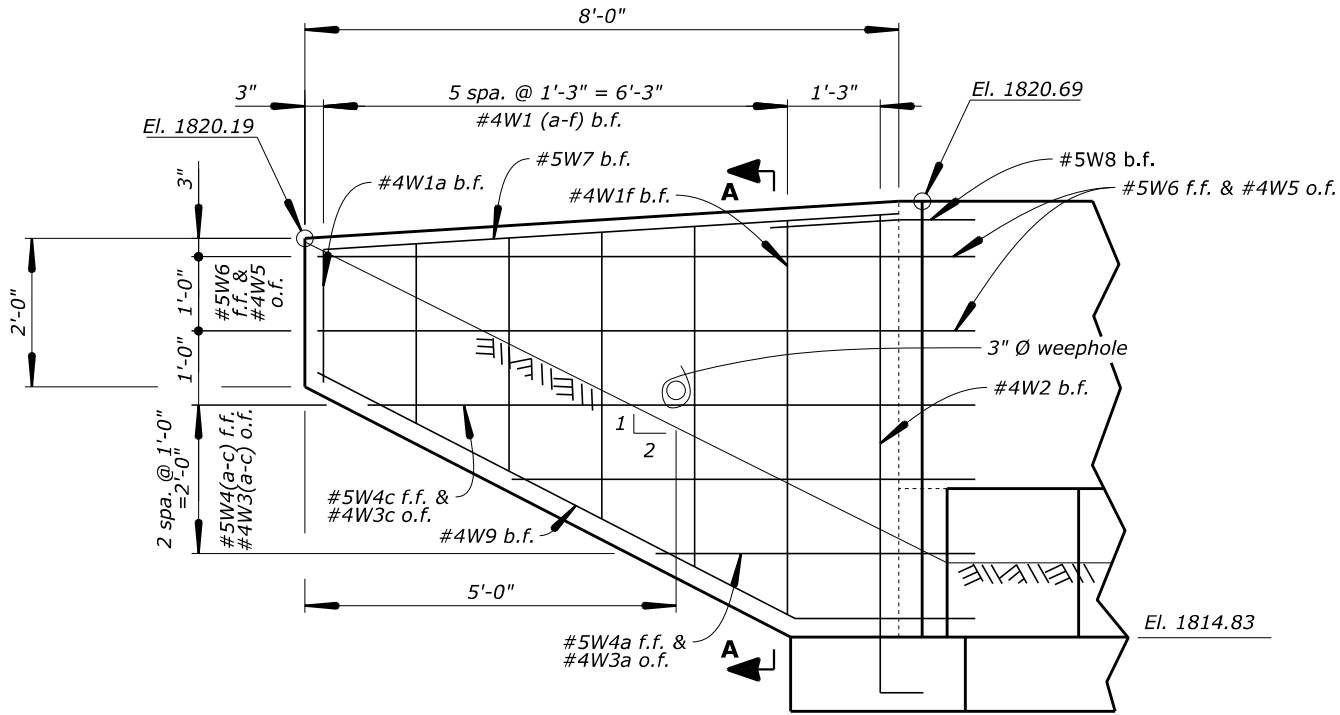
ABUTMENT 2

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								S. BELCHER	S. BELCHER	D. GERMANI	1/4" = 1'-0" UNLESS NOTED	KARL EIKERMANN	5 of 11	JUNE 2022	RG3249- E

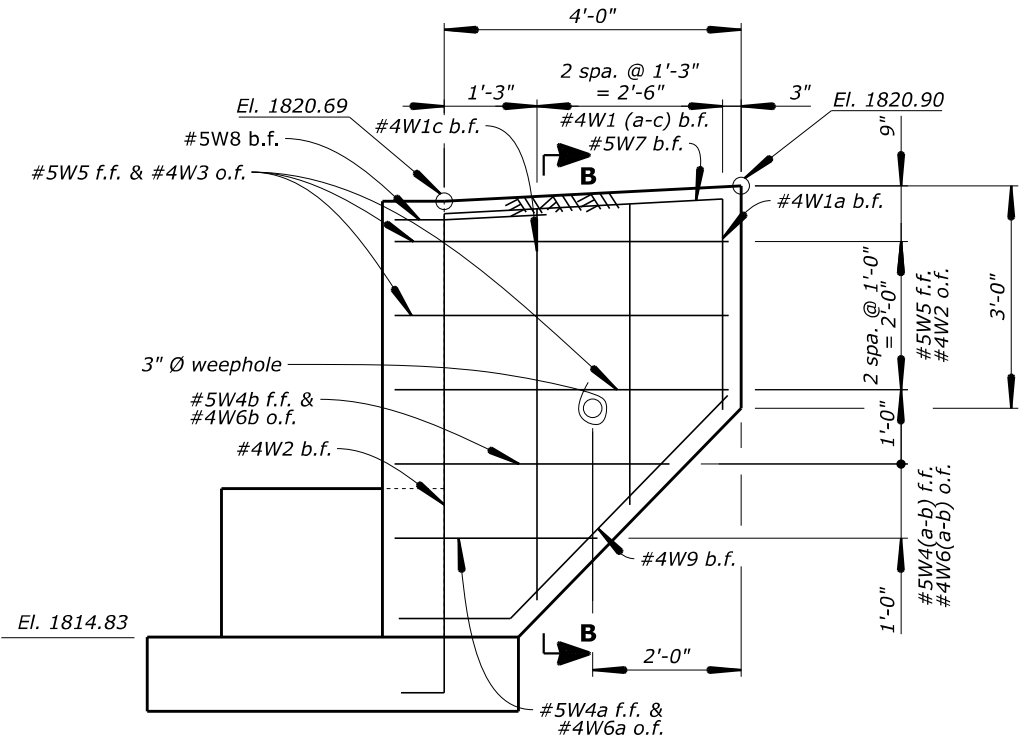
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7/28/2022

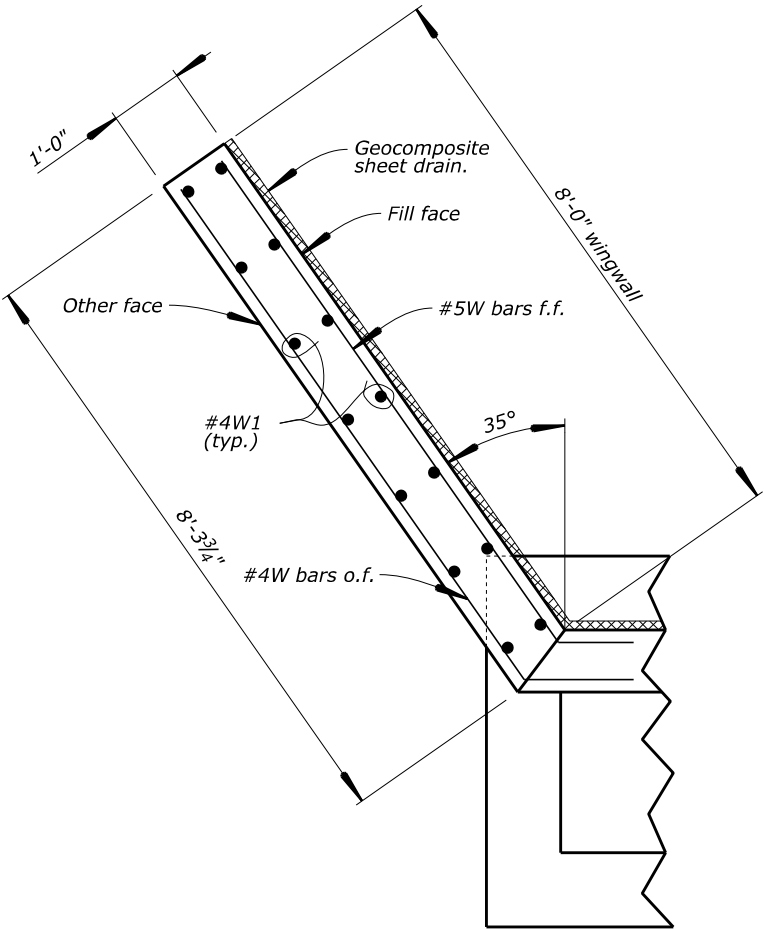
STATE	PROJECT	SHEET NO.
AZ	AZ FTBR SALT 80(1) Horse Mesa Bridge	S6



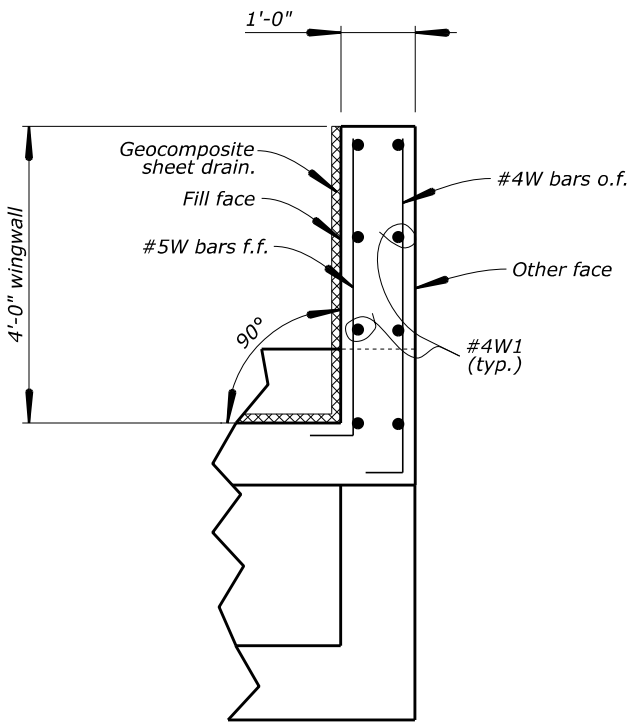
WINGWALL B ELEVATION



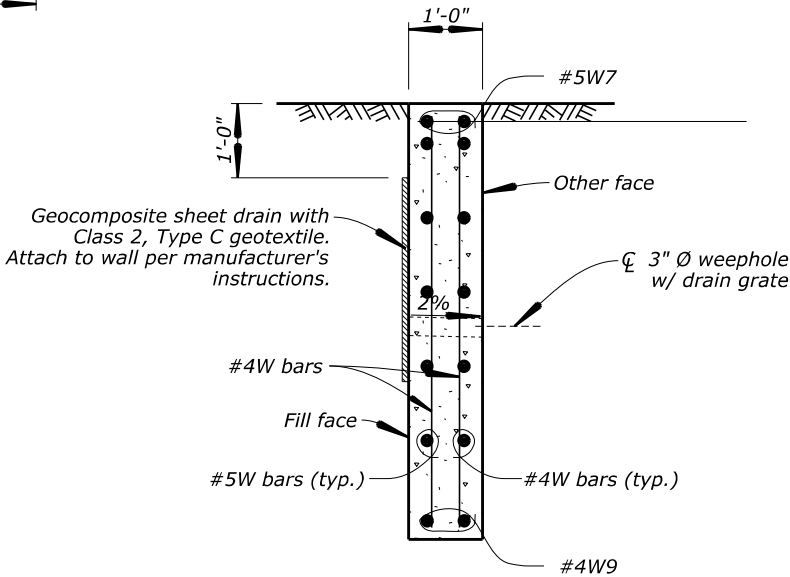
WINGWALL A ELEVATION



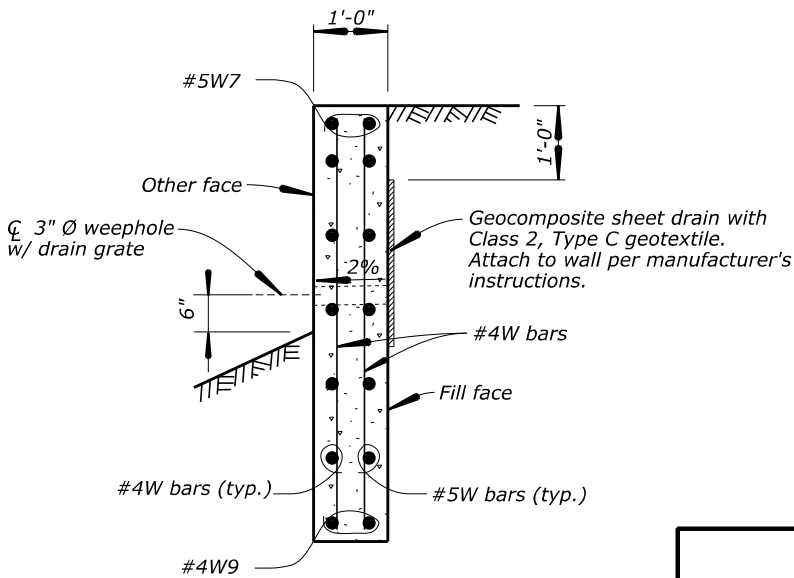
WINGWALL B PLAN



WINGWALL A PLAN



SECTION B-B



SECTION A-A

ABBREVIATIONS:

f.f. = Fill face
o.f. = Other face
b.f. = Both faces

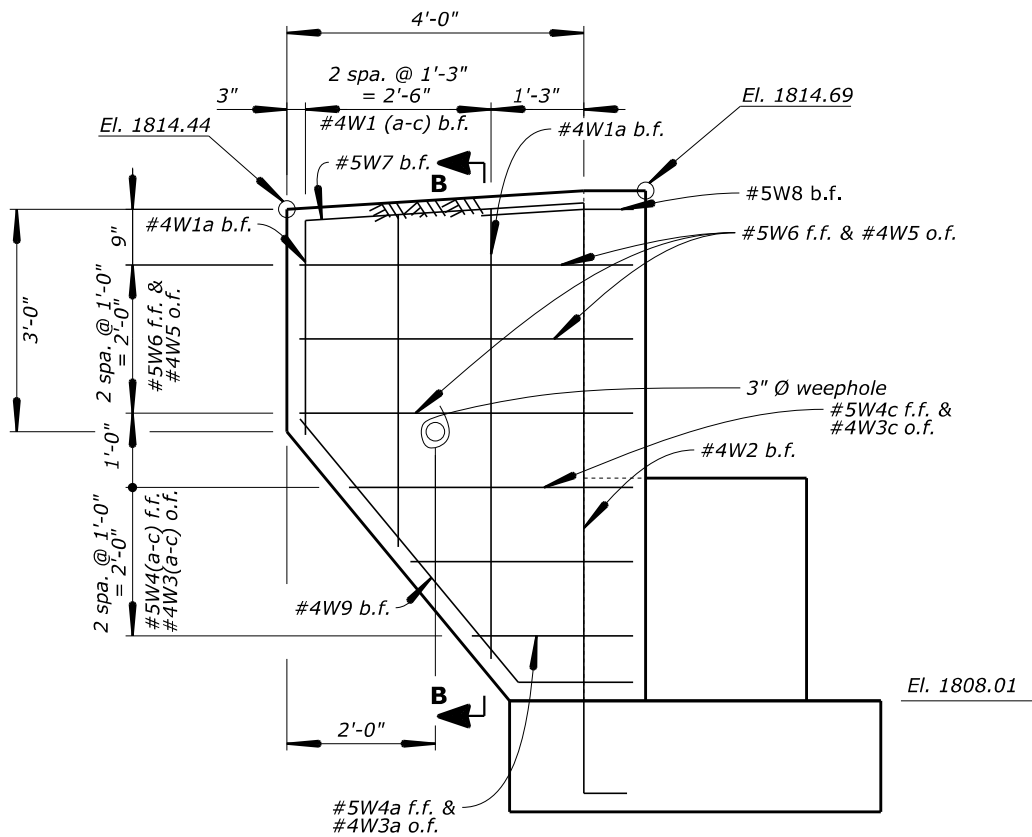
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

HORSE MESA BRIDGE
FOREST ROAD 80 (FR 80)
TONTON NATIONAL FOREST
MARICOPA COUNTY, ARIZONA

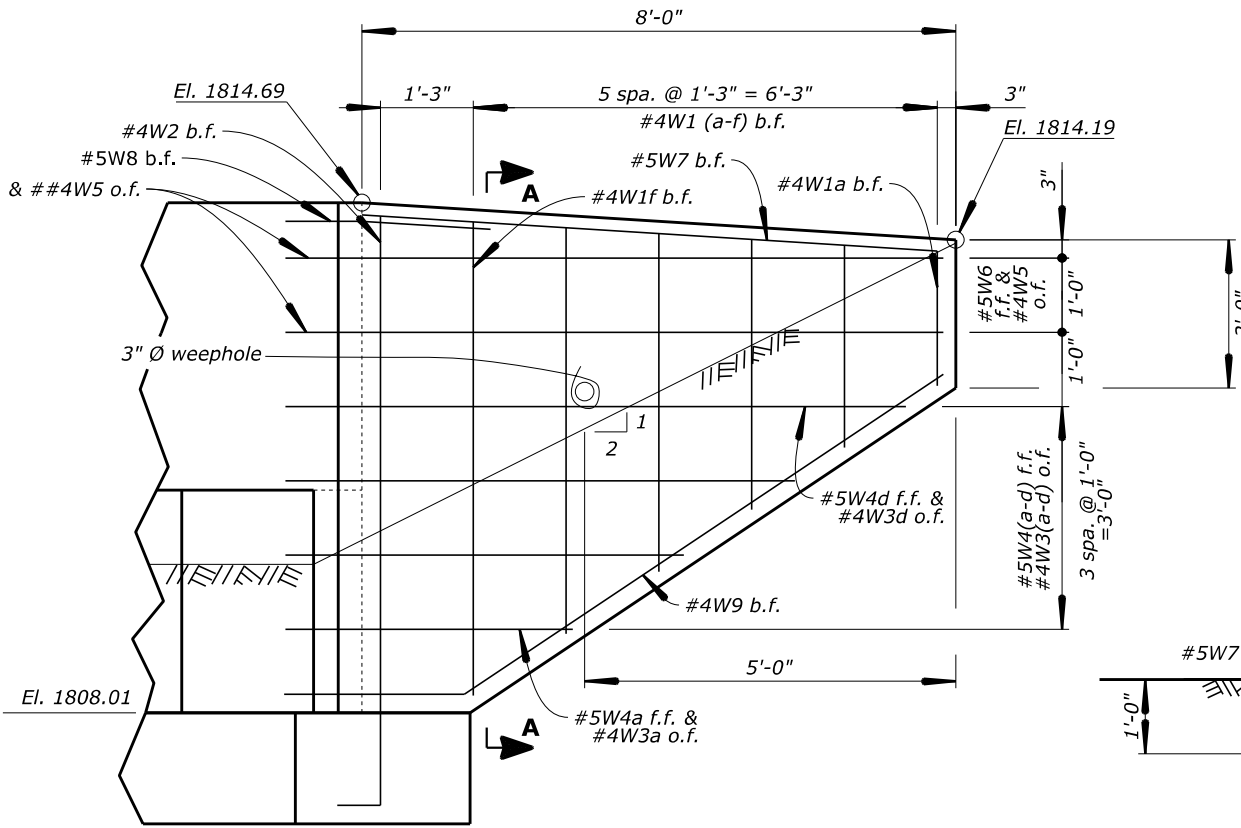
ABUTMENT 1 WINGWALLS

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. BELCHER	S. BELCHER	D. GERMANI	3/8" = 1'-0"	KARL EIKERMANN	6 of 11	JUNE 2022	RG3249- F

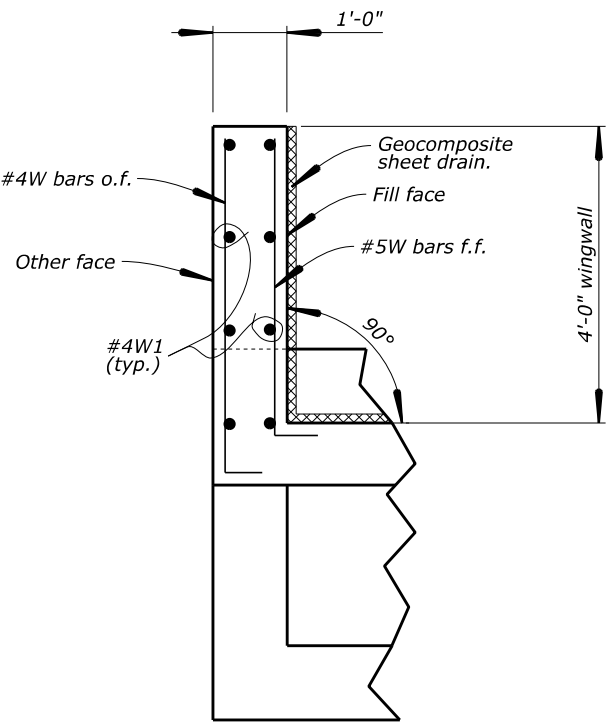
STATE	PROJECT	SHEET NO.
AZ	AZ FTBR SALT 80(1) Horse Mesa Bridge	S7



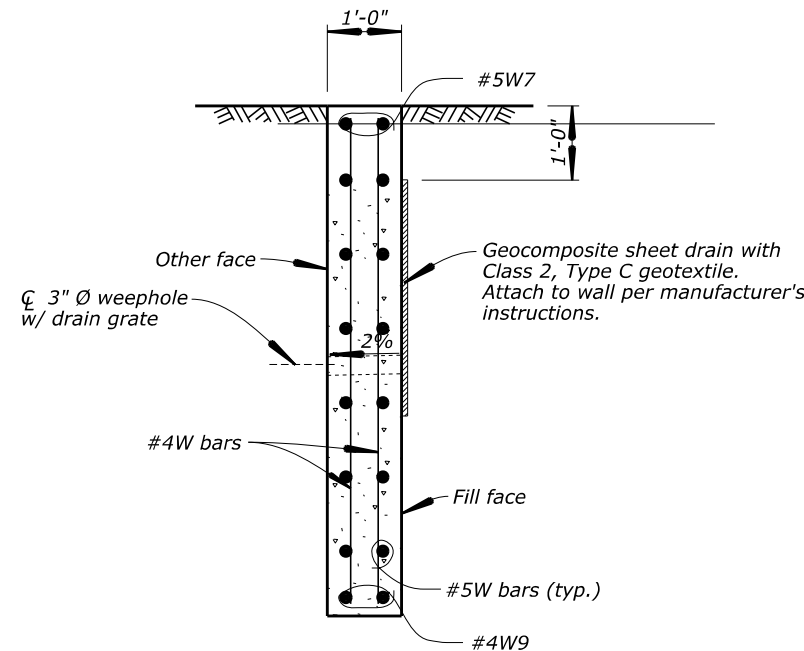
WINGWALL C ELEVATION



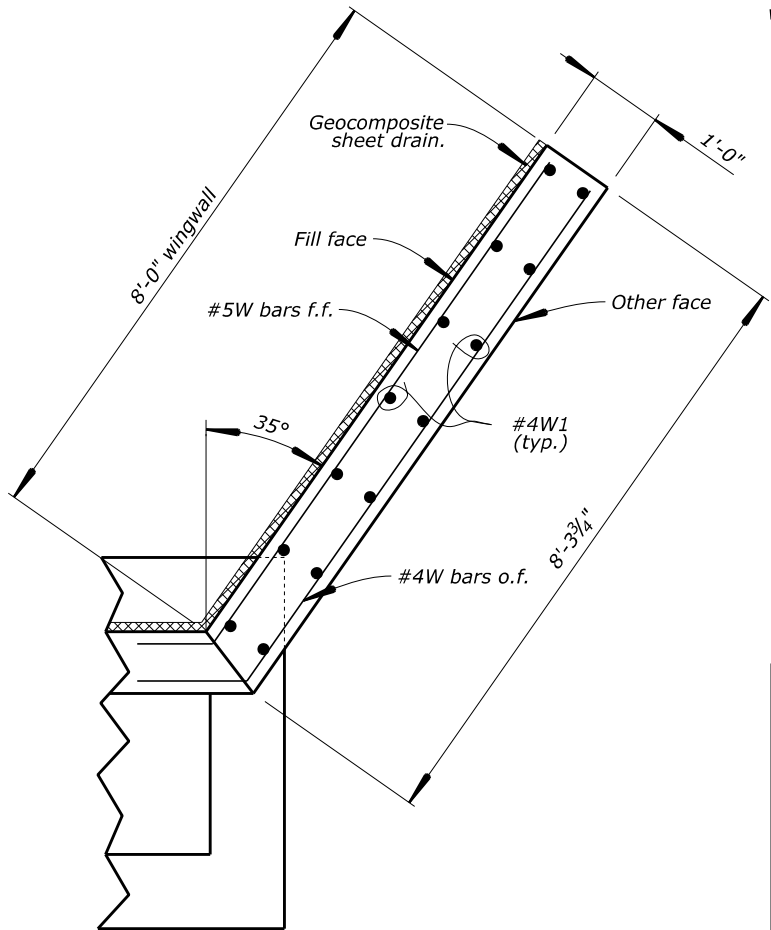
WINGWALL D ELEVATION



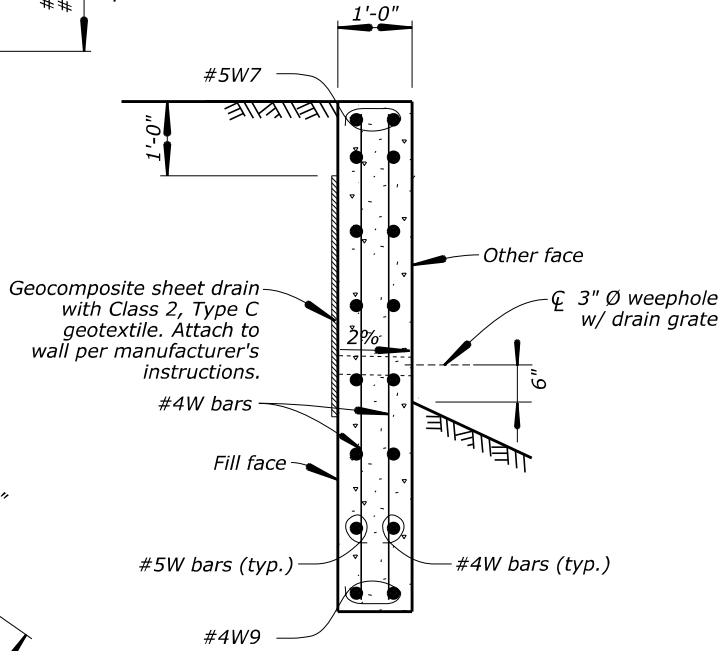
WINGWALL C PLAN



SECTION B-B



WINGWALL D PLAN



SECTION A-A

ABBREVIATIONS:

- f.f. = Fill face
- o.f. = Other face
- b.f. = Both faces

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

HORSE MESA BRIDGE
FOREST ROAD 80 (FR 80)
TONTON NATIONAL FOREST
MARICOPA COUNTY, ARIZONA

ABUTMENT 2 WINGWALLS

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. BELCHER	S. BELCHER	D. GERMANI	3/8" = 1'-0"	KARL EIKERMANN	7 of 11	JUNE 2022	RG3249-G

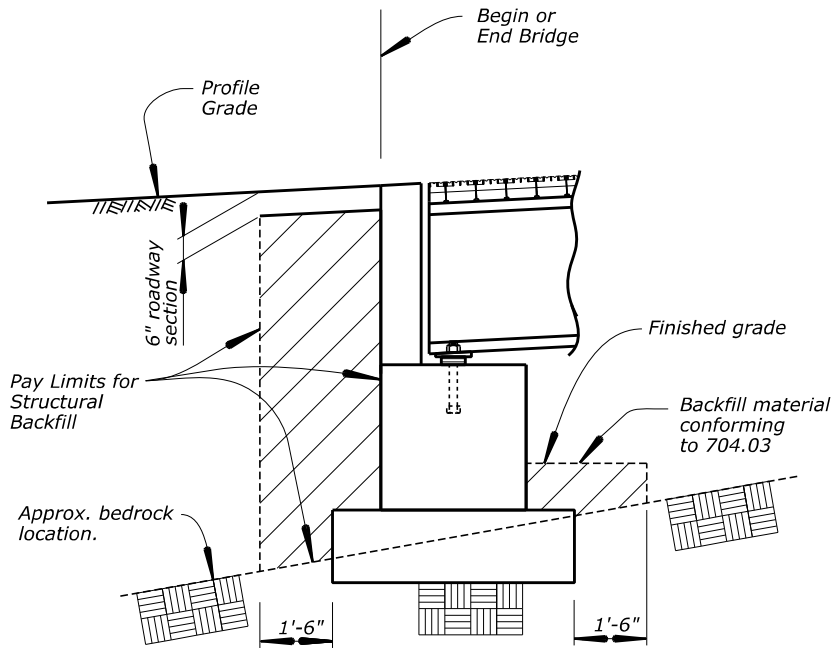
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7/28/2022

N:\AZ\Isdl80(1)\Bridge\RG3249\CADD Files\DGN Files\rg3249 typical.dgn

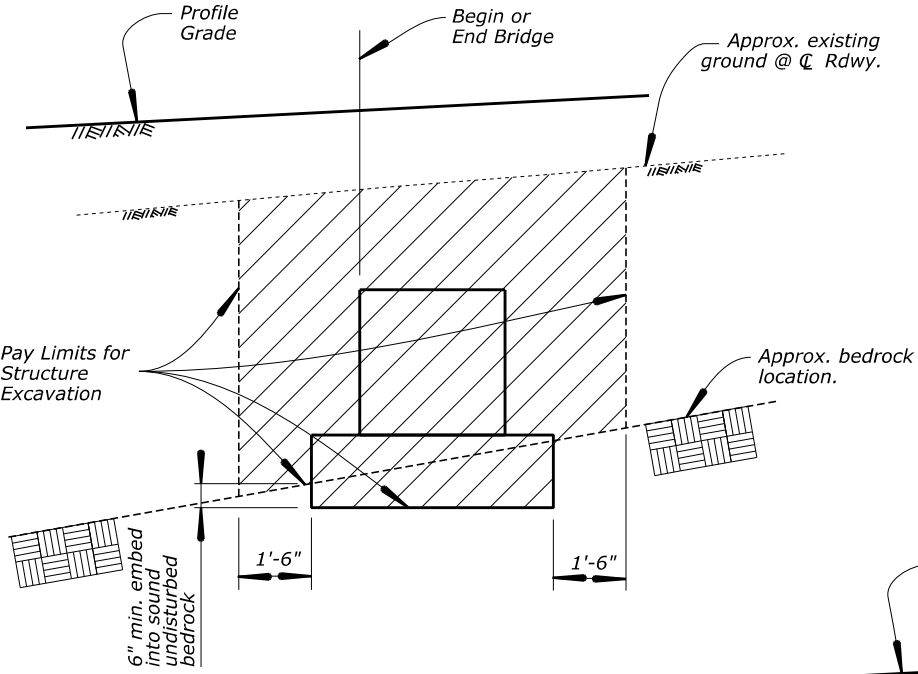
7/28/2022

STATE	PROJECT	SHEET NO.
AZ	AZ FTBR SALT 80(1) Horse Mesa Bridge	S8



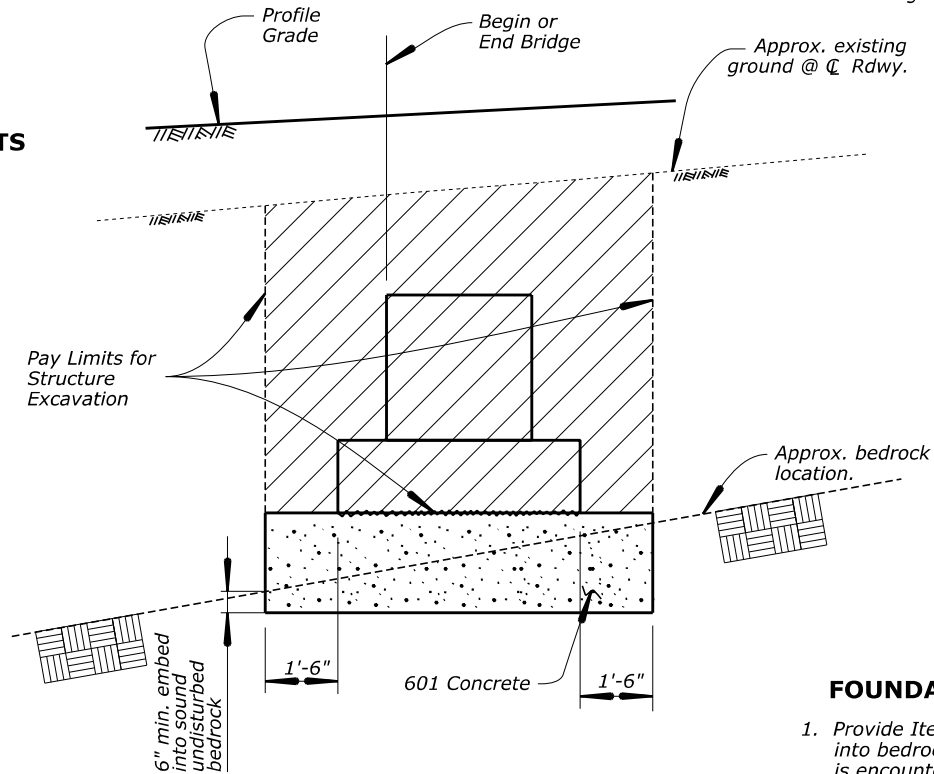
STRUCTURAL BACKFILL PAY LIMITS

Abutment 2 shown, Abutment 1 similar
No Scale



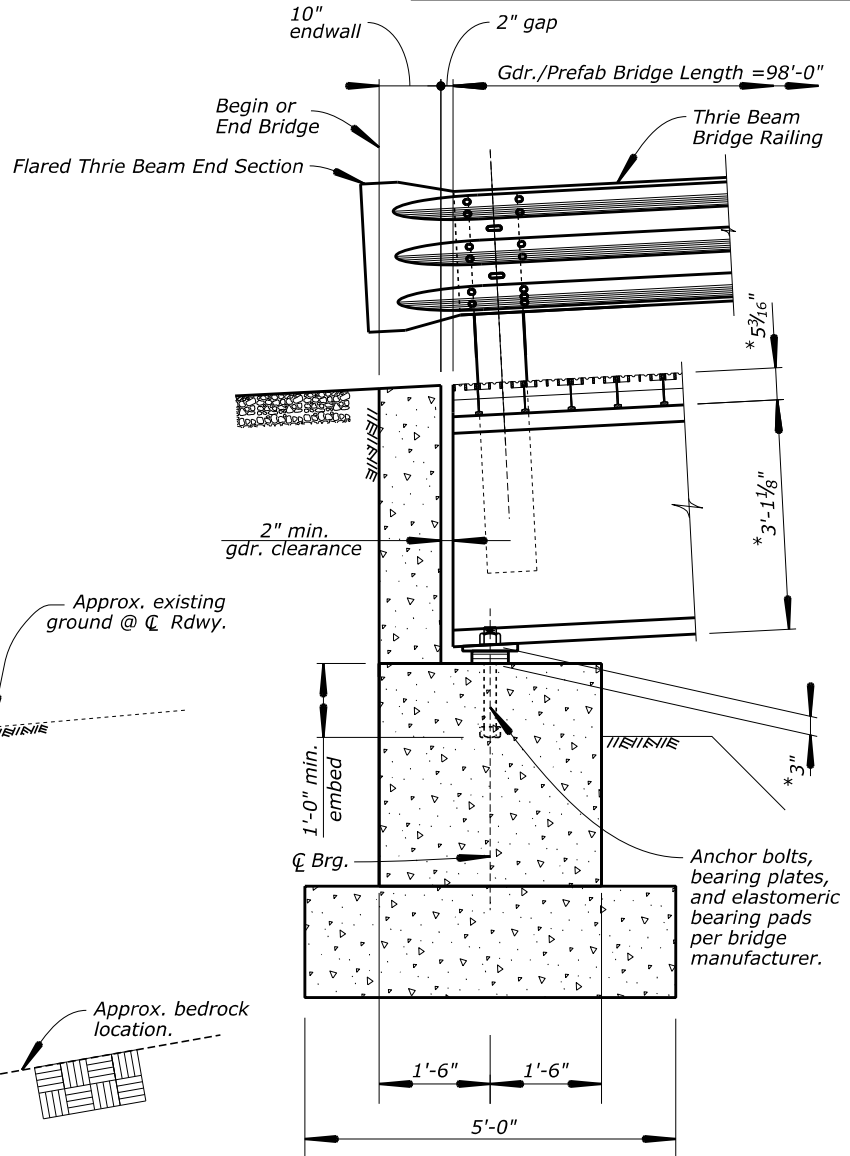
STRUCTURE EXCAVATION PAY LIMITS

Abutment 2 shown, Abutment 1 similar
No Scale



ALTERNATE FOOTING EMBEDMENT DETAIL

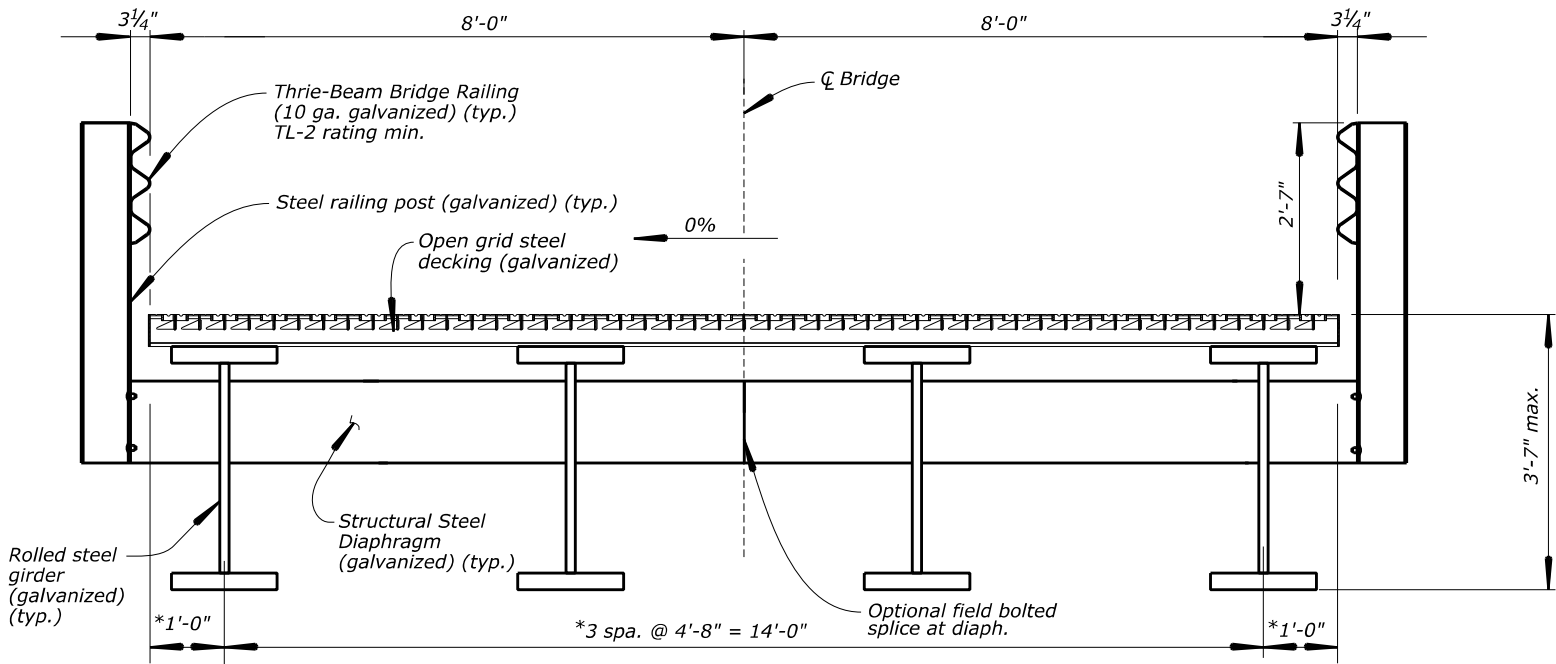
Abutment 2 shown, Abutment 1 similar
No Scale



TYPICAL SECTION @ ABUTMENT

FOUNDATION NOTES:

1. Provide Item 601 concrete where footing embedment into bedrock requirements can not be met (i.e. bedrock is encountered below specified depths). See Alternate Footing Embedment Detail.
2. Excavation and removal of material below specified footing depths required for placement of 601 concrete shall be included in pay item for "Concrete". If depth of 601 concrete is found to exceed 3' notify CO prior to construction.



TYPICAL SECTION

* Final dimensions & elevations to be coordinated with bridge manufacturer prior to ordering materials and constructing abutments.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

HORSE MESA BRIDGE
FOREST ROAD 80 (FR 80)
TONTON NATIONAL FOREST
MARICOPA COUNTY, ARIZONA

TYPICAL SECTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. BELCHER	S. BELCHER	D. GERMANI	3/8" = 1'-0" UNLESS NOTED	KARL EIKERMANN	8 of 11	JUNE 2022	RG3249- H

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7/28/2022

REINFORCING STEEL SCHEDULE								DIMENSION TABLE												
ABUTMENT 1																				
BAR MK	SIZE	TYPE	PIN SZ	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F	G	H	J	K	O	R	V or N
*4A1	4	17	0'-3"	Stirrups	25	5'-10"	97		1'-7"	2'-8"	1'-7"									
*5A2	5	17	0'-3¾"	Vert.b.f.	50	6'-3"	326		3'-8"	2'-7"										
*6A3	6	STR		Long.top & bot.	16	19'-8"	473		19'-8"											
*5A4	5	STR		Trans.top	29	4'-8"	141		4'-8"											
*6A5	6	STR		Horiz.top	4	17'-8"	106		17'-8"											
*4A6	4	STR		Horiz.b.f.	4	17'-8"	47		17'-8"											
SUBTOTAL					1190 LBS															
ABUTMENT 2																				
BAR MK	SIZE	TYPE	PIN SZ	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F	G	H	J	K	O	R	V or N
*4A1	4	17	0'-3"	Stirrups	25	7'-10"	131		2'-7"	2'-8"	2'-7"									
*5A2	5	17	0'-3¾"	Vert.b.f.	50	7'-3"	378		3'-8"	3'-7"										
*6A3	6	STR		Long.top & bot.	16	19'-8"	473		19'-8"											
*5A4	5	STR		Trans.top	29	4'-8"	141		4'-8"											
*6A5	6	STR		Horiz.top	4	17'-8"	106		17'-8"											
*4A6	4	STR		Horiz.b.f.	4	17'-8"	47		17'-8"											
SUBTOTAL					1276 LBS															
ENDWALL 1																				
BAR MK	SIZE	TYPE	PIN SZ	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F	G	H	J	K	O	R	V or N
*4E1	4	17	0'-3"	Stirrups	25	10'-2"	170		4'-10"	0'-6"	4'-10"									
*4E2	4	STR		Horiz.b.f.	10	17'-8"	118		17'-8"											
SUBTOTAL					288 LBS															
ENDWALL 2																				
BAR MK	SIZE	TYPE	PIN SZ	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F	G	H	J	K	O	R	V or N
*4E1	4	17	0'-3"	Stirrups	25	11'-5½"	191		5'-5¾"	0'-6"	5'-5¾"									
*4E2	4	STR		Horiz.b.f.	10	17'-8"	118		17'-8"											
SUBTOTAL					309 LBS															
WINGWALL A																				
BAR MK	SIZE	TYPE	PIN SZ	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F	G	H	J	K	O	R	V or N
*4W1	4	STR		Vert.b.f.	2 sets of 3	5'-3" to 2'-10" at 1'-2½" Incr.	16		5'-3" to 2'-10" at 1'-2½" Incr.											
*4W2	4	2	0'-3"	Vert.b.f.	2	7'-1½"	10	0'-8"	6'-5½"											
*4W3	4	2	0'-3"	Horiz.o.f.	3	5'-2"	10	0'-8"	4'-6"											
*5W4	5	2	0'-3¾"	Horiz.f.f.	1 sets of 2	3'-0½" to 4'-0" at 0'-11½" Incr.	7	0'-10"	2'-2½" to 3'-2¼" at 0'-11¾" Incr.											
*5W5	5	2	0'-3¾"	Horiz.f.f.	3	4'-10"	15	0'-10"	4'-0"											
*4W6	4	2	0'-3"	Horiz.o.f.	1 sets of 2	3'-4½" to 4'-4" at 0'-11½" Incr.	5	0'-8"	2'-8½" to 3'-8¼" at 0'-11¾" Incr.											
*5W7	5	STR		Horiz.b.f.	2	3'-8"	8		3'-8"											
*5W8	5	17	0'-3¾"	Horiz.b.f.	2	2'-0"	4		1'-0"	1'-0"										
*4W9	4	52	0'-3"	Diagonal	2	5'-9½"	8	4'-2"	1'-7¼"	1'-1¼"	1'-2"									
SUBTOTAL					83 LBS															
WINGWALL B																				
BAR MK	SIZE	TYPE	PIN SZ	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F	G	H	J	K	O	R	V or N
*4W1	4	STR		Vert.b.f.	2 sets of 6	1'-9½" to 5'-4½" at 0'-8½" Incr.	29		1'-9½" to 5'-4½" at 0'-8½" Incr.											
*4W2	4	2	0'-3"	Vert.b.f.	2	7'-1½"	10	0'-8"	6'-5¼"											
NO.	DATE	BY	REVISIONS				NO.	DATE	BY	REVISIONS				DESIGNED BY		DRAWN BY		CHECKED BY		
														S. BELCHER		B. ROBINSON		D. GERMANI		

STATE	PROJECT	SHEET NO.
AZ	AZ FTBR SALT 80(1) Horse Mesa Bridge	S9

STR

TYPE 2

TYPE 17

TYPE 52

NOTE:

Dimensions in bending diagrams are out-to-out of bars

Abbreviations:
f.f. = fill face
o.f. = other face
b.f. = both faces

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

HORSE MESA BRIDGE
FOREST ROAD 80 (FR 80)
TONTON NATIONAL FOREST
MARICOPA COUNTY, ARIZONA

REBAR LIST (1 OF 3)

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7/28/2022

REINFORCING STEEL SCHEDULE						DIMENSION TABLE														
WINGWALL B (CONTINUED)																				
BAR MK	SIZE	TYPE	PIN SZ	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F	G	H	J	K	O	R	V or N
*4W3	4	52	0'-3"	Horiz.of.	1 sets of 3	4'-4½" to 8'-3½" at 1'-11½" Incr.	13	3'-4¾" to 7'-3¼" at 1'-11¼" Incr.	1'-0"	0'-7"	0'-10"									
*5W4	5	52	0'-3¾"	Horiz.f.f.	1 sets of 3	4'-0½" to 7'-11½" at 1'-11½" Incr.	19	3'-0¾" to 6'-11¼" at 1'-11¼" Incr.	1'-0"	0'-7"	0'-10¼"									
*4W5	4	52	0'-3"	Horiz.of.	2	9'-1"	12	8'-0¾"	1'-0"	0'-7"	0'-10"									
*5W6	5	52	0'-3¾"	Horiz.f.f.	2	8'-11½"	19	7'-11¼"	1'-0"	0'-7"	0'-10¼"									
*5W7	5	STR		Horiz.b.f.	2	7'-8"	16		7'-8"											
*5W8	5	52	0'-3¾"	Horiz.b.f.	2	3'-0"	6	1'-6"	1'-6"	0'-10¼"	1'-3"									
*4W9	4	52	0'-3"	Diagonal	2	8'-5½"	11	7'-2½"	1'-3"	1'-1¼"	0'-7¼"									
SUBTOTAL							134 LBS													
WINGWALL C																				
BAR MK	SIZE	TYPE	PIN SZ	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F	G	H	J	K	O	R	V or N
*4W1	4	STR		Vert.b.f.	2 sets of 3	2'-10½" to 6'-0½" at 1'-7" Incr.	18		2'-10½" to 6'-0½" at 1'-7" Incr.											
*4W2	4	2	0'-3"	Vert.b.f.	2	8'-7½"	12	0'-8"	7'-11½"											
*4W3	4	2	0'-3"	Horiz.of.	1 sets of 3	2'-10" to 4'-5½" at 0'-9¾" Incr.	7	0'-8"	2'-1¾" to 3'-9¾" at 0'-10" Incr.											
*5W4	5	2	0'-3¾"	Horiz.f.f.	1 sets of 3	2'-6" to 4'-1½" at 0'-9¾" Incr.	10	0'-10"	1'-7¾" to 3'-3¾" at 0'-10" Incr.											
*4W5	4	2	0'-3"	Horiz.of.	3	5'-2"	10	0'-8"	4'-6"											
*5W6	5	2	0'-3¾"	Horiz.f.f.	3	5'-4"	17	0'-10"	4'-6"											
*5W7	5	STR		Horiz.b.f.	2	3'-8"	8		3'-8"											
*5W8	5	17	0'-3¾"	Horiz.b.f.	2	2'-0"	4		1'-0"	1'-0"										
*4W9	4	52	0'-3"	Diagonal	2	6'-1½"	8	4'-6¾"	1'-7"	1'-0¼"	1'-3"									
SUBTOTAL							94 LBS													
WINGWALL D																				
BAR MK	SIZE	TYPE	PIN SZ	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F	G	H	J	K	O	R	V or N
*4W1	4	STR		Vert.b.f.	2 sets of 6	6'-4½" to 1'-9½" at 0'-11" Incr.	33		6'-4½" to 1'-9½" at 0'-11" Incr.											
*4W2	4	2	0'-3"	Vert.b.f.	2	8'-7½"	12	0'-8"	7'-11½"											
*4W3	4	52	0'-3"	Horiz.of.	1 sets of 4	3'-11½" to 8'-5½" at 1'-6" Incr.	16	2'-11½"	1'-0"	0'-7"	0'-10"									
*5W4	5	52	0'-3¾"	Horiz.f.f.	1 sets of 4	3'-7½" to 8'-1½" at 1'-6" Incr.	24	2'-7½"	1'-0"	0'-7"	0'-10¼"									
*4W5	4	52	0'-3"	Horiz.of.	2	9'-1"	12	8'-0¾"	1'-0"	0'-7"	0'-10"									
NO.	DATE	BY	REVISIONS				NO.	DATE	BY	REVISIONS				DESIGNED BY		DRAWN BY		CHECKED BY		
														S. BELCHER		B. ROBINSON		D. GERMAN		

STATE

PROJECT

SHEET NO.

AZ

AZ FTBR SALT 80(1)
Horse Mesa Bridge

S10

B

STR

A

B

C

TYPE 2

B

C

D

OPTIONAL LEG

TYPE 17

D

B

C

A

TYPE 52

NOTE:

Dimensions in bending diagrams are out-to-out of bars

Abbreviations:
f.f. = fill face
o.f. = other face
b.f. = both faces

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

HORSE MESA BRIDGE
FOREST ROAD 80 (FR 80)
TONTONATIONAL FOREST
MARICOPA COUNTY, ARIZONA

REBAR LIST (2 OF 3)

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3 August 2022 8:12 AM

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	T2

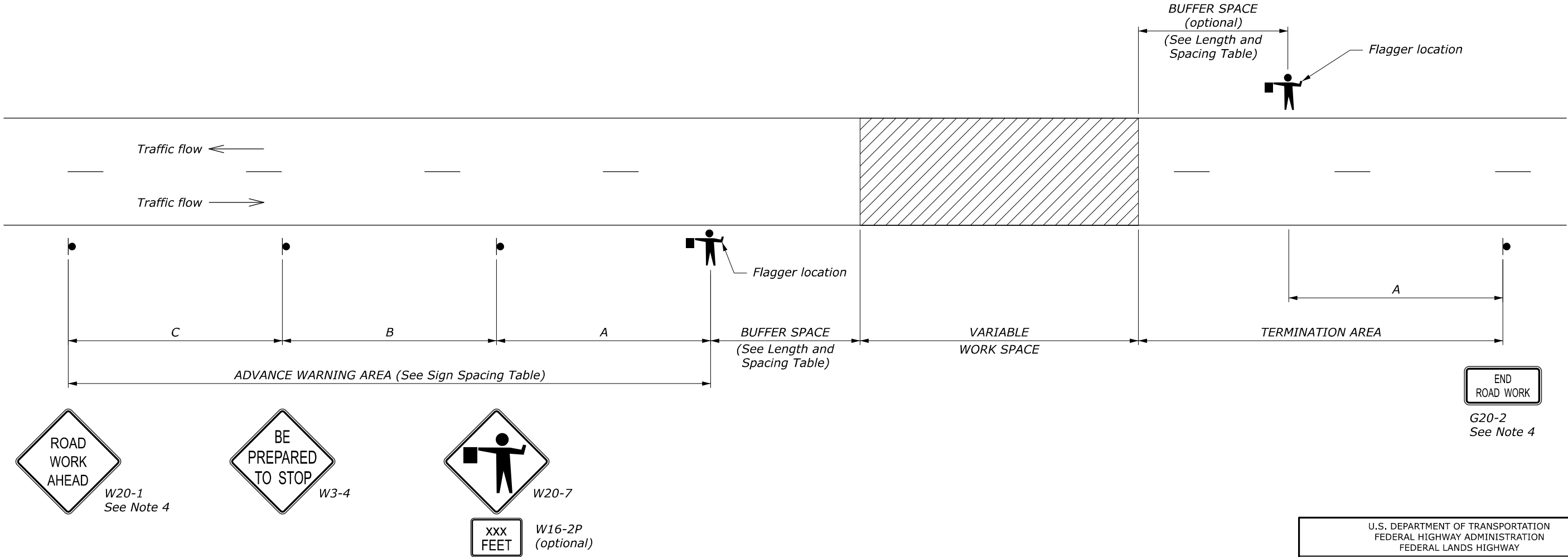
LENGTH AND SPACING TABLE	
APPROACH SPEED*	BUFFER SPACE LENGTH
MPH	FEET
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730

* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTE:

- Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
- Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
- For pilot car operation, mount the "PILOT CAR FOLLOW ME" (G20-4) sign at a conspicuous location on the rear of vehicle. Prominently display the name of the Contractor on the pilot car.
- If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
- For night time flagging operation, provide floodlighting at flagger stations.
- Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
U.S. CUSTOMARY STANDARD TEMPORARY TRAFFIC CONTROL ROAD CLOSURE LAYOUT (WITH FLAGGERS)	
STANDARD APPROVED FOR USE 6/2005 REVISED: DRAFT: 8/2013	STANDARD 635-5

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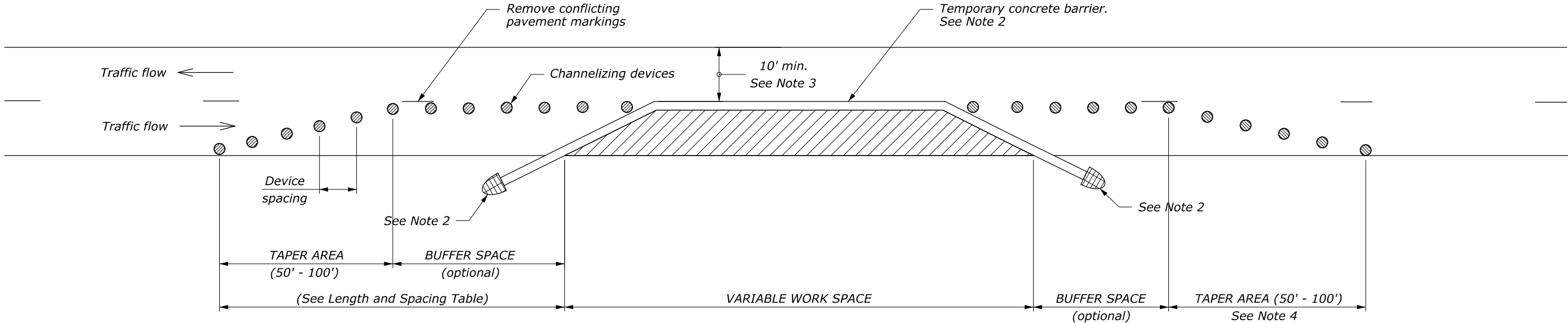
STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	T3

LENGTH AND SPACING TABLE						
APPROACH SPEED*	BUFFER SPACE LENGTH	CHANNELIZING DEVICE			CONCRETE BARRIER FLARE RATE	WORK ZONE CLEAR ZONE WIDTH FEET
		TAPER AREA	BUFFER SPACE	WORK SPACE		
		SPACING IN FEET				
MPH	FEET					
20	115	20	40	40	1:8	10
25	155	20	50	50	1:8	10
30	200	20	60	60	1:8	10
35	250	20	70	70	1:9	10
40	305	20	80	80	1:10	15
45	360	20	90	90	1:12	20
50	425	20	100	100	1:14	20
55	495	20	110	110	1:16	20
60	570	20	120	120	1:16	30
65	645	20	130	130	1:16	30
70	730	20	140	140	1:16	30

* Approach speed based on the regulatory posted speed, not the advisory speed.

NOTE:

1. Install signs and other devices for single lane closure according to Standard 635-6, 7, 8, or 9. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
2. Place barrier according to the AASHTO Roadside Design Guide. Terminate barrier ends outside the work zone clear zone or protect the barrier ends with a crash cushion. Include reflectors on barrier at 25' intervals.
3. For project specific minimum width, refer to Special Contract Requirements, Section 156.
4. Place channelizing devices at downstream taper during non-work hours or when access is not needed.
5. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.
6. Reduce or eliminate drums and barrier in downstream taper if necessary to provide access to work space.

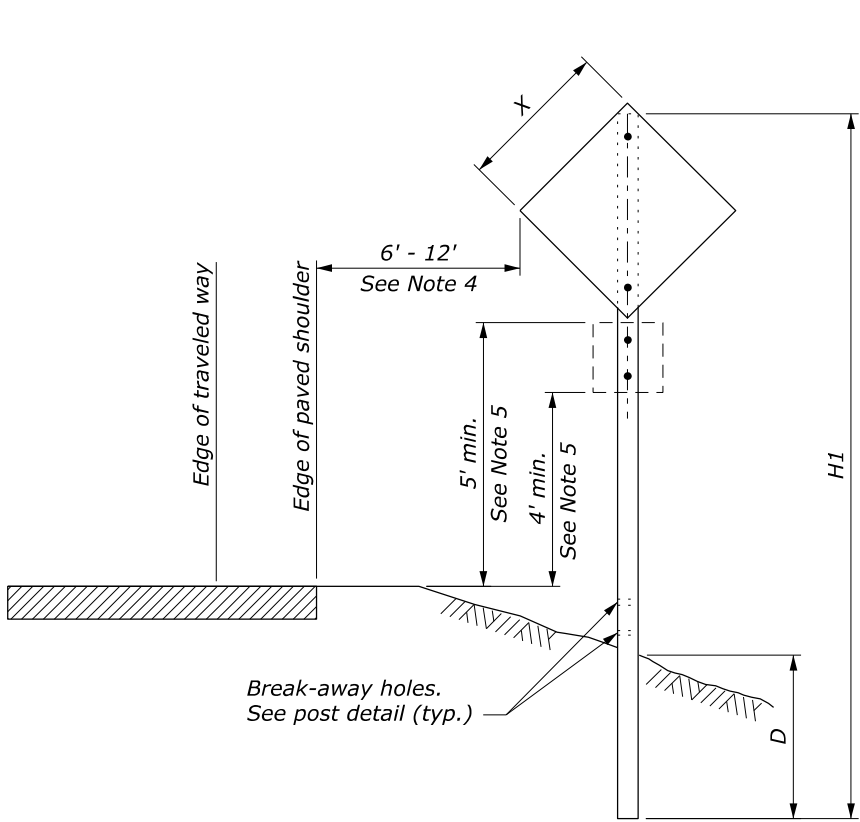


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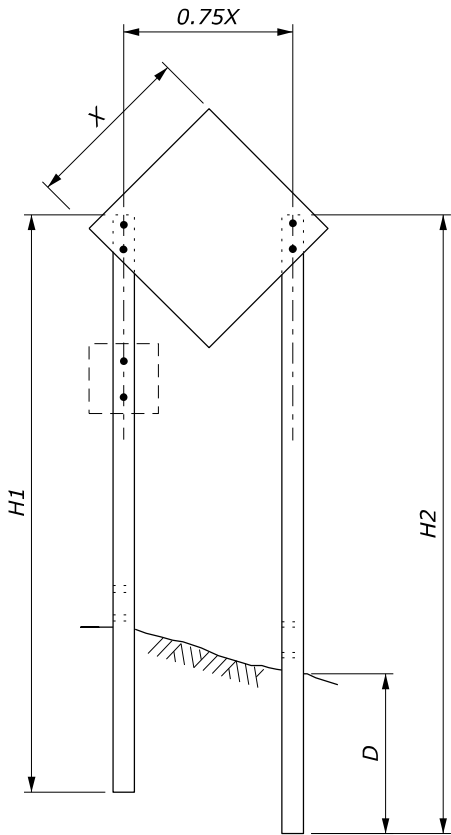
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
U.S. CUSTOMARY STANDARD TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH TEMPORARY BARRIER)	
STANDARD APPROVED FOR USE 6/2005 REVISED: DRAFT: 6/2015	STANDARD 635-13

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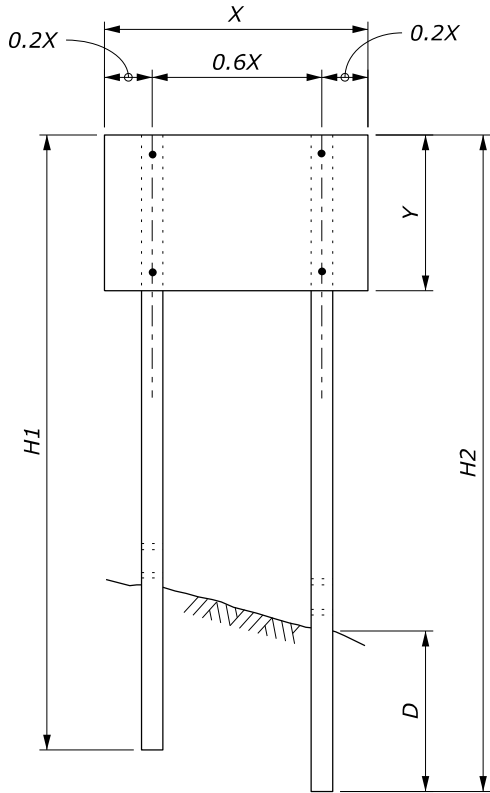
STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	T4



SINGLE POST SIGN



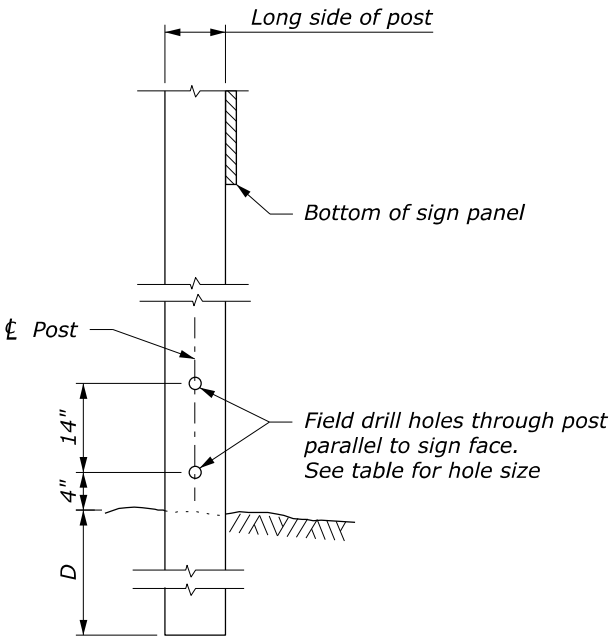
TWO POST SIGN



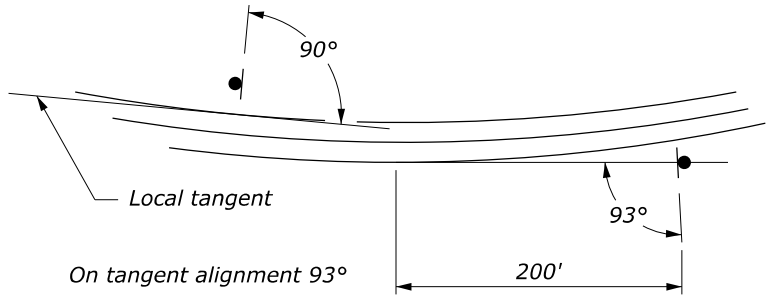
NOTE:

1. Attach sign panels with a minimum of 2 - 1/4" dia. bolts per post.
2. H1 and H2 = Overall post length. Select post lengths to fit field conditions.
3. D = Post embedment depth for average soil conditions.
4. In areas where lateral distance is limited, a minimum lateral offset of 2' may be used. In areas with curbs, a minimum lateral distance of 1' behind the face of the curb may be used.
5. In pedestrian locations, or in areas with obstructed views, use 7' minimum mounting height for main sign and 6' minimum mounting height for secondary sign.
6. Use 7' minimum spacing between posts for sign posts 6" x 6" or larger.
7. State standards may be used as an alternative if approved by the CO.

WOOD POST SELECTION TABLE					
WIDTH "X"	AREA (SQFT)	NUMBER OF POSTS	POST SIZE (INCH)	D (INCH)	HOLE SIZE (INCH)
Diamond ≤ 36" Other Shapes ≤ 48"	< 10	1	4 x 4	36	0
		1	4 x 6	48	1.5
Diamond ≤ 48"	10 - 20	1	6 x 6	48	2
Diamond ≤ 48" Other Shapes ≤ 12'	10 - 20	2	4 x 4	36	0
	20 - 50	2	4 x 6	48	1.5
> 13'	50 - 65	2	6 x 6	48	2
12' - 16'	50 - 65	3	4 x 6	48	1.5
> 17'	65 - 95	4	4 x 6	48	1.5
> 30'	65 - 95	3	6 x 6	48	2



POST DETAIL

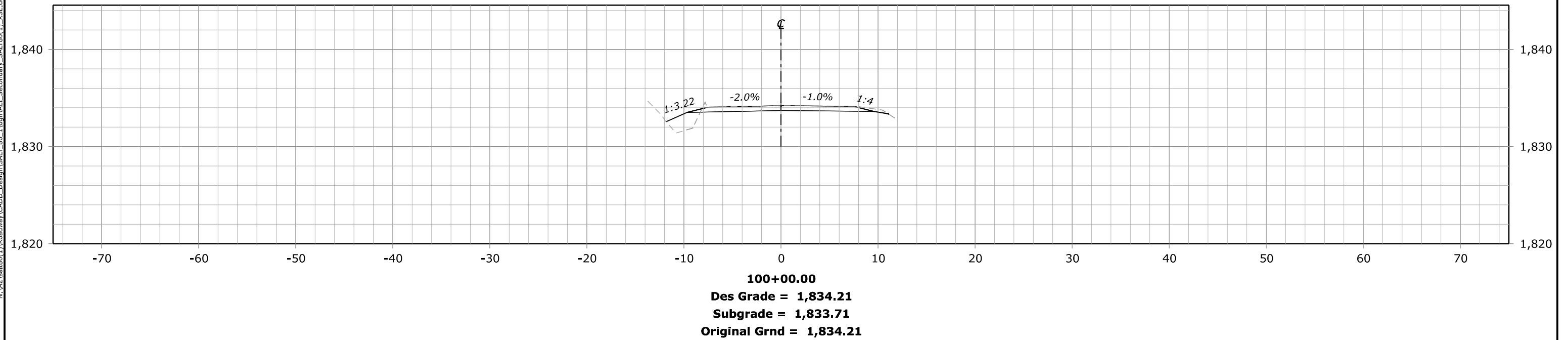
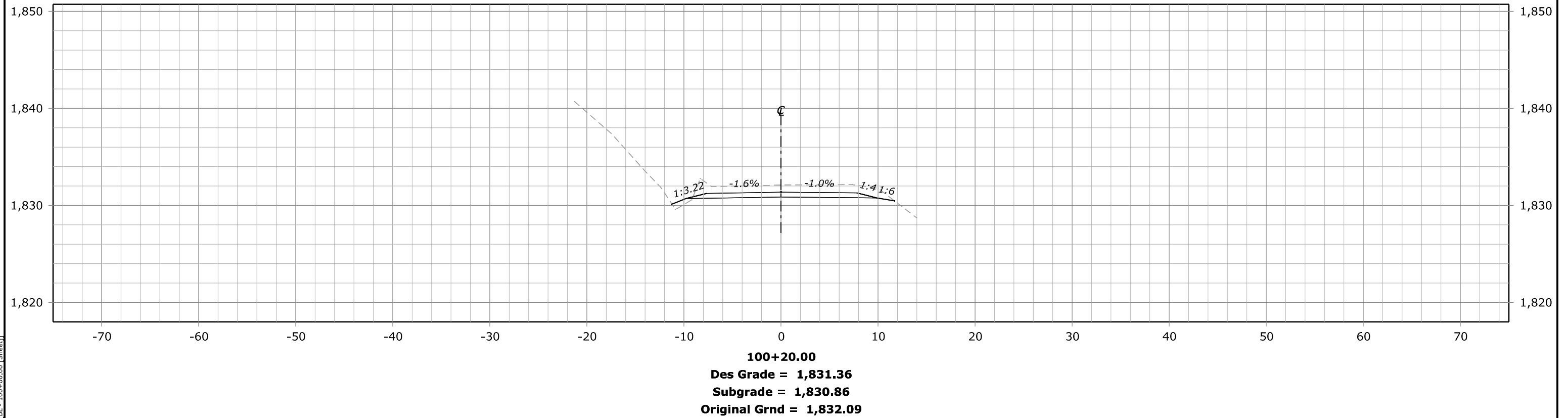


SIGN INSTALLATION ANGLE

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
U.S. CUSTOMARY STANDARD TEMPORARY TRAFFIC CONTROL SIGN INSTALLATION WOOD POSTS	
STANDARD APPROVED FOR USE 6/2005	STANDARD
REVISED: DRAFT: 10/2017	635-14

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X1



FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division

X-SECTIONS HORSE MESA BRIDGE

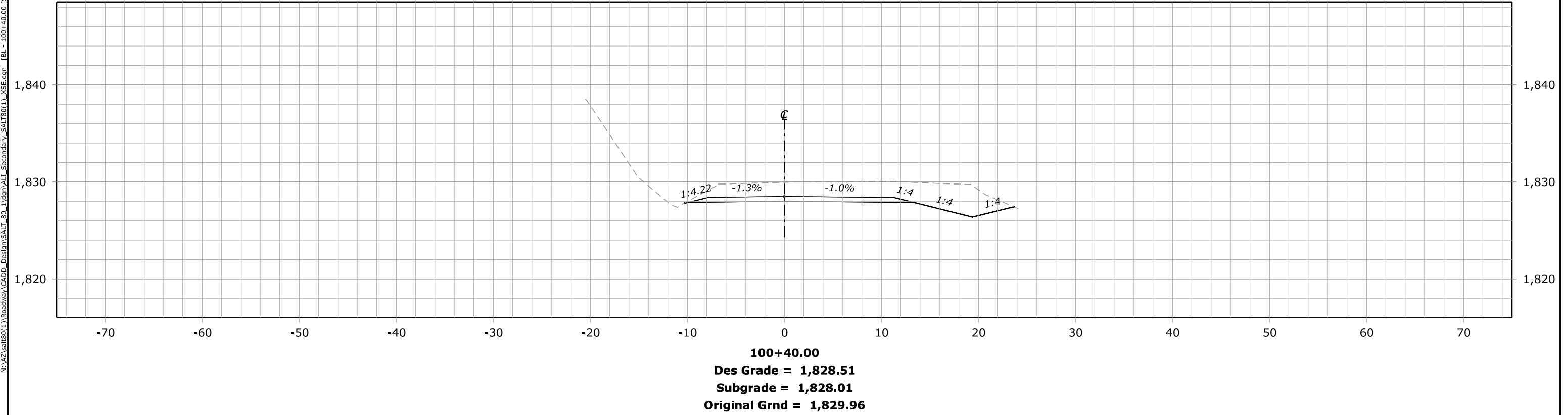
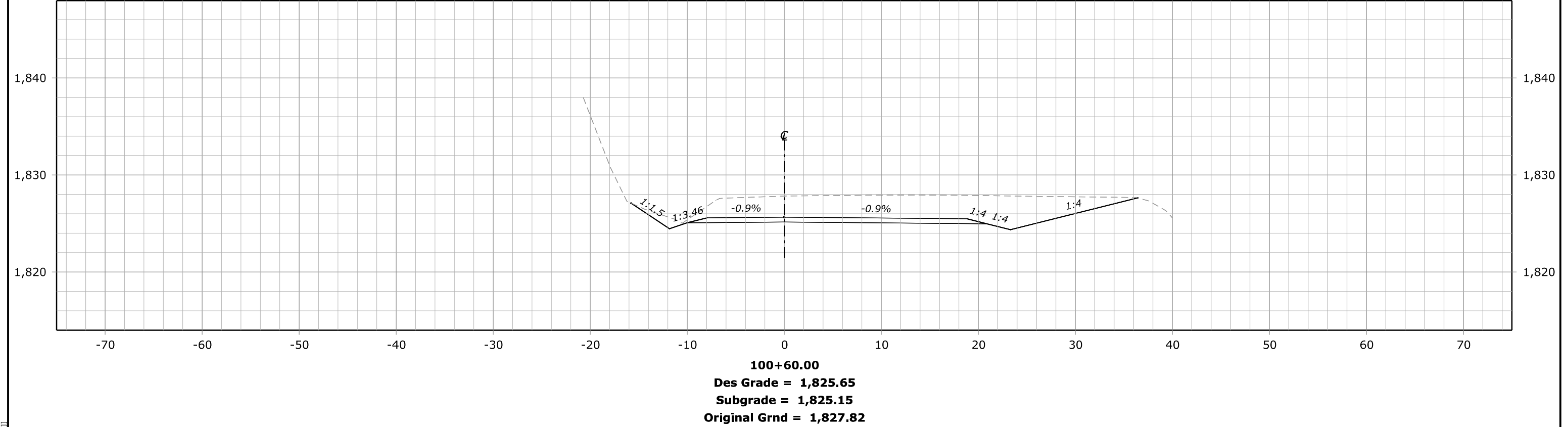
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2 August 2022 10:14 AM

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X2

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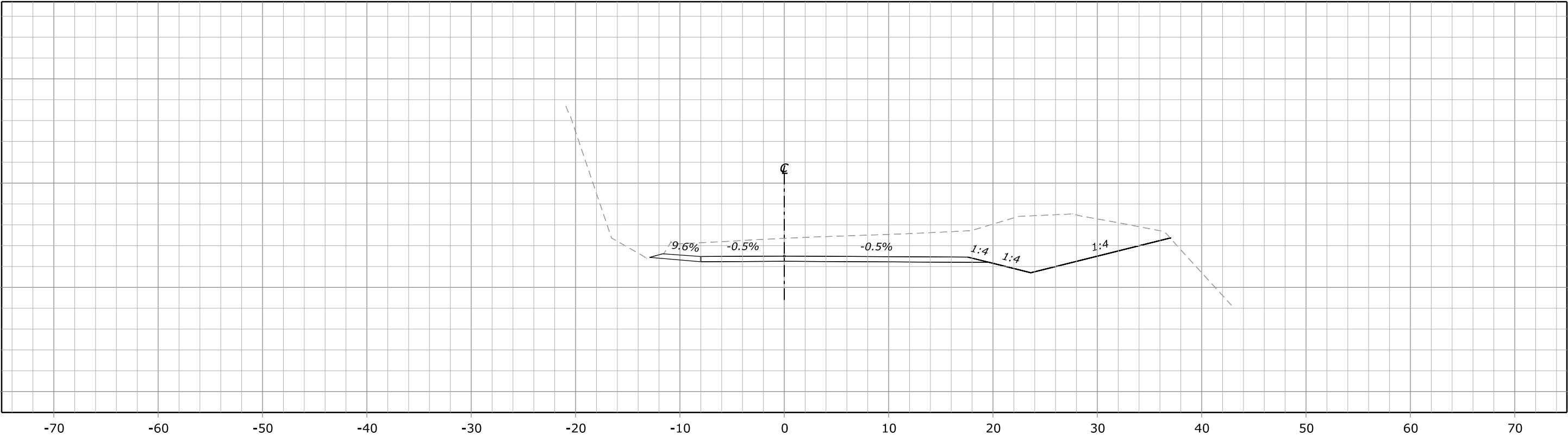


FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division
X-SECTIONS
HORSE MESA BRIDGE

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X3

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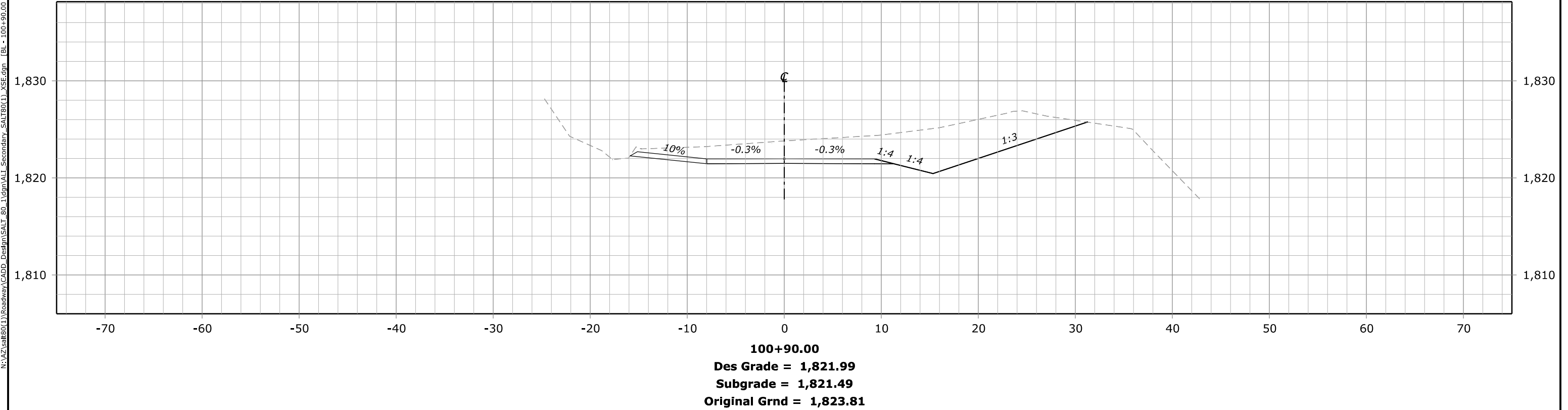
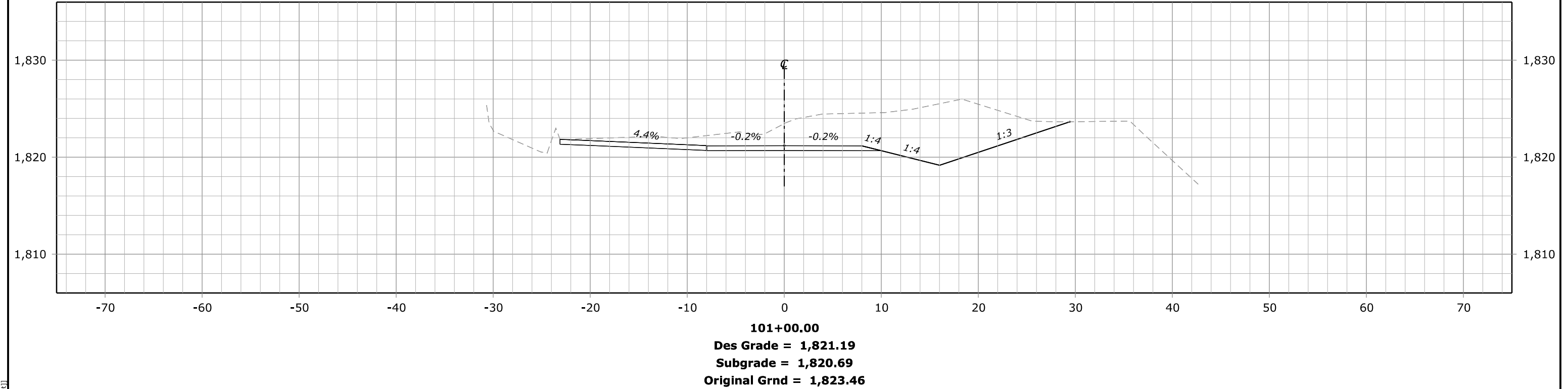
3 August 2022 1:49 PM



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Subgrade = 1,822.51
Original Grnd = 1,824.70

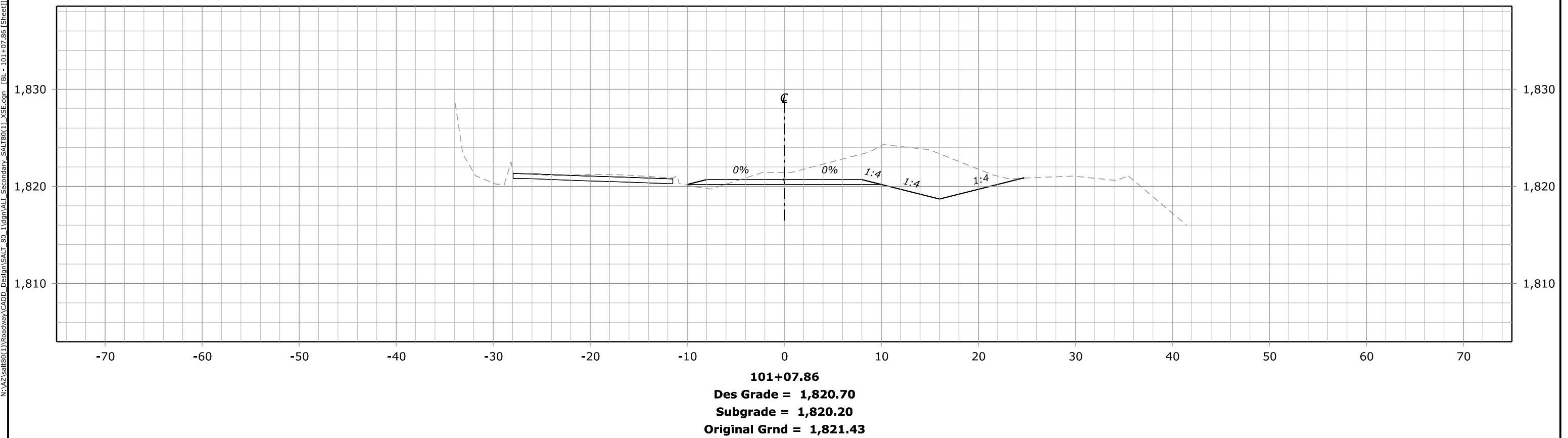
FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division
X-SECTIONS
HORSE MESA BRIDGE

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X4



STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X5

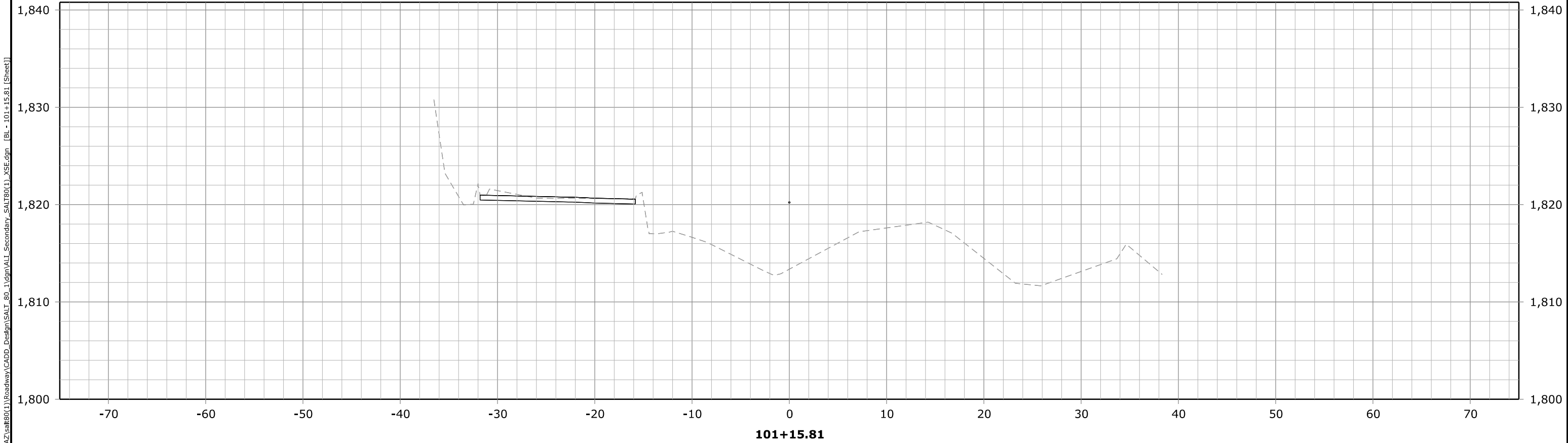
BRIDGE STATIONS 101+07.86 TO 102+07.86



FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division
X-SECTIONS
HORSE MESA BRIDGE

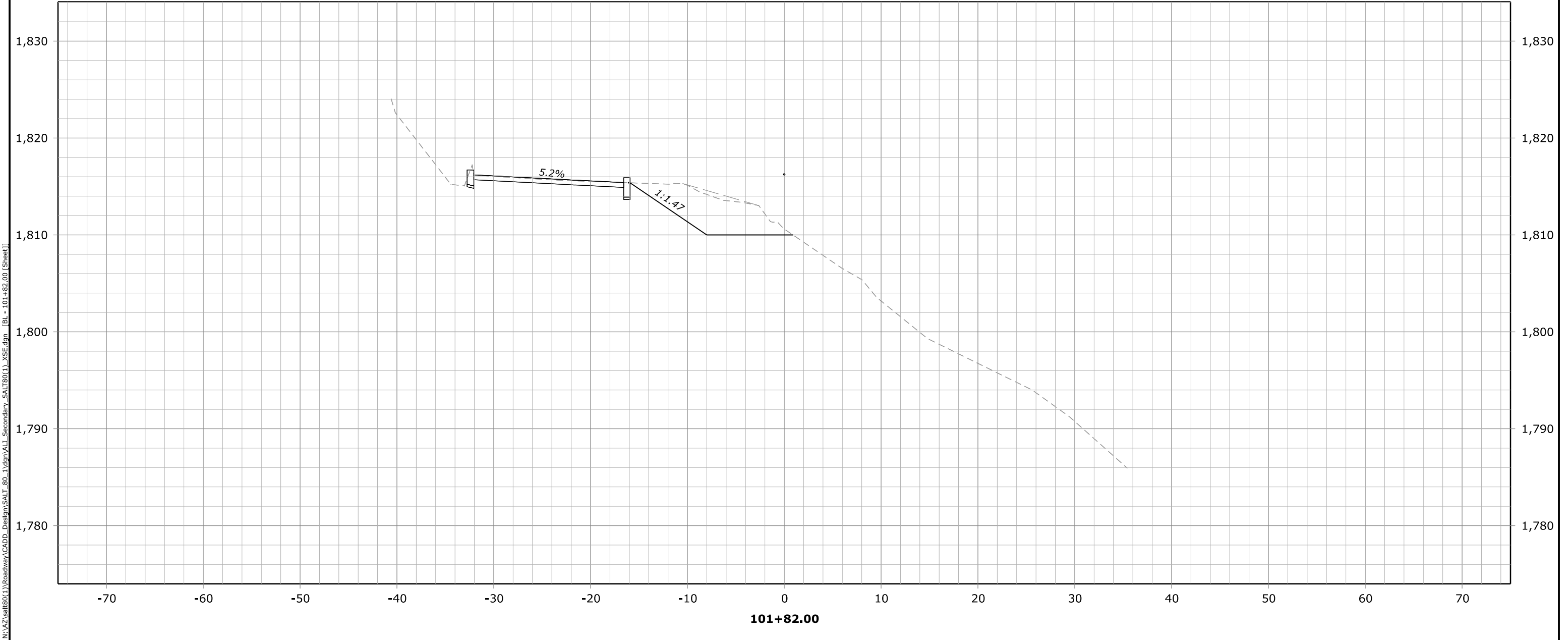
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STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X6



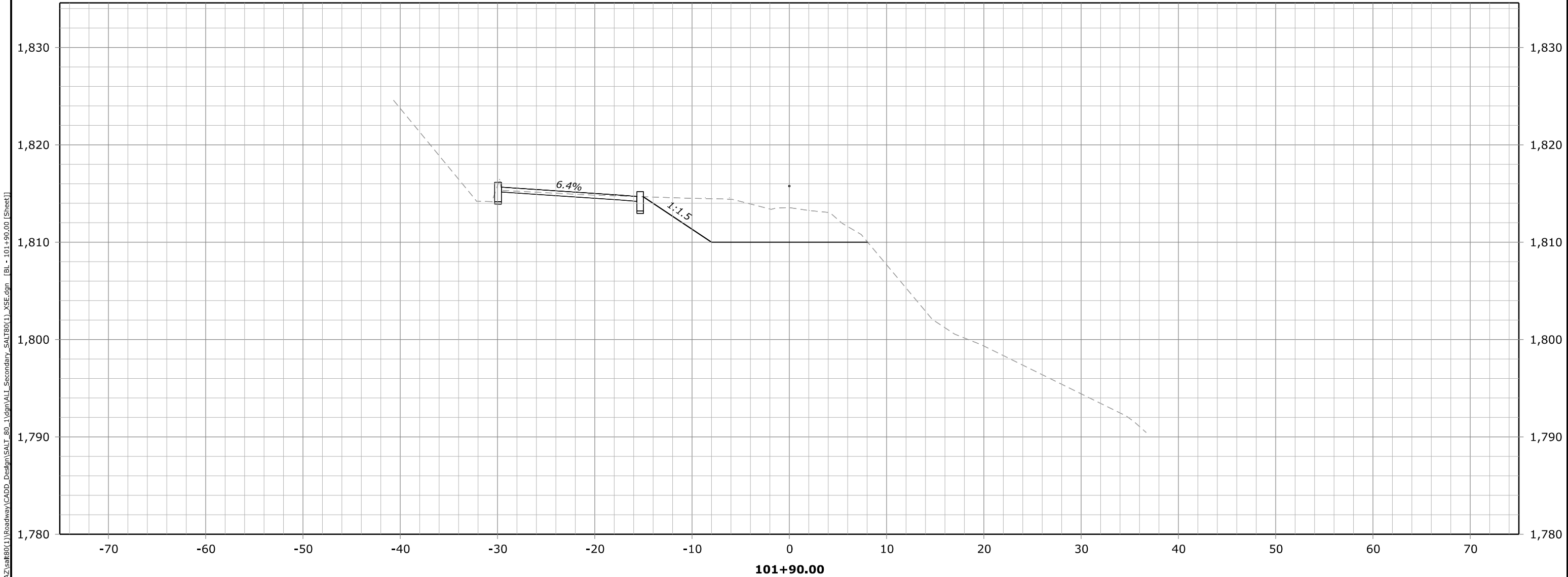
FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division
X-SECTIONS
HORSE MESA BRIDGE

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X7



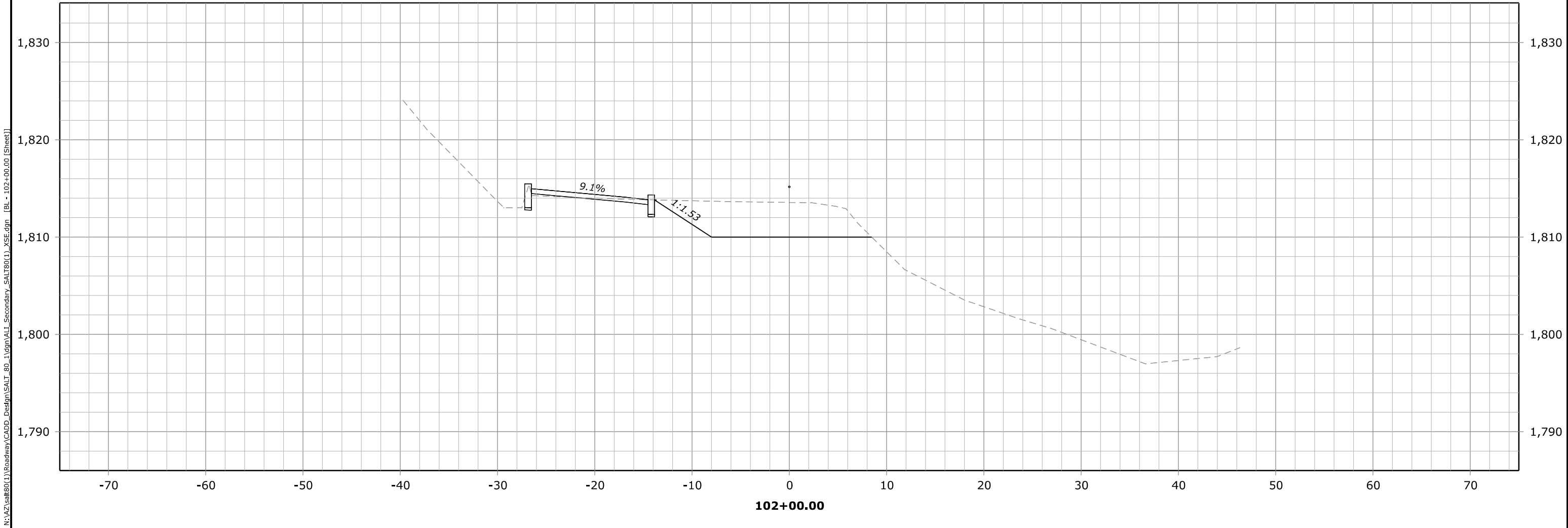
FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division
X-SECTIONS
HORSE MESA BRIDGE

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X8



FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division
X-SECTIONS
HORSE MESA BRIDGE

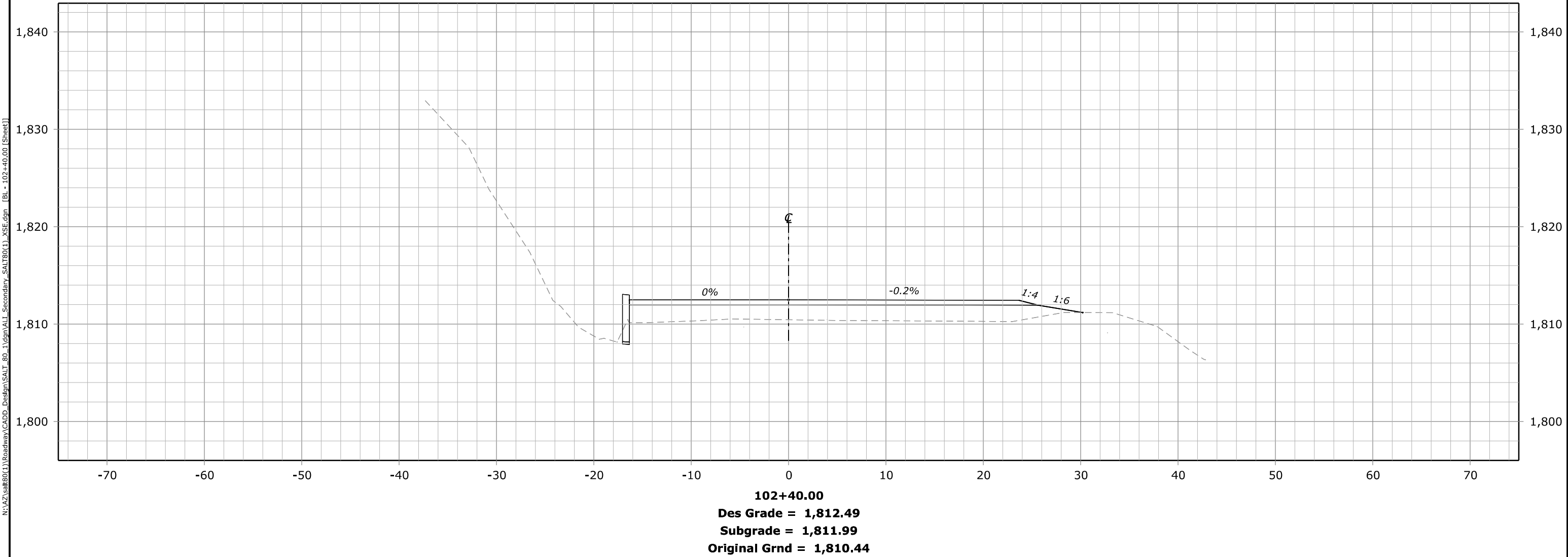
STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X9



FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division
X-SECTIONS
HORSE MESA BRIDGE

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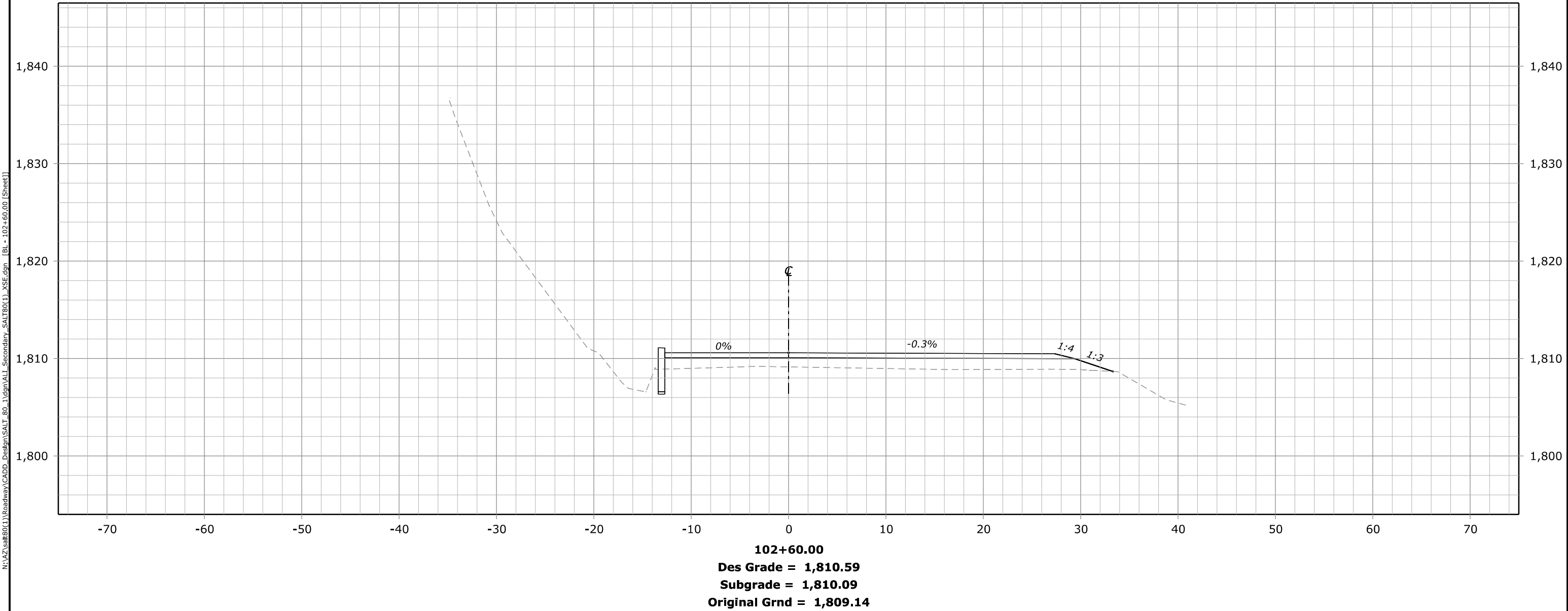
STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X11



FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division
X-SECTIONS
HORSE MESA BRIDGE

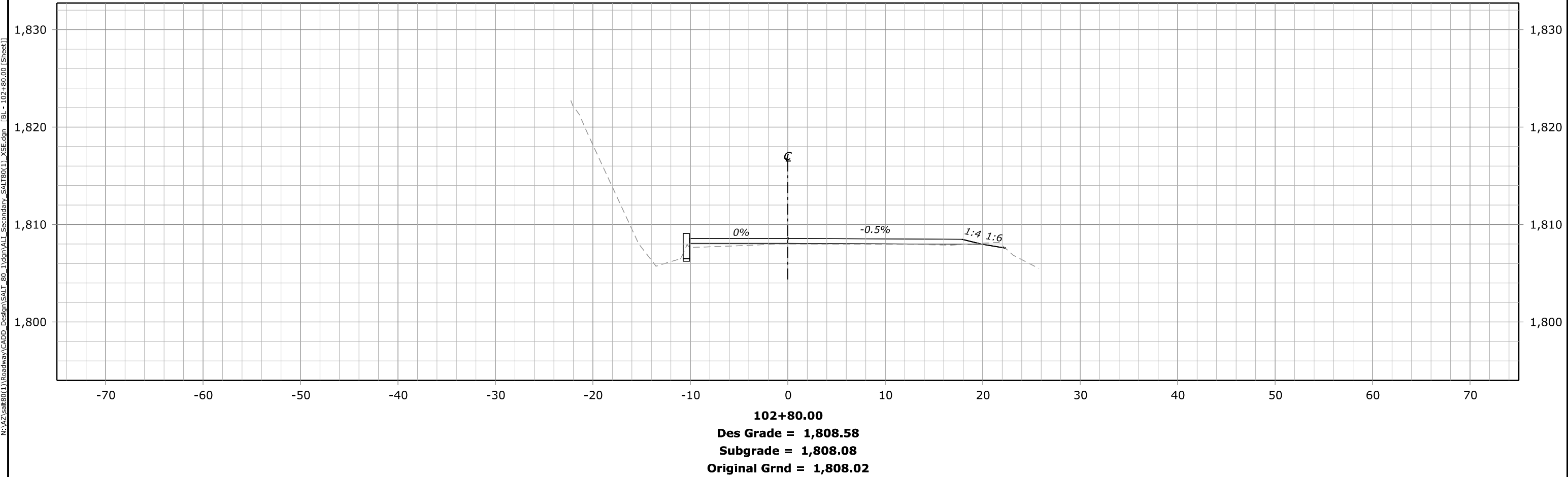
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STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X12



FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division
X-SECTIONS
HORSE MESA BRIDGE

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X13

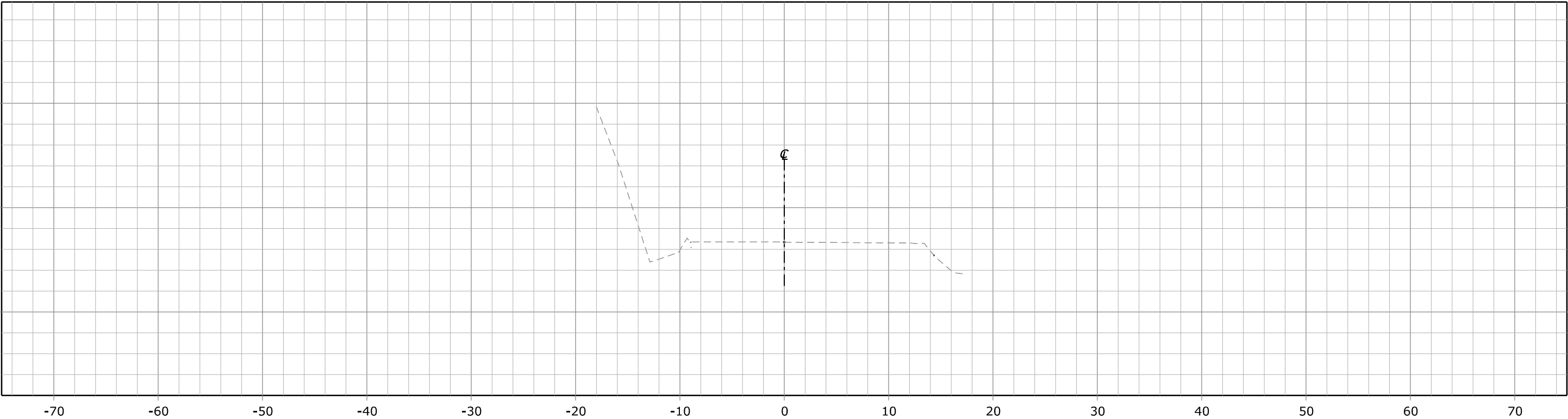


FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division
X-SECTIONS
HORSE MESA BRIDGE

STATE	PROJECT	SHEET NUMBER
AZ	AZ FTBR SALT 80(1) HORSE MESA BRIDGE	X14

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3 August 2022 1:19 PM



102+98.70
Des Grade = 1,806.70
Subgrade = 1,806.20
Original Grnd = 1,806.70

FHWA, Office of Federal Lands Highway
Central Federal Lands Highway Division
X-SECTIONS
HORSE MESA BRIDGE