PROJECT	SHEET NUMBER
WA NP MORA 11(1)	A.1

U. S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
MOUNT RAINIER NATIONAL PARK

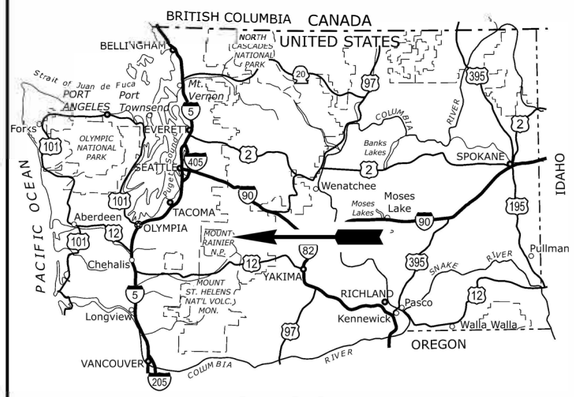
PLANS FOR PROPOSED PROJECT

WA NP MORA 11(1)
NPS PMIS NO. 239144

FRYINGPAN CREEK BRIDGE

PIERCE COUNTY
WASHINGTON

SCHEDULE A LENGTH 0.27 MILES
SCHEDULE B LENGTH 0.27 MILES



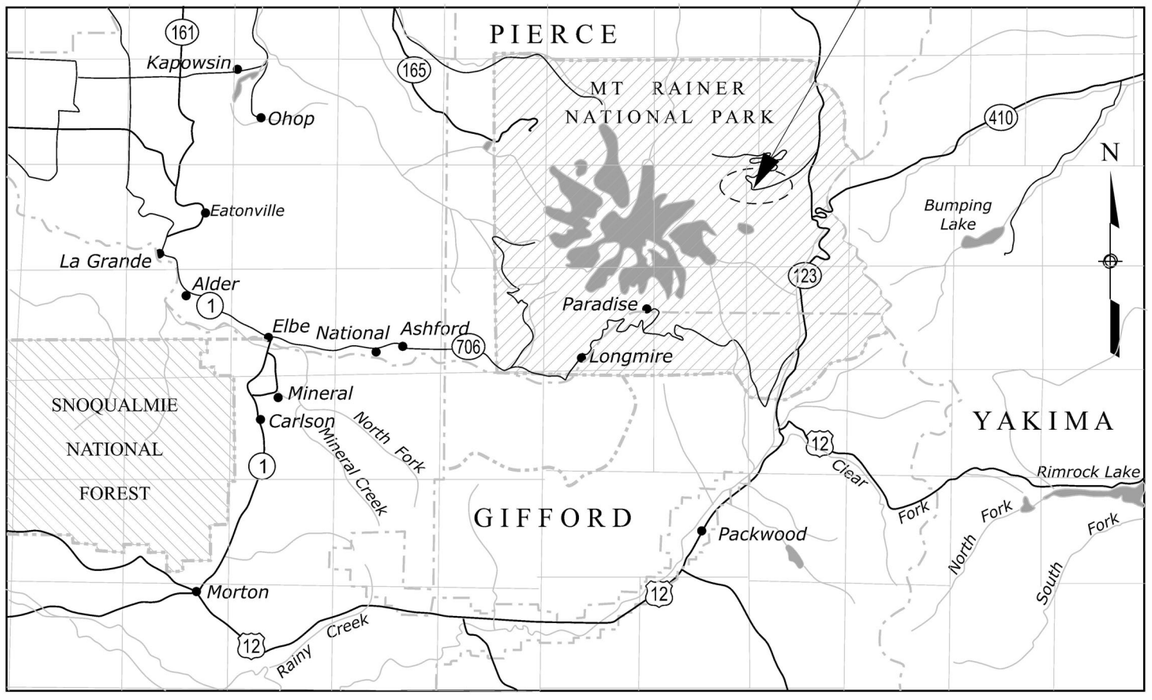
WASHINGTON KEY MAP

SECTION INDEX

See Sheet A.2 for complete Sheet Index.

PROJECT LOCATION

See Sheets A.4 & A.5



SCALE IN MILES
5 0 5 10 15

TYPE OF CONSTRUCTION:

Bridge replacement, realignment, parking lot

DESIGN DESIGNATION:

ADT (2026)	*685*
ADT (2046)	*1122*
SADT (2026)	*2339*
SADT (2046)	*3832*
V	*30 MPH*
e (max)	*6.0%*

SPECIFICATION:

Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-14

PLANS PREPARED BY

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION
VANCOUVER, WASHINGTON

PROJECT MANAGER
W. SCHMIDT

RECOMMENDED

KEVIN SKERL — Digitally signed by KEVIN SKERL Date: 2026.01.28 14:44:53 -08'00'

Park Superintendent, Mount Rainier National Park — *DATE*

APPROVED:

BRENT LEE COE — Digitally signed by BRENT LEE COE Date: 2026.04.10 14:45:01 -07'00'

Chief of Engineering, Western Federal Lands Highway Division — *DATE*

AARON DOWE — Digitally signed by AARON DOWE Date: 2026.03.05 09:31:15 -08'00'

Associate Regional Director, NPS Interior Regions 8,9,10, and 12 — *DATE*

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	A.2

SHEET INDEX

SHEET INDEX (continued)

SHEET INDEX (continued)

SHEET INDEX

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	A.3

Δ	total central angle
Δc	curve central angle
Ø	diameter
θs	spiral central angle
abut.	abutment
ADT	average daily traffic
AH	ahead
appr.	approach
BK	back
b.f.	back face
BM	bench mark
BP	balance point
br.	bridge
brg.	bearing
btwn	between
cc or c. to c.	center to center
℄	centerline
clr.	clear
CMP	corrugated metal pipe
col.	column
conc.	concrete
conn.	connection
constr. jt.	construction joint
cont.	continuous
CS	point of curve to spiral
ctrs.	centers
CUFT	cubic foot (feet)
culv.	culvert
CUYD	cubic yard(s)
D	diameter
DHV	design hourly volume
dia.	diameter
diaph.	diaphragm
dist.	distance
drwg(s).	drawing(s)
E	east
e	superelevation rate
e.f.	each face
El. 94.16	elevation in feet
elev.	elevation
emb.	embankment
EOP	edge of pavement
EQ or eq.	equation
EW	edge of water
exc.	excavation
exp. jt.	expansion joint
f.f.	front face
fin.	finish
flg.	flange
ftg.	footing
ga.	gage (gauge)
galv.	galvanized
ID	inside diameter
IE	invert elevation
jt.	joint
KSI	thousand pounds per square inch
L	length of curve
lat.	latitude
LNFT	linear foot (feet)
long.	longitudinal
LPSM	lump sum
Ls	length of spiral
lt. or LT	left
LW	low water

M.L.	main line
M.P.	mile post
matl.	material
max.	maximum
MGAL	thousand gallon
min.	minimum
mon.	monument
N	north
NC	normal crown
o.c.	on center
o. to o.	out to out
OD	outside diameter
OG	original ground
OHWM	ordinary high water mark
PC	point of curve
PCC	point of compound curve
PCS	point of curve to spiral
PI	point of intersection
pl.	plate
POC	point on curve
POS	point on spiral
POT	point on tangent
PS	point of tangent to spiral
PSF	pounds per square foot
PSI	pounds per square inch
PSC	point of spiral to curve
PST	point of spiral to tangent
PT	point of tangent
pvmt.	pavement
R	radius
R.	range
R/W	right-of-way
rdwy.	roadway
reinf.	reinforcement
reqd.	required
rt. or RT	right
rte.	route
S	south
SADT	seasonal average daily traffic
SC	point of spiral to curve
sect.	section
shldr.	shoulder
SLRY	slurry unit
spa.	spacing, spaces or spaced
SQFT	square foot
SQYD	square yard
SRS	point of spiral to reverse spiral
SS	point of spiral to spiral (no curve)
ST	point of spiral to tangent
STA, Sta.	station
std.	standard
stgr.	stringer
stiff.	stiffener
struc.	structural
STS	point of spiral to tangent spiral
T	tangent distance
T.	township
TBM	temporary bench mark
thd.	thread
TS	point of tangent to spiral
Ts	tangent distance (spiraled curve)
typ.	typical
V	design speed (velocity)
vph	vehicles per hour
VPI	vertical point of intersection
W	west

NOTE:

1. Other symbols used in the plans will be shown in a legend on the appropriate plan sheet.

National Boundary

State Boundary

County Boundary

City Boundary

Township or Range Line

Section Line

Section Corner (Found, Projected)

¼ Section Line

¼ Section Corner (Found, Projected)

1/16 Section Line

1/16 Section Corner (Found, Projected)

Property Line

Parcel Number

National Park Boundary

National Forest Boundary

National Wildlife Refuge Boundary

BLM Lands Boundary

Indian Reservation Boundary

Existing Roadway (Paved, Gravel)

Railroad

Trail

Fiber Roll

Silt Fence

Sandbag

Intermittent Drainage or Small Creek

Large Creek or River

Lake, Pond or Reservoir; Marshland

Spring or Seep

Treeline; Individual Trees

Material Source; Bore Hole; Test Pit

Spot Elevation; Coordinate Grid Tick

Above Ground Tank; Underground Tank

Boulder; Well; Antenna; Grave

Cooking Grate; Garbage Can; Picnic Table

Flagpole; Fire Hydrant

Gas & Water Meter; Gas & Water Valve

Control Point (Terrestrial and GPS)

	EXISTING	PROPOSED
North Arrow	N	
Slope Stake Limits	Top of Cut / Toe of Fill	
Construction Limits	- no symbol -	
Bottom of Ditch		
Fence		
Gate with Fence		
Cattleguard		
Guardrail		
Concrete Barrier and Guard Wall		
Retaining Wall		wall face
Signs (single, double post; portable)		
Delineators		
Pipe Culvert (arrow shows flow)		
Pipe Culvert with End Section		
Pipe Culvert with Headwall		
Pipe Culvert with Drop Inlet	DI	DI
Box Culvert		
Underdrain	UD	UD
Overhead/Above Ground Utilities	P	P
Underground Utilities	W	W

FM = force main, FO = fiber optic, G = gas, IRR = irrigation, O = oil, P = power, SA = sanitary sewer, SD = storm drain, SS = storm sewer, STEAM = steam, T = telephone, TV = CATV, W = water

Poles (Power, Telephone, Joint Use, Light, Support w/Anchor)

Miscellaneous Utility Features (TP)

EM = electric meter, TP = telephone pedestal, TV = CATV pedestal, UP = transformer or junction box, WF = water fountain

Building		
Right-of-Way Line		R/W
Permanent Easement		P/E
Construction Easement	- no symbol -	TCE
Riprap	Section A-A	A A

NO SCALE

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

PLAN SYMBOLS AND ABBREVIATIONS

WFLHD DETAIL	W101-1
SPECIFICATION	FP-14
APPROVED FOR USE	6/2022

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	A.4

N

Staging and stockpiling site for trees
McCullough Seed Orchard: 47°04'20.3"N, 121°35'20.8"W
See Sheet A.9

Staging and stockpiling site
Gravel pullout: 46°53'30.0"N, 121°35'36.5"W
See Sheet A.7

US FSR 7300

410

165

Carbon River
Ranger Station

PROJECT LOCATION

FRYINGPAN CREEK BRIDGE
See Sheets A.5 and A.6

CRYSTAL MOUNTAIN BLVD.

White River
Ranger Station &
Campground

White River
Entrance

SUN RISE ROAD

Owyhigh Lakes Trail

MOUNT
RAINIER

Staging and stockpiling site for topsoil and trees
Cayuse Pass pullout: 46°51'53.3"N 121°31'58.1"W
See Sheet A.10

123

Cougar Rock
Ranger Station &
Campground

STEVENS CANYON ROAD

Grove of the
Patriarchs

ASHFORD

706

Nisqually
Entrance

PARADISE VALLEY ROAD

LONGMIRE

Reflection Lake

Martha Falls

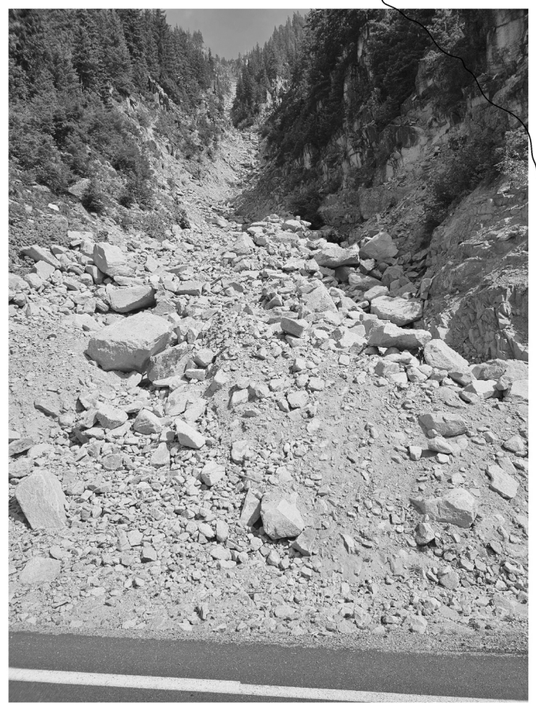
Box Canyon

Ohanapecosh
Campground

Government-provided sources of raw, unprocessed rocks
used in Stone Curb and Stone Masonry
Avalanche chutes on Stevens Canyon Road
Primary source: 46°46'16.9"N, 121°41'28.3"W
Secondary source: 46°46'05.8"N, 121°40'31.2"W
Secondary source: 46°46'09.3"N, 121°40'44.5"W

Stockpiling site for stone masonry
Ohanapecosh Yard: 46°43'49.50"N, 121°34'10.55"W
See Sheet A.8

12



NOTE: Avalanche chute photo shown is illustrative.
Condition may differ at the time of rock harvest.

Scale in miles

4 0 4 8 12

VICINITY MAP

SHEET 1 OF 2

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	A.5

MOUNT

RAINIER

NATIONAL

PARK

N

WHITE RIVER CAMPGROUND
& RANGER STATION

WHITE RIVER CAMPGROUND ROAD

SUNRISE ROAD

Wonderland Trail

Staging site
Gravel pullout: 46°53'30.0"N, 121°35'36.5"W
See Sheet A.7

WHITE RIVER

SUNRISE ROAD

BEGIN PROJECT
"MAIN 01" 11+30
SCHEDULE A & B

West parking lot
15+60 to 18+15

Summerland trailhead
16+90

END PROJECT
"MAIN 01" 25+50
SCHEDULE A & B

East parking
20+91 to 22+20

Bridge replacement
18+43.75 to 20+62.25

Owyhigh Lakes Trail

Shaw Creek

Wonderland Trail

Fryingpan Creek

X GOAT ISLAND MOUNTAIN

Scale in mile

0.25 0 0.25 0.50 0.75

c:\pw_work_wfl\d0433909\mora11-1_A.1-10.dgn [Vicinity Map]

15 April 2026 10:46 AM

VICINITY MAP

SHEET 2 OF 2

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	A.6

BEGIN PROJECT
"MAIN 01" 11+30
SCHEDULE A & B

MOUNT

RAINIER

NATIONAL

PARK

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

WILDERNESS

BOUNDARY

OHWM

Fryingpan Creek

SUNRISE ROAD

N

END PROJECT
"MAIN 01" 25+50
SCHEDULE A & B

Project clearing limits (effective staging area)

In-water work staging area where below OHWM

Scale in feet

100 0 100 200 300

STAGING SITE - FRYINGPAN CREEK BRIDGE

c:\pw_work\wfl\d0433909\mora11-1_A.1-10.dgn [Staging Site - Fryingpan Creek Bridge]

10 February 2026 2:30 PM

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	A.7

White River

RIVER

WHITE

MOUNT

RAINIER

N

Staging site
Gravel pullout: 46°53'30.0"N, 121°35'36.5"W
580 SQYD (Approx.)

BOUNDARY

WILDERNESS

ROAD

SUNRISE

NATIONAL

PARK

± 0.5 mile to
Fryingpan Creek Bridge

Owyhigh Lakes Trail

Scale in feet

100 0 100 200 300

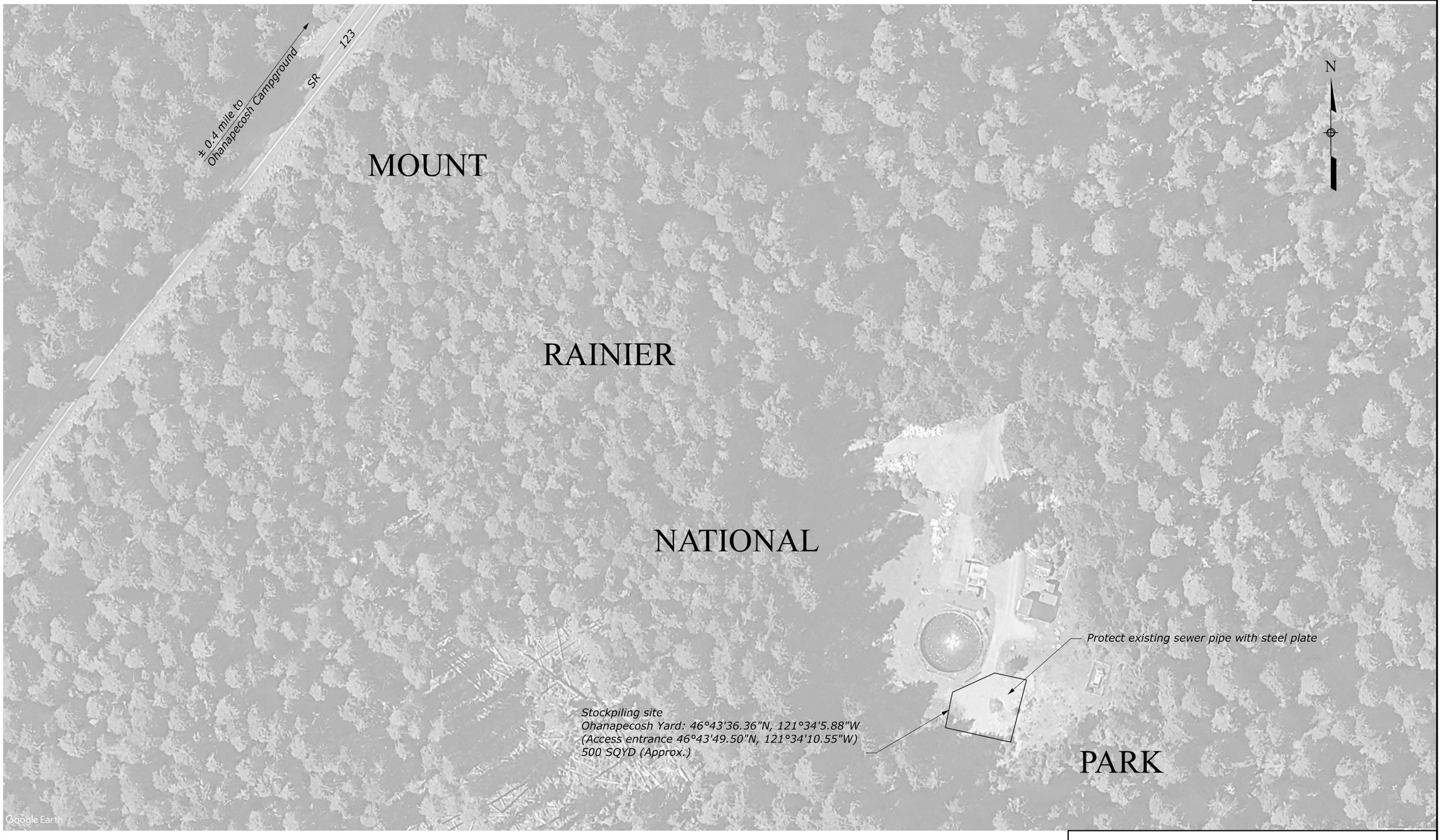
STAGING AND STOCKPILING SITE - GRAVEL PULLOUT

c:\pw_work\wfl\d0433909\mora11-1_A.1-10.dgn [Staging and Stockpiling Site - Gravel Pullout]

4 March 2026 10:26 AM

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	A.8



Scale in feet

100 0 100 200 300

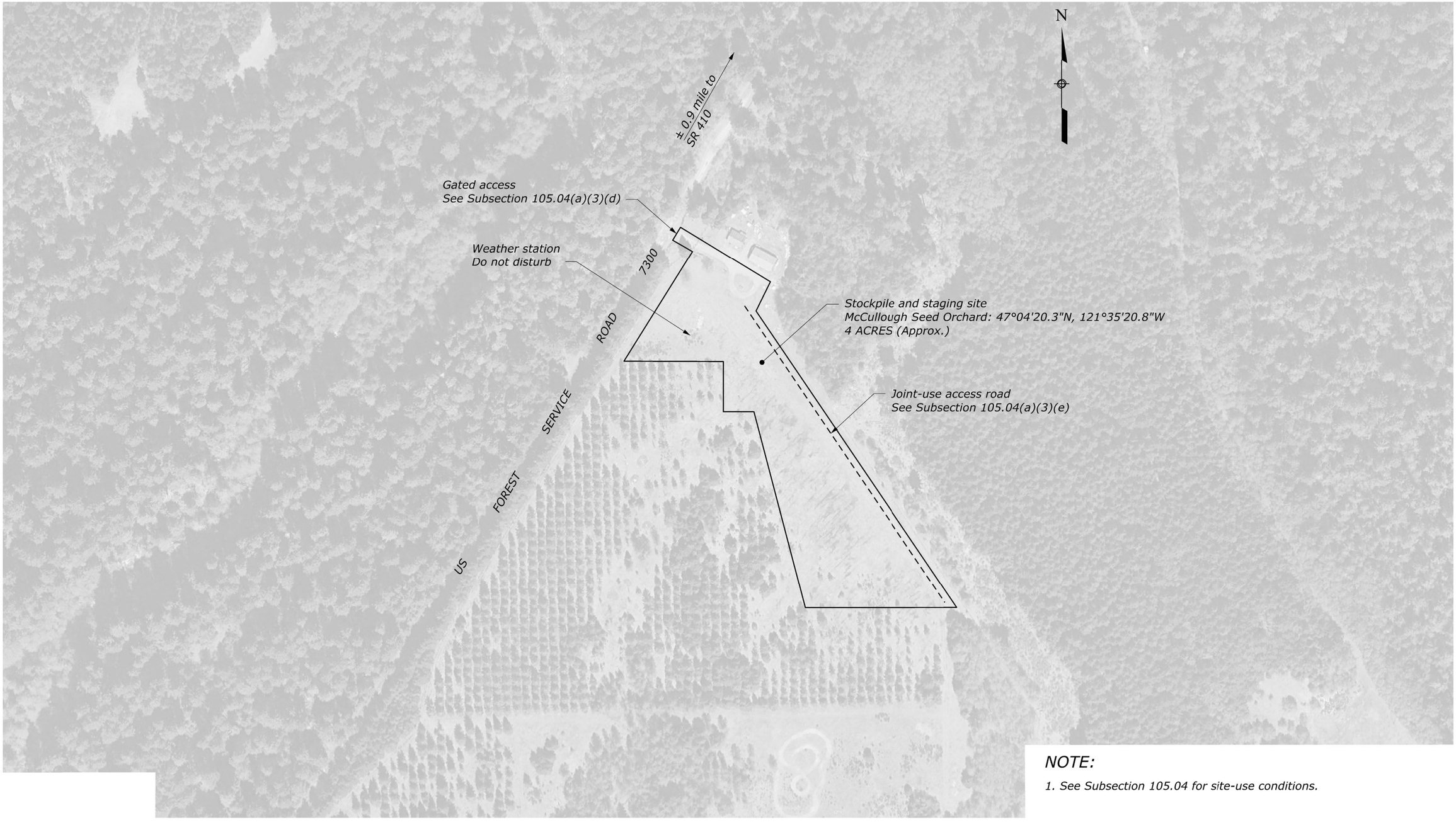
STOCKPILING SITE - OHANAPECOSH YARD

c:\pw_work\wfld0433909\mora11-1_A.1-10.dgn [Stockpiling Site - Ohanapecosh Yard]

4 March 2026 10:33 AM

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	A.9



NOTE:

1. See Subsection 105.04 for site-use conditions.

Scale in feet

200 0 200 400 600

STAGING AND STOCKPILING SITE - MCCULLOUGH SEED ORCHARD

5 March 2026 12:10 PM c:\pw_work\ wfhld\d0433909\mora11-1 A.1-10.dgn [Staging and Stockpiling Site - McCullough Seed Orchard]

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	A.10

N

50' clear space for public parking

Staging and stockpiling site
Cayuse Pass pullout: 46°51'53.3"N 121°31'58.1"W
1000 SQYD (Approx.)

Maintain access to existing trailhead

SR 123

Scale in feet

50 0 50 100 150

STAGING AND STOCKPILING SITE - CAYUSE PASS PULLOUT

18 March 2016 9:37 AM c:\pw_work\wfld04339009\mora11-1 A.1-10.dgn [Staging and Stockpiling Site - Cayuse Pass Pullout]

SUMMARY OF QUANTITIES - Schedule A

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	B.1

AMEND	LINE ITEM NO.	PAY ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT	Sheet and Description							ALLOW-ANCE	Estimated Quantities	Remarks and/or Determination of Estimated Quantity
					SECTION D	SECTION E	SECTION F	SECTION G	SECTION I	SECTION J	SECTION S			
					PLAN-PROFILE	PARKING	SOIL EROSION AND SEDIMENT CONTROL	DRAINAGE	TEMPORARY TRAFFIC CONTROL	PERMANENT TRAFFIC CONTROL	BRIDGE		BID SCHEDULE	
	A0100	15101-0000	MOBILIZATION	LPSM									ALL	
	A0120	15201-0000	CONSTRUCTION SURVEY AND STAKING	LPSM									ALL	
	A0140	15301-0000	CONTRACTOR QUALITY CONTROL	LPSM									ALL	
	A0160	15401-0000	CONTRACTOR TESTING	LPSM									ALL	
	A0180	15501-0000	CONSTRUCTION SCHEDULE	LPSM									ALL	
	A0200	15702-6000	SOIL EROSION CONTROL, TEMPORARY STREAM DIVERSION	LPSM			ALL						ALL	
	A0220	15703-2500	SOIL EROSION CONTROL, MULCHING, HYDRAULIC METHOD	ACRE			0.5						0.5	
	A0240	15705-0100	SOIL EROSION CONTROL, SILT FENCE	LNFT			750					80	830	
	A0260	15705-1400	SOIL EROSION CONTROL, FIBER ROLL	LNFT			180					20	200	
	A0280	15706-0200	SOIL EROSION CONTROL, CHECK DAM,(FIBER ROLL)	EACH			66					4	70	
	A0300	15706-1100	SOIL EROSION CONTROL, INLET PROTECTION TYPE A	EACH			2					2	4	
	A0320	15706-1600	SOIL EROSION CONTROL, STABILIZED CONSTRUCTION EXIT	EACH			3						3	
	A0340	15706-2300	SOIL EROSION CONTROL, ON-SITE CONCRETE WASHOUT STRUCTURE	EACH			3						3	
	A0360	15802-0000	WATERING FOR DUST CONTROL	LPSM									ALL	
	A0380	20101-0000	CLEARING AND GRUBBING	ACRE	1.5	0.7						0.1	2.3	
	A0400	20301-2400	REMOVAL OF SIGN	EACH						7			7	
	A0420	20303-3500	REMOVAL OF STONE MASONRY,(AND SALVAGE)	SQYD				15			ALL	5	20	
	A0440	20304-2000	REMOVAL OF BRIDGE	LPSM									ALL	
	A0460	20401-0000	ROADWAY EXCAVATION	CUYD	11037	5569						1894	18500	
	A0480	20465-0000	CONSERVE AND PLACE BOULDER,(EXCAVATED)	EACH	30								30	
	A0500	20465-0000	CONSERVE AND PLACE BOULDER,(SURFACE)	EACH	52								52	
	A0520	20701-0100	SEPARATION-STABILIZATION GEOTEXTILE, CLASS 1, TYPE A	SQYD				148				52	200	
	A0540	20701-0800	SEPARATION-STABILIZATION GEOTEXTILE, CLASS 2, TYPE C	SQYD				800				100	900	
	A0560	20801-0000	STRUCTURE EXCAVATION	CUYD							ALL		670	Contract Quantity,
	A0580	20810-0000	SHORING AND BRACING	LPSM									ALL	
	A0600	21101-1000	ROADWAY OBLITERATION, METHOD 1	SQYD	669							31	700	
	A0620	25101-0200	PLACED RIPRAP, METHOD A, CLASS 2	CUYD				46				4	50	
	A0640	25101-0500	PLACED RIPRAP, METHOD A, CLASS 5	CUYD				795				105	900	
	A0660	25501-0000	MECHANICALLY STABILIZED EARTH WALL	SQFT	ALL							145	2600	
	A0680	25701-0200	CONTRACTOR FURNISHED MECHANICALLY STABILIZED EARTH WALL DESIGN	LPSM									ALL	
	A0700	30201-2000	ROADWAY AGGREGATE, METHOD 2	CUYD	676	525						99	1300	
	A0720	30302-1000	DITCH RECONDITIONING	LNFT				618				32	650	
	A0740	40301-0100	ASPHALT CONCRETE PAVEMENT, TYPE 1	TON	737	335						28	1100	
	A0760	40303-0100	ASPHALT CONCRETE PAVEMENT, TYPE 1, WEDGE AND LEVELING COURSE	TON	56							44	100	
	A0780	41201-0000	TACK COAT	TON	1.4	0.6							2	
	A0800	41301-0000	ASPHALT PAVEMENT MILLING,(VARIABLE UP TO 4-INCH DEPTH)	SQYD	1294							106	1400	
	A0820	55201-0200	STRUCTURAL CONCRETE, CLASS A (AE)	CUYD							215		215	Contract Quantity,
	A0840	55201-0800	STRUCTURAL CONCRETE, CLASS D (AE)	CUYD							312		312	Contract Quantity,
	A0860	55203-2000	STRUCTURAL CONCRETE, CLASS D (AE), FOR APPROACH SLABS, TYPE 2	CUYD							39		39	Contract Quantity,
	A0880	55235-0000	EXPANSION JOINTS	LNFT							60		60	Contract Quantity,

Milestone: 100% Milestone; Date Completed: 4/8/2026

SUMMARY OF QUANTITIES - Schedule A

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	B.2

AMEND	LINE ITEM NO.	PAY ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT	Sheet and Description							ALLOW-ANCE	Estimated Quantities	Remarks and/or Determination of Estimated Quantity
					SECTION D	SECTION E	SECTION F	SECTION G	SECTION I	SECTION J	SECTION S			
					PLAN-PROFILE	PARKING	SOIL EROSION AND SEDIMENT CONTROL	DRAINAGE	TEMPORARY TRAFFIC CONTROL	PERMANENT TRAFFIC CONTROL	BRIDGE		BID SCHEDULE	
	A0900	55401-1000	REINFORCING STEEL	LB							25000		25000	Contract Quantity,
	A0920	55401-2000	REINFORCING STEEL, EPOXY COATED	LB							84500		84500	Contract Quantity,
	A0940	55502-0000	STRUCTURAL STEEL, FURNISHED, FABRICATED, AND ERECTED	LB							591000		591000	Contract Quantity,
	A0960	55601-0900	BRIDGE RAILING, STEEL,(YELLOWSTONE PICKET RAIL)	LNFT							413		413	Contract Quantity,
	A0980	56401-1000	BEARING DEVICE, ELASTOMERIC	EACH							8		8	Contract Quantity,
	A1000	56501-0600	DRILLED SHAFT, 48-INCH DIAMETER	LNFT							417		417	Contract Quantity,
	A1020	57502-0000	TEMPORARY BRIDGE,(WORK BRIDGE)	LPSM									ALL	
	A1040	60201-0400	12-INCH PIPE CULVERT	LNFT				21			ALL	4	25	
	A1060	60201-0600	18-INCH PIPE CULVERT	LNFT				29				1	30	
	A1080	60201-0800	24-INCH PIPE CULVERT	LNFT				255				15	270	
	A1100	60210-0600	END SECTION FOR 18-INCH PIPE CULVERT,(CONCRETE)	EACH				1					1	
	A1120	60210-0800	END SECTION FOR 24-INCH PIPE CULVERT,(CONCRETE)	EACH				6					6	
	A1140	60212-0600	ELBOW, 18-INCH	EACH				1					1	
	A1160	60404-1000	CATCH BASIN, FLH TYPE 1,(METAL FRAME AND GRATE TYPE A)	EACH				2					2	
	A1180	60901-2900	CURB, STONE, TYPE 1, 6-INCH DEPTH	LNFT							219		219	Contract Quantity,
	A1200	60901-3500	CURB, STONE, TYPE 1, 12-INCH DEPTH	LNFT	46	654						50	750	
	A1220	61301-0000	SIMULATED STONE MASONRY SURFACE TREATMENT	SQYD	163							17	180	
	A1240	61302-0000	SIMULATED STONE MASONRY TEST WALL	EACH	1								1	
	A1260	61501-0100	SIDEWALK, CONCRETE	SQYD	22	261						17	300	
	A1280	61504-1000	ACCESSIBILITY RAMP, CONCRETE	SQYD	7	10						3	20	
	A1300	61509-0000	DETECTABLE WARNING PANELS	SQYD	1.1	1.3						0.6	3	
	A1320	62001-1000	CLASS B MASONRY, ROCK FACE FINISH	CUYD							8		8	Contract Quantity,
	A1340	62010-1000	STONE MASONRY GUARDWALL	LNFT		187						3	190	
	A1360	62010-1000	STONE MASONRY GUARDWALL,(CONCRETE CORE)	LNFT	310								310	
	A1380	62011-0500	STONE MASONRY HEADWALL FOR 24-INCH PIPE CULVERT	EACH				6					6	
	A1400	62201-0250	DUMP TRUCK, 10 CUBIC YARD MINIMUM CAPACITY	HOUR									124	
	A1420	62201-0600	BACKHOE LOADER, 8 CUBIC FOOT MINIMUM RATED CAPACITY BUCKET, 30-INCH WIDTH	HOUR									100	
	A1440	62201-0950	WHEEL LOADER, 3 CUBIC YARD MINIMUM RATED CAPACITY	HOUR									24	
	A1460	62201-3150	HYDRAULIC EXCAVATOR, CRAWLER MOUNTED, 1.0 CUBIC YARD MINIMUM CAPACITY WITH THUMB ATTACHMENT	HOUR									100	
	A1480	62301-0000	GENERAL LABOR	HOUR									100	
	A1500	62302-1000	SPECIAL LABOR, HIRED TECHNICAL SERVICES,(FISH BIOLOGIST)	HOUR									100	
	A1520	62405-0300	PLACING CONSERVED TOPSOIL, 4-INCH DEPTH	SQYD	5032	1968						400	7400	
	A1540	62502-0000	TURF ESTABLISHMENT	SQYD	9360	2560						580	12500	
	A1560	62901-1000	ROLLED EROSION CONTROL PRODUCT, TYPE 3.B	SQYD			5117					283	5400	
	A1580	63302-0000	SIGN SYSTEM	SQFT						32.25		7.75	40	
	A1600	63316-1000	REMOVE AND RESET SIGN	EACH						5			5	
	A1620	63318-1000	SNOW POLE HOLDER	EACH						14			14	
	A1640	63401-0300	PAVEMENT MARKINGS, TYPE B, SOLID,(WHITE)	LNFT						9572		128	9700	

Milestone: 100% Milestone; Date Completed: 4/8/2026

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	B.3

SUMMARY OF QUANTITIES - Schedule A

AMEND	LINE ITEM NO.	PAY ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT	Sheet and Description							ALLOW-ANCE	Estimated Quantities	Remarks and/or Determination of Estimated Quantity
					SECTION D	SECTION E	SECTION F	SECTION G	SECTION I	SECTION J	SECTION S			
					PLAN-PROFILE	PARKING	SOIL EROSION AND SEDIMENT CONTROL	DRAINAGE	TEMPORARY TRAFFIC CONTROL	PERMANENT TRAFFIC CONTROL	BRIDGE		BID SCHEDULE	
	A1660	63401-0300	PAVEMENT MARKINGS, TYPE B, SOLID,(YELLOW)	LNFT						5026		74	5100	
	A1680	63401-0400	PAVEMENT MARKINGS, TYPE B, BROKEN	LNFT						258		12	270	
	A1700	63403-0900	PAVEMENT MARKINGS, TYPE I	SQFT						146		4	150	
	A1720	63405-0850	PAVEMENT MARKINGS, TYPE B, ACCESSIBILITY SYMBOL	EACH						2			2	
	A1740	63502-0600	TEMPORARY TRAFFIC CONTROL, BARRICADE TYPE 3,(8 FEET WIDE)	EACH					6			4	10	
	A1760	63502-0900	TEMPORARY TRAFFIC CONTROL, CONE, TYPE 28-INCH	EACH					60				60	
	A1780	63502-1250	TEMPORARY TRAFFIC CONTROL, TUBULAR MARKER, TYPE 42-INCH	EACH					12				12	
	A1800	63502-1300	TEMPORARY TRAFFIC CONTROL, DRUM	EACH					100				100	
	A1820	63502-1500	TEMPORARY TRAFFIC CONTROL, WARNING LIGHT TYPE A	EACH					12				12	
	A1840	63502-1600	TEMPORARY TRAFFIC CONTROL, WARNING LIGHT TYPE B	EACH					10				10	
	A1860	63502-1700	TEMPORARY TRAFFIC CONTROL, WARNING LIGHT TYPE C	EACH					100				100	
	A1880	63502-2000	TEMPORARY TRAFFIC CONTROL, PORTABLE CHANGEABLE MESSAGE SIGN	EACH					3				3	
	A1900	63502-3100	TEMPORARY TRAFFIC CONTROL, TRAFFIC SIGNAL SYSTEM	EACH					1				1	
	A1920	63503-0700	TEMPORARY TRAFFIC CONTROL, PAVEMENT MARKINGS	LNFT					60				60	
	A1940	63503-1000	TEMPORARY TRAFFIC CONTROL, PLASTIC FENCE,(ORANGE, PERIMETER)	LNFT			1830					270	2100	
	A1960	63504-1000	TEMPORARY TRAFFIC CONTROL, CONSTRUCTION SIGN	SQFT			10.5		630.5			69	710	
	A1980	63506-0500	TEMPORARY TRAFFIC CONTROL, FLAGGER	HOUR					2500				2500	
	A2000	63507-0700	TEMPORARY TRAFFIC CONTROL, TRAFFIC CONTROL SUPERVISOR	DAY					550				550	
	A2020	63610-0000	CONDUIT,(8-INCH HDPE)	LNFT	300							30	330	
	A2040	63621-1000	UTILITY BOX, PULLBOX	EACH	4								4	
	A2060	63701-0000	FIELD OFFICE	EACH									37	Each unit equals a month
	A2080	64603-0500	FIXTURE, BICYCLE STORAGE RACK	EACH		3							3	
	A2100	64604-3000	FIXTURE, PEDESTRIAN RAILING,(STONE-TIMBER)	LNFT		285						15	300	
	A2120	64703-1000	MITIGATION, LANDSCAPING LOG	EACH	63								63	
	A2140	64703-8000	MITIGATION, BANK STABILIZATION,(DEFLECTOR LOG STRUCTURE)	EACH				1					1	
	A2160	64707-1000	MITIGATION, ARCHAEOLOGICAL SITE MONITORING	HOUR									100	

Milestone: 100% Milestone; Date Completed: 4/8/2026

SUMMARY OF QUANTITIES - Schedule B

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	B.4

AMEND	LINE ITEM NO.	PAY ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT	Sheet and Description							ALLOW-ANCE	Estimated Quantities	Remarks and/or Determination of Estimated Quantity
					SECTION D	SECTION E	SECTION F	SECTION G	SECTION I	SECTION J	SECTION S			
					PLAN-PROFILE	PARKING	SOIL EROSION AND SEDIMENT CONTROL	DRAINAGE	TEMPORARY TRAFFIC CONTROL	PERMANENT TRAFFIC CONTROL	BRIDGE		BID SCHEDULE	
	B0100	15101-0000	MOBILIZATION	LPSM									ALL	
	B0120	15201-0000	CONSTRUCTION SURVEY AND STAKING	LPSM									ALL	
	B0140	15301-0000	CONTRACTOR QUALITY CONTROL	LPSM									ALL	
	B0160	15401-0000	CONTRACTOR TESTING	LPSM									ALL	
	B0180	15501-0000	CONSTRUCTION SCHEDULE	LPSM									ALL	
	B0200	15702-6000	SOIL EROSION CONTROL, TEMPORARY STREAM DIVERSION	LPSM			ALL						ALL	
	B0220	15703-2500	SOIL EROSION CONTROL, MULCHING, HYDRAULIC METHOD	ACRE			0.5						0.5	
	B0240	15705-0100	SOIL EROSION CONTROL, SILT FENCE	LNFT			750					80	830	
	B0260	15705-1400	SOIL EROSION CONTROL, FIBER ROLL	LNFT			180					20	200	
	B0280	15706-0200	SOIL EROSION CONTROL, CHECK DAM,(FIBER ROLL)	EACH			66					4	70	
	B0300	15706-1100	SOIL EROSION CONTROL, INLET PROTECTION TYPE A	EACH			2					2	4	
	B0320	15706-1600	SOIL EROSION CONTROL, STABILIZED CONSTRUCTION EXIT	EACH			3						3	
	B0340	15706-2300	SOIL EROSION CONTROL, ON-SITE CONCRETE WASHOUT STRUCTURE	EACH			3						3	
	B0360	15802-0000	WATERING FOR DUST CONTROL	LPSM									ALL	
	B0380	20101-0000	CLEARING AND GRUBBING	ACRE	1.5	0.7						0.1	2.3	
	B0400	20301-2400	REMOVAL OF SIGN	EACH						7			7	
	B0420	20303-3500	REMOVAL OF STONE MASONRY,(AND SALVAGE)	SQYD				15			ALL	5	20	
	B0440	20304-2000	REMOVAL OF BRIDGE	LPSM									ALL	
	B0460	20401-0000	ROADWAY EXCAVATION	CUYD	11037	5569						1894	18500	
	B0480	20465-0000	CONSERVE AND PLACE BOULDER,(EXCAVATED)	EACH	30								30	
	B0500	20465-0000	CONSERVE AND PLACE BOULDER,(SURFACE)	EACH	52								52	
	B0520	20701-0100	SEPARATION-STABILIZATION GEOTEXTILE, CLASS 1, TYPE A	SQYD				148				52	200	
	B0540	20701-0800	SEPARATION-STABILIZATION GEOTEXTILE, CLASS 2, TYPE C	SQYD				800				100	900	
	B0560	20801-0000	STRUCTURE EXCAVATION	CUYD							ALL		720	Contract Quantity,
	B0580	20810-0000	SHORING AND BRACING	LPSM									ALL	
	B0600	21101-1000	ROADWAY OBLITERATION, METHOD 1	SQYD	669							31	700	
	B0620	25101-0200	PLACED RIPRAP, METHOD A, CLASS 2	CUYD				46				4	50	
	B0640	25101-0500	PLACED RIPRAP, METHOD A, CLASS 5	CUYD				795				105	900	
	B0660	25501-0000	MECHANICALLY STABILIZED EARTH WALL	SQFT	ALL							145	2600	
	B0680	25701-0200	CONTRACTOR FURNISHED MECHANICALLY STABILIZED EARTH WALL DESIGN	LPSM									ALL	
	B0700	30201-2000	ROADWAY AGGREGATE, METHOD 2	CUYD	676	525						99	1300	
	B0720	30302-1000	DITCH RECONDITIONING	LNFT				618				32	650	
	B0740	40301-0100	ASPHALT CONCRETE PAVEMENT, TYPE 1	TON	733	335						32	1100	
	B0760	40303-0100	ASPHALT CONCRETE PAVEMENT, TYPE 1, WEDGE AND LEVELING COURSE	TON	56							44	100	
	B0780	41201-0000	TACK COAT	TON	1.4	0.6							2	
	B0800	41301-0000	ASPHALT PAVEMENT MILLING,(VARIABLE UP TO 4-INCH DEPTH)	SQYD	1294							106	1400	
	B0820	55201-0200	STRUCTURAL CONCRETE, CLASS A (AE)	CUYD							216		216	Contract Quantity,
	B0840	55201-0800	STRUCTURAL CONCRETE, CLASS D (AE)	CUYD							312		312	Contract Quantity,
	B0860	55203-2000	STRUCTURAL CONCRETE, CLASS D (AE), FOR APPROACH SLABS, TYPE 2	CUYD							39		39	Contract Quantity,
	B0880	55235-0000	EXPANSION JOINTS	LNFT							60		60	Contract Quantity,

Milestone: 100% Milestone; Date Completed: 4/8/2026

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	B.5

SUMMARY OF QUANTITIES - Schedule B

AMEND	LINE ITEM NO.	PAY ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT	Sheet and Description							ALLOW-ANCE	Estimated Quantities	Remarks and/or Determination of Estimated Quantity
					SECTION D	SECTION E	SECTION F	SECTION G	SECTION I	SECTION J	SECTION S			
					PLAN-PROFILE	PARKING	SOIL EROSION AND SEDIMENT CONTROL	DRAINAGE	TEMPORARY TRAFFIC CONTROL	PERMANENT TRAFFIC CONTROL	BRIDGE		BID SCHEDULE	
	B0900	55401-1000	REINFORCING STEEL	LB							27000		27000	Contract Quantity,
	B0920	55401-2000	REINFORCING STEEL, EPOXY COATED	LB							84500		84500	Contract Quantity,
	B0940	55502-0000	STRUCTURAL STEEL, FURNISHED, FABRICATED, AND ERECTED	LB							591000		591000	Contract Quantity,
	B0960	55601-0900	BRIDGE RAILING, STEEL,(YELLOWSTONE PICKET RAIL)	LNFT							413		413	Contract Quantity,
	B0980	56401-1000	BEARING DEVICE, ELASTOMERIC	EACH							8		8	Contract Quantity,
	B1000	56501-0600	DRILLED SHAFT, 48-INCH DIAMETER	LNFT							417		417	Contract Quantity,
	B1020	57502-0000	TEMPORARY BRIDGE,(WORK BRIDGE)	LPSM									ALL	
	B1040	60201-0400	12-INCH PIPE CULVERT	LNFT				21			ALL	4	25	
	B1060	60201-0600	18-INCH PIPE CULVERT	LNFT				29				1	30	
	B1080	60201-0800	24-INCH PIPE CULVERT	LNFT				255				15	270	
	B1100	60210-0600	END SECTION FOR 18-INCH PIPE CULVERT,(CONCRETE)	EACH				1					1	
	B1120	60210-0800	END SECTION FOR 24-INCH PIPE CULVERT,(CONCRETE)	EACH				6					6	
	B1140	60212-0600	ELBOW, 18-INCH	EACH				1					1	
	B1160	60404-1000	CATCH BASIN, FLH TYPE 1,(METAL FRAME AND GRATE TYPE A)	EACH				2					2	
	B1180	60901-2900	CURB, STONE, TYPE 1, 6-INCH DEPTH,(STONE CURB AT BRIDGE)	LNFT							219		219	Contract Quantity,
	B1200	60901-3500	CURB, STONE, TYPE 1, 12-INCH DEPTH	LNFT	46	654						50	750	
	B1220	61501-0100	SIDEWALK, CONCRETE	SQYD	22	261						17	300	
	B1240	61504-1000	ACCESSIBILITY RAMP, CONCRETE	SQYD	7	10						3	20	
	B1260	61509-0000	DETECTABLE WARNING PANELS	SQYD	1.1	1.3						0.6	3	
	B1280	62001-1000	CLASS B MASONRY, ROCK FACE FINISH	CUYD							52		52	Contract Quantity,
	B1300	62001-1000	CLASS B MASONRY, ROCK FACE FINISH,(MSE WALL)	CUYD	27							3	30	
	B1320	62010-1000	STONE MASONRY GUARDWALL	LNFT		187						3	190	
	B1340	62010-1000	STONE MASONRY GUARDWALL,(CONCRETE CORE)	LNFT	310								310	
	B1360	62011-0500	STONE MASONRY HEADWALL FOR 24-INCH PIPE CULVERT	EACH				6					6	
	B1380	62201-0250	DUMP TRUCK, 10 CUBIC YARD MINIMUM CAPACITY	HOUR									124	
	B1400	62201-0600	BACKHOE LOADER, 8 CUBIC FOOT MINIMUM RATED CAPACITY BUCKET, 30-INCH WIDTH	HOUR									100	
	B1420	62201-0950	WHEEL LOADER, 3 CUBIC YARD MINIMUM RATED CAPACITY	HOUR									24	
	B1440	62201-3150	HYDRAULIC EXCAVATOR, CRAWLER MOUNTED, 1.0 CUBIC YARD MINIMUM CAPACITY WITH THUMB ATTACHMENT	HOUR									100	
	B1460	62301-0000	GENERAL LABOR	HOUR									100	
	B1480	62302-1000	SPECIAL LABOR, HIRED TECHNICAL SERVICES,(FISH BIOLOGIST)	HOUR									100	
	B1500	62405-0300	PLACING CONSERVED TOPSOIL, 4-INCH DEPTH	SQYD	5032	1968						400	7400	
	B1520	62502-0000	TURF ESTABLISHMENT	SQYD	9360	2560						580	12500	
	B1540	62901-1000	ROLLED EROSION CONTROL PRODUCT, TYPE 3.B	SQYD			5117					283	5400	
	B1560	63302-0000	SIGN SYSTEM	SQFT						32.25		7.75	40	
	B1580	63316-1000	REMOVE AND RESET SIGN	EACH						5			5	
	B1600	63318-1000	SNOW POLE HOLDER	EACH						14			14	
	B1620	63401-0300	PAVEMENT MARKINGS, TYPE B, SOLID,(WHITE)	LNFT						9572		128	9700	
	B1640	63401-0300	PAVEMENT MARKINGS, TYPE B, SOLID,(YELLOW)	LNFT						5026		74	5100	

Milestone: 100% Milestone; Date Completed: 4/8/2026

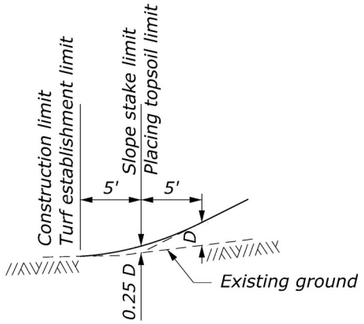
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	B.6

SUMMARY OF QUANTITIES - Schedule B

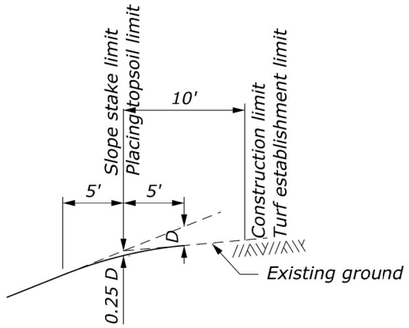
AMEND	LINE ITEM NO.	PAY ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT	Sheet and Description							ALLOW-ANCE	Estimated Quantities	Remarks and/or Determination of Estimated Quantity
					SECTION D	SECTION E	SECTION F	SECTION G	SECTION I	SECTION J	SECTION S			
					PLAN-PROFILE	PARKING	SOIL EROSION AND SEDIMENT CONTROL	DRAINAGE	TEMPORARY TRAFFIC CONTROL	PERMANENT TRAFFIC CONTROL	BRIDGE		BID SCHEDULE	
	B1660	63401-0400	PAVEMENT MARKINGS, TYPE B, BROKEN	LNFT						258		12	270	
	B1680	63403-0900	PAVEMENT MARKINGS, TYPE I	SQFT						146		4	150	
	B1700	63405-0850	PAVEMENT MARKINGS, TYPE B, ACCESSIBILITY SYMBOL	EACH						2			2	
	B1720	63502-0600	TEMPORARY TRAFFIC CONTROL, BARRICADE TYPE 3,(8 FEET WIDE)	EACH					6			4	10	
	B1740	63502-0900	TEMPORARY TRAFFIC CONTROL, CONE, TYPE 28-INCH	EACH					60				60	
	B1760	63502-1250	TEMPORARY TRAFFIC CONTROL, TUBULAR MARKER, TYPE 42-INCH	EACH					12				12	
	B1780	63502-1300	TEMPORARY TRAFFIC CONTROL, DRUM	EACH					100				100	
	B1800	63502-1500	TEMPORARY TRAFFIC CONTROL, WARNING LIGHT TYPE A	EACH					12				12	
	B1820	63502-1600	TEMPORARY TRAFFIC CONTROL, WARNING LIGHT TYPE B	EACH					10				10	
	B1840	63502-1700	TEMPORARY TRAFFIC CONTROL, WARNING LIGHT TYPE C	EACH					100				100	
	B1860	63502-2000	TEMPORARY TRAFFIC CONTROL, PORTABLE CHANGEABLE MESSAGE SIGN	EACH					3				3	
	B1880	63502-3100	TEMPORARY TRAFFIC CONTROL, TRAFFIC SIGNAL SYSTEM	EACH					1				1	
	B1900	63503-0700	TEMPORARY TRAFFIC CONTROL, PAVEMENT MARKINGS	LNFT					60				60	
	B1920	63503-1000	TEMPORARY TRAFFIC CONTROL, PLASTIC FENCE,(ORANGE, PERIMETER)	LNFT			1830					270	2100	
	B1940	63504-1000	TEMPORARY TRAFFIC CONTROL, CONSTRUCTION SIGN	SQFT			10.5		630.5			69	710	
	B1960	63506-0500	TEMPORARY TRAFFIC CONTROL, FLAGGER	HOUR					2500				2500	
	B1980	63507-0700	TEMPORARY TRAFFIC CONTROL, TRAFFIC CONTROL SUPERVISOR	DAY					550				550	
	B2000	63610-0000	CONDUIT,(8-INCH HDPE)	LNFT	300							30	330	
	B2020	63621-1000	UTILITY BOX, PULLBOX	EACH	4								4	
	B2040	63701-0000	FIELD OFFICE	EACH									37	Each unit equals a month
	B2060	64603-0500	FIXTURE, BICYCLE STORAGE RACK	EACH		3							3	
	B2080	64604-3000	FIXTURE, PEDESTRIAN RAILING,(STONE-TIMBER)	LNFT		285						15	300	
	B2100	64703-1000	MITIGATION, LANDSCAPING LOG	EACH	63								63	
	B2120	64703-8000	MITIGATION, BANK STABILIZATION,(DEFLECTOR LOG STRUCTURE)	EACH				1					1	
	B2140	64707-1000	MITIGATION, ARCHAEOLOGICAL SITE MONITORING	HOUR									100	

Milestone: 100% Milestone; Date Completed: 4/8/2026

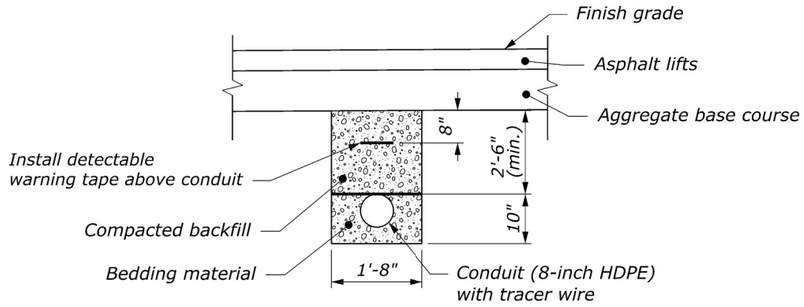
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	C.1



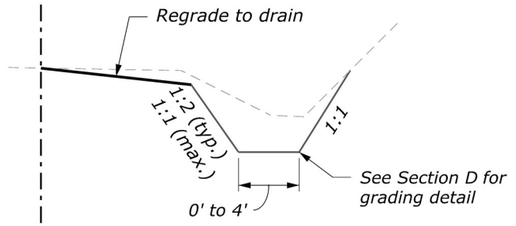
FILL SLOPE ROUNDING



CUT SLOPE ROUNDING

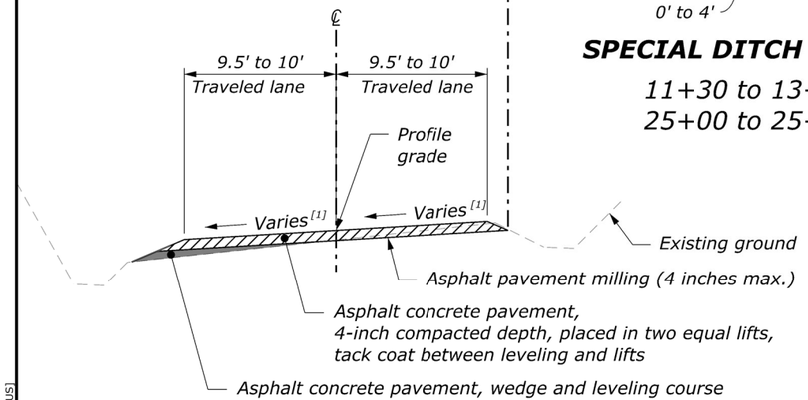


UTILITY CONDUIT TRENCH [3]



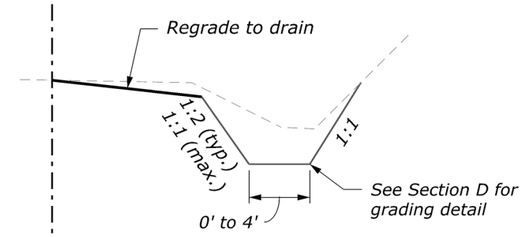
SPECIAL DITCH GRADING [4]

11+30 to 13+32
25+00 to 25+28.50



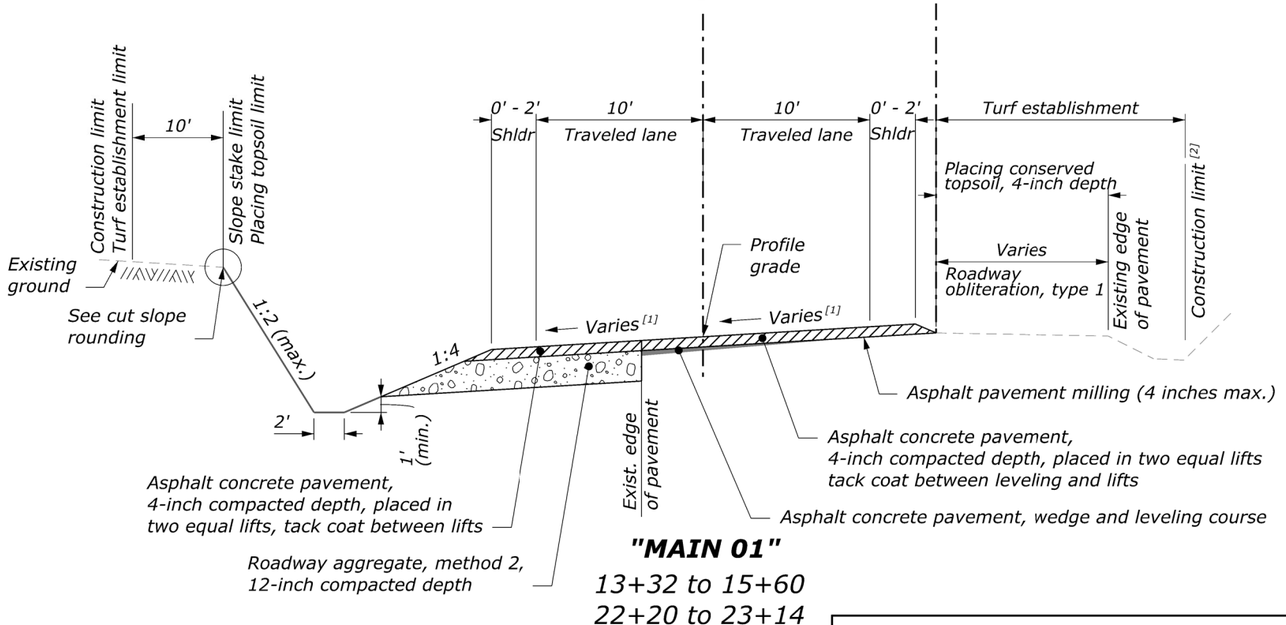
"MAIN 01" [4]

11+30 to 13+32
23+14 to 25+50



SPECIAL DITCH GRADING [4]

15+00 to 15+74



"MAIN 01"

13+32 to 15+60
22+20 to 23+14

FOOTNOTE:

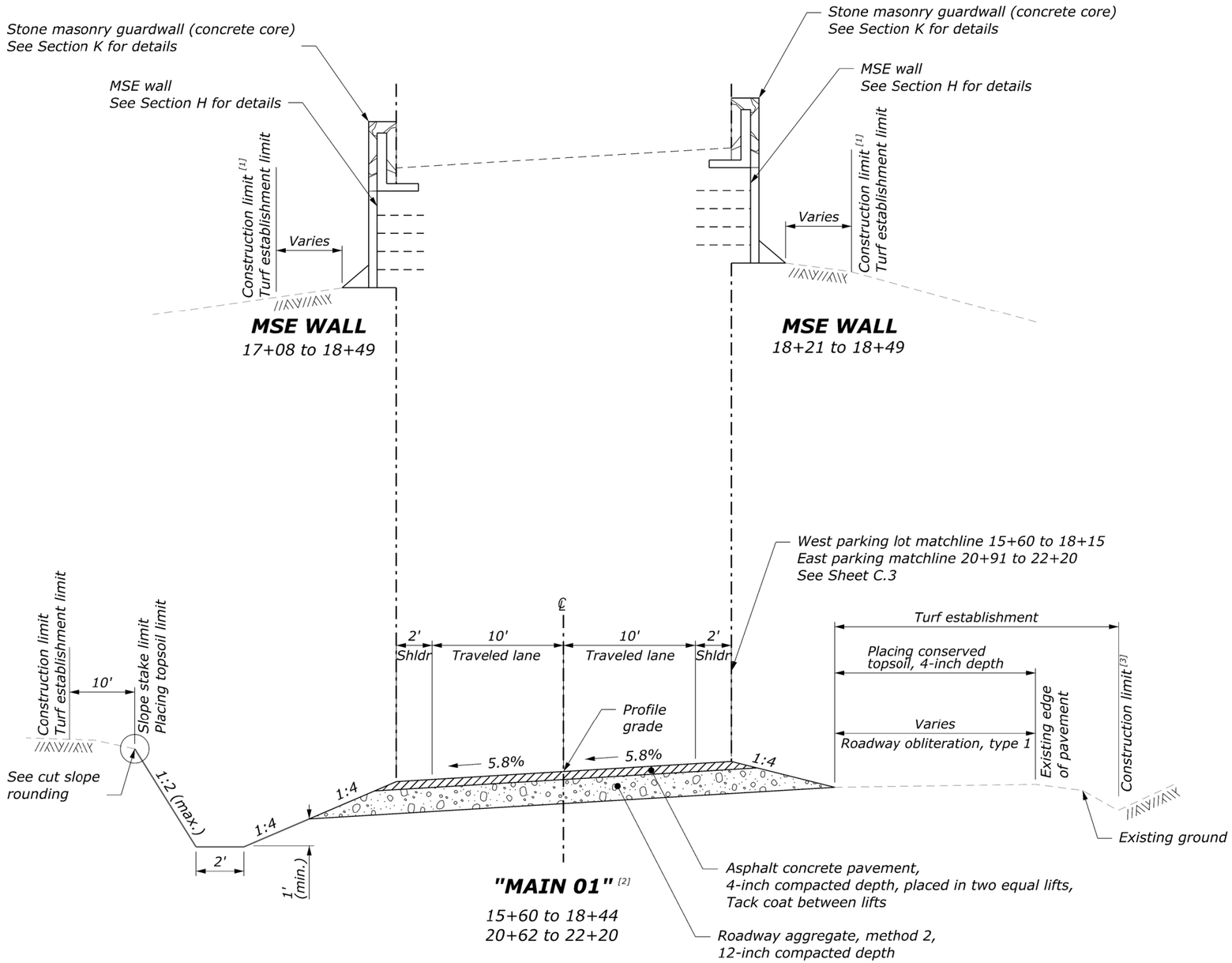
[1] Construct cross-slopes as indicated on the plans and according to the staking notes.
[2] Construction limit is 10 feet from limit of roadway obliteration, or to the back of the existing ditch bottom, whichever is greater.
[3] See D Sheets for locations. See Sheet K.1 for minimum offset from guardwall or Sheet H.2 for placement at MSE wall as applicable.
[4] Establish construction limits according to Fill Slope Rounding and Cut Slope Rounding details.

NO SCALE

TYPICAL SECTION

(SHEET 1 OF 3)

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	C.2



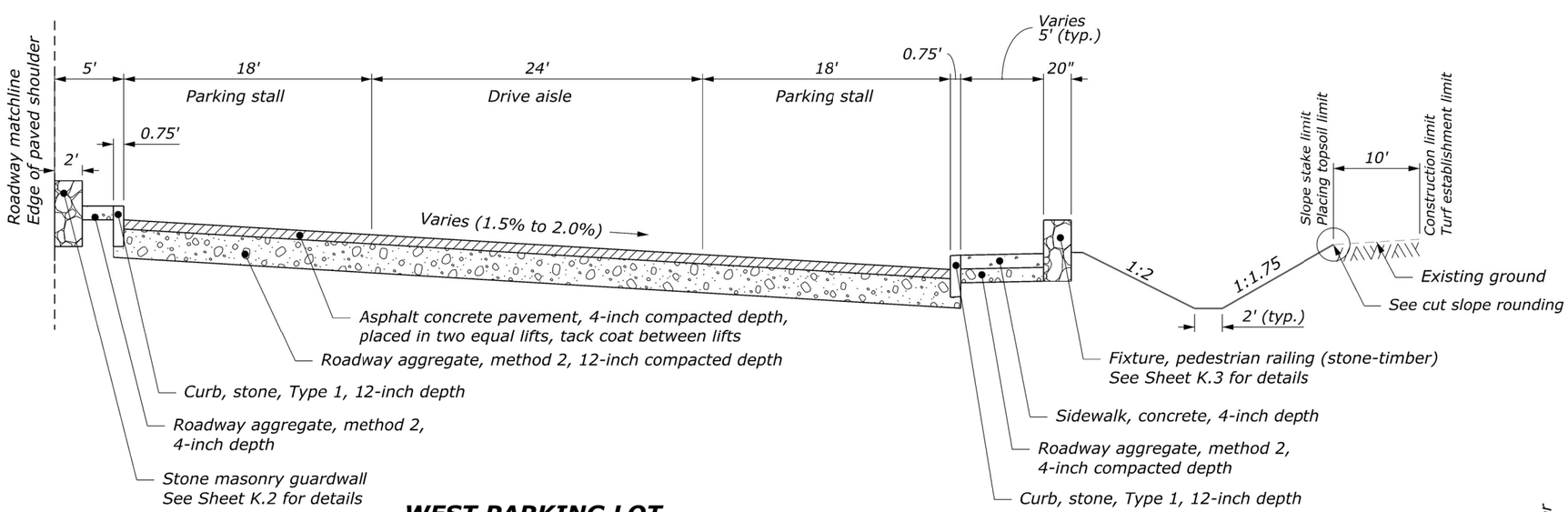
FOOTNOTE:
[1] See Sections D and E for construction limits.
[2] See Section S for the bridge typical section from 18+43.75 to 20+62.25
[3] Construction limit is 10 feet from roadway obliteration limit, or to the back of the existing ditch bottom, whichever is greater.

NO SCALE

TYPICAL SECTION

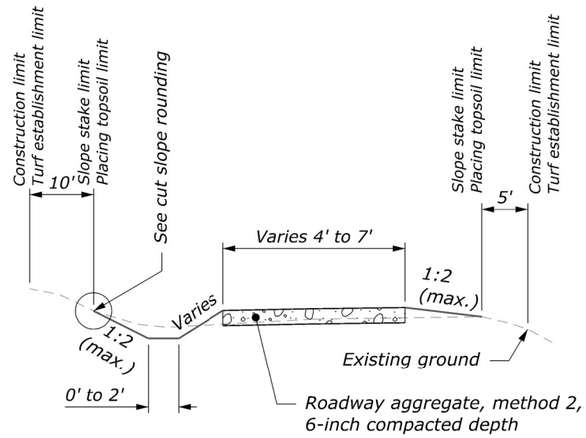
(SHEET 2 OF 3)

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	C.3

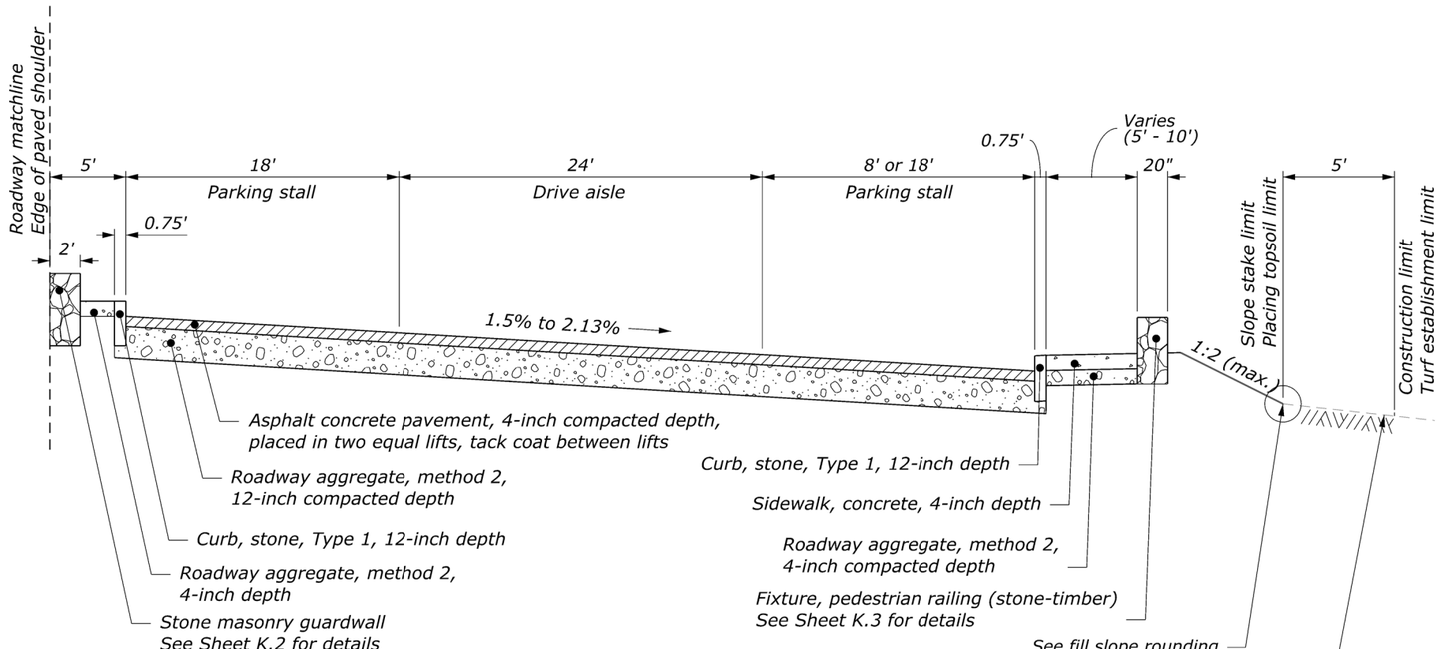


WEST PARKING LOT

Cut section

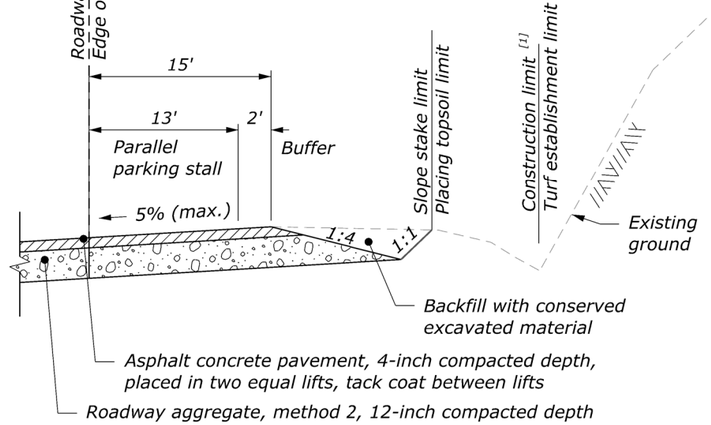


TRAILHEAD



WEST PARKING LOT

Fill section



EAST PARKING

NOTE:
1. See Section E for parking lot, trailhead, and ditch grading.

NO SCALE

FOOTNOTE:

[1] Construction limit is 10 feet from slope stake limit, or to the back of the existing ditch bottom, whichever is greater.

TYPICAL SECTION

(SHEET 3 OF 3)

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	D.1

NPS PMIS No. 239144
NPS Drwg No. 105/197408

PROJECT :Fryingpan Creek Bridge
DATE OF FIELD WORK :Multiple entries
DATE OF FINAL ADJUSTMENT :June 2019

PROJECT UNITS : US SURVEY FOOT
COORDINATE SYSTEM : Washington South scaled to ground
EPOCH DATE :2010.0000
VERTICAL DATUM : Orthometric elevations based on the NAVD88 GEOID12b

POINT NUMBER	PROJECT COORDINATES			GEO COORDINATES				DESCRIPTION
	NORTH	EAST	ELEVATION	LATITUDE	LONGITUDE	ELLIPSOID HEIGHT	COMBINED FACTOR	
19101	59494.213	264131.473	3801.220	46°53'21.468845"N	121°36'23.193564"W	3738.7486	0.999750089	5/8" IR W/FHWA ALUM CAP
19102	59253.943	263804.334	3819.750	46°53'19.052623"N	121°36'27.853694"W	3757.2868	0.999749141	5/8" IR W/FHWA ALUM CAP
19103	59079.353	263606.377	3832.359	46°53'17.302382"N	121°36'30.667644"W	3769.9017	0.999748494	5/8" IR W/FHWA ALUM CAP
19104	59046.342	263362.911	3835.996	46°53'16.942866"N	121°36'34.165233"W	3773.5438	0.999748311	5/8" IR W/FHWA ALUM CAP
19105	59038.557	263220.824	3838.359	46°53'16.846319"N	121°36'36.208742"W	3775.9077	0.999748195	5/8" IR W/FHWA ALUM CAP
19106	59187.651	262973.896	3840.101	46°53'18.283216"N	121°36'39.793062"W	3777.6469	0.999748149	5/8" IR W/FHWA ALUM CAP
19107	59460.394	262907.378	3845.348	46°53'20.965312"N	121°36'40.805788"W	3782.8872	0.999747968	5/8" IR W/FHWA ALUM CAP
19108	59794.576	263045.869	3857.880	46°53'24.282150"N	121°36'38.880160"W	3795.4103	0.999747455	5/8" IR W/FHWA ALUM CAP

NOTE:

1. *To scale coordinates to Washington South State Plane add 510,000.000 to the North and 1,100,000.000 to the East then multiply by the combined scale factor of 0.999748475152*

4-Mar-2026 11:53 c:\pw_work_wfh\d0433907\[mora11-1_pln_D.1.xlsx]Sheet

SURVEY CONTROL

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	D.2

EARTHWORK SUMMARY TABLE

LOCATION	SCHEDULE	MPTI Shrink/Swell Factor	CUT: Item 20401-0000 ROADWAY EXCAVATION	CUT: (+) Additional Excavation (See Note 2) for info only	CUT: (-) Topsoil Stripped from Existing for info only	CUT: (-) Conserved boulders from excavation for info only	CUT: Total Unadjusted Excavation Available for Fill for info only	CUT: Total Adjusted Available for Fill (adjusted based on shrink/swell factor) for info only	FILL: Embankment for info only	FILL: (+) Additional Backfill Needed (See Note 3) for info only	FILL: (+) Topsoil placed on embankment for info only	FILL: (+) Boulders placed on embankment for info only	FILL: Total Fill Needed for info only	TOTALS: Total Adjusted Available For Fill less Total Fill Needed for info only	TOTALS: Waste (50% swell for topsoil; 5% swell for all other excavated material) for info only
UNITS		%	CUYD	CUYD	CUYD	CUYD	CUYD	CUYD	CUYD	CUYD	CUYD	CUYD	CUYD	CUYD	CUYD
"MAIN 01" 11+30 to 13+32	A&B	-3%	85				85	82	11		-		11	71	
"MAIN 01" 13+32 to 15+60	A&B	-3%	2,137				2,137	2,073	11		-		11	2,062	
"MAIN 01" 15+60 to 18+49	A&B	-3%	197				197	191	146		-		146	45	
"MAIN 01" 20+62 to 22+20	A&B	-3%	3,018				3,018	2,928	8		-		8	2,920	
"MAIN 01" 22+20 to 23+14	A&B	-3%	458				458	444	0		-		0	444	
"MAIN 01" 23+14 to 25+50	A&B	-3%	84				84	81	6		-		6	75	
West Parking Lot	A&B	-3%	5,569				5,569	5,402	784		-		784	4,618	
Riprap (for info only)	A&B	-3%	-	795			795	771	-		-		-	771	
Pipe culverts (for info only)	A&B	-3%		616			600	582		588			588	-6	
Fryingpan Creek Bridge regrading at abutments	A&B	-3%	5,058				5,058	4,906	410		-		410	4,496	
Fryingpan Creek Bridge (See S Sheets)	A	-3%	-	670			670	650	-		-		-	650	
Fryingpan Creek Bridge (See S Sheets)	B	-3%	-	720			720	698	-		-		-	698	
MSE Wall (for info only)	A&B	-3%	-	983			983	953	-	762	-		762	191	
Conserved boulders (excavated) (for info only)	A&B	-5%				-53	-53	-50				50		0	
Topsoil (for info only)	A&B	-10%			-941		-941	-847	-		822			25	
SCHEDULE A TOTALS			**16,606**	3,064	-941	-53	18,660	18,167	1,378	1,350	822	50	2,728	16,362	17,723
SCHEDULE B TOTALS			**16,606**	3,114	-941	-53	18,710	18,216	1,378	1,350	822	50	2,728	16,410	17,776

NOTE:

1. All volumes are in-place cubic yards (i.e. in situ or compacted in place).
2. Additional excavation suitable for use in embankment construction (Section 208 Structure Excavation for Fryingpan Creek Bridge and Section 209 Structure Excavation for riprap, culverts and MSE wall).
3. Backfill material needed for MSE wall in addition to select borrow

TABULATION OF QUANTITIES

(SHEET 1 OF 2)

SUNRISE ROAD PLAN AND PROFILE QUANTITIES

SCHEDULE	ITEM	DESCRIPTION	UNIT	QUANTITY	NOTES
A&B	20101-0000	CLEARING AND GRUBBING	ACRE	1.5	
A&B	20401-0000	ROADWAY EXCAVATION	CUYD	11037	
A&B	20465-0000	CONSERVE AND PLACE BOULDER (SURFACE)	EACH	52	Existing roadside barrier rocks
A&B	20465-0000	CONSERVE AND PLACE BOULDER (EXCAVATED)	EACH	30	Oversized boulders encountered in roadway or structure excavation
A&B	21101-1000	ROADWAY OBLITERATION, METHOD 1	SQYD	669	
A&B	30202-2000	ROADWAY AGGREGATE, METHOD 2	CUYD	676	
A&B	40301-0100	ASPHALT CONCRETE PAVEMENT, TYPE 1	TON	737	1.97 TON/CUYD
A&B	40303-0100	ASPHALT CONCRETE PAVEMENT, TYPE 1, WEDGE AND LEVELING	TON	56	1.97 TON/CUYD
A&B	41201-0000	TACK COAT	TON	1.4	0.1 GAL/SQYD, 240 GAL/TON
A&B	41301-0000	ASPHALT PAVEMENT MILLING (UP TO 4-INCH DEPTH)	SQYD	1294	
A&B	60901-3500	CURB, STONE, TYPE 1, 12-INCH DEPTH	LNFT	46	Use salvaged stone masonry from existing structures
A&B	61501-0100	SIDEWALK, CONCRETE	SQYD	22	4-INCH DEPTH; Does not include sidewalk on bridge deck
A&B	61504-1000	ACCESSIBILITY RAMP, CONCRETE	SQYD	7	
A&B	61509-0000	DETECTABLE WARNING PANELS	SQYD	1.1	
A&B	62010-1000	STONE MASONRY GUARDWALL (CONCRETE CORE)	LNFT	310	Use salvaged stone masonry from existing structures
A&B	62405-0300	PLACING CONSERVED TOPSOIL, 4-INCH DEPTH	SQYD	5032	
A&B	62502-0000	TURF ESTABLISHMENT	SQYD	9360	Seeds to be government-provided
A&B	63601-0000	CONDUIT (8-INCH HDPE)	LNFT	300	Empty conduit for future utility
A&B	63621-1000	UTILITY BOX, PULLBOX	EACH	4	
A&B	64703-1000	MITIGATION, LANDSCAPING LOG	EACH	63	Harvest landscaping logs from trees salvaged during clearing operations; Place logs as directed by CO, see Sheet D.10

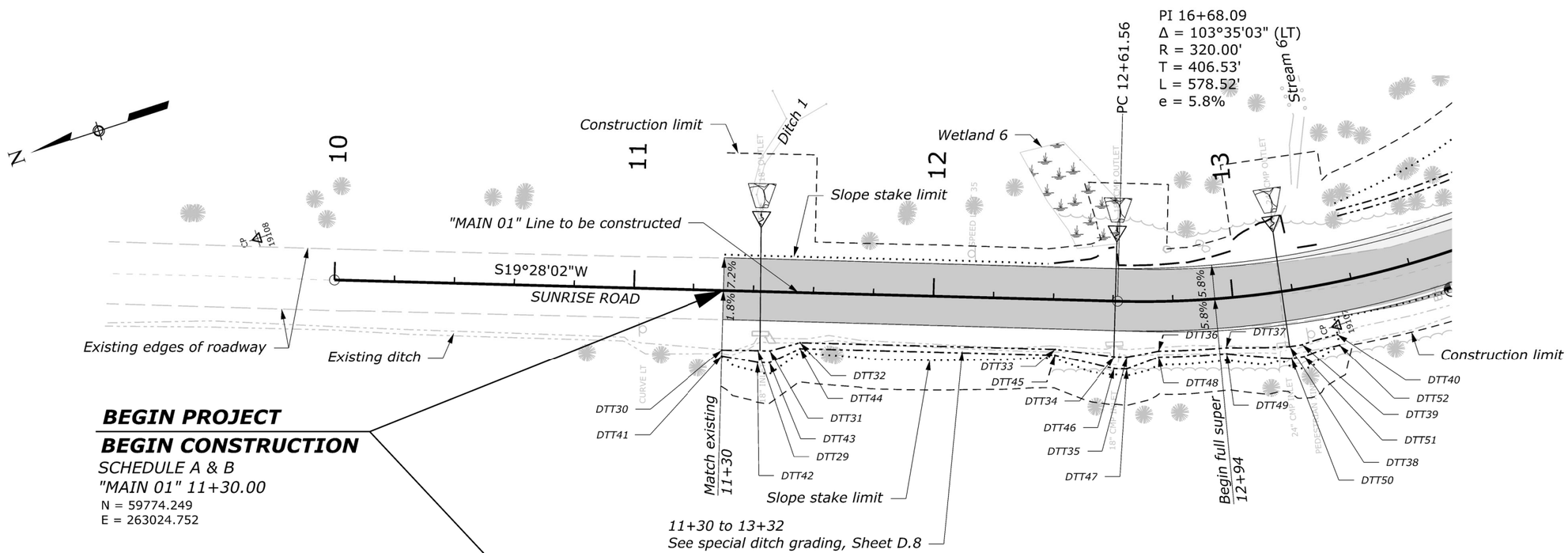
MECHANICALY STABILIZED EARTH WALL QUANTITIES

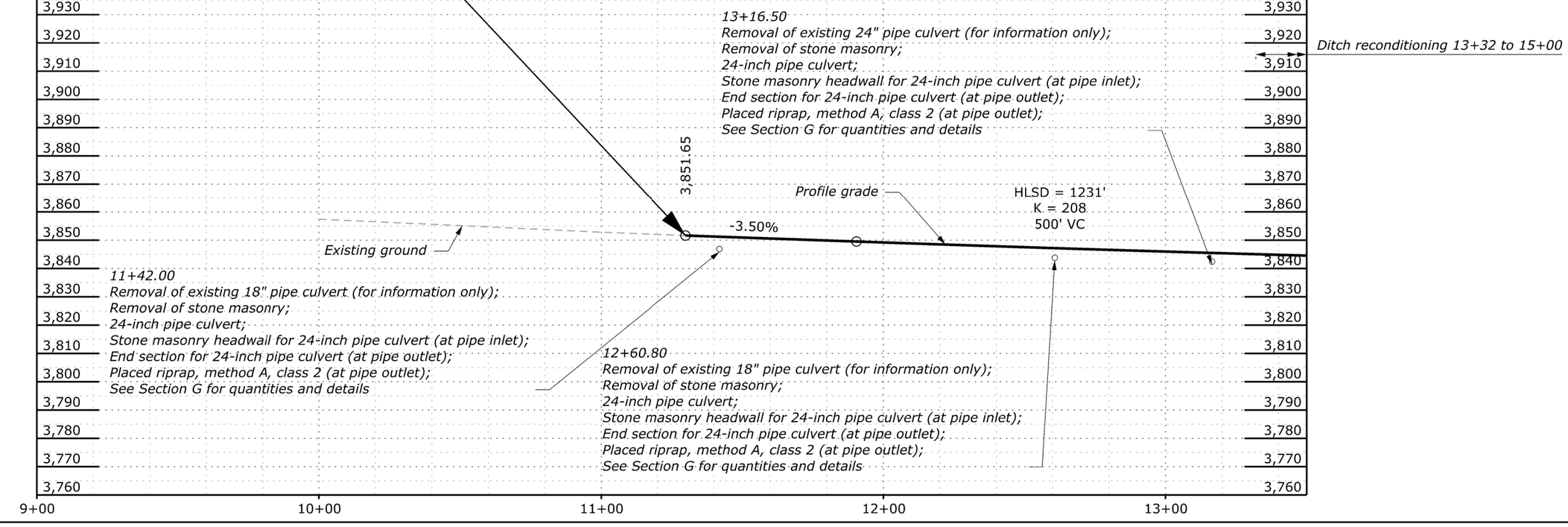
SCHEDULE	ITEM	DESCRIPTION	UNIT	QUANTITY	NOTES
A&B	25501-0000	MECHANICALLY STABILIZED EARTH WALL	SQFT	2455	Includes abutment backfill limits; See Sheet S.07 for details
A&B	25701-0200	CONTRACTOR FURNISHED MECHANICALLY STABILIZED EARTH WALL DESIGN	LPSM	ALL	
A	61301-0000	SIMULATED STONE MASONRY SURFACE TREATMENT	SQYD	163	Does not include wingwall and abutment surfaces
A	61302-0000	SIMULATED STONE MASONRY TEST WALL	EACH	1	
B	62001-1000	CLASS B MASONRY, ROCK FACE FINISH (MSE WALL)	CUYD	27	Does not include wingwall and abutment surfaces

TABULATION OF QUANTITIES

(SHEET 2 OF 2)

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	D.4

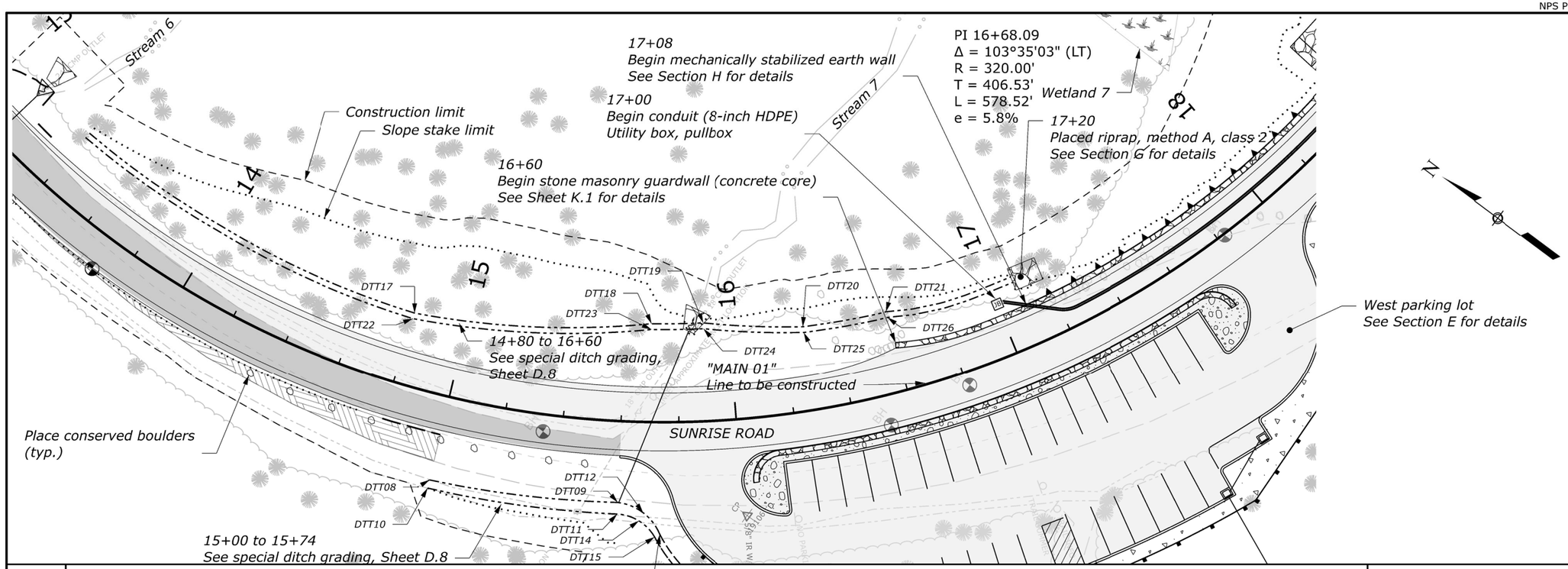


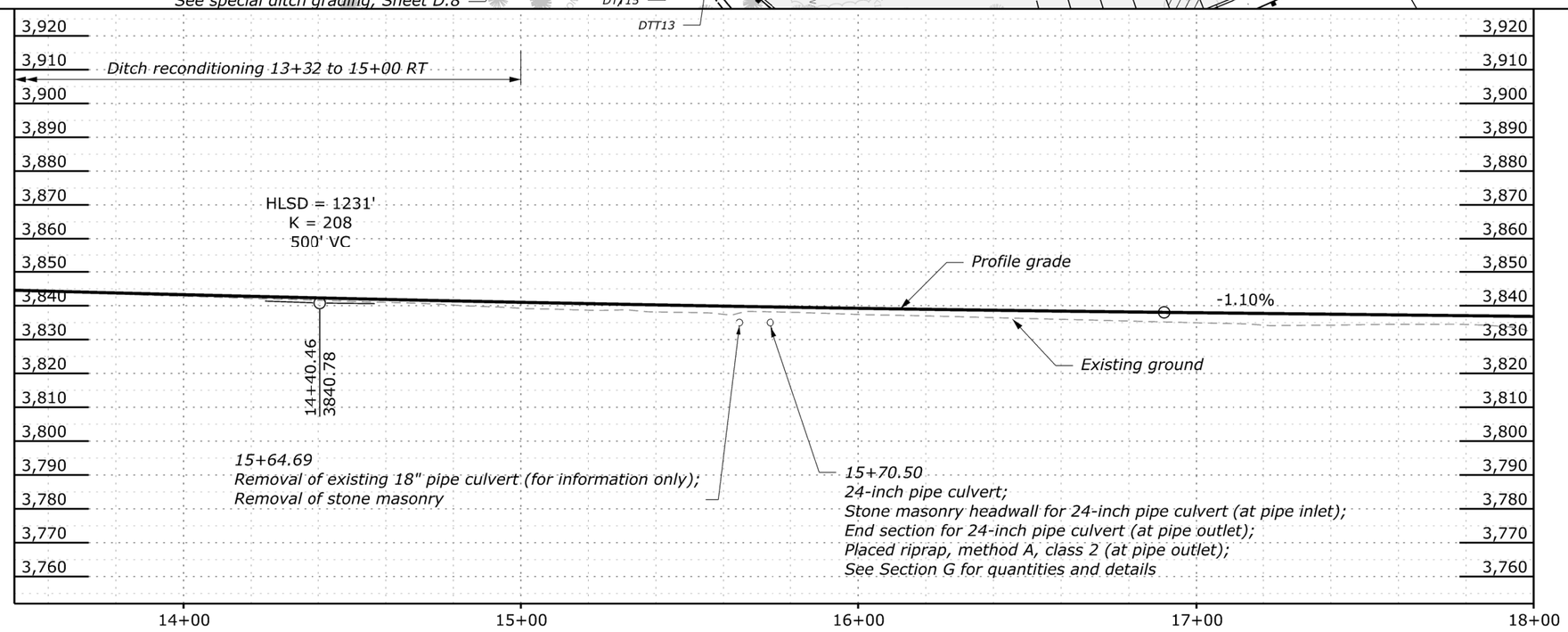


LEGEND:

- Milling & overlay
- Full depth construction
- Roadway obliteration, method 1
- Sidewalk, concrete

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	D.5

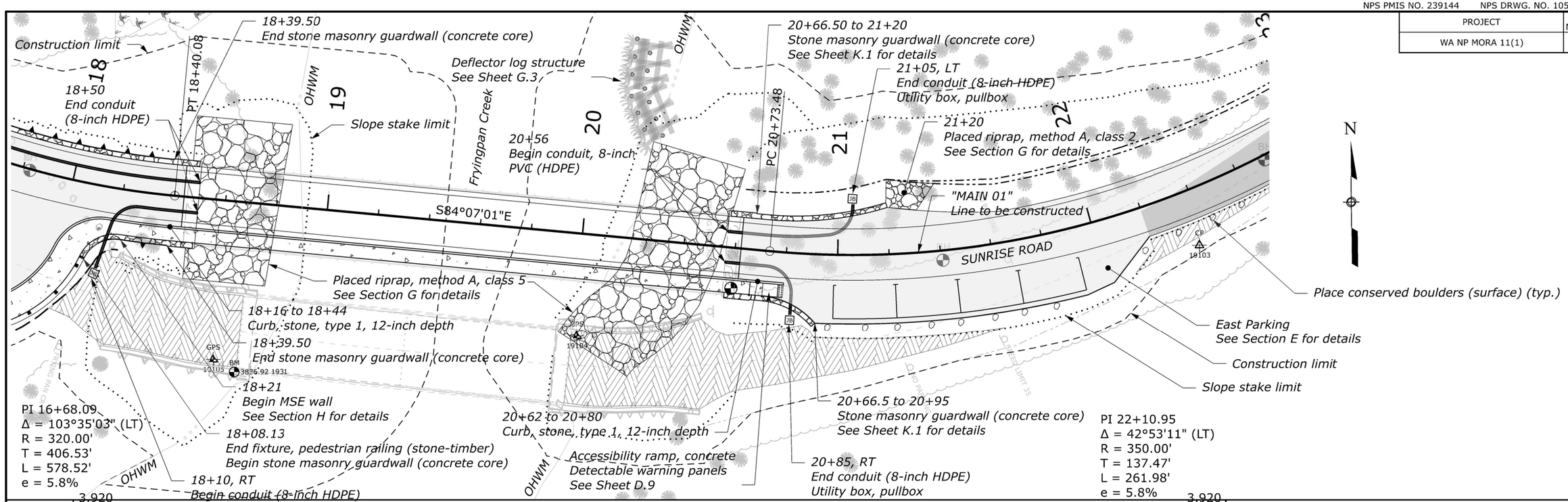


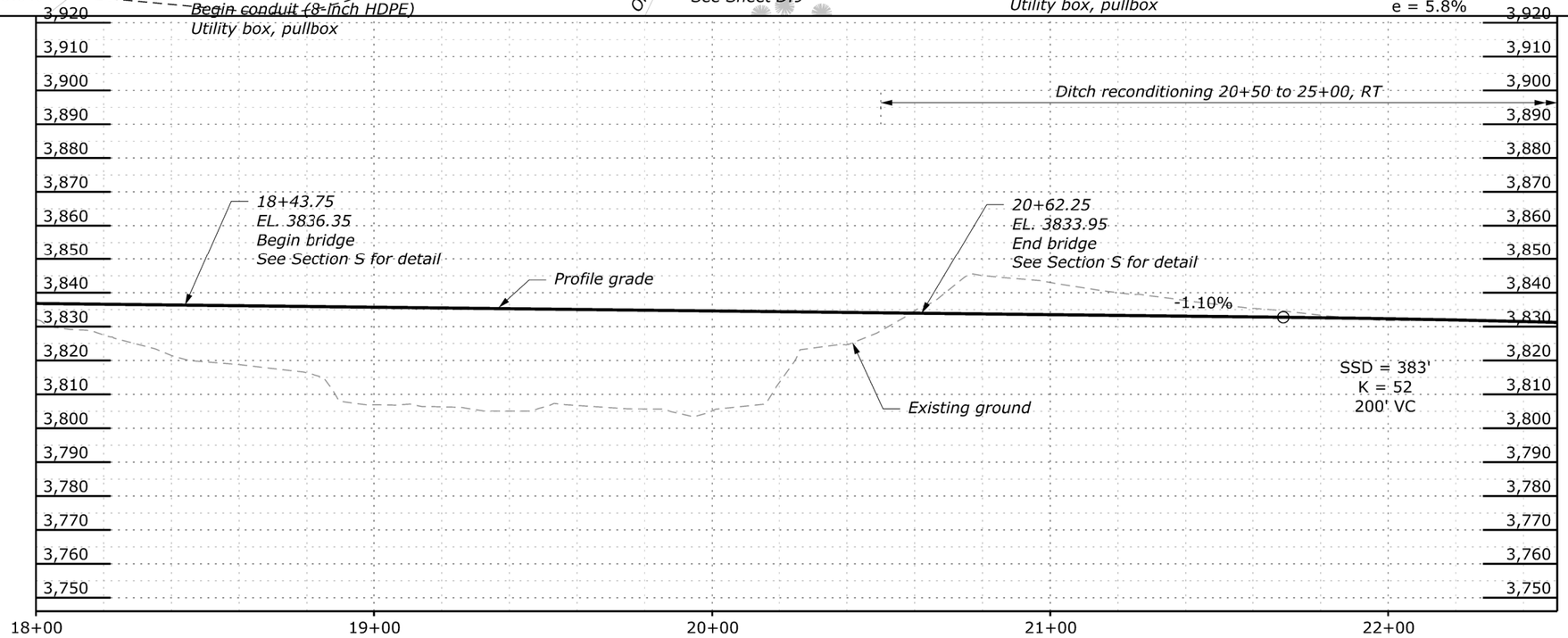


LEGEND:

- Milling & overlay
- Full depth construction
- Roadway obliteration, method 1
- Sidewalk, concrete

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	D.6

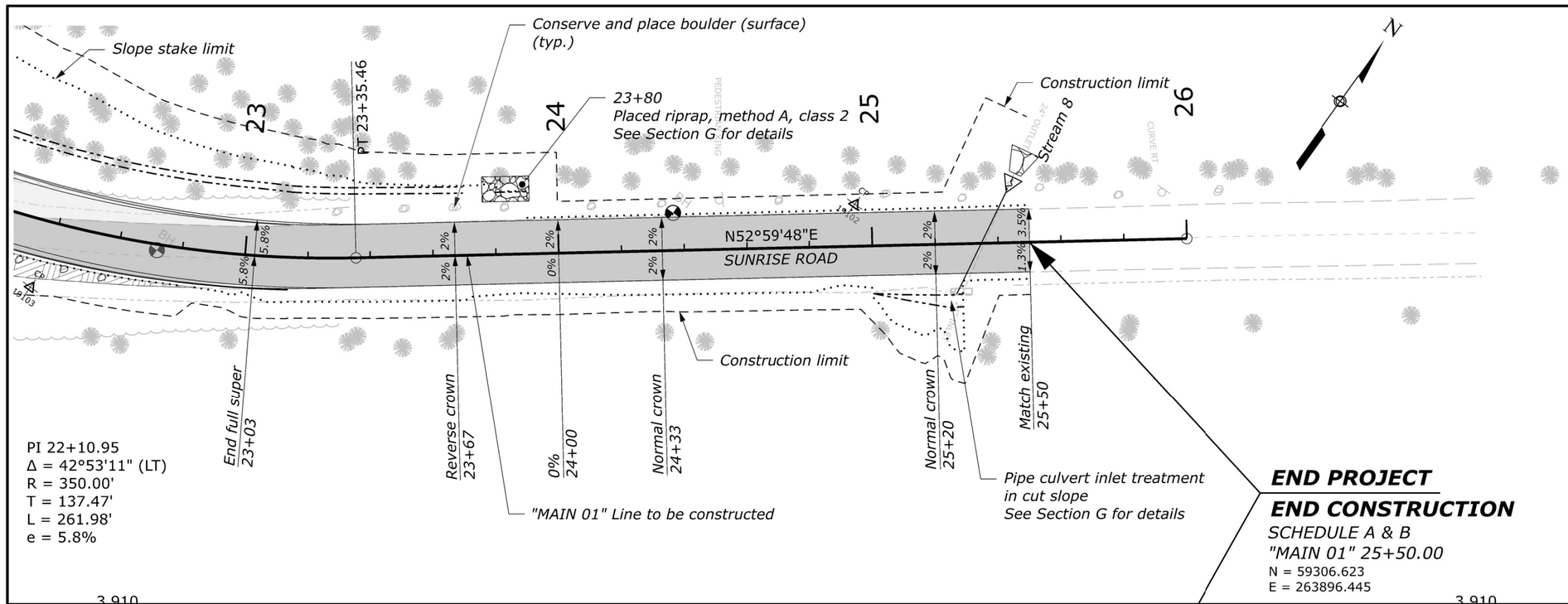




LEGEND:

- Milling & overlay
- Full depth construction
- Roadway obliteration, method 1
- Sidewalk, concrete

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	D.7



LEGEND:

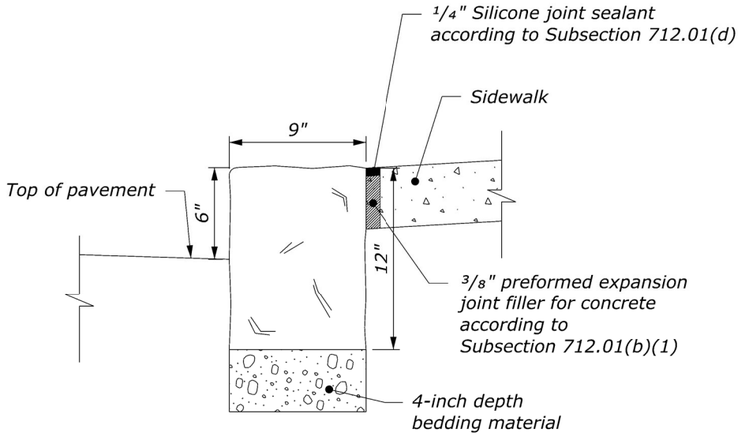
- Milling & overlay
- Full depth construction
- Roadway obliteration, method 1
- Sidewalk, concrete

11+30 to 13+32 DITCH RT			
POINT	**NORTHING**	**EASTING**	**ELEVATION**
DTT29	59646.941	262958.825	3847.13
DTT30	59658.306	262962.681	3848.52
DTT31	59643.169	262957.496	3847.00
DTT32	59632.737	262957.002	3848.18
DTT33	59552.568	262928.754	3845.49
DTT34	59534.372	262920.220	3843.91
DTT35	59530.404	262918.842	3843.79
DTT36	59519.749	262917.501	3844.51
DTT37	59497.919	262911.612	3843.90
DTT38	59477.637	262905.476	3842.31
DTT39	59473.460	262904.794	3842.20
DTT40	59461.252	262904.416	3844.07
DTT41	59658.973	262960.795	3848.52
DTT42	59648.274	262955.054	3847.13
DTT43	59644.502	262953.725	3847.00
DTT44	59633.403	262955.116	3848.18
DTT45	59553.234	262926.869	3845.49
DTT46	59535.705	262916.449	3843.91
DTT47	59531.697	262915.057	3843.79
DTT48	59520.336	262915.589	3844.51
DTT49	59498.376	262909.665	3843.90
DTT50	59478.306	262901.532	3842.31
DTT51	59474.080	262900.842	3842.20
DTT52	59461.682	262900.841	3844.07

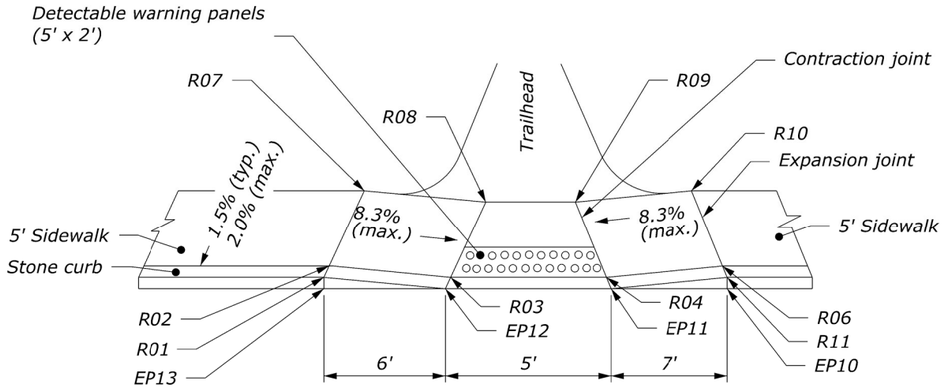
14+80 to 16+60 DITCH LT			
POINT	**NORTHING**	**EASTING**	**ELEVATION**
DTT17	59321.802	262961.401	3837.98
DTT18	59253.949	263007.321	3833.98
DTT19	59239.787	263018.208	3833.65
DTT20	59211.270	263037.772	3834.33
DTT21	59191.345	263059.046	3834.78
DTT22	59321.129	262959.517	3837.98
DTT23	59252.780	263005.698	3833.98
DTT24	59238.519	263016.661	3833.65
DTT25	59209.828	263036.387	3834.33
DTT26	59189.772	263057.811	3834.78

15+00 to 15+74 DITCH RT			
POINT	**NORTHING**	**EASTING**	**ELEVATION**
DTT08	59283.177	262918.127	3844.07
DTT09	59226.365	262950.703	3836.16
DTT10	59282.034	262915.462	3844.07
DTT11	59224.129	262947.387	3836.16
DTT12	59217.232	262953.098	3836.85
DTT13	59208.144	262950.540	3837.54
DTT14	59216.747	262949.969	3836.85
DTT15	59209.024	262948.744	3837.54

SPECIAL DITCH GRADING



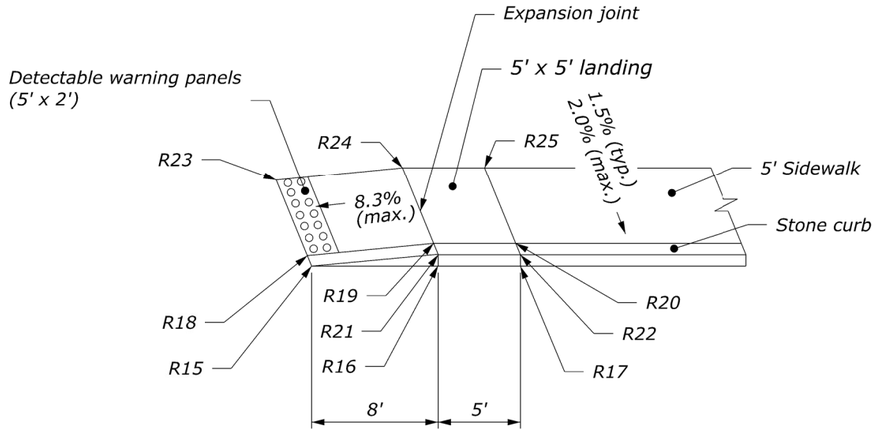
STONE CURB



PERPENDICULAR CURB RAMP

WEST PARKING LOT

PERPENDICULAR CURB RAMP			
POINT	**NORTHING**	**EASTING**	**ELEVATION**
EP10	59091.641	263017.622	3837.98
EP11	59087.838	263023.381	3837.89
EP12	59084.984	263028.066	3837.83
EP13	59081.778	263033.033	3837.78
R01	59081.419	263032.820	3838.26
R02	59081.135	263032.647	3838.26
R03	59084.252	263027.606	3837.83
R04	59087.209	263022.973	3837.89
R06	59091.020	263017.202	3838.47
R07	59076.862	263030.050	3838.34
R08	59080.019	263024.945	3837.90
R09	59083.013	263020.254	3837.96
R10	59086.871	263014.411	3838.54
R11	59091.298	263017.389	3838.47



PARALLEL CURB RAMP

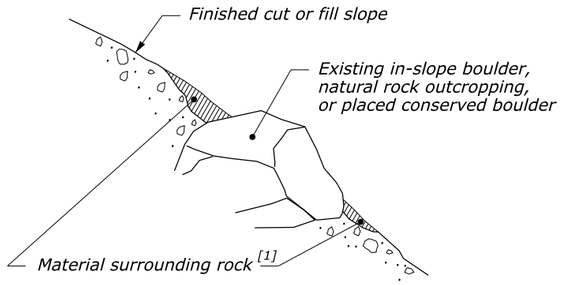
SUNRISE ROAD 20+70

PARALLEL CURB RAMP			
POINT	**NORTHING**	**EASTING**	**ELEVATION**
R15	59066.192	263444.140	3834.45
R16	59066.972	263435.954	3834.53
R17	59067.485	263430.980	3834.59
R18	59065.445	263444.077	3834.46
R19	59066.226	263435.877	3835.03
R20	59066.739	263430.903	3835.09
R21	59066.558	263435.911	3835.03
R22	59067.070	263430.937	3835.09
R23	59059.386	263443.567	3834.55
R24	59061.253	263435.364	3835.11
R25	59061.765	263430.391	3835.16

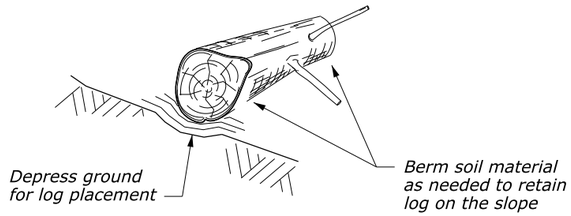
NO SCALE

STONE CURB AND ACCESSIBILITY RAMP

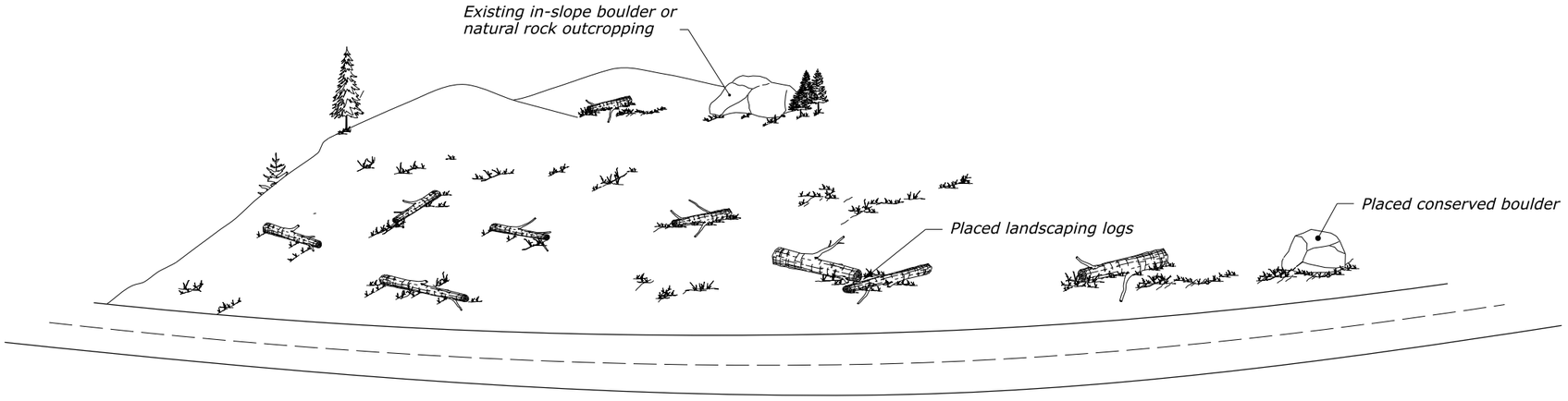
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	D.10



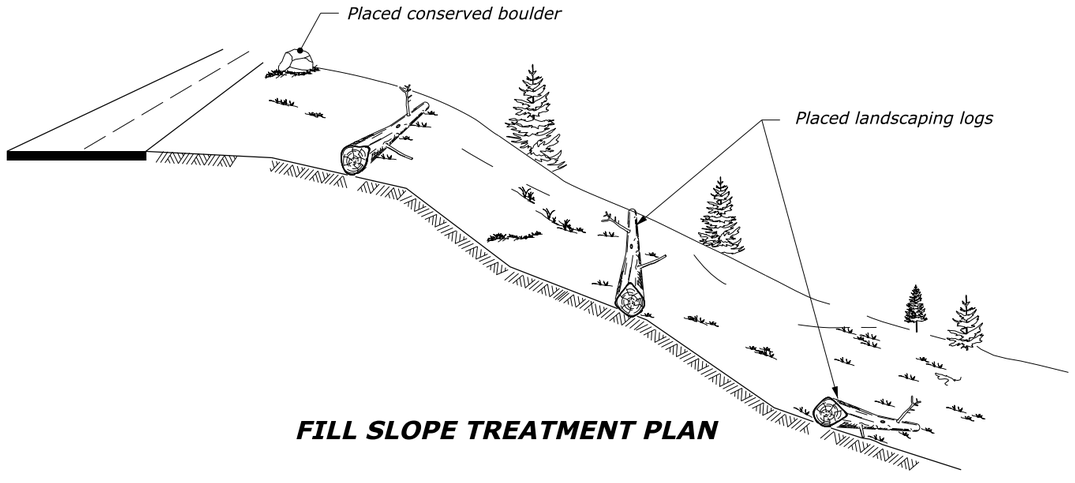
BOULDER DETAIL



LOG PLACEMENT DETAIL



CUT SLOPE TREATMENT PLAN



FILL SLOPE TREATMENT PLAN

NOTE:

1. *Complete slope according to Subsection 204.13(a).*
2. *When blasting, perform work according to Section 205 and Subsections 107.10(f) and 156.04(c).*
3. *Place conserved boulders according to Subsection 204.06(c).*
4. *Place landscaping logs according to Subsection 647.04.*

FOOTNOTE:

[1] Remove surrounding surface material where in-slope boulders and natural rock outcrops are encountered within finished cut slope.

NO SCALE

SLOPE TREATMENT DETAILS

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	E.1

WEST PARKING LOT QUANTITIES

SCHEDULE	ITEM	DESCRIPTION	UNIT	QUANTITY	NOTES
A&B	20101-0000	CLEARING AND GRUBBING	ACRE	0.7	
A&B	20401-0000	ROADWAY EXCAVATION	CUYD	5569	
A&B	30202-2000	ROADWAY AGGREGATE, METHOD 2	CUYD	525	
A&B	40301-0100	ASPHALT CONCRETE PAVEMENT, TYPE 1	TON	335	1.94 TON/CUYD
A&B	41201-0000	TACK COAT	TON	0.6	0.1 GAL/SQYD, 240 GAL/TON
A&B	60901-3500	CURB, STONE, TYPE 1, 12-INCH DEPTH	LNFT	654	Use salvaged stone masonry from existing structures
A&B	61501-0100	SIDEWALK, CONCRETE	SQYD	261	
A&B	61504-1000	ACCESSIBILITY RAMP, CONCRETE	SQYD	10	
A&B	61509-0000	DETECTABLE WARNING PANELS	SQYD	1.3	
A&B	62010-1000	STONE MASONRY GUARDWALL	LNFT	187	Use salvaged stone masonry from existing structures
A&B	62405-0300	PLACING CONSERVED TOPSOIL, 4-INCH DEPTH	SQYD	1968	
A&B	62502-0000	TURF ESTABLISHMENT	SQYD	2560	Seeds to be government-provided
A&B	64603-0500	FIXTURE, BICYCLE STORAGE RACK	EACH	3	
A&B	64604-3000	FIXTURE, PEDESTRIAN RAILING (STONE-TIMBER)	LNFT	285	Use salvaged stone masonry from existing structures; Harvest timber from trees salvaged during clearing operations

TABULATION OF QUANTITIES

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	E.2

N

15

16

17

18

19

Wetland 7

OHWM

PT 18+40.08

S84°07'01"E

Begin stone masonry guardwall
See Sheet K.2 for details
N 59192.577
E 262984.325

End stone masonry guardwall
See Sheet K.2 for details
N 59095.492
E 263133.143

End curb, stone,
type 1, 12-inch depth
See Sheet D.9 for details

Roadway aggregate

Begin curb, stone,
type 1, 12-inch depth

SUNRISE ROAD

Begin curb, stone,
type 1, 12-inch depth
See Sheet D.9 for details

Begin fixture, pedestrian railing (stone-timber)
See Sheet K.3 for details

Fixture, bicycle storage rack
See Sheet E.7

Future
portable toilet [1]

Slope stake limit

Construction limit

End fixture, pedestrian railing (stone-timber)

Accessibility ramp, concrete
Detectable warning panels
See Sheet D.9

Summerland trailhead

20' R

10' R

16' R

24'

5'

15' R

End fixture, pedestrian railing (stone-timber)
See Sheet K.3 for details

Fryingpan Creek

Curb, stone, type 1, 12-inch depth
See Sheet D.9 for details

Catch Basin, FLH Type 1 (Metal Frame and Grate Type A)
12-inch pipe culvert
See Section G for details

Catch Basin, FLH Type 1 (Metal Frame and Grate Type A)
18-inch pipe culvert
End section for 18-inch pipe culvert
Placed riprap, method 2, class A
See Section G for details

24-inch pipe culvert
End section for 24-inch pipe culvert
Placed riprap, method 2, class A
See Section G for details

Begin fixture, pedestrian railing (stone-timber)
See Sheet K.3 for details

LEGEND:

- Sidewalk, concrete
- Fixture, pedestrian railing (stone-timber)
- Roadway aggregate
- Stone masonry guardwall

FOOTNOTE:

[1] Install bicycle storage racks such that there is sufficient installation and access space for a future 5' by 5' ADA portable toilet.

WEST PARKING LOT - LAYOUT

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	E.3

N

15 16 17 18 19

OHWM

S84°07'01"E

SUNRISE ROAD

EP 01 EP 02 EP 03 EP 04 EP 05 EP 06 EP 07 EP 09 EP 10 EP 11 EP 12 EP 13 EP 14 EP 15 EP 16 EP 17 EP 18 EP 19 EP 20 EP 21 EP 22 EP 23 EP 24 EP 25 EP 26 EP 27 EP 28 EP 29 EP 30 EP 31 EP 32 EP 33 EP 34 EP 35 EP 36 EP 37 EP 38 EP 39 EP 40

R07 R08 R09 R10

SW01 SW02 SW03 SW04 SW05 SW06 SW07 SW08 SW09 SW10

TR01 TR02 TR03 TR04 TR05 TR06 TR07 TR08

DTT01 DTT02 DTT03 DTT04 DTT05 DTT06 DTT07

20' R 10' R 40' R 16' R 2' R 337' R 397' R 387' R 379' R

3838' 3839' 3840' 3850'

Proposed ditch

Clearing limit

GPS 19105 BM 3836.92 1931

FRYING PAN CR

Fryingpan Creek

OHWM

WEST PARKING LOT - GRADING DETAILS (SHEET 01 OF 02)

c:\pw_work\wfld\d0497798\mora11-1_pln_E.2-6.dgn [West Parking Lot - Grading Details (Sheet 01 of 02)]

5 January 2026 7:13 AM

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	E.4

WEST PARKING LOT			
POINT	**NORTHING**	**EASTING**	**ELEVATION**
EP01	59235.353	262964.041	3840.57
EP02	59223.360	262967.443	3840.40
EP03	59211.681	262963.080	3840.24
EP04	59184.894	262954.355	3839.71
EP05	59158.992	262965.435	3839.18
EP06	59156.811	262967.538	3839.14
EP07	59153.991	262967.506	3839.09
EP09	59142.770	262956.090	3838.85
EP10	59091.641	263017.622	3837.98
EP11	59087.838	263023.381	3837.89
EP12	59084.889	263028.006	3837.83
EP13	59081.778	263033.033	3837.78
EP14	59057.343	263080.019	3837.20
EP15	59064.675	263083.239	3837.34
EP16	59065.706	263085.863	3837.36
EP17	59062.150	263094.376	3837.27
EP18	59058.798	263102.970	3837.19
EP19	59064.418	263105.085	3837.32
EP20	59065.590	263107.652	3837.33
EP21	59064.674	263110.150	3837.35
EP22	59064.999	263138.352	3837.75
EP23	59083.802	263159.374	3837.89
EP24	59092.492	263168.296	3837.62
EP25	59094.218	263180.630	3837.35
EP26	59176.533	262984.769	3839.56
EP27	59176.731	262981.817	3839.57
EP28	59183.614	262978.644	3839.75
EP29	59191.028	262978.949	3839.96
EP30	59198.097	262986.266	3840.06
EP31	59195.222	262995.875	3839.78
EP32	59107.187	263130.912	3837.90
EP33	59099.473	263137.457	3837.93
EP34	59089.985	263133.909	3837.99
EP35	59086.698	263126.883	3837.90
EP36	59087.101	263119.137	3837.86
EP37	59089.702	263117.845	3837.89
EP38	59104.584	263123.300	3838.08
EP39	59138.822	263055.039	3838.86
EP40	59187.550	262996.240	3839.80

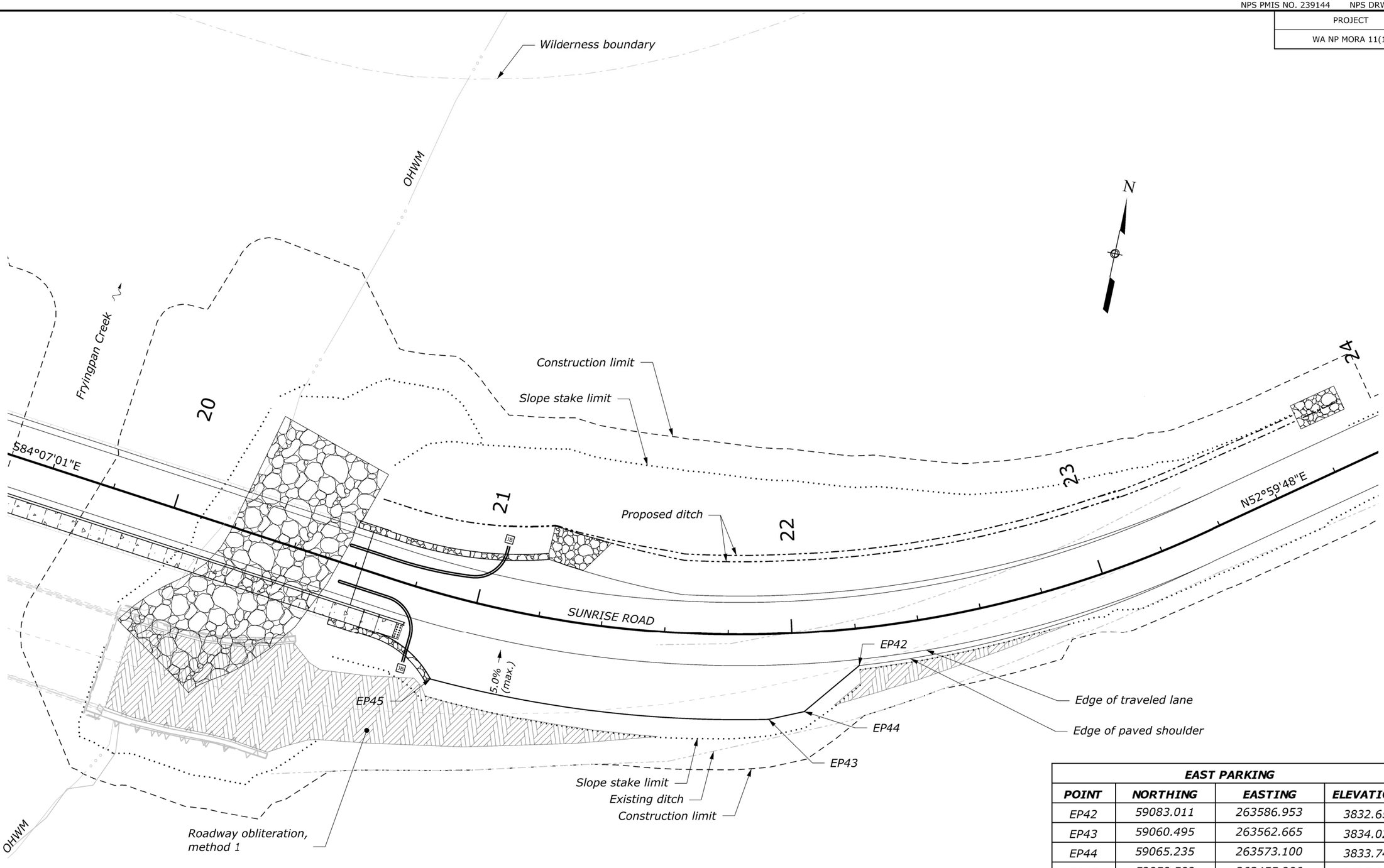
TRAILHEAD			
POINT	**NORTHING**	**EASTING**	**ELEVATION**
TR01	59047.233	263002.124	3843.32
TR02	59044.941	263005.816	3844.08
TR03	59077.160	263014.656	3839.43
TR04	59070.841	263019.709	3839.67
TR05	59083.737	263014.982	3838.77
TR06	59089.156	263011.054	3838.59
TR07	59075.749	263025.842	3838.71
TR08	59074.713	263033.628	3838.30

TRAILHEAD DITCH			
POINT	**NORTHING**	**EASTING**	**ELEVATION**
DTT01	59047.619	263001.202	3842.82
DTT02	59069.901	263006.099	3838.09
DTT03	59070.691	263004.213	3838.09
DTT04	59080.100	263004.859	3835.55
DTT05	59088.198	262998.535	3835.65
DTT06	59079.586	263002.995	3835.92
DTT07	59086.577	262997.363	3835.65

BACK OF SIDEWALK			
POINT	**NORTHING**	**EASTING**	**ELEVATION**
SW01	59191.179	262953.813	3840.34
SW02	59143.478	262948.408	3839.52
SW03	59141.857	262948.961	3839.48
TR06	59089.156	263011.054	3838.59
R10	59086.871	263014.411	3838.54
R09	59083.013	263020.254	3837.96
R08	59080.019	263024.945	3837.90
R07	59076.862	263030.050	3838.34
TR08	59074.713	263033.628	3838.30
SW04	59049.988	263082.567	3837.74
SW05	59049.827	263083.438	3837.75
SW06	59051.568	263125.918	3838.20
SW07	59059.433	263151.061	3838.48
SW08	59079.582	263169.346	3838.52
SW09	59086.156	263175.886	3838.19
SW10	59087.630	263185.042	3837.87

WEST PARKING LOT - GRADING DETAILS (SHEET 02 OF 02)

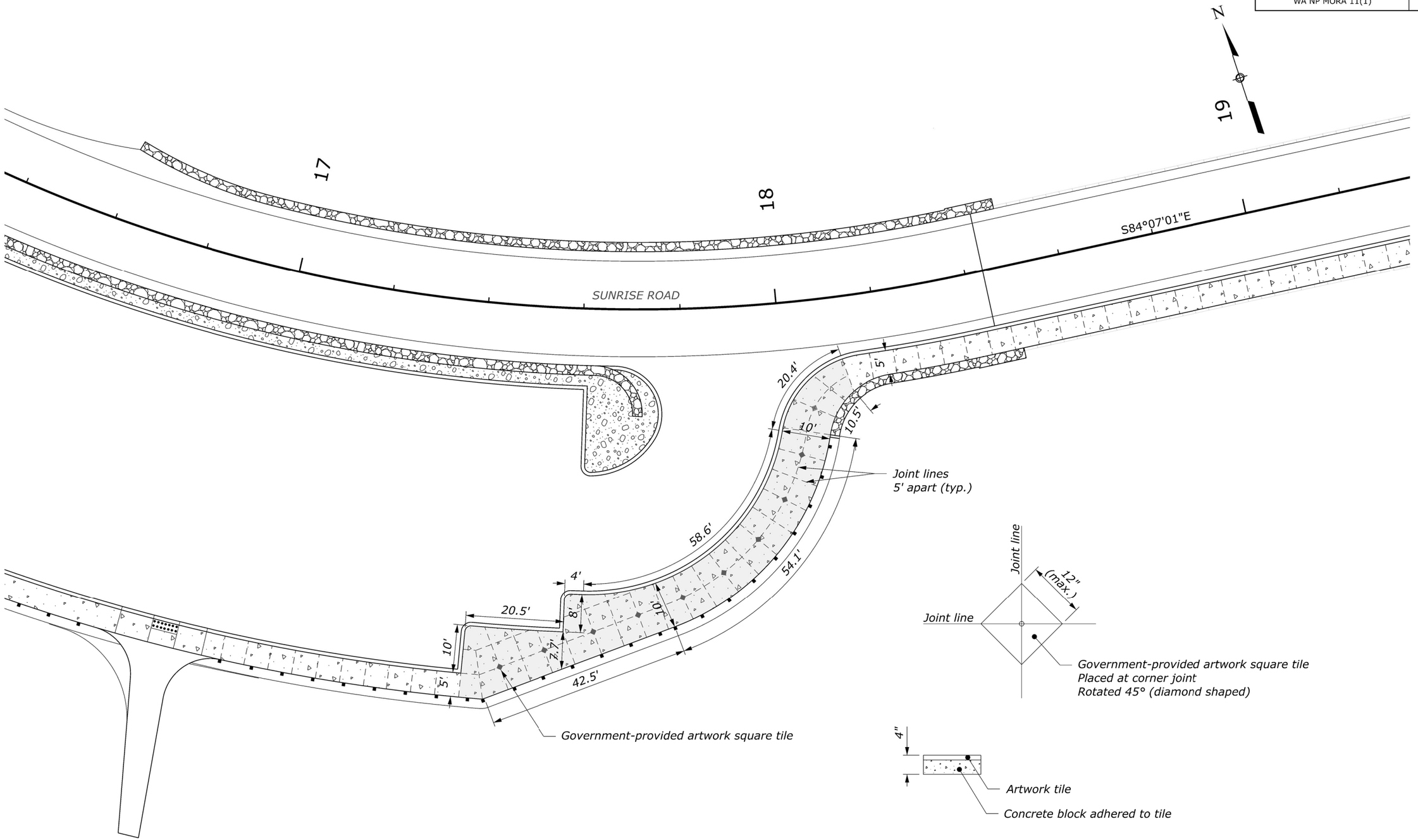
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	E.5



EAST PARKING			
POINT	**NORTHING**	**EASTING**	**ELEVATION**
EP42	59083.011	263586.953	3832.65
EP43	59060.495	263562.665	3834.02
EP44	59065.235	263573.100	3833.74
EP45	59050.509	263455.906	3835.06

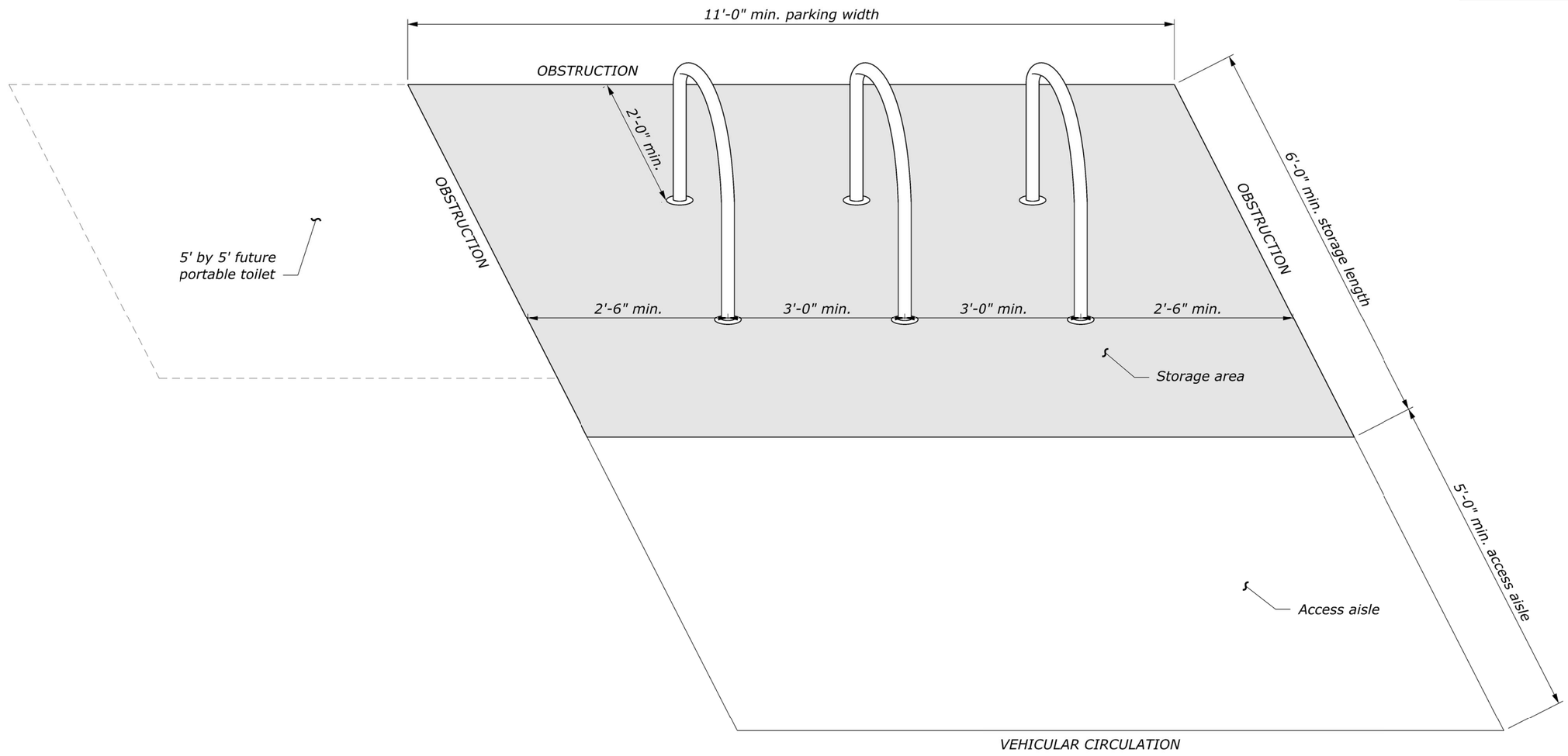
EAST PARKING

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	E.6



SIDEWALK ARTWORK TILE

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	E.7



CLEAR SPACE REQUIREMENTS FOR BICYCLE STORAGE RACKS

NOTE:

1. Install bicycle storage racks with the minimum clear space dimensions as shown.
2. Obstructions from which to setback include but are not limited to: buildings, walls, fencing, signs, portable toilets, and trash receptacles.
3. Verify storage rack locations with CO to account for setbacks from future fixtures that may not be shown on the plans.
4. Storage area shall not encroach onto pedestrian travel ways.
5. Access aisle may share space with pedestrian travel ways but shall not encroach onto vehicular circulation areas.

NO SCALE

BICYCLE STORAGE RACK LAYOUT

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.1

SOIL EROSION AND SEDIMENT CONTROL QUANTITIES

SCHEDULE	ITEM	DESCRIPTION	UNIT	QUANTITY	NOTE
A&B	15702-6000	SOIL EROSION CONTROL, TEMPORARY STREAM DIVERSION	LPSM	ALL	
A&B	15703-2500	SOIL EROSION CONTROL, MULCHING, HYDRAULIC METHOD	ACRE	0.5	Chip mulch from trees salvaged during clearing operations
A&B	15705-0100	SOIL EROSION CONTROL, SILT FENCE	LNFT	750	
A&B	15705-1400	SOIL EROSION CONTROL, FIBER ROLL	LNFT	180	
A&B	15706-0200	SOIL EROSION CONTROL, CHECK DAM (FIBER ROLL)	EACH	66	
A&B	15706-1100	SOIL EROSION CONTROL, INLET PROTECTION TYPE A	EACH	2	
A&B	15706-1600	SOIL EROSION CONTROL, STABILIZED CONSTRUCTION EXIT	EACH	3	Field locate as approved by CO
A&B	15706-2300	SOIL EROSION CONTROL, ON-SITE CONCRETE WASHOUT STRUCTURE	EACH	3	At McCullough Seed Orchard
A&B	62901-1000	ROLLED EROSION CONTROL PRODUCT, TYPE 3.B	SQYD	5117	
A&B	63503-1000	TEMPORARY TRAFFIC CONTROL, PLASTIC FENCE (ORANGE, PERIMETER)	LNFT	1830	
A&B	63504-1000	TEMPORARY TRAFFIC CONTROL, CONSTRUCTION SIGN	SQFT	10.5	

TABULATION OF QUANTITIES

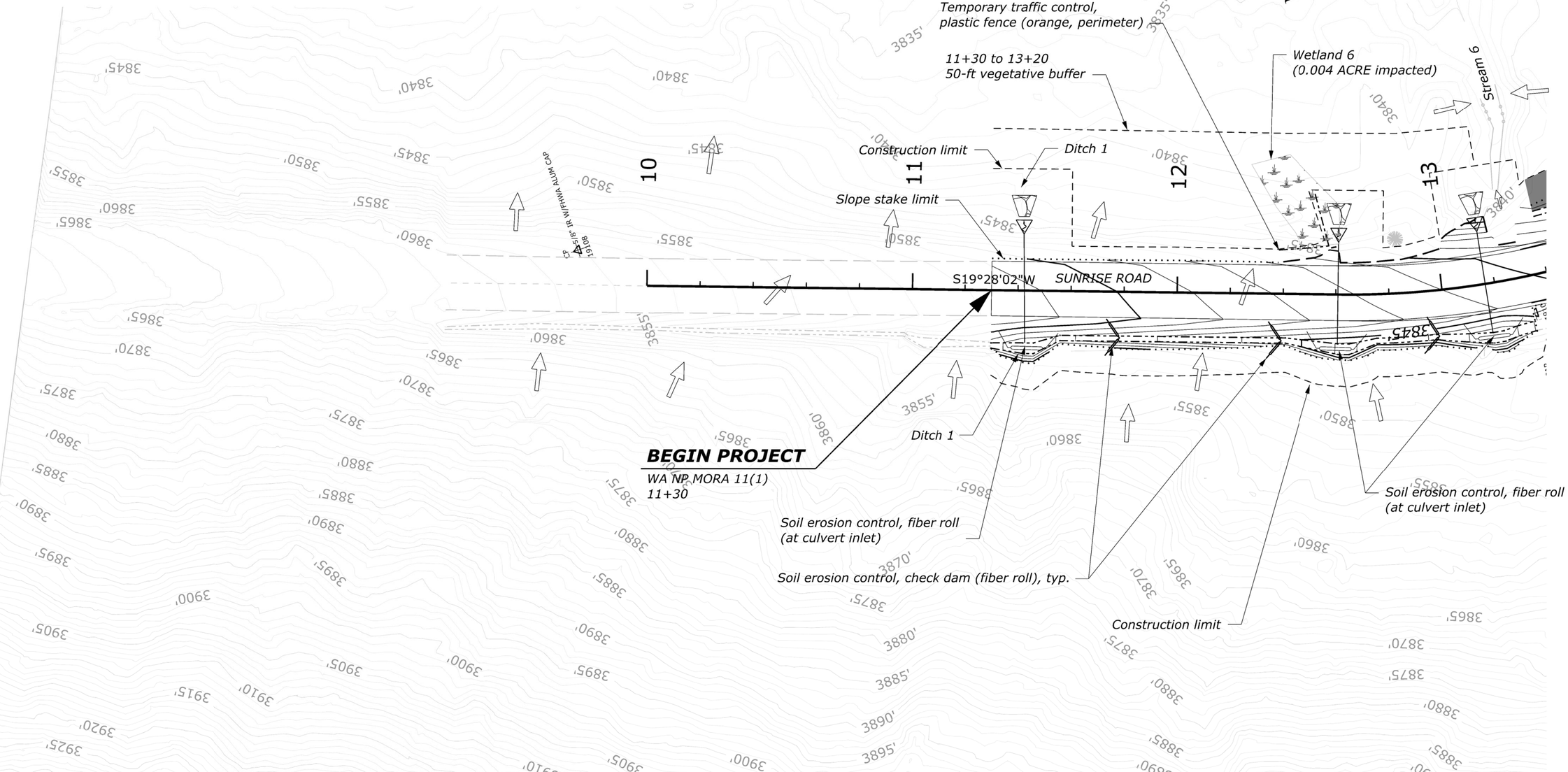
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.2

BMP Sequence:

1. Install plastic fence (orange, perimeter) at turnouts, wetlands, and other locations as directed by the CO.
2. Install silt fence, fiber roll, and check dams before ground disturbing activities begin.
3. Construct stabilized construction exits. Locations are to be determined by staging sequencing.
4. Install temporary diversion berm before in-water-work in Fryingpan Creek.
5. Remove temporary diversion berm by the end of each season's in-water-work window.
6. Maintain and adjust as necessary and as directed by the CO throughout construction duration.
7. Mulch or install rolled erosion control product on disturbed slopes.

NOTE:

50-ft vegetative buffer is measured from edge of pavement. Its delineation denotes soil erosion and sediment control by infiltration. Do not perform work inside this buffer beyond the construction limits.



LEGEND:

- Install soil erosion control, silt fence
- Install soil erosion control, check dams
- Stormwater flow arrow
- Rolled erosion control product

SOIL EROSION AND SEDIMENT CONTROL 11+30 TO 13+20

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.3

Wetland 6
Stream 6
Wilderness boundary
OHWM
Temporary traffic control, plastic fence (orange, perimeter)
Soil erosion control, check dam (fiber roll), typ.
Wetland 7
(0.000 ACRE impacted)
Stream 7
Construction limit
Soil erosion control, silt fence
SUNRISE ROAD
Soil erosion control, check dam (fiber roll), typ.
Ditch 2
Soil erosion control, fiber roll
(at culvert inlet)
Slope stake limit
Construction limit
Soil erosion control, fiber roll
(at culvert inlet)
Post-construction
100-year floodplain
Soil erosion control, inlet protection,
type A
Soil erosion control, silt fence
Fryingpan Creek
OHWM

13 14 15 16 17 18 19

3835' 3840' 3845' 3850' 3855' 3860' 3865' 3870' 3875' 3880' 3820' 3825' 3830' 3810' 3815' 3805'

LEGEND:

- Install soil erosion control, silt fence
- Install soil erosion control, check dams
- Install soil erosion control, fiber rolls
- Rolled erosion control product
- Stormwater flow arrow
- Stream flow arrow

SOIL EROSION AND SEDIMENT CONTROL 13+20 TO 19+00

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13 March 2026 10:25 AM

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.4

Wetland 7
Wildnerness boundary
OHWM
Construction limit for anticipated temp. stream diversion
Fryingpan Creek
OHWM
Soil erosion control, check dam (fiber roll), typ.
Slope stake limit
22+40 to 25+50 50-ft vegetative buffer
Construction limit
SUNRISE ROAD
Construction limit
Soil erosion control, check dam (fiber roll), typ.
Fryingpan Creek
OHWM
N84°07'01"E
N52°59'48"E
19
20
21
22
23
24
N

LEGEND:

- Install soil erosion control, silt fence
- Install soil erosion control, fiber rolls
- Stormwater flow arrow
- Install soil erosion control, check dams
- Rolled erosion control product
- Stream flow arrow

SOIL EROSION AND SEDIMENT CONTROL 19+00 TO 24+60

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13 March 2016 10:27 AM

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.5

22+40 to 25+50
50-ft vegetative buffer

Stream 8

Install SWPPP Sign at location as directed by CO

Construction limit

SUNRISE ROAD

Ditch 3

Soil erosion control, fiber roll (at culvert inlet)

Slope stake limit

Construction limit

END PROJECT
WA NP MORA 11(1)
25+50

25

26

CP 19101

LEGEND:

Install soil erosion control, silt fence

Install soil erosion control, fiber rolls

Stormwater flow arrow

Install soil erosion control, check dams

Rolled erosion control product

SOIL EROSION AND SEDIMENT CONTROL 24+60 TO 25+50

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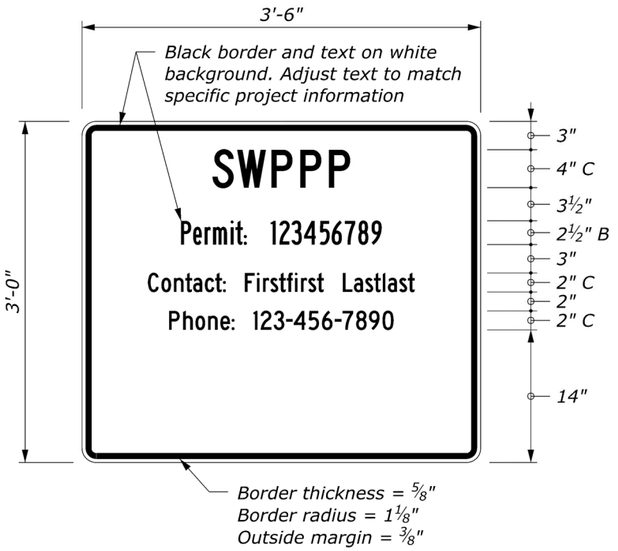
13 March 2016 10:30 AM

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.6

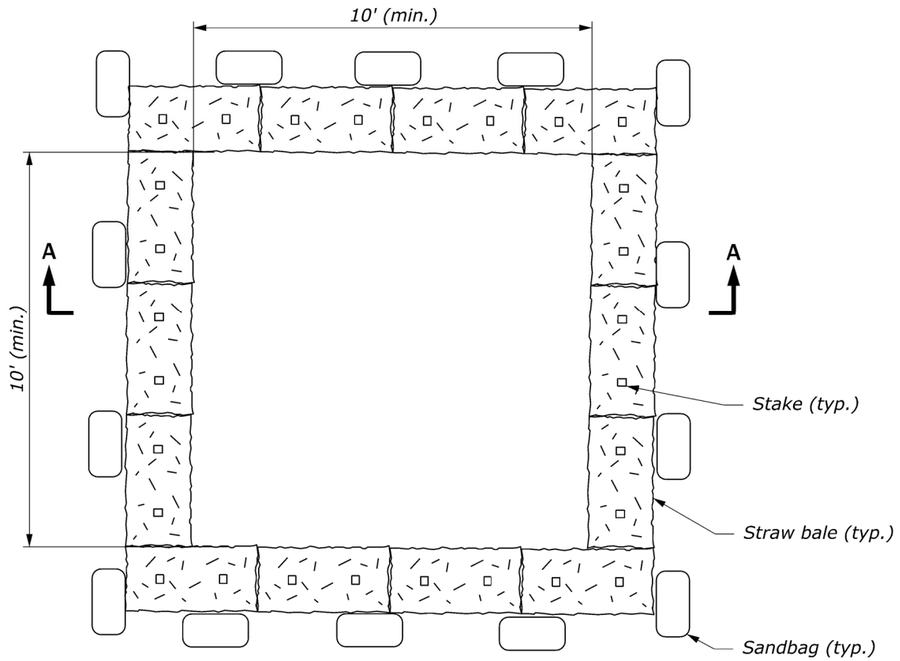


SWPPP Sign

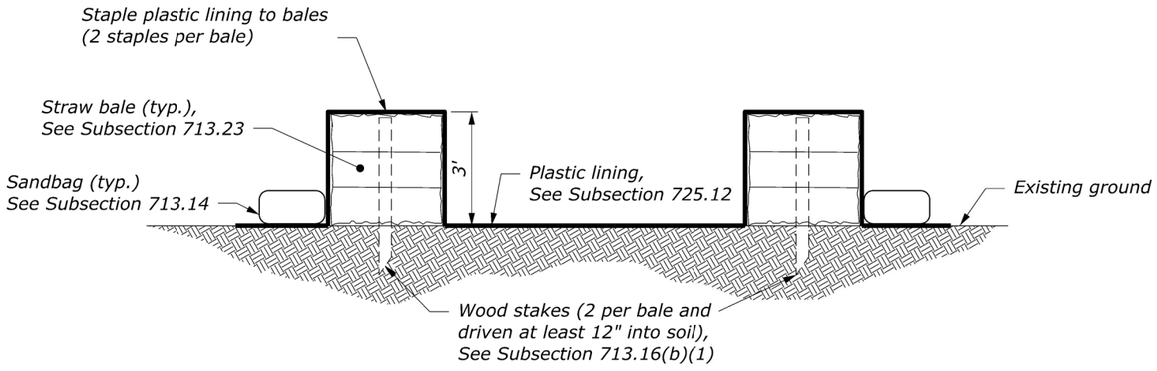
Refer to Subsection 107.01A

SWPPP SIGN DETAIL

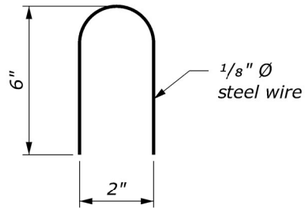
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.7



PLAN



SECTION A-A



STAPLE DETAIL

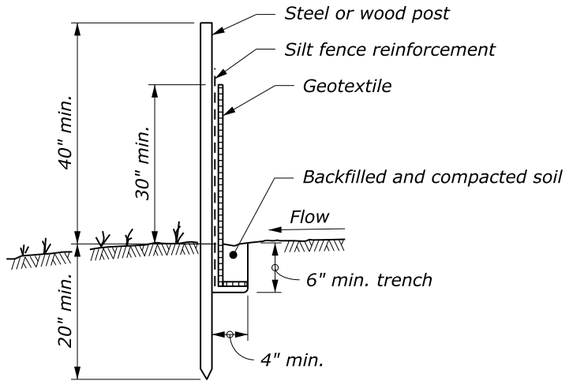
NOTE:

1. *Construct and maintain concrete washout structure according to Subsection 157.07A.*

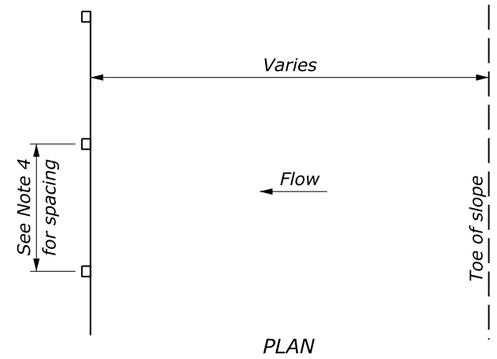
NOT TO SCALE

ON-SITE CONCRETE WASHOUT STRUCTURE

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.8



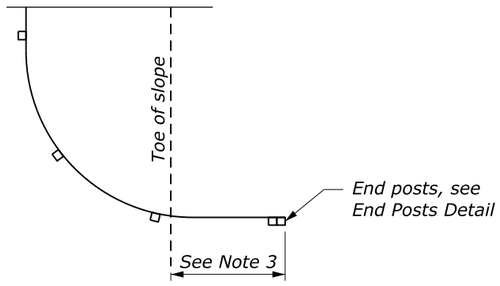
POST AND GEOTEXTILE INSTALLATION DETAIL



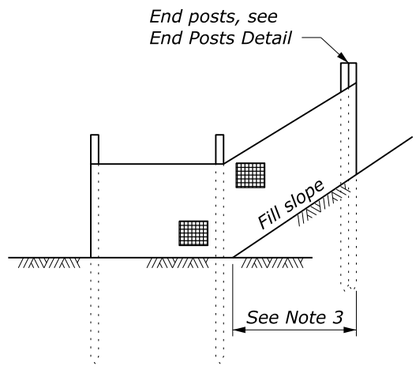
PLAN

NOTE:

1. *Alternate preassembled silt fence options will be allowed as long as specified dimensions are satisfied. Follow manufacturer's recommendations for installation procedures. All types must ensure silt fence remains attached to, and does not slide down, supporting posts.*
2. *Install silt fence to follow the ground contours as closely as possible.*
3. *Curve ends of silt fence upgrade to prevent water from running around the ends.*
4. *10-foot maximum spacing with silt fence reinforcement. 6-foot maximum spacing without silt fence reinforcement.*

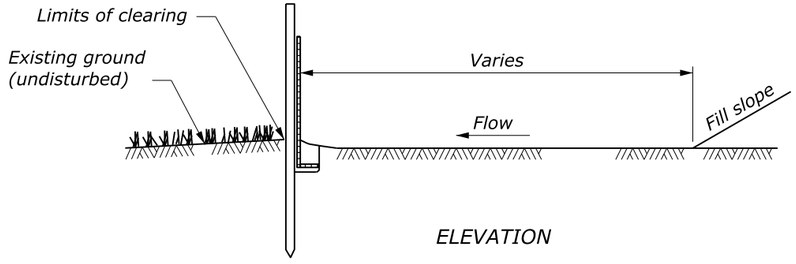


PLAN



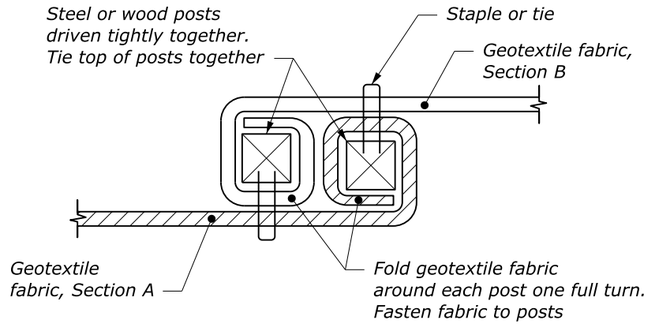
ELEVATION

END DETAIL



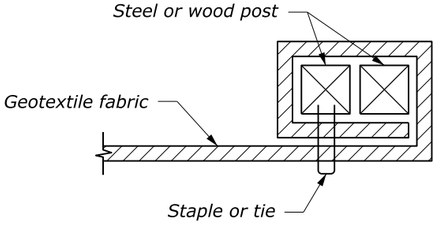
ELEVATION

SILT FENCE INSTALLATION AT TOE OF FILL



PLAN

POSTS AT JOINTS



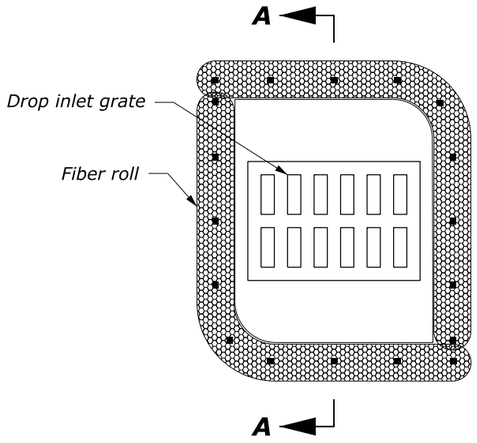
PLAN

END POSTS DETAIL

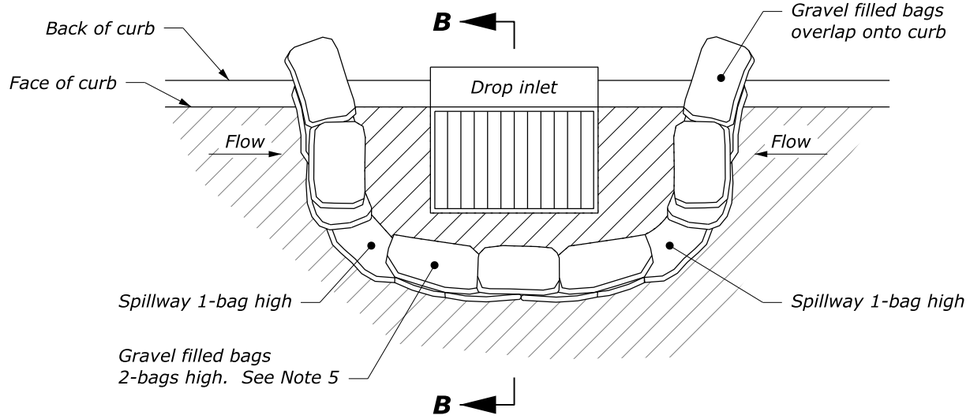
NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION, FHWA OFFICE OF FEDERAL LANDS HIGHWAY	WFL STANDARD W157-1
SILT FENCE	SPECIFICATION FP-24, FP-14
	APPROVED FOR USE 10/2016

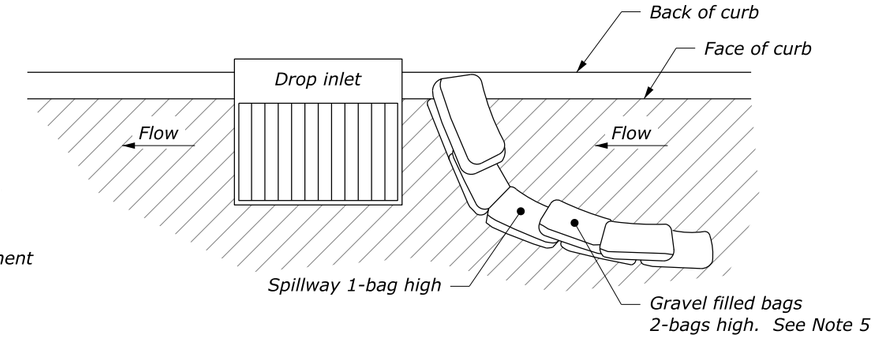
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.9



PLAN



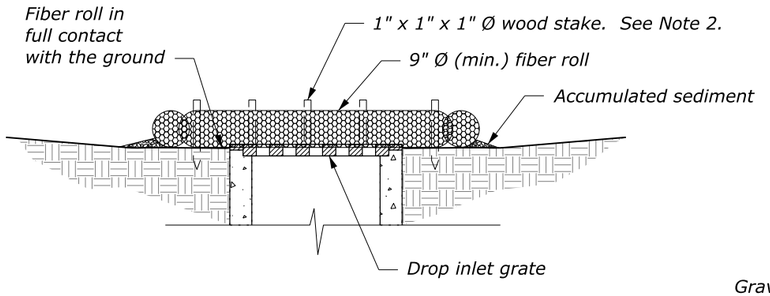
PLAN VIEW - INLET AT SAG



PLAN VIEW - INLET ON GRADE

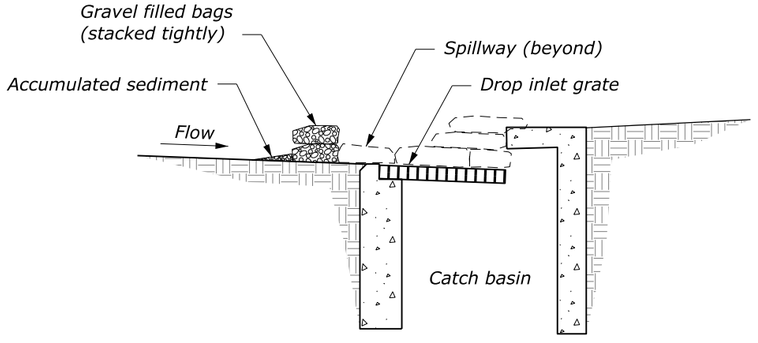
NOTE:

1. *Select the inlet protection device to fit field conditions as approved.*
2. *Install fiber rolls with stakes spaced no more than 24-inches on center. Drive stakes 12-inches (min.) in undisturbed soil.*
3. *Approximate finished dimension of gravel bags is 12-inches x 18-inches.*
4. *Maximum top of gravel bag spillway elevation = Top of curve minus 1-inch.*
5. *Pack gravel filled bags tightly together end to end to ensure no sediment flows between or underneath the bags. Where tight fit is unachievable, install geotextile filter, class 2, type C along the upstream face of the bags. Place fabric over the top of the bags to the spillway elevation. Anchor the fabric by placing the next layer of bags on top of it. Extend the geotextile fabric a minimum of 18-inches upstream of the bags. Cover geotextile fabric to the top of the fabric with clean, silt-free coarse aggregate between 2 and 3-inches in diameter.*
6. *Size the prefabricated filter insert (Type C) to fit the drop inlet and allow collected material removal without spillage. Include a high-flow bypass in the insert.*



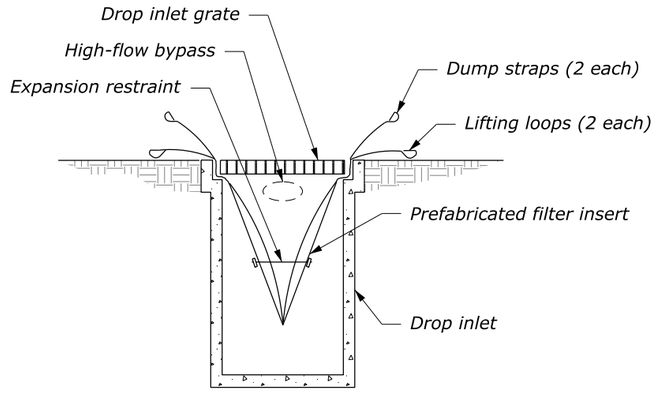
SECTION A-A

FIBER ROLL
DROP INLET PROTECTION (TYPE A)



SECTION B-B

GRAVEL BAG BERM
DROP INLET PROTECTION (TYPE B)



PREFABRICATED FILTER INSERT
DROP INLET PROTECTION (TYPE C)
See Note 6

NO SCALE

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

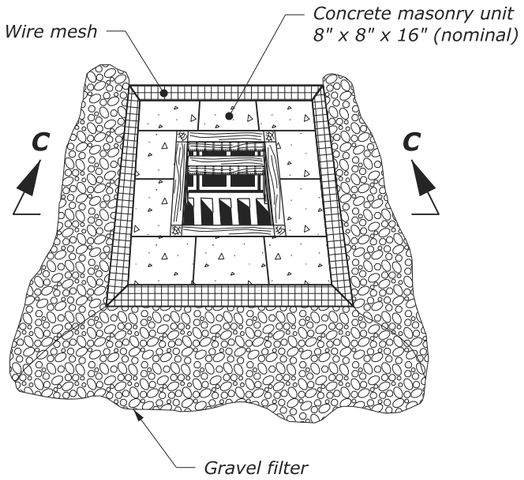
TEMPORARY INLET PROTECTION
Sheet 1 of 2

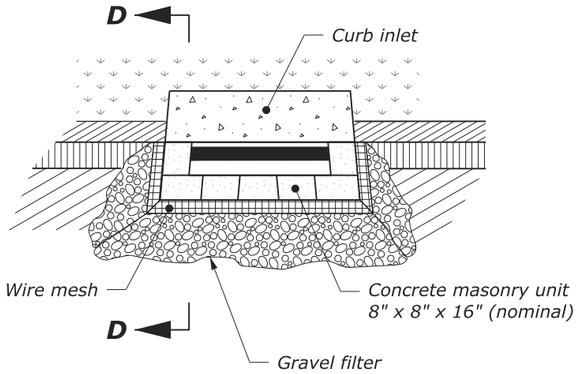
WFL STANDARD
W157-2
SPECIFICATION
FP-24, FP-14
APPROVED FOR USE
7/2016

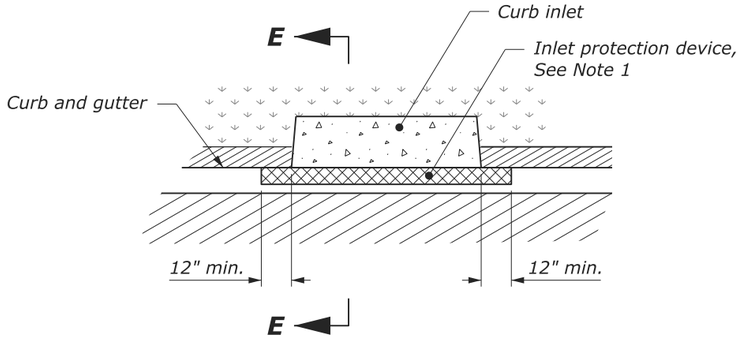
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.10

NOTE:

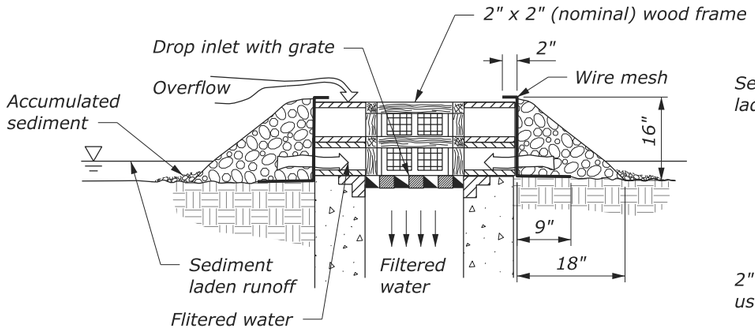
1. *Inlet protection device (type E) may consist of continuous filter tubing filled with gravel or other prefabricated filter material. Install device according to manufacturer's recommendations.*
2. *Vary dimensions to fit field conditions.*





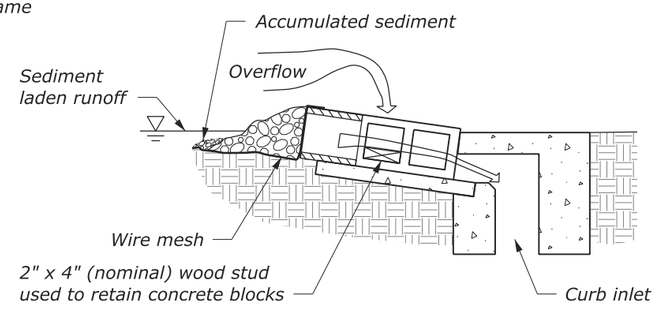


PLAN



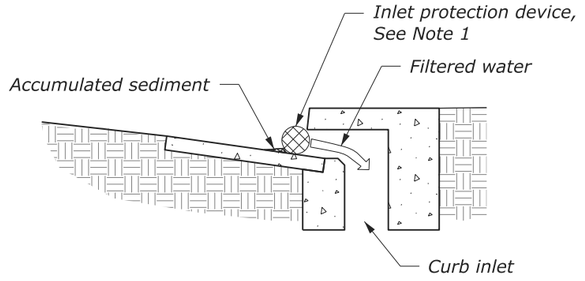
SECTION C-C

BLOCK AND GRAVEL
DROP INLET PROTECTION (TYPE D1)



SECTION D-D

BLOCK AND GRAVEL
CURB INLET PROTECTION (TYPE D2)



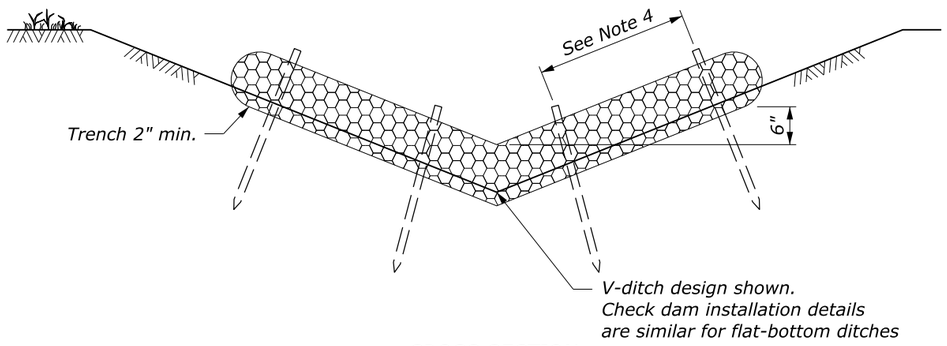
SECTION E-E

INLET PROTECTION DEVICE
CURB INLET PROTECTION (TYPE E)

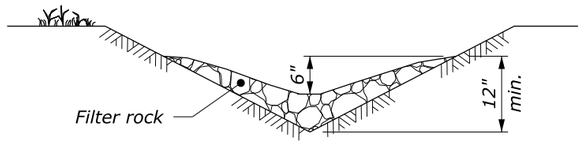
NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION, FHWA OFFICE OF FEDERAL LANDS HIGHWAY	WFL STANDARD W157-2
TEMPORARY INLET PROTECTION Sheet 2 of 2	SPECIFICATION FP-24, FP-14
	APPROVED FOR USE 7/2016

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.11



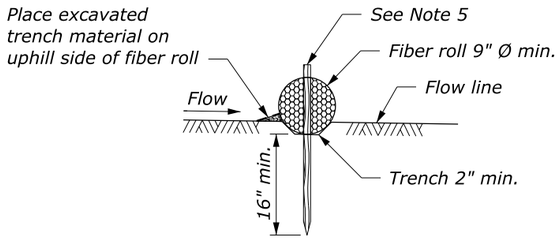
CROSS SECTION



V-DITCH
CROSS SECTION

NOTE:

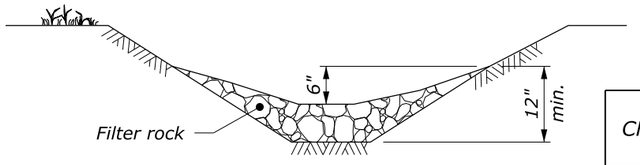
1. Construct check dams from fiber rolls, filter rock, or gravel bags as approved, to meet the functional requirements of the check dam device.
2. Repair all rills or gullies and properly compact prior to installation.
3. Install check dams in ditches perpendicular to the flowline.
4. Stake fiber rolls in place with 1⅛-inch x 1⅛-inch wood stakes. Drive stakes at each end of the fiber roll and at 2-foot maximum spacing.
5. Drive stakes into undisturbed soil of trench bottom. Expose stakes 2-inches minimum above top of fiber roll.
6. Provide sufficient length to prevent water from flowing around the ends of the fiber roll.
7. Adjust check dam spacing based on site-specific conditions.



FIBER ROLL
STAKING DETAIL

FIBER ROLL CHECK DAM SPACING* (See Note 7)	
DITCH GRADE	CHECK DAM SPACING (max.) (FT)
2%	150
3%	100
4%	80
5%	60

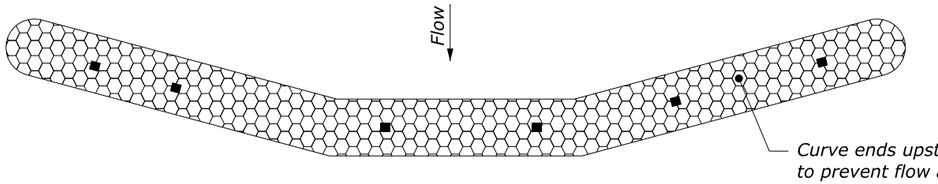
* Spacing calculated based on 9" Ø minimum fiber roll. Do not use fiber roll check dams on ditch grades steeper than 5%.



FLAT-BOTTOM DTICH
CROSS SECTION

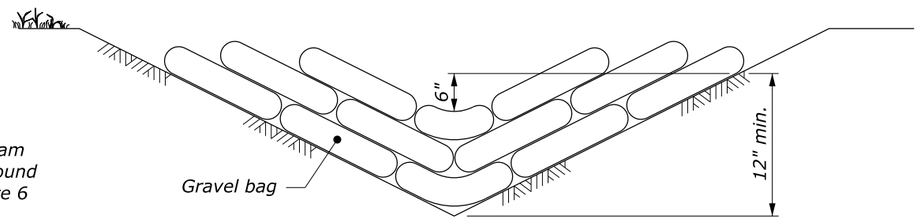
FILTER ROCK CHECK DAM SPACING (See Note 7)	
DITCH GRADE	CHECK DAM SPACING (max.) (FT)
2%	150
3%	100
4%	80
5%	60
6%	50

FILTER ROCK CHECK DAM



PLAN

FIBER ROLL CHECK DAM



CROSS SECTION

GRAVEL BAG CHECK DAM

GRAVEL BAG CHECK DAM SPACING** (See Note 7)	
DITCH GRADE	CHECK DAM SPACING (max.) (FT)
2%	150
3%	100
4%	80
5%	60
6%	50

** Do not use gravel bag check dams on ditch grades steeper than 6%.

NO SCALE

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

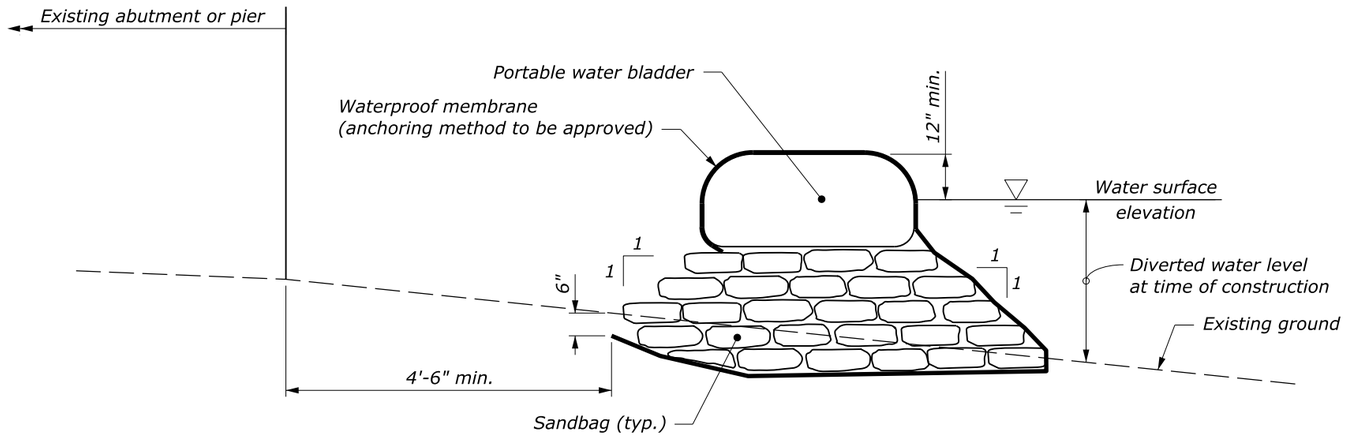
CHECK DAM
MODERATE GRADES

WFL STANDARD	W157-15
SPECIFICATION	FP-24, FP-14
APPROVED FOR USE	7/2016

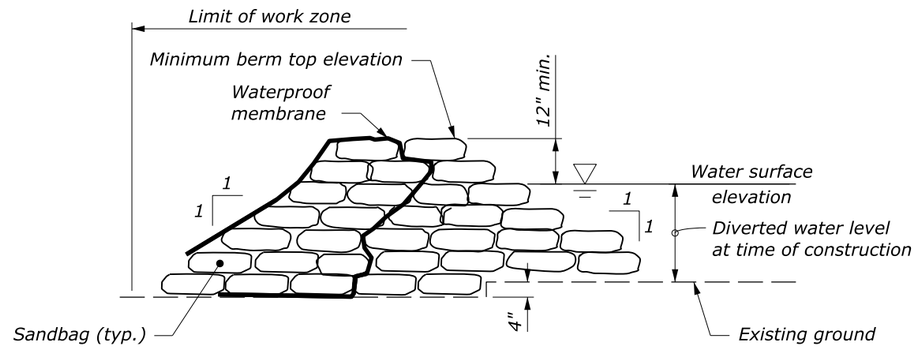
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.12

NOTE:

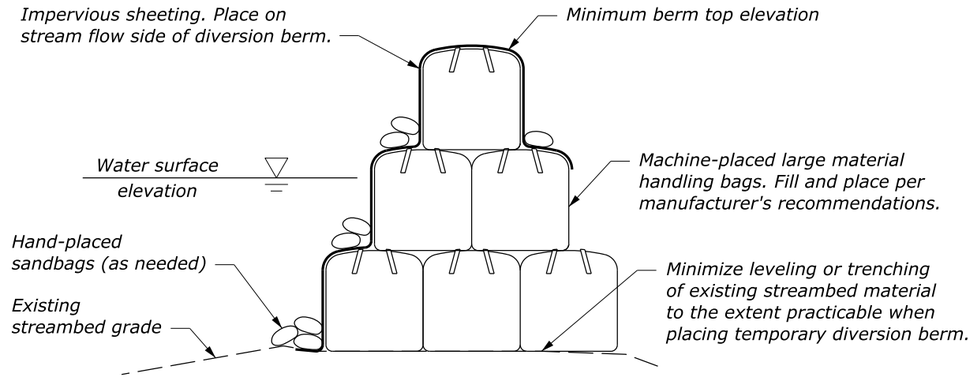
1. *Provide a temporary diversion berm with a minimum height equal to the water surface elevation with at least 12 inches freeboard. The examples shown are intended as representative guidance. Submit temporary stream diversion plans for approval, including alternate methods, prior to installation.*
2. *Place sandbags to form a pyramid by laying equal numbers of bottom rows as there are vertical course. Overlap the upper rows of sandbags above the joints in lower rows.*
3. *Place a maximum of one diversion in the stream at any given time.*
4. *Inspect and maintain the temporary diversion berm daily. Repair as needed after rainfall events or as directed.*
5. *Use as needed when constructing the isolation barrier as directed.*



OPTION A



OPTION B



OPTION C

NO SCALE

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

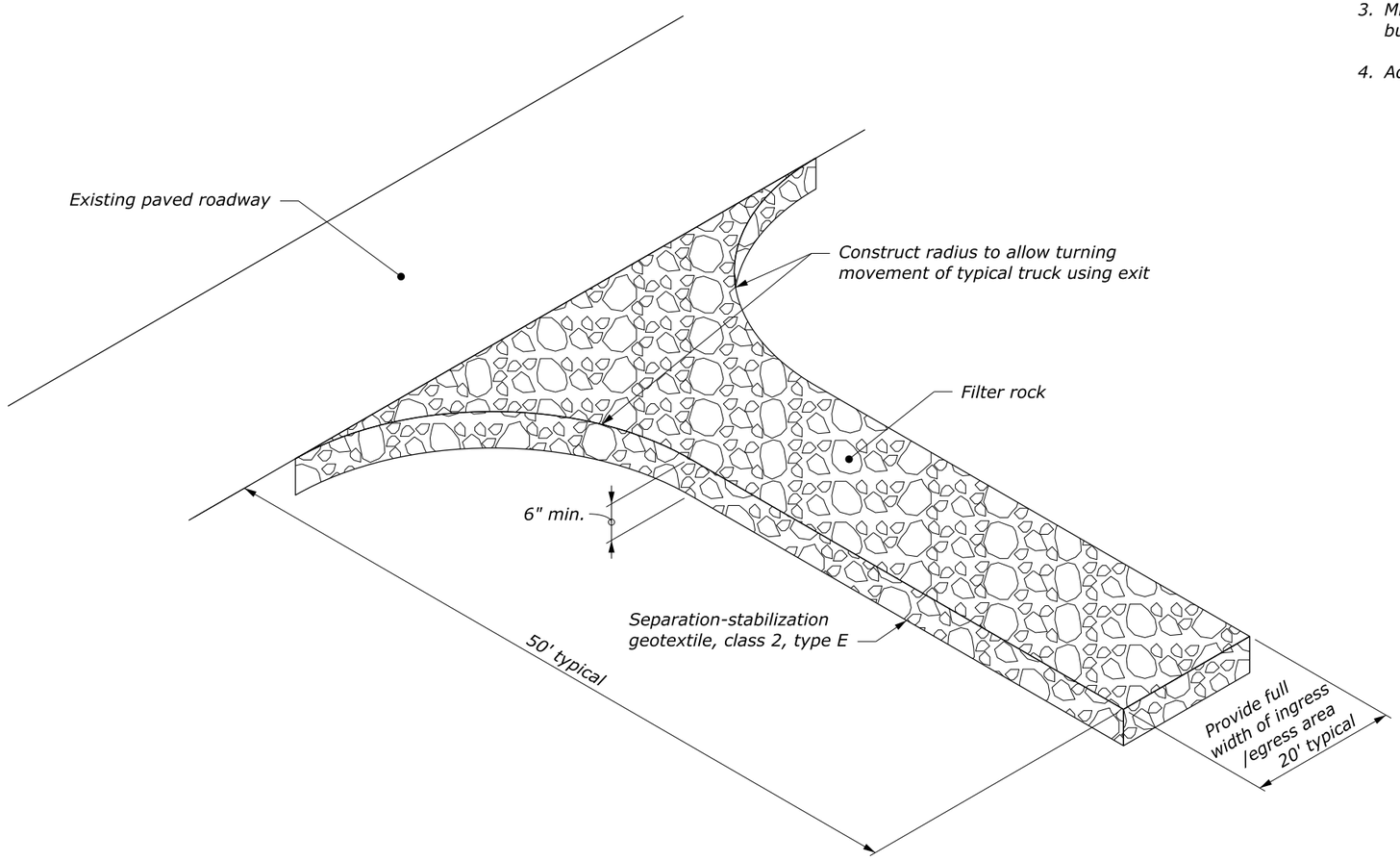
TEMPORARY DIVERSION BERM METHODS

WFL STANDARD
W157-17
SPECIFICATION
FP-14
APPROVED FOR USE
6/2025

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.13

NOTE:

1. *Use this entrance for construction vehicles only.*
2. *Construct drainage ditches along entrance as directed. Provide temporary drainage culvert where entrance crosses existing drainage ditches.*
3. *Minimize tracking onto paved roadway by removing built up sediment.*
4. *Adjust length to fit field conditions as approved.*

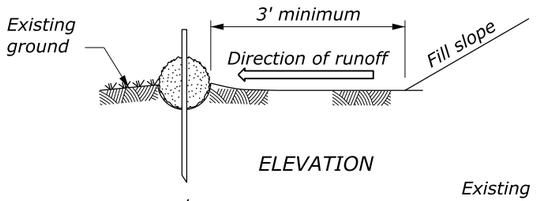


STABILIZED CONSTRUCTION EXIT

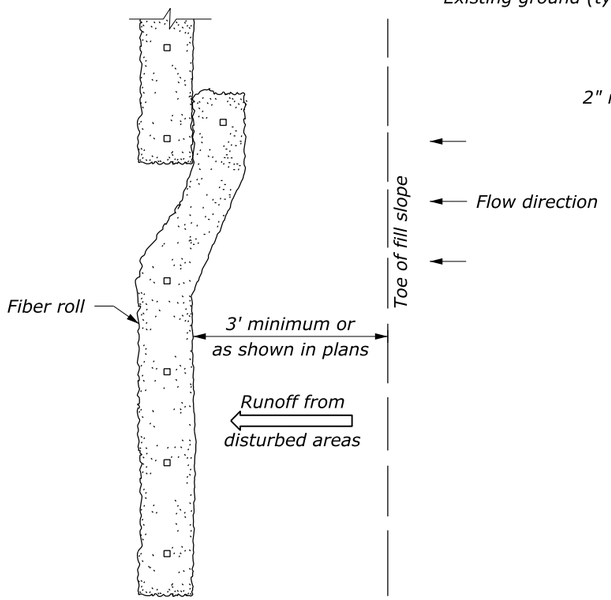
NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION, FHWA OFFICE OF FEDERAL LANDS HIGHWAY	WFL STANDARD W157-19
STABILIZED CONSTRUCTION EXIT	SPECIFICATION FP-14
	APPROVED FOR USE 7/2016

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.14

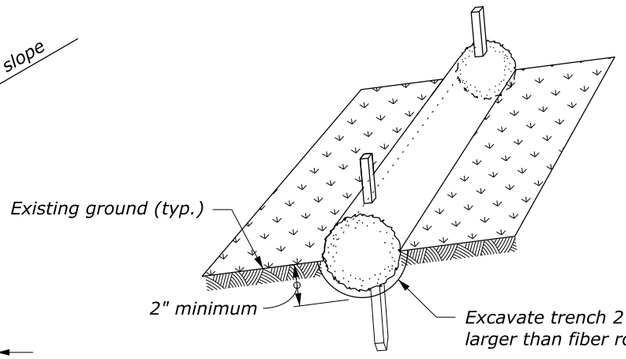


ELEVATION

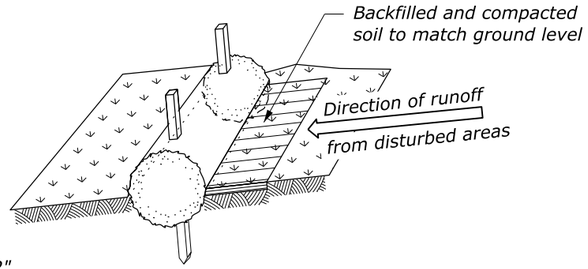


PLAN

INSTALLATION BEYOND TOE OF SLOPE



Step 1: Excavate trench and install fiber rolls



Step 2: Backfill soil against fiber rolls

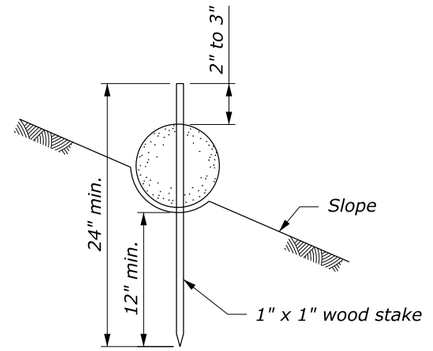
PROPERLY STAKED AND ENTRENCHED FIBER ROLL

FIBER ROLL SPACING	
Slope	Spacing (FT)
1:4 or flatter	40
1:3	30
1:2	20
1:1	10

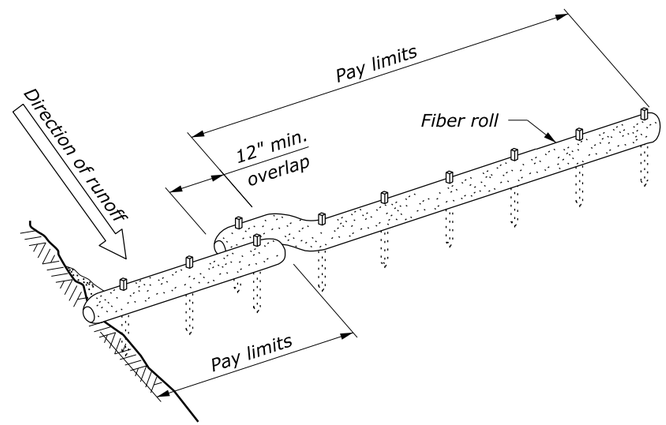
STAKES REQUIRED	
Fiber roll length (FT)	Stakes required for each roll
25	8
20	6
12	4

NOTE:

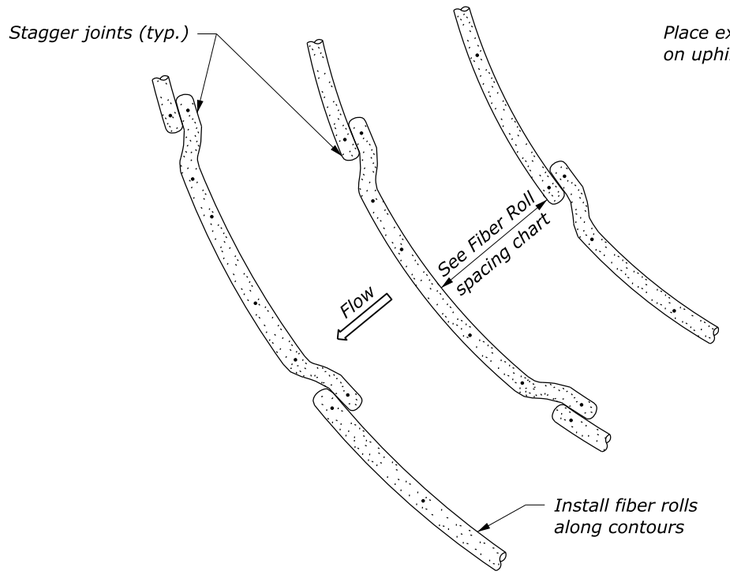
1. Drive stakes at each end and at 4-foot spacing until fiber roll is secure to slope. Live stakes may be used for permanent installations. Do not crush fiber roll while staking.
2. Overlap fiber rolls 12-inch minimum. Drive stakes at 6-inches from fiber roll end angles towards the adjacent fiber roll and space stakes at 4-foot maximum.



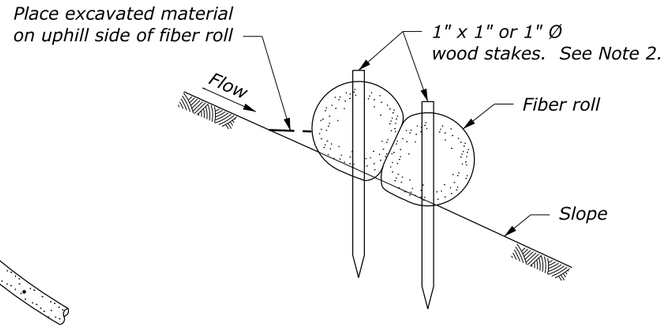
FIBER ROLL STAKING DETAIL



ALTERNATE FIBER ROLL JOINT DETAIL SLOPE PROTECTION INSTALLATION



INSTALLATION ALONG SLOPES

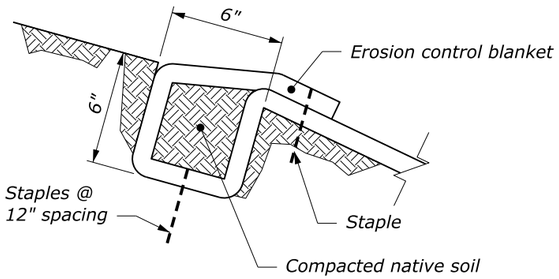


FIBER ROLL LAPPING DETAIL

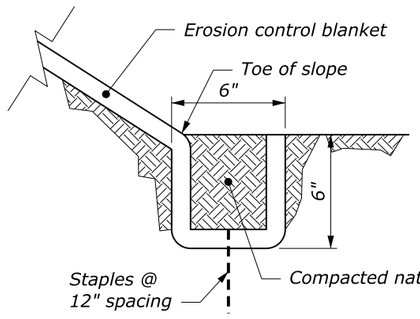
NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION, FHWA OFFICE OF FEDERAL LANDS HIGHWAY	WFL STANDARD W157-21
FIBER ROLL	SPECIFICATION FP-24, FP-14
	APPROVED FOR USE 7/2016

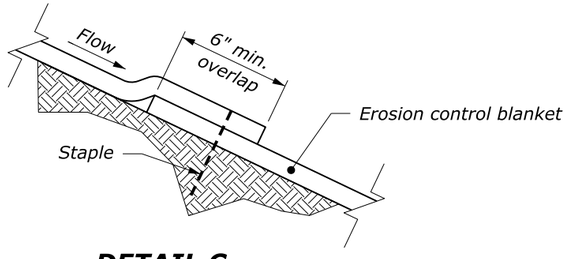
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	F.15



DETAIL A
ANCHOR TRENCH
AT TOP OF SLOPE



DETAIL B
ANCHOR TRENCH
AT TOE OF SLOPE



DETAIL C
SHINGLE SPLICE

PERSPECTIVE VIEW

NOTE:

1. *Install staples according to the manufacturer's recommendations.*
2. *Overlap in the direction of the prevailing wind.*

NO SCALE

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

ROLLED EROSION CONTROL PRODUCT ON SLOPES

WFLHD DETAIL	SPECIFICATION	APPROVED FOR USE
W629-1	FP-14	10/2016

Note: The quantities shown hereon are approximate and are subject to field adjustments.

TABULATION OF DRAINAGE QUANTITIES - SCHEDULE A & B

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	G.1

PAY ITEM NUMBER			20303 -3500	20701 -0100	20701 -0800	25101 -0200	25101 -0500	30302 -1000	60201 -0400	60201 -0600	60201 -0800	60210 -0600	60210 -0800	60212 -0600	60404 -1000	62011 -0500	64703 -8000												
Station	ESTIMATED MAXIMUM COVER	STRUCTURAL EXCAVATION	REMOVAL OF STONE MASONRY (AND SALVAGE)	SEPARATION-STABILIZATION GEOTEXTILE, CLASS 1, TYPE A	SEPARATION-STABILIZATION GEOTEXTILE, CLASS 2, TYPE C	PLACED RIPRAP, METHOD A, CLASS 2	PLACED RIPRAP, METHOD A, CLASS 5	DITCH RECONDITIONING	12-INCH PIPE CULVERT	18-INCH PIPE CULVERT	24-INCH PIPE CULVERT	END SECTION FOR 18-INCH PIPE CULVERT (CONCRETE)	END SECTION FOR 24-INCH PIPE CULVERT (CONCRETE)	ELBOW, 18-INCH	CATCH BASIN, FLH TYPE 1 (METAL FRAME AND GRATE TYPE A)	STONE MASONRY HEADWALL FOR 24-INCH PIPE CULVERT	MITIGATION, BANK STABILIZATION (DEFLECTOR LOG STRUCTURE)								SKEW ANGLE	Allowable Pipe Material (See key below)	BEVELS 1V:nH Lt	BEVELS 1V:nH Rt	REMARKS See below for numbered notes
	FEET	CUYD	SQYD	SQYD	SQYD	CUYD	CUYD	LNFT	LNFT	LNFT	LNFT	EACH	EACH	EACH	EACH	EACH	EACH											
11+42	1	98	3	13		4					41		1			1										C			
12+61	1	78	3	13		4					40		1			1										C			
13+17	1	80	3	13		4					39		1			1										C			
13+32								168																					13+32 to 15+00, RT
15+65			3																										
15+71	1	140		15		4					64		1			1										C			
16+79	1	98		13		4					35		1			1										C			Trailhead
17+20				15		4																							See Note 5
17+40	1	24		9		2				29		1		1	1											C			See Note 2
17+55	1								21						1											C			See Note 2
FryingpanCreek		795			800		795										1												See Note 3
Bridge Waterway																													
20+50								450																					20+50 to 25+00, RT
21+20				24		9																							See Note 6
23+80				20		7																							See Note 7
25+35	1	98	3	13		4					36		1			1										27º RT	C		
SCHEDULE A & B TOTAL	1411	15	148	800	46	795	618	21	29	255	1	6	1	2	6	1													

NOTE:

1. See Std. 602-7 for acceptable concrete cell class.
2. Upsize the catch basin as necessary to accommodate the skewed pipe.
3. Source timber piles, log deflectors, and root wads from trees salvaged during clearing operations.
4. Use salvaged stone masonry from existing structures, and harvest additional raw, unprocessed rocks used as stone masonry from government-provided sources according to Subsection 105.02.
5. Riprap dimensions at 17+20 ditch outfall are 10' long by 8' wide by 1.5' deep. Field adjust as directed by CO.
6. Riprap dimensions at 21+20 guardwall end are 15' long by 11' wide by 1.5' deep. Field adjust as directed by CO.
7. Riprap dimensions at 23+80 ditch outfall are 20' long by 6' wide by 1.5' deep. Field adjust as directed by CO.
8. Removal of existing culverts are incidental.

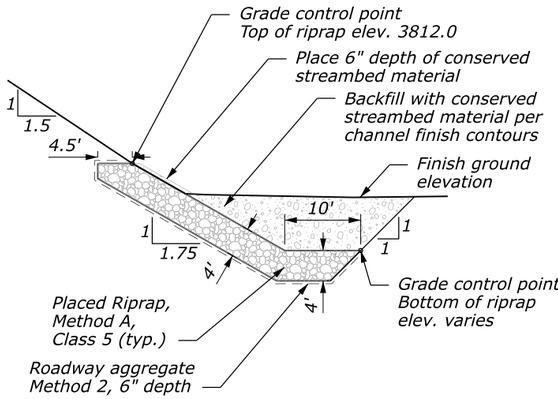
Allowable Pipe Material

A	Aluminum
AS	Aluminized steel
C	Concrete
GS	Galvanized steel
P	Plastic
(blank)	Any appropriate material
x/__	Any appropriate material except __

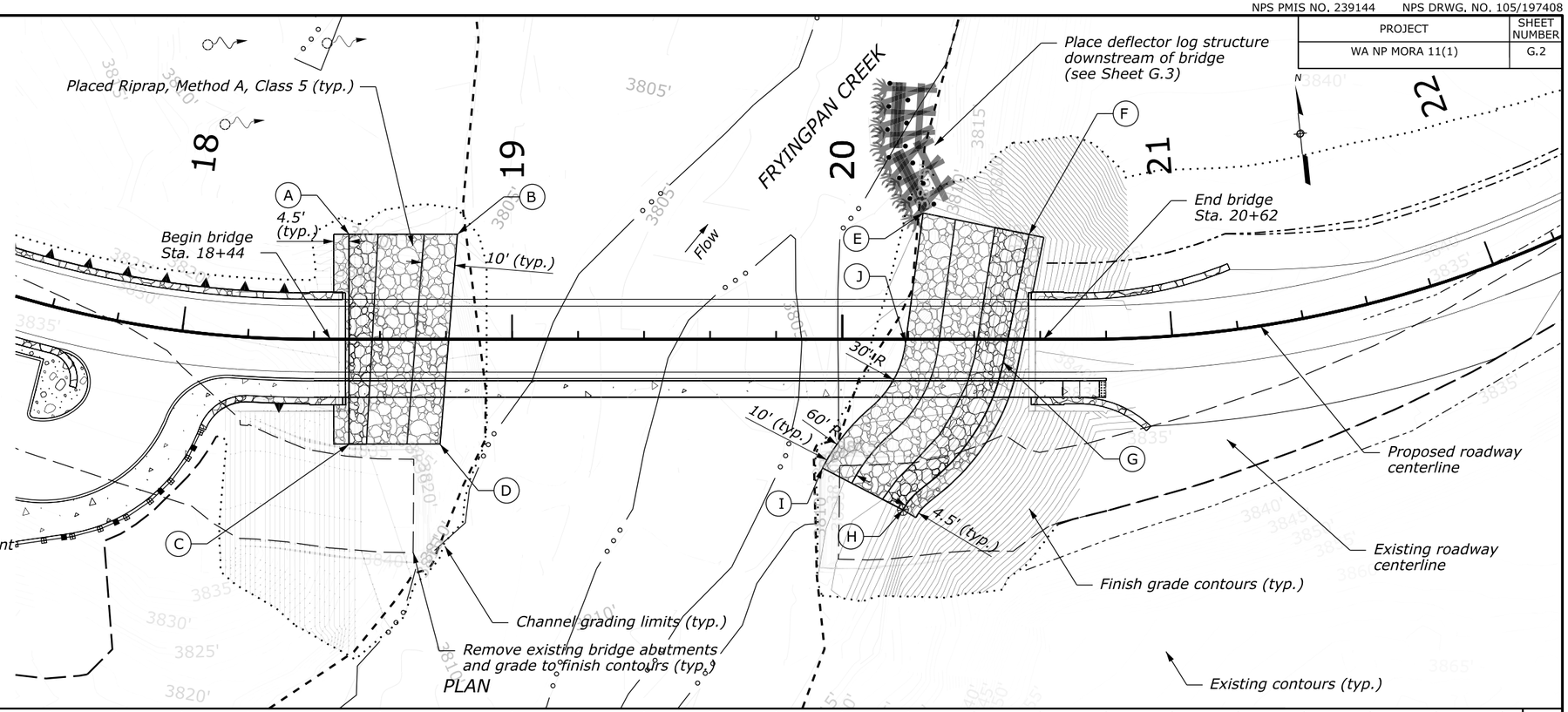
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	G.2

Designed by: --/---- Checked by: J.Neighorn

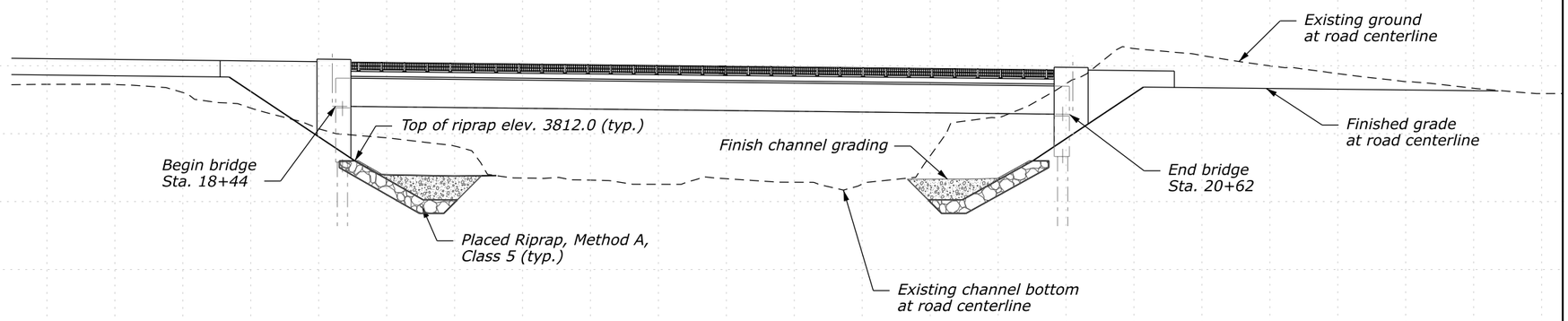
GRADING CONTROL POINTS				
POINT	NORTHING	EASTING	RIPRAP ELEV.	FINISH GROUND ELEV.
A	59133.22	263220.25	3812.0	3812.0
B	59129.86	263252.87	3799.0	3805.9
C	59069.96	263213.74	3802.0	3809.0
D	59067.14	263241.13	3812.0	3812.0
E	59121.83	263393.87	3799.0	3805.0
F	59112.09	263425.14	3812.0	3812.0
G	59074.30	263413.38	3812.0	3812.0
H	59032.97	263378.59	3812.0	3812.0
I	59048.10	263355.66	3802.0	3805.8
J	59083.23	263384.58	3800.5	3806.7



RIPRAP TYPICAL SECTION



PLAN



ELEVATION

	Q	Vel.	WS ELEV.
Q_2	589	4.9	3808.0
Q_{50}	1350	7.7	3808.9
Q_{100}	1730	8.3	3809.0
Q_{500}	2180	10.1	3809.3

SLOPE PROTECTION

TYPE: Riprap CLASS: 5

TOP EL.: 3812.0 DEPTH: 4.0 ft.

BOTTOM EL.: Varies SLOPE: 1.75(h):1(v)

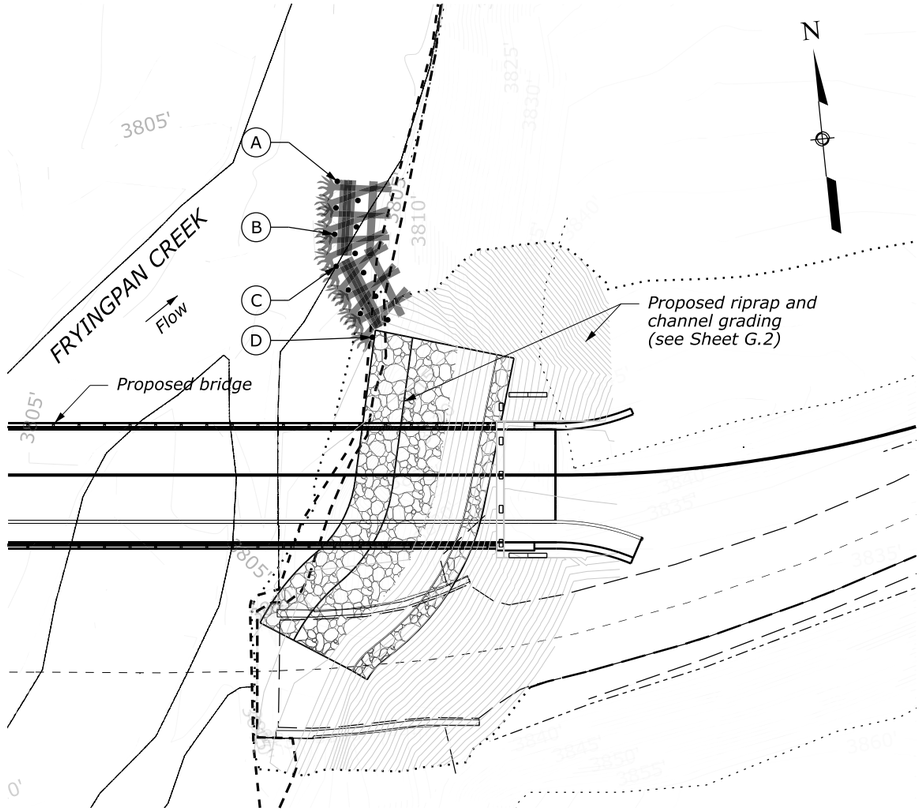
MAX EXPECTED SCOUR: 3.5 ft

REMARKS:

BRIDGE WATERWAY PLAN

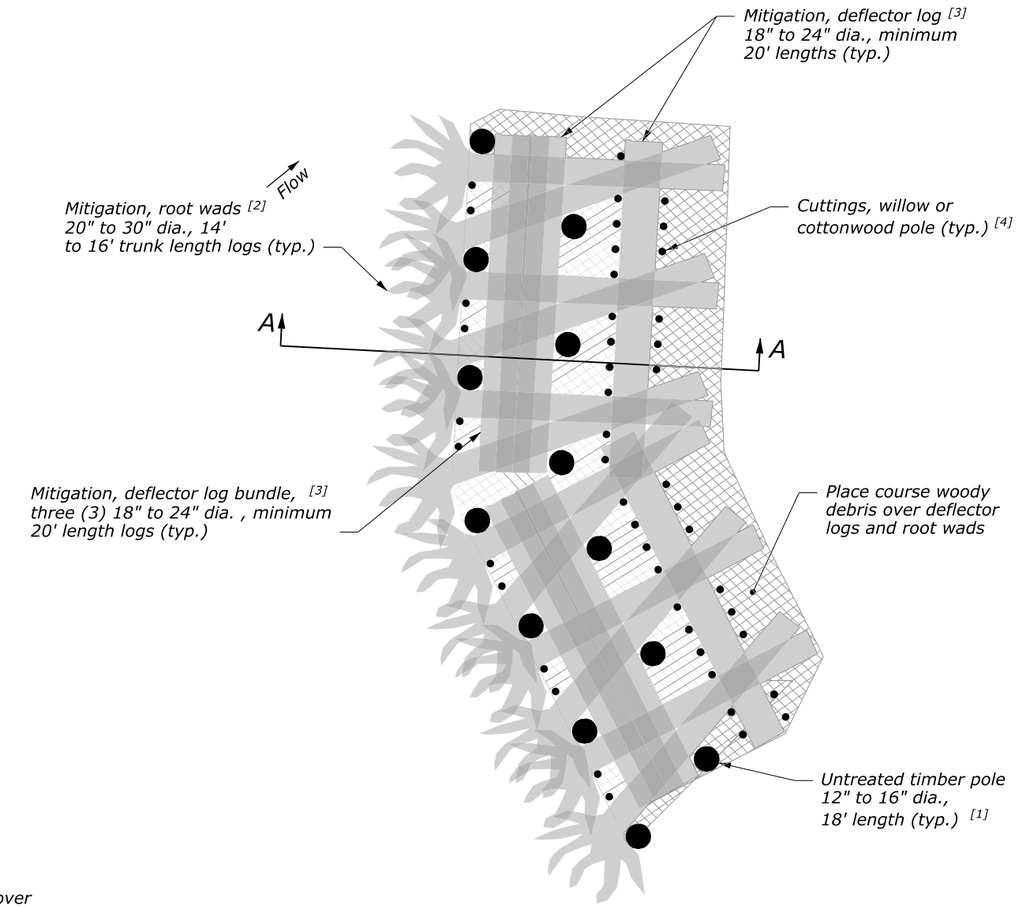
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	G.3

Designed by: J. Neighorn | Checked by: 07/2023

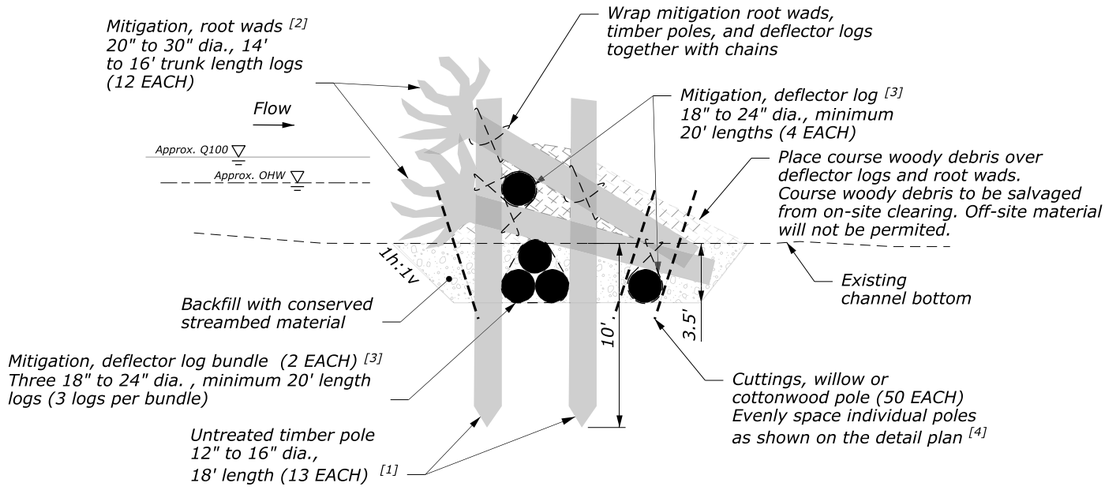


DEFLECTOR LOG STRUCTURE PLAN

CONTROL POINTS (@ POLE CENTER)		
POINT	NORTHING	EASTING
A	59161.9	263387.9
B	59148.1	263385.7
C	59139.6	263385.3
D	59120.0	263392.8



DEFLECTOR LOG STRUCTURE DETAIL



SECTION A-A

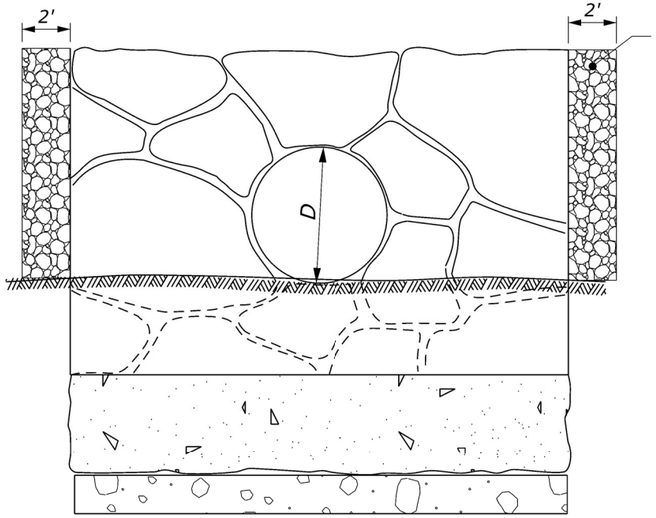
FOOTNOTE:

[1] Untreated timber pole: Cut conical pile shoe into log pole if required and utilize Alaskan Yellow Cedar conserved from on-site clearing.
[2] Mitigation, root wads: Utilize Western Hemlock conserved from on-site clearing.
[3] Mitigation, deflector logs: Utilize Pacific Silver Fir conserved from on-site clearing.
[4] Pole plantings to be performed by Park Service. Contractor to coordinate timing with CO and Park Service.

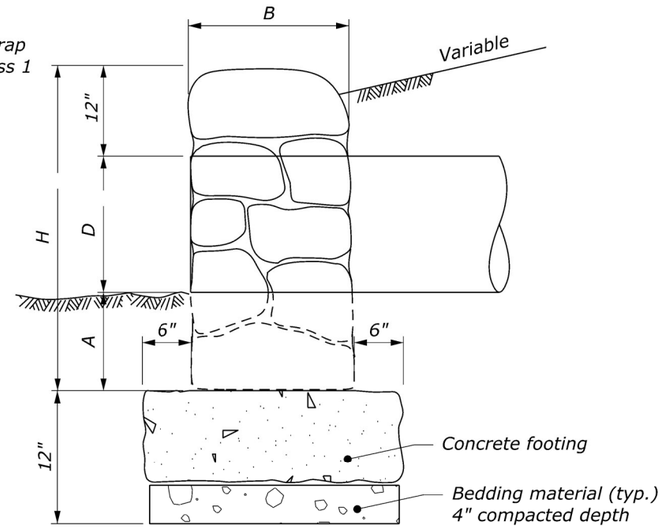
NO SCALE

BRIDGE WATERWAY DETAILS

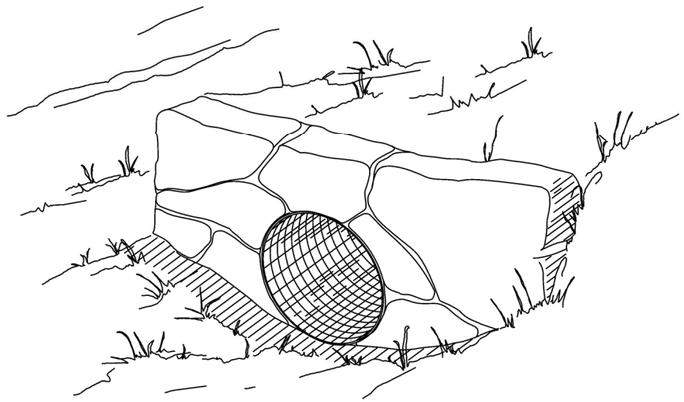
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	G.4



FRONT ELEVATION



SIDE ELEVATION



CULVERT ISOMETRIC VIEW

ROUND PIPE								
D (in)	A (ft)	B (ft)	H (ft)	L (ft)	SINGLE PIPE (INFORMATION ONLY)			
					Stone (CUYD)	Concrete (CUYD)	Bed Course (CUYD)	Riprap class 1 (CUYD)
12"	1'-0"	1'-2"	3'-0"	3'-8"	0.37	0.28	0.36	0.12
15"	1'-0"	1'-4"	3'-3"	4'-4"	0.61	0.29	0.37	0.12
18"	1'-0"	1'-6"	3'-6"	5'-0"	0.72	0.40	0.46	0.12
24"	1'-4"	1'-10"	4'-4"	6'-4"	1.41	0.76	0.66	0.12
30"	1'-8"	2'-2"	5'-2"	7'-8"	2.52	1.28	0.90	0.12
36"	2'-0"	2'-6"	6'-0"	9'-0"	4.35	2.00	1.17	0.12
48"	2'-0"	3'-0"	7'-0"	12'-0"	7.93	2.50	1.90	0.12

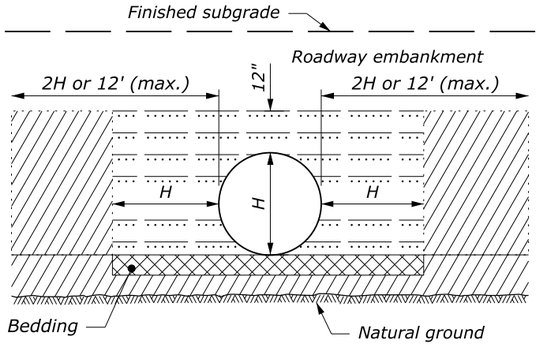
NOTE:

1. Masonry pattern as shown is for illustration purposes only. Provide a variable rock face finish that emulates existing stone patterns and according to Section 620.
2. Utilize stones conserved from existing headwalls where the size of conserved stones are sufficient for reuse.
3. Shape additional stones as needed from stones conserved at other locations on the project. Blend stones if using salvaged stones from two or more sites for a uniform appearance.
4. Install headwalls parallel to the roadway line and grade where the headwall is less than 2-feet below shoulder grade.
5. Modify headwalls as directed by the CO where pipes are skewed.
6. See Tabulation of Drainage Quantities sheet for locations and estimated quantities.

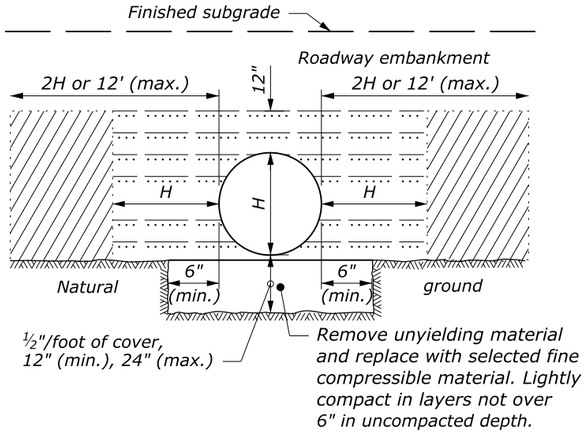
NO SCALE

STONE MASONRY HEADWALL FOR PIPE CULVERT

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	G.5

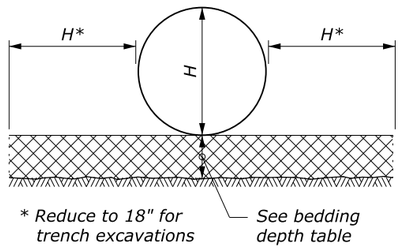


ABOVE NATURAL GROUND



ON UNYIELDING MATERIAL

BEDDING DEPTH	
PIPE SIZE (H)	DEPTH
12" to 54"	4"
> 54"	6"

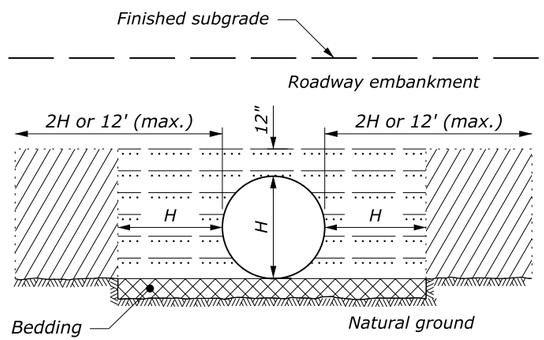


PIPE BEDDING

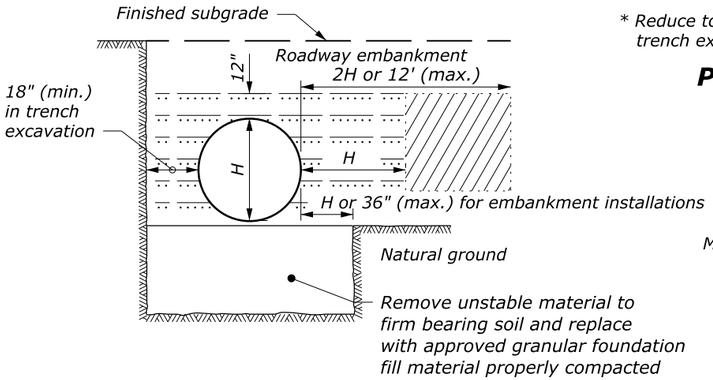
NOTE:

1. When directed, camber pipe culverts upward from a chord through the inlet and outlet inverts an ordinate amount equal to 1% of the pipe length. Develop camber on a parabolic curve. If the midpoint elevation on the parabolic curve as designed exceeds the elevation of the inlet invert, reduce the amount of camber or increase the pipe culvert gradient.
2. H equals the diameter of all round pipe culverts or the rise dimension of all pipe arch culverts.
3. See Section 704 for bedding and backfill requirements.

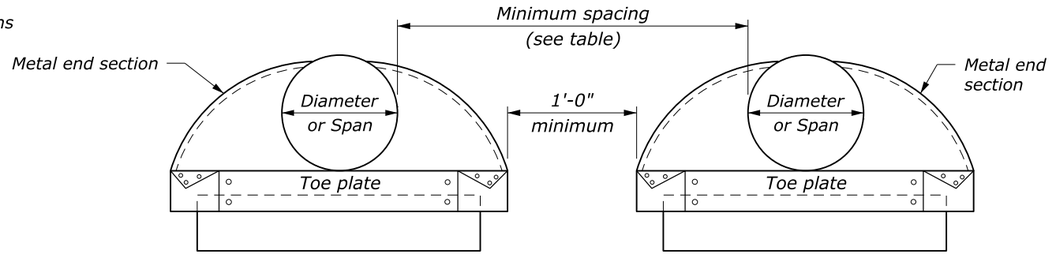
MINIMUM SPACING	
DIAMETER or SPAN	SPACING
UP to 48"	24"
48" and UP	Half diameter or span or 36", whichever is less



ON NATURAL GROUND

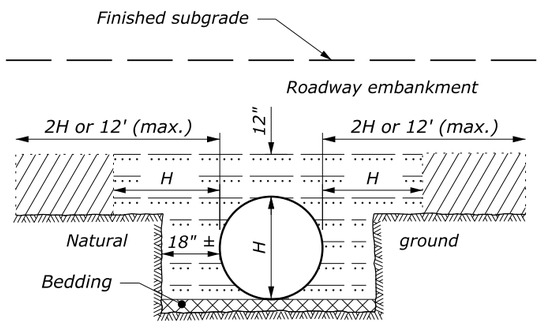


ON UNSTABLE MATERIAL

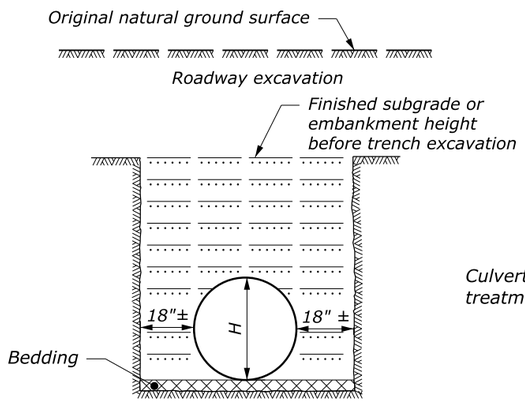


ELEVATION

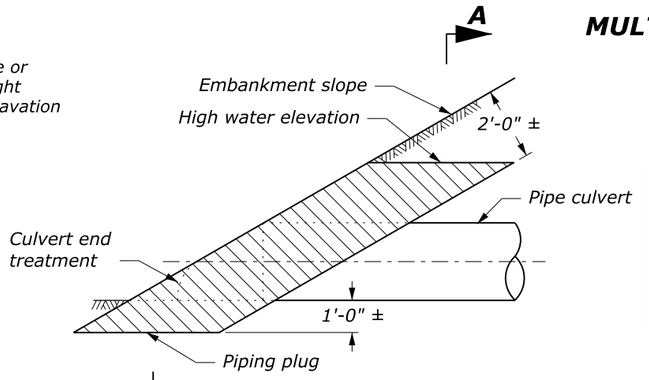
MULTIPLE PIPE INSTALLATION

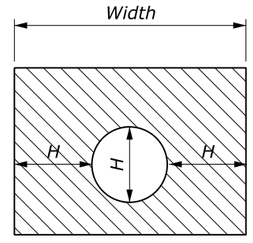


ABOVE AND BELOW NATURAL GROUND



BELOW NATURAL GROUND OR TRENCH EXCAVATION IN EMBANKMENT





SECTION A-A

Construct piping plug of impermeable backfill material at the pipe culvert inlet where granular material is used for backfill. Width may be adjusted to tie into impervious material.

PIPING PLUG

LEGEND:

- Bedding material (uncompacted)
- Embankment material placed in layers not exceeding 6" compacted depth.
- Compacted backfill material placed in layers not exceeding 6" compacted depth; or lean concrete backfill according to Section 614.
- Impermeable backfill material.

NO SCALE

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

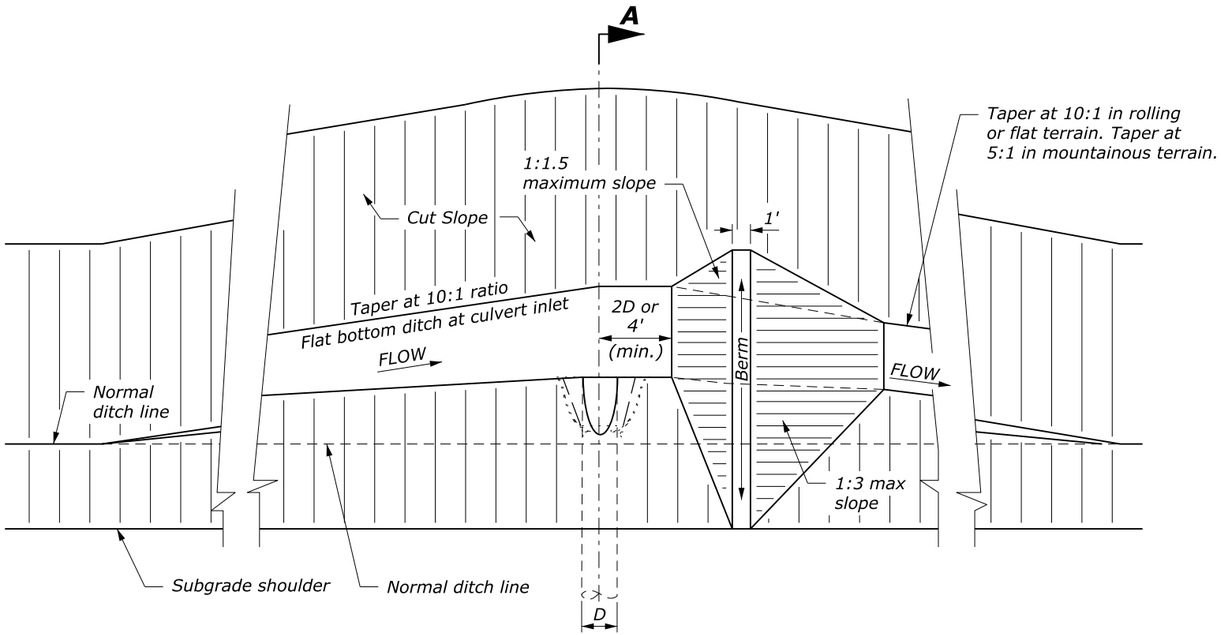
METAL AND PLASTIC PIPE CULVERT BEDDING

FLH STANDARD	602-3
SPECIFICATION	FP-14
APPROVED FOR USE	1/2024

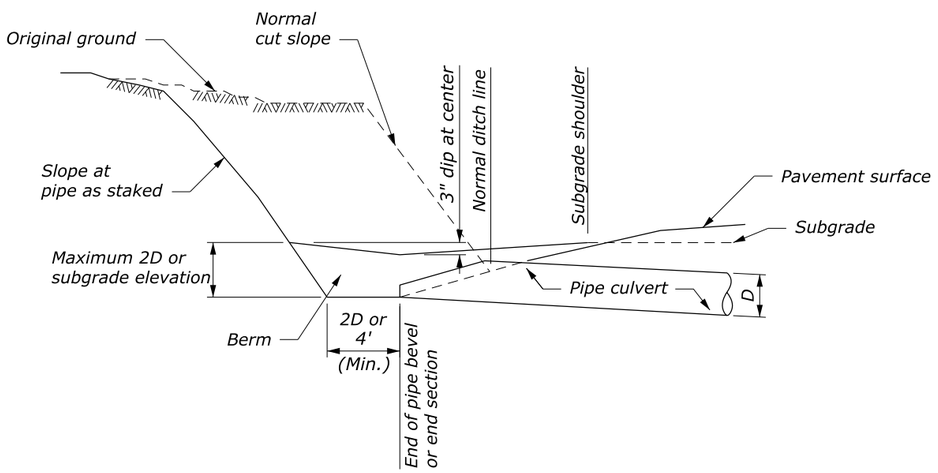
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	G.6

NOTE:

1. D equals the diameter of all round pipe or the rise dimension of all pipe arch culverts.

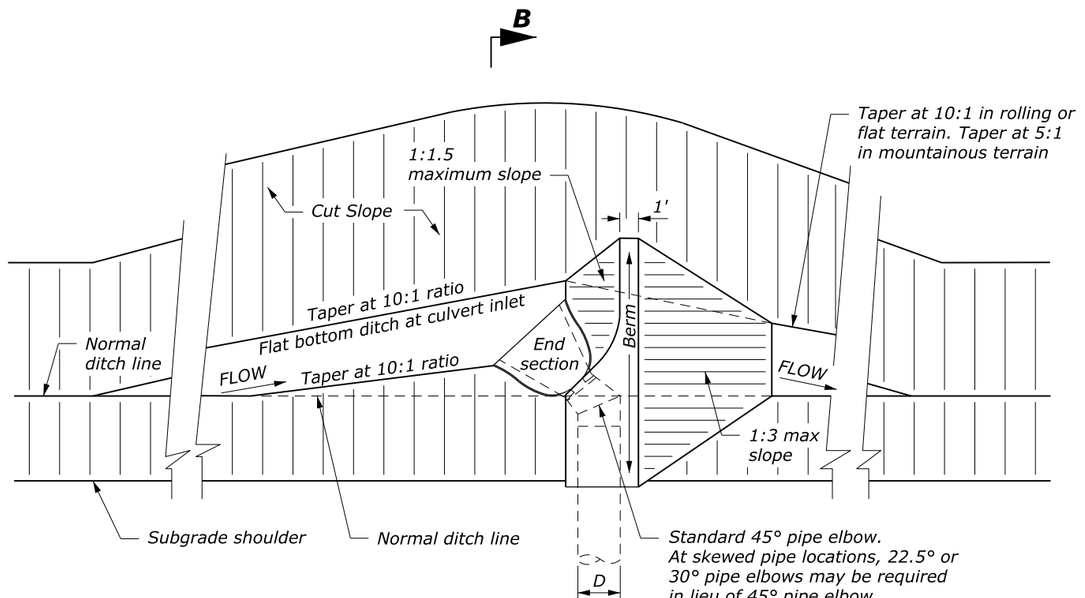


PLAN

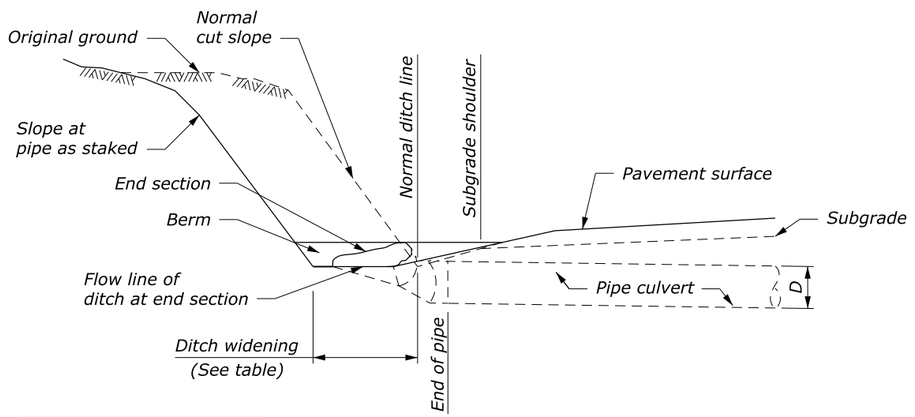


SECTION A-A

TYPE I



PLAN



SECTION B-B

TYPE II

DITCH WIDENING	
PIPE SIZE (D)	WIDENING
18"	5'
24"	6'
30"	7'

NO SCALE

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

PIPE CULVERT INLET TREATMENT IN CUT SLOPES

FLH STANDARD	602-6
SPECIFICATION	FP-24, FP-14
APPROVED FOR USE	1/2024

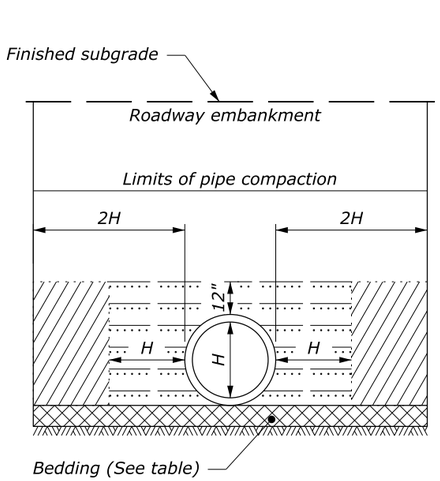
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	G.7

CONCRETE ROUND PIPE CULVERT

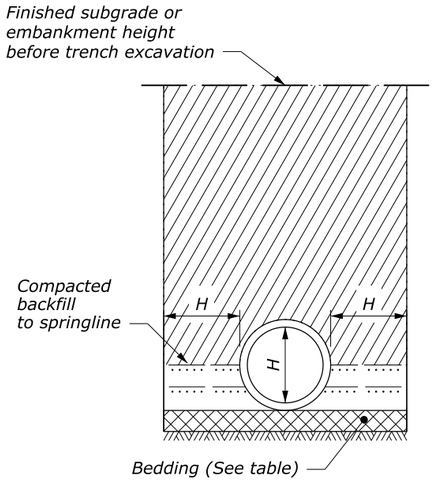
FILL HEIGHT AND PIPE CLASS TABLE

PIPE SIZE DIAMETER INCHES	MINIMUM COVER INCHES	EMBANKMENT CLASS II	EMBANKMENT CLASS III	EMBANKMENT CLASS IV	EMBANKMENT CLASS V	TRENCH CLASS II	TRENCH CLASS III	TRENCH CLASS IV	TRENCH CLASS V
		MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE IN FEET							
12	12	10	10	15	23	18	18	26	37
18	12	10	10	25	39	13	13	31	45
24	12	10	10	15	30	15	15	22	40
30	12	9	13	15	35	13	16	20	46
36	12	9	9	20	41	10	13	26	56
48	12	12	13	26	44	15	16	30	49
60	12	15	17	28	44	15	20	32	49
72	12	13	17	30	41	15	20	35	49
84	12	13	19	30		15	23	37	
96	12	13	20			15	24		
108	14	15	20			18	26		

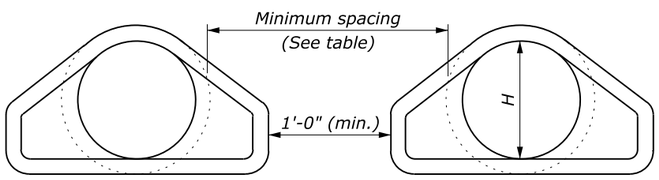
BEDDING DEPTH	
PIPE SIZE (H)	DEPTH
12" TO 54"	4"
> 54"	6"



EMBANKMENT INSTALLATION



TRENCH INSTALLATION

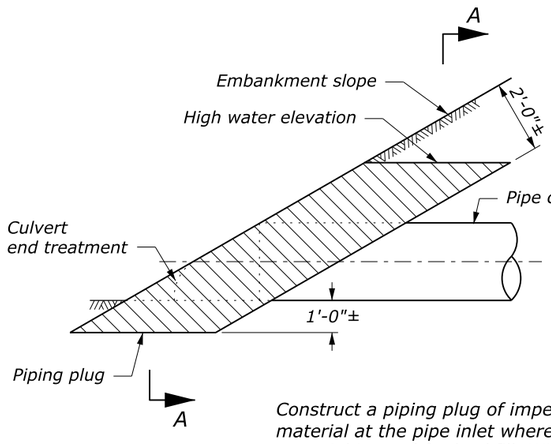


MULTIPLE ROUND PIPE INSTALLATION

MINIMUM SPACING		
DIAMETER	EMBANKMENT	TRENCH
12"-36"	15"	2H
36"-96"	0.5H	72"
OVER 96"	48"	72"

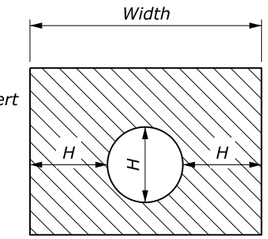
LEGEND:

- Bedding material (uncompacted)
- Embankment material placed in layers not exceeding 6" compacted depth.
- Compacted backfill material placed in layers not exceeding 6" compacted depth, or lean concrete backfill according to Section 614
- Impermeable backfill material



Construct a piping plug of impermeable backfill material at the pipe inlet where granular material is used for backfill. Width may be adjusted to tie into impervious material.

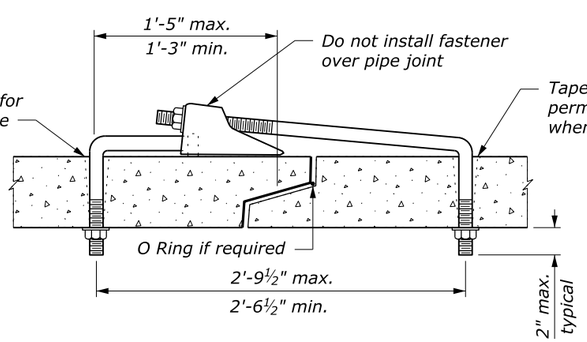
PIPING PLUG



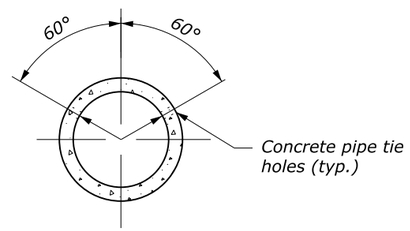
SECTION A-A

NOTE:

1. When directed, camber pipe culverts upwards from a chord through the inlet and outlet inverts an ordinate amount equal to 1% of the pipe length. Develop camber on a parabolic curve. If the midpoint elevation on the parabolic curve as designed exceeds the elevation of the inlet invert, reduce the amount of camber or increase the pipe culvert gradient.
2. For flexible pavement and aggregate surface roadways, measure minimum cover from the top of the pipe culvert to the bottom of the roadway subgrade. For rigid pavements, measure minimum cover from the top of the pipe culvert to the top of the pavement. For all roadway surface types, measure maximum fill height from the top of the pipe culvert to the top of the pavement.
3. Pipe compaction limits shown are for pipe installation in an embankment. For pipe installation in a trench, the compaction limits are the walls of the trench.
4. Where unyielding or unstable material is encountered, install the pipe culvert according to the limits of pipe compaction shown on Standard 602-3.
5. Maximum fill heights for pipe culvert installations may be increased on approval of site-specific structural pipe designs meeting the criteria of AASHTO Standard Specifications for Highway Bridges.
6. Use Supplemental Concrete Pipe Tie when specified in the contract documents.



SUPPLEMENTAL CONCRETE PIPE TIE



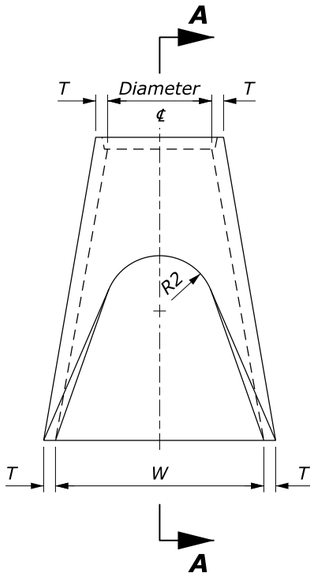
NO SCALE

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

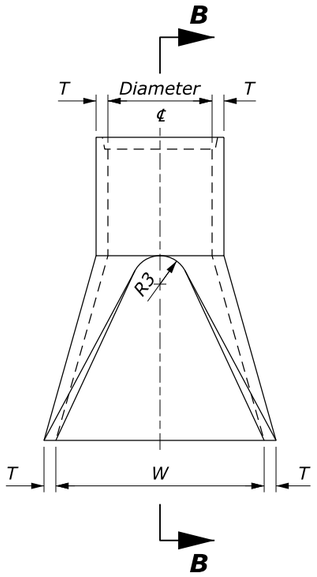
CONCRETE PIPE CULVERT INSTALLATION

FLH STANDARD	602-7
SPECIFICATION	FP-14
APPROVED FOR USE	8/2024

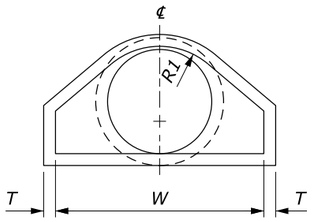
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	G.8



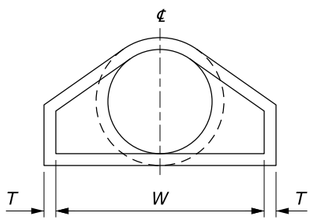
PLAN



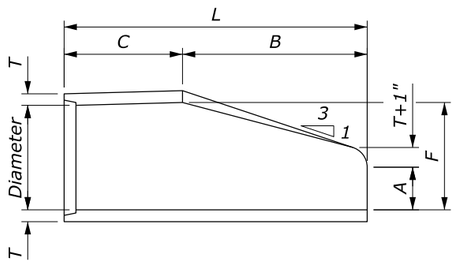
PLAN



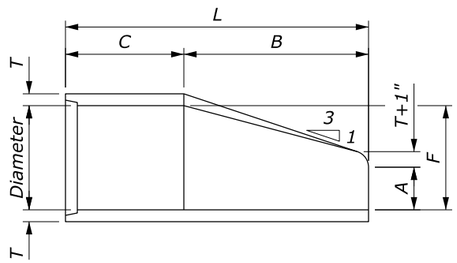
ELEVATION



ELEVATION



SECTION A-A



SECTION A-A

NO SCALE

NOTE:

1. *Variations in design and dimensions are permitted to allow for manufacturer's standards.*
2. *Fabricate the outlet end section with a groove end and the inlet end section with a tongue end.*
3. *Warp embankment slopes to match the slope of the flared end section.*

END SECTIONS FOR ROUND PIPE CULVERT

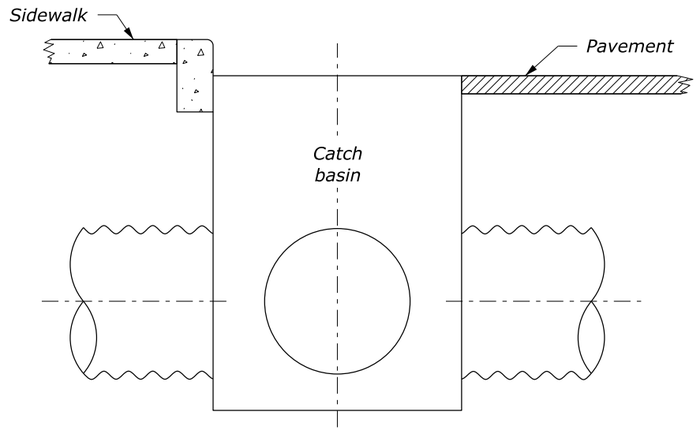
PIPE SIZE DIAMETER inch	DIMENSIONS inch									
	T	A	B	C	L	W	F	R1	R2	R3
12	2	4	24	48 7/8	72 7/8	24	13	10 1/8	9	4
15	2 1/4	6	27	46	73	30	16	12 1/2	11	6
18	2 1/2	9	27	46	73	36	19	15 1/2	12	7 1/2
21	2 3/4	9	36	37	73	42	22	16 1/2	13	5
24	3	9 1/2	43 1/2	30	73 1/2	48	25	16 3/4	14	8
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	28	--	14 1/2	9
30	3 1/2	12	54	19 3/4	73 3/4	60	31	18 1/2	15	8
33	3 3/4	13 1/2"	58 1/2	37 1/2	96	66	34	23 3/4	17 1/2	9
36	4	15	63	33	96	72	37	23 1/4	20	11
42	4 1/2	21	63	33	96	78	43	--	22	11
48	5	24	72	24	96	84	49	--	22	12

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

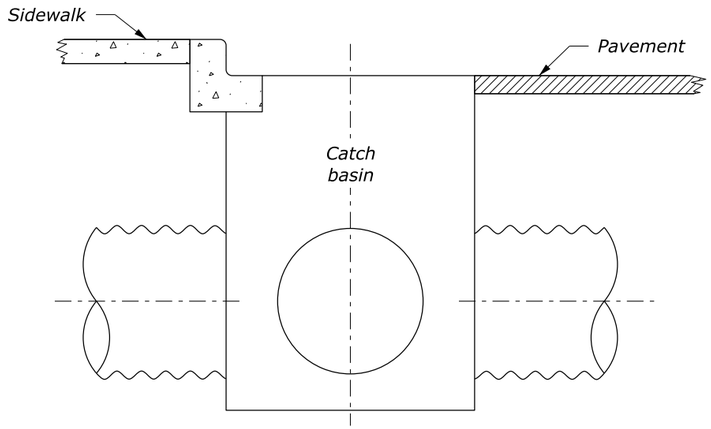
CONCRETE END SECTION FOR ROUND PIPE

FLH STANDARD	602-8
SPECIFICATION	FP-24, FP-14
APPROVED FOR USE	1/2024

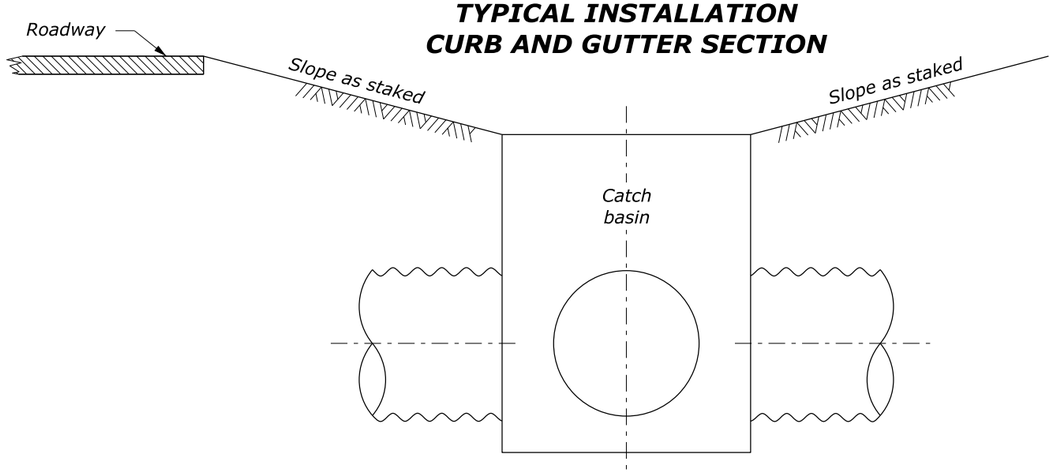
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	G.9



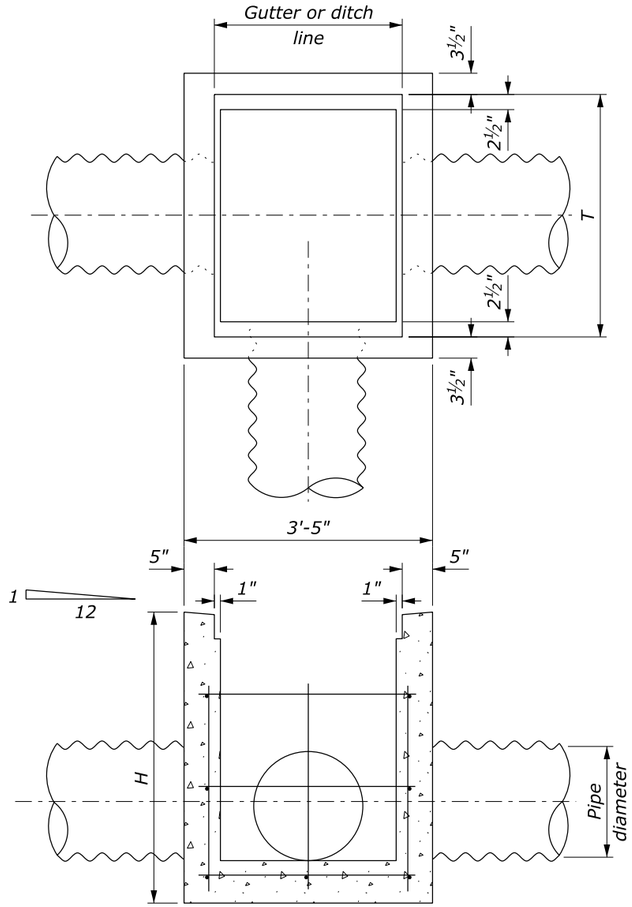
TYPICAL INSTALLATION CURB SECTION



TYPICAL INSTALLATION CURB AND GUTTER SECTION



TYPICAL INSTALLATION DITCH SECTION



All reinforcing steel #4 at 12"±. Bend to clear pipe

INLET DETAIL

NOTE:

1. *Chamfer all exposed edges ¾ inch and finish all exposed surfaces with a Class 1 ordinary finish.*
2. *The minimum concrete cover to the face of any bar is 2 inches unless otherwise shown.*
3. *See Standard 604-2 for Type A Frame and Grate and Standard 604-3 for Type B Frame and Grate.*

CONCRETE CATCH BASINS			
PIPE SIZE DIAMETER	DEPTH H	FRAME AND GRATE T	
		TYPE A	TYPE B
12"	3'-0"	2'-6"	2'-6"
18"	3'-0"	2'-6"	2'-6"
24"	4'-0"	3'-3"	3'-4"
30"	4'-0"	4'-0"	4'-2"
36"	4'-6"	4'-9"	5'-0"
42"	5'-0"	5'-6"	5'-5"
48"	5'-6"	6'-3"	6'-3"

CONCRETE CATCH BASINS				
PIPE SIZE DIAMETER	ESTIMATED QUANTITIES			
	CONCRETE CUYD	REINFORCING STEEL LB	FRAME AND GRATE LB	
			TYPE A	TYPE B
12"	0.7	54	215	238
18"	0.7	54	215	238
24"	1.1	81	271	314
30"	1.2	92	327	390
36"	1.5	101	383	466
42"	1.8	131	439	504
48"	2.2	151	495	580

NO SCALE

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

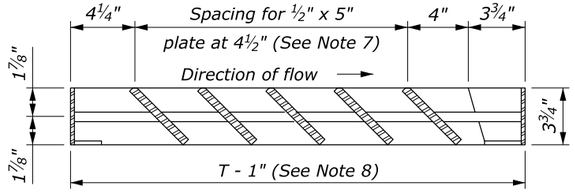
CATCH BASIN, TYPE 1

FLH STANDARD 604-1

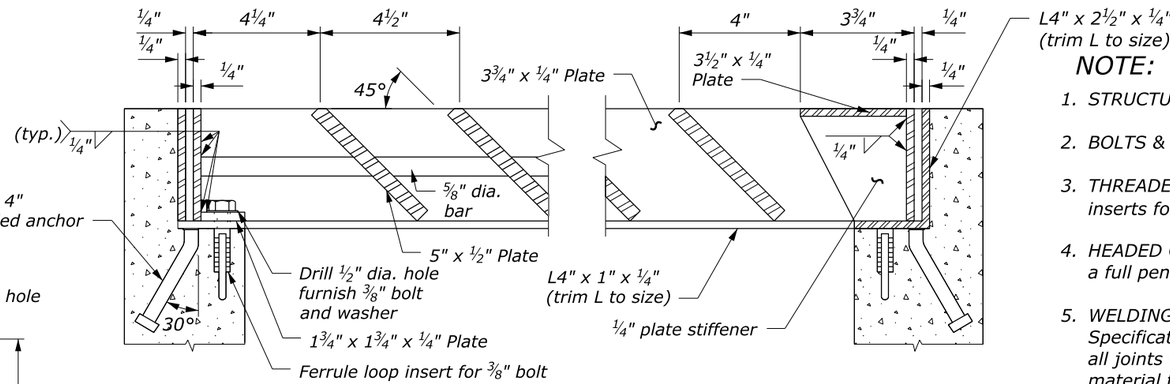
SPECIFICATION FP-24, FP-14

APPROVED FOR USE 1/2024

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	G.10



SECTION A-A

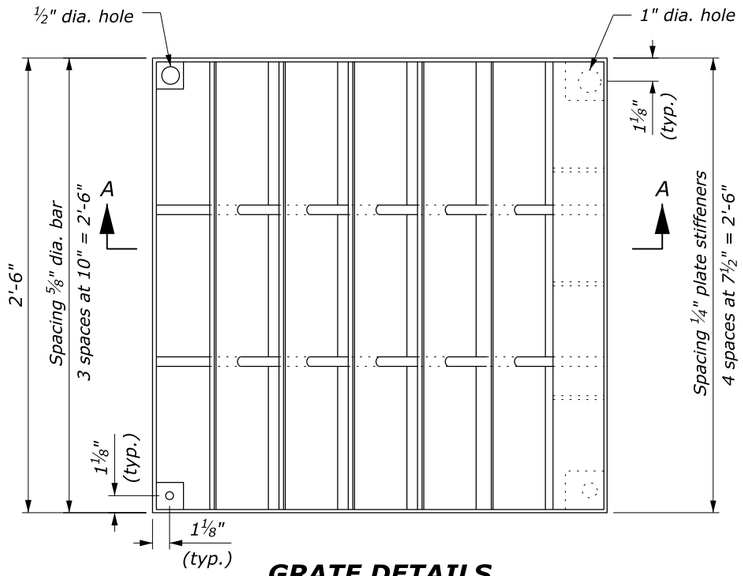


SECTION B-B

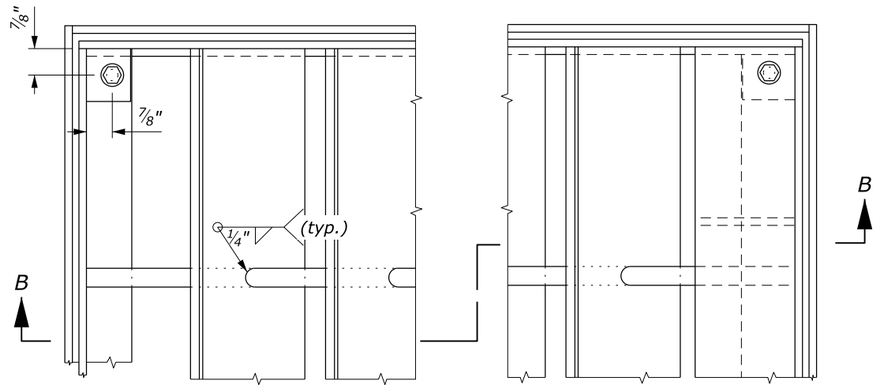
NOTE:

1. STRUCTURAL STEEL: ASTM A36.
2. BOLTS & WASHERS: ASTM A307, Galvanized.
3. THREADED CONCRETE ANCHORS: Ferrule loop inserts for ⅜ inch bolt or approved equal.
4. HEADED CONCRETE ANCHORS: Weld to frame with a full penetration butt weld.
5. WELDING: Weld in conformance with the Standard Specifications. Unless otherwise indicated seal weld all joints with a minimum size fillet weld, based on material thickness. Grind smooth all contact surfaces. FINISH: Galvanized after fabrication.
6. Estimated weight, frame and grate (2'-6" x 2'-6") 215 lbs. Increase or decrease weight by 28 lbs for each 4½ inch increment.
7. Number of plates varies according to pipe diameter. See Standard 604-1.
8. See Standard 604-1 for dimensions of T.

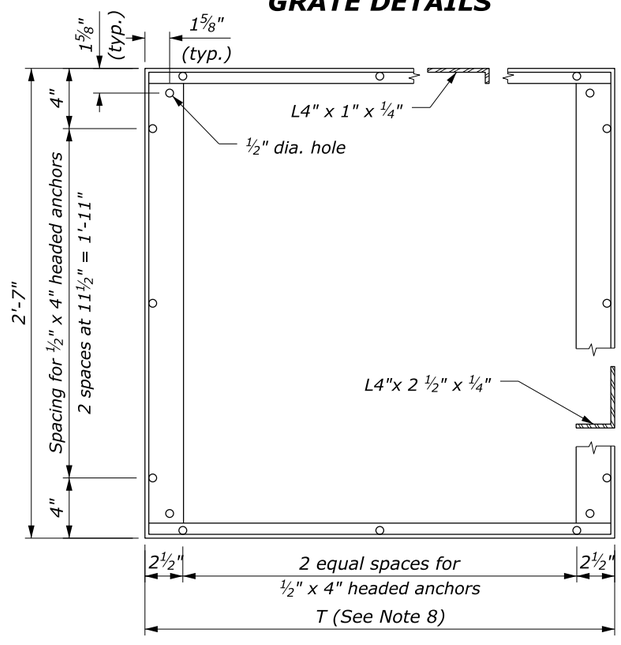
TRAFFIC



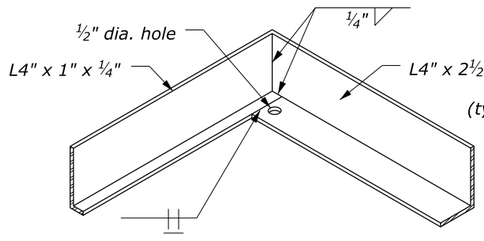
GRATE DETAILS



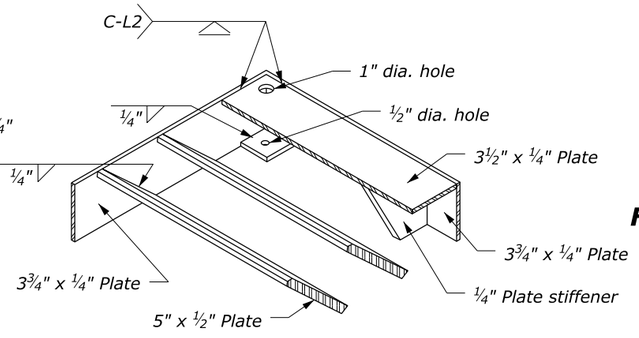
FRAME AND GRATE DETAILS



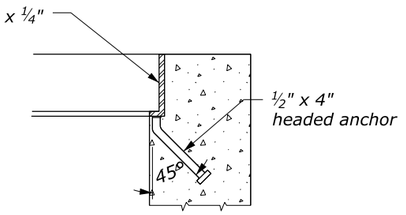
FRAME DETAIL



FRAME CORNER DETAIL



GRATE CORNER DETAIL

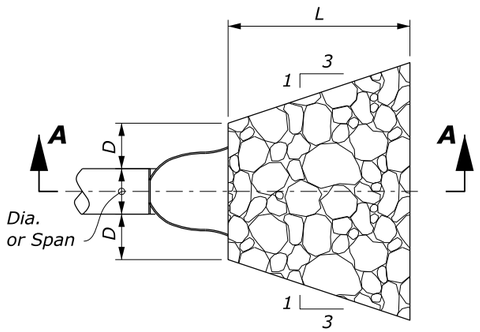


FRAME ANCHOR DETAIL

NO SCALE

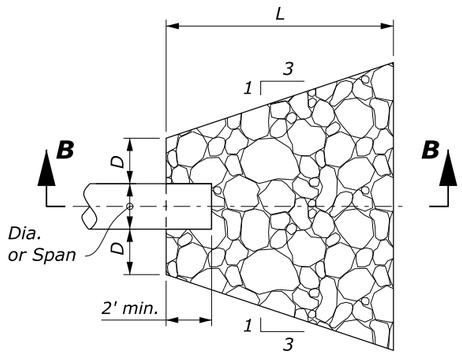
U.S. DEPARTMENT OF TRANSPORTATION, FHWA OFFICE OF FEDERAL LANDS HIGHWAY	FLH STANDARD 604-2
METAL FRAME AND GRATE TYPE A	SPECIFICATION FP-24, FP-14
	APPROVED FOR USE 1/2024

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	G.11



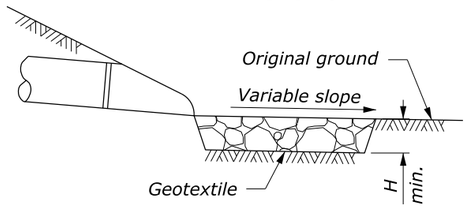
PLAN VIEW

CULVERT WITH STANDARD END SECTION

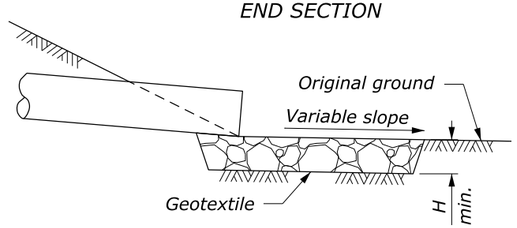


PLAN VIEW

CULVERT WITHOUT STANDARD END SECTION

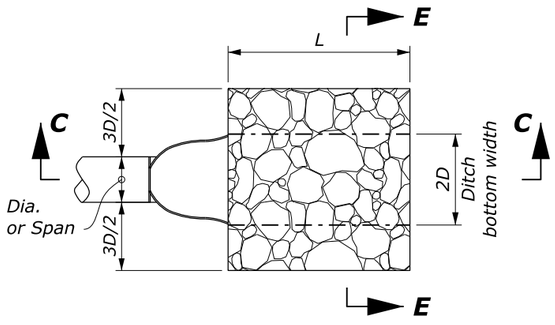


SECTION A-A



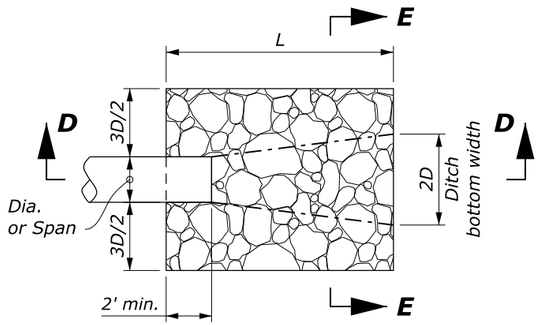
SECTION B-B

PROTECTIVE APRON AT CULVERT OUTLET WITHOUT DITCH



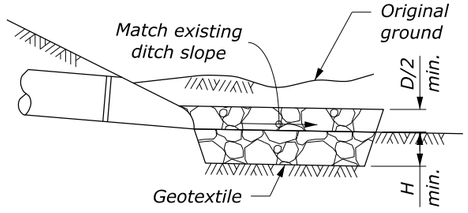
PLAN VIEW

CULVERT WITH STANDARD END SECTION

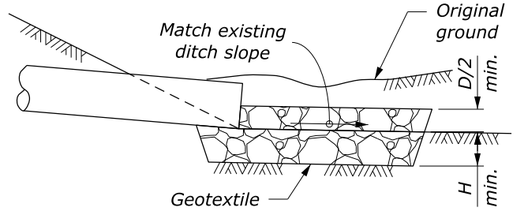


PLAN VIEW

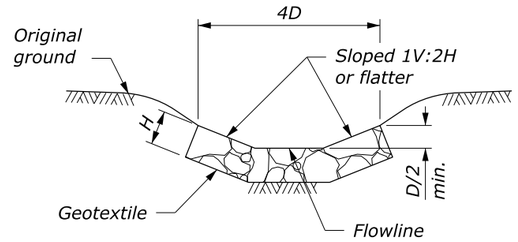
CULVERT WITHOUT STANDARD END SECTION



SECTION C-C



SECTION D-D



SECTION E-E

PROTECTIVE APRON AT CULVERT OUTLET WITH DITCH

NO SCALE

OUTLET WITHOUT DITCH
PROTECTIVE APRON DIMENSIONS AND QUANTITIES
FOR INFORMATION ONLY

	CULVERT SIZE D (INCHES)	RIPAP CLASS	APRON LENGTH L (FEET)	APRON DEPTH H (INCHES)	ESTIMATED RIPRAP QUANTITY (CUYD)	ESTIMATED GEOTEXTILE QUANTITY (SQYD)
WITH END SECTION	12	2	4	18	1.0	5
	18	2	6	18	2.2	9
	24	2	8	18	3.9	13
	30	3	12.5	24	10.8	27
	36	3	15	24	15.6	37
	42	4	21	30	34.0	63
	48	4	24	30	44.4	78
WITHOUT END SECTION	12	2	6	18	1.7	7
	18	2	8	18	3.2	12
	24	2	10	18	5.2	17
	30	3	14.5	24	13.2	32
	36	3	17	24	18.5	42
	42	4	23	30	38.7	70
	48	4	26	30	49.8	86

OUTLET WITH DITCH
PROTECTIVE APRON DIMENSIONS AND QUANTITIES
FOR INFORMATION ONLY

	CULVERT SIZE D (INCHES)	RIPAP CLASS	APRON LENGTH L (FEET)	APRON DEPTH H (INCHES)	ESTIMATED RIPRAP QUANTITY (CUYD)	ESTIMATED GEOTEXTILE QUANTITY (SQYD)
WITH END SECTION	12	2	4	18	0.9	4
	18	2	6	18	2.0	8
	24	2	8	18	3.6	12
	30	3	12.5	24	9.3	24
	36	3	15	24	13.3	32
	42	4	21	30	27.2	52
	48	4	24	30	35.6	65
WITHOUT END SECTION	12	2	6	18	1.3	6
	18	2	8	18	2.7	10
	24	2	10	18	4.4	15
	30	3	14.5	24	10.7	27
	36	3	17	24	15.1	36
	42	4	23	30	29.8	56
	48	4	26	30	38.5	70

NOTE:

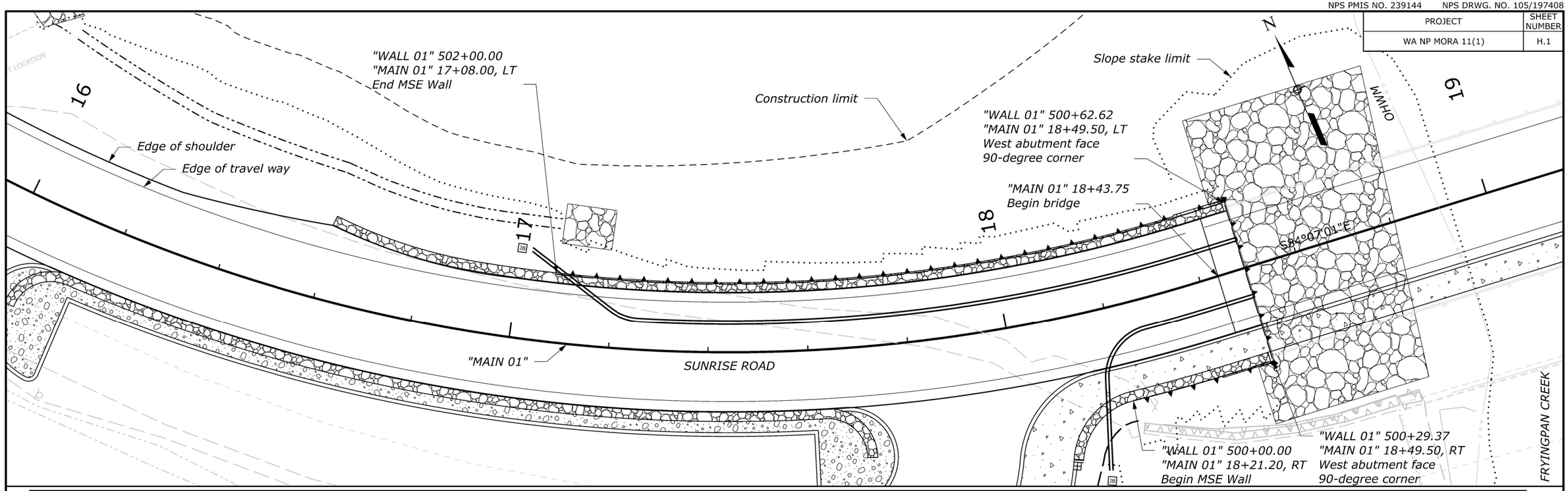
1. *Use for aprons serving culverts with slopes less than 10%.*
2. *Furnish separation and stabilization geotextile.*
3. *Do not measure riprap placement excavation for payment.*

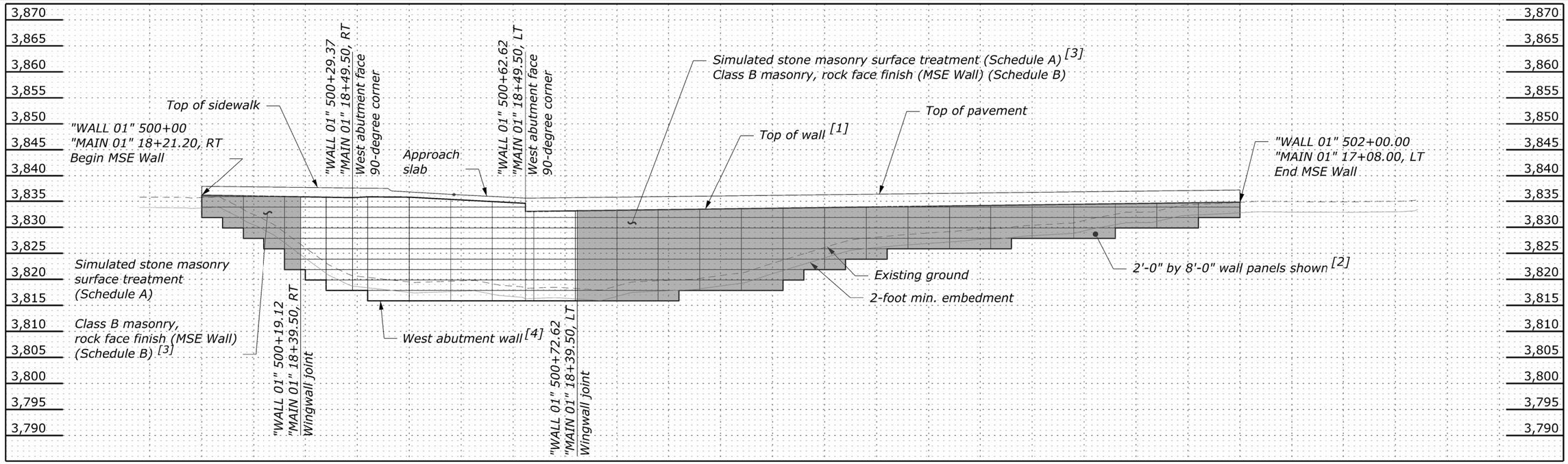
U.S. DEPARTMENT OF TRANSPORTATION, FHWA
OFFICE OF FEDERAL LANDS HIGHWAY

PLACED RIPRAP AT CULVERT OUTLETS

WFL STANDARD
W251-1
SPECIFICATION
FP-24, FP-14
APPROVED FOR USE
8/2016

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	H.1



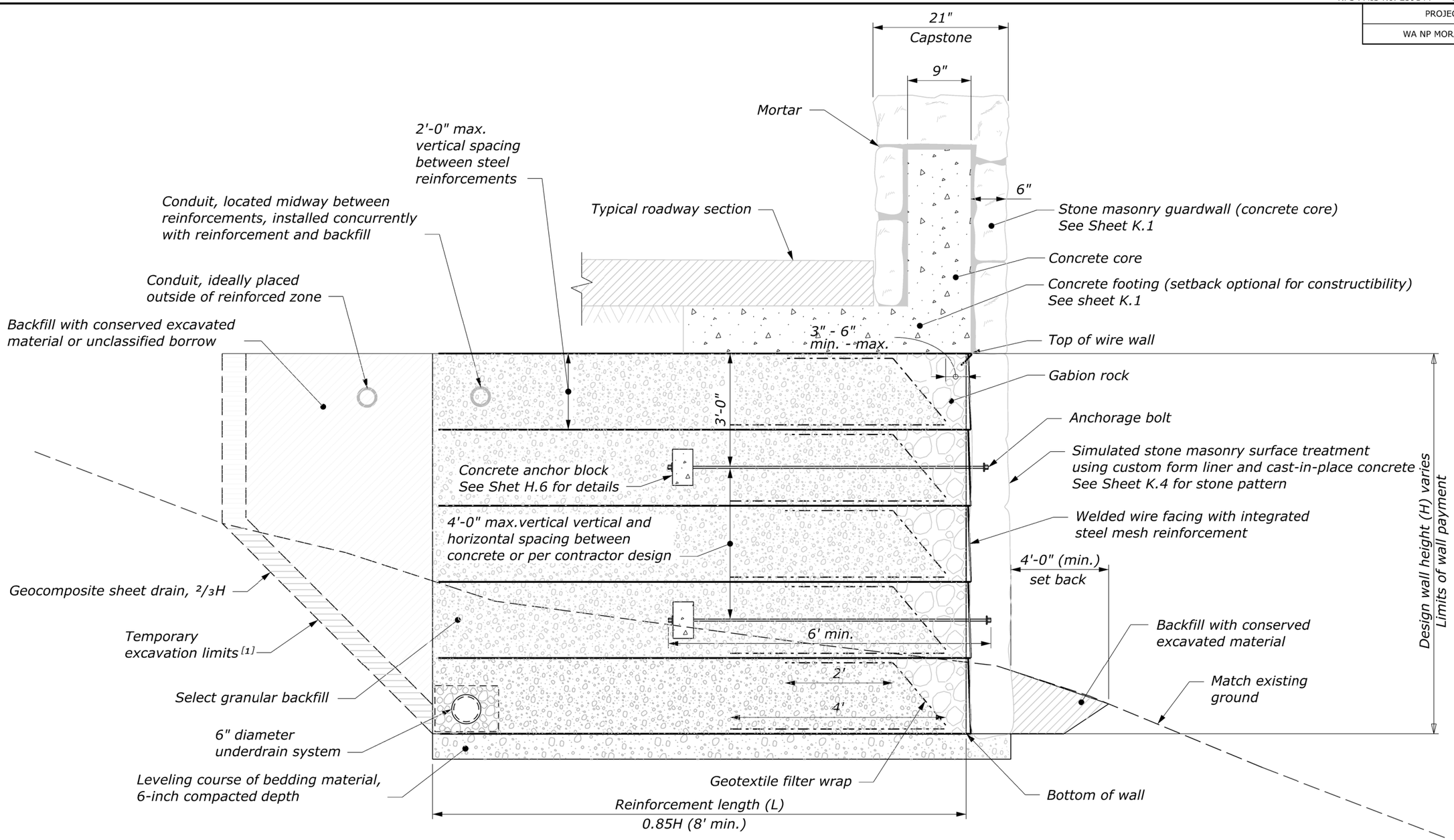


FOOTNOTE:

[1] Contractor design to determine top trim or nesting in design to match the roadway grade.
[2] Wall panel layout and steps are conceptual. Select and design the final wall system according to Sections 255 and 257.
[3] Simulated stone masonry surface treatment or Class B masonry, rock face finish for the MSE wall is measured up the wingwall joint lines.
[4] See S Sheets for Simulated stone masonry surface treatment or Class B masonry, rock face finish quantities associated with the abutment wall.

MSE WALL PROFILE

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	H.2



MSE WALL WITH SIMULATED STONE MASONRY SURFACE TREATMENT

NOTE:

1. *The wall details shown are conceptual. Design twelded wired face MSE walls according to Section 257.*

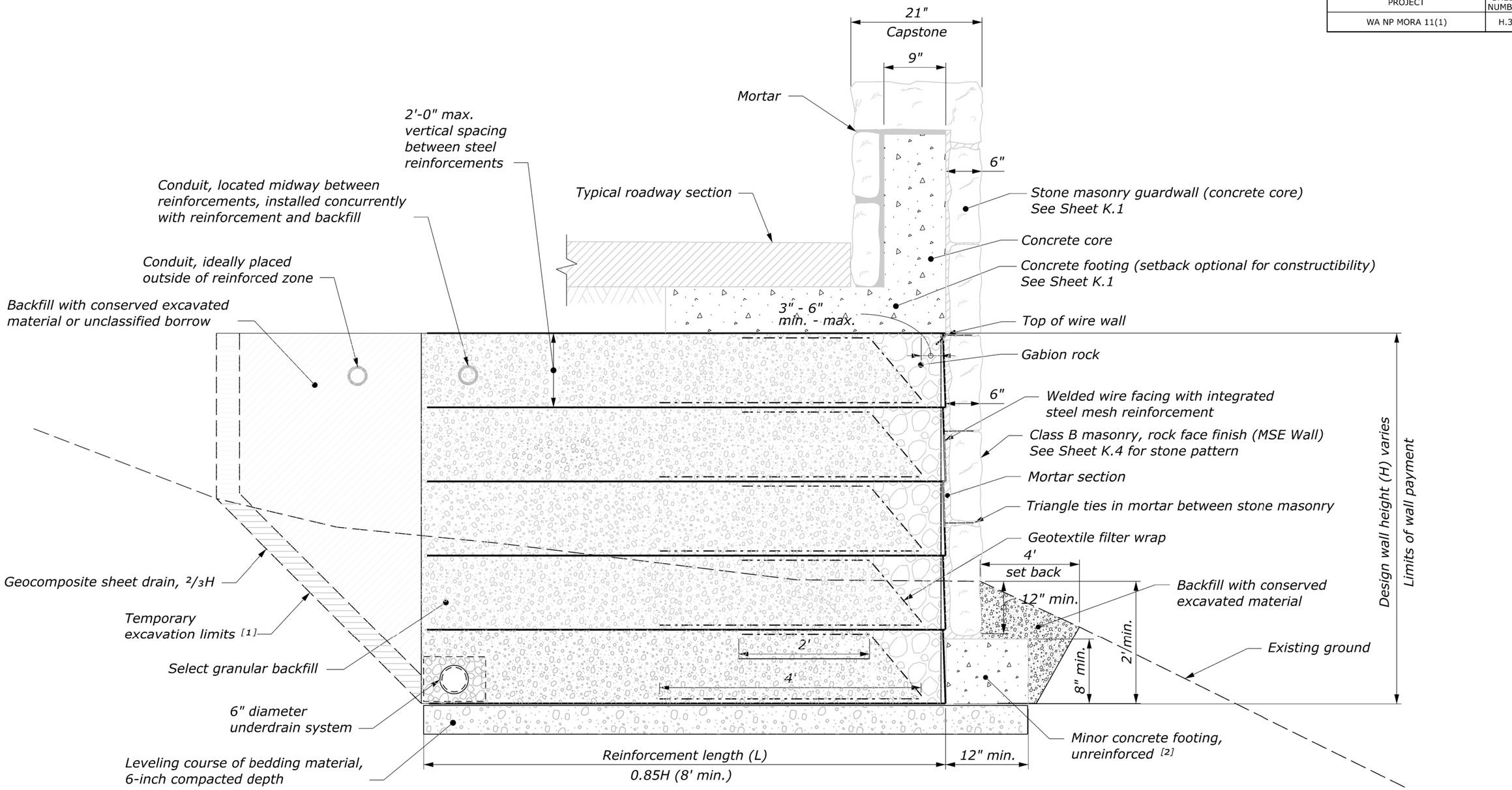
FOOTNOTE:

[1] Temporary slopes to be determined by the contractor.

NO SCALE

MSE WALL TYPICAL SECTION
SCHEDULE A

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	H.3



MSE WALL WITH STONE MASONRY FASCIA

NOTE:

1. *The wall details shown are conceptual. Design welded wired face MSE walls according to Section 257.*

FOOTNOTE:

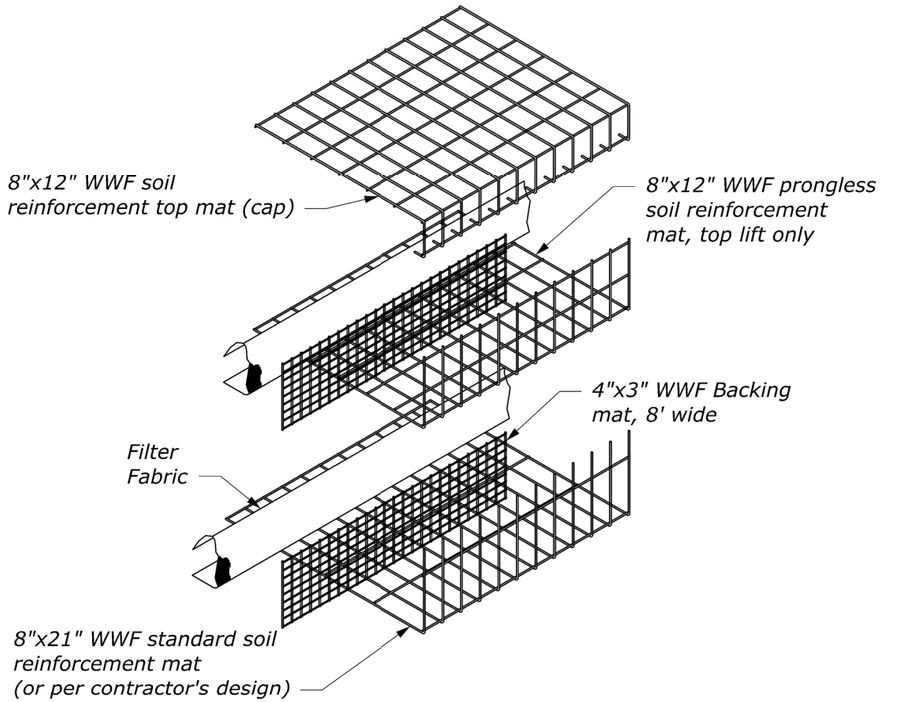
[1] Temporary slopes to be determined by the contractor.

[2] Minor concrete footing is incidental to the stone masonry facing pay item.

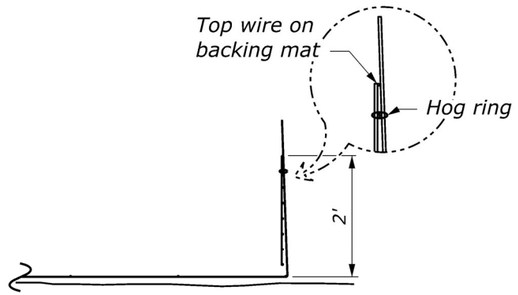
NO SCALE

MSE WALL TYPICAL SECTION
SCHEDULE B

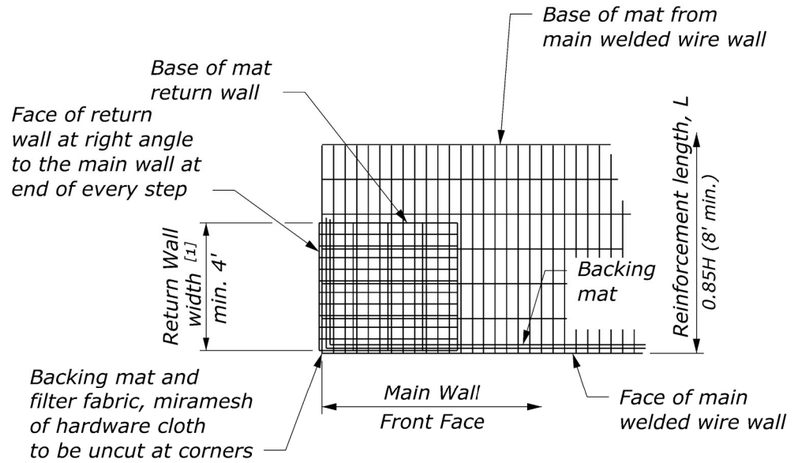
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	H.4



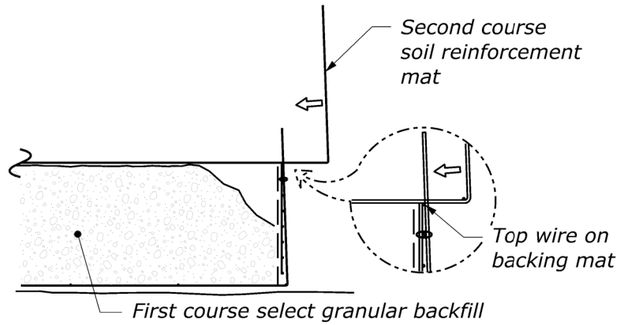
WALL COMPONENTS DETAIL



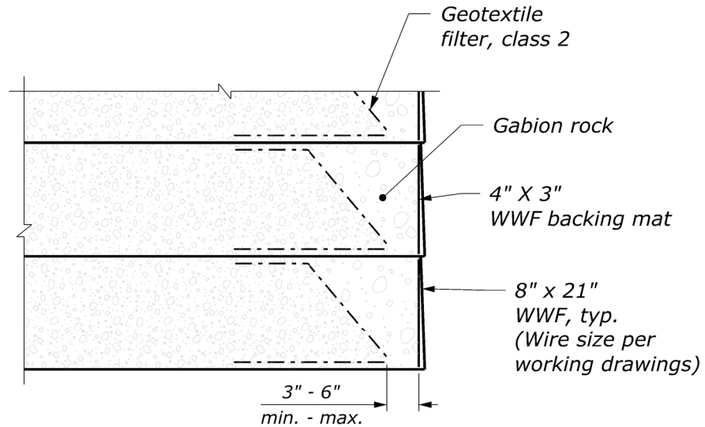
BOTTOM MAT DETAIL



RETURN WALL PLAN VIEW DETAIL



SECOND LIFT DETAIL



ROCK-FACE DETAIL

NOTE:

1. *WWF - Welded wire fabric*

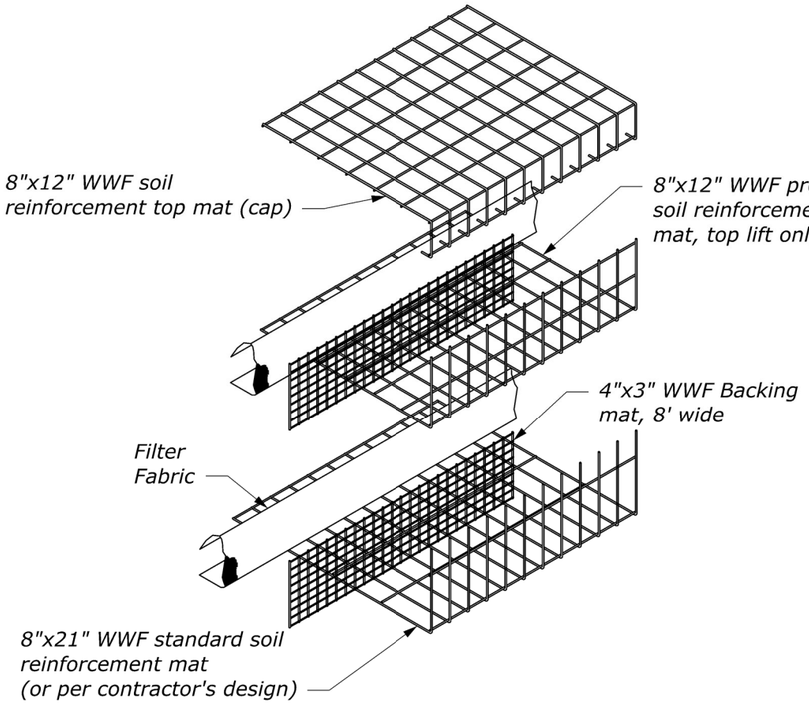
FOOTNOTE:

[1] Terminate wire-face at the beginning and end of each lift with a return of the wall facing material a minimum of 4 feet into the backfill. Returns will not be measured for payment.

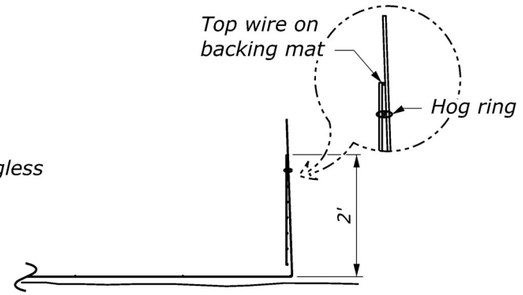
NO SCALE

MSE WALL MAT AND LIFT DETAILS SCHEDULE A

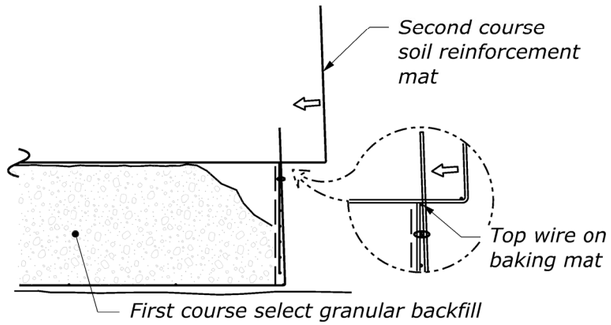
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	H.5



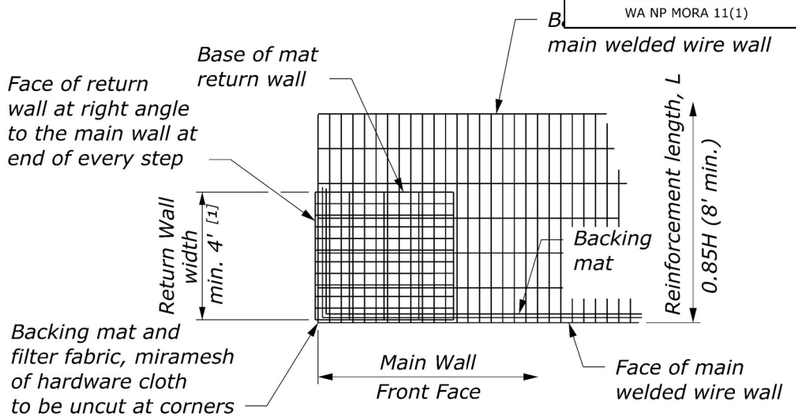
WALL COMPONENTS DETAIL



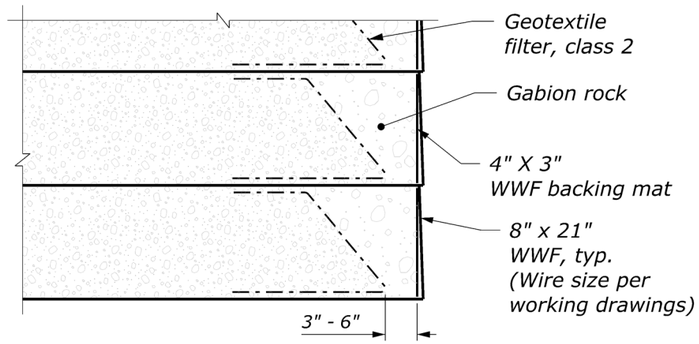
BOTTOM MAT DETAIL



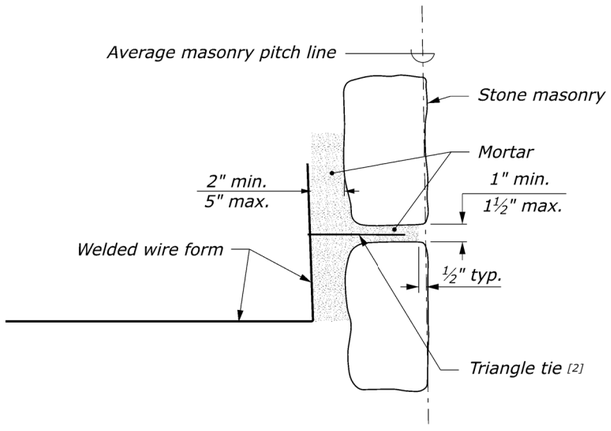
SECOND LIFT DETAIL



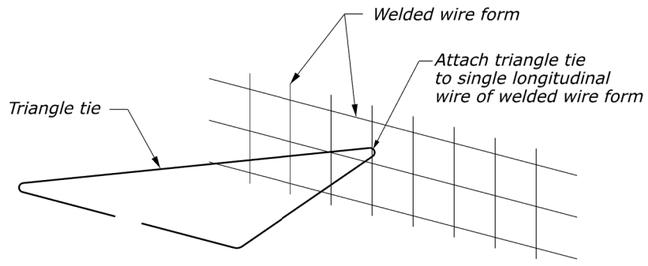
RETURN WALL PLAN VIEW DETAIL



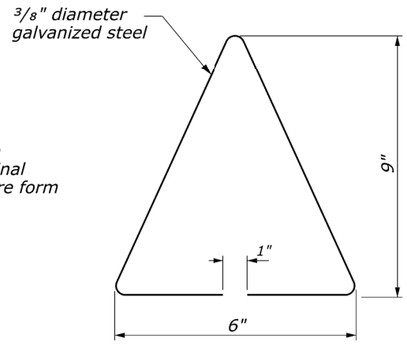
ROCK-FACE DETAIL



STONE MASONRY ANCHOR DETAIL



TRIANGLE TIE CONNECTION DETAIL



TRIANGLE TIE DETAIL

NOTE:

1. *WWF - Welded wire fabric*
2. *The contractor is responsible for determining the appropriate wire mat sizes.*

FOOTNOTE:

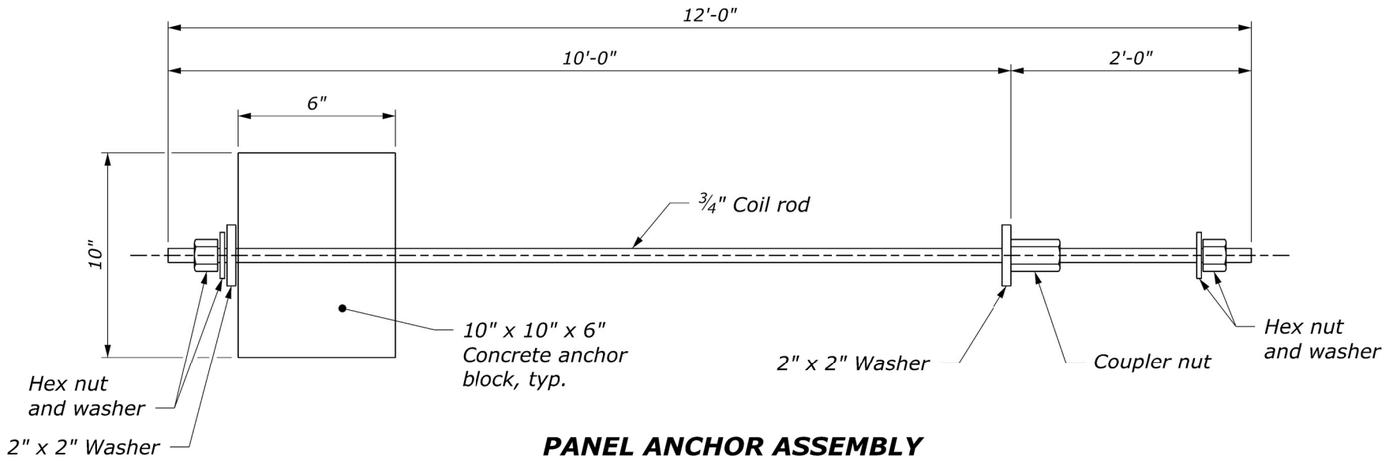
[1] Terminate wire-face at the beginning and end of each lift with a return of the wall facing material a minimum of 4 feet into the backfill. Returns will not be measured for payment.

[2] Install triangle ties to welded wire forms at 24-inch maximum on center spacing, both vertically and horizontally.

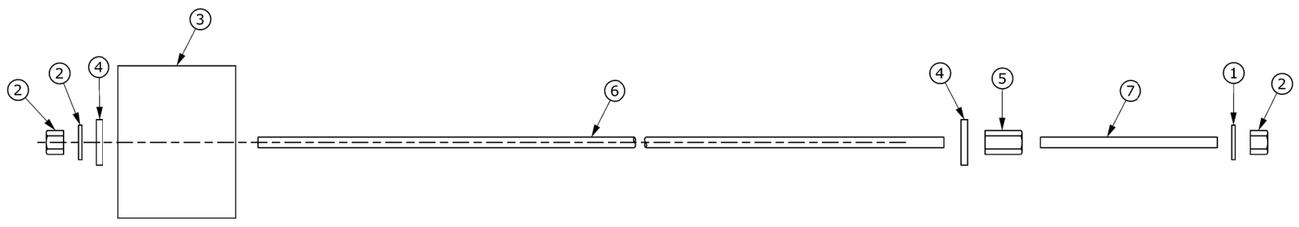
NO SCALE

MSE WALL MAT AND LIFT DETAILS SCHEDULE B

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	H.6



PANEL ANCHOR ASSEMBLY



PANEL ANCHOR COMPONENTS

PART NO.	DESCRIPTION	PER ASSEMBLY
1	CUT WASHER	2
2	HEX NUT	2
3	10" x 10" x 6" CONCRETE ANCHOR BLOCK	1
4	1/4" x 2" x 2" PLATE WASHER WITH CENTER HOLE	2
5	COUPLER NUT	1
6	COIL ROD - 10'-0"	1
7	COIL ROD - 2'-0"	1

CAST-IN-PLACE (CIP) ANCHOR QUANTITIES				
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	NOTE
	PANEL ANCHOR ASSEMBLY	100	EACH	Quantities are for information only.

NO SCALE

CIP ANCHOR DETAILS SCHEDULE A

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	I.1

ITEM 63504-1000
TEMPORARY TRAFFIC CONTROL, CONSTRUCTION SIGN

SCHEDULE	SIGN	MUTCD REF. NO.	SIGN LEGEND	SIGN SIZE (IN x IN)			AREA (SQFT)	NO. OF SIGNS	QUANTITY (SQFT)
A&B	1	R2-1	SPEED LIMIT	24	x	30	5.00	2	10.0
A&B	2	R10-6	STOP HERE ON RED	24	x	36	6.00	2	12.0
A&B	3	R11-2	ROAD CLOSED	48	x	30	10.00	4	40.0
A&B	4	W1-4R	REVERSE CURVE	30	x	30	6.25	1	6.3
A&B	5	W3-3	SIGNAL AHEAD	36	x	36	9.00	2	18.0
A&B	6	W8-1	BUMP	30	x	30	6.25	4	25.0
A&B	7	W8-2	DIP	30	x	30	6.25	4	25.0
A&B	8	W8-8	ROUGH ROAD	30	x	30	6.25	2	12.5
A&B	9	W16-2P	XX FEET	24	x	18	3.00	6	18.0
A&B	10	W20-1	ROAD WORK AHEAD	36	x	36	9.00	8	72.0
A&B	11	W20-3	ROAD CLOSED (WITH DISTANCE)	36	x	36	9.00	4	36.0
A&B	12	W20-4	ONE LANE ROAD AHEAD	36	x	36	9.00	4	36.0
A&B	13	W20-7	FLAGGER SYMBOL	36	x	36	9.00	4	36.0
A&B	14	G20-2	END ROAD WORK	36	x	18	4.50	2	9.0
A&B	15		REF-3 ROAD WORK SUNRISE ROAD XX MILES AHEAD 30-MIN DELAYS	102	x	54	38.25	3	114.8
A&B	16		TRAIL CLOSED	18	x	24	3.00	2	6.0
A&B	17	R8-3a	NO PARKING	24	x	30	5.00	28	140.0
A&B	18	R7-201aP	TOW-AWAY ZONE (PLAQUE)	12	x	6	0.50	28	14.0
								SCHEDULE A & B TOTAL	**630.5**

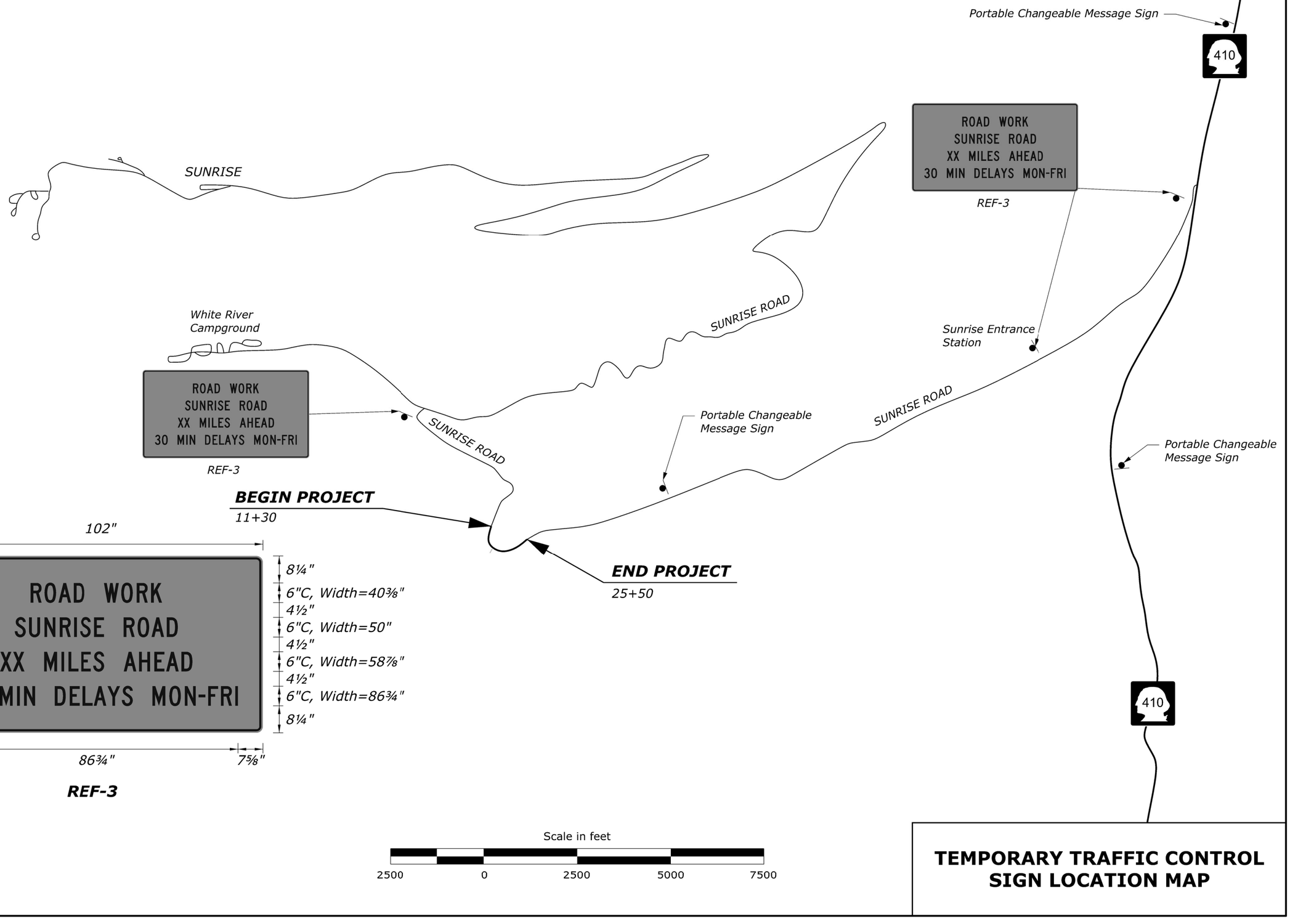
TEMPORARY TRAFFIC CONTROL DEVICE QUANTITIES

SCHEDULE	ITEM	DESCRIPTION	UNIT	QUANTITY	NOTES
A&B	63502-0600	TEMPORARY TRAFFIC CONTROL, BARRICADE TYPE 3 (8 FEET WIDE)	EACH	6	
A&B	63502-0900	TEMPORARY TRAFFIC CONTROL, CONE, TYPE 28-INCH	EACH	60	
A&B	63502-1250	TEMPORARY TRAFFIC CONTROL, TUBULAR MARKER, TYPE 42-INCH	EACH	12	
A&B	63502-1300	TEMPORARY TRAFFIC CONTROL, DRUM	EACH	100	
A&B	63502-1500	TEMPORARY TRAFFIC CONTROL, WARNING LIGHT TYPE A	EACH	12	
A&B	63502-1600	TEMPORARY TRAFFIC CONTROL, WARNING LIGHT TYPE B	EACH	10	
A&B	63502-1700	TEMPORARY TRAFFIC CONTROL, WARNING LIGHT TYPE C	EACH	100	
A&B	63502-2000	TEMPORARY TRAFFIC CONTROL, PORTABLE CHANGEABLE MESSAGE SIGN	EACH	3	
A&B	63502-3100	TEMPORARY TRAFFIC CONTROL, TRAFFIC SIGNAL SYSTEM	EACH	1	
A&B	63503-0700	TEMPORARY TRAFFIC CONTROL, PAVEMENT MARKINGS	LNFT	60	Stop bars
A&B	63506-0500	TEMPORARY TRAFFIC CONTROL, FLAGGER	HOUR	2500	
A&B	63507-0700	TEMPORARY TRAFFIC CONTROL, TRAFFIC CONTROL SUPERVISOR	DAY	550	

TABULATION OF QUANTITIES

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	I.2



BORDER
R=1½"
TH=0⅝"
IN=0½"

REF-3

Scale in feet

2500 0 2500 5000 7500

TEMPORARY TRAFFIC CONTROL SIGN LOCATION MAP

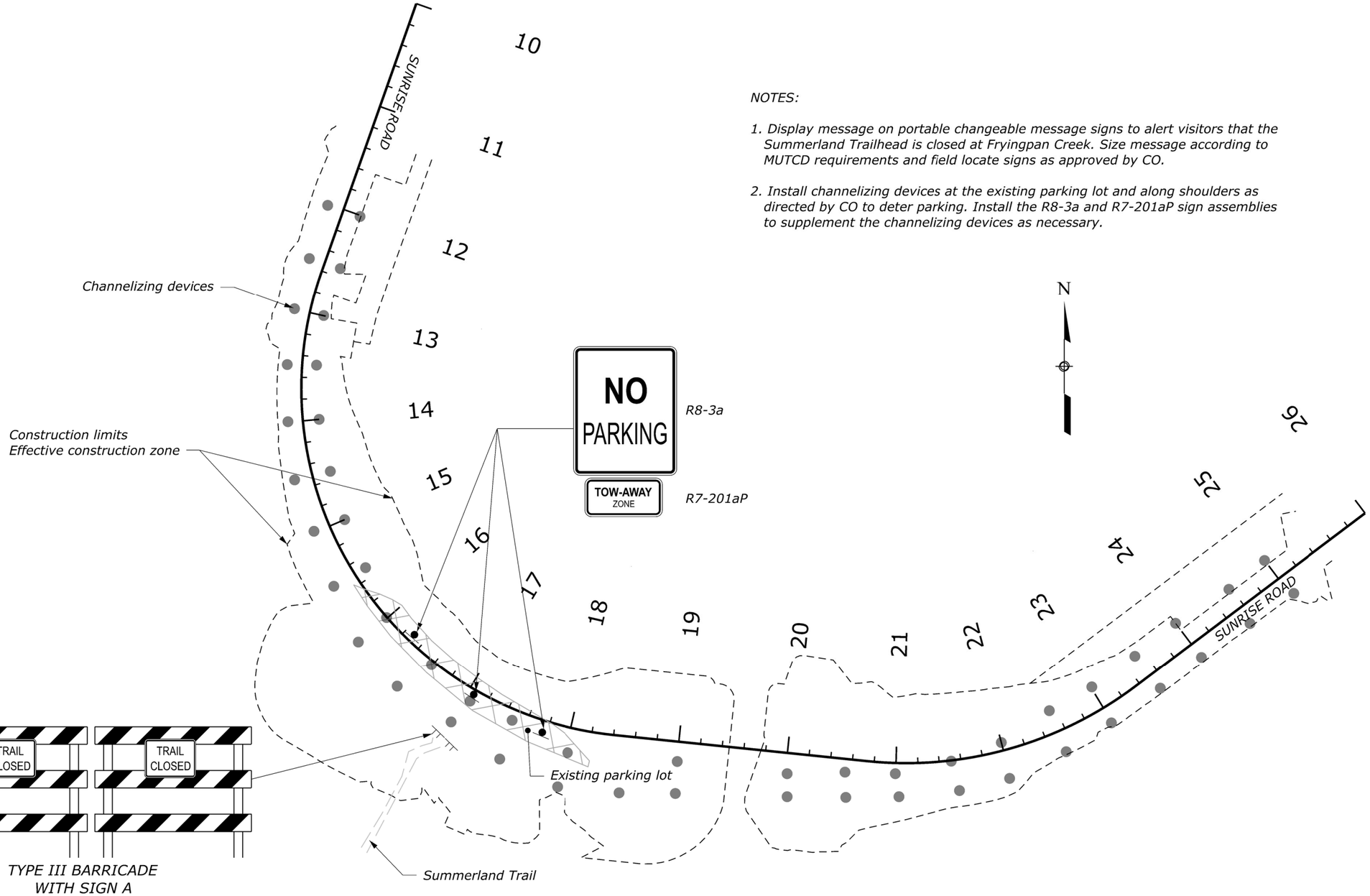
c:\pw_work\wfl\d0521507\mora11-1_pln_ttc_I1-3.dgn [Temporary Traffic Control Sign Location Map]
6 January 2026 9:28 AM

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	I.3

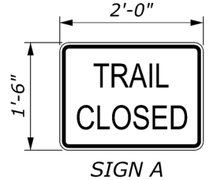
NOTES:

1. *Display message on portable changeable message signs to alert visitors that the Summerland Trailhead is closed at Fryingpan Creek. Size message according to MUTCD requirements and field locate signs as approved by CO.*

2. *Install channelizing devices at the existing parking lot and along shoulders as directed by CO to deter parking. Install the R8-3a and R7-201aP sign assemblies to supplement the channelizing devices as necessary.*



TYPE III BARRICADE WITH SIGN A



SIGN A

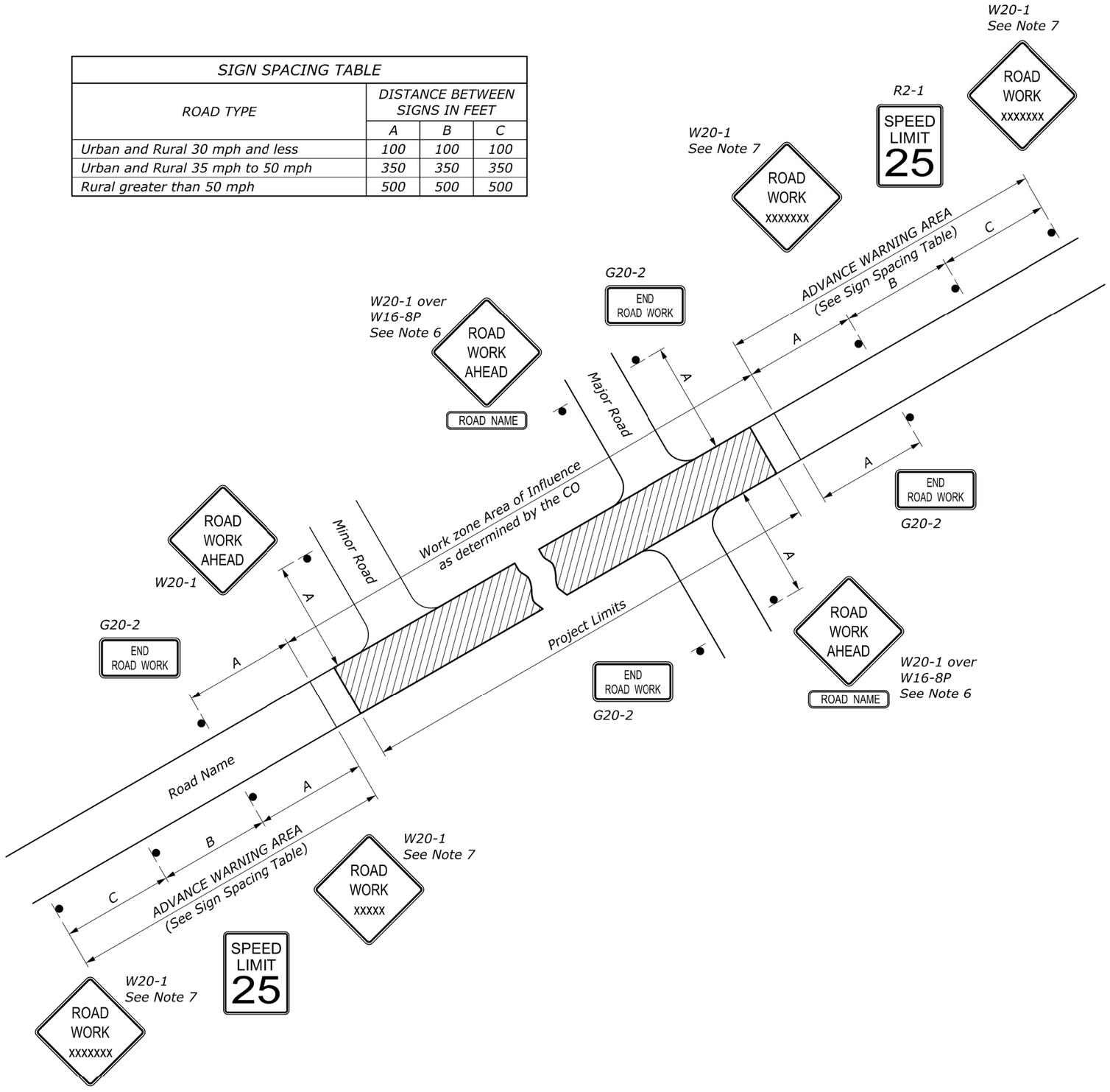
Scale in feet

100 0 100 200 300

TEMPORARY TRAFFIC CONTROL TRAIL CLOSURE

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	I.4

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



NOTE:

1. *Erect all project advance warning signs before starting construction work.*
2. *Not all details shown on the temporary traffic control sheets may be applicable to this project. The Contractor may add or delete information and details in this traffic control plan as necessary to accommodate actual operations.*
3. *Where advance warning signs, placed as shown, interfere with permanent signs, locate the warning signs to fit field conditions as approved. Vary messages as required.*
4. *Ensure all sign supports exposed to traffic are crashworthy.*
5. *Do not store traffic control devices along the roadway when not in use. Cover post-mounted signs when not applicable.*
6. *If W20-1 is placed on a roadway other than that on which the actual construction work occurs, include a supplementary plaque indicating the name of the road on which the construction does occur (applies to major roads only).*
7. *The message on the W20-1 signs may be ROAD WORK AHEAD or may specify the distance to the work area in feet or in miles. Install an additional W20-1 sign when approach speeds exceed 50 mph. When used, place the two W20-1 signs "B" feet apart according to the Sign Spacing Table.*
8. *If signing on a roadway under a jurisdiction other than the client agency, verify that an encroachment permit has been obtained.*
9. *State standards may be used as an alternative if approved.*

NO SCALE

TEMPORARY TRAFFIC CONTROL ADVANCE SIGNING

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	I.5

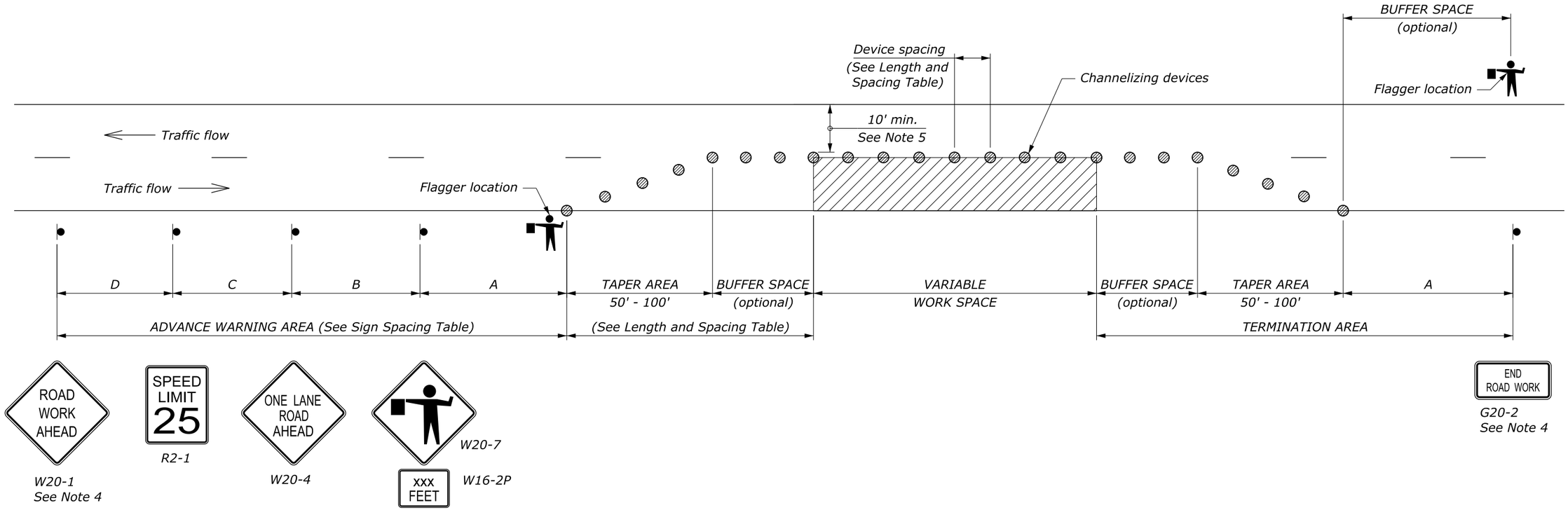
LENGTH AND SPACING TABLE				
APPROACH SPEED* MPH	BUFFER SPACE LENGTH FEET	CHANNELIZING DEVICE SPACING IN FEET		
		TAPER AREA	BUFFER SPACE	WORK SPACE
20	115	20	40	40
25	155	20	50	50
30	200	20	60	60
35	250	20	70	70
40	305	20	80	80
45	360	20	90	90
50	425	20	100	100
55	495	20	110	110
60	570	20	120	120
65	645	20	130	130
70	730	20	140	140

* 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	D
Urban and Rural 30 mph and less	100	100	100	100
Urban and Rural 35 mph to 50 mph	350	350	350	350
Rural greater than 50 mph	500	500	500	500

NOTE:

1. Signs are shown for one direction of travel only. Place signs similar to those depicted for the opposite direction of travel.
2. Final location and spacing of devices may be changed to fit field conditions as approved.
3. 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.
4. If closure is completely within the project limits, eliminate the ROAD WORK AHEAD (W20-1) and END ROAD WORK (G20-2) signs.
5. For project specific minimum width, refer to the Special Contract Requirements, Section 156.
6. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH FLAGGERS)

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	I.6

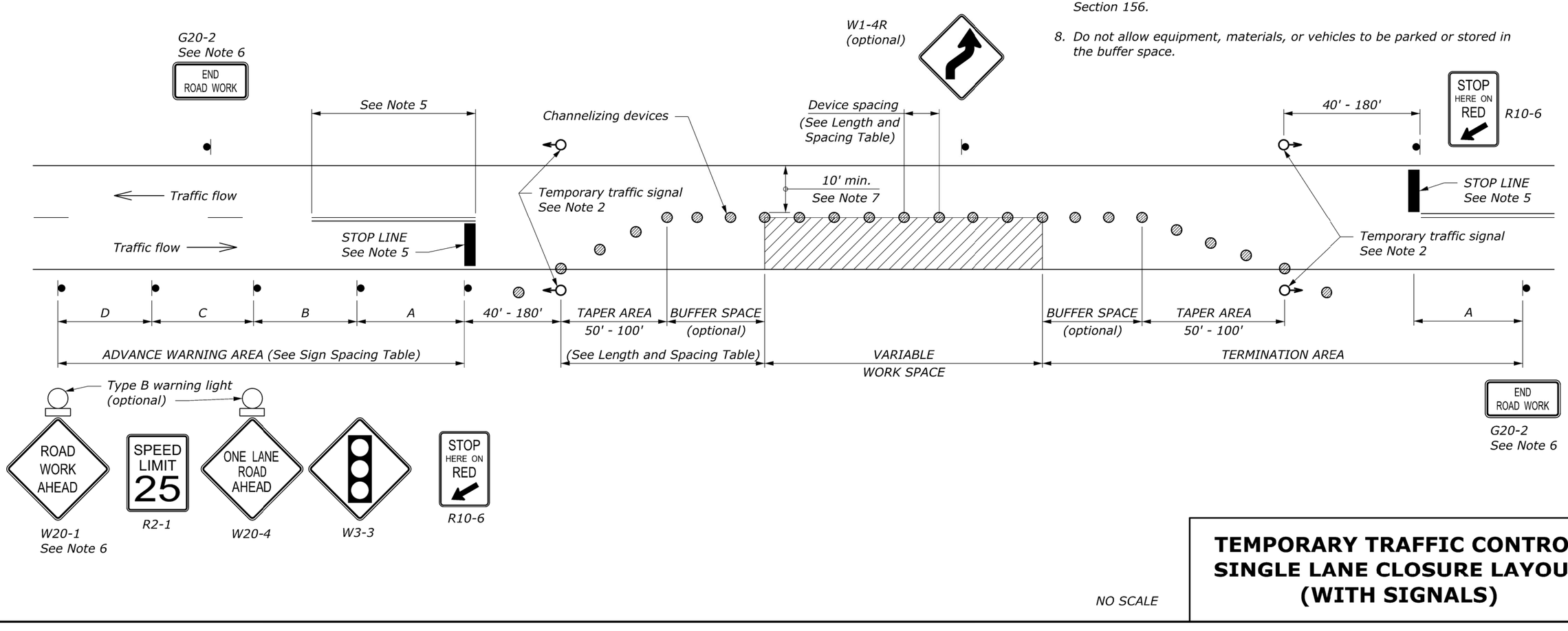
LENGTH AND SPACING TABLE				
APPROACH SPEED* MPH	BUFFER SPACE LENGTH FEET	CHANNELIZING DEVICE SPACING IN FEET		
		TAPER AREA	BUFFER SPACE	WORK SPACE
20	115	20	40	40
25	155	20	50	50
30	200	20	60	60
35	250	20	70	70
40	305	20	80	80
45	360	20	90	90
50	425	20	100	100
55	495	20	110	110
60	570	20	120	120
65	645	20	130	130
70	730	20	140	140

* 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	D
Urban and Rural 30 mph and less	100	100	100	100
Urban and Rural 35 mph to 50 mph	350	350	350	350
Rural greater than 50 mph	500	500	500	500

NOTE:

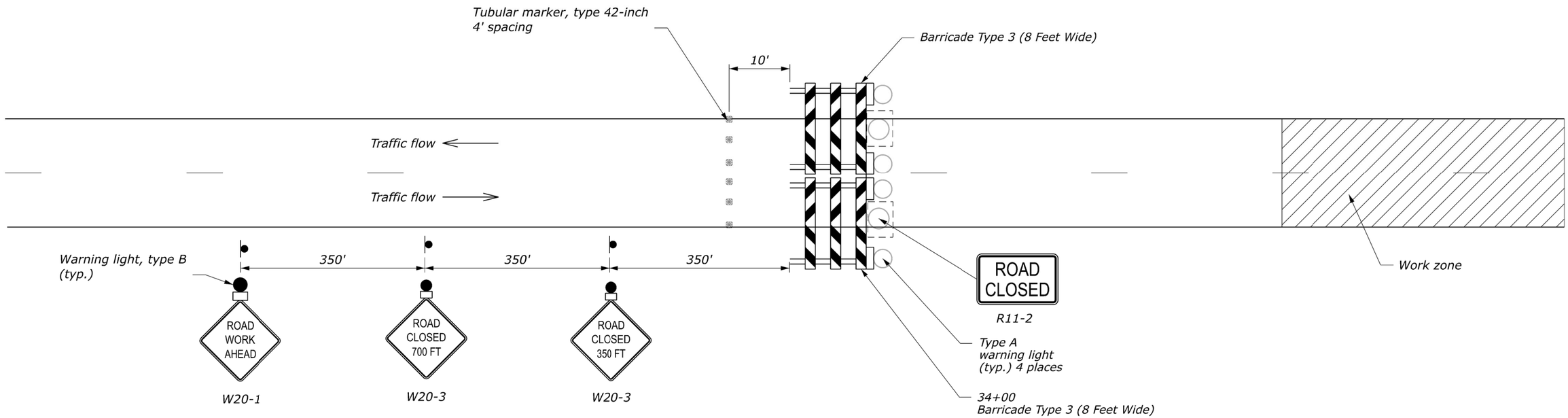
1. Signs are shown for one direction of travel only. Place signs similar to those depicted for the opposite direction of travel.
2. A single signal installation is acceptable, on the right-hand side of the road, if it has two signal faces that are at least 8 feet apart and meets the other requirements of the MUTCD.
3. Install and operate temporary traffic control signals in accordance with the requirements of the MUTCD. Establish signal timing using a qualified engineer. When the signal is changed to the flashing mode either manually or automatically, ensure red signal indications are flashed to both approaches.
4. Final location and spacing of devices may be changed to fit field conditions as approved. If signals are moved, determine revised signal timing using a qualified engineer.
5. For paved roadway surfaces, install stop lines complying with the MUTCD. Remove existing conflicting pavement markings and raised markers between the work space and the stop line. Add no-passing lines in advance of the stop line that comply with the MUTCD. Removable pavement markings may be used for stop lines and no-passing pavement markings.
6. If closure is completely within the project limits, eliminate the ROAD WORK AHEAD (W20-1) and END ROAD WORK (G20-2) signs.
7. For project specific minimum width, refer to Special Contract Requirements, Section 156.
8. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH SIGNALS)

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	I.7



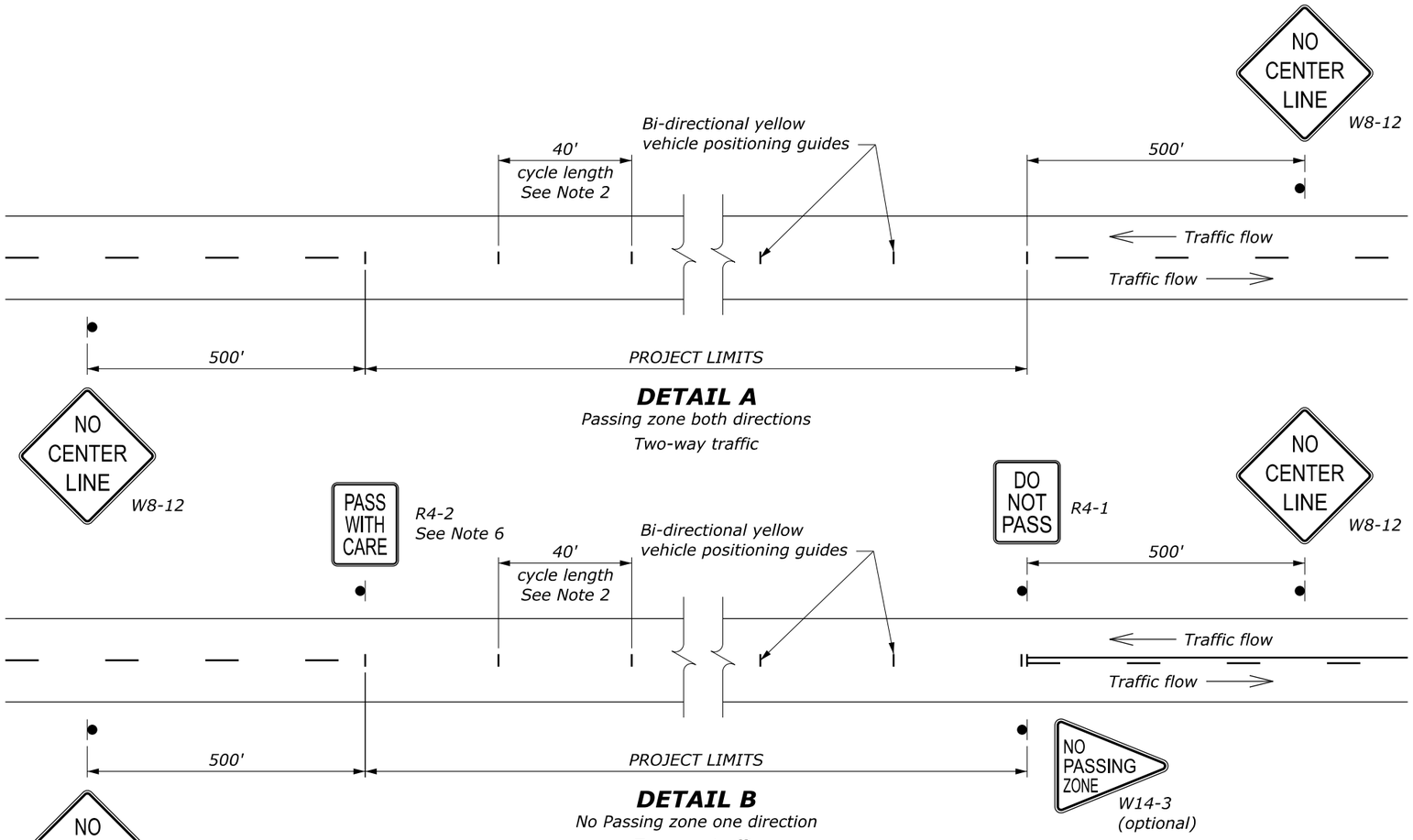
NOTE:

1. *Signs are shown for one direction of travel only. Place signs similar to those depicted for the opposite direction of travel.*
2. *Final location and spacing of signs and devices may be changed to fit field conditions as approved by CO.*
3. *Provide turnaround areas so that vehicles are not trapped by road closure.*

NO SCALE

TEMPORARY TRAFFIC CONTROL ROAD CLOSURE LAYOUT

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	I.8



DETAIL A

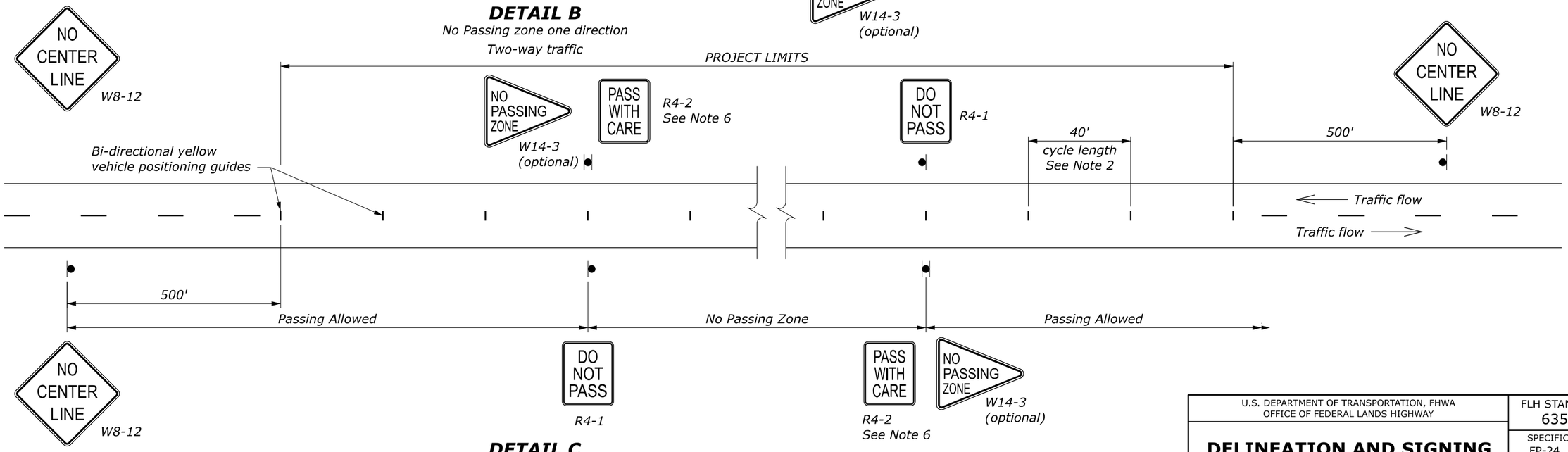
Passing zone both directions

Two-way traffic

DETAIL B

No Passing zone one direction

Two-way traffic



DETAIL C

No Passing zone both directions

Two-way traffic

NO SCALE

NOTE:

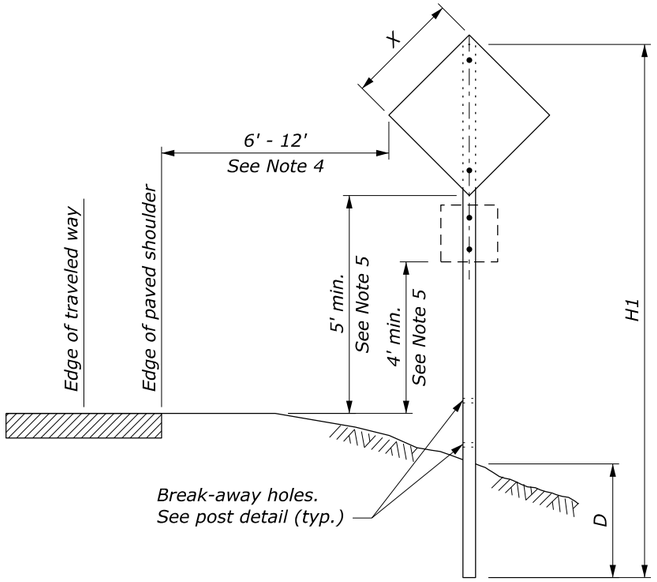
1. *The pavement on two- or three-lane roads may remain unmarked up to 14 days when providing signs according to this drawing. Optionally use the vehicle positioning guides to provide additional delineation.*
2. *On curves with radius less than 500 ft, reduce cycle length to 20 ft.*
3. *Use permanent markings plan to determine no passing zones for each direction of travel.*
4. *Repeat R4-1 at 1 mile intervals.*
5. *Repeat W8-12 after each major intersection and every 2 miles for temporary traffic control zones greater than 3 miles long.*
6. *Use the PASS WITH CARE (R4-2) sign at the downstream end of a no-passing zone only if a DO NOT PASS (R4-1) sign has been installed at the upstream end of the zone.*

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

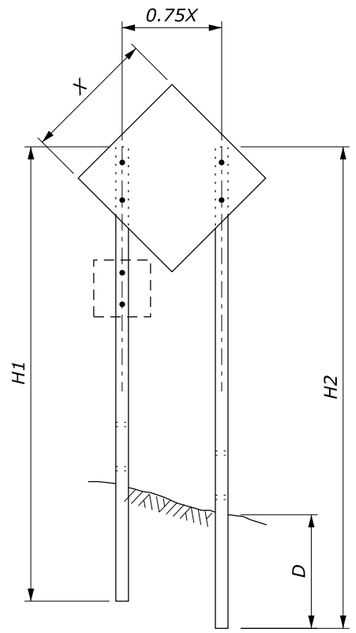
DELINEATION AND SIGNING FOR UNMARKED PAVEMENTS

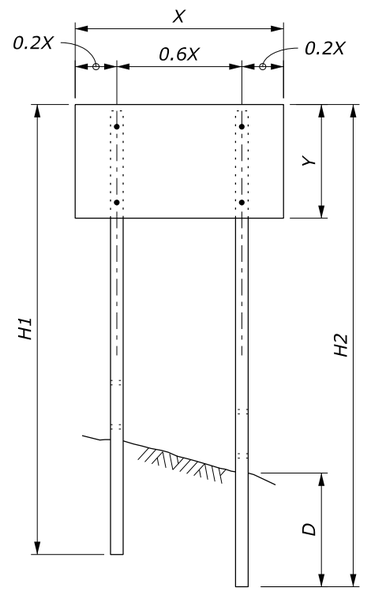
FLH STANDARD	635-3
SPECIFICATION	FP-24, FP-14
APPROVED FOR USE	2/2024

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	I.9



SINGLE POST SIGN





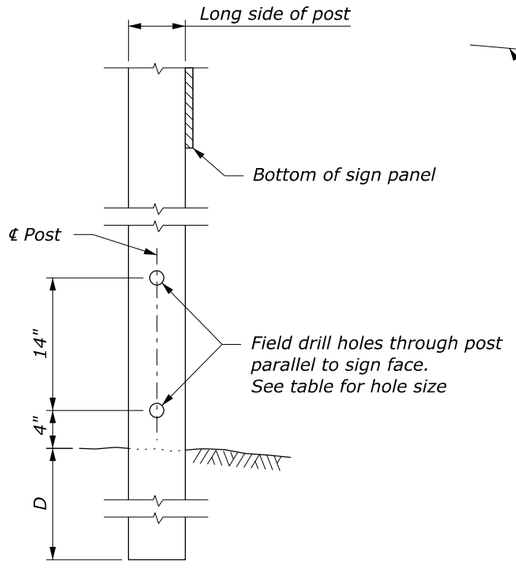
TWO POST SIGN

NOTE:

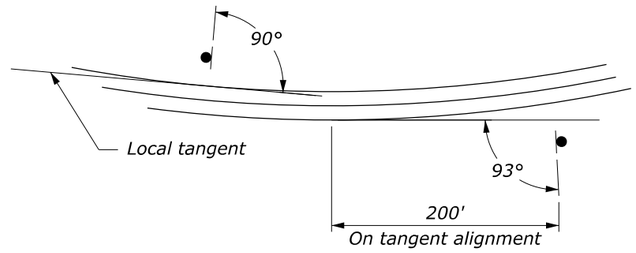
1. *Attach sign panels with a minimum of 2 - ¼" dia. bolts per post.*
2. *H1 and H2 = Overall post length. Select post lengths to fit field conditions.*
3. *D = Post embedment depth for average soil conditions.*
4. *In areas where lateral distance is limited, a minimum lateral offset of 2' may be used. 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
OFFICE OF FEDERAL LANDS HIGHWAY

FLH STANDARD

TEMPORARY TRAFFIC CONTROL SIGN INSTALLATION WOOD POSTS

STANDARD APPROVED FOR USE 6/2005	STANDARD
REVISED: 7/2022	635-14

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	J.1

ITEM 63302-0000
SIGN SYSTEM

SCHEDULE	SIGN	STATION	SIDE	MUTCD	LEGEND	SIZE (IN x IN)			AREA (SQFT)	NO. SIGNS	TOTAL (SQFT)	REMARKS
A&B	1	12+20	LT	R2-1	SPEED LIMIT	24	x	30	5.00	1	5.00	SUNRISE ROAD
A&B	2	13+20	RT	W11-2	PEDESTRIAN	30	x	30	6.25	1	6.25	SUNRISE ROAD
A&B	3	23+40	RT	R2-1	SPEED LIMIT	24	x	30	5.00	1	5.00	SUNRISE ROAD
A&B	4	24+40	LT	W11-2	PEDESTRIAN	30	x	30	6.25	1	6.25	SUNRISE ROAD
A&B	5	16+10	RT		WONDERLAND TRAIL	12	x	18	1.50	2	3.00	PARKING LOT
A&B	6	16+20	RT		RESERVED PARKING OFFICIAL VEHICLES ONLY	12	x	18	1.50	1	1.50	PARKING LOT
A&B	7	16+85	RT	R7-8	RESERVED PARKING FOR PERSONS WITH DISABILITIES	12	x	18	1.50	1	1.50	PARKING LOT
A&B	8	16+85	RT	R7-8P	VAN ACCESSIBLE PLAQUE	18	x	9	1.13	1	1.13	PARKING LOT
A&B	9	16+98	RT	R7-8	RESERVED PARKING FOR PERSONS WITH DISABILITIES	12	x	18	1.50	1	1.50	PARKING LOT
A&B	10	16+98	RT	R7-8P	VAN ACCESSIBLE PLAQUE	18	x	9	1.13	1	1.13	PARKING LOT
										SCHEDULE A & B TOTAL	**32.25**	

ITEM 20301-2400
REMOVAL OF SIGN

SCHEDULE	STATION	SIDE	LEGEND	NO. SIGNS
A&B	12+15	LT	SPEED LIMIT	1
A&B	13+22	RT	PEDESTRIAN	1
A&B	16+18	RT	NO PARKING	1
A&B	21+22	RT	NO PARKING	1
A&B	21+60	RT	SPEED LIMIT	1
A&B	21+65	RT	NO PARKING	1
A&B	24+50	LT	PEDESTRIAN	1

ITEM 63316-1000
REMOVE AND RESET SIGN

SCHEDULE	STATION	SIDE	LEGEND	RESET TO	NO. SIGNS
A&B	18+05	RT	FRYINGPAN CREEK	18+20	1
A&B	20+50	RT	FRYINGPAN CREEK	21+00 LT	1
A&B	EXISTING TRAILHEAD		WONDERLAND TR. .1 SUMMERLAND 4.2 INDIAN BAR 9.6	PROPOSED TRAILHEAD; VERIFY LOCATION WITH CO	1
A&B	EXISTING TRAILHEAD		SUMMERLAND TRAILHEAD	PROPOSED TRAILHEAD; VERIFY LOCATION WITH CO	1
A&B	EXISTING TRAILHEAD		SUMMERLAND TRAIL INFORMATION	PROPOSED TRAILHEAD; VERIFY LOCATION WITH CO	1

ITEM 63318-1000
SNOW POLE HOLDER

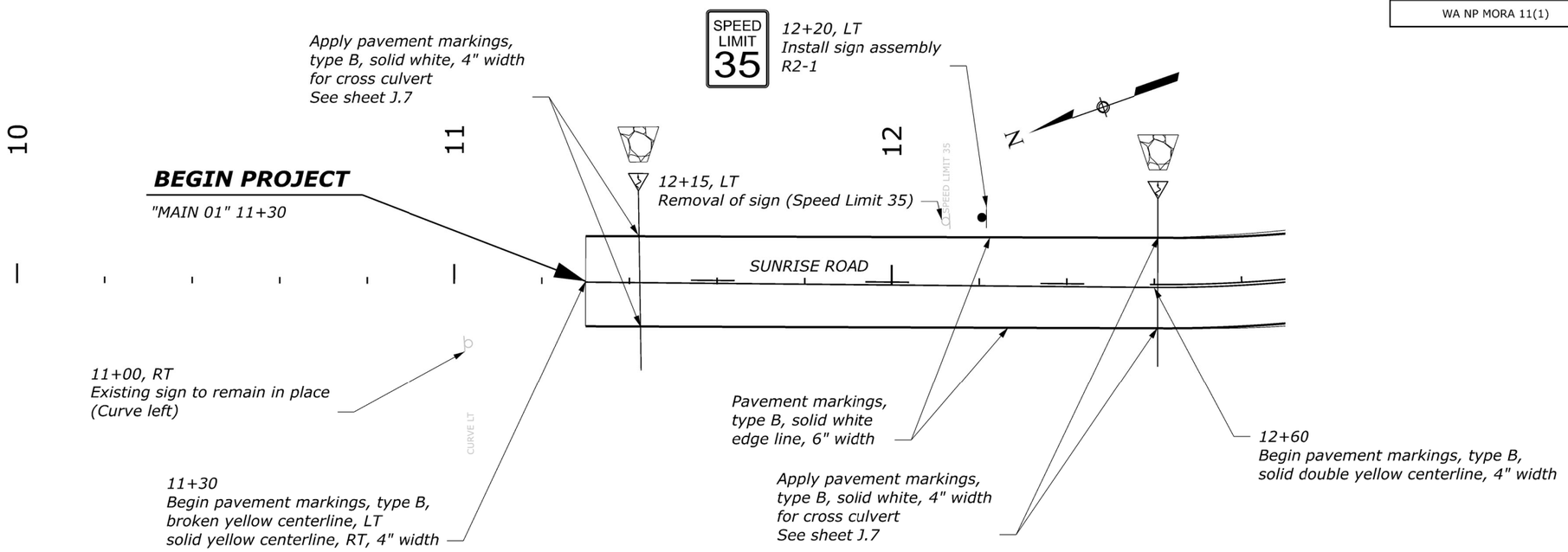
SCHEDULE	LOCATION	QUANTITY (EACH)
A&B	WEST PARKING LOT	14

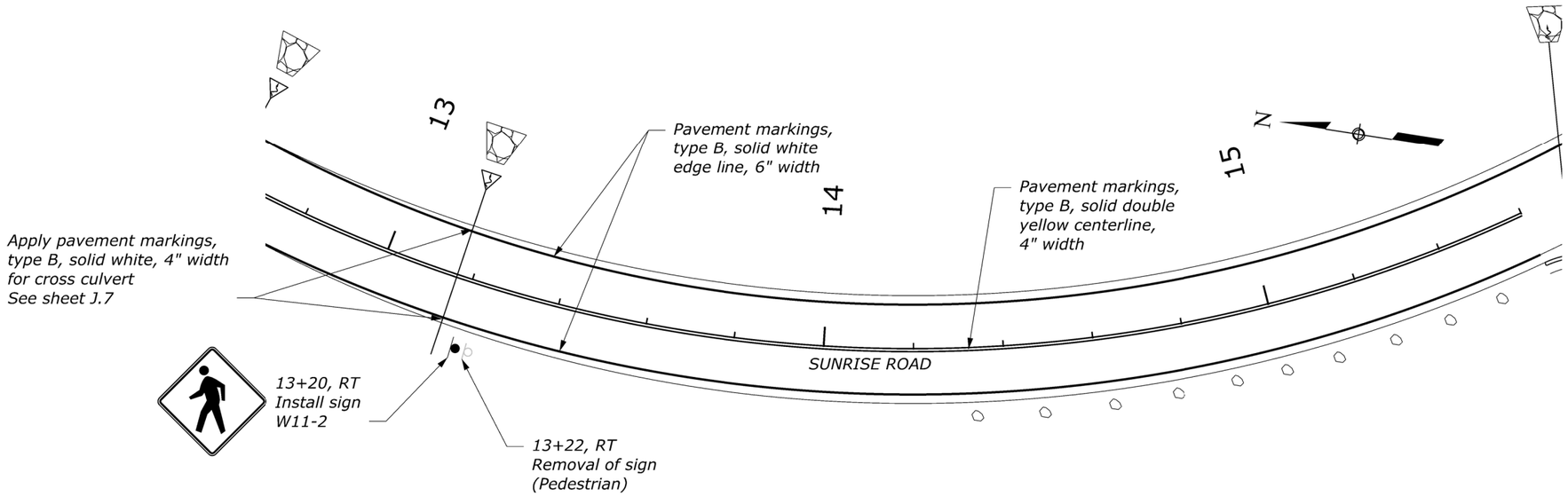
PAVEMENT MARKINGS QUANTITIES

SCHEDULE	ITEM NO.	DESCRIPTION	UNIT	QUANTITY	REMARKS
A&B	63401-0300	PAVEMENT MARKINGS, TYPE B, SOLID (WHITE)	LNFT	8,211	Edge line, white, 6" width, 2 applications
A&B	63401-0300	PAVEMENT MARKINGS, TYPE B, SOLID (WHITE)	LNFT	1,361	Parking stall, junction box, cross culvert, white, 4" width, 2 applications
A&B	63401-0300	PAVEMENT MARKINGS, TYPE B, SOLID (YELLOW)	LNFT	5,026	Centerline, yellow, 4" width, 2 applications
A&B	63401-0400	PAVEMENT MARKINGS, TYPE B, BROKEN (YELLOW)	LNFT	258	Centerline, yellow, 4" width, 2 applications
A&B	63403-0900	PAVEMENT MARKINGS, TYPE I	SQFT	146	Accessibility parking aisle hatching, words, white
A&B	63405-0850	PAVEMENT MARKINGS, TYPE B, ACCESSIBILITY SYMBOL	EACH	2	Symbol with background and border

TABULATION OF QUANTITIES

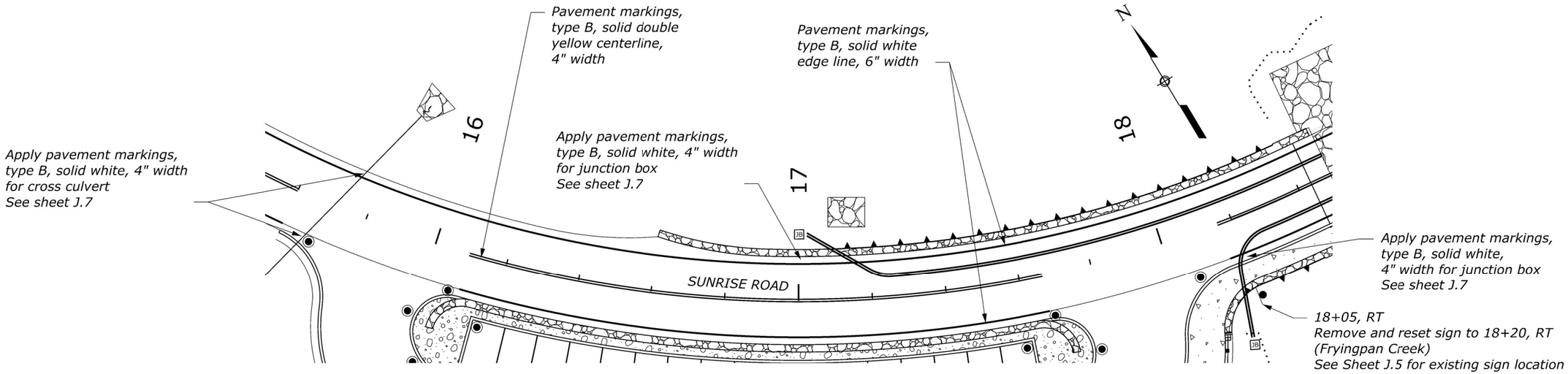
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	J.2

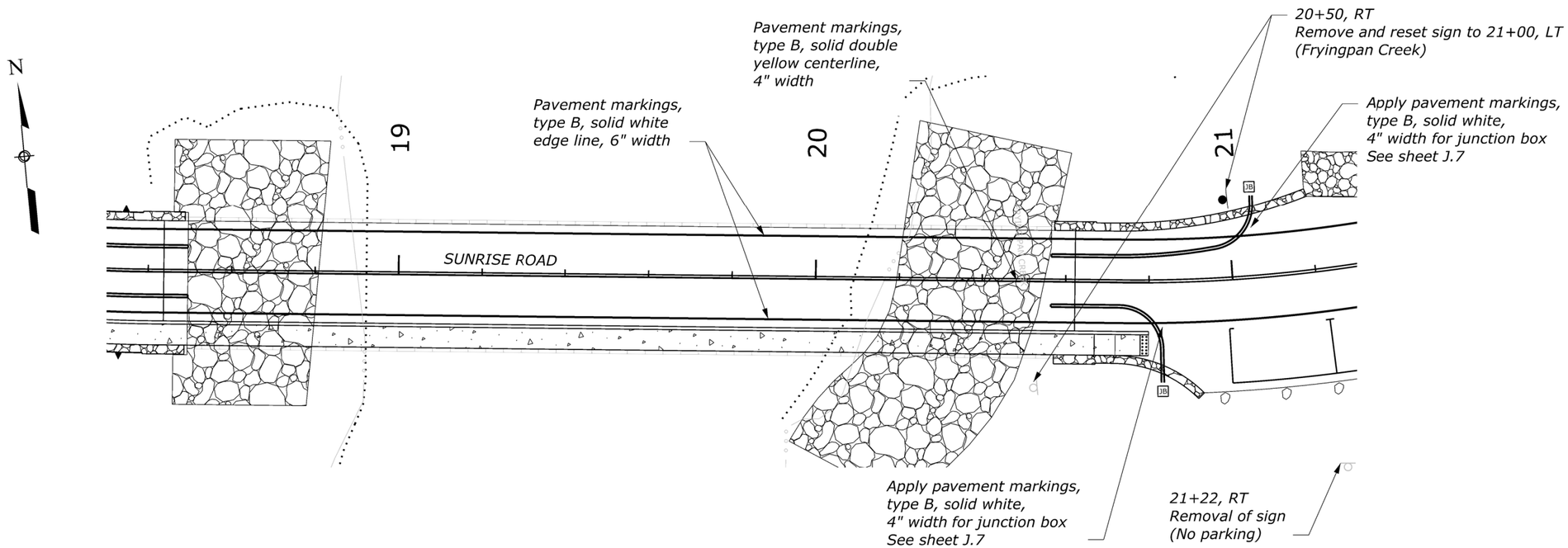




PERMANENT TRAFFIC CONTROL 11+30 TO 15+60

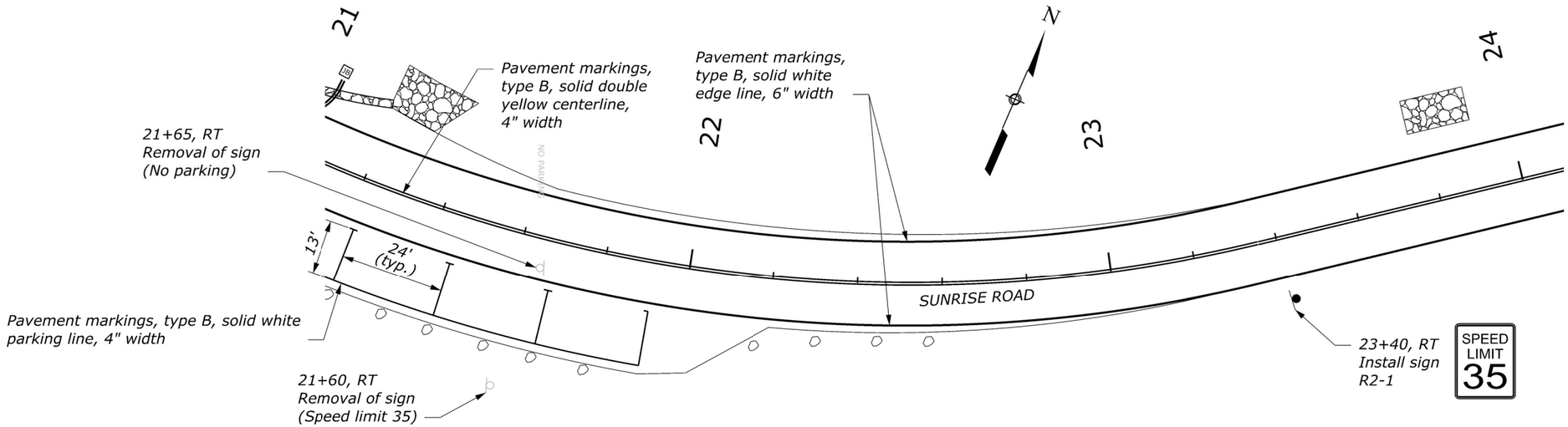
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	J.3

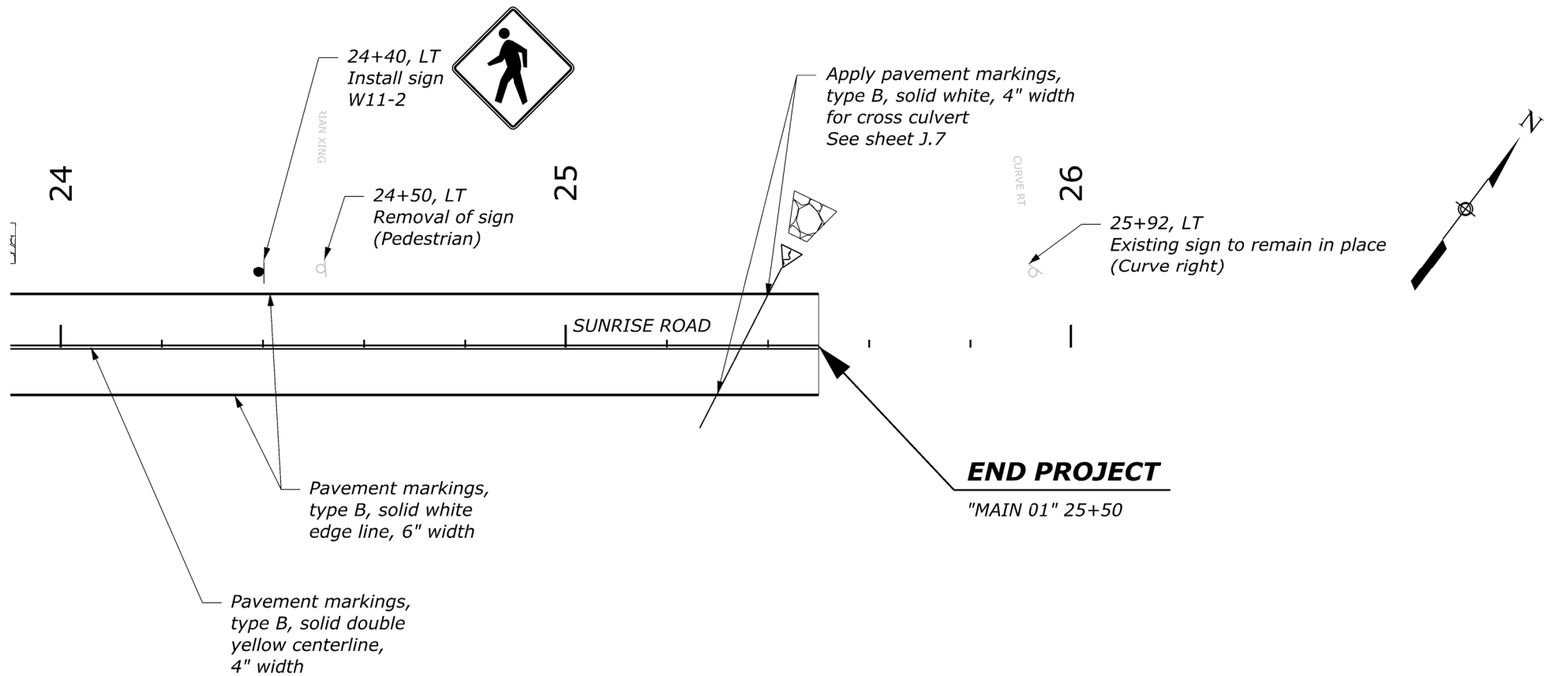




PERMANENT TRAFFIC CONTROL 15+60 TO 21+20

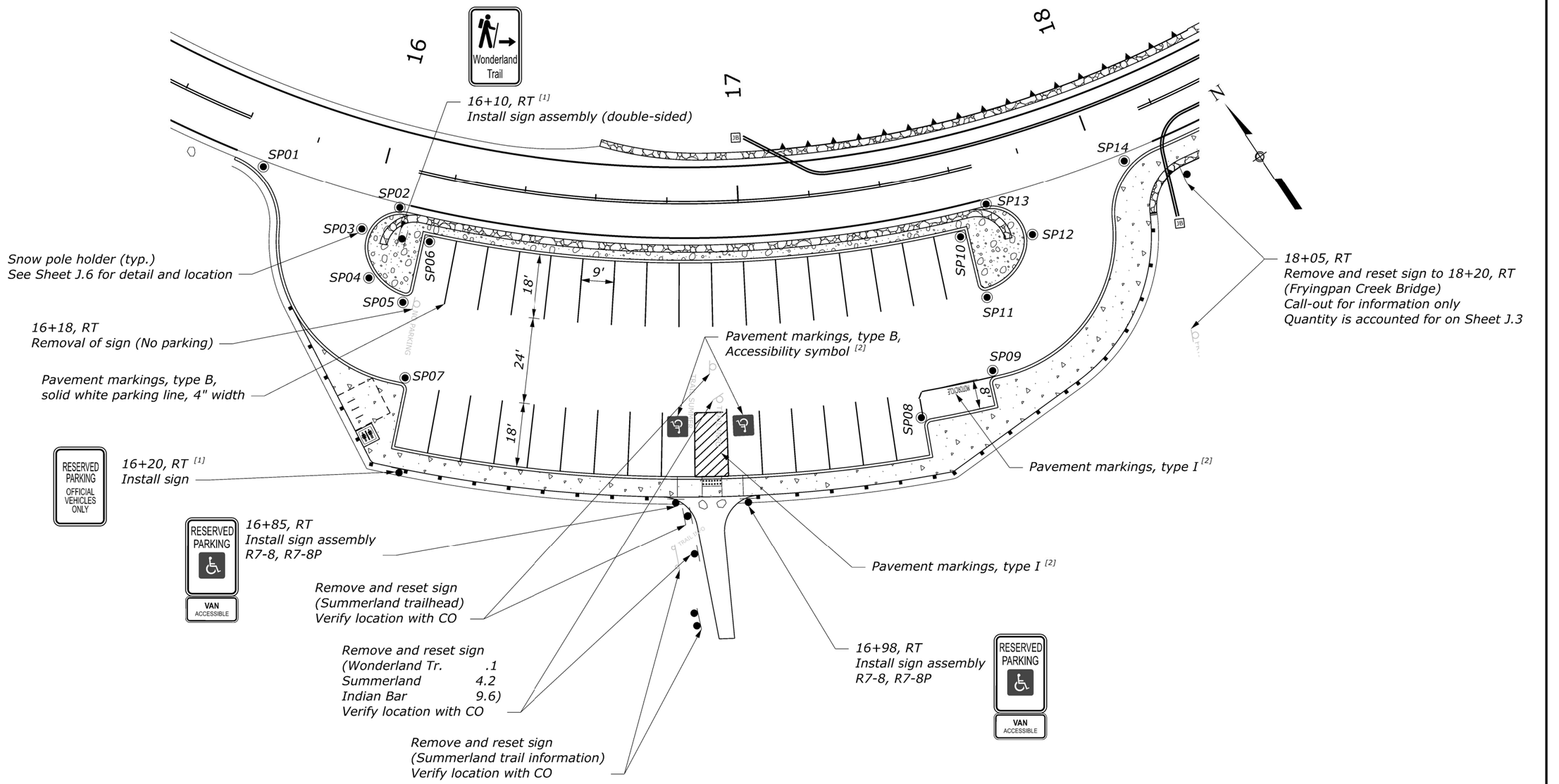
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	J.4





PERMANENT TRAFFIC CONTROL 21+20 TO 25+50

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	J.5

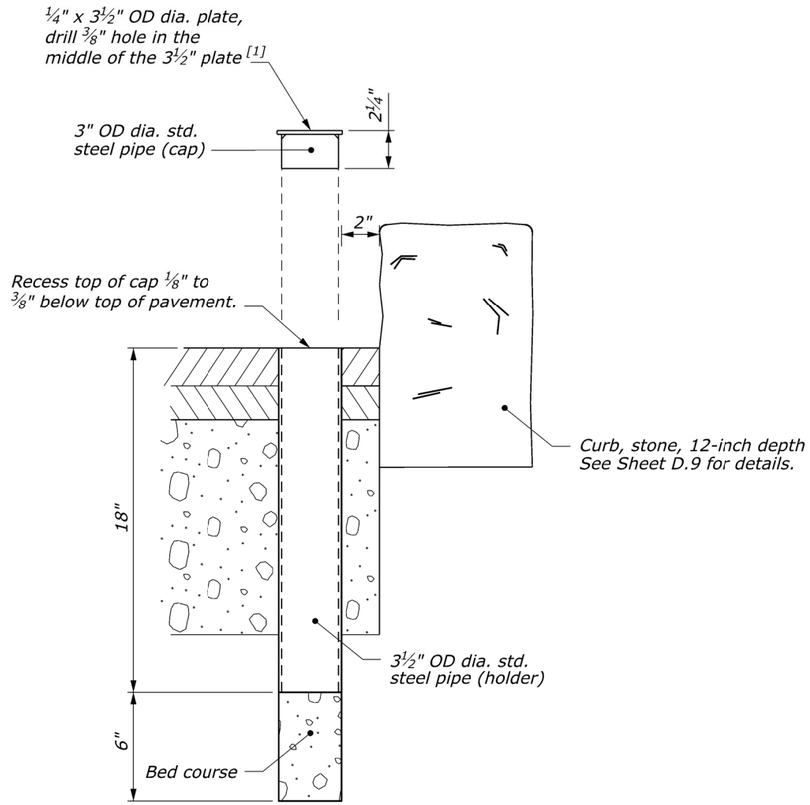


FOOTNOTE:

[1] Sign panel graphics are approximate. Provide sign according to NPS Uniguide standards.
[2] See Sheet J.7 for pavement marking details.

PERMANENT TRAFFIC CONTROL WEST PARKING LOT

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	J.6



SNOW POLE HOLDER DETAIL

SNOW POLE HOLDER LOCATIONS [2]

POINT	NORTHING	EASTING
SP01	59228.7878	262969.1156
SP02	59197.9288	262994.6021
SP03	59198.8084	262982.3913
SP04	59186.2569	262976.4114
SP05	59175.2683	262980.5344
SP06	59185.3202	262996.1808
SP07	59157.2621	262969.3229
SP08	59067.5244	263083.9526
SP09	59067.4230	263107.9469
SP10	59103.6963	263121.2465
SP11	59085.4364	263118.0338
SP12	59093.0473	263138.4199
SP13	59107.3905	263132.3159
SP14	59096.0795	263171.3940

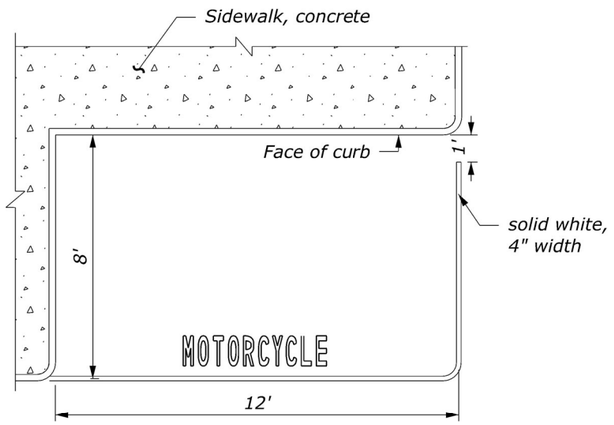
FOOTNOTE:

1. *All welds are ¼-inch fillet.*
2. *Locations as listed are approximate. The CO will adjust the final locations in the field.*

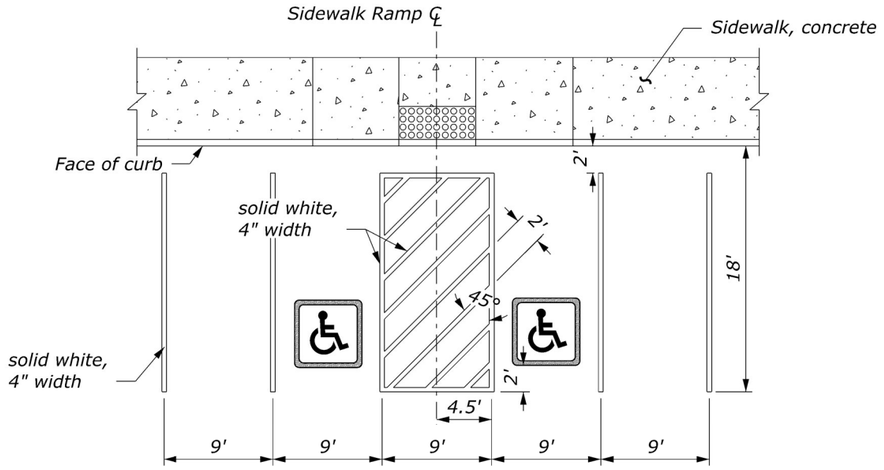
NO SCALE

SNOW POLE HOLDER DETAIL

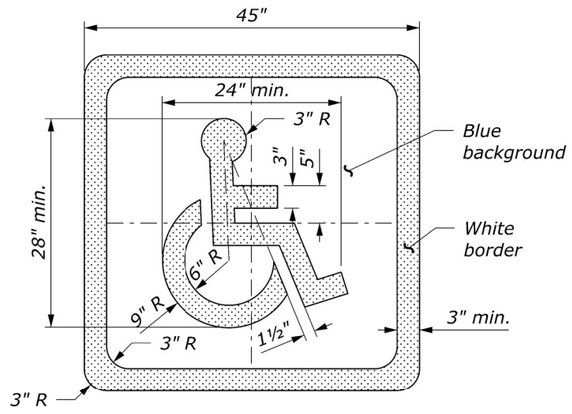
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	J.7



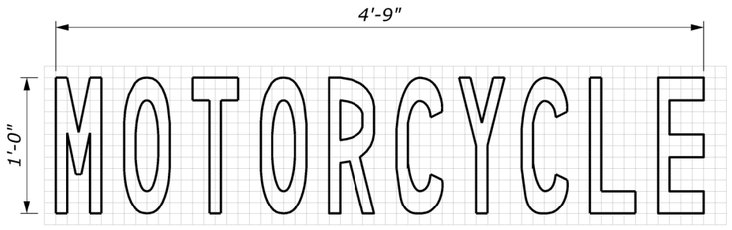
MOTORCYCLE PARKING STALL MARKINGS



STANDARD AND ACCESSIBLE PARKING STALL MARKINGS

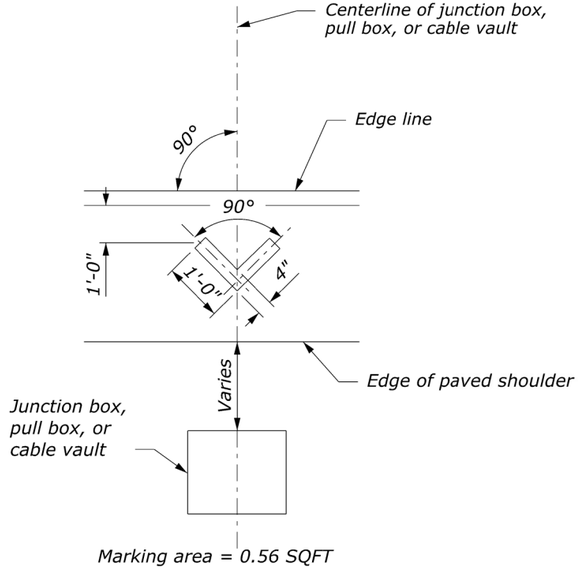


ACCESSIBILITY PARKING SPACE MARKING



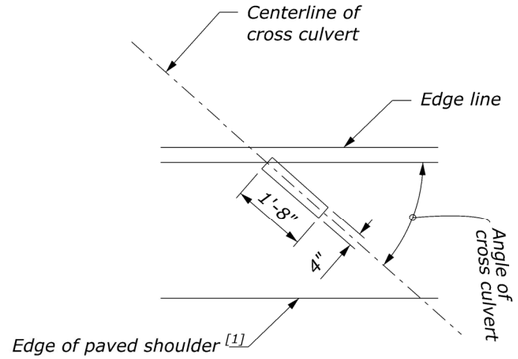
Grid is 1.00" (INCH) square
Marking area, white = 1.73 SQFT

"MOTORCYCLE" WORD MARKING



Marking area = 0.56 SQFT

JUNCTION BOX, PULL BOX, OR CABLE VAULT MARKINGS



Marking area = 1.12 SQFT (both ends)

CROSS CULVERT DRAINAGE MARKING

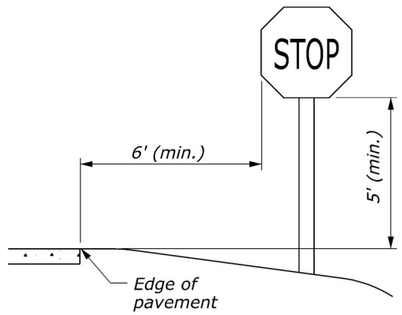
FOOTNOTE:

[1] Locate culvert marking behind edge line if there is sufficient paved shoulder width. Locate culvert marking in front of edge line if there is no paved shoulder.

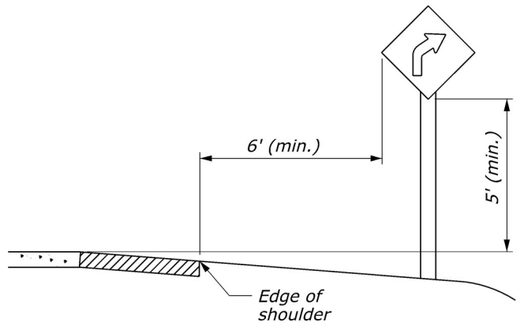
NO SCALE

PAVEMENT MARKINGS MISCELLANEOUS SYMBOLS

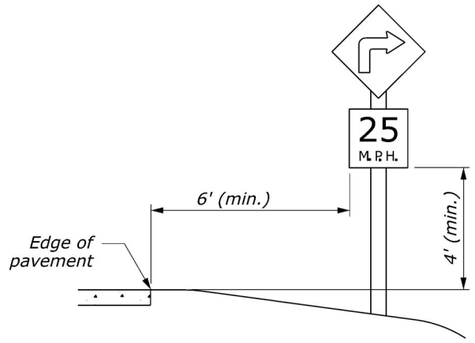
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	J.8



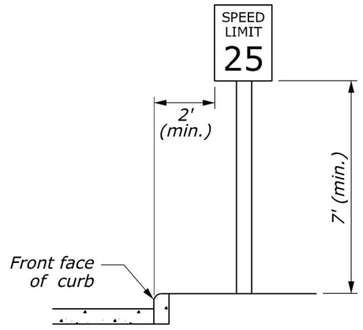
WITHOUT SHOULDER



WITH SHOULDER

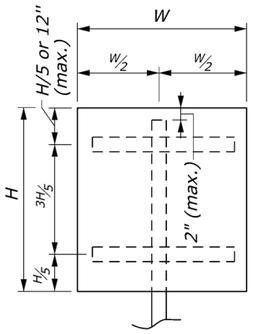


WITH ADVISORY SPEED PLAQUE

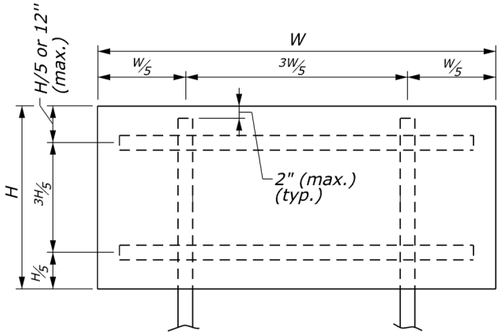


ROADSIDE SIGN IN BUSINESS OR RESIDENTIAL DISTRICT

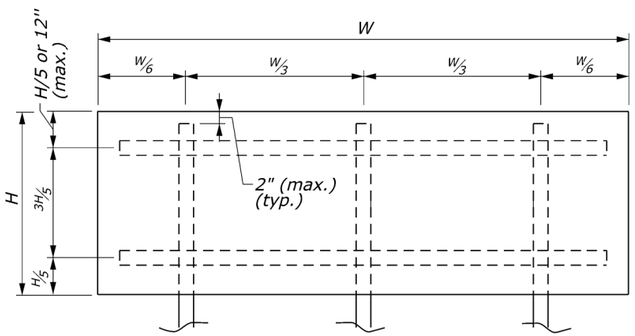
ROADSIDE SIGN IN RURAL DISTRICT



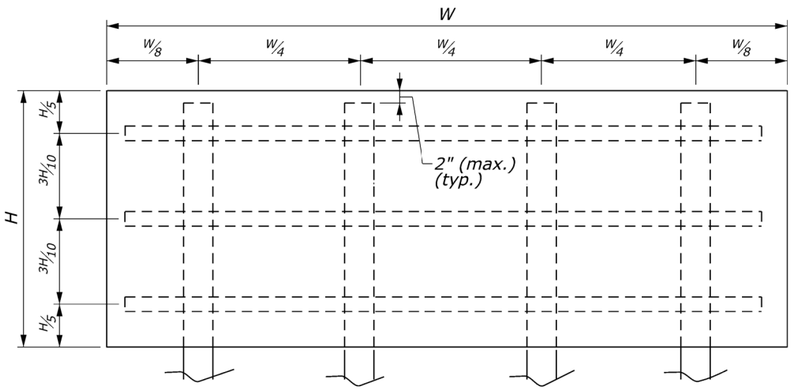
SINGLE POST



DOUBLE POST



TRIPLE POST



QUADRUPLE POST

POST SIZE TABLE

POST TYPE	POST SIZE	MAXIMUM SIGN AREA (SQFT)			
		SINGLE POST	DOUBLE POST	TRIPLE POST	QUADRUPLE POST
Wood	4" x 4"	10	20		
	4" x 6"	15	35	45	60
	6" x 6"	20	50	75	100
U-Channel Steel	3 lb/ft	10*	24	30	
Square Tubular Steel	2" 12 ga.	10*	16		
	2" 12 ga.	10*	24**		
Corrosion Resistant Steel	2" x 2" 10 ga. Class B	10*	24		

* See Note 2
** See Note 3

NOTE:

1. Locate and set sign height according to the "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD), latest edition.
2. For U-channel, square tubular, and corrosion resistant steel posts for which the sign panel area is 10 square feet or less but W is over 4 feet, use double posts.
3. For square tabular steel double posts for which the sign panel areas is equal to 24 square feet, use slip base according to manufacturer's recommendations.
4. Refer to Sheet H.17 for breakaway support details for corrosion resistant steel posts.
5. Refer to Sheet H.18 for bracing details for wood, U-channel steel and square tubular steel posts.
6. Refer to Section 2A.21 of the MUTCD, latest edition, for additional information.

NO SCALE

SIGN STRUCTURES

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	J.9

FOOTING DATA TABLE

POST SIZE	CONCRETE FOOTING	
	DIA.	MINIMUM DEPTH
2.5" X 4"	24"	2'

BASE CONNECTION DATA TABLE

POST SIZE	BOLT SPECIFICATIONS			BOND BREAKING PLATE DATA									
	Dia.	Length	Torque in-lbs	(A)	(B)	(C)	(D)	(E)	(F)	(R)	t_1	t_2	w
2.5" X 4"	5/8"	2½"	450	8½"	4"	7"	1¾"	¾"	1⅛"	11/16"	5/8"	3/16"	¼"

FUSE PLATE DATA TABLE

POST SIZE	(G)	(H)	(J)	(K)	(L)	(M)	(N)	d_1	t_3	c_1	Bolt dia.	Torque ft-lbs
2.5" X 4"	4"	2¼"	1⅛"	3"	1¼"	⅞"	5/8"	9/16"	5/16"	¼"	½"	200

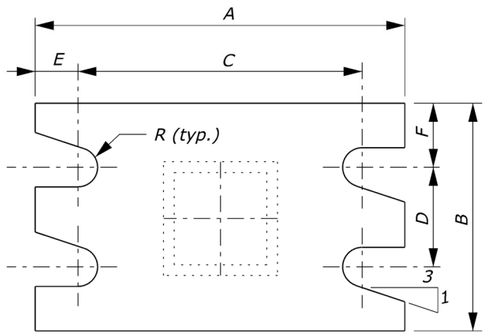
LEGEND:

High Strength HS

Weld triangle w

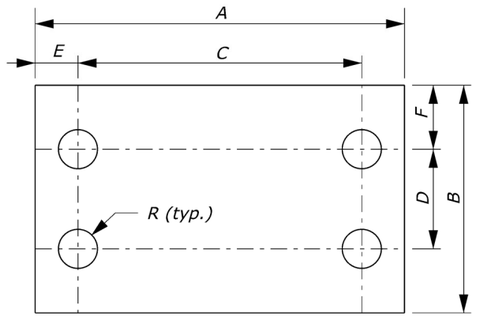
NOTE:

1. Breakaway sign support is required for all signs.
2. Install breakaway assembly in the direction of major traffic.
3. Use 10 gage Class B corrosion resistant (weathering) square steel posts. Paint brown any corrosion resistant (weathering) steel posts that do not naturally change color to brown.
4. Paint brown to match the appearance of the corrosion resistant (weathering) steel posts.
5. Use the Multiple Post Breakaway detail on single posts where exposed to opposing lanes of traffic.
6. Use fuse plates on multiple post installations only.
7. Refer to Sheet H.16 for sign mounting details.

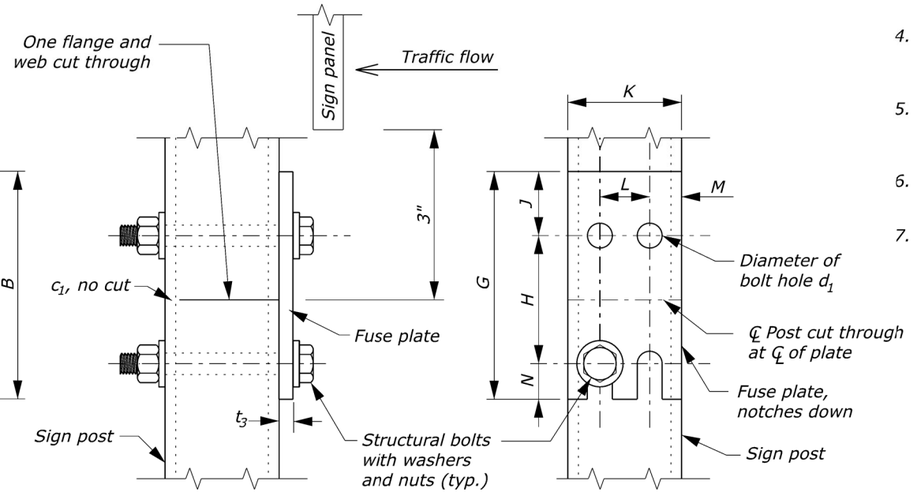


SECTION A-A

BREAKAWAY PLATE



BOND BREAKING PLATE

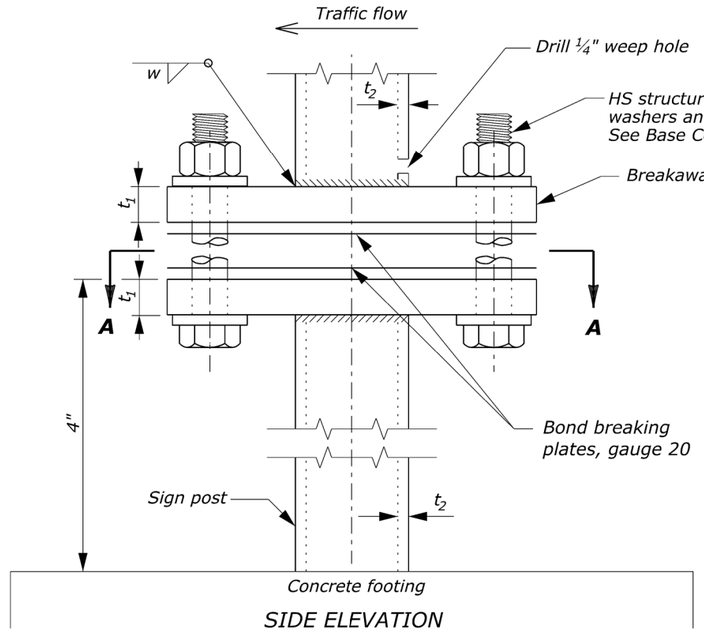


SIDE ELEVATION

FRONT ELEVATION

FUSE PLATE

See Note 6

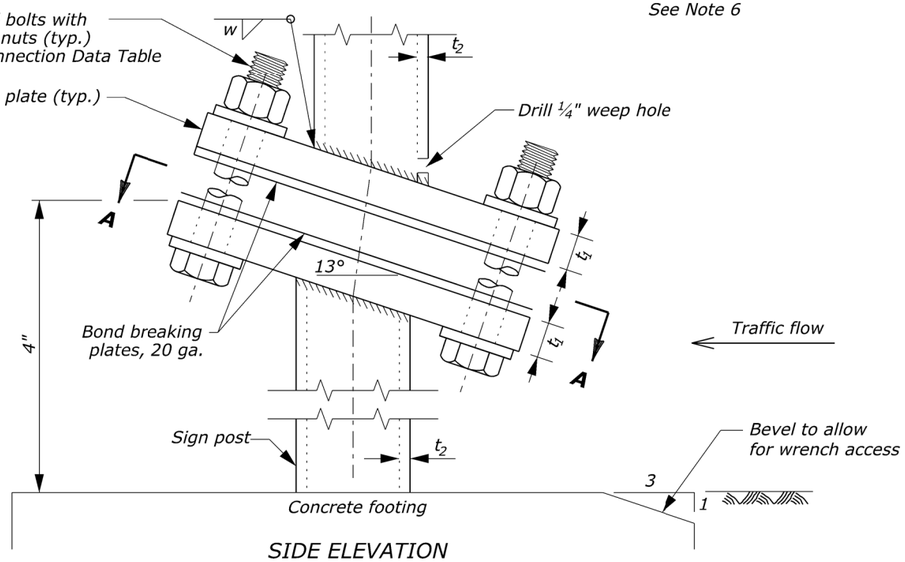


SIDE ELEVATION

See Note 6

MULTIPLE POST BREAKAWAY

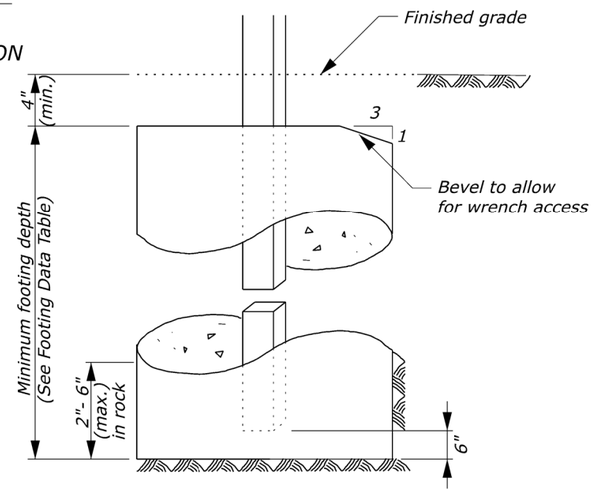
See Notes 4 and 5



SIDE ELEVATION

SINGLE POST BREAKAWAY

See Notes 4 and 5

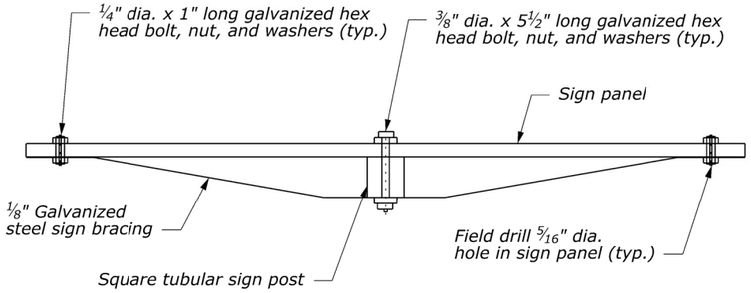


CONCRETE FOOTING

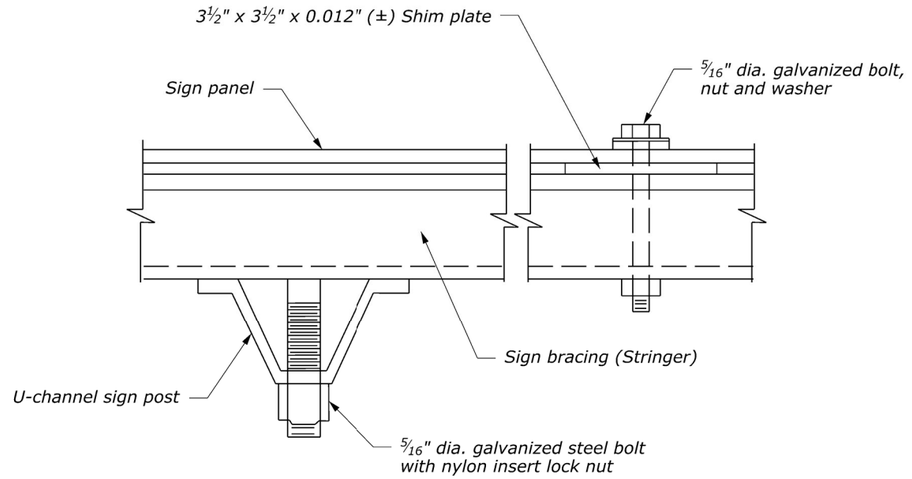
NO SCALE

BREAKAWAY SIGN SUPPORT CORROSION RESISTANT STEEL

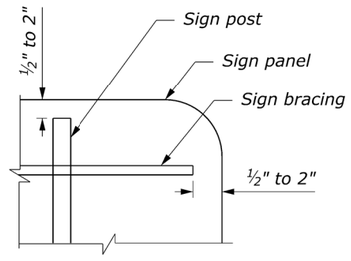
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	J.10



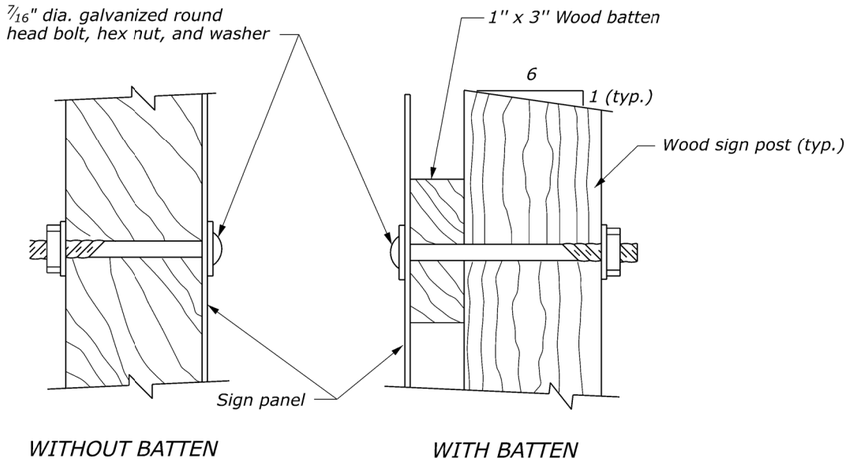
SQUARE TUBULAR STEEL POST



U-CHANNEL STEEL POST



BRACING INSTALLATION TOLERANCES



WOOD POST

NOTE:

1. *Install sign braces on signs with widths of 48-inches or greater. Install sign braces on signs with widths of 36-inches when specified or as directed by the CO.*
2. *For sign punching details, see the blank standards in the 'Standard Highway Signs and Markings' as specified in the latest edition of the MUTCD.*
3. *Use wood battens bolted to post at vertical spacings not to exceed 30 inches.*
4. *Use neoprene or nylon washers between the sign panel's retroreflective sheeting and the steel washer.*
5. *Refer to Sheet H.16 for sign mounting details.*
6. *Refer to Section 2A.21 of the MUTCD, latest edition, for additional information.*

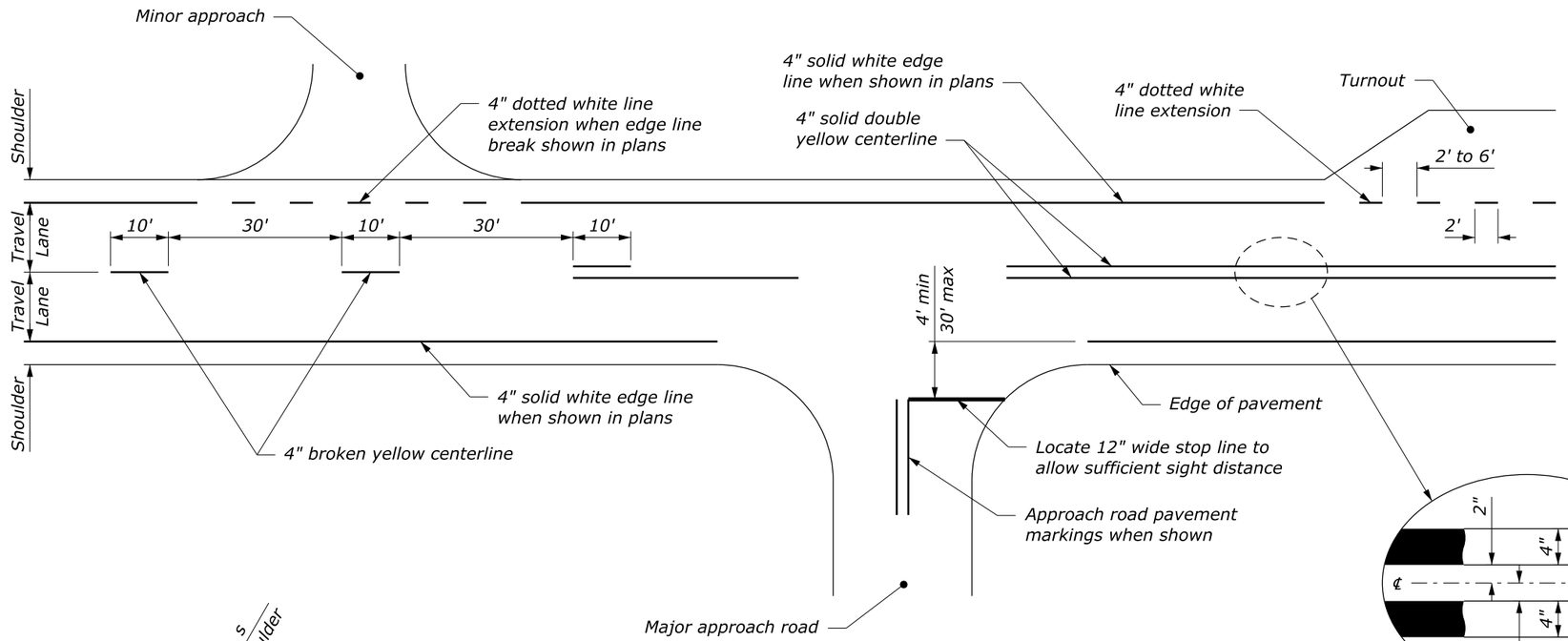
NO SCALE

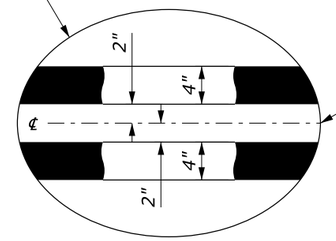
SIGN BRACING

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	J.11

NOTE:

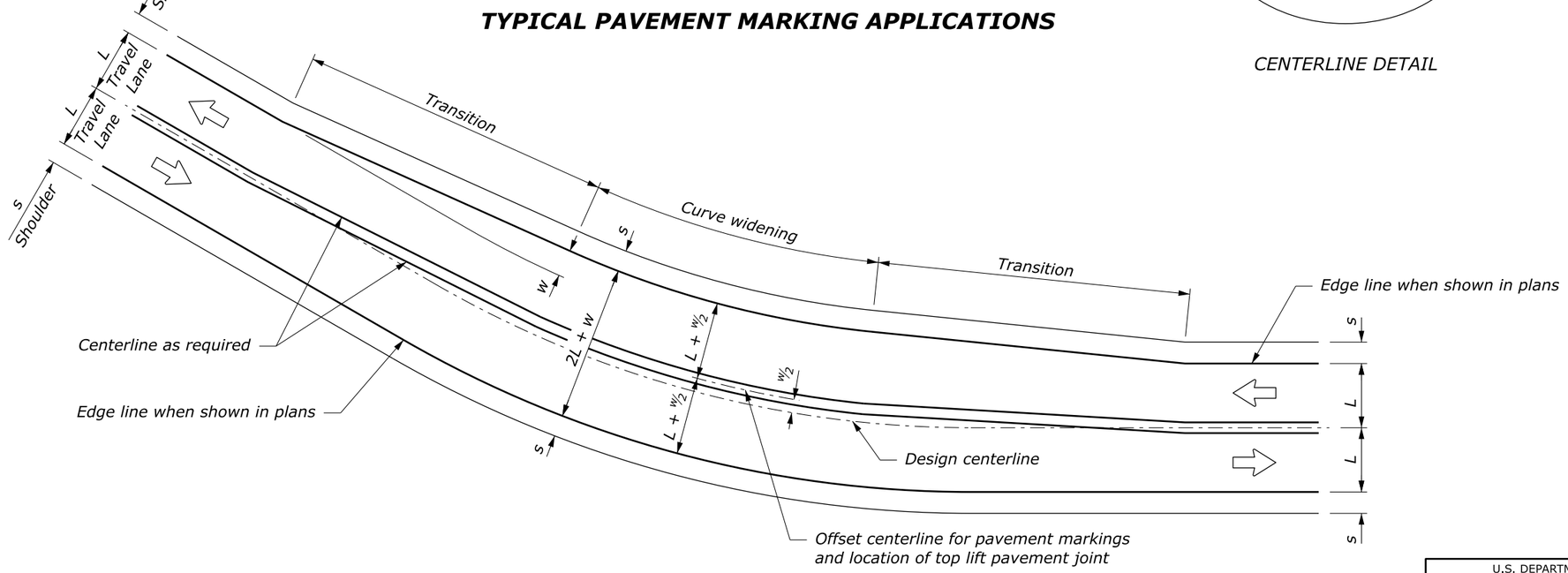
1. *Place edge line pavement markings at asphalt/concrete curb interface when curb is present.*
2. *Paint centerline pavement markings on curves with curve widening "w" to achieve equal lane widths within the roadway. Maintain a constant shoulder width "s" throughout the curve widening area. See staking details for curve widening transition locations.*
3. *Typical pavement marking widths are shown. Use wider pavement markings when shown on the plans or when required by the maintaining agency.*





CENTERLINE DETAIL

TYPICAL PAVEMENT MARKING APPLICATIONS



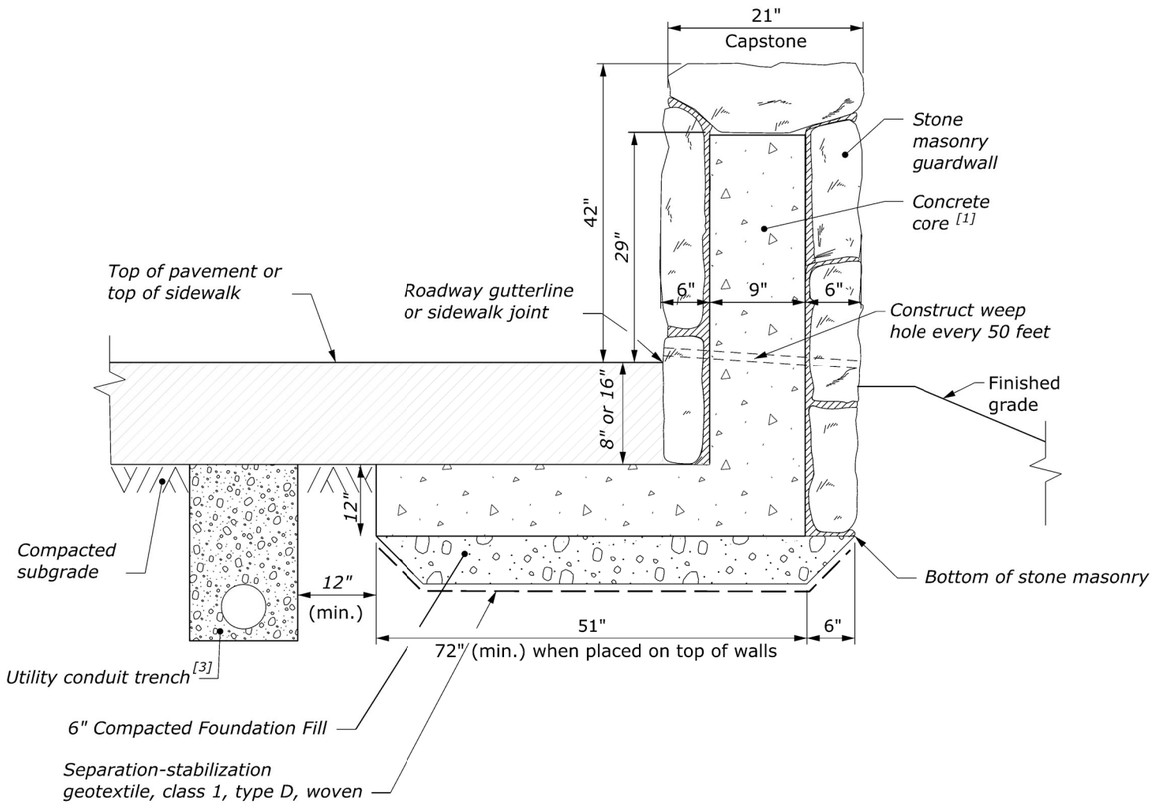
CENTERLINE MODIFICATION FOR CURVES WITH WIDENING APPLIED ON INSIDE

See Note 2 for treatment of curves when widening "w" is split equally on both sides of centerline

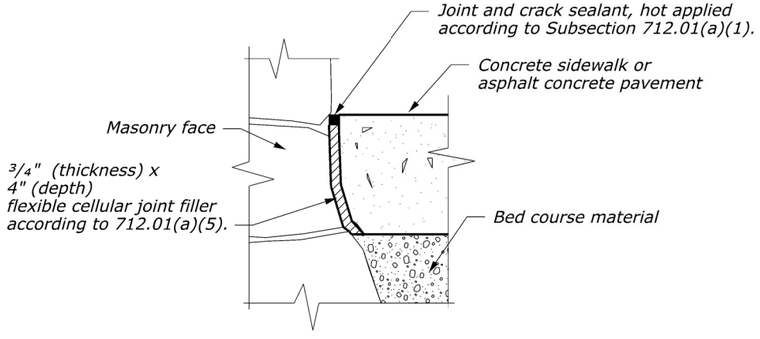
NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION, FHWA OFFICE OF FEDERAL LANDS HIGHWAY	WFL STANDARD W634-2
LINEAR PAVEMENT MARKINGS	SPECIFICATION FP-24, FP-14
	APPROVED FOR USE 9/2024

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	K.1

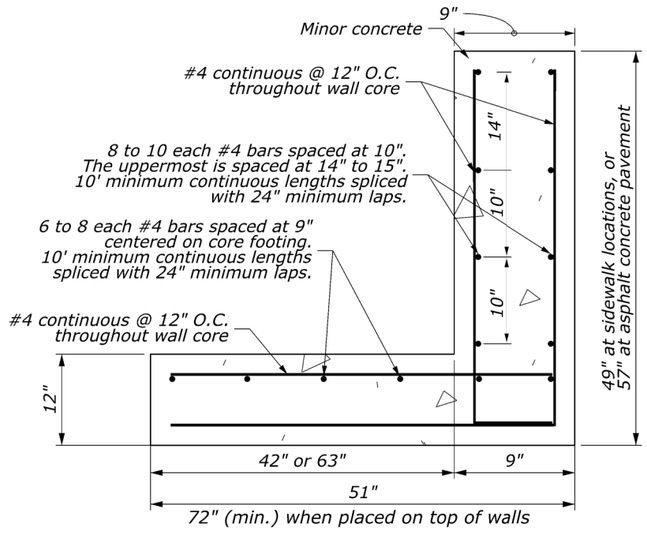


STONE MASONRY GUARDWALL - TYPICAL SECTION



CONCRETE OR ASPHALT CONCRETE PAVEMENT TO STONE MASONRY JOINT DETAIL

STONE MASONRY FACING [2]



CONCRETE GUARDWALL CORE DETAIL

FOOTNOTE:

[1] See Subsection 620.10 for specifications and requirements for anchoring masonry stone to concrete core.

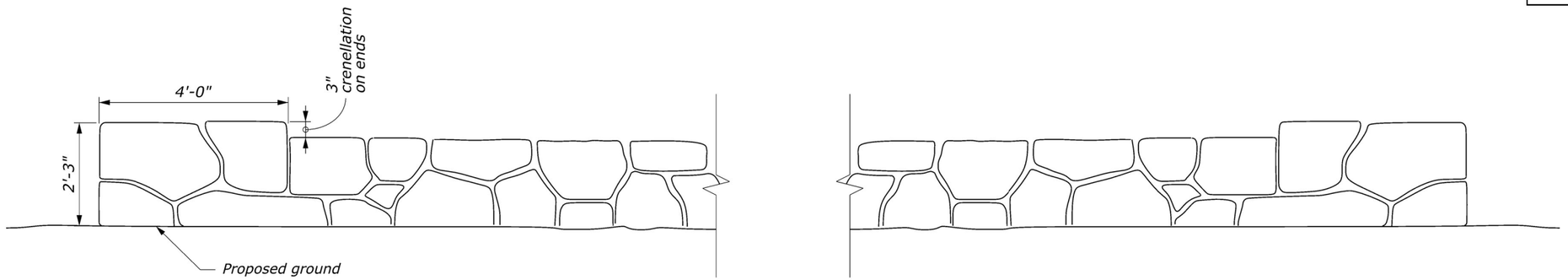
[2] Construct stone masonry that matches the character of existing historic masonry at the project site. The section of stone masonry guardwall (concrete core) over the MSE wall does not have crenellations. See Sheet K.4 and Section 620 for additional specifications and requirements for masonry facing.

[3] See Sheet C.1 for the Utility Conduit Trench detail.

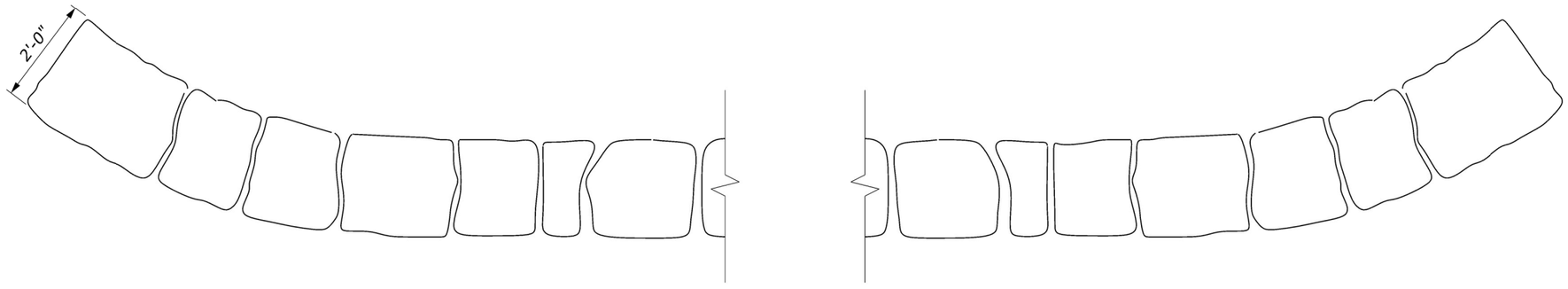
NO SCALE

STONE MASONRY GUARDWALL (CONCRETE CORE)

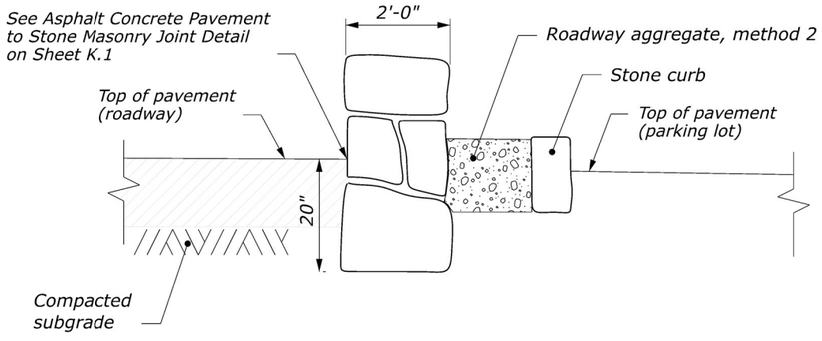
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	K.2



STONE MASONRY FACING [1]



PLAN VIEW



TYPICAL SECTION

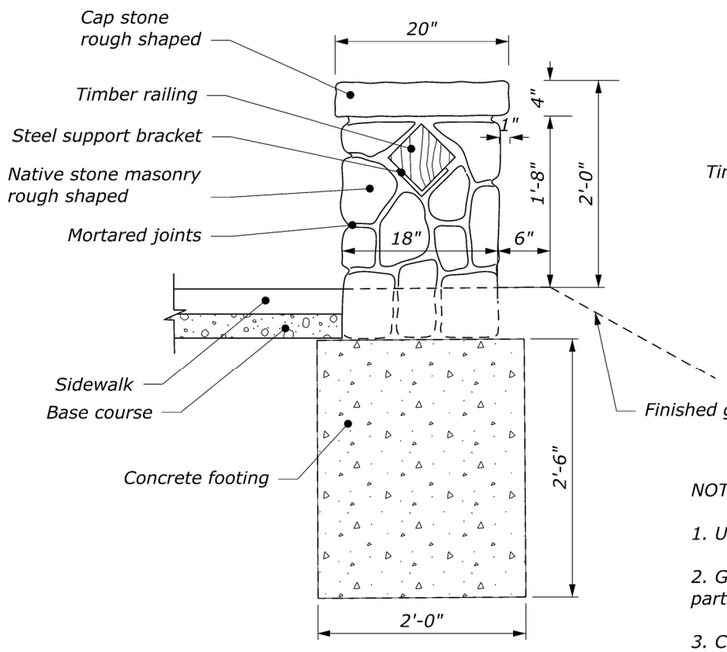
FOOTNOTE:

[1] Construct stone masonry that matches the character of existing historic masonry at the project site. See Section 620 for specifications and requirements for masonry facing.

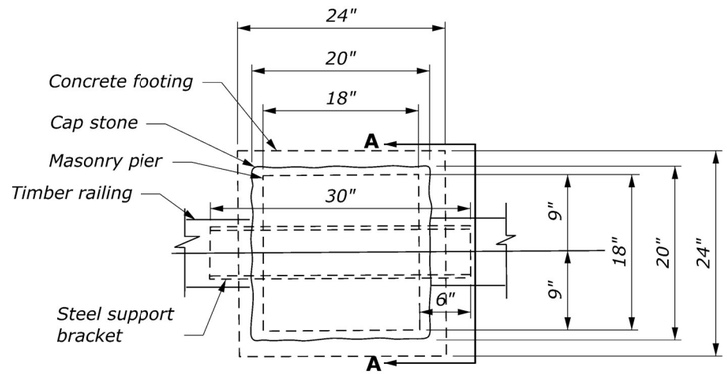
NO SCALE

STONE MASONRY GUARDWALL

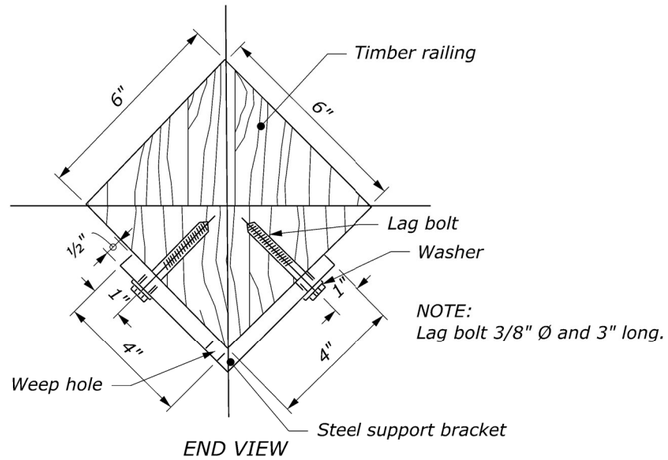
PROJECT	SHEET NUMBER
WA NP MORA 11(1)	K.3



SECTION A-A



PLAN VIEW



END VIEW

NOTE:
Lag bolt 3/8" Ø and 3" long.

NOTES:

1. Use rough sawn untreated douglas fir for timber railing.

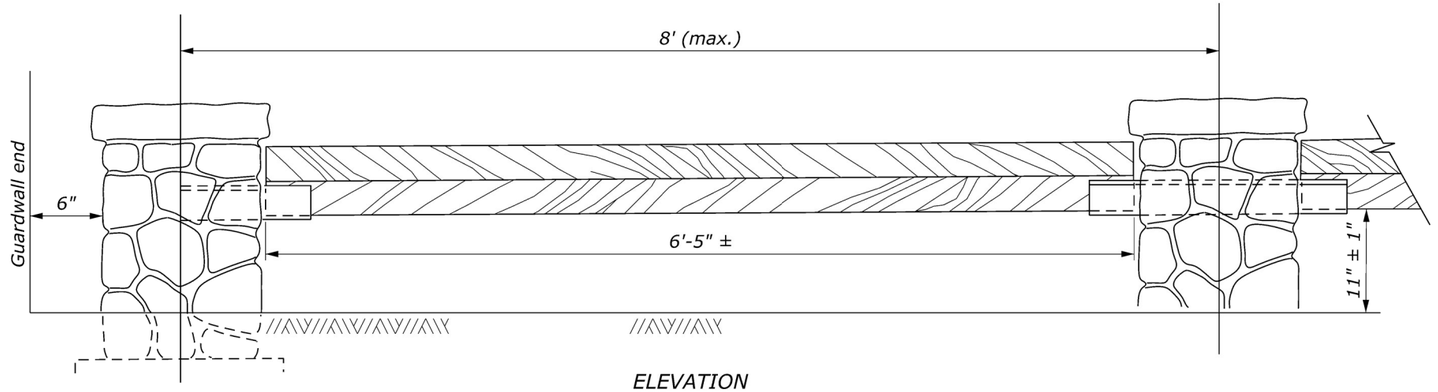
2. Galvanize all metal parts of support bracket. Paint exposed metal parts according to Subsection 719.04 after installation and as directed.

3. Conform all materials, treatments and construction methods not shown on this drawing to the SCR and as directed by the CO.

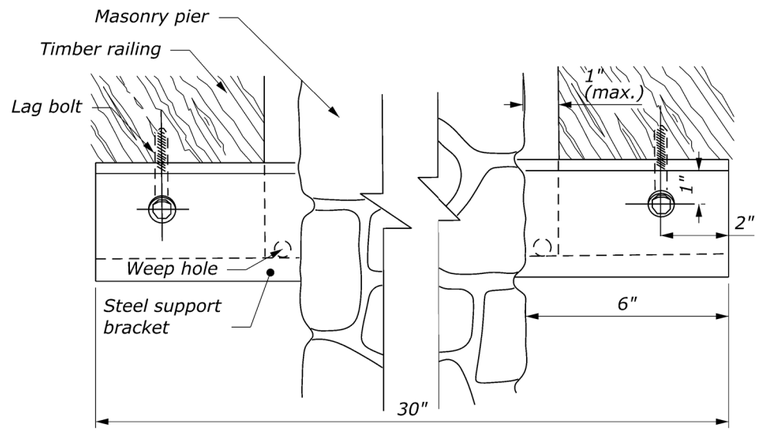
4. Rough shape and cut all stone masonry according to Section 620. Use 4" minimum thickness by 20" square for cap stone

5. Mortar joints according to Section 620.

6. Angle steel support bracket as necessary to fit curved alignment.



ELEVATION



NOTE:
Drill 1/2" Ø weep holes in back side only of support bracket as shown.

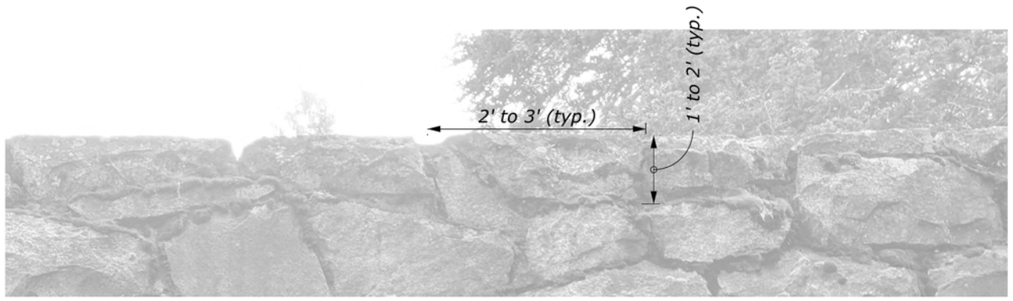
SIDE VIEW
SUPPORT BRACKET DETAIL

NO SCALE

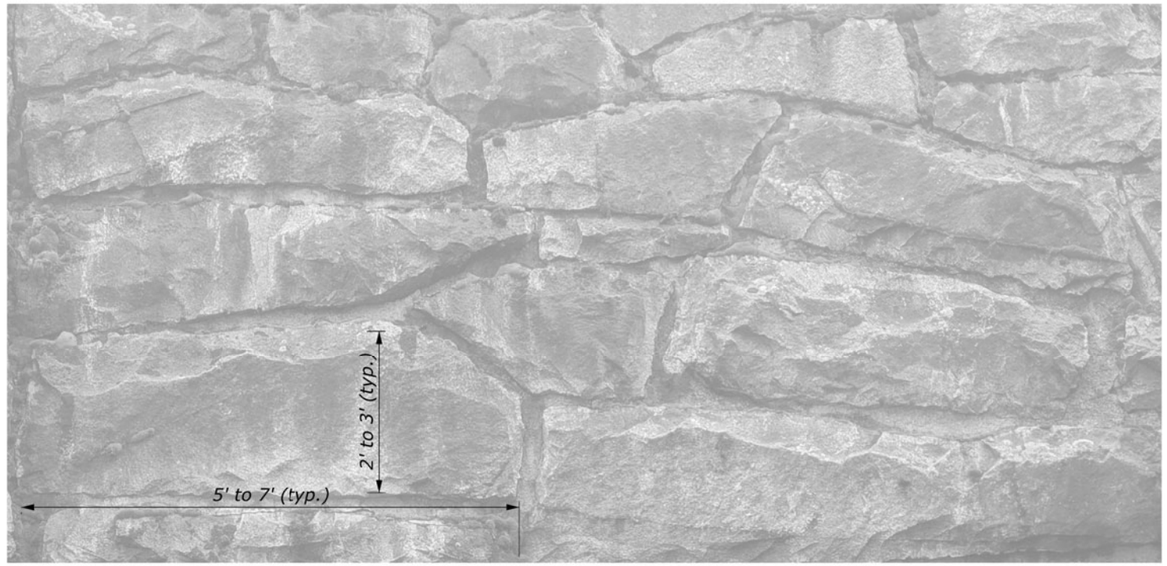
PEDESTRIAN RAILING - STONE TIMBER

PROJECT	SHEET NUMBER
WA NP MORA 11(1)	K.4

STONE PATTERN AT EXISTING FRYINGPAN CREEK BRIDGE



TYPICAL STONE SIZE AT GUARDWALLS



TYPICAL STONE SIZE AT MSE WALL AND BRIDGE WINGWALLS

NOTE:

1. *Schedule A: Fabricate form liner to replicate the existing bridge masonry pattern including stone size, shape, color and finish. Avoid a repeating pattern. Incorporate form liner facing on the bridge and wall with stone on the guardwall in as a seamless manner as possible, avoiding an obvious horizontal joint.*

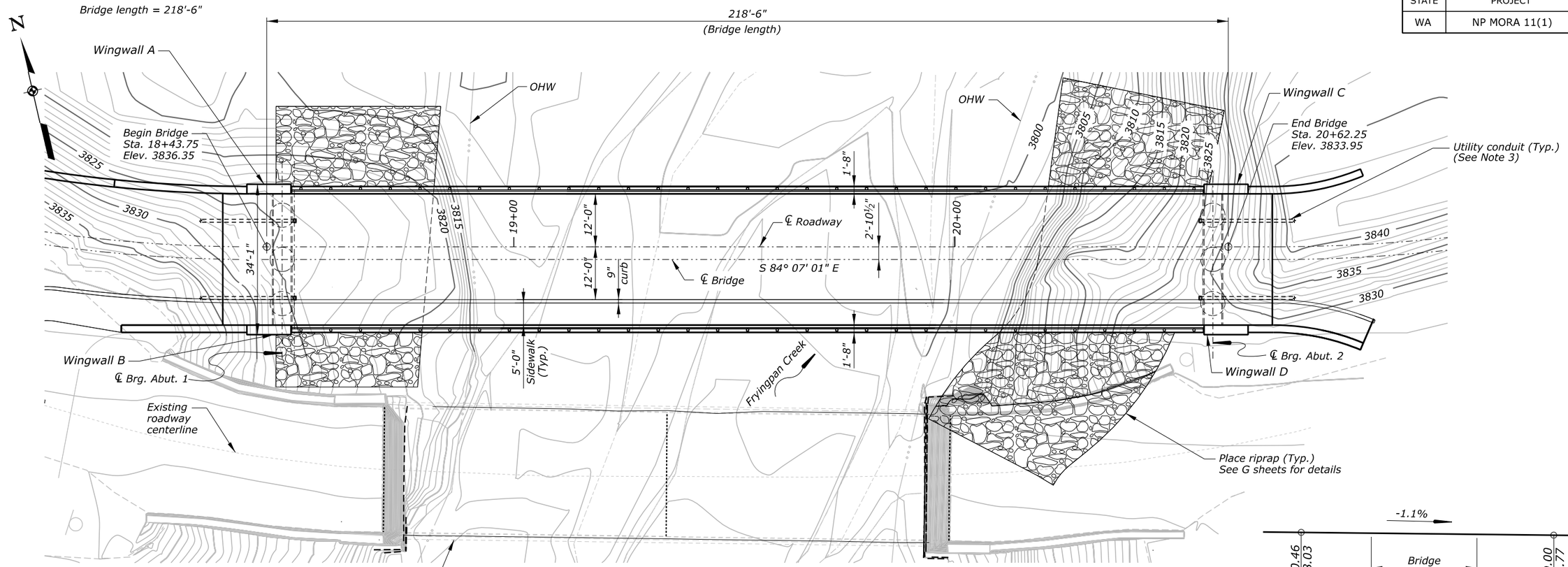
2. *Schedule B: Shape and lay stones to replicate the existing bridge masonry pattern including stone size, shape, color and finish. Avoid a repeating pattern.*

NO SCALE

STONE MASONRY PATTERN

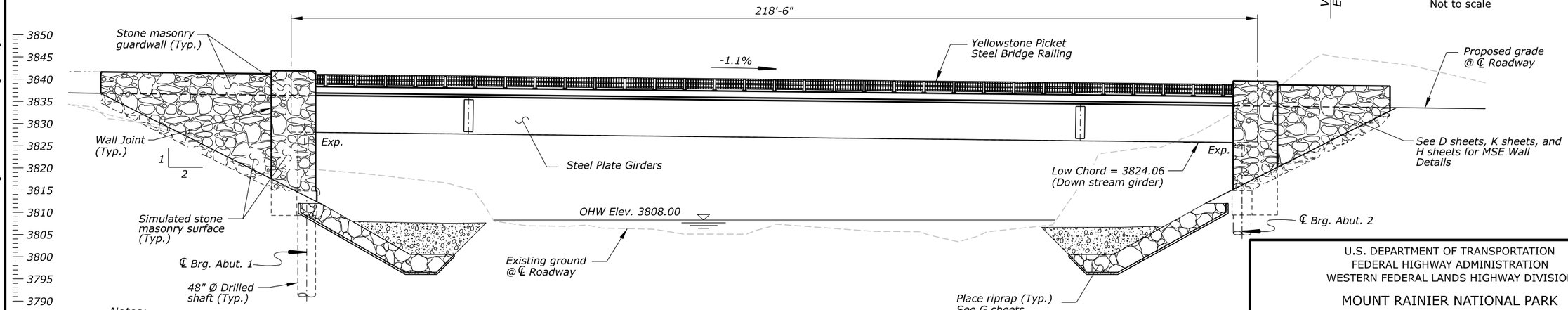
NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.01



PLAN

PROFILE GRADE
Not to scale



ELEVATION

Notes:

1. Build bridge to dimensions shown in the plans using Begin Bridge as the reference line/point.
2. See sheets S.34 and S.36 for Stone Masonry Guardwall and Simulated Stone Masonry Surface details.
3. Utility shown for illustration only. See Sheet S.30 and D sheets for details not shown.

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

PLAN AND ELEVATION (SCHEDULE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	T. Pham	P. Clark	No Scale	B. Oltmann	1 of 46	April 2026	RG3283-A

ACTUAL FILE:S.01_MORA 11(1)_P&E.DGN

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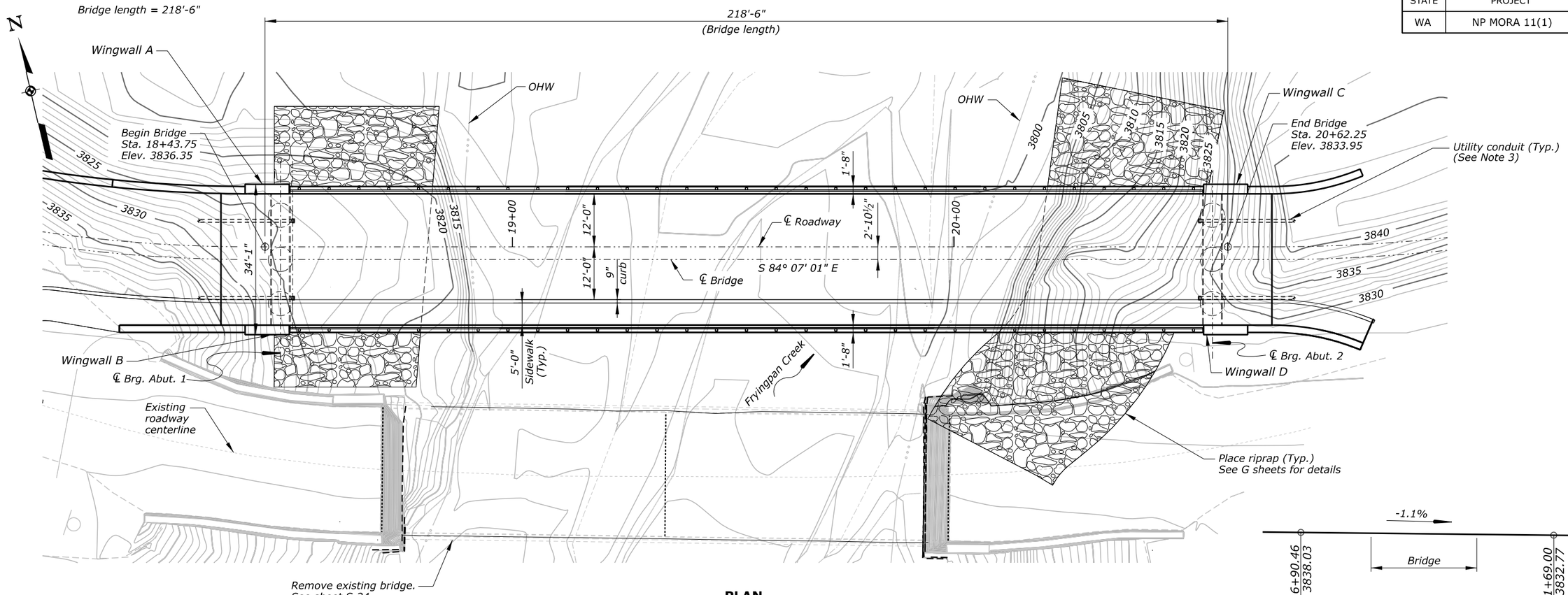
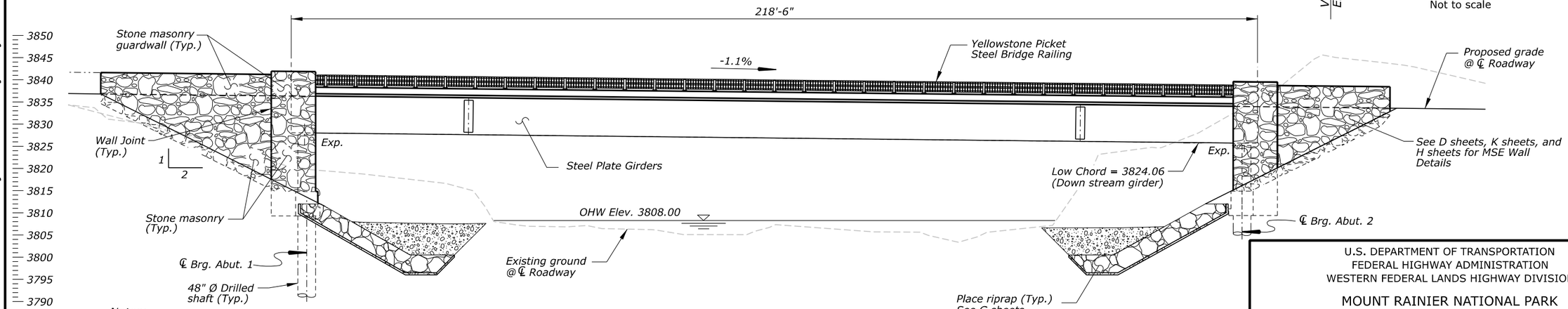
4/8/2026

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.02



PLAN

PROFILE GRADE
Not to scale



ELEVATION

Notes:

1. *Build bridge to dimensions shown in the plans using Begin Bridge as the reference line/point.*
2. *See sheets S.35 and S.37 for Stone Masonry details.*
3. *Utility shown for illustration only. See Sheet S.30 and D sheets for details not shown.*

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

PLAN AND ELEVATION (SCHEDULE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	T. Pham	P. Clark	No Scale	B. Oltmann	2 of 46	April 2026	RG3283-B

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.03

GENERAL NOTES:

SPECIFICATIONS:

Construction:

Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-14.

Design:

AASHTO LRFD Bridge Design Specifications, 9th Edition, 2020.

AASHTO Guide Specifications for LRFD Seismic Bridge Design, 2nd Edition with 2012, 2014, and 2015 Interim Revisions.

DESIGN LOADS:

Dead Loads:

Concrete: 150 pcf
Steel: 490 pcf
Stone masonry: 170 pcf
Future asphalt wearing surface: 25 psf
Future utility allowance: 5 plf (each external bay)

Live Loads:

90 psf Pedestrian loading; applied to maximize effects, no impact
AASHTO HL-93; maximun dynamic Load Allowance, IM = 33%

Lateral Earth Pressure:

Moist unit weight = 135 pcf
Angle of internal friction = 34 degrees
Active earth pressure: Equivalent to a fluid unit weight of soil = 36 pcf.
At-rest earth pressure: Equivalent to a fluid unit weight of soil = 57 pcf.
Live load surcharge: Equivalent height of soil.

Wind Loads:

Base wind velocity at 33.0 ft height = 110 mph
Upstream surface conditions: Open country

Seismic:

Site Class C
PGA = 0.3g
Ss = 0.682g
S1 = 0.219g
Seismic Design Category "C"
Liquefaction potencial = low
AASHTO 7% probability of exceedance in 75 years

MATERIALS:

Design stresses:

Class A(AE):	*f'c*	*= 4,500 psi at 28 days*
Class D(AE):	*f'c*	*= 5,000 psi at 28 days*
Class A(Drilled Shaft):	*f'c*	*= 4,500 psi at 28 days*
Structural Steel:	*fy*	*= 50,000 psi*
Reinforcing Steel:	*fy*	*= 60,000 psi*

Concrete:

Furnish Class D(AE) concrete for bridge deck, curbs, approach slabs, endwalls, and sleeper slabs. Provide integrally colored and internally cured concrete for all Class D(AE) concrete. Use color 10053 (STD 595B).

Furnish Class A(Drilled Shaft) concrete for drilled shafts.

Furnish Class A(AE) concrete for all other concrete.

Provide Type II or IL cement for all concrete.

Chamfer exposed edges of all concrete ¾" unless otherwise noted.

Furnish flexible cellular joint filter meeting the requirements of ASTM D1056, Type 2, grade 4, or 5.

Furnish preformed expansion material meeting the requirements of AASHTO M 213.

Reinforcing Steel:

Furnish reinforcing steel conforming to AASHTO M 31 or ASTM A706, grade 60 deformed.

Provide epoxy coated reinforcing steel for all reinforcing steel located or anchored in Class D(AE) concrete unless otherwise noted.

Provide standard hooks as defined by ACI SP-66 for bends unless otherwise noted.

ITEM NO.	ITEM	QUANTITY SCHEDULE A	QUANTITY SCHEDULE B	UNITS	NOTES
20304-2000	Removal of Bridge	ALL	ALL	LPSM	(2)
20801-0000	Structure Excavation	670	720	CUYD	(1)(4)
20810-0000	Shoring and Bracing	ALL	ALL	LPSM	
55201-0200	Structural Concrete, Class A (AE)	215	216	CUYD	(1)(3)
55201-0800	Structural Concrete, Class D (AE)	312	312	CUYD	(1)(5)
55202-2000	Structural Concrete, Class D (AE), For Approach Slabs, Type 2	39	39	CUYD	(1)(6)
55235-0000	Expansion Joints	60	60	LNFT	(1)
55401-1000	Reinforcing Steel	25000	27500	LB	(1)
55401-2000	Reinforcing Steel, Epoxy Coated	84500	84500	LB	(1)
55502-0000	Structural Steel, Furnished, Fabricated and Erected	591000	591000	LB	(1)(7)
55601-0900	Bridge Railing, Steel (Yellowstone Picket Rail)	413	413	LNFT	(1)(8)
56202-0000	Temporary Support Structure (Work Bridge)	ALL	ALL	LPSM	
56401-1000	Bearing Device, Elastomeric	8	8	EACH	(1)
56501-0600	Drilled Shaft, 48-Inch Diameter	417	417	LNFT	(1)
60901-2900	Curb, Stone, Type 1, 6-Inch Depth (Stone Masonry Curb at Bridge)	219	219	LNFT	(1)(9)
62001-1000	Class B Masonry, Rock Face Finish	8	52	CUYD	(1)(10)

(1) Contract Quantity

(2) Includes salvaging stone masonry at the existing bridge.

(3) Includes concrete in wingwalls and abutments. Includes cost of furnishing and installing all joint fillers, weep holes, and geocomposite sheet drains. Schedule A includes the cost of simulated stone surface finish for abutments and wingwalls (est. cty. 200 SQYD).

(4) Includes under drain pipe and drainage aggregate for abutments and wingwalls.

(5) Includes concrete in deck, curbs, sidewalk, and endwalls at the new bridge. Includes cost of furnishing and installing all joint fillers, sealant, backer rods, and rail post anchor assemblies.

(6) Includes sleeper slabs, approach slabs, and sidewalks at new bridge approach roadways. Includes joint fillers and sealants, aggregate base, and polyethylene sheeting for approach slabs.

(7) Includes cost of furnishing and installing all structural steel, bolts, studs, and welds for plate girders, bearing & jacking stiffeners, cross frames, drip plates, and field splices.

(8) Includes cost of furnishing and installing all steel components, inserts, rail post anchor assemblies, grout, paint, and all materials required for construction of the steel railing.

(9) Includes the installation and all materials required for construction of stone sidewalk curb at the new bridge.

(10) Includes cost of installing stone masonry for bridge guardwalls. Includes cost of all materials other than masonry stones required to construct stone masonry. For Schedule B, includes the cost of installing stone masonry for bridge wingwalls and abutments.

Reinforcing Steel (Cont.):

Provide 3" cover for reinforcing steel cast in concrete against ground.

Provide 2" cover for all other reinforcing steel unless otherwise noted.

Structural steel:

Furnish high-strength low alloy corrosion resistant steel for all superstructure steel conforming to AASHTO M 270 (ASTM A709), Grade 50W, unpainted, unless otherwise noted.

All primary longitudinal superstructure components and connections subject to tensile stress due to Strength Load Combination I require mandatory Charpy V-Notch testing. Conform testing to AASHTO T 243, Frequency H for Temperature Zone 3.

Conform all fasteners to ASTM F3125, Grade A325, Type 3 unless otherwise noted.

All field connections are slip critical, friction type, Class B.

Conform all welding for steel superstructure components to ANSI/AASHTO/AWS D1.5 Bridge Welding Code.

Furnish welded shear connectors conforming to AASHTO M 169 (ASTM A108).

Paint exposed girder ends and steel members at locations designated in the plans.

DRAWING INDEX

Bearings:

Provide laminated elastomeric bearing pads conforming to the requirements of Section 18.2 of the AASHTO LFRD Bridge Construction Specifications, with 60 durometer hardness. Bearings are designed according to AASHTO LFRD design Method A.

GEOTECHNICAL REPORT:

For boring log and other geotechnical information, see Geotechnical Memorandum No. 05-25, dated May 2025.

EXISTING BRIDGE:

The existing Fryingpan Creek Bridge was constructed in 1931. It is a 128 feet long, single span bridge comprised of two steel arch girders. The existing bridge has a width of 28 feet curb-to-curb and an overrall width of 31 feet. See Bridge Inspection Report for further information.

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

MOUNT RAINIER NATIONAL PARK

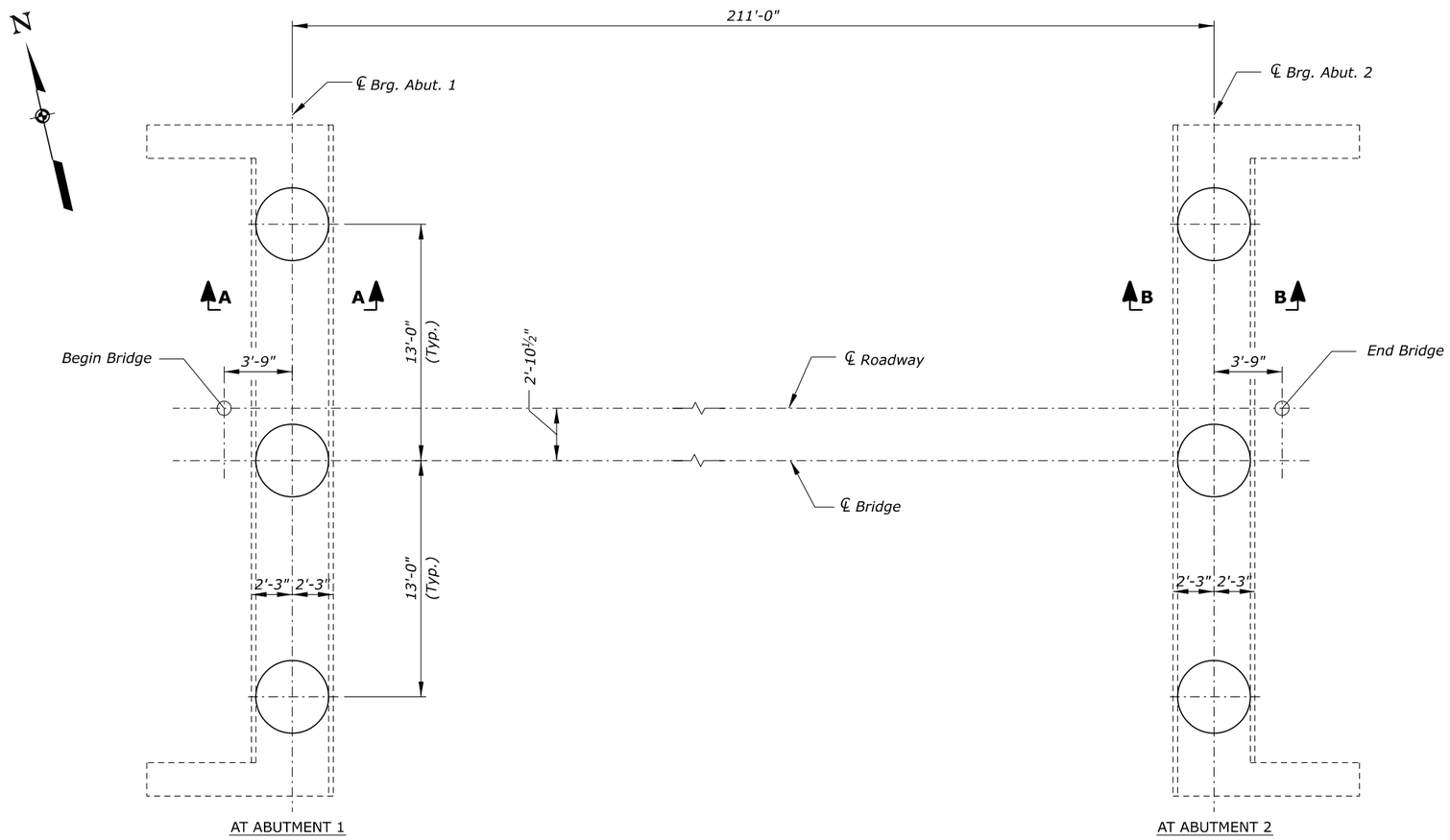
FRYINGPAN CREEK BRIDGE

GENERAL NOTES

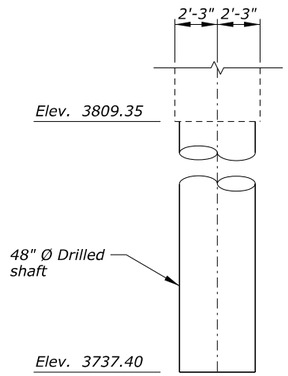
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi S. Loftus	J. Galdos	P. Clark H. Salad	No Scale	B. Oltmann	3 of 46	April 2026	RG3283-C

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

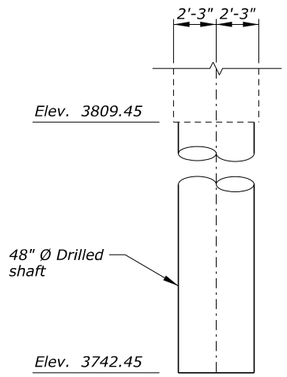
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.04



FOUNDATION PLAN



SECTION A-A



SECTION B-B

FOUNDATION ELEVATION

FOUNDATION TABLE		
Location	Max. Factor ED Pile Axial Load (Strength I) (@ Top of Pile)	Est. Pile Tip Elevation
Abut. 1	*935*	*3737.40*
Abut. 2	*914*	*3742.45*

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MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

FOUNDATION LAYOUT (SCHEDULE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	¼" = 1'-0"	B. Oltmann	4 of 46	April 2026	RG3283-D

ACTUAL FILE:S.04_MORA 11(1)_F-LAYOUT.DGN

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4/8/2026

STATE	PROJECT	SHEET NUMBER
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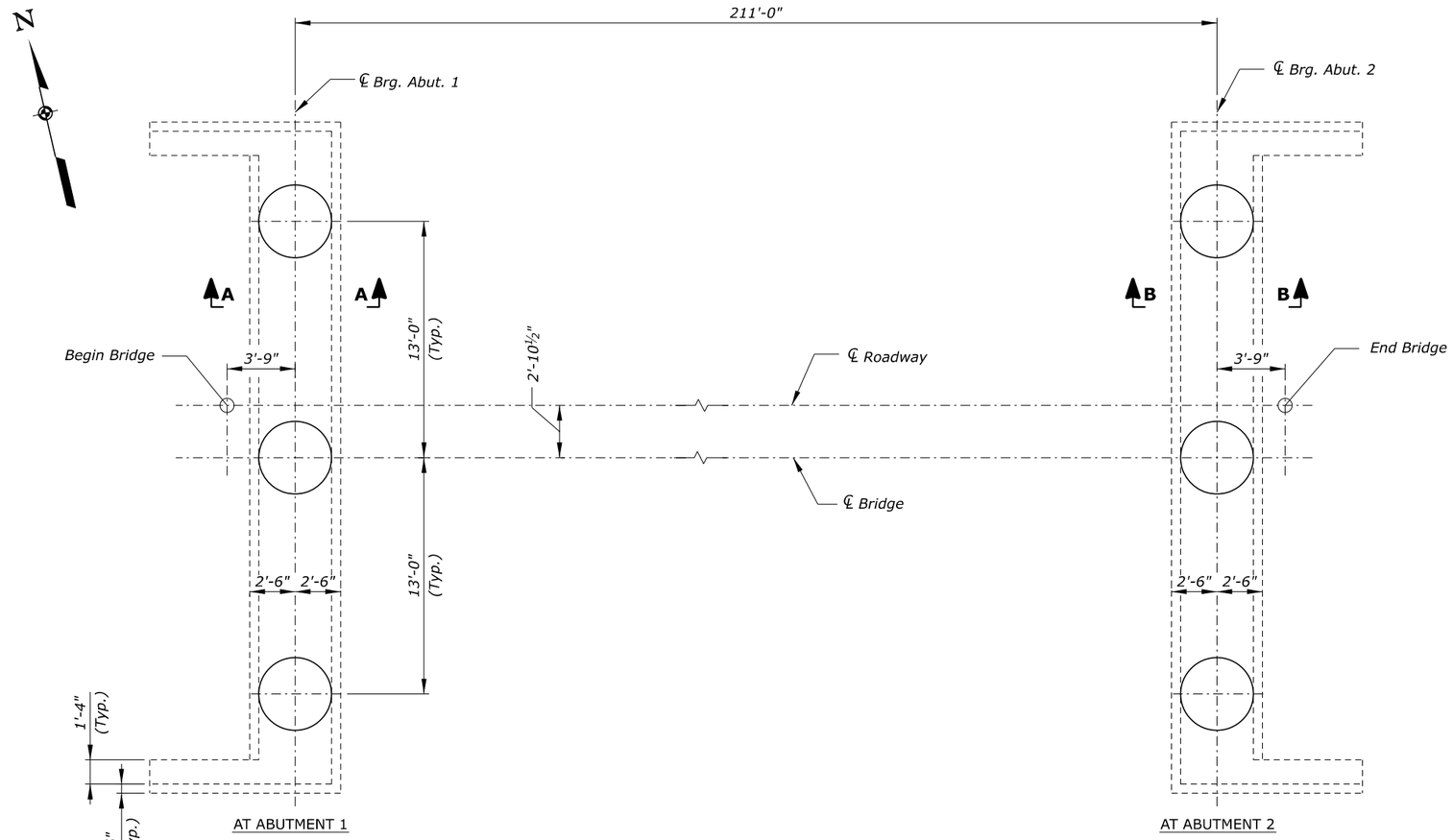
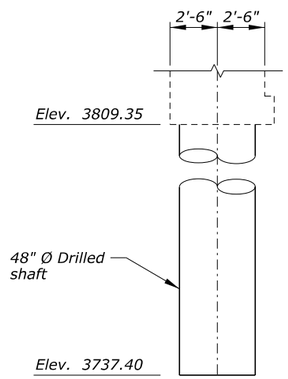
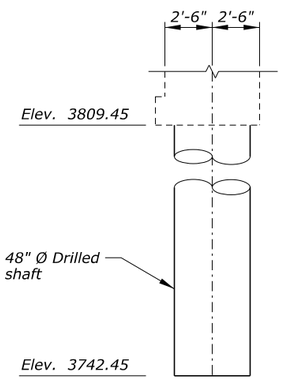


FOUNDATION PLAN



SECTION A-A



SECTION B-B

FOUNDATION ELEVATION

FOUNDATION TABLE		
Location	Max. Factor ED Pile Axial Load (Strength I) (@ Top of Pile)	Est. Pile Tip Elevation
Abut. 1	*935*	*3737.40*
Abut. 2	*914*	*3742.45*

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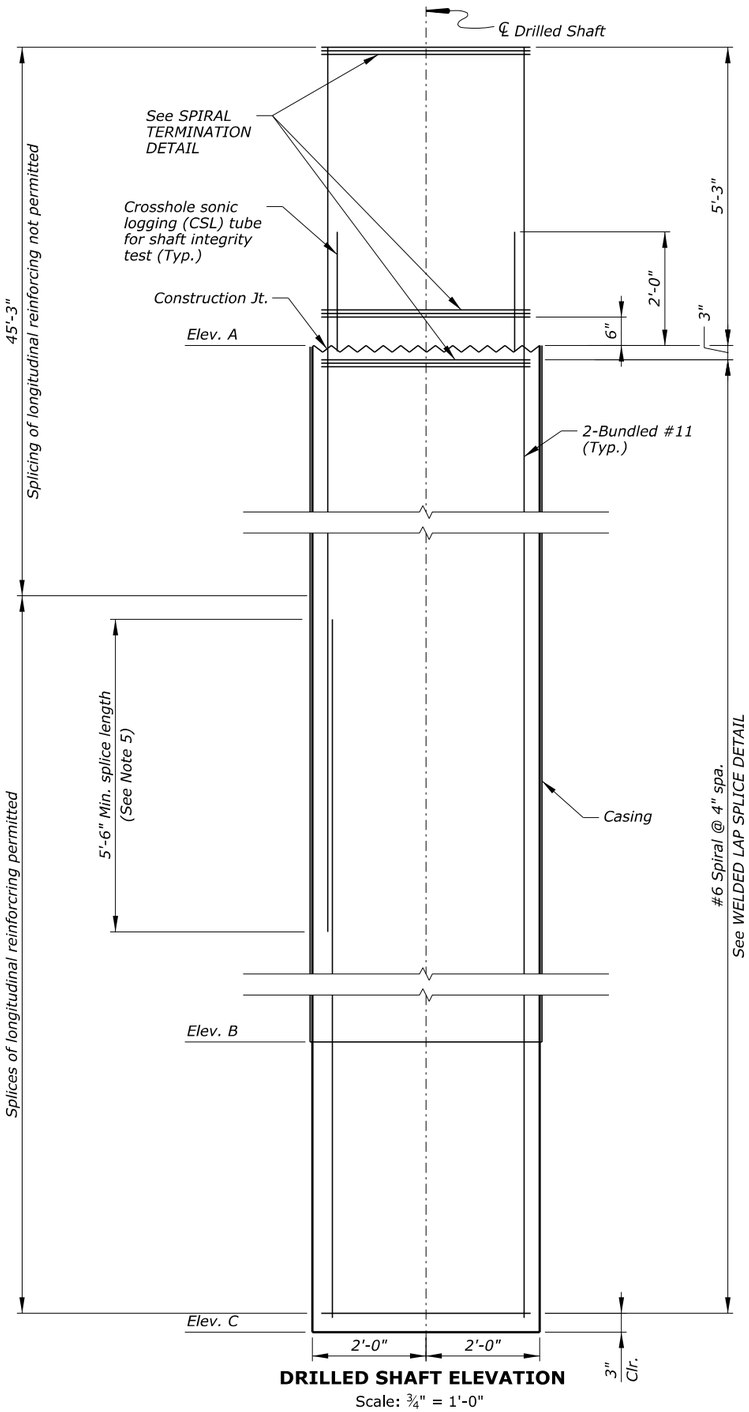
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

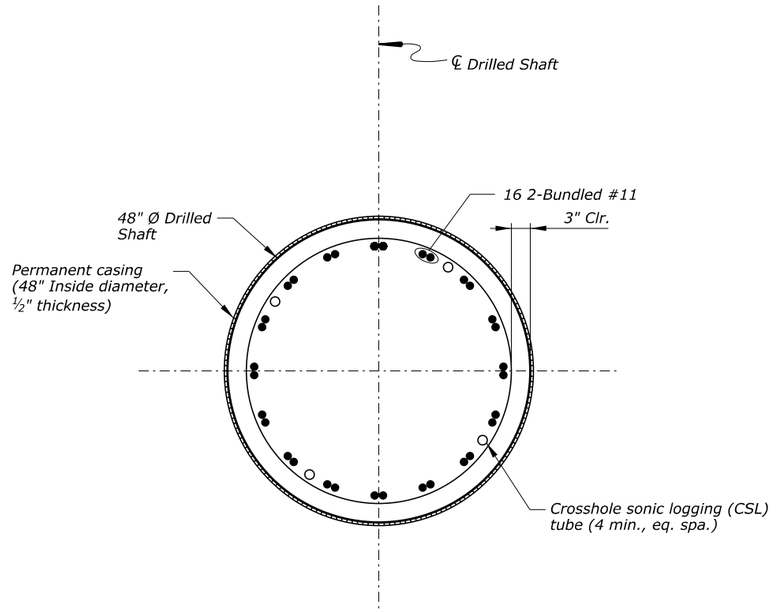
FOUNDATION LAYOUT (SCHEDULE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	¼" = 1'-0"	B. Oltmann	5 of 46	April 2026	RG3283-E

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.06



DRILLED SHAFT ELEVATION
Scale: ¾" = 1'-0"

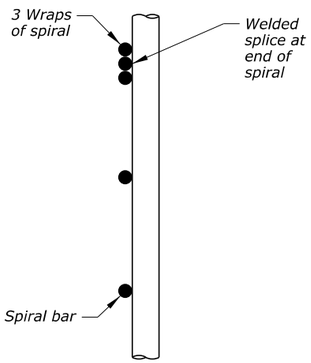


SECTION A-A
Scale: 1" = 1'-0"

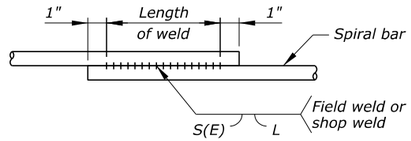
Notes:

1. *Orient the drilled shaft reinforcing to avoid conflict with the reinforcing in the bottom of the abutment cap.*
2. *Align bundled vertical rebars in drilled shafts radially.*
3. *Place all CSL tubes as shown. Perform CSL testing for all shafts.*
4. *Furnish steel casing conforming to AASHTO M 270, Grade 36.*
5. *Stagger location of all lap splices a minimum of 5'-6" in drilled shaft between adjacent splices. Minimum lap splice length #11 bar = 5'-6". Only 1 bar in bundled reinforcement is allowed to be spliced at a given location.*
6. *Contractor is responsible for assembling and bracing the drilled shaft reinforcing cage to safely resist all loads during handling and placing.*

DRILLED SHAFT ELEVATIONS			
Location	Elev. A	Elev. B	Elev. C
Abut. 1	*3809.35*	*3745.00*	*3737.00*
Abut. 2	*3809.45*	*3751.00*	*3743.00*



SPIRAL TERMINATION DETAIL
No Scale



SHAFT SPIRAL			
Deformed Bar	Weld Dimensions (IN.)		
	S	E	Length (L)
#6	*3/8*	*3/16*	*6*

WELDED LAP SPLICE DETAIL
Not to scale

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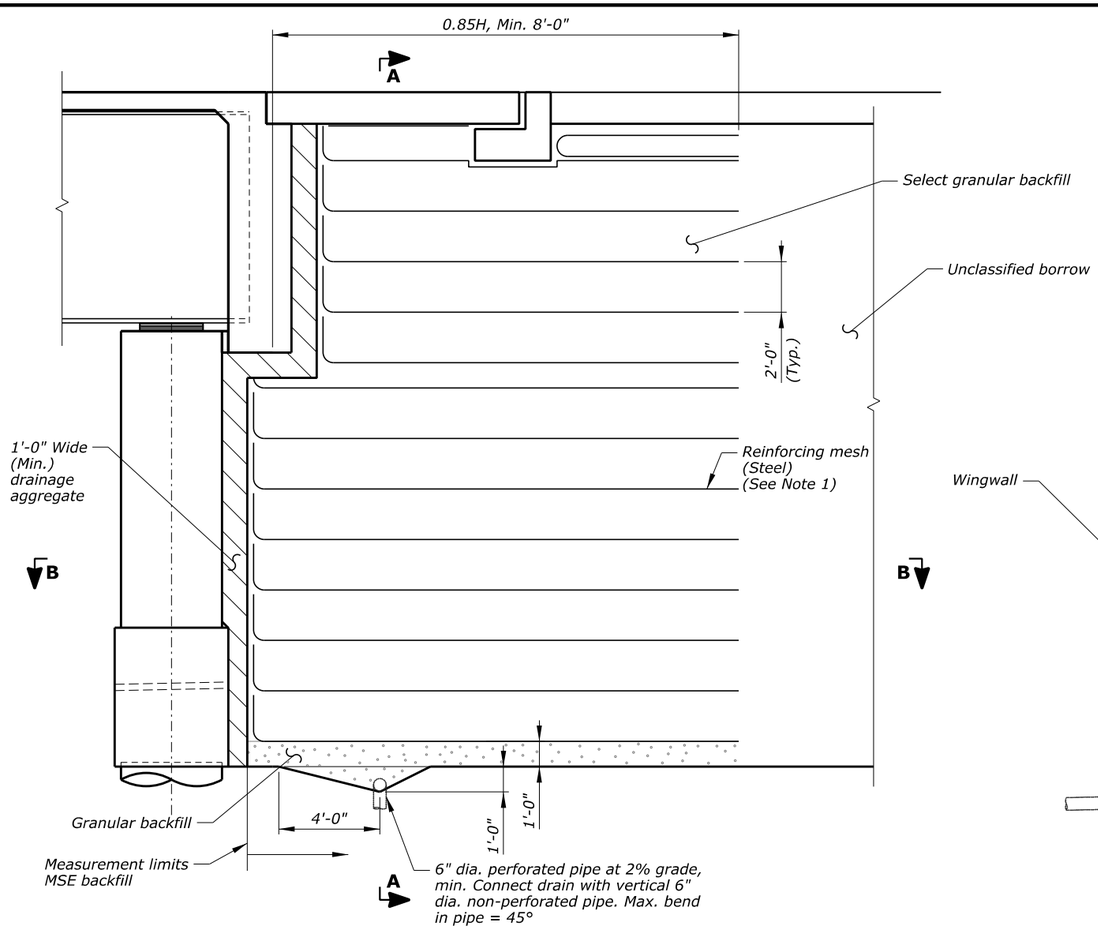
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

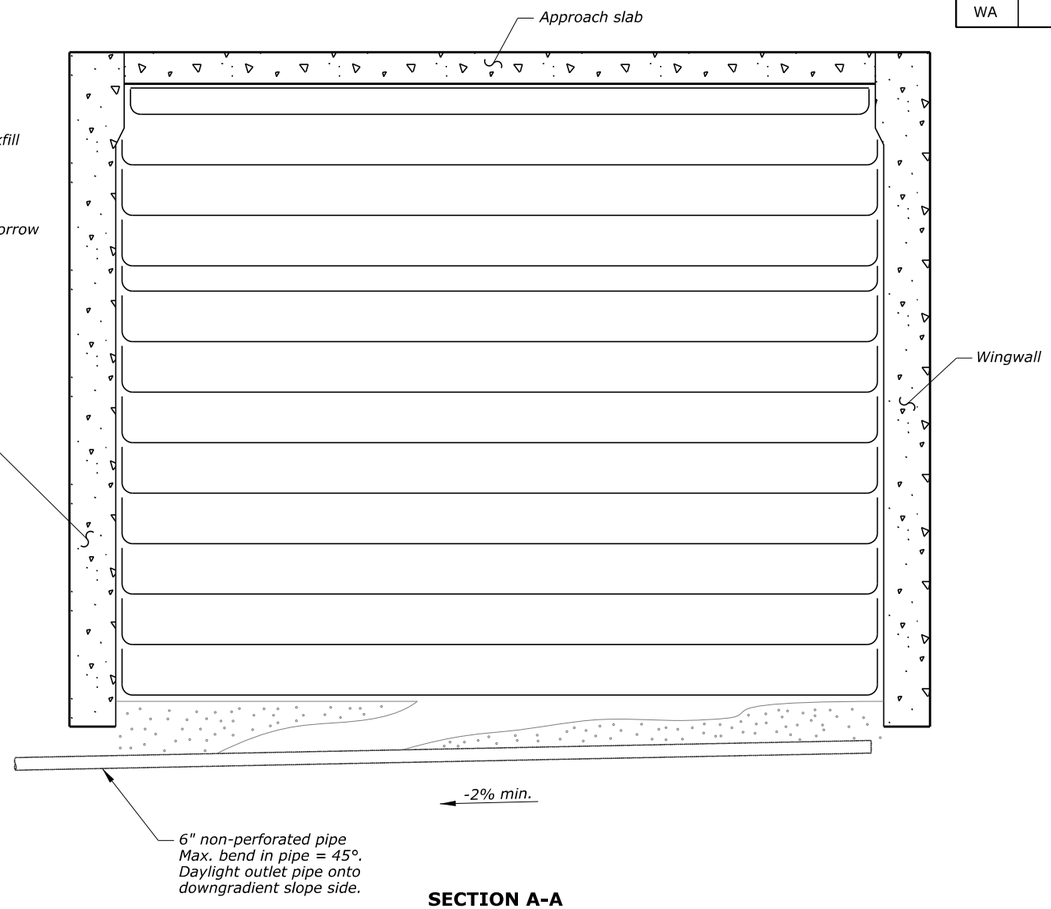
DRILLED SHAFT DETAILS

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	As shown	B. Oltmann	6 of 46	April 2026	RG3283-F

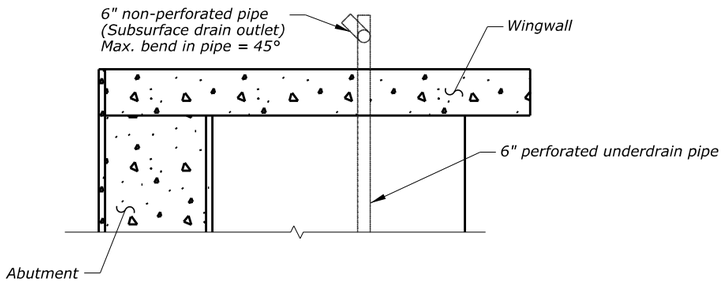
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.07

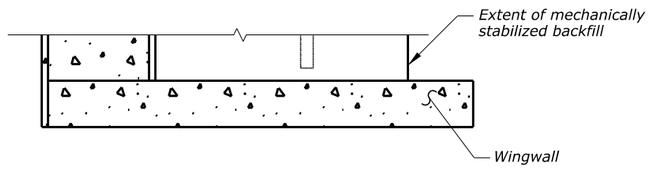


SECTION PERPENDICULAR TO ABUTMENT



SECTION A-A





SECTION B-B

Notes:

1. *Provide steel reinforcing mesh per H sheets and approved wall design.*
2. *See MSE Wall sheets for details not shown.*

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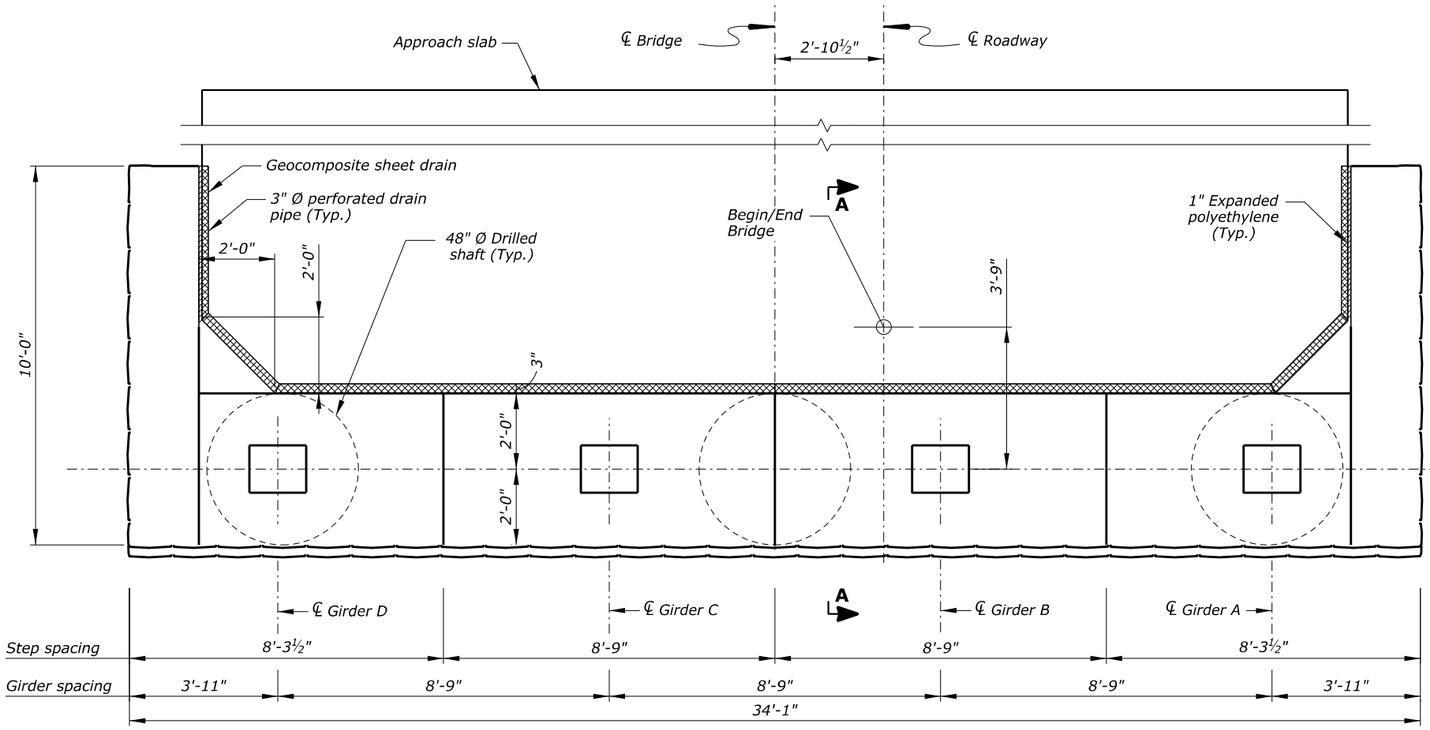
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

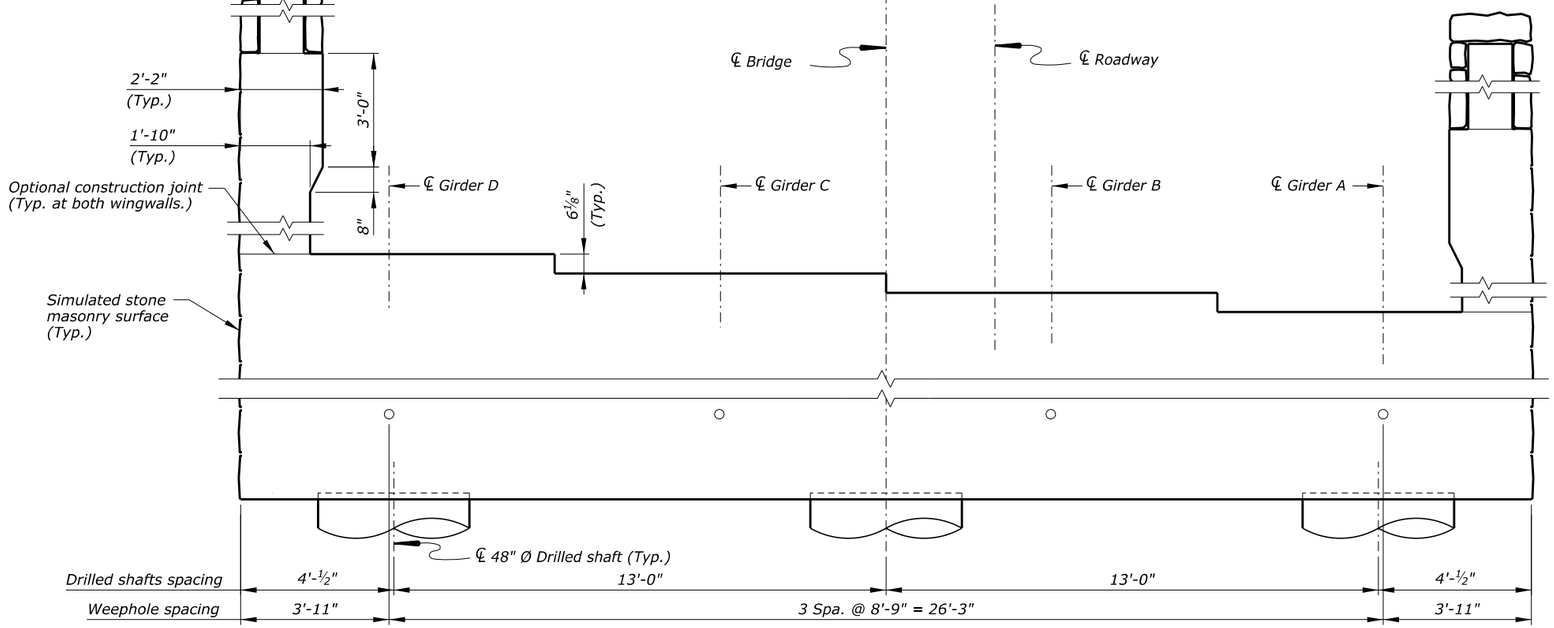
ABUTMENT BACKFILL

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	No Scale	B. Oltmann	7 of 46	April 2026	RG3283-G

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.08



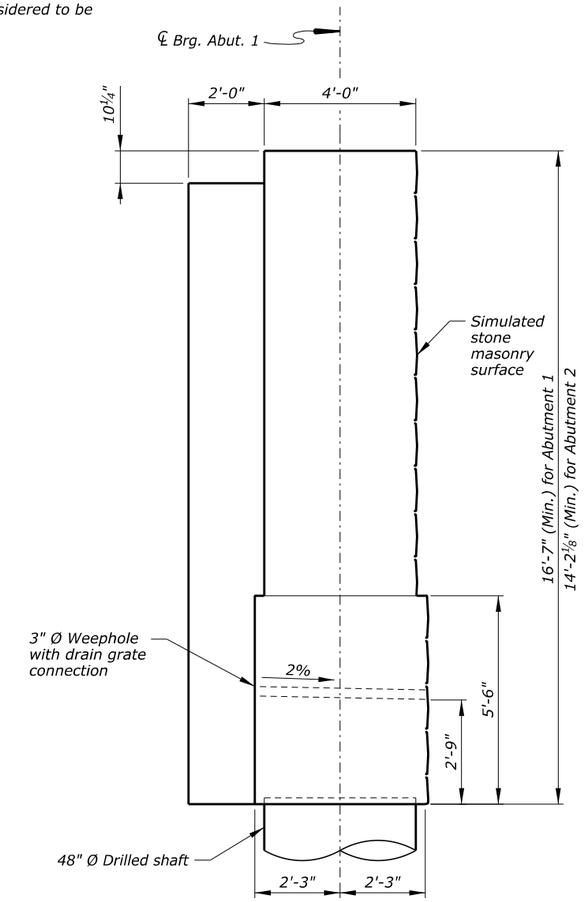
PLAN
(Abutment 1 shown, Abutment 2 similar)



ELEVATION
(Looking back at Abutment 1)

Notes:

1. Abutment is considered to be mass concrete.



SECTION A-A

BEARING SEAT ELEVATIONS		
℄ Girder	Abut. 1	Abut. 2
A	*3825.89*	*3823.57*
B	*3826.40*	*3824.08*
C	*3826.91*	*3824.59*
D	*3827.42*	*3825.10*

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MOUNT RAINIER NATIONAL PARK

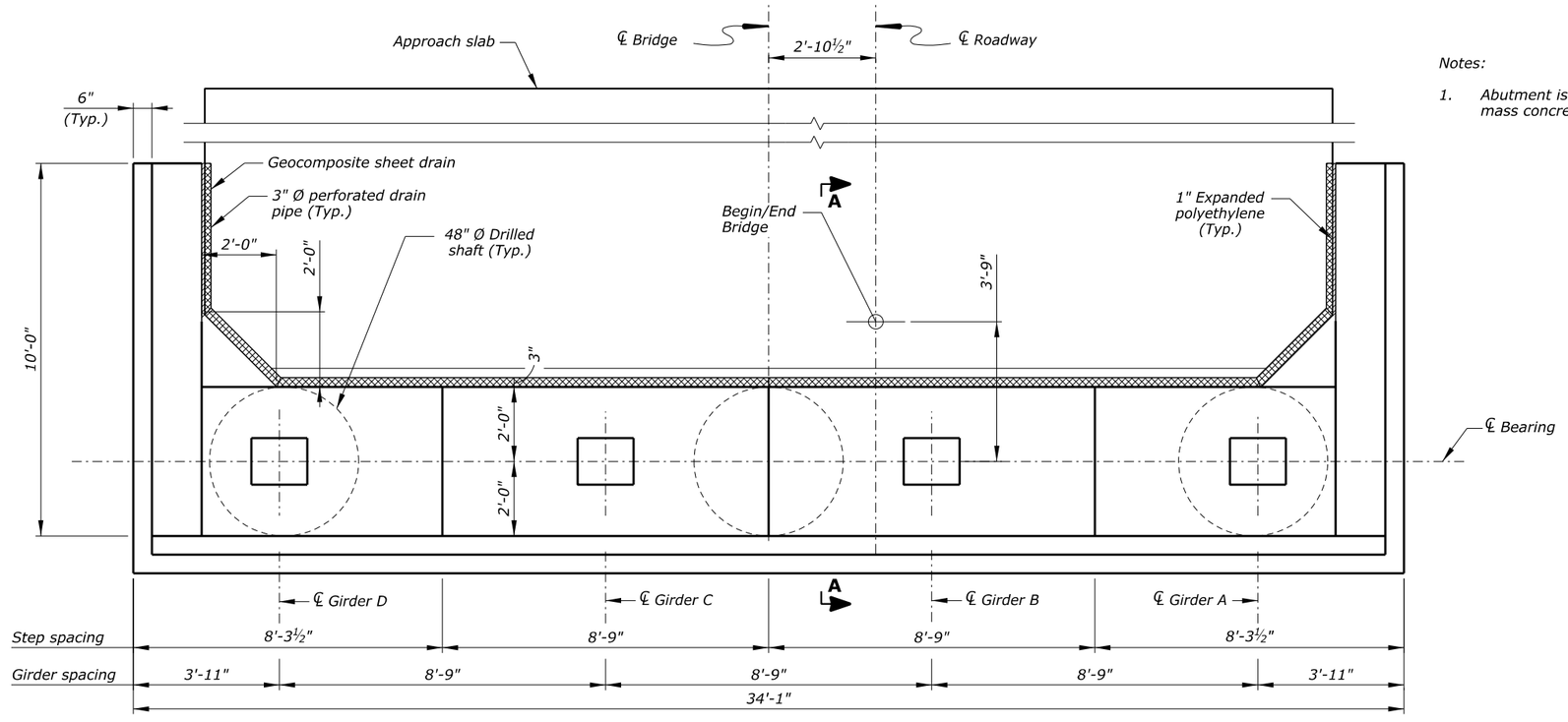
FRYINGPAN CREEK BRIDGE

ABUTMENT LAYOUT (SCHEDULE A)

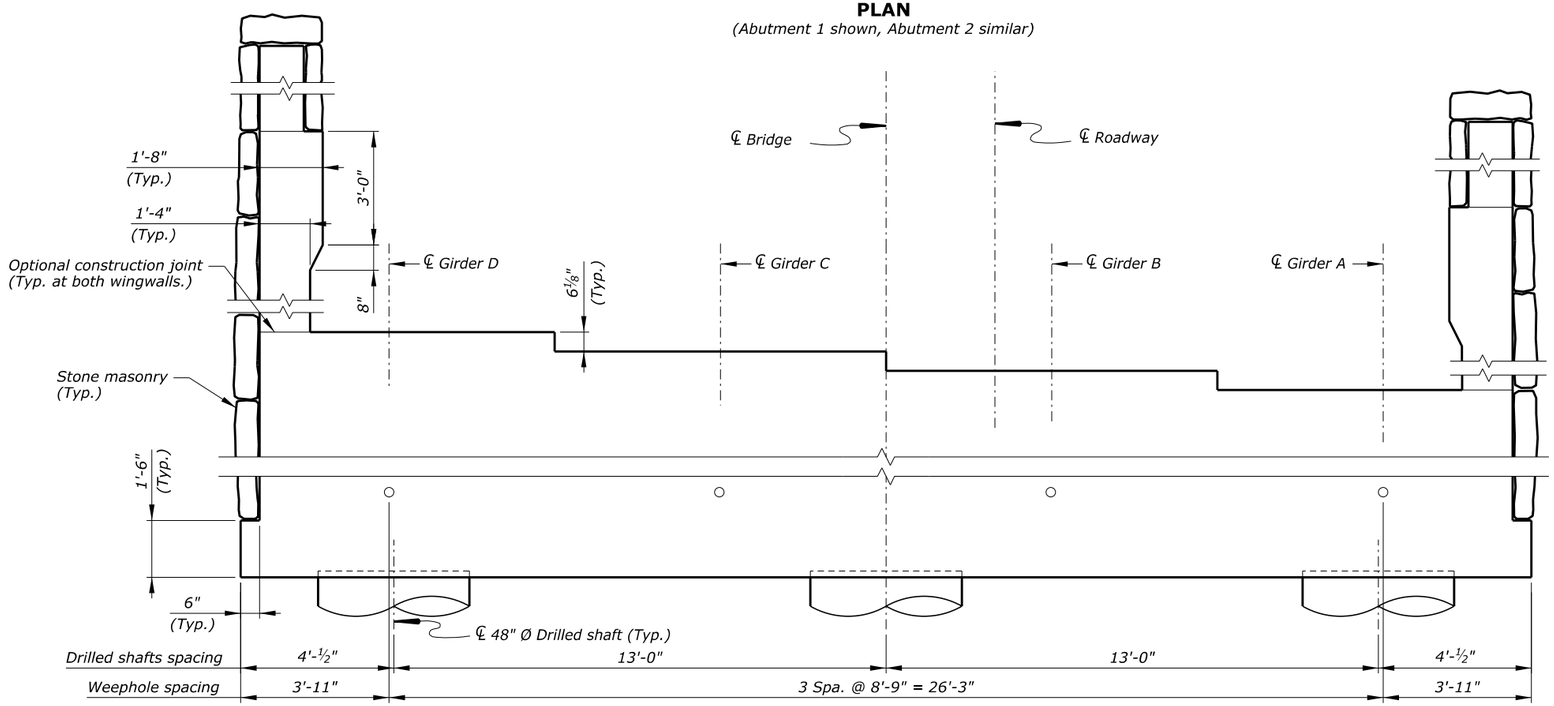
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	½" = 1'-0"	B. Oltmann	8 of 46	April 2026	RG3283-H

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.09



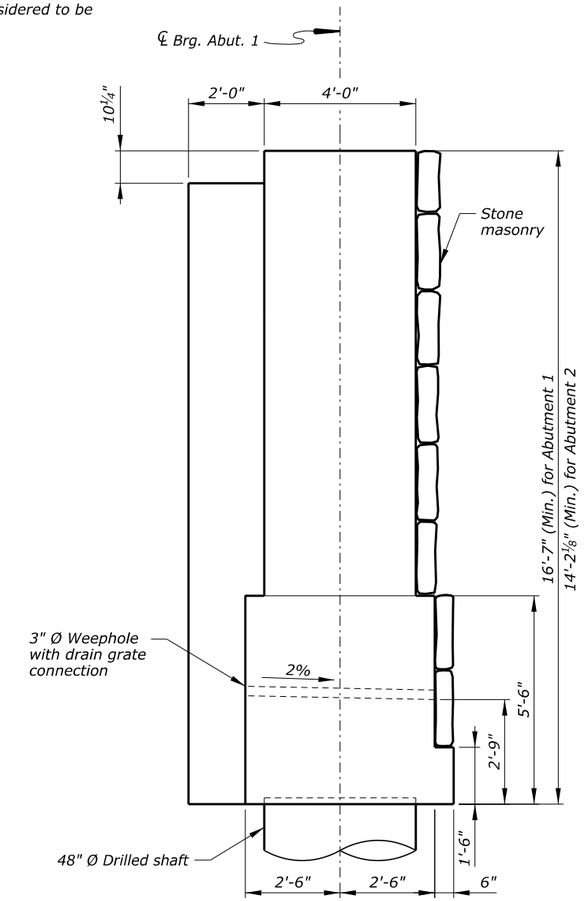
PLAN
(Abutment 1 shown, Abutment 2 similar)



ELEVATION
(Looking back at Abutment 1)

Notes:

1. *Abutment is considered to be mass concrete.*



SECTION A-A

BEARING SEAT ELEVATIONS		
℄ Girder	Abut. 1	Abut. 2
A	*3825.89*	*3823.57*
B	*3826.40*	*3824.08*
C	*3826.91*	*3824.59*
D	*3827.42*	*3825.10*

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

ABUTMENT LAYOUT (SCHEDULE B)

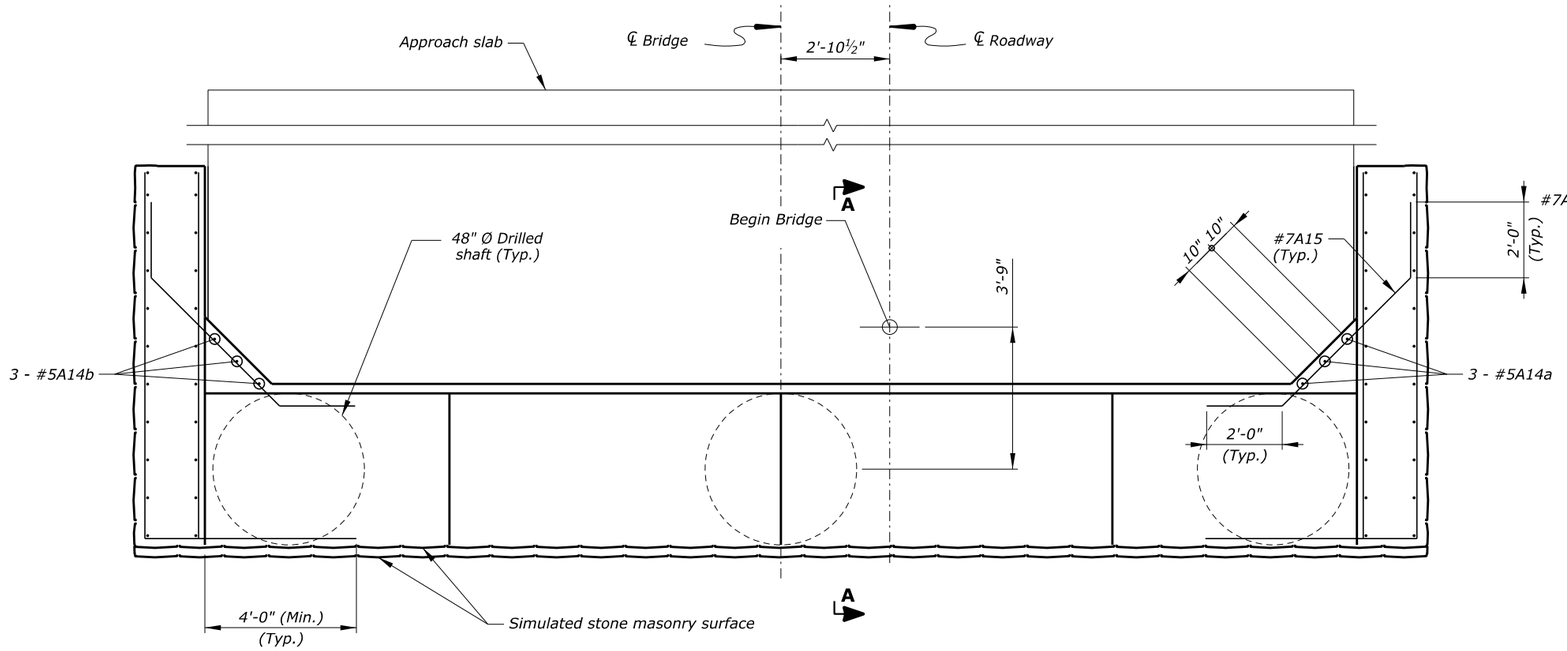
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	½" = 1'-0"	B. Oltmann	9 of 46	April 2026	RG3283-I

ACTUAL FILE:S.09_MORA 11(1)_ABUT-LAYOUT_ALT-B.DGN

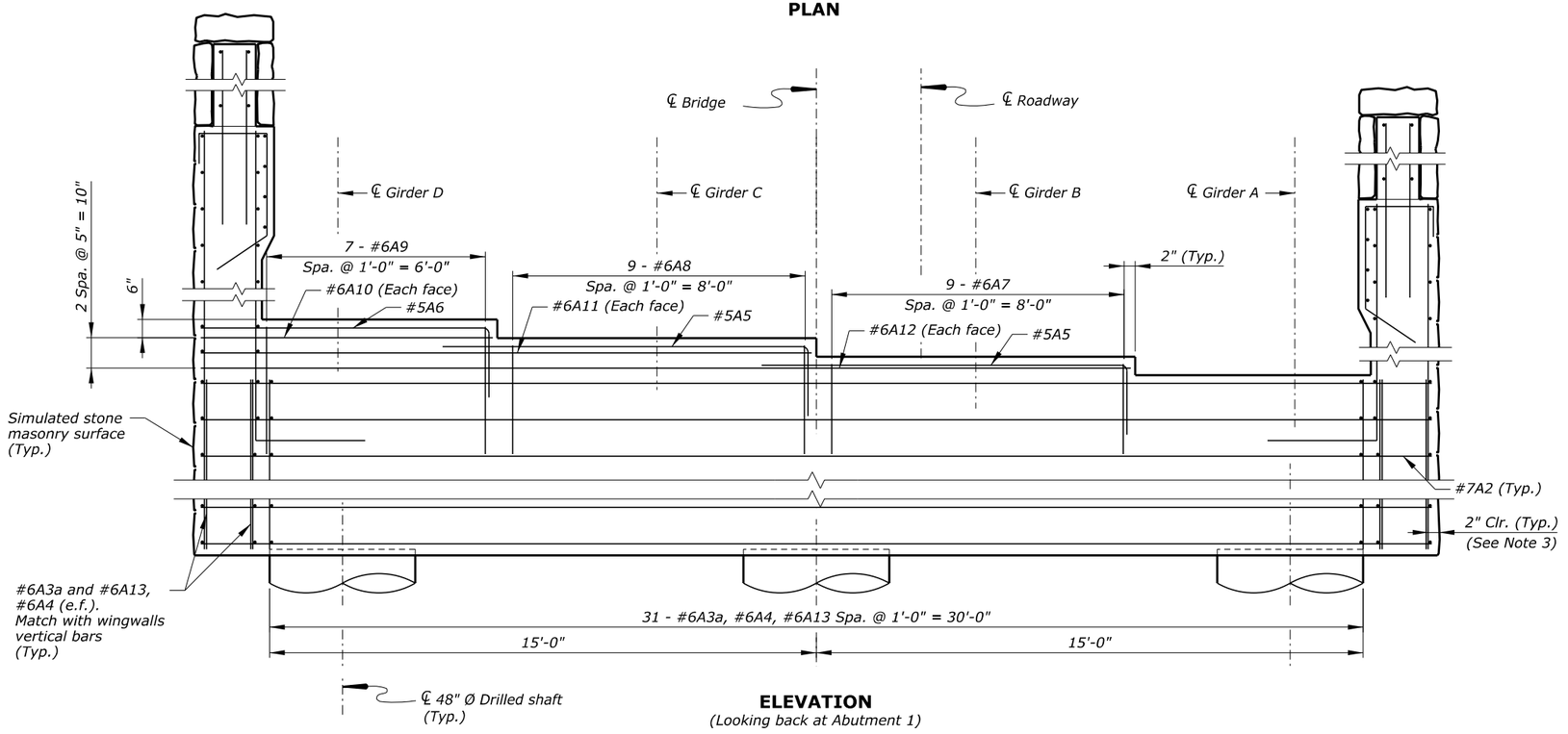
M:\PROJECTS\mora\II\N\BridgeMicrostation\Bridge Design Files\Current\0_0PROJECTS.dgn

4/8/2026

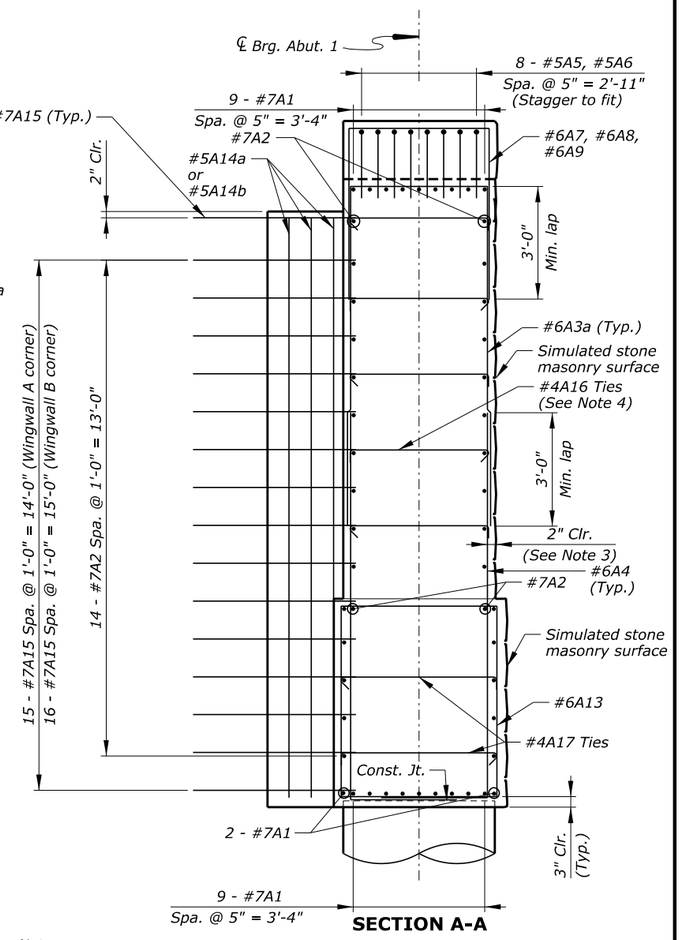
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.10



PLAN



ELEVATION
(Looking back at Abutment 1)



SECTION A-A

Notes:

1. *See Sheet S.06 for additional drilled shaft reinforcement details not shown. Adjust reinforcement to avoid conflicts with drilled shaft reinforcing.*
2. *See Sheet S.15 and S.17 for additional wingwall details not shown and guard wall details.*
3. *Clear cover is measured from the working line of simulated stone masonry surface.*
4. *Provide ties at every other intersection each way. Place ties in a staggered pattern and alternate hook orientation.*

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

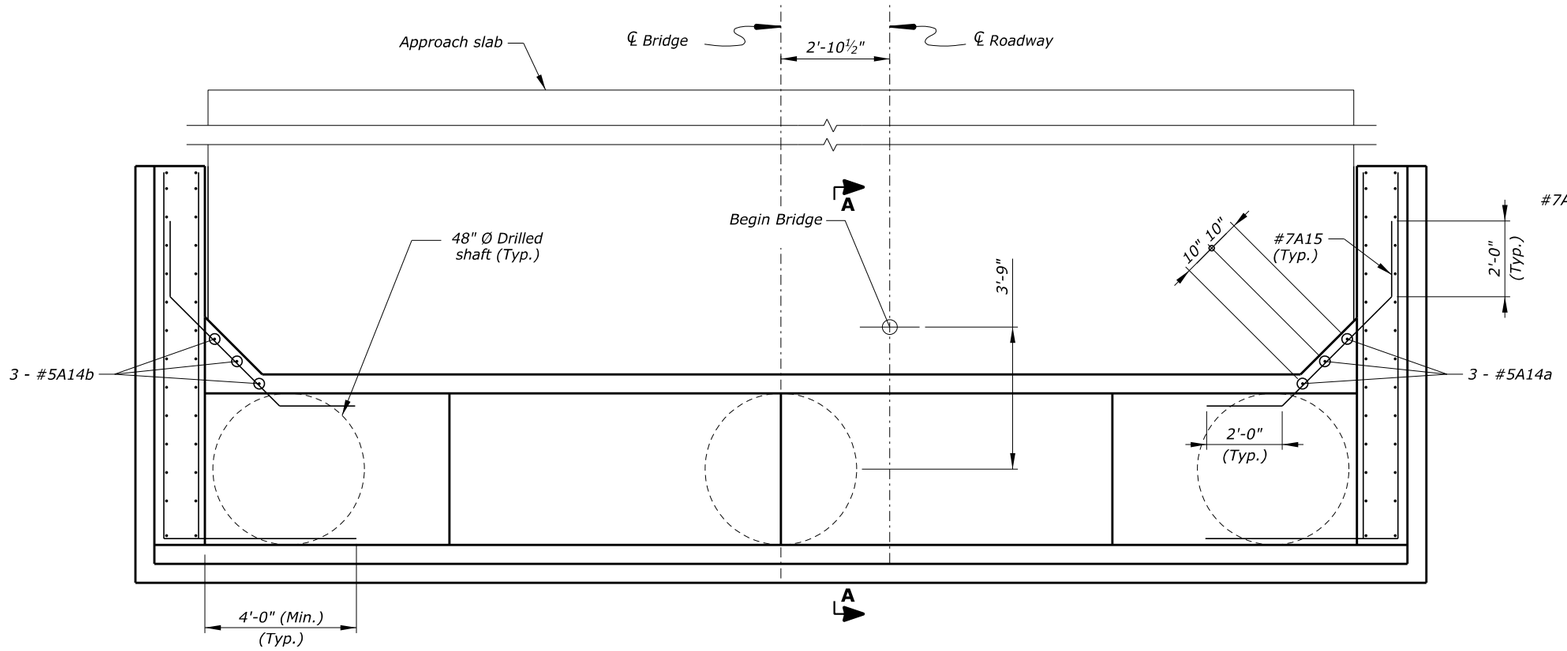
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

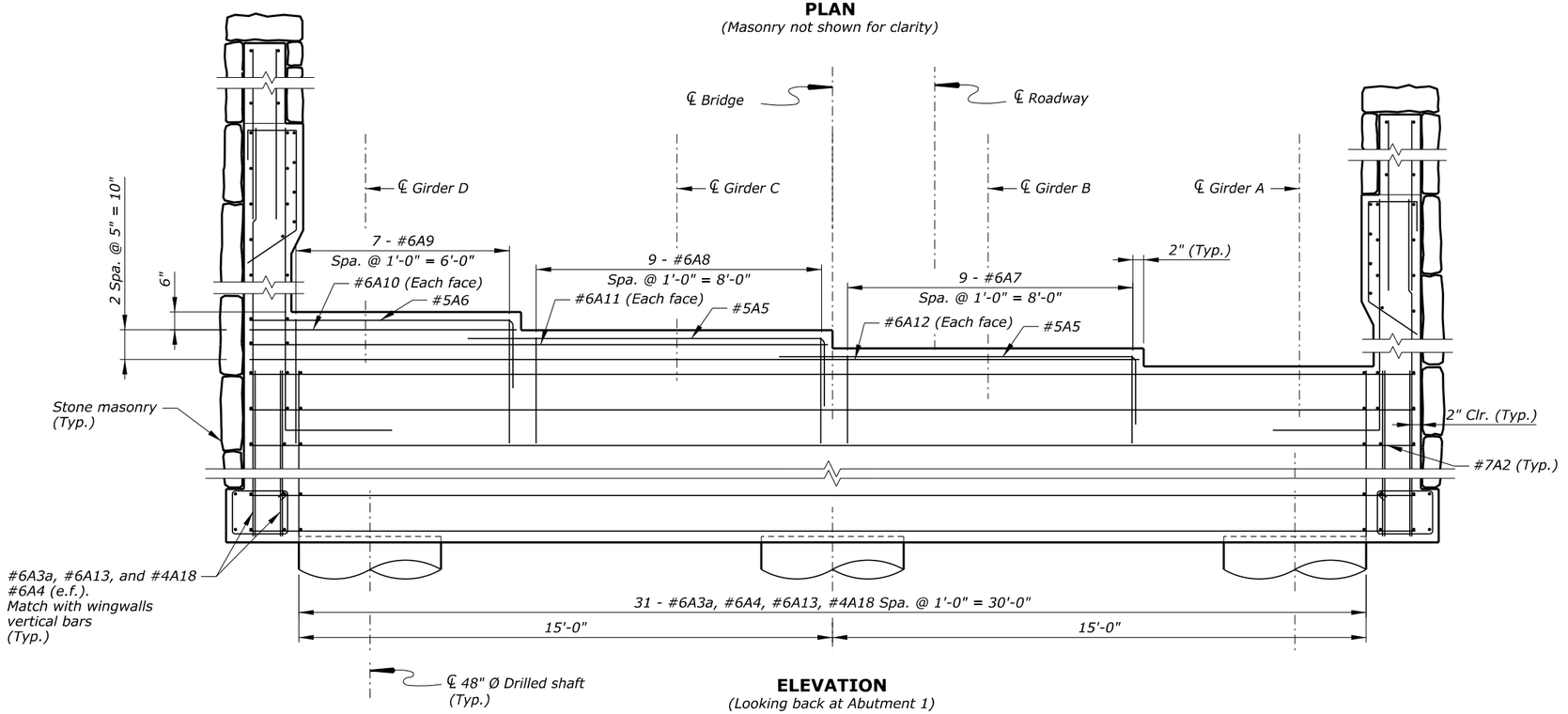
ABUTMENT 1 DETAILS (SCHEDULE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	½" = 1'-0"	B. Oltmann	10 of 46	April 2026	RG3283-J

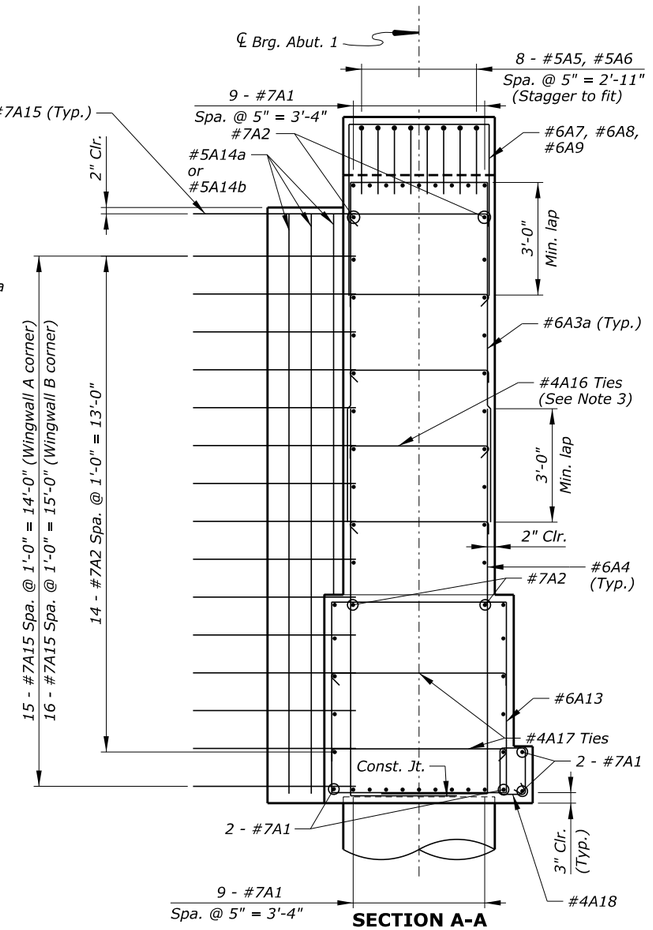
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.11



PLAN
(Masonry not shown for clarity)



ELEVATION
(Looking back at Abutment 1)



SECTION A-A
(Masonry not shown for clarity)

Notes:

1. *See Sheet S.06 for additional drilled shaft reinforcement details not shown. Adjust reinforcement to avoid conflicts with drilled shaft reinforcing.*
2. *See Sheet S.16 and S.18 for additional wingwall details not shown and guard wall details.*
3. *Provide ties at every other intersection each way. Place ties in a staggered pattern and alternate hook orientation.*

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

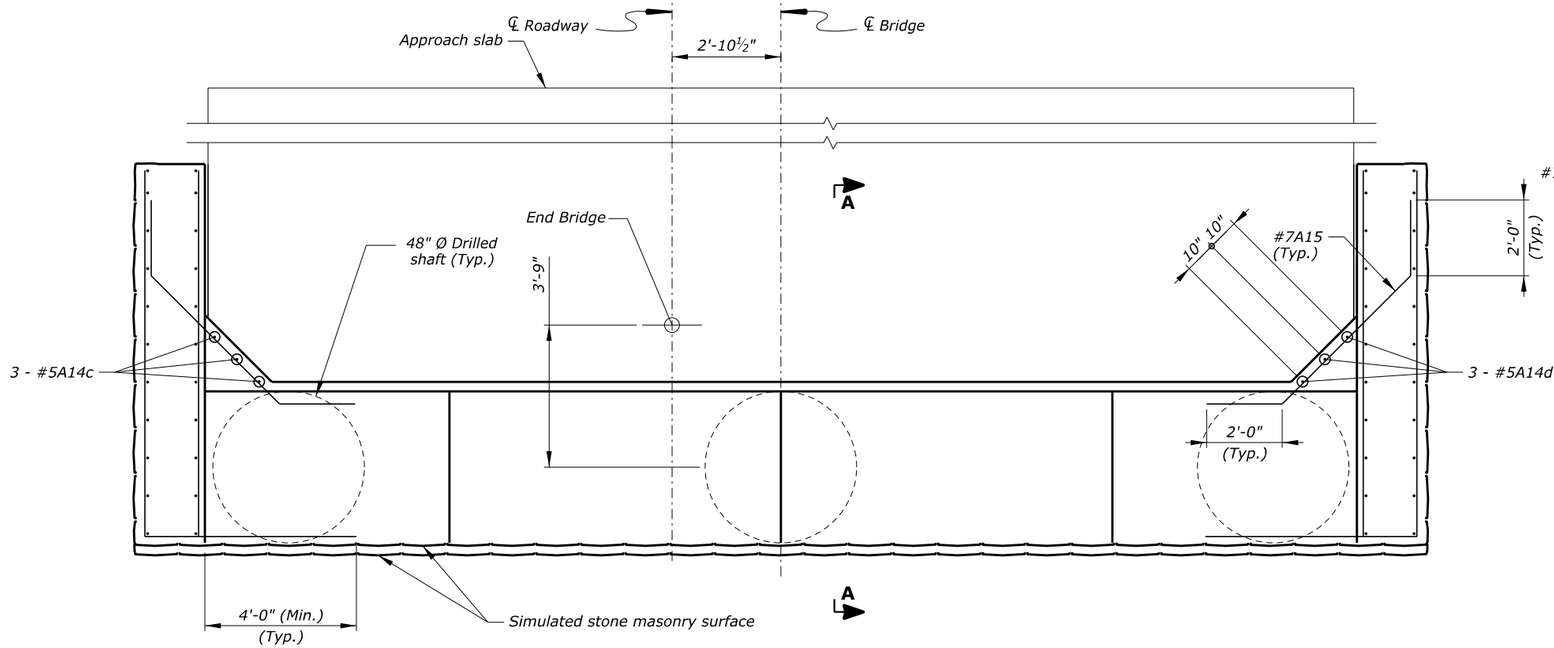
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

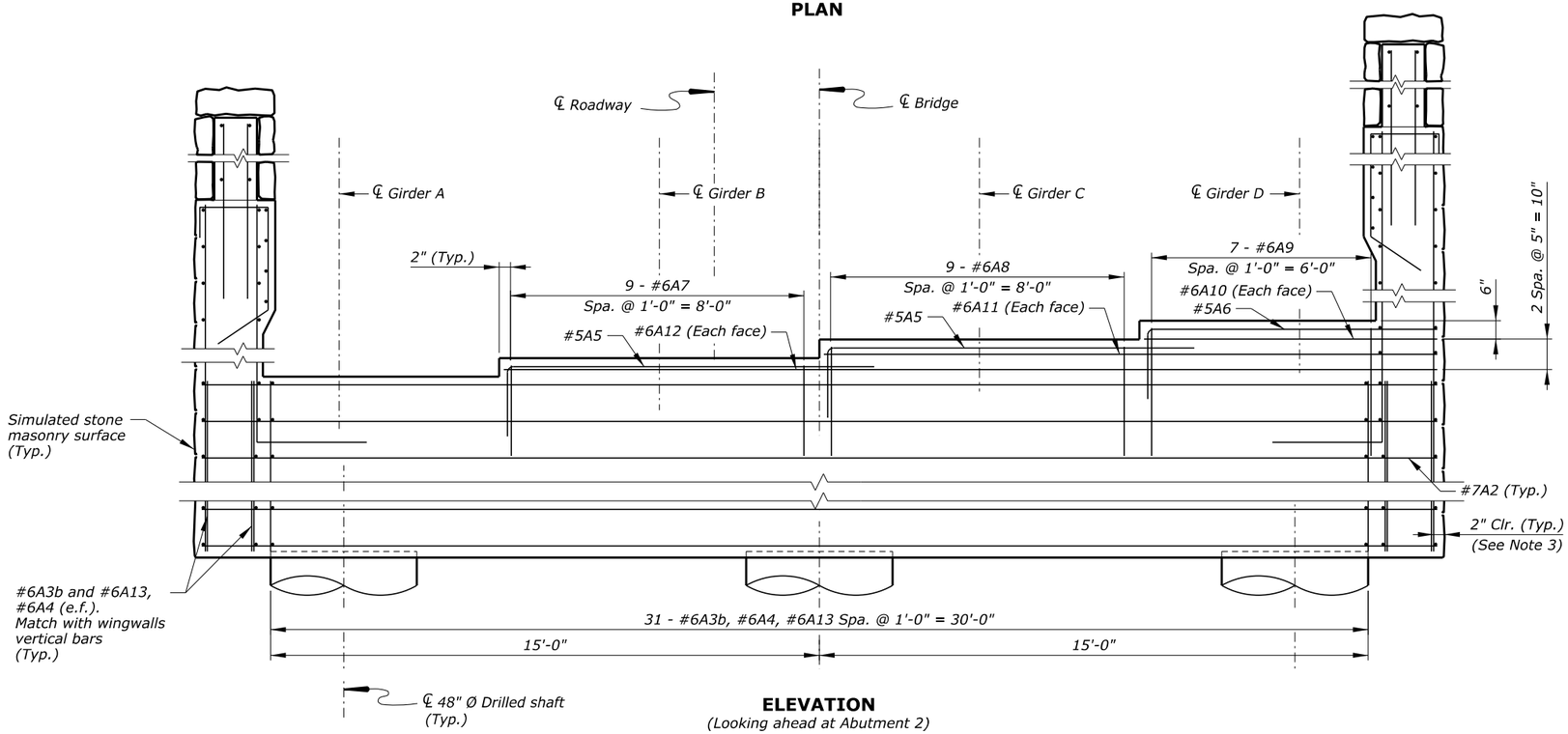
ABUTMENT 1 DETAILS (SCHEDULE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	½" = 1'-0"	B. Oltmann	11 of 46	April 2026	RG3283-K

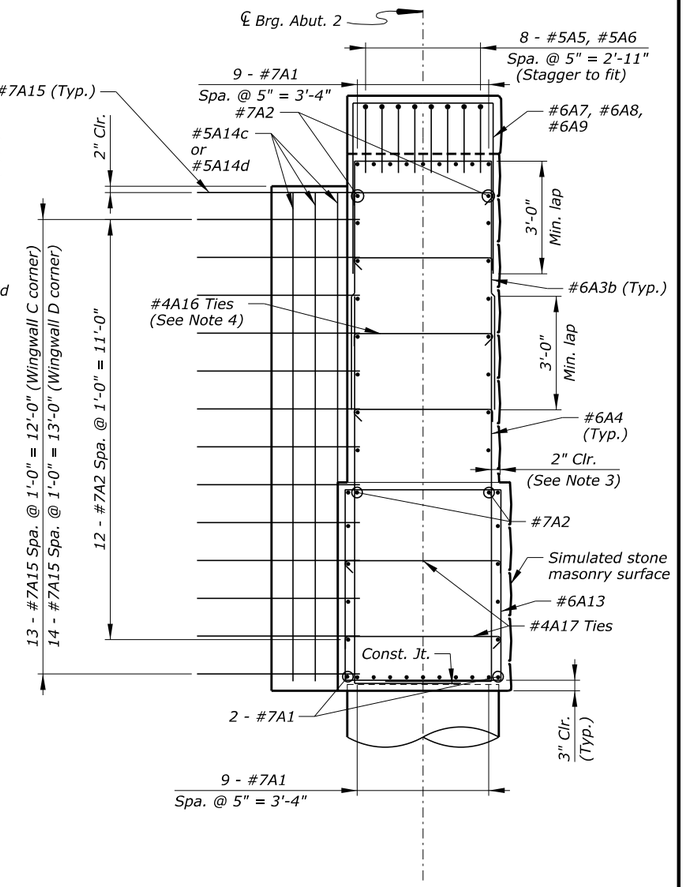
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.12



PLAN



ELEVATION
(Looking ahead at Abutment 2)



SECTION A-A

Notes:

1. *See Sheet S.06 for additional drilled shaft reinforcement details not shown. Adjust reinforcement to avoid conflicts with drilled shaft reinforcing.*
2. *See Sheet S.15 and S.17 for additional wingwall details not shown and guard wall details.*
3. *Clear cover is measured from the working line of simulated stone masonry surface.*
4. *Provide ties at every other intersection each way. Place ties in a staggered pattern and alternate hook orientation.*

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

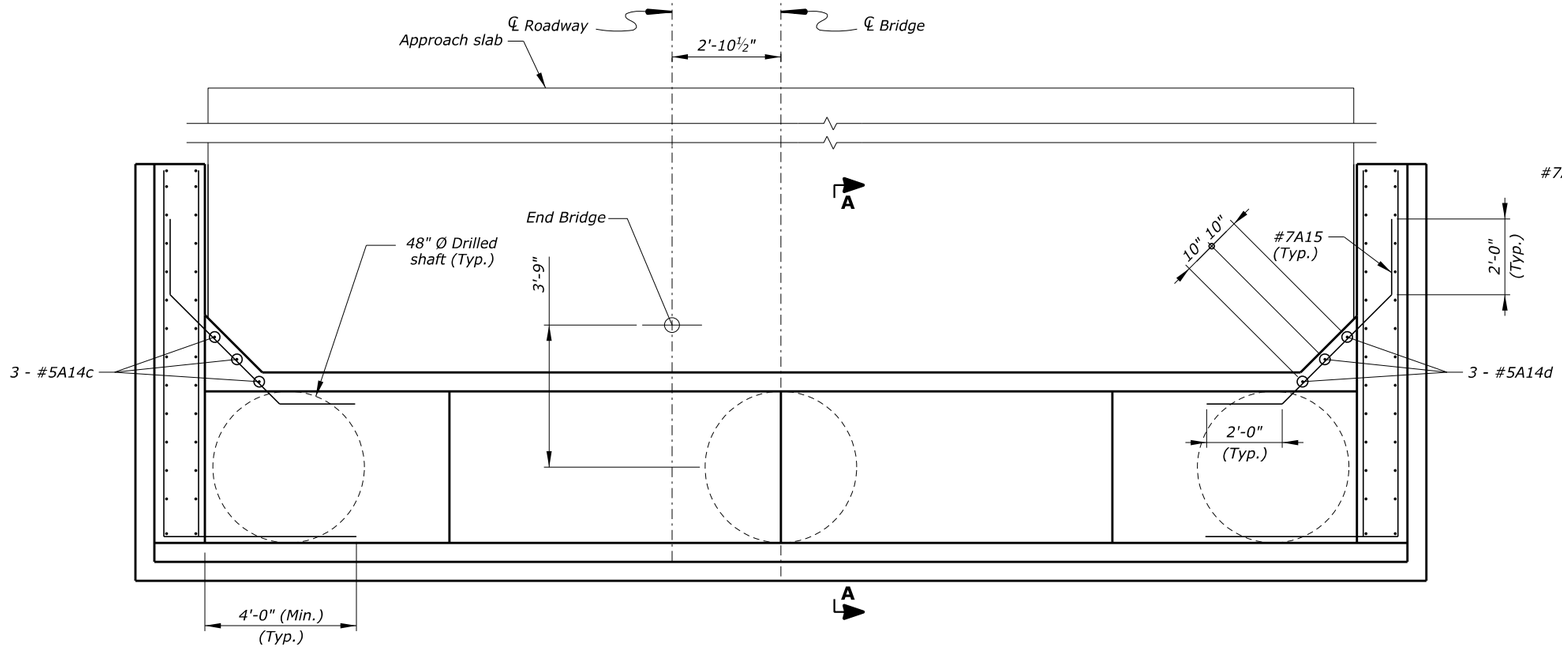
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

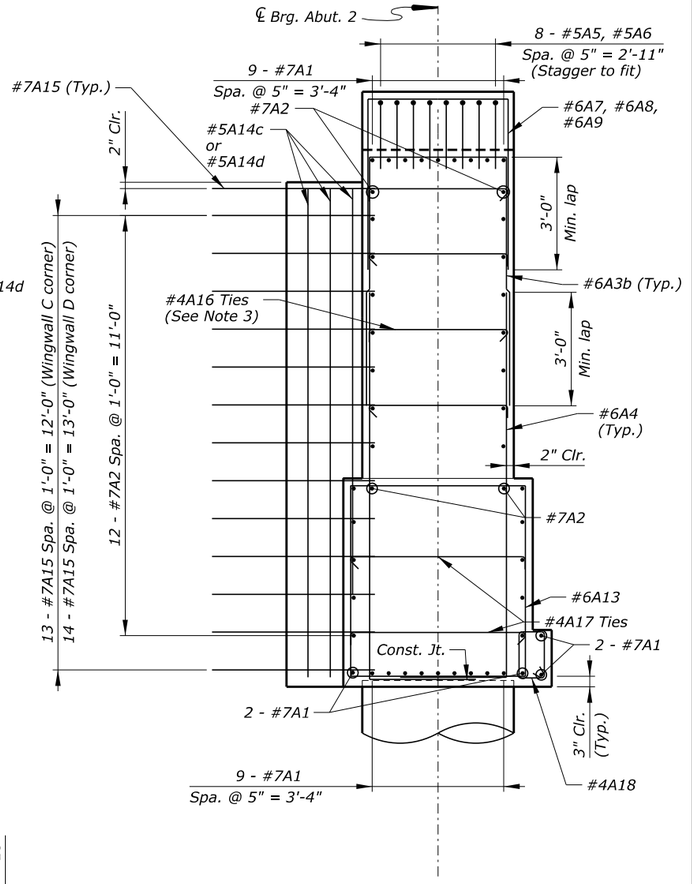
ABUTMENT 2 DETAILS (SCHEDULE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	½" = 1'-0"	B. Oltmann	12 of 46	April 2026	RG3283-L

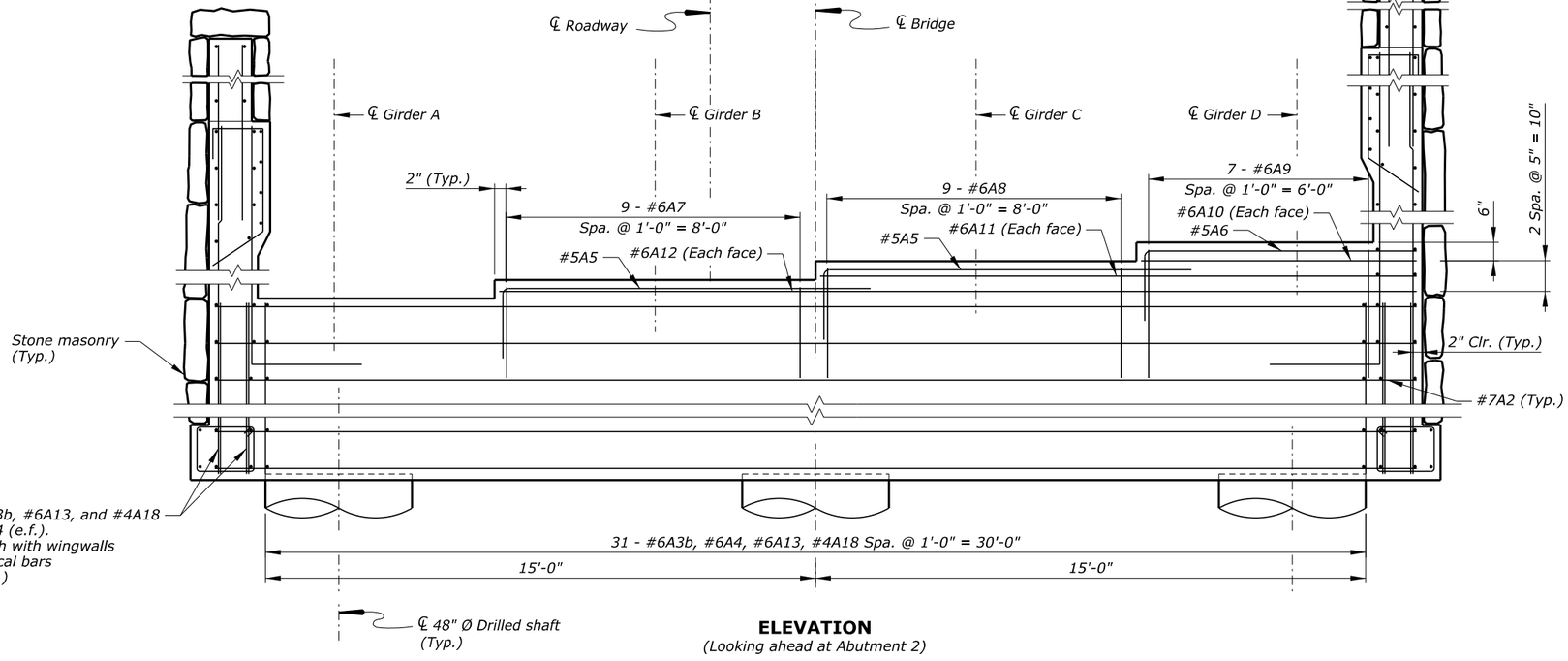
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.13



PLAN
(Masonry not shown for clarity)



SECTION A-A
(Masonry not shown for clarity)



ELEVATION
(Looking ahead at Abutment 2)

Notes:

1. *See Sheet S.06 for additional drilled shaft reinforcement details not shown. Adjust reinforcement to avoid conflicts with drilled shaft reinforcing.*
2. *See Sheet S.16 and S.18 for additional wingwall details not shown and guard wall details.*
3. *Provide ties at every other intersection each way. Place ties in a staggered pattern and alternate hook orientation.*

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

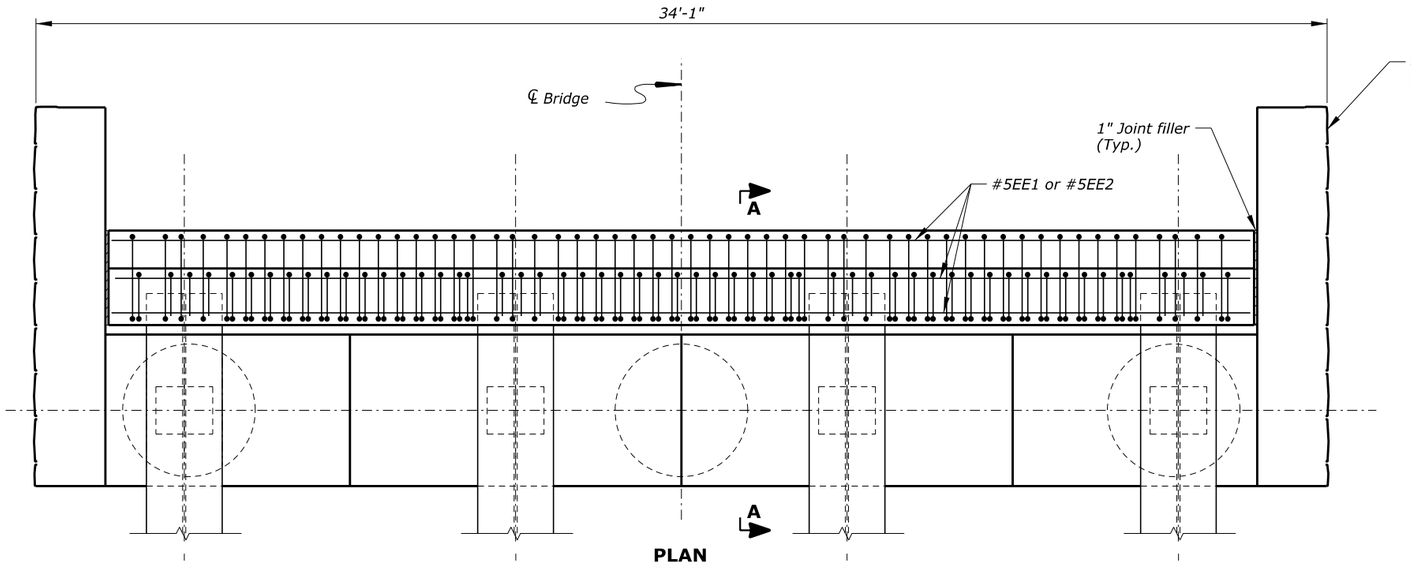
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

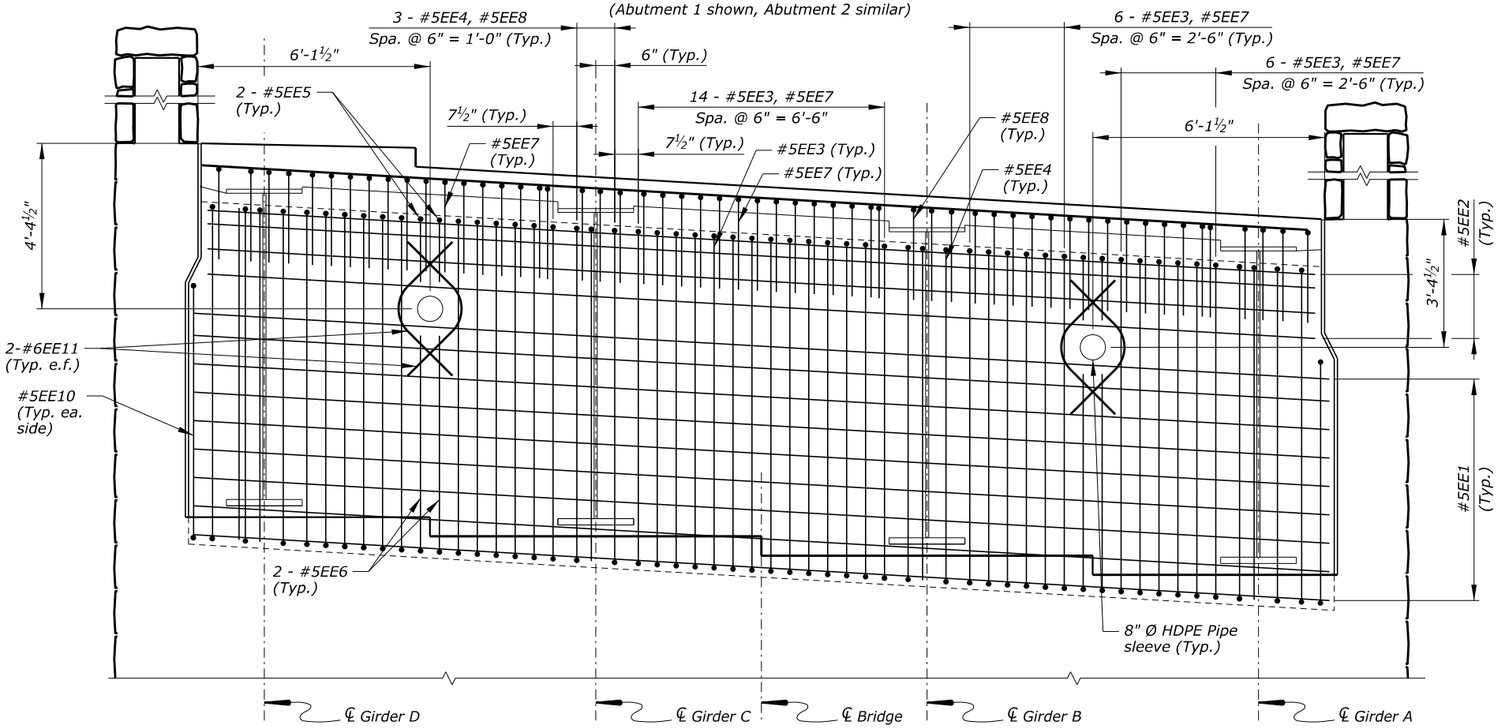
ABUTMENT 2 DETAILS (SCHEDULE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	½" = 1'-0"	B. Oltmann	13 of 46	April 2026	RG3283-M

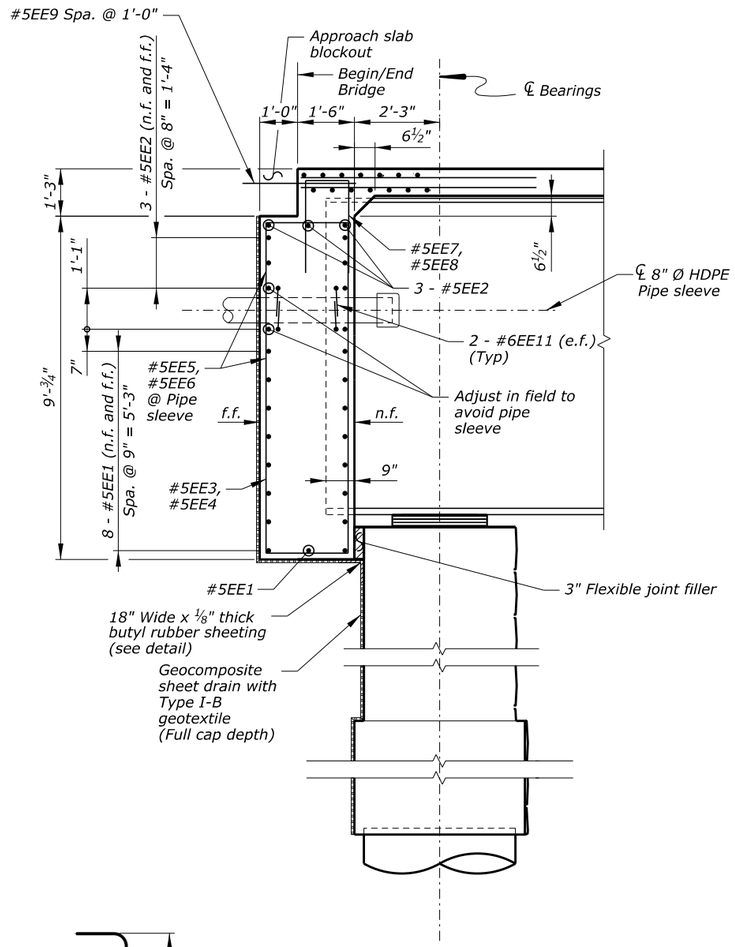
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.14



PLAN
(Abutment 1 shown, Abutment 2 similar)



ELEVATION
(Abutment 1 shown, Abutment 2 similar)



18" WIDE X ⅛" THICK BUTYL RUBBER SHEETING
No Scale

SECTION A-A

Notes:

1. *See Sheet S.22 for stud and hole details not shown for girder ends.*
2. *See Sheet S.30 for approach slab details not shown.*
3. *See Sheet S.29 for deck reinforcing details not shown.*
4. *Simulated stone masonry surface shown for Schedule A, endwalls details similar for Schedule B.*

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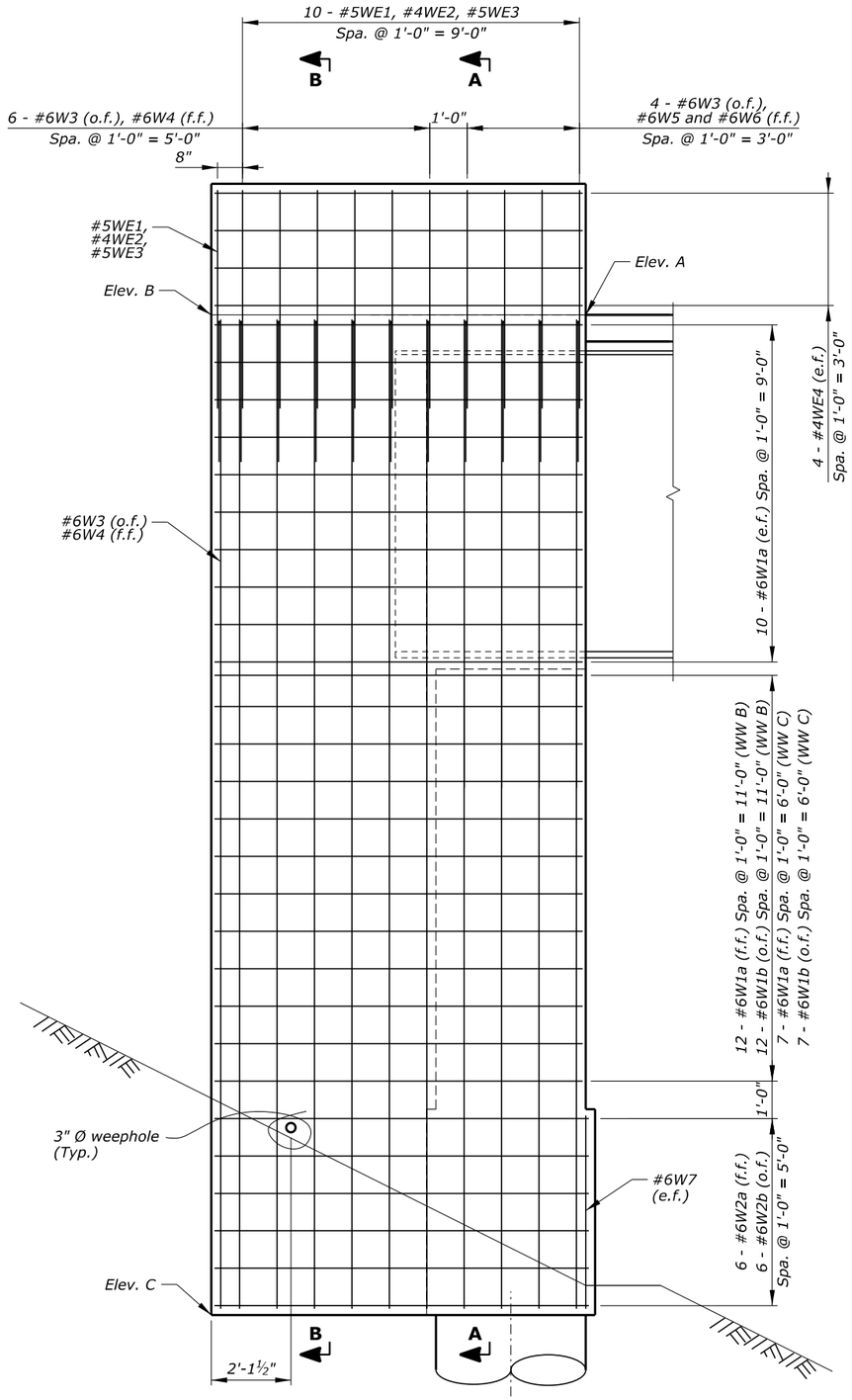
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

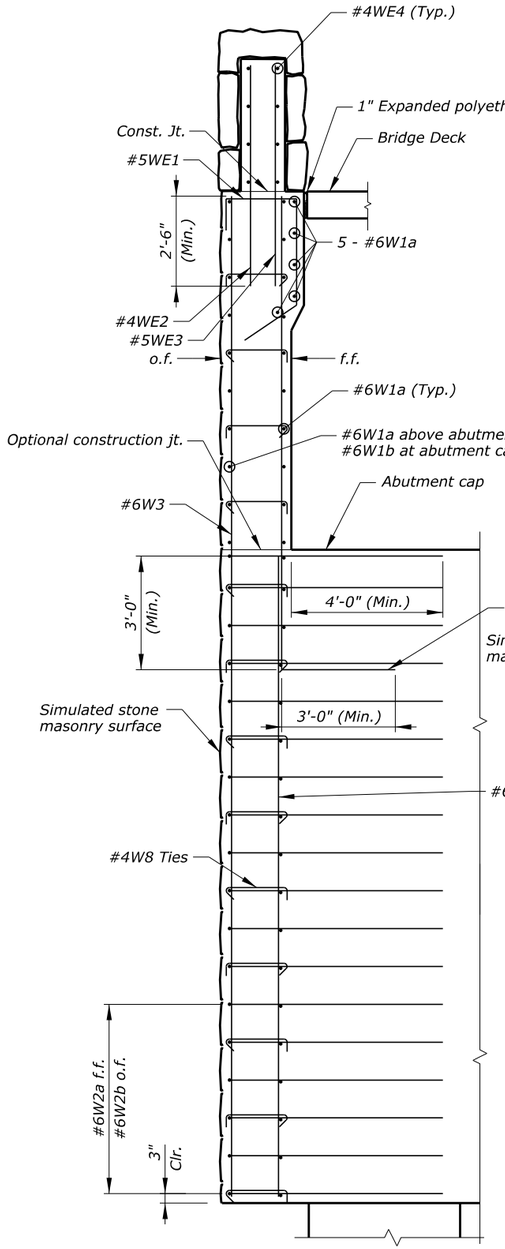
ABUTMENT ENDWALLS

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	T. Pham	P. Clark	⅜" = 1'-0"	B. Oltmann	14 of 46	April 2026	RG3283-N

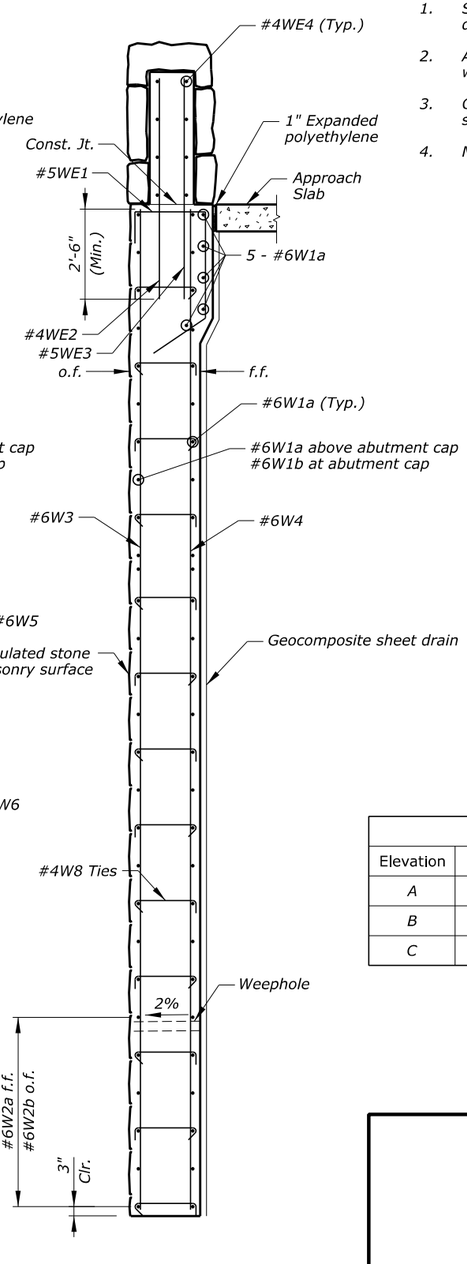
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.15



WINGWALL B & C ELEVATION



SECTION A-A
(Abutment cap reinforcement not shown for clarity)



SECTION B-B

Notes:

1. *See Sheets S.34 and S.36 for additional stone masonry details.*
2. *All horizontal measurements taken along Other Face (OF) of wall.*
3. *Clear cover is measured from the working line of simulated stone masonry surface.*
4. *Match tie pattern and spacing shown on Sheet S.10.*

ELEVATIONS		
Elevation	Wingwall B	Wingwall C
A	*3837.57*	*3833.31*
B	*3837.68*	*3833.20*
C	*3809.35*	*3809.45*

U.S. DEPARTMENT OF TRANSPORTATION
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WESTERN FEDERAL LANDS HIGHWAY DIVISION

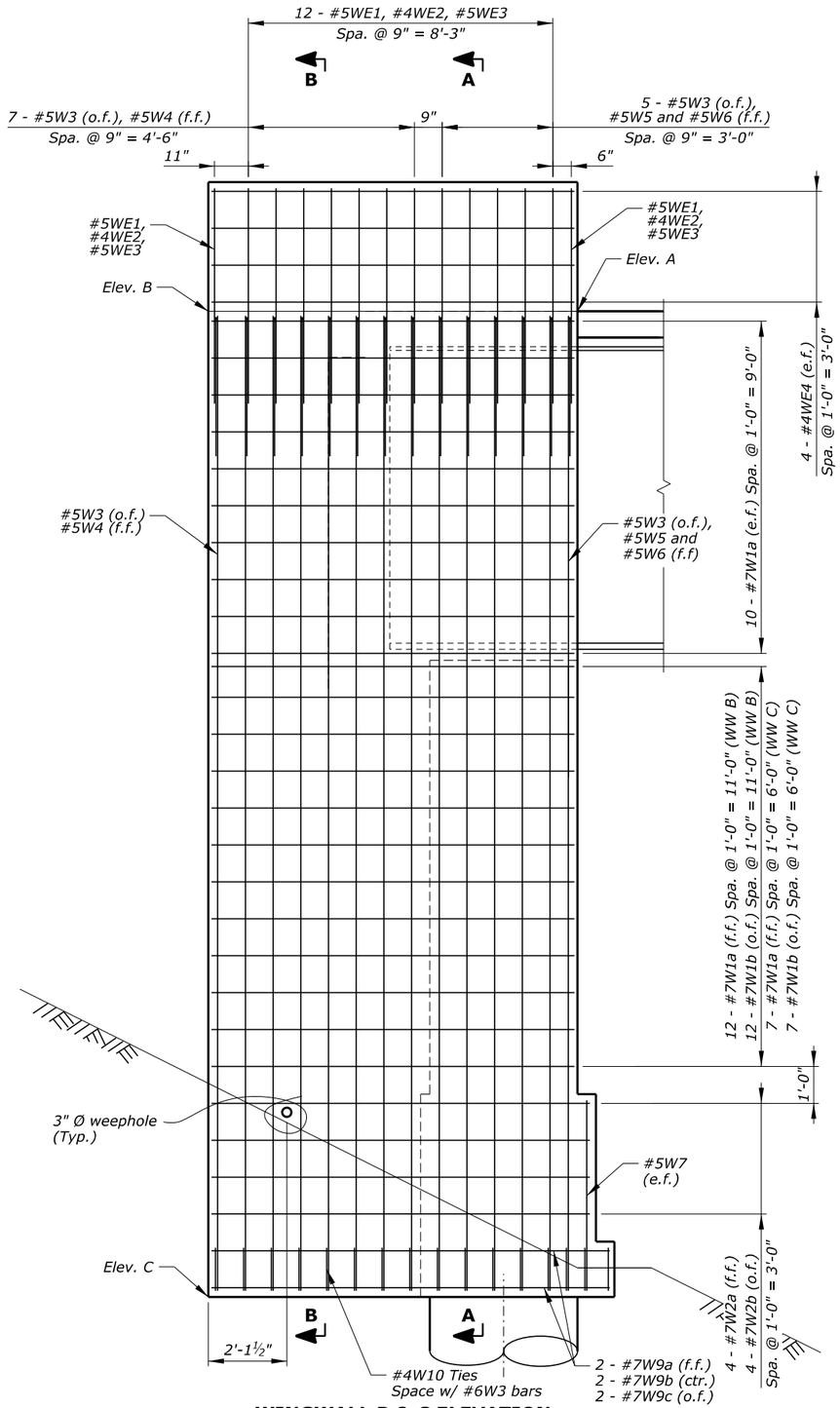
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

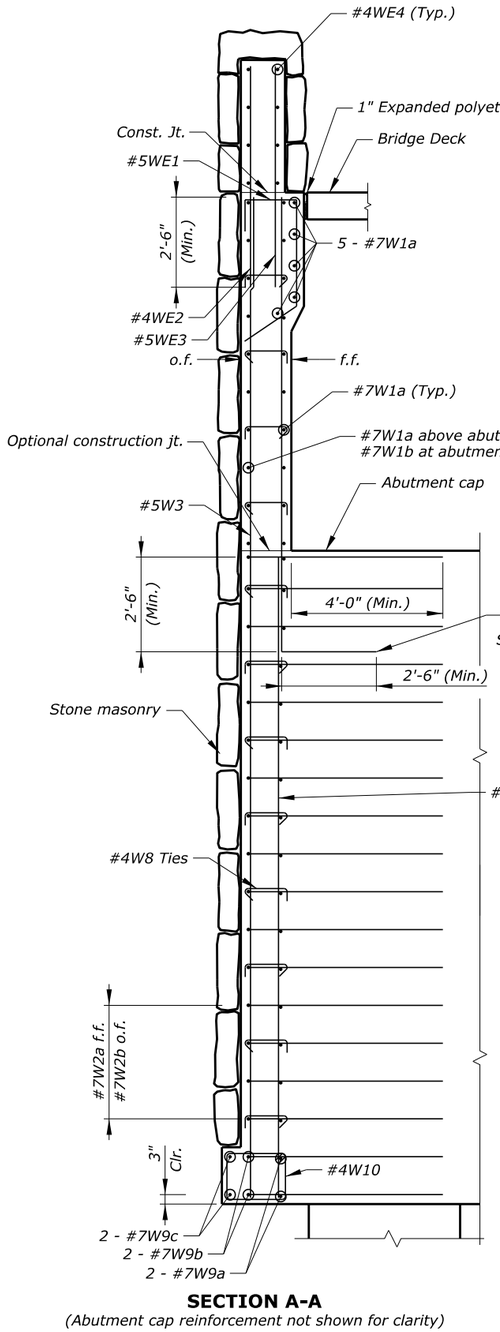
WINGWALLS ABUTMENT - 1 (SCHEDULE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	½" = 1'-0"	B. Oltmann	15 of 46	April 2026	RG3283-O

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.16

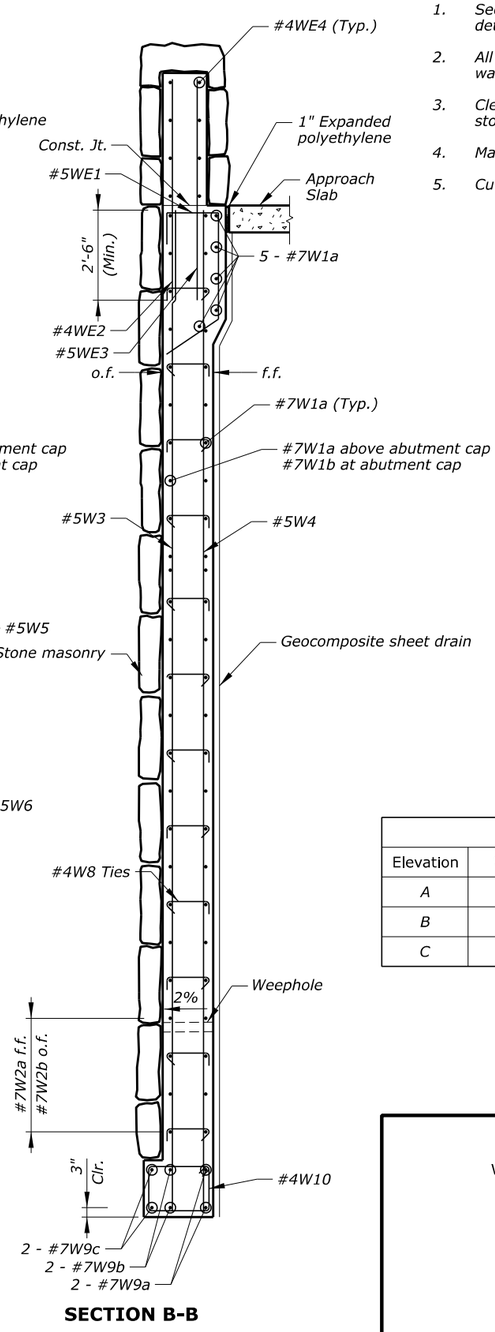


WINGWALL B & C ELEVATION



SECTION A-A

(Abutment cap reinforcement not shown for clarity)



SECTION B-B

Notes:

1. *See Sheets S.35 and S.37 for additional stone masonry details.*
2. *All horizontal measurements taken along Other Face (OF) of wall.*
3. *Clear cover is measured from the working line of simulated stone masonry surface.*
4. *Match tie pattern and spacing shown on Sheet S.11.*
5. *Cut masonry stones to allow weepholes.*

ELEVATIONS		
Elevation	Wingwall B	Wingwall C
A	*3837.57*	*3833.31*
B	*3837.68*	*3833.20*
C	*3809.35*	*3809.45*

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

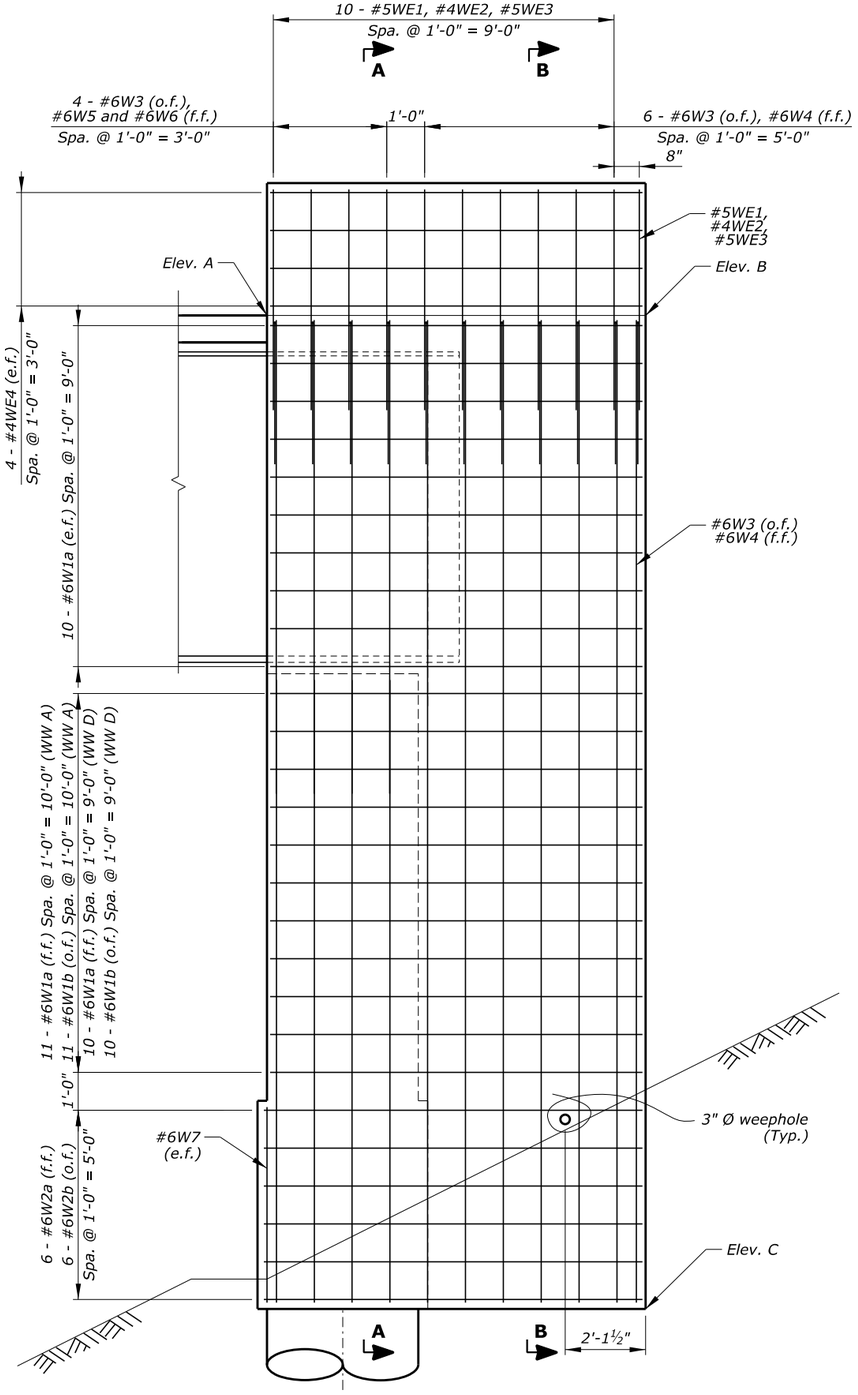
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

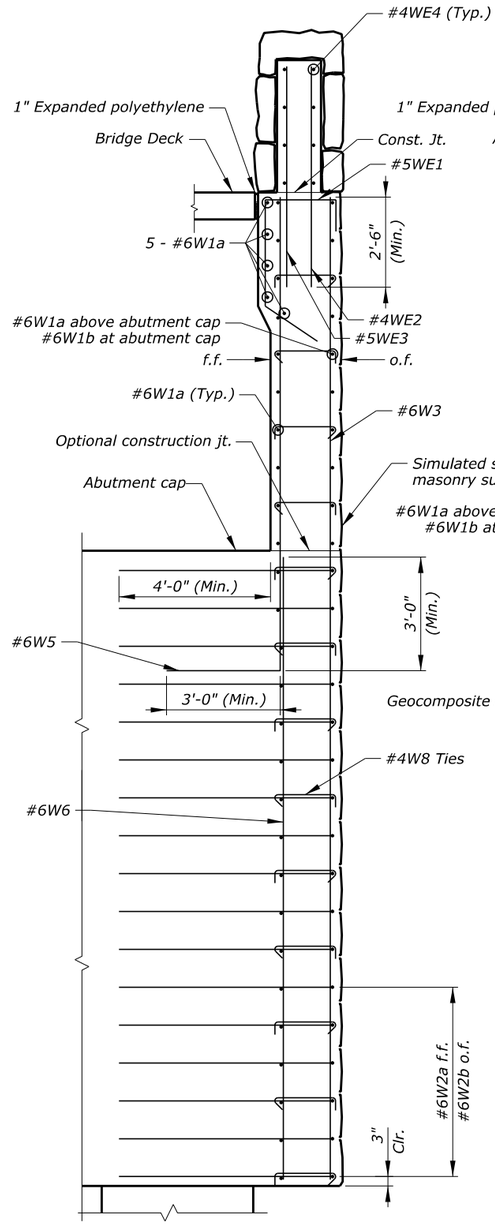
WINGWALLS ABUTMENT - 1 (SCHEDULE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	½" = 1'-0"	B. Oltmann	16 of 46	April 2026	RG3283-P

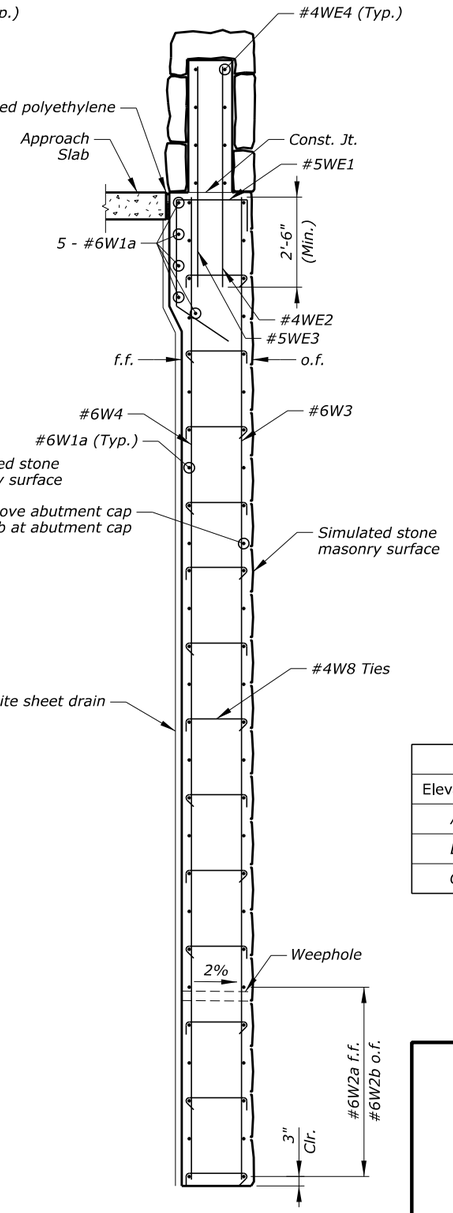
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.17



WINGWALL A & D ELEVATION



SECTION A-A
(Abutment cap reinforcement not shown for clarity)



SECTION B-B

Notes:

1. *See Sheets S.34 and S.36 for additional stone masonry details.*
2. *All horizontal measurements taken along Other Face (OF) of wall.*
3. *Clear cover is measured from the working line of simulated stone masonry surface.*
4. *Match tie pattern and spacing shown on Sheet S.12.*

ELEVATIONS		
Elevation	Wingwall A	Wingwall D
A	*3835.59*	*3835.12*
B	*3835.70*	*3835.01*
C	*3809.35*	*3809.45*

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

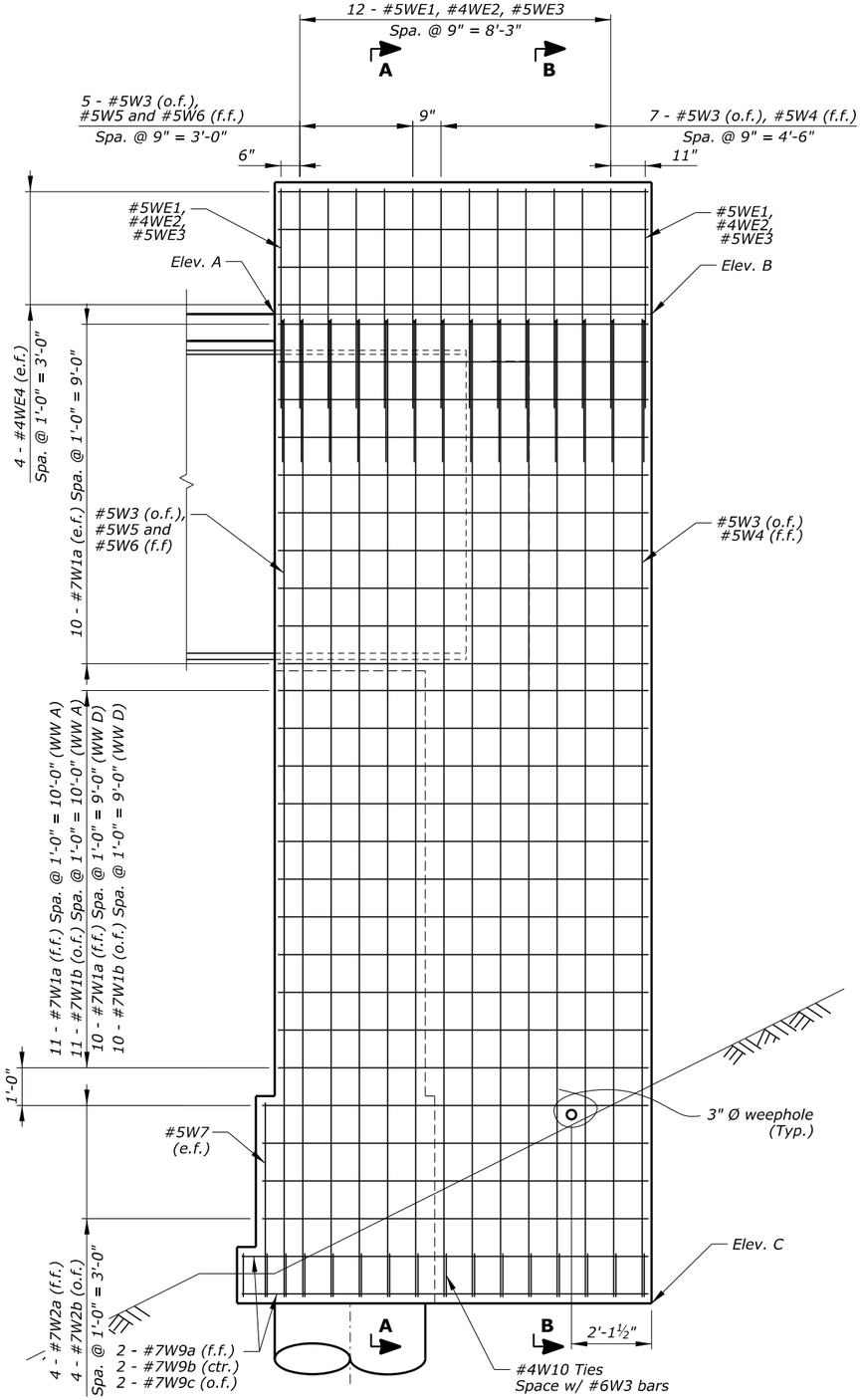
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

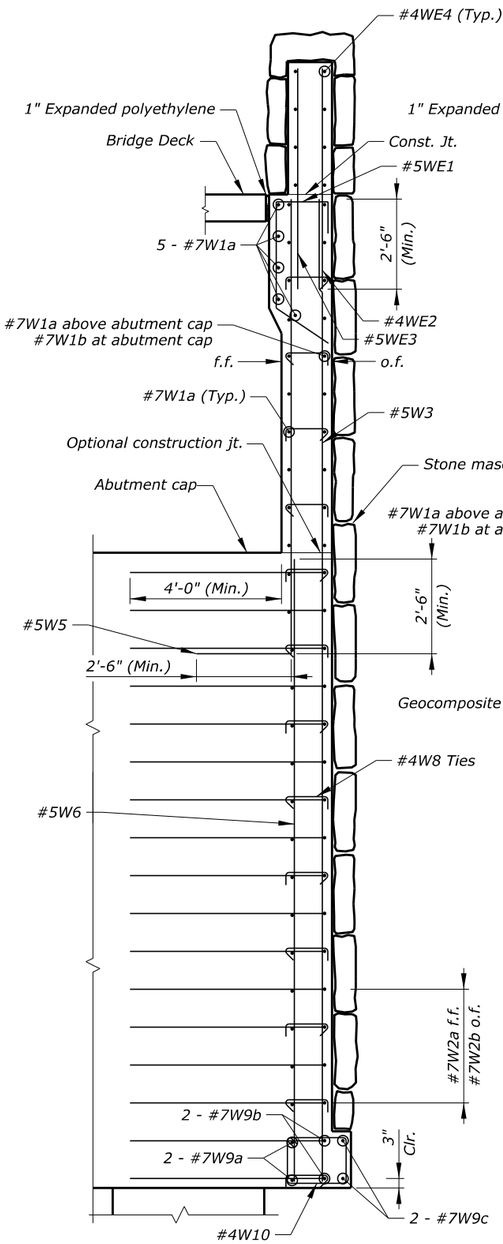
WINGWALLS ABUTMENT - 2 (SCHEDULE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	½" = 1'-0"	B. Oltmann	17 of 46	April 2026	RG3283-Q

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.18

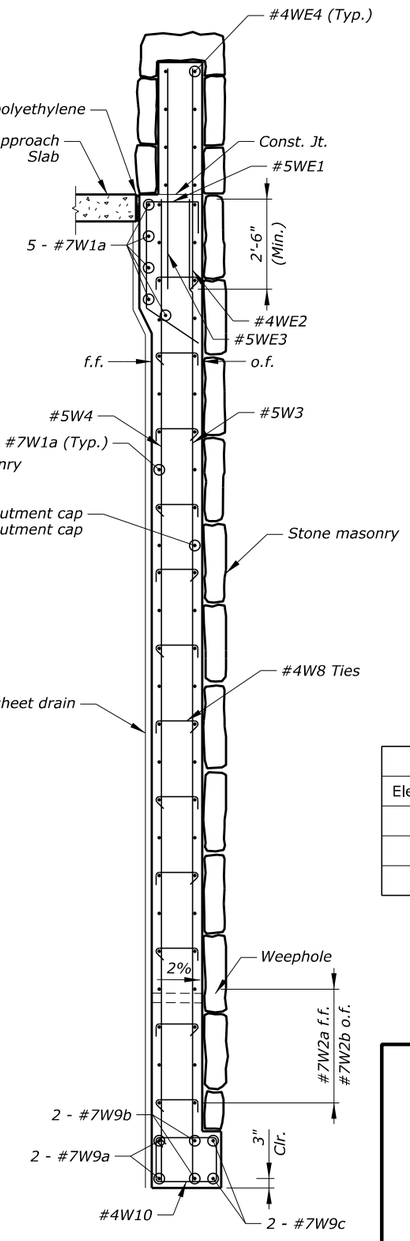


WINGWALL A & D ELEVATION



SECTION A-A

(Abutment cap reinforcement not shown for clarity)



SECTION B-B

Notes:

1. *See Sheets S.35 and S.37 for additional stone masonry details.*
2. *All horizontal measurements taken along Other Face (OF) of wall.*
3. *Clear cover is measured from the working line of simulated stone masonry surface.*
4. *Match tie pattern and spacing shown on Sheet S.13.*
5. *Cut masonry stones to allow weepholes.*

ELEVATIONS		
Elevation	Wingwall A	Wingwall D
A	*3835.59*	*3835.12*
B	*3835.70*	*3835.01*
C	*3809.35*	*3809.45*

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

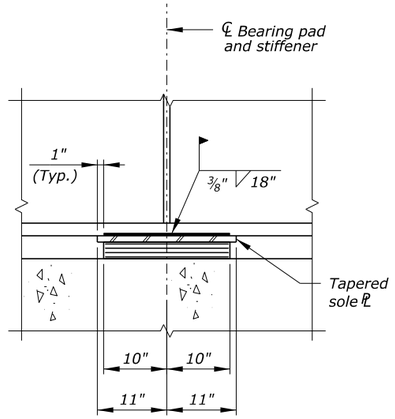
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

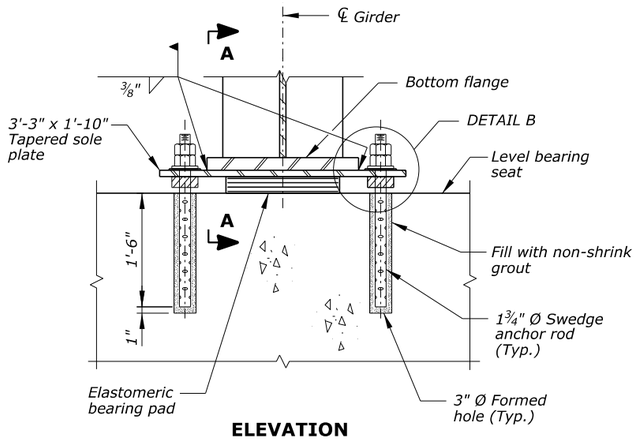
WINGWALLS ABUTMENT - 2 (SCHEDULE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	½" = 1'-0"	B. Oltmann	18 of 46	April 2026	RG3283-R

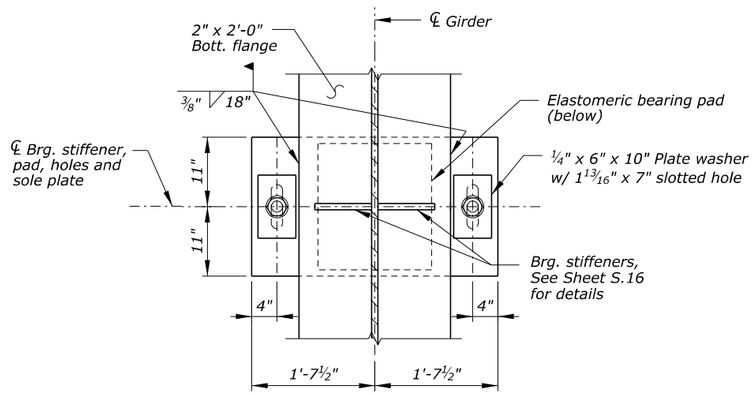
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.19



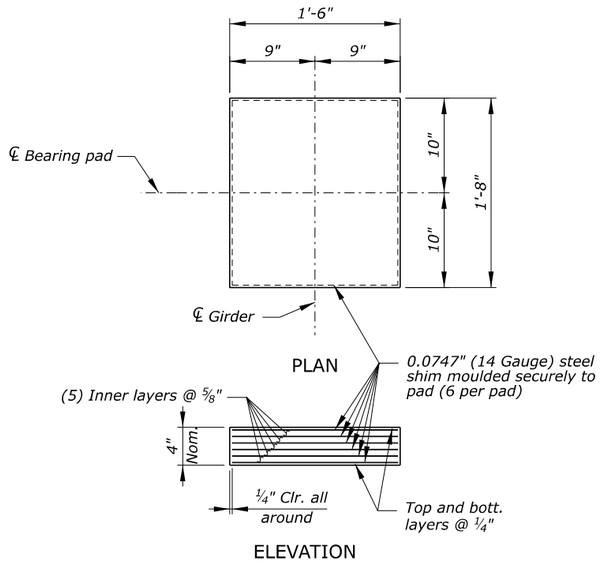
SECTION A-A
Scale: 1" = 1'-0"



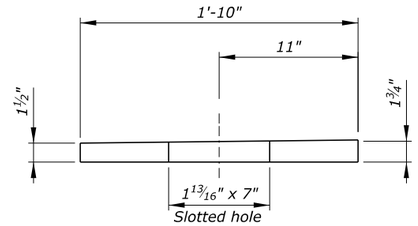
ELEVATION
Scale: 1" = 1'-0"



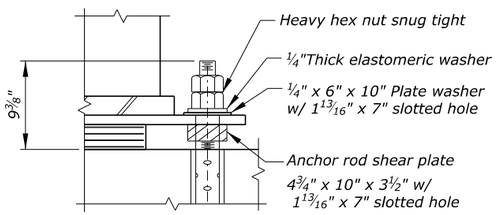
ELEVATION
(8 Req'd)
Scale: 1" = 1'-0"



ABUT. ELASTOMERIC BEARING PAD
Scale: 1½" = 1'-0"



TAPERED SOLE PLATE
No Scale



DETAIL B
Scale: 1½" = 1'-0"

Notes:

1. *Furnish AASHTO M 270, Grade 50W sole plates and anchor rod shear plates.*
2. *Conform to AASHTO M 251 for steel reinforced elastomeric bearing pads. Provide 60 Durometer hardness, elastomer Grade 5.*
3. *Conform to ASTM F1554,Grade 105 for anchor rods including supplementary charpy V-notch test criteria, S4. Conform to ASTM A563, Grade DH or DH3 for heavy hex nuts. Galvanize rods and nuts.*
4. *Vulcanize elastomeric pad to bottom surface of sole plate.*
5. *Mark all bearings prior to shipping. Include the bearing location on the bridge and a direction arrow pointing ahead station. Place permanent marks that will remain visible after installation.*

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FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

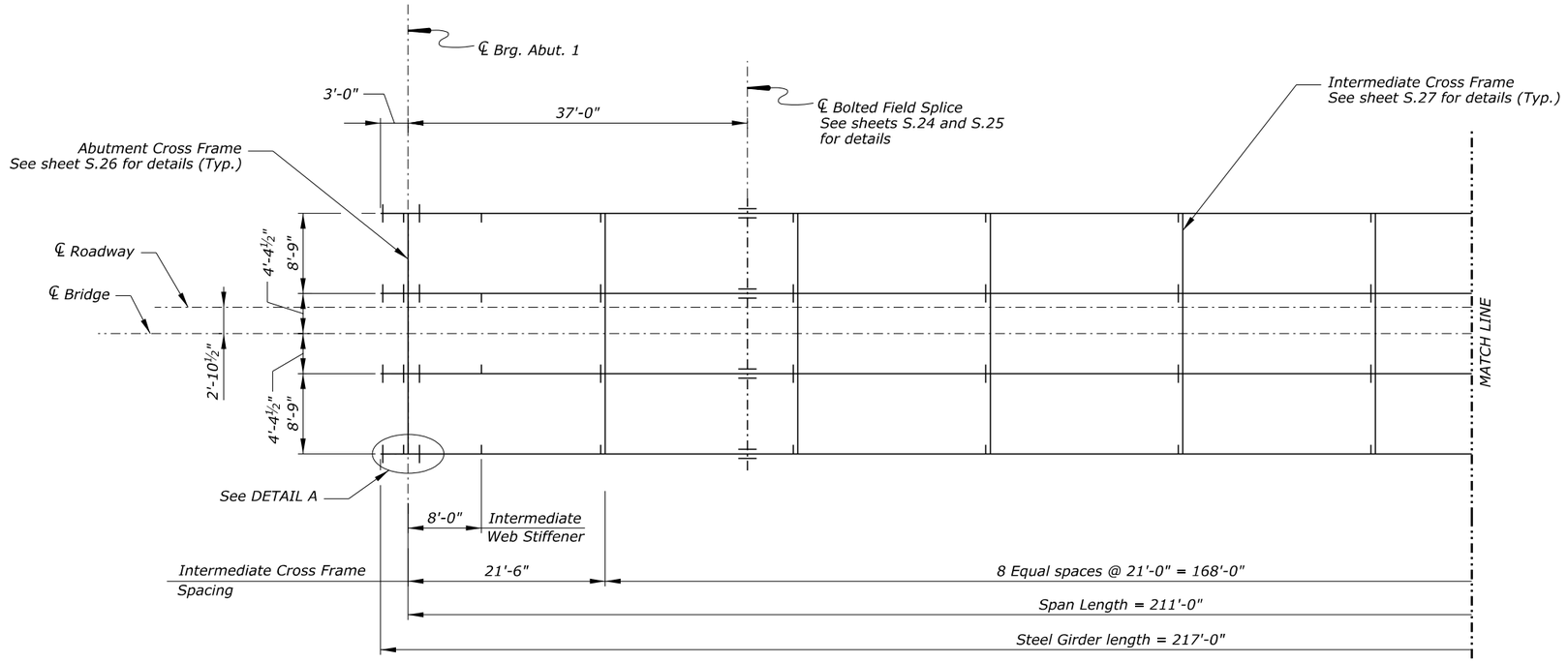
MOUNT RAINIER NATIONAL PARK

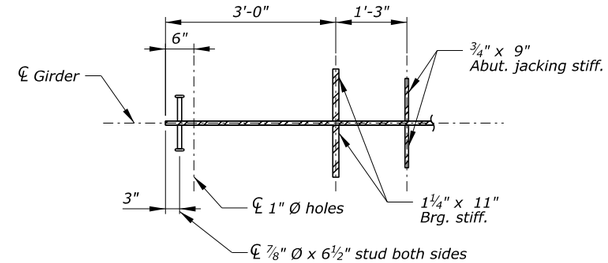
FRYINGPAN CREEK BRIDGE

BEARING DETAILS

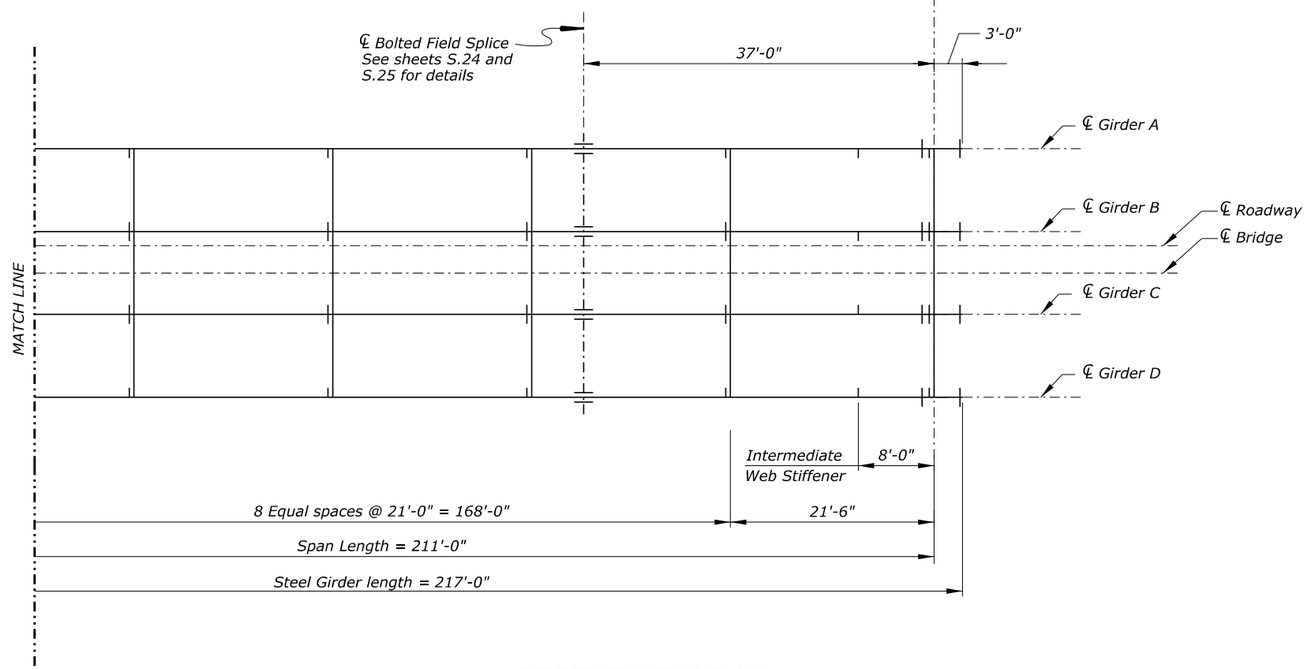
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	J. Galdos	P. Clark	As shown	B. Oltmann	19 of 46	April 2026	RG3283-S

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.20





DETAIL A
Scale: ¾" = 1'-0"



GIRDER FRAMING PLAN

Notes:

1. *See Sheets S.21 and S.22 for additional shear stud details not shown.*
2. *Contractor is responsible for stability of steel girders during erection.*

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WESTERN FEDERAL LANDS HIGHWAY DIVISION

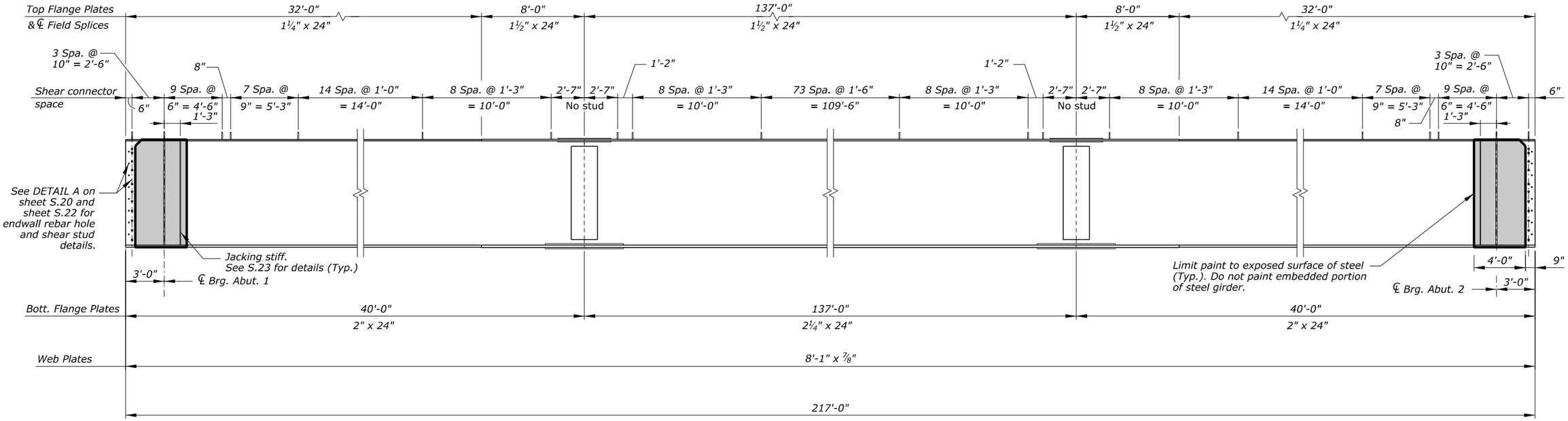
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

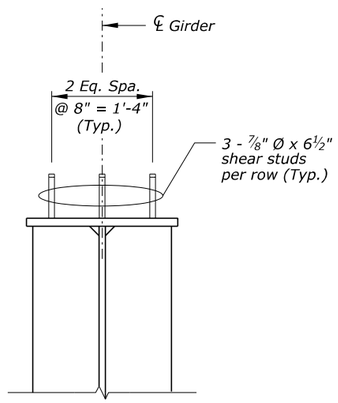
GIRDER LAYOUT

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	J. Galdos	P. Clark	⅛" = 1'-0"	B. Oltmann	20 of 46	April 2026	RG3283-T

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.21



GIRDER ELEVATION



TYPICAL SHEAR CONNECTOR DETAILS

Scale: 1" = 1'-0"

Welding Sequence:

1. *Flange and web splices.*
2. *Flange to web welds.*
3. *Intermediate diaphragm connection plate to web or flange welds.*
4. *Bearing and jacking stiffener to web or flange welds.*
5. *Shear connectors to top flanges and web ends.*

Notes:

1. *Unless otherwise approved by the CO, use fully automatic procedures for all longitudinal flange web welds.*
2. *All dimensions shown are either horizontal or vertical. Fabricate girders along bridge grade. Fabricate intermediate diaphragm connection plates perpendicular to girder flanges.*
3. *Do not drill holes or weld girders during transportation, erection, or construction.*
4. *Under full dead load, beam end and all bearing & jacking stiffeners will be vertical within applicable AASHTO/AWS fabrication and construction tolerance.*
5. *Ground flush all butt joints of bottom flanges and web plates by grinding parallel to the longitudinal girder direction.*
6. *Paint beam all steel within limits shown including girders, stiffeners, bearing plates, and cross frames.*

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WESTERN FEDERAL LANDS HIGHWAY DIVISION

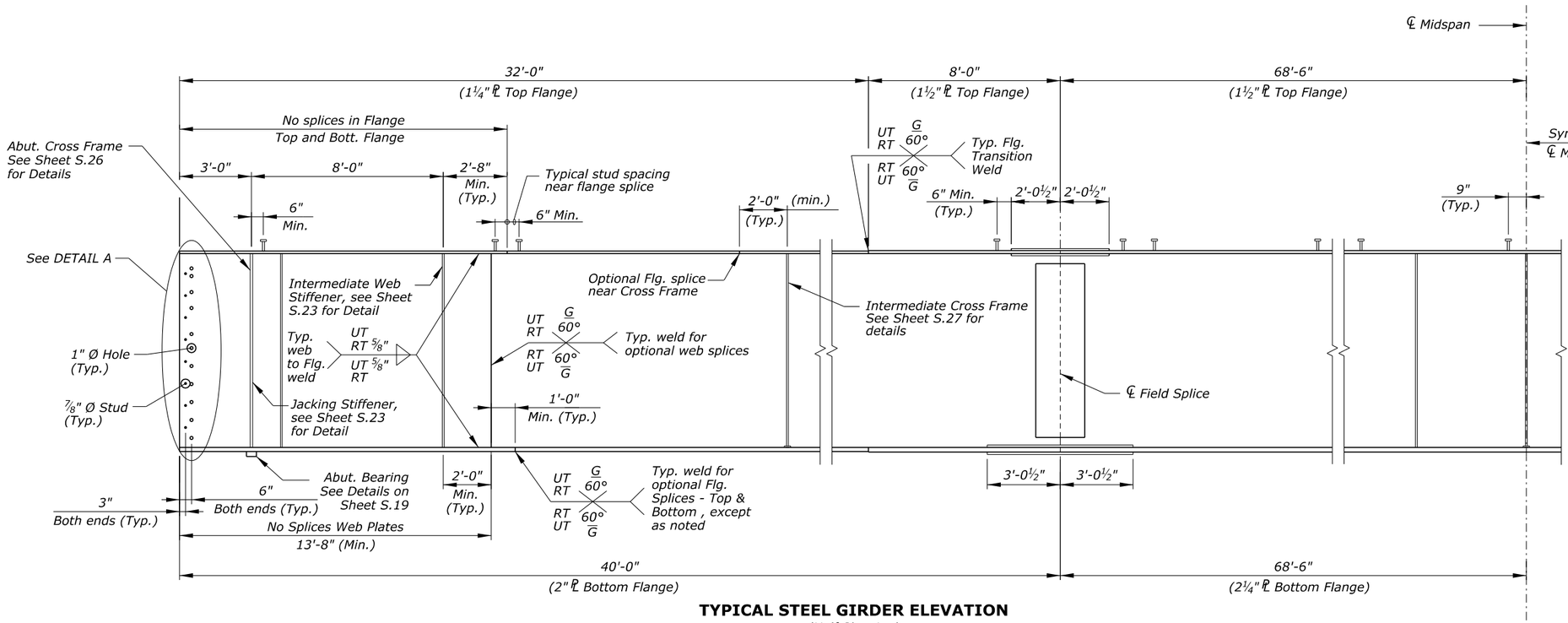
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

STEEL GIRDER ELEVATION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	J. Galdos	P. Clark	¼" = 1'-0"	B. Oltmann	21 of 46	April 2026	RG3283-U

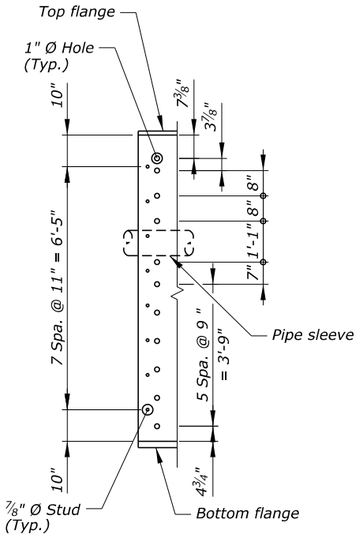
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.22



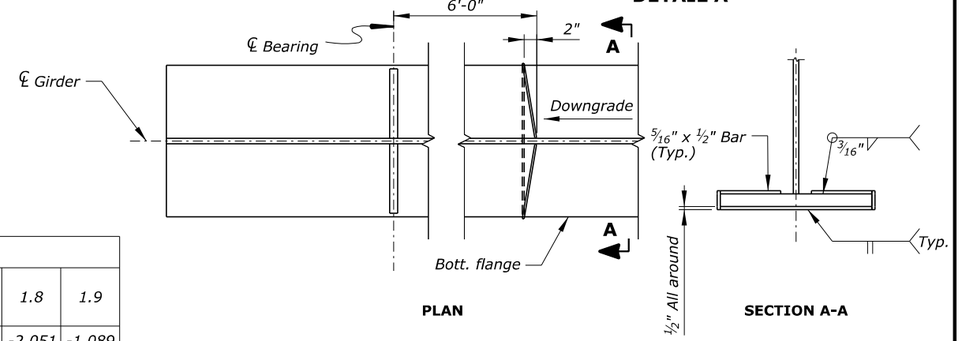
TYPICAL STEEL GIRDER ELEVATION
(Half Showing)

Note:

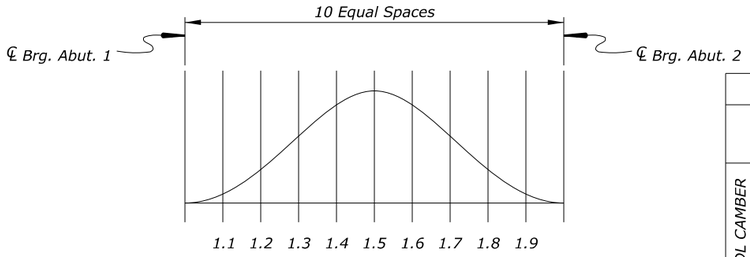
1. *See sheet S.20 and S.21 for field splice, web stiffener, and diaphragm locations.*
2. *Adjust shear studs to avoid conflict with the 8" pipe sleeve.*



DETAIL A



DRIP PLATE DETAILS EXTERIOR GIRDERS
No Scale



CAMBER DIAGRAM
No Scale

CAMBER TABLE

	ORDINATES (inches)	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9
DL CAMBER ALL GIRDERS	STL. DEFL.	-1.089	-2.051	-2.802	-3.278	-3.442	-3.278	-2.802	-2.051	-1.089
	CONC. DEFL.	-2.326	-4.301	-5.804	-6.743	-7.063	-6.743	-5.804	-4.301	-2.326
	SUPER DL DEFL.	-0.488	-0.918	-1.252	-1.464	-1.537	-1.464	-1.252	-0.918	-0.488
	TOTAL CAMBER	-3.903	-7.271	-9.858	-11.486	-12.041	-11.486	-9.858	-7.271	-3.903

Camber Table Legends:

STL. DEFL. = *Camber due to structural steel deflection.*

CONC. DEFL. = *Camber due to concrete slab deflection and estimated shrinkage.*

SUPER DL DEFL. = *Camber due to superimposed dead load deflections (bridge rails, wearing & future wearing surface, future utilities, and sidewalk.*

TOTAL CAMBER = *STL. DEFL. + CONC. DEFL. + SUPER DL DEFL.*

Camber Note:

1. *Camber due to fabrication tolerance is not included in the camber table.*
2. *Follow AASHTO/AWS D1.5M/D1.5 when calculating camber tolerance during fabrication.*

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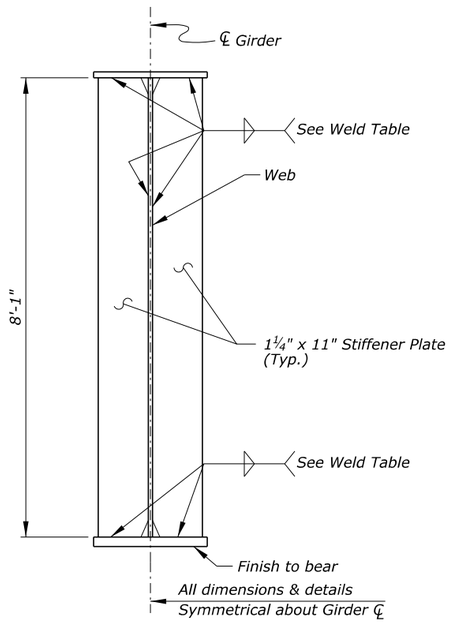
MOUNT RAINIER NATIONAL PARK

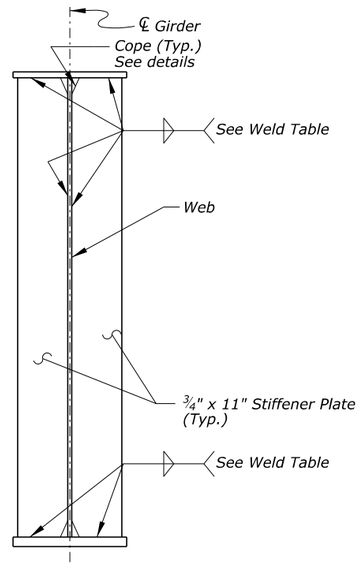
FRYINGPAN CREEK BRIDGE

GIRDER DETAILS - 1

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	T. Pham	P. Clark	No Scale	B. Oltmann	22 of 46	April 2026	RG3283-V



ABUTMENT BEARING CROSS FRAME STIFFENER DETAIL
Scale: ¾" = 1'-0"



INTERMEDIATE CROSS FRAME STIFFENER DETAIL
Scale: ¾" = 1'-0"

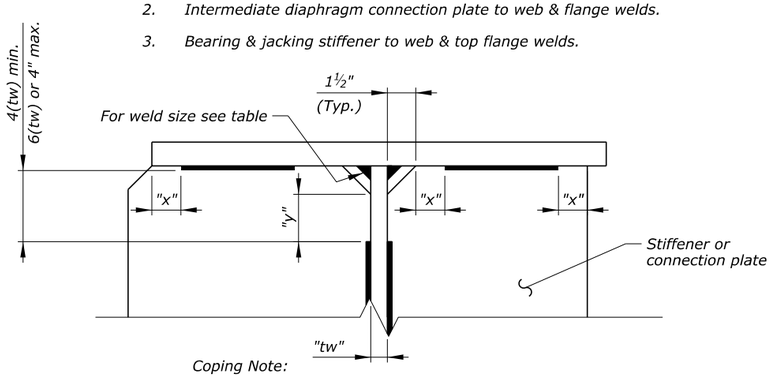
Notes:

1. *Bearing and jacking stiffeners milled to bear against the bottom flange only.*

WELD TABLE	
Thickness of thickest part joined	Min. fillet weld sizes
¾" or less	¼"
over ¾"	5/16"

Minimum Req'd. Fillet Welds For:

1. *Flange-to-web welds.*
2. *Intermediate diaphragm connection plate to web & flange welds.*
3. *Bearing & jacking stiffener to web & top flange welds.*

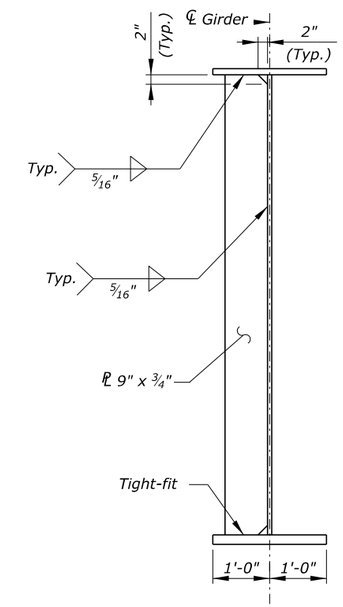


Coping Note:

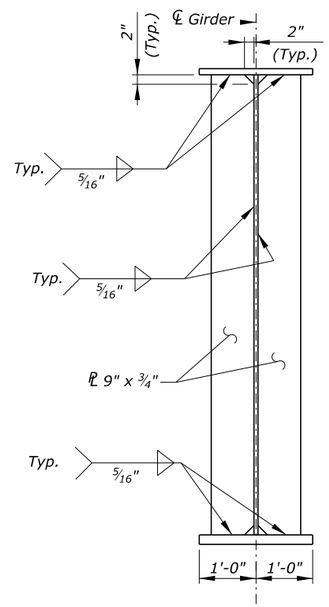
1. *Cope all intermediate diaphragm connection plates, bearing stiffeners, and jacking stiffeners top & bottom as shown above.*

"x" =¼" ± ⅛"
"y" =½" ± ¼"

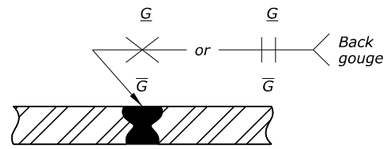
COPE AND WELD DETAIL
No Scale



INTERMEDIATE WEB STIFFENER DETAIL
Scale: ¾" = 1'-0"



JACKING STIFFENER DETAIL
Scale: ¾" = 1'-0"



Weld Note:

1. *See ANSI/AASHTO/AWS D1.5 Section 2.9 and Section 9.20. Ground flush all butt joints of flange and web plates by grinding parallel to the longitudinal girder direction in accordance with Section 3.6.3.*
2. *Submit locations of welded splices to the CO for approval.*

TYPICAL WELDED FLANGE AND WEB SPLICE
No Scale

Intermediate Web Stiffener Notes:

1. *Provide stiffeners at inside face of exterior girders.*
2. *Provide all intermediate stiffeners perpendicular to the web.*
3. *Grind stiffeners to bear.*

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

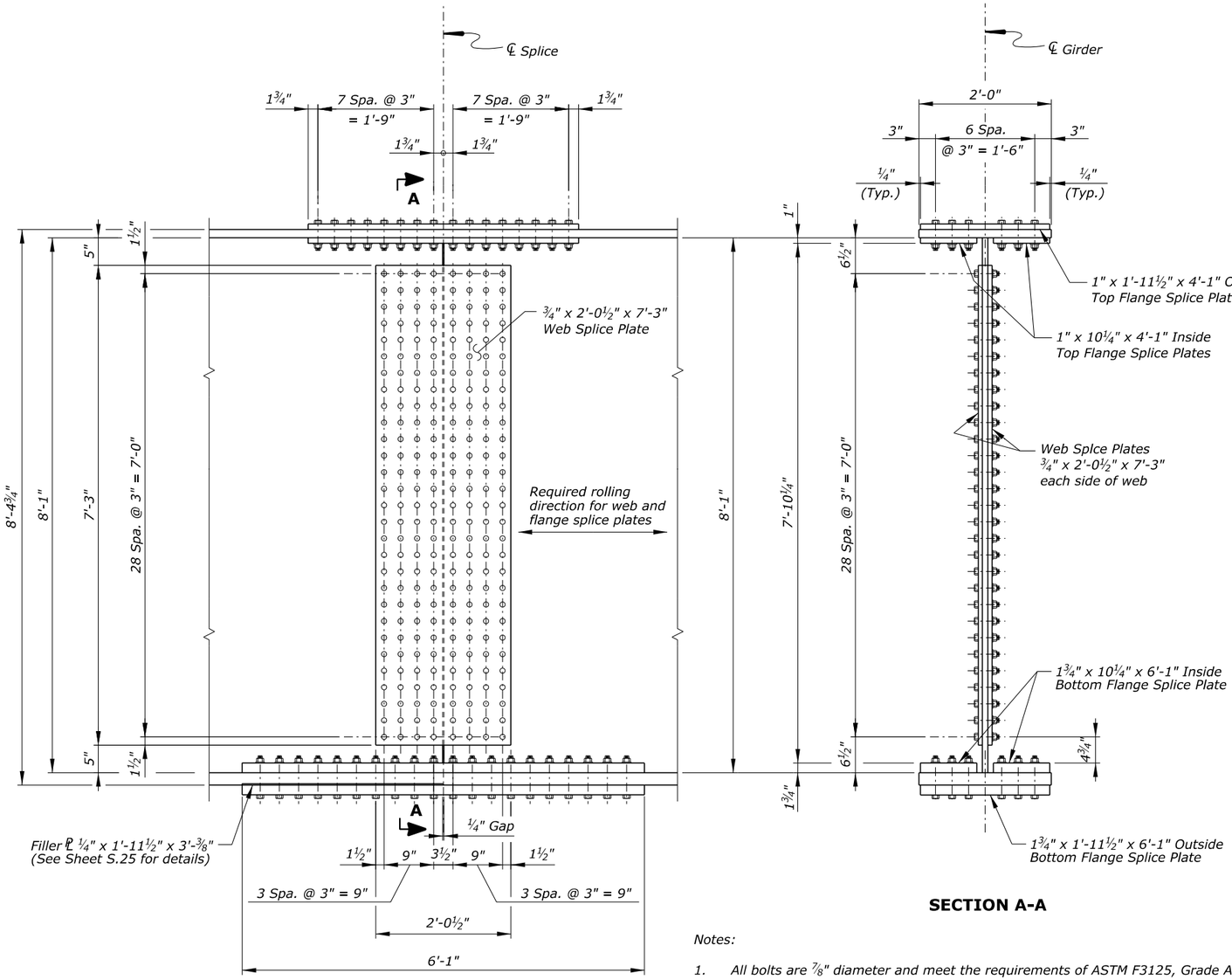
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

GIRDER DETAILS - 2

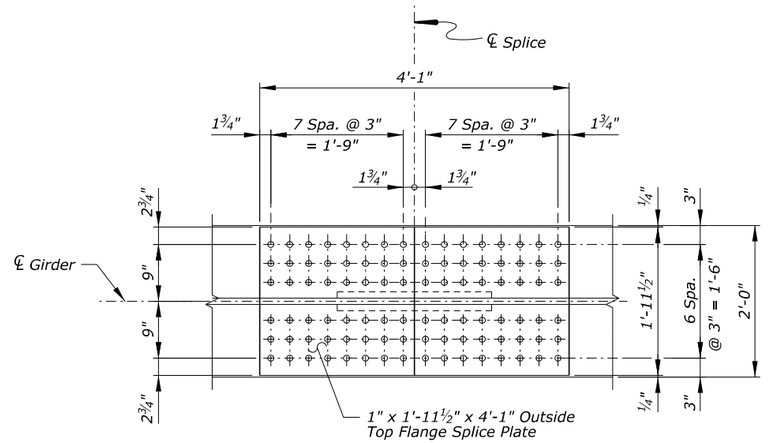
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	T. Pham	P. Clark	As Shown	B. Oltmann	23 of 46	April 2026	RG3283-W

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.24

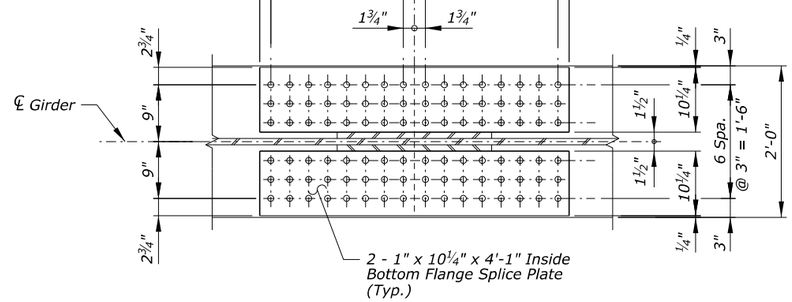


FIELD SPLICE DETAILS - ELEVATION

SECTION A-A



OUTSIDE TOP FLANGE SPLICE PLATE



INSIDE TOP FLANGE SPLICE PLATE

Notes:

1. *All bolts are ⅞" diameter and meet the requirements of ASTM F3125, Grade A325, Type 3, Heavy Hex Head style.*
2. *Bolt threads are excluded in shear planes.*
3. *All plates conform to AASHTO M 270 (ASTM A709) Grade 50W.*
4. *Locate the nut on the inside of the girder or top side of the flange for all splices.*
5. *Provide 15/16" hole size unless noted otherwise.*
6. *See sheet S.20 for bolted field splice locations.*
7. *Shear connectors are not shown in these details.*
8. *All horizontal dimensions are measured along centerline of girder.*

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

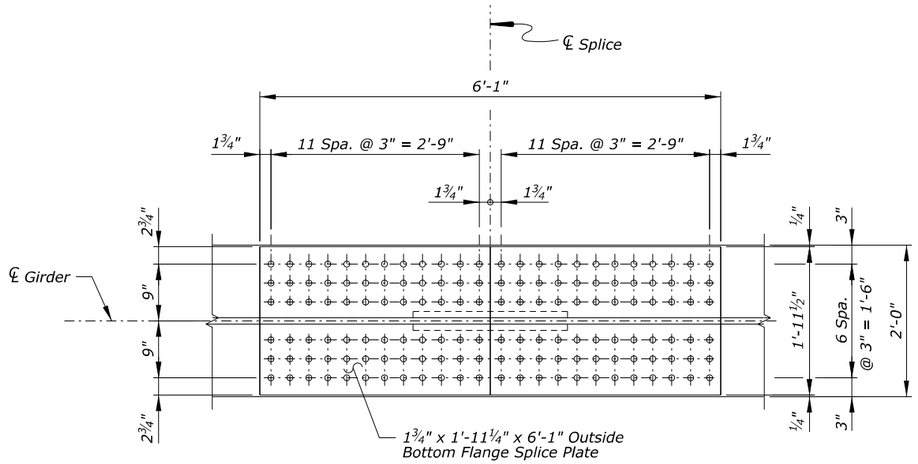
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

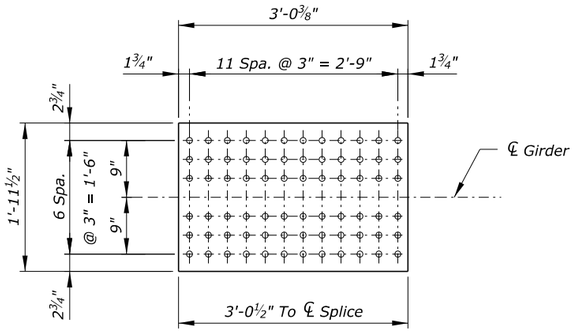
GIRDER FIELD SPLICES - 1

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	J. Galdos	P. Clark	1" = 1'-0"	B. Oltmann	24 of 46	April 2026	RG3283-X

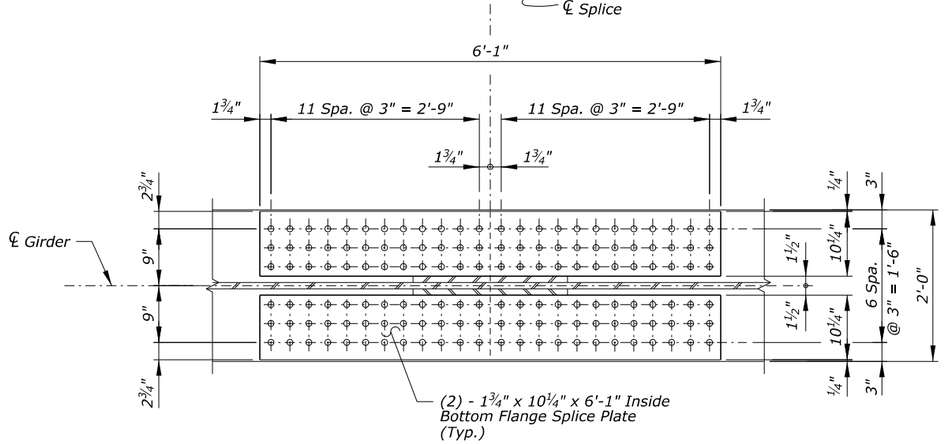
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.25



OUTSIDE BOTTOM FLANGE SPLICE PLATE



BOTTOM FLANGE SPLICE FILLER PLATE



INSIDE BOTTOM FLANGE SPLICE PLATES

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

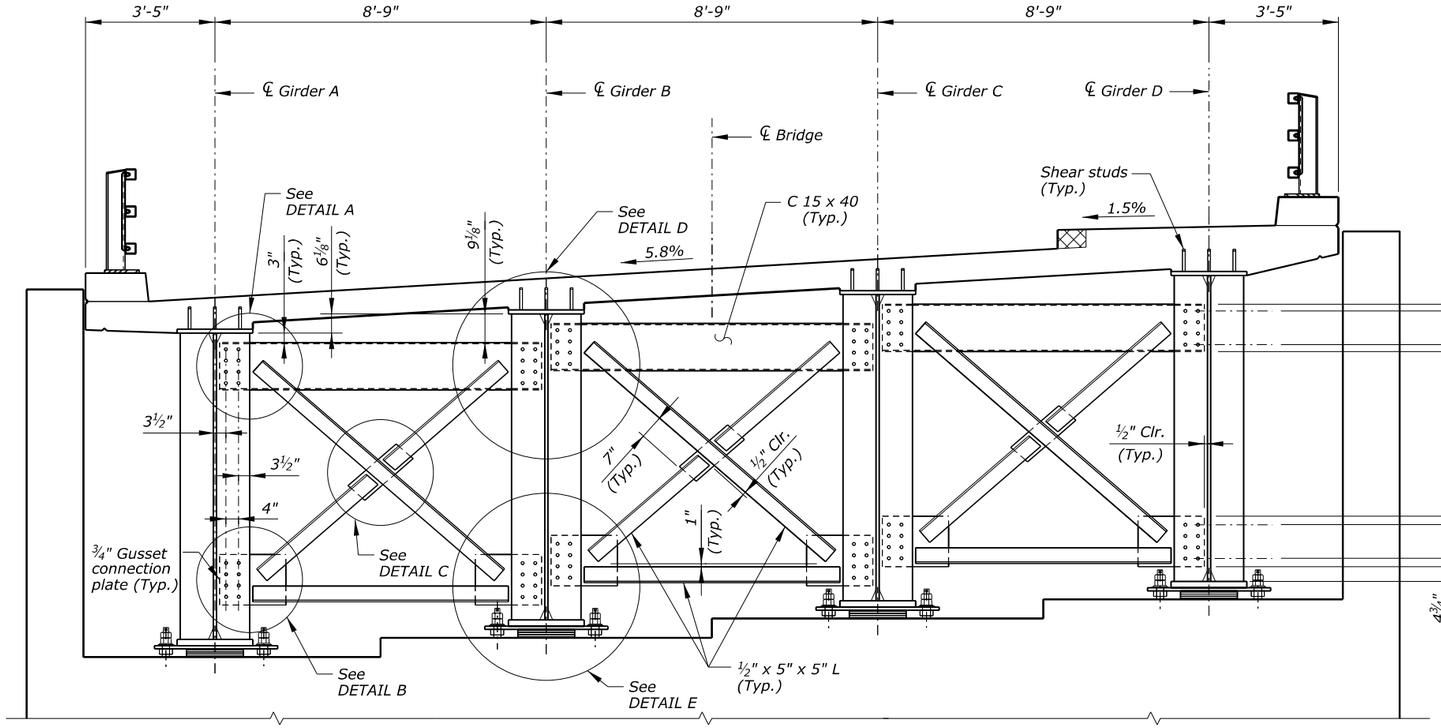
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

GIRDER FIELD SPLICES - 2

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	J. Galdos	P. Clark	1" = 1'-0"	B. Oltmann	25 of 46	April 2026	RG3283-Y

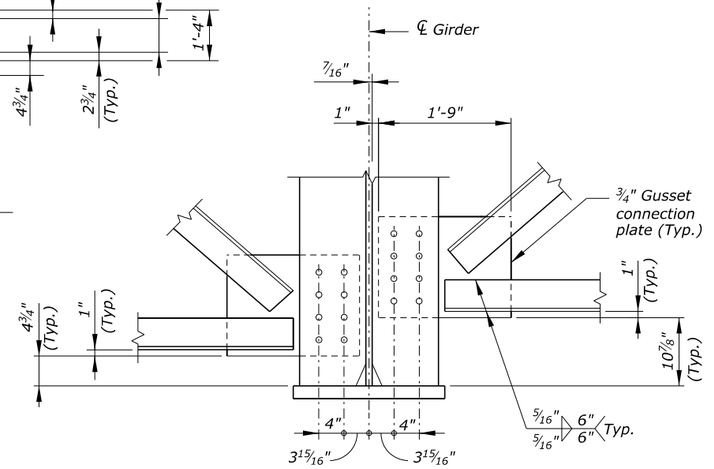
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.26



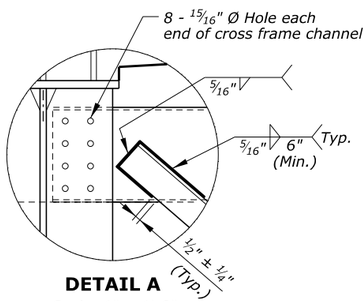
CROSS FRAMES AT ABUTMENT 2
(Cross Frames at Abutment 1 Similar)
Scale: ½" = 1'-0"

Notes:

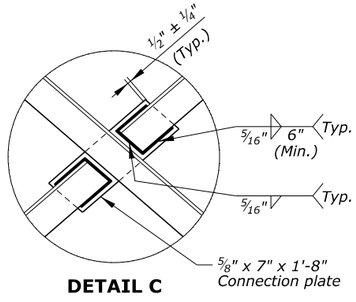
1. *All dimensions shown are typical.*
2. *All bolts are ⅞" dia. fasteners and meet the requirements of ASTM F3125, Grade A325, Type 3, Heavy Hex Style.*
3. *All plates conform to AASHTO M 270, Grade 50W (ASTM 709, Grade 50W).*
4. *Provide 15/16" dia. holes unless noted otherwise.*



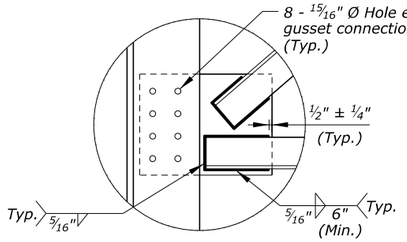
TYPICAL GUSSET PLATE
Scale: 1" = 1'-0"



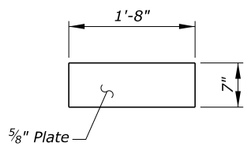
DETAIL A
Scale: 1" = 1'-0"



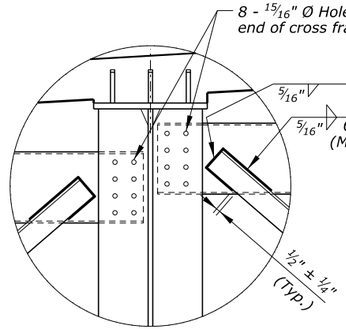
DETAIL C
Scale: 1" = 1'-0"



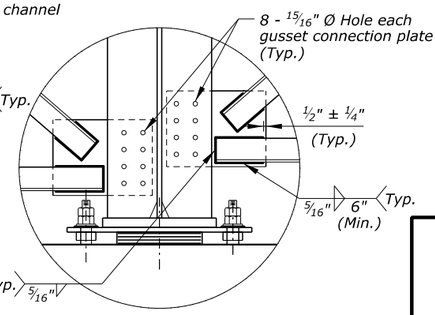
DETAIL B
Scale: 1" = 1'-0"



CONNECTION PLATE
Scale: 1" = 1'-0"



DETAIL D
Scale: ¾" = 1'-0"



DETAIL E
Scale: ¾" = 1'-0"

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

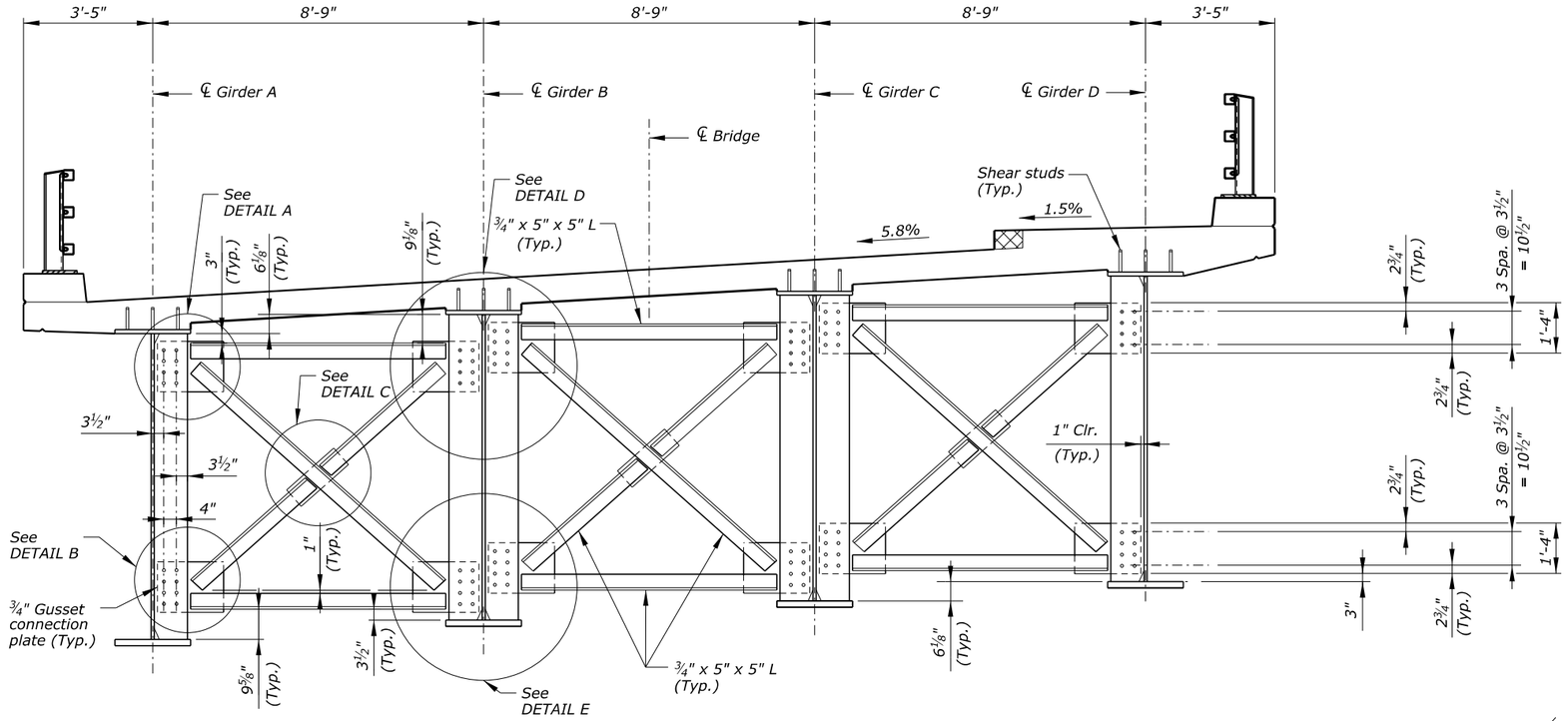
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

ABUTMENT CROSS FRAMES

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	J. Galdos	P. Clark	As shown	B. Oltmann	26 of 46	April 2026	RG3283-Z

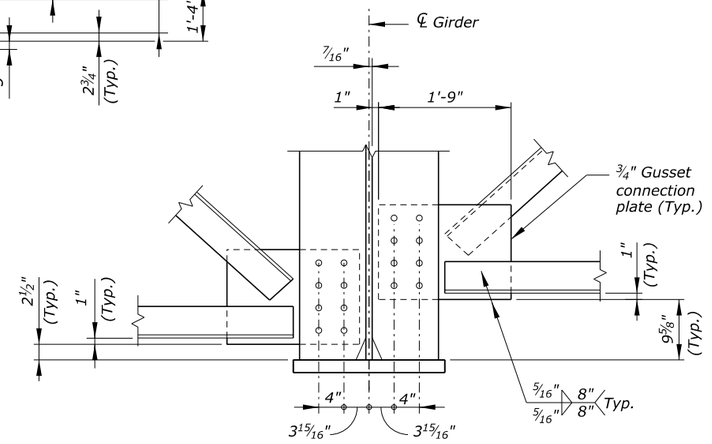
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.27



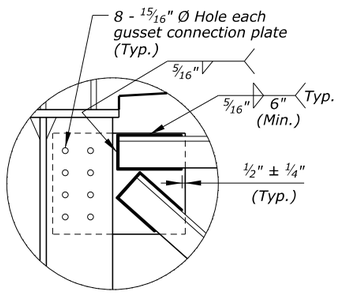
INTERMEDIATE CROSS FRAMES
(Looking Ahead Station)
Scale: ½" = 1'-0"

Notes:

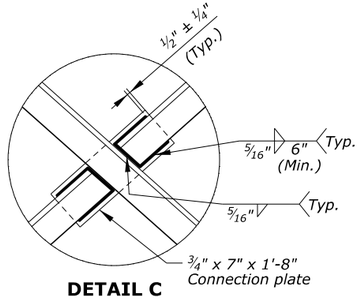
1. *All dimensions shown are typical.*
2. *All bolts are 7/8" dia. fasteners and meet the requirements of ASTM F3125, Grade A325, Type 3, Heavy Hex Style.*
3. *All plates conform to AASHTO M 270, Grade 50W (ASTM 709, Grade 50W).*
4. *Provide 15/16" dia. holes unless noted otherwise.*



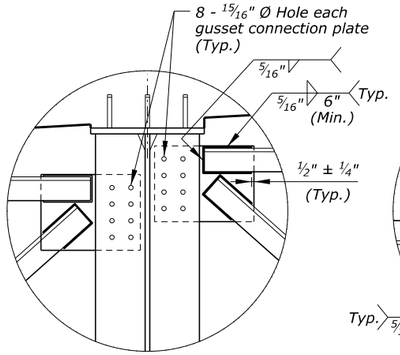
TYPICAL GUSSET PLATE
Scale: 1" = 1'-0"



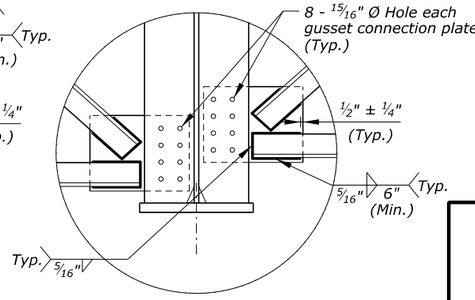
DETAIL A
Scale: 1" = 1'-0"



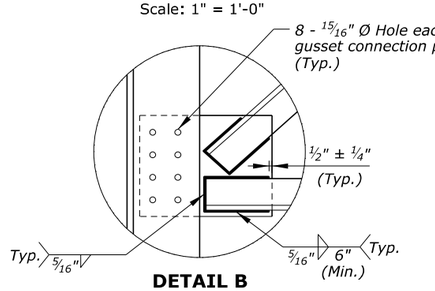
DETAIL C
Scale: 1" = 1'-0"



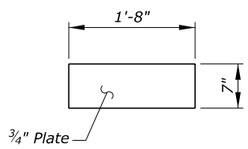
DETAIL D
Scale: ¾" = 1'-0"



DETAIL E
Scale: ¾" = 1'-0"



DETAIL B
Scale: 1" = 1'-0"



CONNECTION PLATE
Scale: 1" = 1'-0"

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

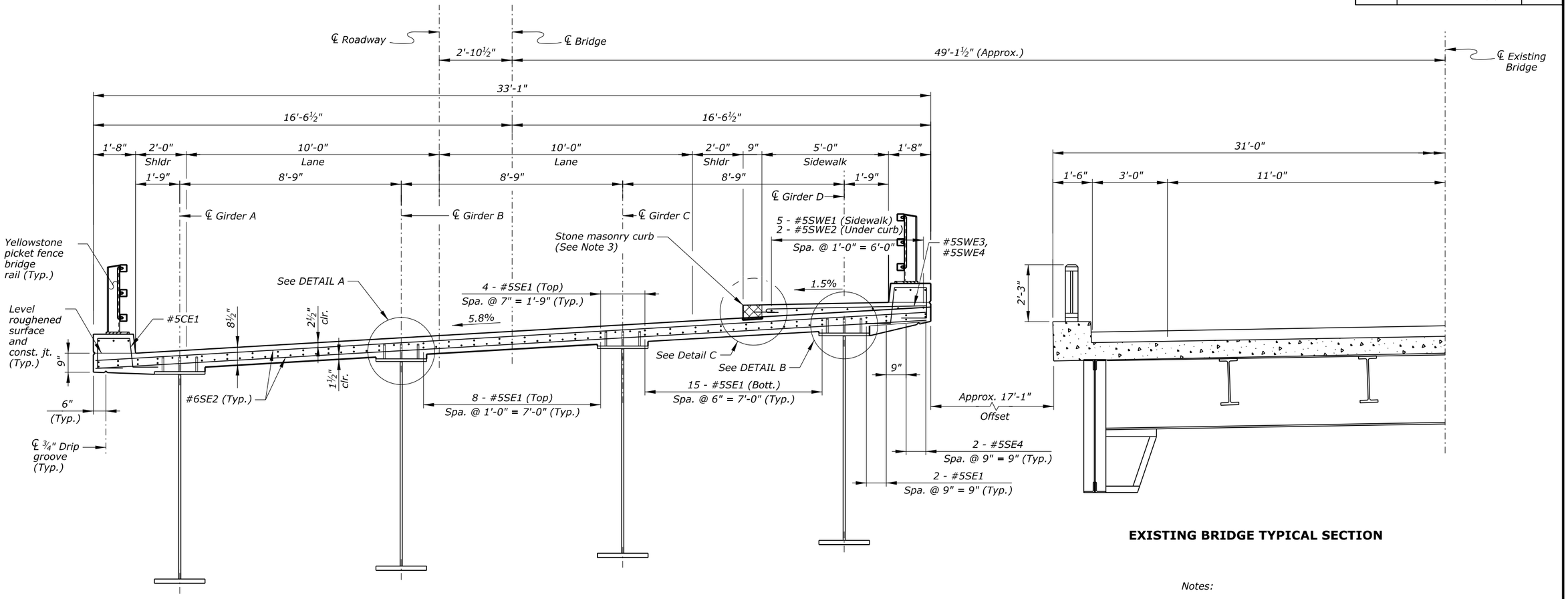
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

INTERMEDIATE CROSS FRAMES

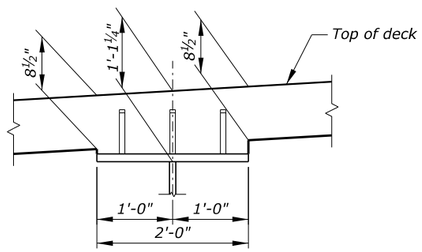
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	J. Galdos	P. Clark	As shown	B. Oltmann	27 of 46	April 2026	RG3283-AA

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.28

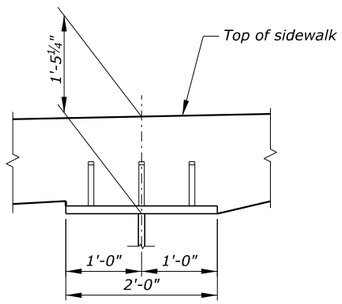


TYPICAL SECTION
(Looking ahead station)

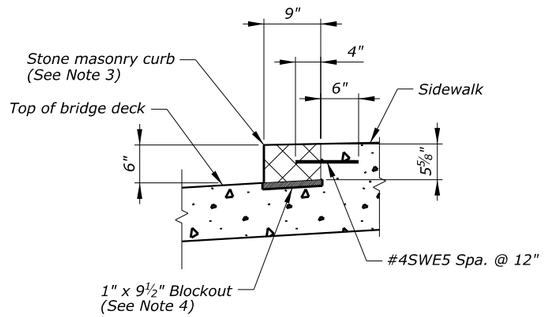
EXISTING BRIDGE TYPICAL SECTION



DETAIL A
No Scale



DETAIL B
No Scale



DETAIL C
No Scale

Notes:

1. *See sheet S.32 and S.33 for curb reinforcement details.*
2. *Provide a grooved finish along the roadway surface.*
3. *Roughen surface under stone curb. Field verify and adjust stone masonry curb height to provide a smooth transition to the top of the sidewalk.*
4. *Sandblast and clean the surface of the masonry stone blockout. Use an epoxy adhesive along concrete surfaces in contact with the stone masonry curb prior to placing mortar.*

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WESTERN FEDERAL LANDS HIGHWAY DIVISION

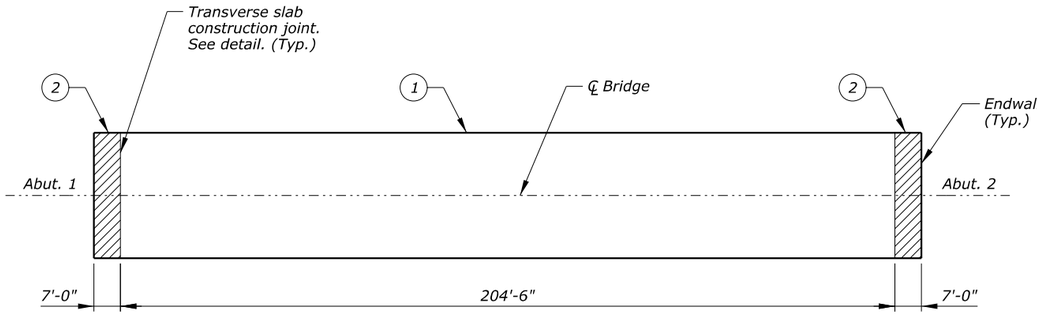
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

TYPICAL SECTION

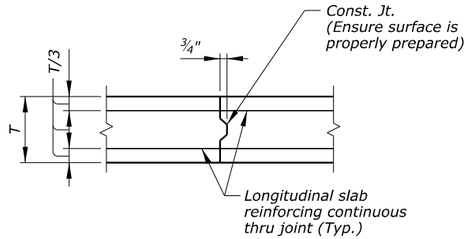
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	T. Pham	P. Clark S. Loftus	½" = 1'-0"	B. Oltmann	28 of 46	April 2026	RG3283-AB

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.29



DECK POUR SEQUENCE

(Sidewalk and curb reinforcement not shown)
No Scale



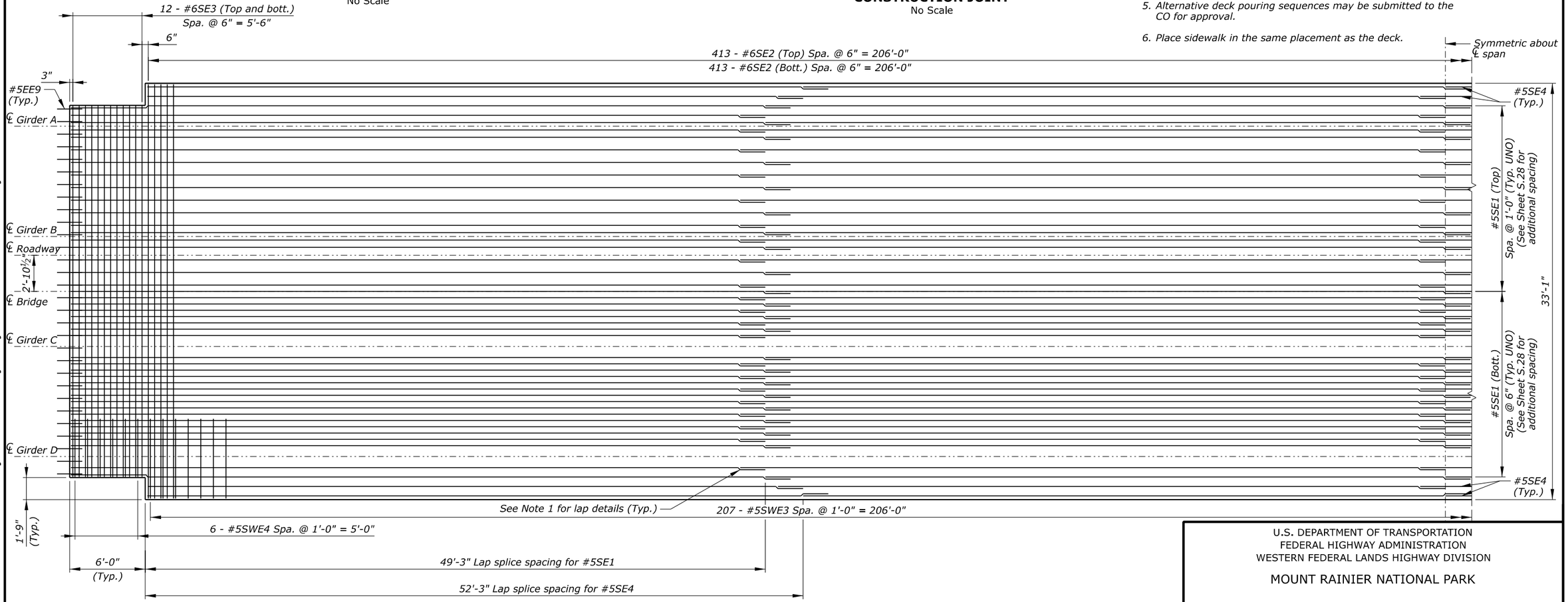
TRANSVERSE SLAB CONSTRUCTION JOINT
No Scale

Notes:

1. *Stagger location of all lap splices a minimum of 2'-0" in deck, sidewalk, and curb between adjacent bars. Minimum lap splice length:*
   #4 bars.....2'-0"
   #5 bars.....2'-6"
   #6 bars.....3'-0"
2. *Do not splice transverse reinforcing steel in the deck slab.*

Deck Pour Sequence Notes:

1. *Place each placement in numerical sequence shown.*
2. *Attain a minimum concrete compressive strength of 3.4 ksi before subsequent placements are made.*
3. *Placements marked 2 do not need to be placed simultaneously.*
4. *Placement 2 includes the abutment endwalls. Place Placement 2 until Placement 1 has been made.*
5. *Alternative deck pouring sequences may be submitted to the CO for approval.*
6. *Place sidewalk in the same placement as the deck.*



PLAN

(Sidewalk and Curb Reinforcement not shown)
Scale: ¼" = 1'-0"

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FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

MOUNT RAINIER NATIONAL PARK

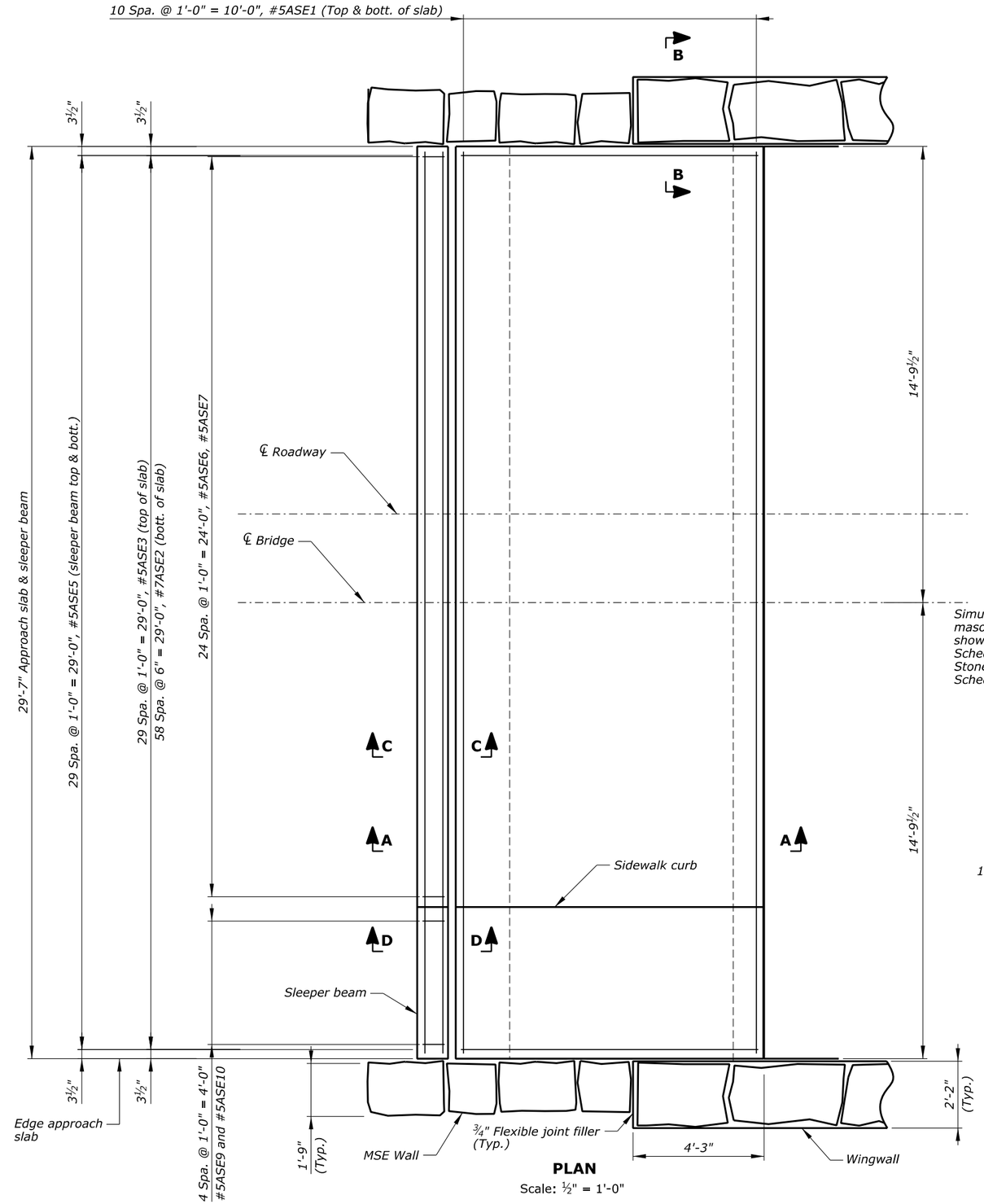
FRYINGPAN CREEK BRIDGE

DECK PLAN

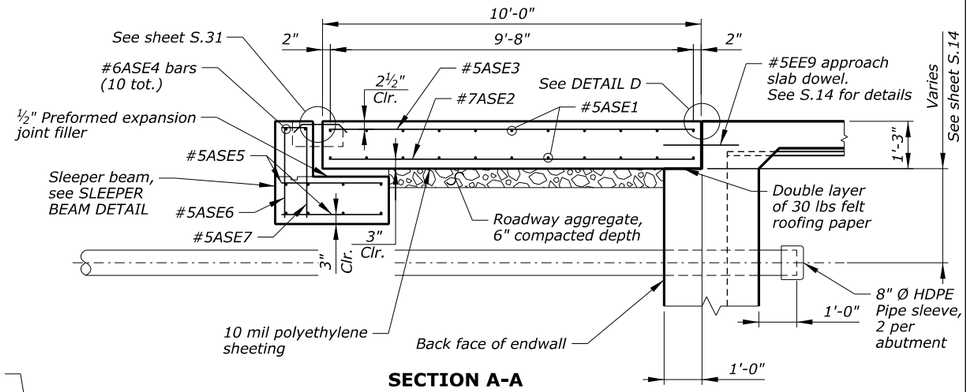
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	T. Pham	P. Clark S. Loftus	As Shown	B. Oltmann	29 of 46	April 2026	RG3283-AC

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

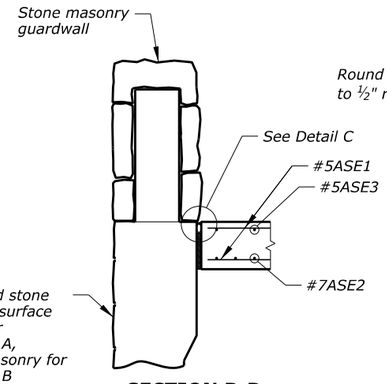
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.30



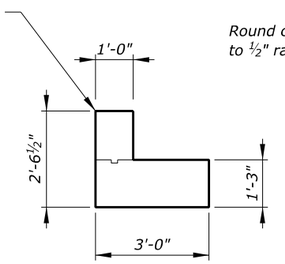
PLAN
Scale: ½" = 1'-0"



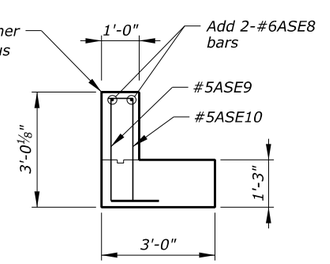
SECTION A-A
Scale: ½" = 1'-0"



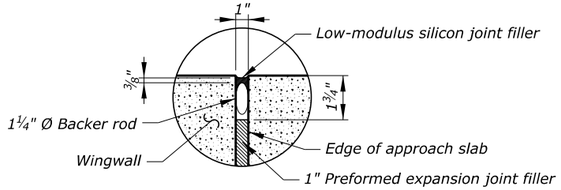
SECTION B-B
Scale: ½" = 1'-0"



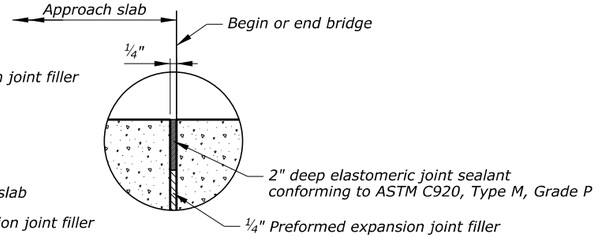
SLEEPER BEAM DETAIL
SECTION C-C
Scale: ½" = 1'-0"



SLEEPER BEAM DETAIL
SECTION D-D
Scale: ½" = 1'-0"



DETAIL C
No Scale



DETAIL D
No Scale

Notes:

1. *Place sidewalk in the same placement as approach slab.*

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WESTERN FEDERAL LANDS HIGHWAY DIVISION

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

APPROACH SLAB

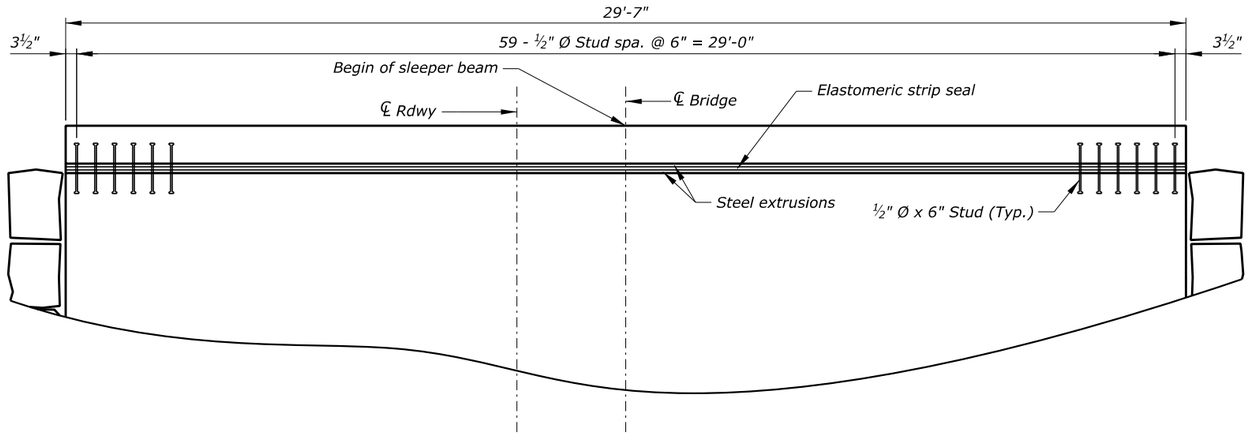
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	As Shown	B. Oltmann	30 of 46	April 2026	RG3283-AD

ACTUAL FILE:S.30_MORA 11(1)_APPROACH-SLAB.DGN

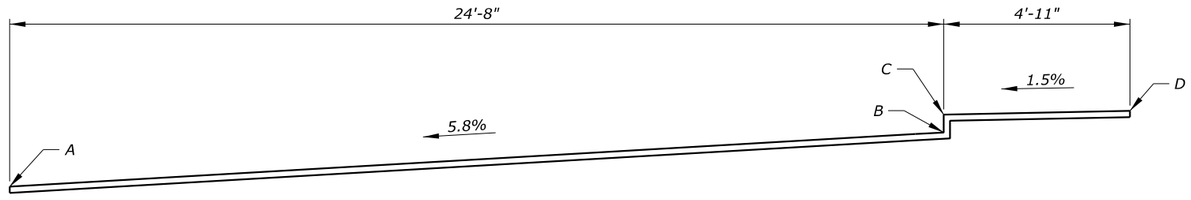
M:\PROJECTS\mora\II\N\BridgeMicrostation\Bridge Design Files\Current\0_0PROJECTS.dgn

4/8/2026

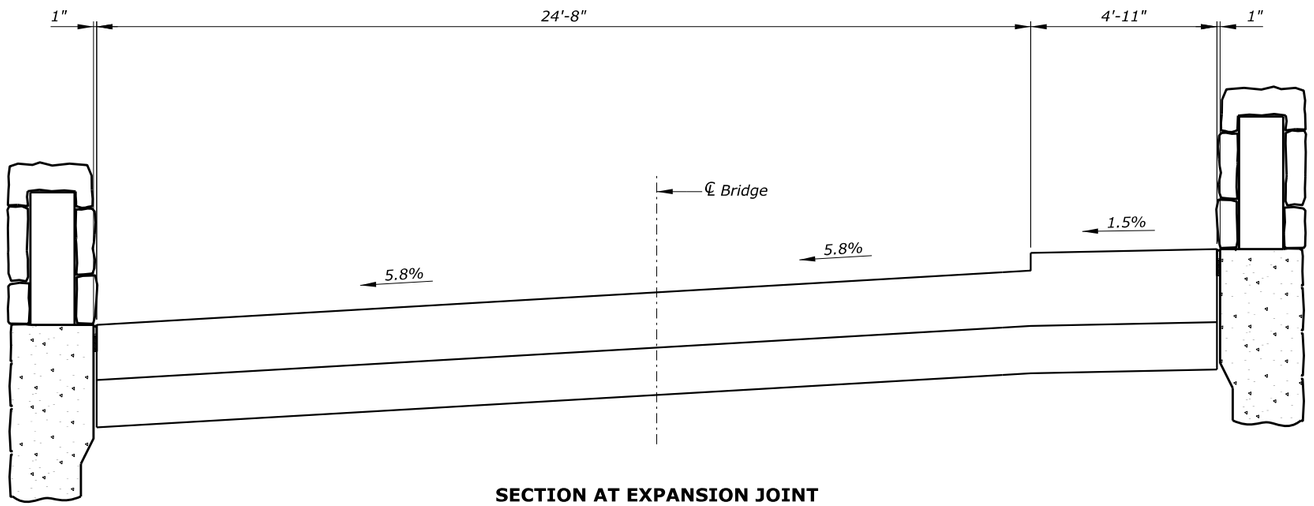
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.31



EXPANSION JOINT PLAN
(Abutment 2 shown, Abutment 1 similar)



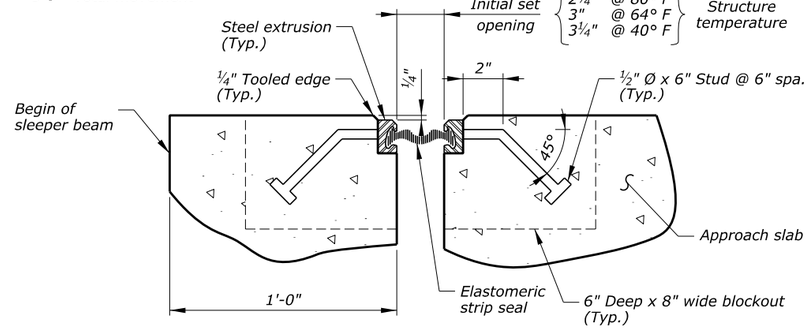
EXPANSION JOINT ELEVATION
(Abutment 2 shown, Abutment 1 similar)



SECTION AT EXPANSION JOINT
(Abutment 2 shown, Abutment 1 similar)

JOINT DESIGN MOVEMENTS
(For design temperature range of -30° F to 120° F)

1"	Closing (temp. rise)	from median structure temp. of 64° F
2⅞"	Opening (temp. fall)	
3⅞"	Total movement	



Note: Do not place strip seals, or opening set, when temperatures are outside of the maximum and minimum temperatures shown.

ELASTOMERIC STRIP SEAL DETAIL

Notes:

1. *Furnish steel extrusions conforming to ASTM A36. Galvanize after fabrication.*
2. *Fabricate joints to follow the profile and crown of the deck. Elevations and dimensions shown are taken at centerline of expansion joint at 64° F.*
3. *Measure and record structure temperature by taking surface temperature of the concrete with a surface thermometer. Record the temperature of the underside of the concrete slab at each end of the superstructure element adjacent to the expansion joint. Take average readings to use with the temperature table shown.*
4. *Provide Class D(AE) concrete for blockouts.*

ELEVATIONS		
Point	Abut. 1	Abut. 2
A	*3835.71*	*3833.21*
B	*3837.14*	*3834.64*
C	*3837.61*	*3835.11*
D	*3837.68*	*3835.18*

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

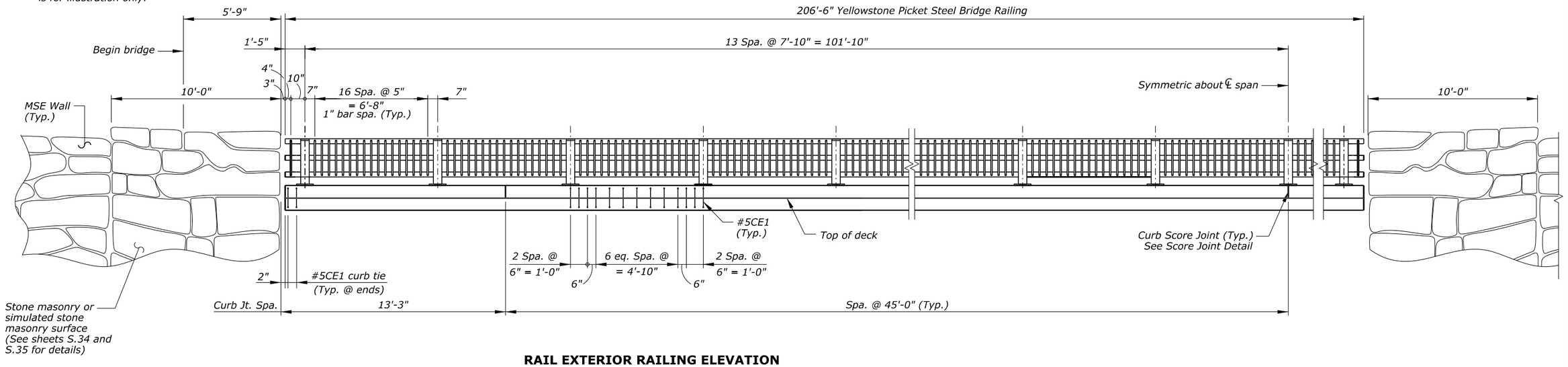
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

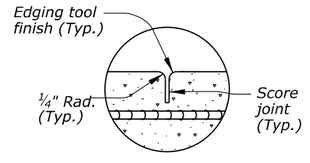
EXPANSION JOINT DETAILS

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	As shown	B. Oltmann	31 of 46	April 2026	RG3283-AE

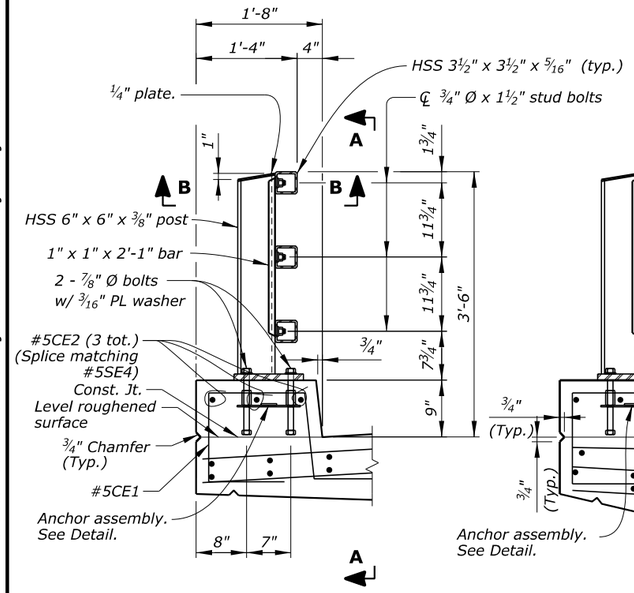
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.32



RAIL EXTERIOR RAILING ELEVATION
(Left railing shown - Right similar)
No Scale

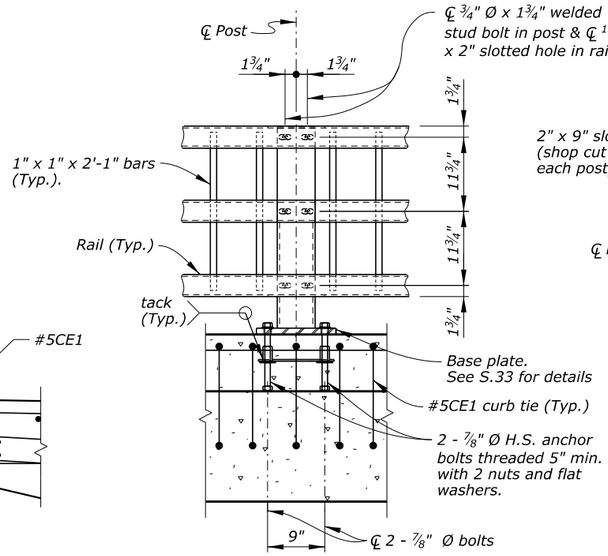


SCORE JOINT
No Scale

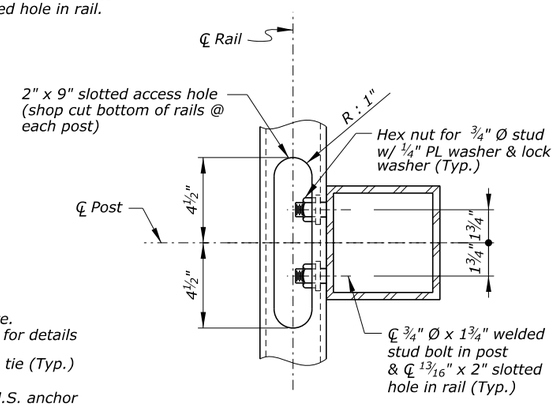


SECTION AT CURB SIDE
Scale: 1" = 1'-0"

SECTION AT SIDEWALK
(See SECTION AT CURB SIDE for additional information)
Scale: 1" = 1'-0"



VIEW A-A
Scale: 1" = 1'-0"



SECTION B-B
Scale: 3" = 1'-0"

Notes:

1. *Furnish steel for base plates and splice sleeves conforming to AASHTO M 270, Grade 50. Furnish all other plates, plate washers, and bars conforming to ASTM A36. Furnish structural tubing conforming to ASTM A500, Grade B.*
2. *Provide weathering steel bridge railing and components.*
3. *Furnish all stud bolts conforming to AASHTO M 169 (ASTM A108), Grade 1016 through 1030, inclusive. Furnish all nuts, bolts, and washers for structural tube railing systems conforming to ASTM F3125, Grade A325, Type 3, Heavy Hex Style, weathering steel unless otherwise noted. Furnish hex coupling nuts conforming to ASTM A563, Grade C, D, or DH with a center stop.*
4. *Shop fabricate all steel for railing system.*
5. *Provide rail splices in locations that allow for continuous rails over a 3 posts.*
6. *Place all rail posts vertically and all railing parallel to grade.*

U.S. DEPARTMENT OF TRANSPORTATION
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WESTERN FEDERAL LANDS HIGHWAY DIVISION

MOUNT RAINIER NATIONAL PARK

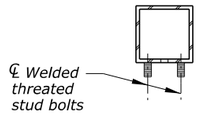
FRYINGPAN CREEK BRIDGE

RAILING LAYOUT

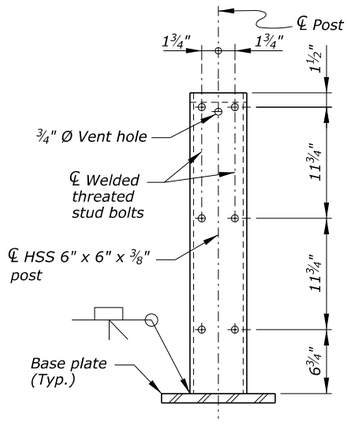
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	J. Galdos	P. Clark S. Loftus	As shown	B. Oltmann	32 of 46	April 2026	RG3283-AF

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

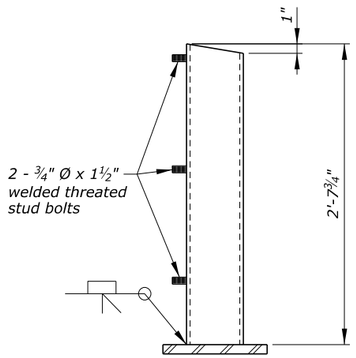
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.33



SECTION

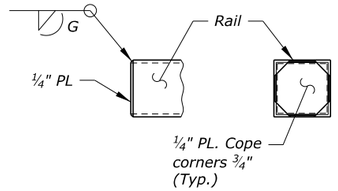


TRAFFIC FACE ELEVATION

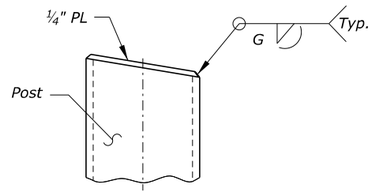


SIDE ELEVATION

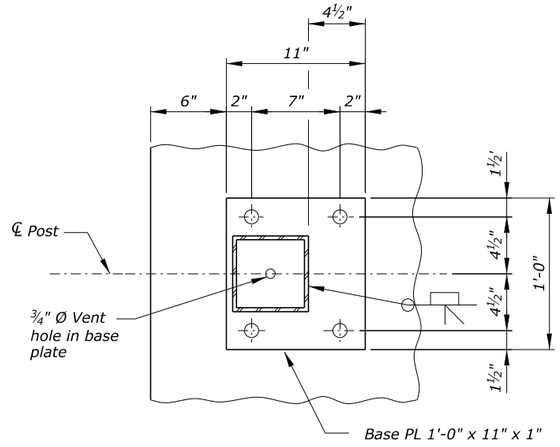
RAIL POST
Scale: 1½" = 1'-0"



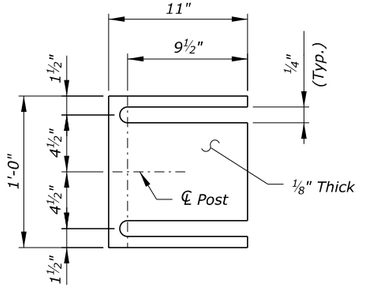
RAIL CAP DETAIL
(72 Req'd)
Scale: 1½" = 1'-0"



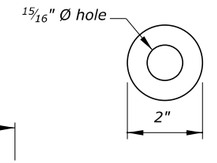
POST CAP DETAIL
Scale: 3" = 1'-0"



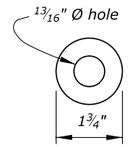
BASE PLATE
No Scale



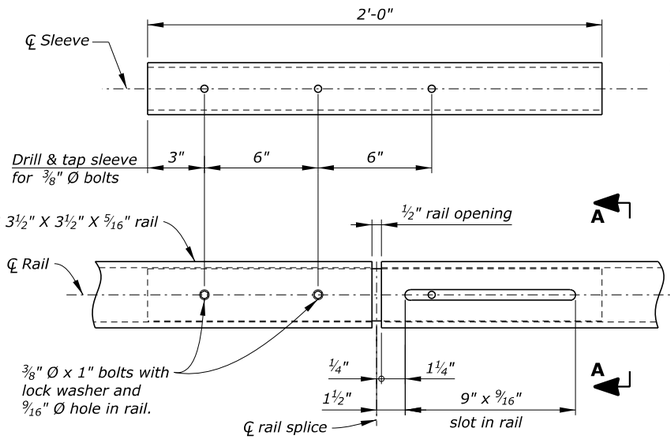
RAIL POST BASE SHIM
No Scale



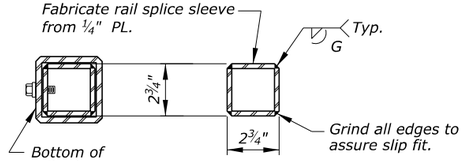
3/16" PL WASHER
No Scale



¼" PL WASHER
No Scale



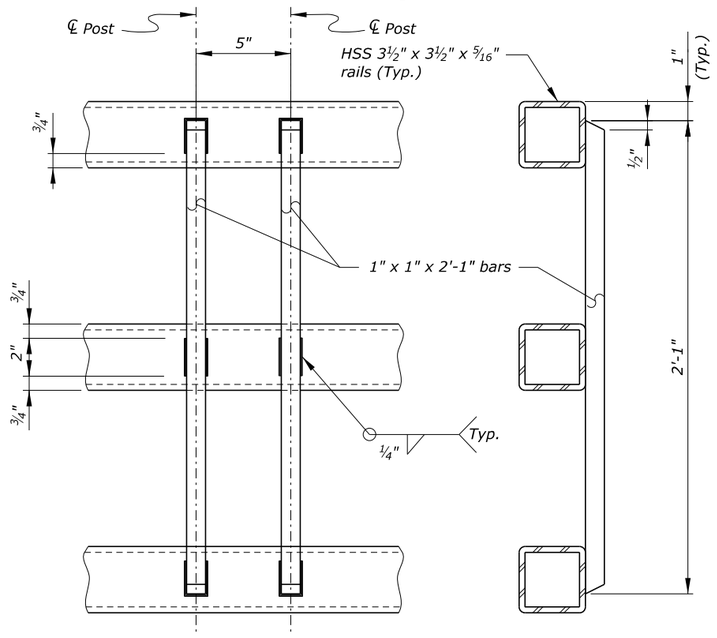
Note: Fabricate rail splice so that the 9" x 9/16" slot in rail tube is on the side of the splice furthest from the near rail post.



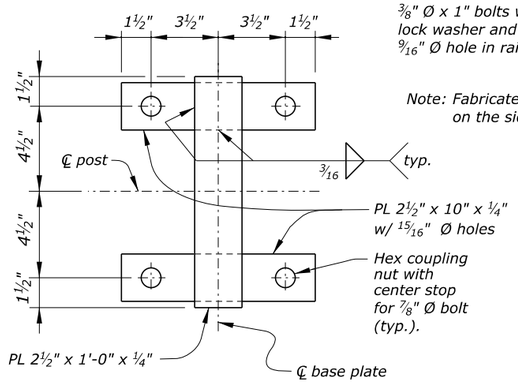
SECTION A-A SLEEVE

RAIL SPLICE DETAILS
Scale: 3" = 1'-0"

Note: Place 9/16" Ø holes and slots in bottom of rail tubes.



1" x 1" BAR DETAIL
Scale: 3" = 1'-0"



ANCHOR ASSEMBLY
(54 Req'd.)
No Scale

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

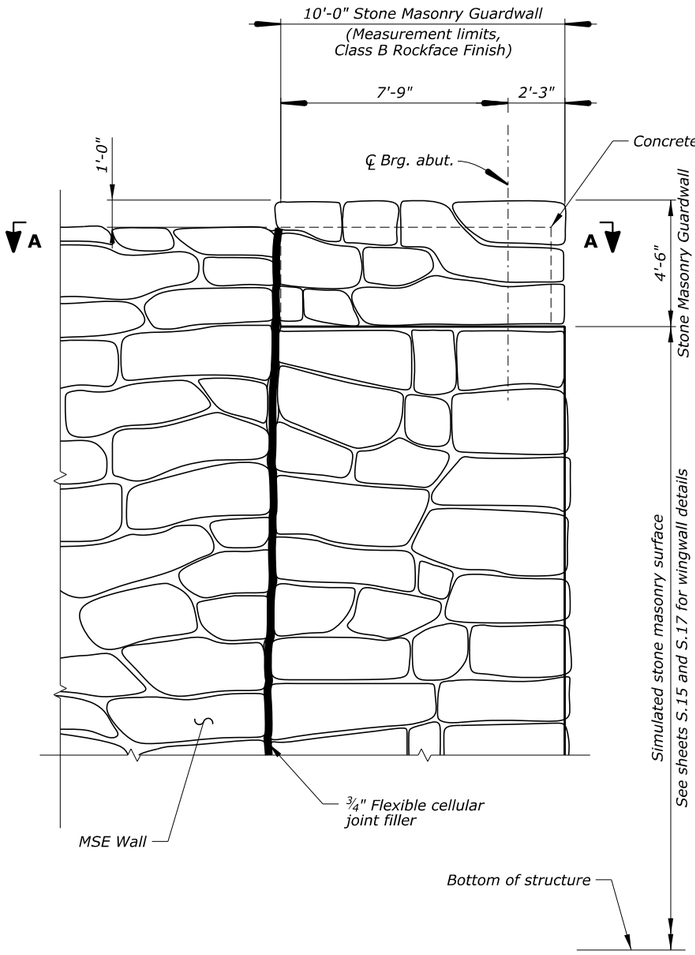
RAILING DETAILS

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi	J. Galdos	P. Clark S. Loftus	As shown	B. Oltmann	33 of 46	April 2026	RG3283-AG

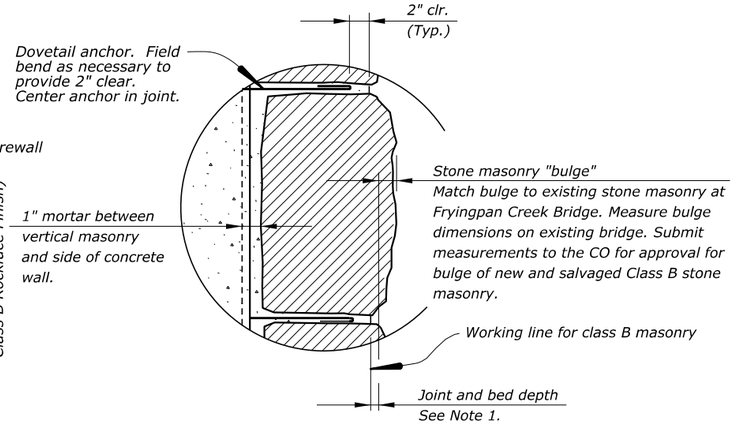
ACTUAL FILE:S.33_MORA 11(1)_RAILING-DET.DGN

M:\PROJECTS\mora\II\NBridgeMicrostation\Bridge Design Files\Current\0_0PROJECTS.dgn

4/8/2026



ELEVATION VIEW
(@ Abut. 1 & Abut. 2)

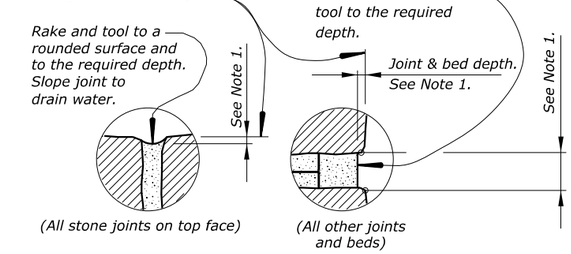


MASONRY BULGE DETAIL

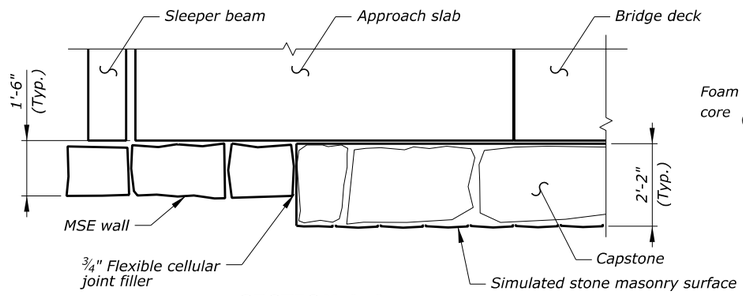
SAMPLE STONE MASONRY PATTERN

Masonry Notes:

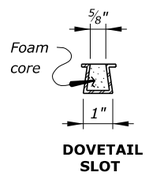
1. *Replicate the stone pattern of other masonry within the park including mortar joints, bed thicknesses, and depths. Mortar joint and bed depth may vary to replicate existing pattern. Measure and submit pattern to CO for approval.*
2. *Furnish dove tail slots conforming to ASTM A1008. Provide 22 gage hot dipped galvanized steel filled with foam and with a throat opening width of ⅝".*
3. *Furnish dove tail anchors conforming to ASTM A1008 that are corrugated ⅛" thick hot dipped galvanized steel.*
4. *Provide Type A dovetail anchors at the intersection of the vertical dovetail slots and each horizontal joint along the wingwall face. Space Type A dovetails at 1'-0" on center for all wingwall faces.*
5. *Provide simulated stone masonry surface matching the color and consistency of the masonry stone used on the existing Fryingpan Creek Bridge.*
6. *See H sheets for MSE Wall details not shown.*
7. *Stone masonry pattern shown for illustration only.*
8. *Perform the test wall before the start of bridge abutment work.*
9. *See sheet K.4 for additional masonry details.*



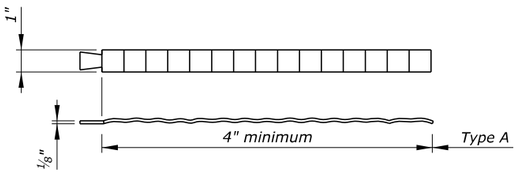
MASONRY MORTAR JOINT AND BED DETAILS



SECTION A-A
Scale: ½" = 1'-0"



DOVETAIL SLOT



CORRUGATED DOVETAIL ANCHOR
TYPE A

DOVETAIL SLOT & ANCHOR DETAILS

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

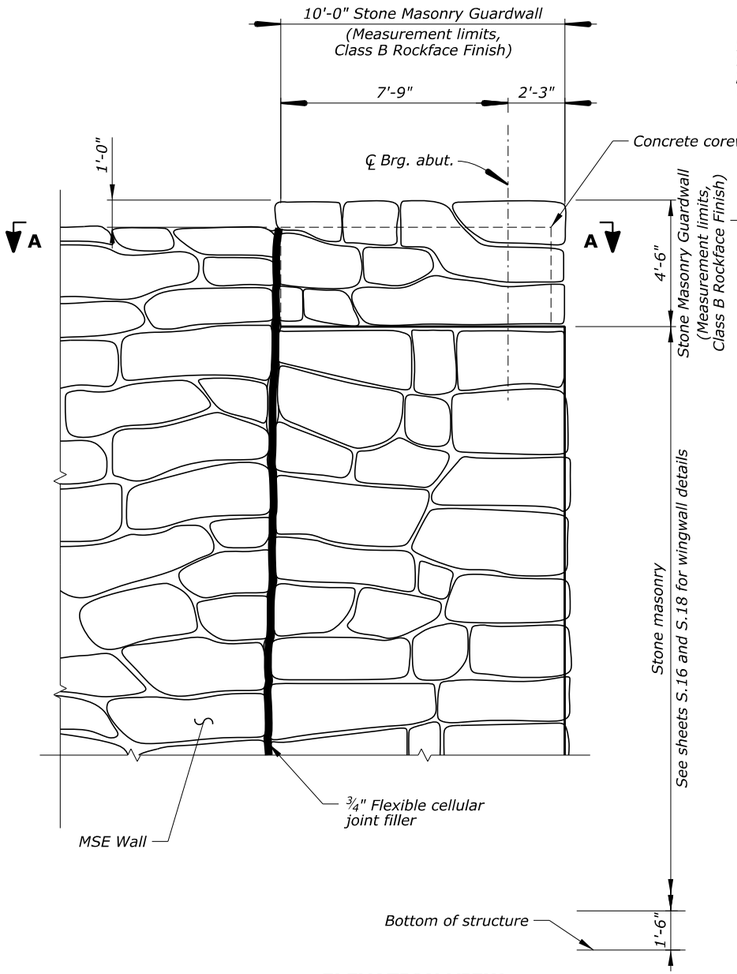
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

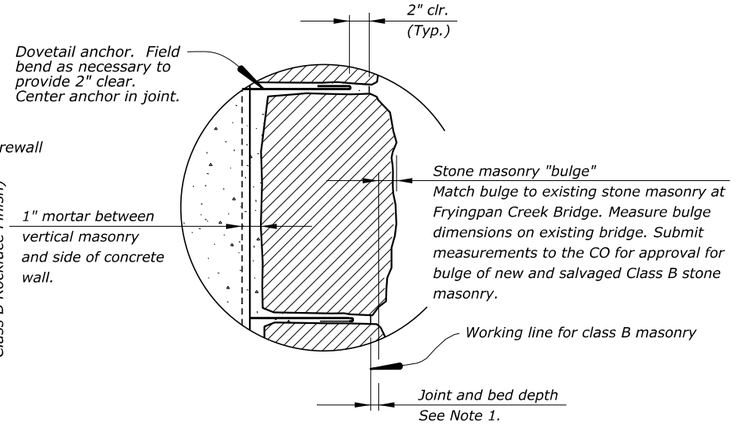
STONE MASONRY DETAILS - 1 (SCHEDULE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	B. Oltmann	No Scale	B. Oltmann	34 of 46	April 2026	RG3283-AH

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.35



ELEVATION VIEW
(@ Abut. 1 & Abut. 2)

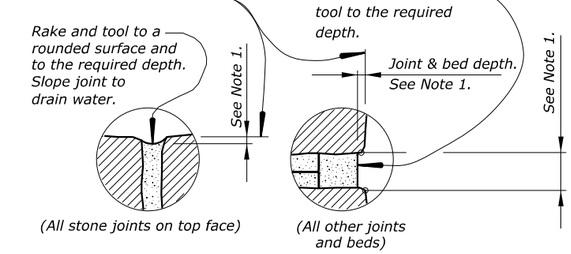


MASONRY BULGE DETAIL

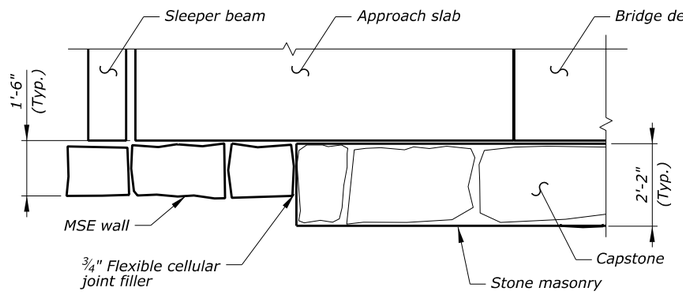
SAMPLE STONE MASONRY PATTERN

Masonry Notes:

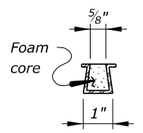
1. *Replicate the stone pattern of other masonry within the park including mortar joints, bed thicknesses, and depths. Mortar joint and bed depth may vary to replicate existing pattern. Measure and submit pattern to CO for approval.*
2. *Furnish dove tail slots conforming to ASTM A1008. Provide 22 gage hot dipped galvanized steel filled with foam and with a throat opening width of ⅝".*
3. *Furnish dove tail anchors conforming to ASTM A1008 that are corrugated ⅛" thick hot dipped galvanized steel.*
4. *Provide Type A dovetail anchors at the intersection of the vertical dovetail slots and each horizontal joint along the wingwall face. Space Type A dovetails at 1'-0" on center for all wingwall faces.*
5. *See H sheets for MSE Wall details not shown.*
6. *Stone masonry pattern shown for illustration only.*
7. *Perform the test wall before the start of bridge abutment work.*
8. *See sheet K.4 for additional masonry details.*



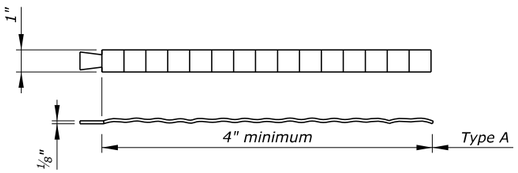
MASONRY MORTAR JOINT AND BED DETAILS



SECTION A-A
Scale: ½" = 1'-0"



DOVETAIL SLOT



CORRUGATED DOVETAIL ANCHOR
TYPE A

DOVETAIL SLOT & ANCHOR DETAILS

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

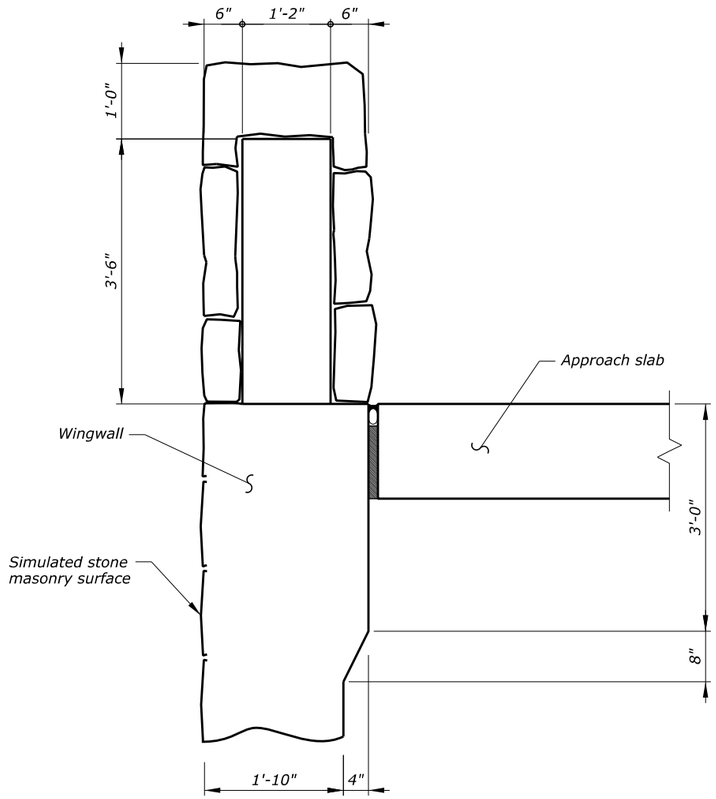
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

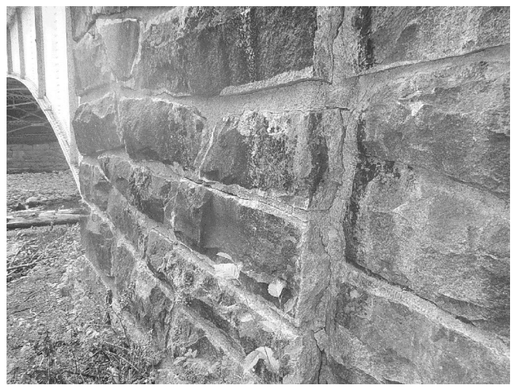
STONE MASONRY DETAILS - 1 (SCHEDULE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	B. Oltmann	No Scale	B. Oltmann	35 of 46	April 2026	RG3283-AI

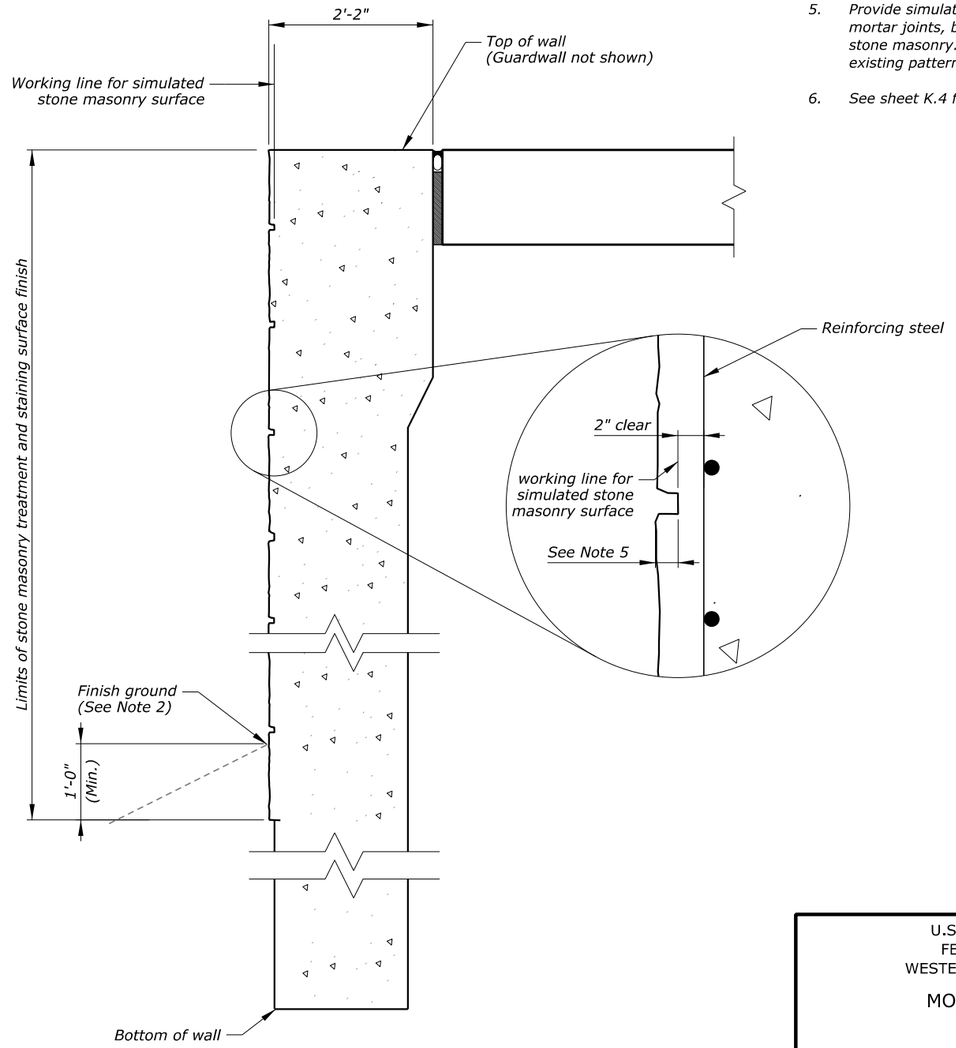
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.36



TYPICAL MASONRY GUARDWALL
Scale: 1" = 1'-0"



SAMPLE MASONRY STONE PATTERN AT JOINT



WORKING LINE DETAIL
Scale: 1" = 1'-0"

Notes:

1. *Provide full width capstones along guardwall.*
2. *Provide simulated stone masonry surface finish along all exposed faces of the bridge abutments. Extend the finish to a minimum of 1'-0" below the finish grade in other concrete surfaces.*
3. *Ensure all capstones are shaped to match existing bridge joints.*
4. *Use similar capstones along exposed front face of bridge guardwall.*
5. *Provide simulated stone masonry surface reveal to replicate the mortar joints, bed thicknesses, and depths of existing pattern of stone masonry. Mortar joint and bed depth may vary to replicate existing pattern. Measure and submit pattern to CO for approval.*
6. *See sheet K.4 for additional masonry details.*

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

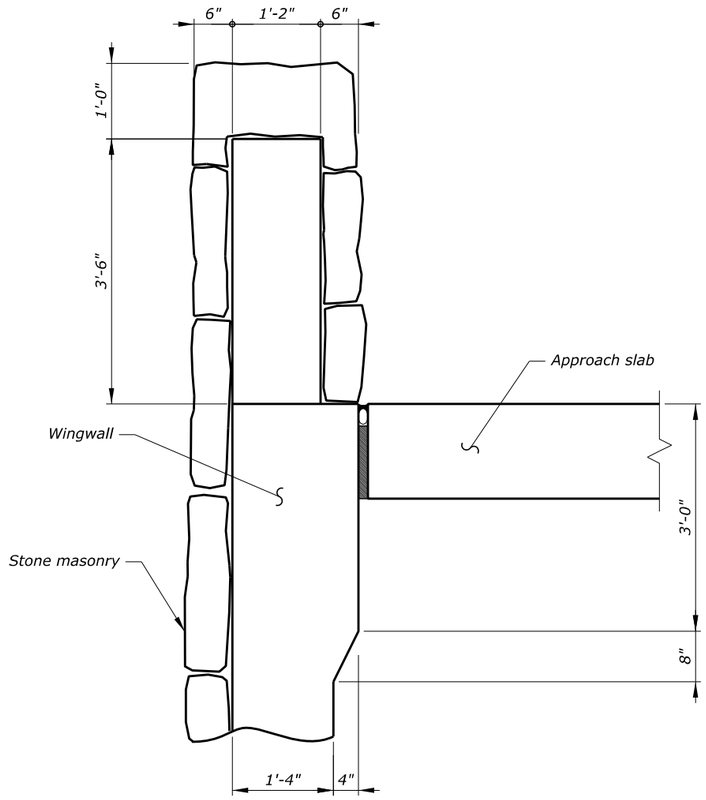
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

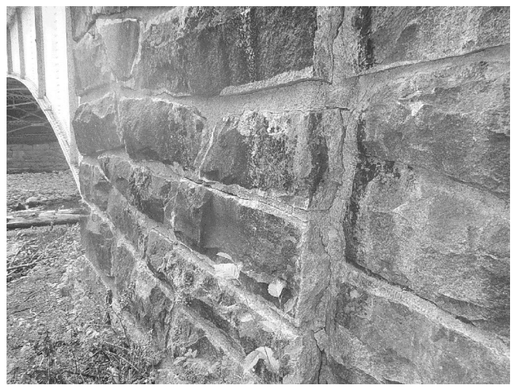
STONE MASONRY DETAILS - 2 (SCHEDULE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	As Shown	B. Oltmann	36 of 46	April 2026	RG3283-AJ

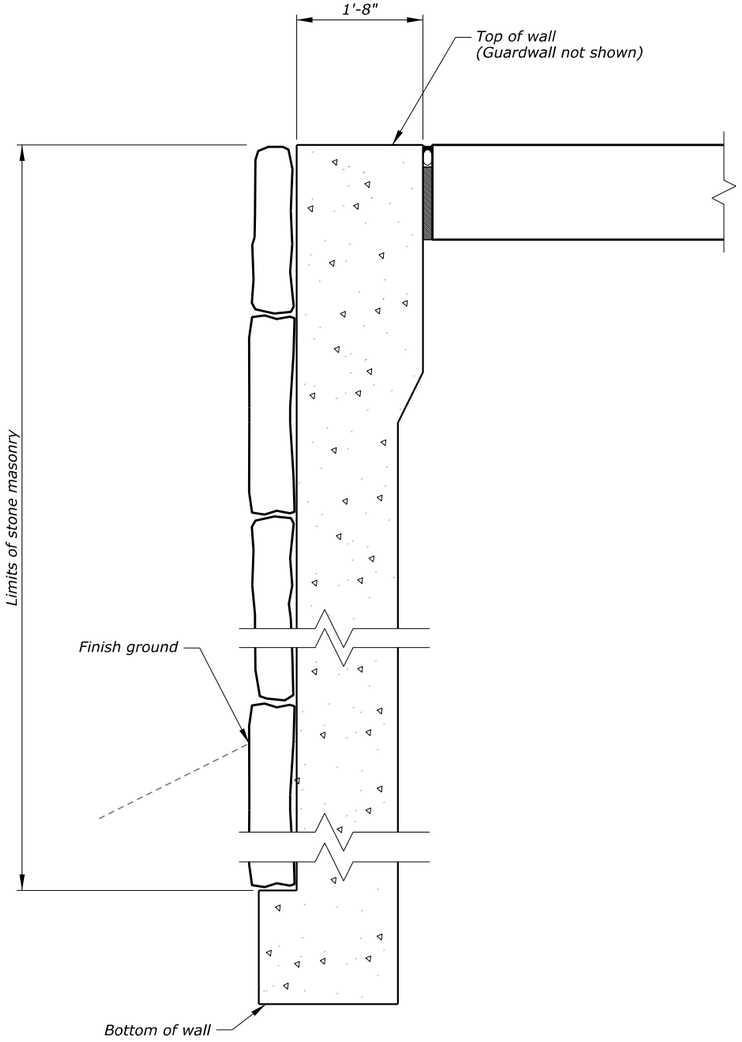
STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.37



TYPICAL MASONRY GUARDWALL
Scale: 1" = 1'-0"



SAMPLE MASONRY STONE PATTERN AT JOINT



WORKING LINE DETAIL
Scale: 1" = 1'-0"

Notes:

1. *Provide full width capstones along guardwall.*
2. *Ensure all capstones are shaped to match existing bridge joints.*
3. *Use similar capstones along exposed front face of bridge guardwall.*
4. *See sheet K.4 for additional masonry details.*

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

STONE MASONRY DETAILS - 2 (SCHEDULE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	H. Salad	As Shown	B. Oltmann	37 of 46	April 2026	RG3283-AK

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.38

REINFORCING STEEL SCHEDULE

Description: ABUTMENT 1

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#7A1	7	2	Long.													
#7A2	7	2	Long., Bumpout													
#6A3a	6	17	Stirrup, Top													
#6A4	6	17	Stirrup, Bott													
#5A5	5	17	Long., Step Int.													
#5A6	5	17	Long., Step Ext.													
#6A7	6	17	Trans., Step Int.													
#6A8	6	17	Trans., Step Int.													
#6A9	6	17	Trans., Step Ext.													
#6A10	6	2	Long., Step Ext.													
#6A11	6	2	Long., Step Int.													
#6A12	6	2	Long., Step Int.													
#6A13	6	T2	Stirrup, Bumpout													
#5A14a	5	2	Vert., Chamfer													
#5A14b	5	2	Vert., Chamfer													
#7A15	7	7	Horiz., Chamfer													
#4A16	4	T9	Ties													
#4A17	4	T9	Ties, Bumpout													
		SUBTOTAL					lbs									

Description: ABUTMENT 2

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#7A1	7	2	Long.													
#7A2	7	2	Long., Bumpout													
#6A3b	6	17	Stirrup, Top													
#6A4	6	17	Stirrup, Bott													
#5A5	5	17	Long., Step Int.													
#5A6	5	17	Long., Step Ext.													
#6A7	6	17	Trans., Step Int.													
#6A8	6	17	Trans., Step Int.													
#6A9	6	17	Trans., Step Ext.													
#6A10	6	2	Long., Step Ext.													
#6A11	6	2	Long., Step Int.													
#6A12	6	2	Long., Step Int.													
#6A13	6	T2	Stirrup, Bumpout													
#5A14c	5	2	Vert., Chamfer													
#5A14d	5	2	Vert., Chamfer													
#7A15	7	7	Horiz., Chamfer													
#4A16	4	T9	Ties													
#4A17	4	T9	Ties, Bumpout													
		SUBTOTAL					lbs									

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

REINFORCING BAR LIST - 1 (SCHEDULE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Oi S. Loftus	T. Pham	H. Salad	No Scale	B. Oltmann	38 of 46	April 2026	RG3283-AL

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.39

REINFORCING STEEL SCHEDULE

DIMENSION TABLE

Description: WINGWALL A

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#6W1a	6	2	Horizontal, Cheekwall & FF													
#6W1b	6	17	Horizontal, Abut. Cap OF													
#6W2a	6	2	Horizontal, Bott. FF													
#6W2b	6	17	Horizontal, Bott. OF													
#6W3a	6	2	Vert., OF													
#6W4a	6	2	Vert., FF													
#6W5a	6	17	Replace #6W4													
#6W6a	6	2	Replace #6W4													
#6W7	6	2	Vert. Bumpout													
#4W8	4	T9	Ties													
			SUBTOTAL				lbs									

Description: WINGWALL B

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#6W1a	6	2	Horizontal, Cheekwall & FF													
#6W1b	6	17	Horizontal, Abut. Cap OF													
#6W2a	6	2	Horizontal, Bott. FF													
#6W2b	6	17	Horizontal, Bott. OF													
#6W3b	6	2	Vert., OF													
#6W4b	6	2	Vert., FF													
#6W5b	6	17	Replace #6W4													
#6W6b	6	2	Replace #6W4													
#6W7	6	2	Vert. Bumpout													
#4W8	4	T9	Ties													
			SUBTOTAL				lbs									

Description: WINGWALL C

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#6W1a	6	2	Horizontal, Cheekwall & FF													
#6W1b	6	17	Horizontal, Abut. Cap OF													
#6W2a	6	2	Horizontal, Bott. FF													
#6W2b	6	17	Horizontal, Bott. OF													
#6W3c	6	2	Vert., OF													
#6W4c	6	17	Vert., FF													
#6W5c	6	17	Replace #6W4													
#6W6c	6	2	Replace #6W4													
#6W7	6	2	Vert. Bumpout													
#4W8	4	T9	Ties													
			SUBTOTAL				lbs									

Description: WINGWALL D

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#6W1a	6	2	Horizontal, Cheekwall & FF													
#6W1b	6	17	Horizontal, Abut. Cap OF													
#6W2a	6	2	Horizontal, Bott. FF													
#6W2b	6	17	Horizontal, Bott. OF													
#6W3d	6	2	Vert., OF													
#6W4d	6	17	Vert., FF													
#6W5d	6	17	Replace #6W4													
#6W6d	6	2	Replace #6W4													
#6W7	6	2	Vert. Bumpout													
#4W8	4	T9	Ties													
			SUBTOTAL				lbs									

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

REINFORCING BAR LIST - 2 (SCHEDULE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi S. Loftus	T. Pham	H. Salad	No Scale	B. Oltmann	39 of 46	April 2026	RG3283-AM

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.40

EPOXY REINFORCING STEEL SCHEDULE

DIMENSION TABLE

Description: END WALLS (2 Total)

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#5EE1	5	2	Long. Bott.													
#5EE2	5	2	Long. Top													
#5EE3	5	T2	Stirrup													
#5EE4	5	S6	Strirrup, Girder													
#5EE5	5	S10	Stirrup, Top													
#5EE6	5	S10	Stirrup, Bott.													
#5EE7	5	S10	U-Bar, Bridge Deck													
#5EE8	5	S10	L-Bar, Bridge Deck													
#5EE9	5	2	Dowel, Slab and Approach Slab													
#5EE10	5	T2	Stirrup, Ext.													
#6EE11	6	9	Sleeve Opening													
SUBTOTAL							lbs									

Description: BRIDGE DECK, SIDEWALK, CURB, AND COREWALL (4 Wingwalls)

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#5SE1	5	2	Long., Int.													
#6SE2	6	2	Trans.													
#6SE3	6	2	Trans., Approach Slab													
#5SE4	5	2	Long., Ext. Overhang													
#5SWE1	5	2	Long., Sidewalk													
#5SWE2	5	2	Long., Sidewalk under Curb													
#5SWE3	5	1	Trans., Sidewalk													
#5SWE4	5	1	Trans., Sidewalk Abut.													
#4SWE5	4	2	Stone Curb													
#5CE1	5	S5	Vert., Curb													
#5CE2	5	2	Long., Curb													
#5WE1	5	16	Corbel, Vert. (4 Wingwalls)													
#4WE2	4	2	Vert., OF (4 Wingwalls)													
#5WE3	5	2	Vert., FF (4 Wingwalls)													
#4WE4	4	2	Horiz. (4 Wingwalls)													
SUBTOTAL							lbs									

Description: APPROACH SLAB (2 Total) AND SLEEPER BEAM (2 Total)

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#5ASE1	5	2	Trans., Slab													
#7ASE2	7	2	Long., Bott. Slab													
#5ASE3	5	2	Long., Top Slab													
#6ASE4	6	2	Long., Sleeper Beam													
#5ASE5	5	2	Horiz., Sleeper Beam													
#5ASE6	5	2	Vert., Sleeper Beam Outer Face													
#5ASE7	5	2	Vert., Sleeper Beam Inner Face													
#6ASE8	6	2	Long., Sleeper Beam													
#5ASE9	5	2	Vert., Sleeper Beam Outer Face													
#5ASE10	5	2	Vert., Sleeper Beam Inner Face													
SUBTOTAL							lbs									

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

EPOXY COATED REINFORCING STEEL BAR LIST (SCHEDULE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi S. Loftus	T. Pham	H. Salad	No Scale	B. Oltmann	40 of 46	April 2026	RG3283-AN

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.41

REINFORCING STEEL SCHEDULE

DIMENSION TABLE

Description: ABUTMENT 1

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#7A1	7	2	Long.													
#7A2	7	2	Long., Bumpout													
#6A3a	6	17	Stirrup, Top													
#6A4	6	17	Stirrup, Bott													
#5A5	5	17	Long., Step Int.													
#5A6	5	17	Long., Step Ext.													
#6A7	6	17	Trans., Step Int.													
#6A8	6	17	Trans., Step Int.													
#6A9	6	17	Trans., Step Ext.													
#6A10	6	2	Long., Step Ext.													
#6A11	6	2	Long., Step Int.													
#6A12	6	2	Long., Step Int.													
#6A13	6	T2	Stirrup, Bumpout													
#5A14a	5	2	Vert., Chamfer													
#5A14b	5	2	Vert., Chamfer													
#7A15	7	7	Horiz., Chamfer													
#4A16	4	T9	Ties													
#4A17	4	T9	Ties, Bumpout													
#4A18	4	T1	Ties, Bottom Bumpout													
SUBTOTAL						lbs										

Description: ABUTMENT 2

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#7A1	7	2	Long.													
#7A2	7	2	Long., Bumpout													
#6A3b	6	17	Stirrup, Top													
#6A4	6	17	Stirrup, Bott													
#5A5	5	17	Long., Step Int.													
#5A6	5	17	Long., Step Ext.													
#6A7	6	17	Trans., Step Int.													
#6A8	6	17	Trans., Step Int.													
#6A9	6	17	Trans., Step Ext.													
#6A10	6	2	Long., Step Ext.													
#6A11	6	2	Long., Step Int.													
#6A12	6	2	Long., Step Int.													
#6A13	6	T2	Stirrup, Bumpout													
#5A14c	5	2	Vert., Chamfer													
#5A14d	5	2	Vert., Chamfer													
#7A15	7	7	Horiz., Chamfer													
#4A16	4	T9	Ties													
#4A17	4	T9	Ties, Bumpout													
#4A18	4	T1	Ties, Bottom Bumpout													
SUBTOTAL						lbs										

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

REINFORCING BAR LIST - 1 (SCHEDULE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Oi S. Loftus	T. Pham	H. Salad	No Scale	B. Oltmann	41 of 46	April 2026	RG3283-AO

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.42

REINFORCING STEEL SCHEDULE

DIMENSION TABLE

Description: WINGWALL A

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#7W1a	7	2	Horizontal, Cheekwall & FF													
#7W1b	7	17	Horizontal, Abut. Cap OF													
#7W2a	7	2	Horizontal, Bott. FF													
#7W2b	7	17	Horizontal, Bott. OF													
#5W3a	5	2	Vert., OF													
#5W4a	5	2	Vert., FF													
#5W5a	5	17	Replace #5W4													
#5W6a	5	2	Replace #5W4													
#5W7	5	2	Vert. Bumpout													
#4W8	4	T9	Ties													
#7W9a	7	2	Horizontal, Bott. Bumpout FF													
#7W9b	7	17	Horizontal, Bott. Bumpout CTR													
#7W9c	7	2	Horizontal, Bott. Bumpout OF													
#4W10	4	T1	Ties, Bott. Bumpout													
			SUBTOTAL				lbs									

Description: WINGWALL B

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#7W1a	7	2	Horizontal, Cheekwall & FF													
#7W1b	7	17	Horizontal, Abut. Cap OF													
#7W2a	7	2	Horizontal, Bott. FF													
#7W2b	7	17	Horizontal, Bott. OF													
#5W3b	5	2	Vert., OF													
#5W4b	5	2	Vert., FF													
#5W5b	5	17	Replace #5W4													
#5W6b	5	2	Replace #5W4													
#5W7	5	2	Vert. Bumpout													
#4W8	4	T9	Ties													
#7W9a	7	2	Horizontal, Bott. Bumpout FF													
#7W9b	7	17	Horizontal, Bott. Bumpout CTR													
#7W9c	7	2	Horizontal, Bott. Bumpout OF													
#4W10	4	T1	Ties, Bott. Bumpout													
			SUBTOTAL				lbs									

Description: WINGWALL C

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#7W1a	7	2	Horizontal, Cheekwall & FF													
#7W1b	7	17	Horizontal, Abut. Cap OF													
#7W2a	7	2	Horizontal, Bott. FF													
#7W2b	7	17	Horizontal, Bott. OF													
#5W3c	5	2	Vert., OF													
#5W4c	5	17	Vert., FF													
#5W5c	5	17	Replace #5W4													
#5W6c	5	2	Replace #5W4													
#5W7	5	2	Vert. Bumpout													
#4W8	4	T9	Ties													
#7W9a	7	2	Horizontal, Bott. Bumpout FF													
#7W9b	7	17	Horizontal, Bott. Bumpout CTR													
#7W9c	7	2	Horizontal, Bott. Bumpout OF													
#4W10	4	T1	Ties, Bott. Bumpout													
			SUBTOTAL				lbs									

Description: WINGWALL D

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#7W1a	7	2	Horizontal, Cheekwall & FF													
#7W1b	7	17	Horizontal, Abut. Cap OF													
#7W2a	7	2	Horizontal, Bott. FF													
#7W2b	7	17	Horizontal, Bott. OF													
#5W3d	5	2	Vert., OF													
#5W4d	5	17	Vert., FF													
#5W5d	5	17	Replace #5W4													
#5W6d	5	2	Replace #5W4													
#5W7	5	2	Vert. Bumpout													
#4W8	4	T9	Ties													
#7W9a	7	2	Horizontal, Bott. Bumpout FF													
#7W9b	7	17	Horizontal, Bott. Bumpout CTR													
#7W9c	7	2	Horizontal, Bott. Bumpout OF													
#4W10	4	T1	Ties, Bott. Bumpout													
			SUBTOTAL				lbs									

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

REINFORCING BAR LIST - 2 (SCHEDULE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi S. Loftus	T. Pham	H. Salad	No Scale	B. Oltmann	42 of 46	April 2026	RG3283-AP

NPS PMIS NO. 239144 NPS DRWG. NO. 105/197408

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.43

EPOXY REINFORCING STEEL SCHEDULE

DIMENSION TABLE

Description: END WALLS (2 Total)

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#5EE1	5	2	Long. Bott.													
#5EE2	5	2	Long. Top													
#5EE3	5	T2	Stirrup													
#5EE4	5	S6	Strirrup, Girder													
#5EE5	5	S10	Stirrup, Top													
#5EE6	5	S10	Stirrup, Bott.													
#5EE7	5	S10	U-Bar, Bridge Deck													
#5EE8	5	S10	L-Bar, Bridge Deck													
#5EE9	5	2	Dowel, Slab and Approach Slab													
#5EE10	5	T2	Stirrup, Ext.													
#6EE11	6	9	Sleeve Opening													
		SUBTOTAL					lbs									

Description: BRIDGE DECK, SIDEWALK, CURB, AND COREWALL (4 Wingwalls)

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#5SE1	5	2	Long., Int.													
#6SE2	6	2	Trans.													
#6SE3	6	2	Trans., Approach Slab													
#5SE4	5	2	Long., Ext. Overhang													
#5SWE1	5	2	Long., Sidewalk													
#5SWE2	5	2	Long., Sidewalk under Curb													
#5SWE3	5	1	Trans., Sidewalk													
#5SWE4	5	1	Trans., Sidewalk Abut.													
#4SWE5	4	2	Stone Curb													
#5CE1	5	S5	Vert., Curb													
#5CE2	5	2	Long., Curb													
#5WE1	5	16	Corbel, Vert. (4 Wingwalls)													
#4WE2	4	2	Vert., OF (4 Wingwalls)													
#5WE3	5	2	Vert., FF (4 Wingwalls)													
#4WE4	4	2	Horiz. (4 Wingwalls)													
		SUBTOTAL					lbs									

Description: APPROACH SLAB (2 Total) AND SLEEPER BEAM (2 Total)

BAR MK	SIZE	TYPE	LOCATION	QTY	LENGTH	WEIGHT	A	B	C	D	E	F/R	G	H	J	K
#5ASE1	5	2	Trans., Slab													
#7ASE2	7	2	Long., Bott. Slab													
#5ASE3	5	2	Long., Top Slab													
#6ASE4	6	2	Long., Sleeper Beam													
#5ASE5	5	2	Horiz., Sleeper Beam													
#5ASE6	5	2	Vert., Sleeper Beam Outer Face													
#5ASE7	5	2	Vert., Sleeper Beam Inner Face													
#6ASE8	6	2	Long., Sleeper Beam													
#5ASE9	5	2	Vert., Sleeper Beam Outer Face													
#5ASE10	5	2	Vert., Sleeper Beam Inner Face													
		SUBTOTAL					lbs									

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

EPOXY COATED REINFORCING STEEL BAR LIST (SCHEDULE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi S. Loftus	T. Pham	H. Salad	No Scale	B. Oltmann	43 of 46	April 2026	RG3283-AQ

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.44

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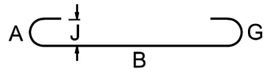

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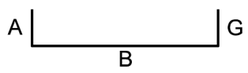

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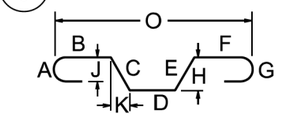

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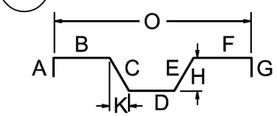

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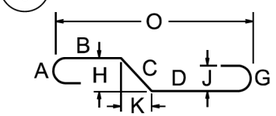

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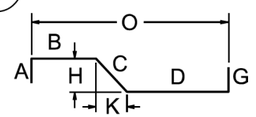

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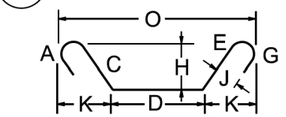

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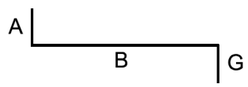

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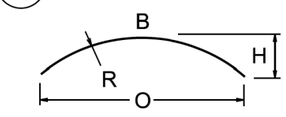

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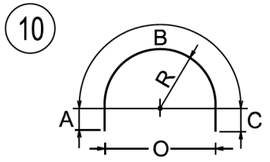

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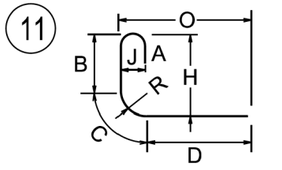

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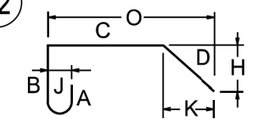

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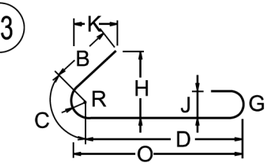

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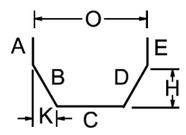

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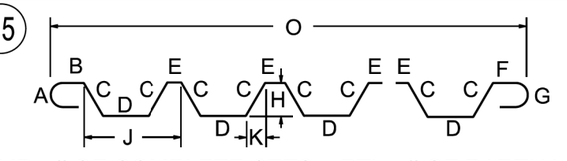
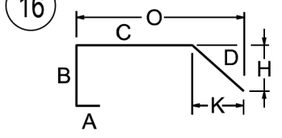


CMP - # OF COMPLETE SETS, PTL - # OF PARTIALS *

16



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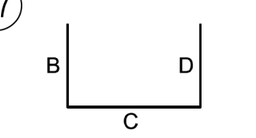

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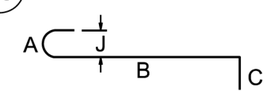

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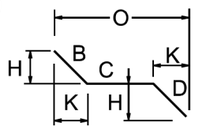

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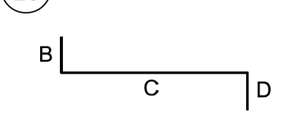

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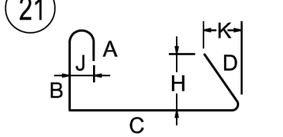

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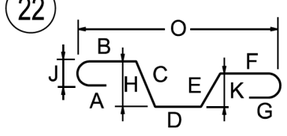

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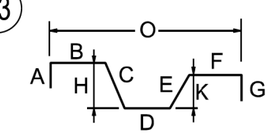

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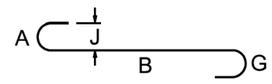

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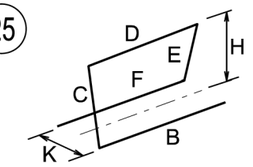

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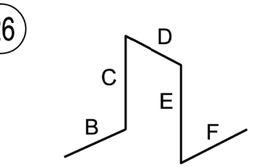

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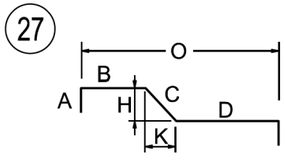

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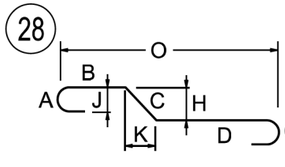

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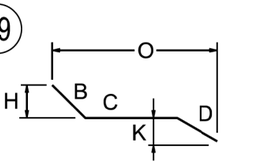

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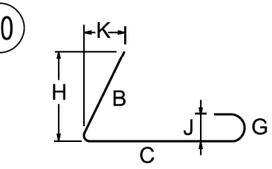

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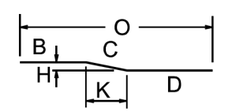

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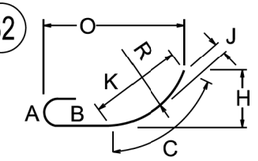
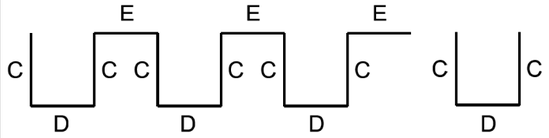


* TYPE 15 & S14 Complete and Partial Explanation



A Complete set consists of a 'C','D','C', and 'E' dimensons. In the example shown there are 3 complete sets. (CMP = 3)

Partial can be 0,1,2, or 3. Partials consist of a 'C','D', and 'C' dimension. In the example shown there are 3 partials. (PTL = 3)

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

TYPICAL BAR BEND - 1

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi S. Loftus	T. Pham	H. Salad	No Scale	B. Oltmann	44 of 46	April 2026	RG3283-AR

ACTUAL FILE:S.31_MORA 11(1)_TYP BAR BEND-1.DGN

M:\PROJECTS\nmoraVII\NBridge\Microstation\Bridge Design Files\Current\0_0PROJECTS.dgn

4/8/2026

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.45

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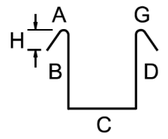

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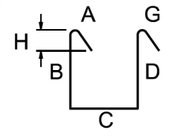

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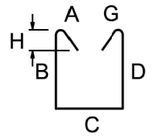

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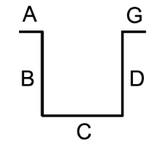

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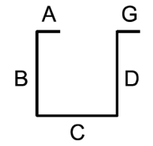

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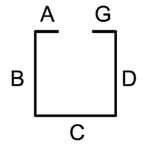

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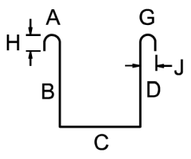

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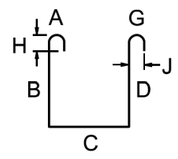

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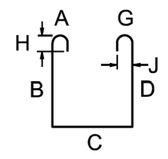

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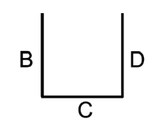

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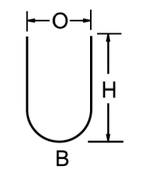

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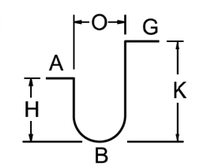

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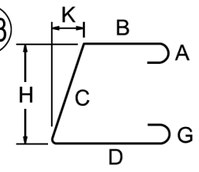

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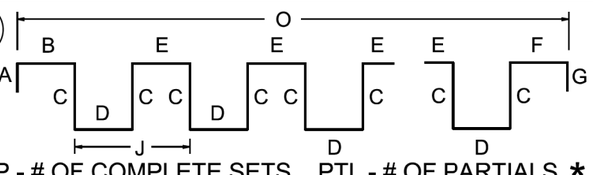
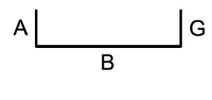


CMP - # OF COMPLETE SETS, PTL - # OF PARTIALS *

S15



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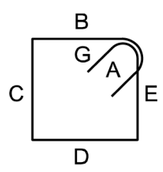

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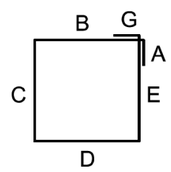

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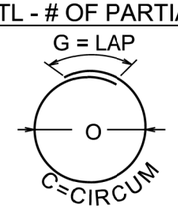

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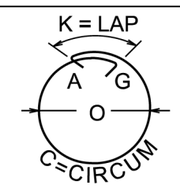

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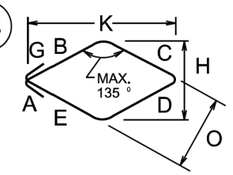

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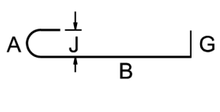

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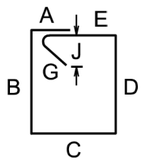

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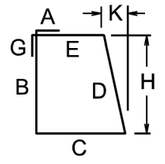

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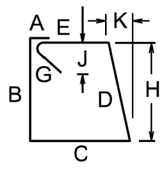

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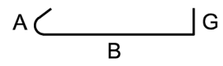

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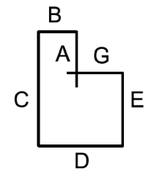

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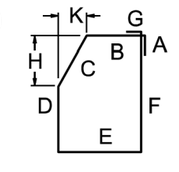

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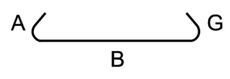

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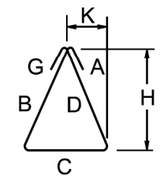

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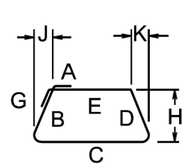

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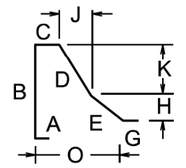

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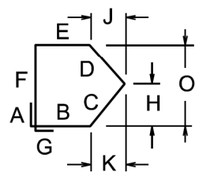

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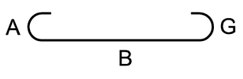


U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

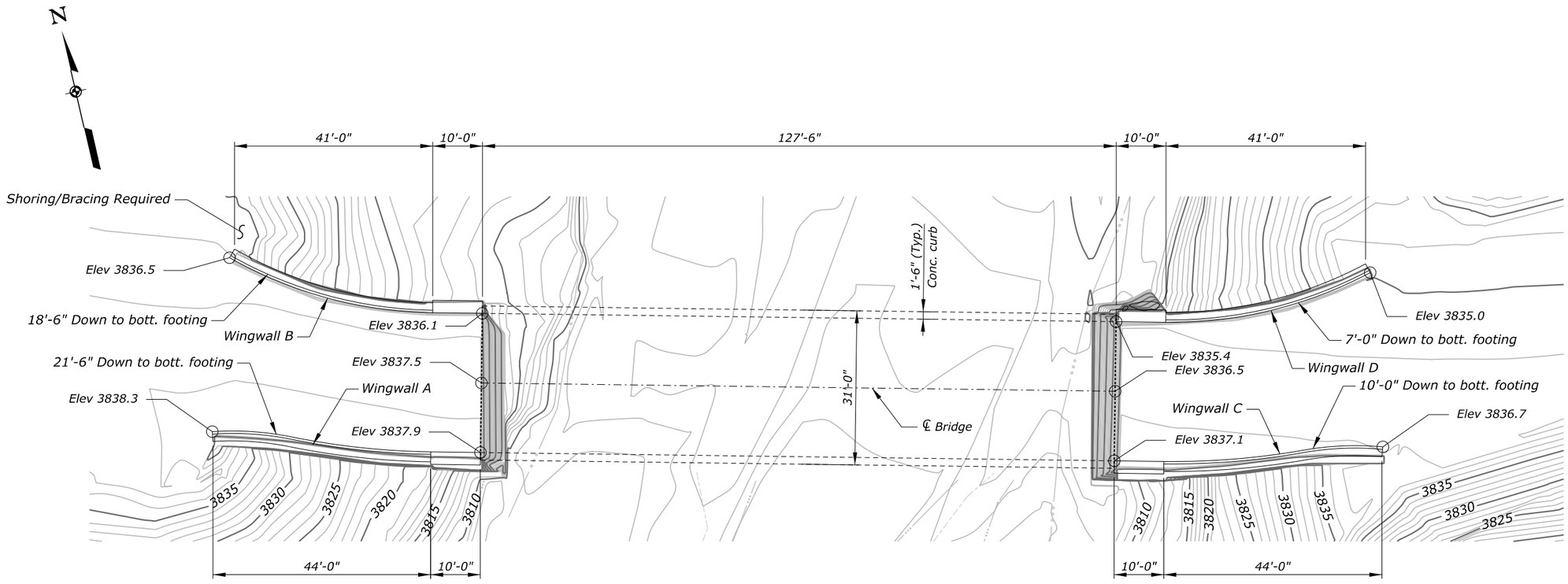
MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

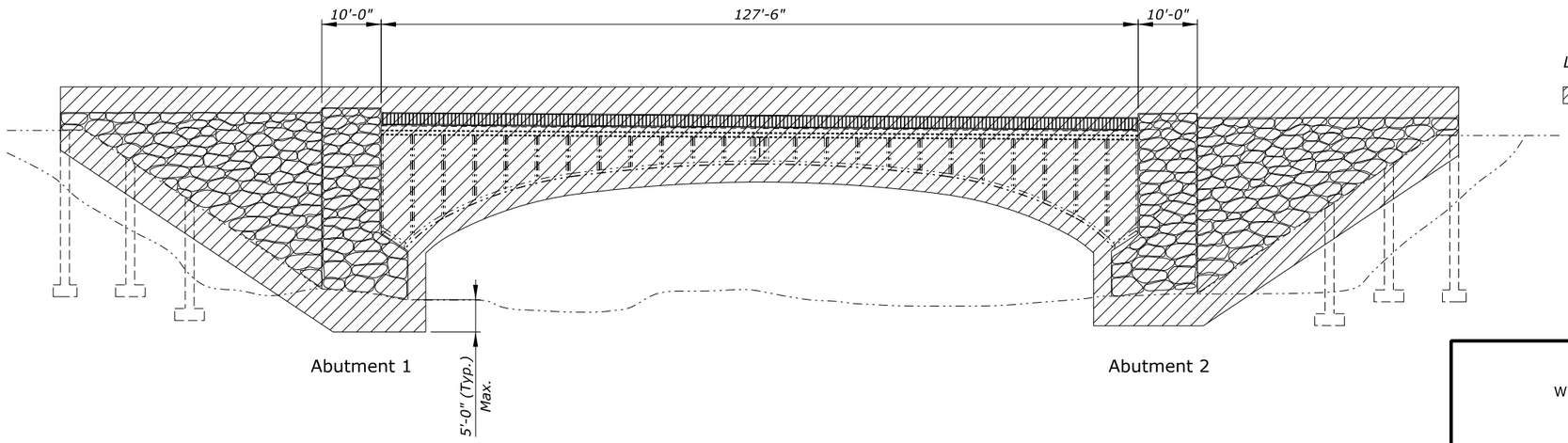
TYPICAL BAR BEND - 2

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								Y.Qi S. Loftus	T. Pham	H. Salad	No Scale	B. Oltmann	45 of 46	April 2026	RG3283-AS

STATE	PROJECT	SHEET NUMBER
WA	NP MORA 11(1)	S.46



PLAN



ELEVATION

Notes:

1. *Remove existing bridge in accordance with Section 203.*
2. *Bottom elevation of substructures may extend below 5 feet in depth. Substructures shown are for illustration only.*

Legends:

Limits of Bridge Removal

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

MOUNT RAINIER NATIONAL PARK

FRYINGPAN CREEK BRIDGE

FRYINGPAN CREEK BRIDGE REMOVAL

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								S. Loftus	T. Pham	B. Oltmann	No Scale	B. Oltmann	46 of 46	April 2026	RG3283-AT