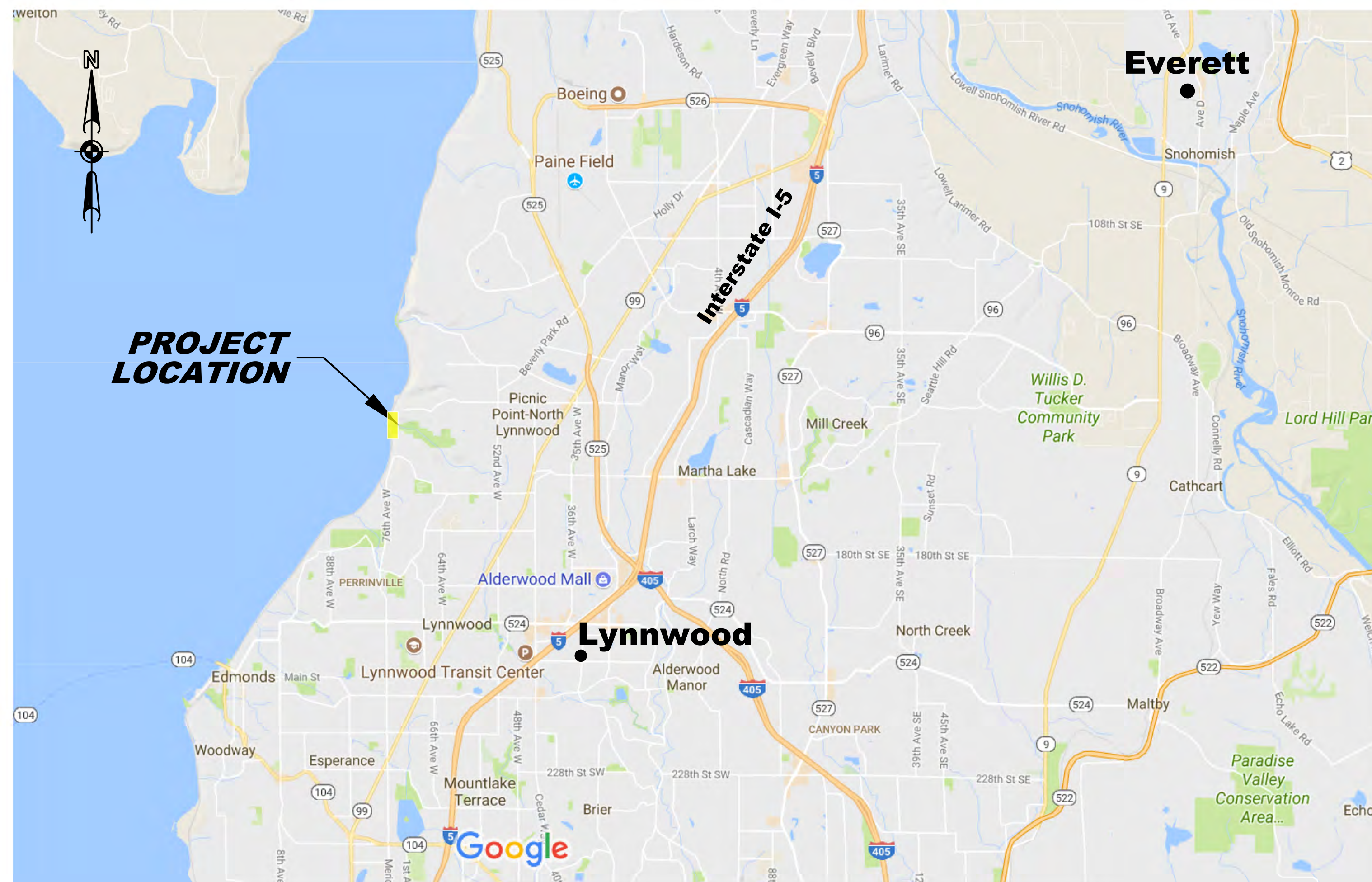
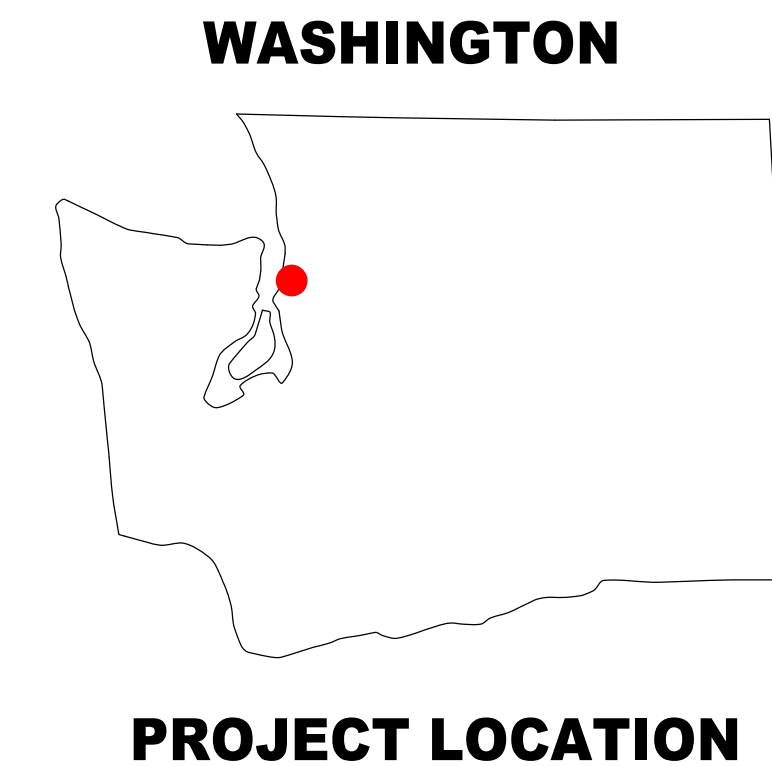


**NOTES:**

1. THIS PROJECT INCLUDES WORK WITHIN BNSF RIGHT-OF-WAY AND ON PARK PROPERTY TO CONSTRUCT A RAILROAD BRIDGE OVER LUNDS GULCH CREEK. WORK TO BE PERFORMED IS SHOWN ON THE "MEADOWDALE BEACH RAILROAD BRIDGE - CIVIL PLANS" AND THE "MEADOWDALE BEACH RAILROAD BRIDGE - STRUCTURAL PLANS" PREPARED BY HANSON PROFESSIONAL SERVICES AND ON THE "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" BY ANCHOR QEA.
2. ALL WORK SHOWN WITHIN THIS SET OF PLANS AND ON THE "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" BY ANCHOR QEA SHALL BE ACCOMPLISHED BY THE CONTRACTOR UNDER CONTRACT WITH SNOHOMISH COUNTY UNLESS OTHERWISE SPECIFIED. WORK PROPOSED ON THE RAILROAD BRIDGE STRUCTURAL PLANS SHALL BE RESPONSIBILITY OF BNSF OR THEIR DESIGNATED CONTRACTOR UNLESS OTHERWISE SPECIFIED.
3. THE CONTRACTOR SHALL COORDINATE ALL WORK SHOWN ON THESE PLANS WITH RAILROAD BRIDGE WORK SHOWN ON THE RAILROAD BRIDGE STRUCTURAL AND THE "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" BY ANCHOR QEA. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL DETAIL ON COORDINATION OF WORK.



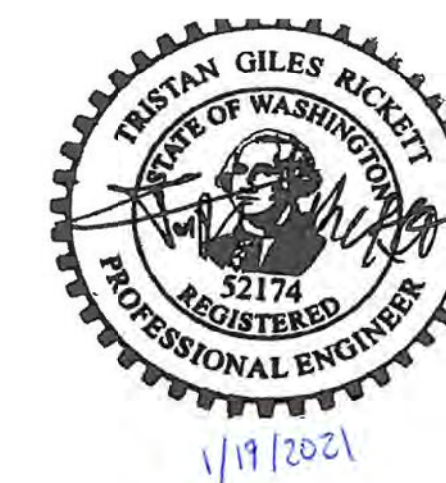
# BNSF NORTHWEST DIVISION MEADOWDALE BEACH PARK RAILROAD BRIDGE



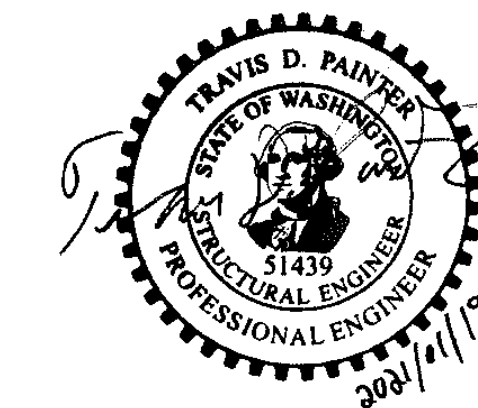
**VICINITY MAP**  
NOT TO SCALE

**SCENIC SUBDIVISION  
LINE SEGMENT 50  
MP 21.7 TO MP 21.9  
CIVIL PLANS**

**100% SUBMITTAL**



ALL SHEETS EXCEPT STRUCTURAL  
(SHEETS CP-06 AND CP-07)



STRUCTURAL  
SHEETS CP-06 AND CP-07

**DATE: January 19, 2021**



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DRAWING NUMBER	DRAWING TITLE	SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE	SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE	SHEET NUMBER
	<b>GENERAL</b>							
CK-01	COVER	01						
CK-02	INDEX OF DRAWINGS	02						
CK-03	GENERAL NOTES	03						
CK-04	ABBREVIATIONS & SYMBOLS	04						
	<b>TRACKWORK</b>							
RP-01	TRACK PLAN AND PROFILE - MAIN 1 STA 1251+00 TO STA 1262+00 MP 21.7 TO MP 21.9	05						
RP-02	TRACK PLAN AND PROFILE - MAIN 2 STA 1251+00 TO STA 1262+00 MP 21.7 TO MP 21.9	06						
RC-01	TRACK GEOMETRY DATA	07						
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CP-01	TEMPORARY GRADING & FENCING REMOVAL PLAN	08						
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CP-10	FENCING DETAILS - SHEET 02 OF 02	17						

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CHECKED BY	MGQ
APPROVED BY	MAF
DATE	1/19/2021



Snohomish County  
Parks and Recreation






**BNSF RAILWAY & SNOHOMISH COUNTY**  
**BNSF SCENIC SUBDIVISION**  
**MEADOWDALE BEACH PARK RAILROAD BRIDGE**  
**INDEX OF DRAWINGS**

CONTRACT NO.		14L006802
DRAWING NO.		CK-02
REVISION	SHEET NO.	
	2 OF 17	
SCALE		NONE

# GENERAL NOTES

## BNSF STANDARD SPECIFICATIONS REFERENCING

CONTRACTOR CAN OBTAIN LATEST BNSF STANDARD SPECIFICATIONS AND THE UTILITY ACCOMMODATION POLICY REFERENCED ON THIS SHEET FROM THE ENGINEER OR THE BNSF REPRESENTATIVE.

## PROJECT SCOPE

1. THIS PROJECT INCLUDES WORK WITHIN BNSF RIGHT OF WAY AND ON PARK PROPERTY TO CONSTRUCT A RAILROAD BRIDGE OVER LUNDS GULCH CREEK. WORK TO BE PERFORMED IS SHOWN ON THE "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" BY ANCHOR QEA, LLC AND ON THE "MEADOWDALE BEACH RAILROAD BRIDGE - CIVIL PLANS" AND THE "MEADOWDALE BEACH PARK RAILROAD BRIDGE - STRUCTURAL PLANS" PREPARED BY HANSON PROFESSIONAL SERVICES INC.

2. REMOVAL OF ALL ITEMS SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF COUNTY CONTRACTOR UNLESS OTHERWISE INDICATED. ADDITIONAL DETAIL CAN BE FOUND ON THE "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" BY ANCHOR QEA, LLC.

3. ALL WORK SHOWN WITHIN "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" AND THE "MEADOWDALE BEACH RAILROAD BRIDGE - CIVIL PLANS" SHALL BE ACCOMPLISHED BY THE CONTRACTOR UNDER CONTRACT WITH SNOHOMISH COUNTY (REFERRED TO IN THESE PLANS AS THE "COUNTY CONTRACTOR") UNLESS OTHERWISE SPECIFIED. WORK PROPOSED ON THE RAILROAD BRIDGE STRUCTURAL PLANS SHALL BE RESPONSIBILITY OF BNSF OR THEIR DESIGNATED CONTRACTOR UNLESS OTHERWISE SPECIFIED.

4. ALL WORK RELATED TO PEDESTRIAN WALL AND TRAIL SHOWN ON THESE PLANS SHALL BE BY COUNTY CONTRACTOR. ADDITIONAL DETAIL IS SHOWN ON THE "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" BY ANCHOR QEA, LLC.

5. THE CONTRACTOR SHALL COORDINATE ALL WORK SHOWN ON THESE PLANS WITH RAILROAD BRIDGE WORK SHOWN ON THE "MEADOWDALE BEACH PARK RAILROAD BRIDGE - STRUCTURAL PLANS". SEE PROJECT SPECIFICATIONS FOR ADDITIONAL SUGGESTED DETAIL ON COORDINATION OF WORK.

6. TRACK RAISE SHOWN ON SHEET 6 TO BE PERFORMED BY BNSF.

## UTILITY LOCATES

THE LOCATIONS OF BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE AND BASED ON SURVEYED UTILITY MARKINGS AND FEATURES VISIBLE AT THE SURFACE, SUPPLEMENTED BY AS-BUILT INFORMATION PROVIDED BY SNOHOMISH COUNTY.

THESE UTILITY LOCATIONS ARE SHOWN FOR CONTRACTOR INFORMATIONAL USE ONLY, AND ARE NOT TO BE REFERENCED FOR CONSTRUCTION PURPOSES.

THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE OWNER, ENGINEER, CONTRACTOR, OR SUBCONTRACTORS TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE.

BURIED AND ABOVE GROUND UTILITY LOCATION, IDENTIFICATION AND MARKING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REROUTING, DISCONNECTION, PROTECTION, ETC. OF THE UTILITIES MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY, AND OWNER. SITE SAFETY, INCLUDING THE AVOIDANCE OF HAZARDS ASSOCIATED WITH THE BURIED AND ABOVE GROUND UTILITIES REMAINS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

THIS UTILITY WORK MAY BE SHOWN AS A BID ITEM, OR IT MAY BE INDICATED AS INCIDENTAL TO THE PROJECT, AND ITS COSTS SHOULD BE INCLUDED IN THE EXISTING BID ITEMS, WITH NO DIRECT PAYMENT BEING MADE THEREOF. THE CONTRACTOR SHALL PROTECT AGAINST ALL UTILITIES, WHETHER SHOWN ON PLANS OR NOT. UTILITIES DAMAGED BY CONSTRUCTION ACTIVITIES OF THE CONTRACTOR SHALL BE REPAIRED WITHOUT COST TO THE COMPANY.

## BNSF SIGNAL AND TELECOM LOCATES

CALL 1-800-533-2891 TO ARRANGE FOR A BNSF UNDERGROUND CABLE LOCATE. BNSF FORM 'UNDERGROUND CABLE LOCATION AND ACKNOWLEDGEMENT' WILL BE COMPLETED BY A BNSF REPRESENTATIVE AND A COPY PROVIDED TO THE CONTRACTOR. THE CONTRACTOR MUST HAVE THIS FORM IN POSSESSION AT THE JOB SITE AT ALL TIMES.

## SURVEY

- AERIAL IMAGES DATING MAY 2017 WERE OBTAINED FROM GOOGLE EARTH PRO.

- GROUND CONTROL AND TOP OF RAIL SURVEY ON MAINLINE TRACKS WITHIN THE PROJECT LIMITS WAS PERFORMED BY DUANE HARTMAN & ASSOCIATES, INC., WOODINVILLE, WA. (APRIL 2017). SEE "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" FOR SURVEY CONTROL DETAILS.

-THE MAP SHOWN HEREON IS THE RESULT OF A TOPOGRAPHIC SURVEY BY DUANE HARTMAN & ASSOCIATES, INC. (DHA) COMPLETED ON OCTOBER 2016. DHA ASSUMES NO LIABILITY, BEYOND SAID DATE, FOR ANY FUTURE SURFACE FEATURE MODIFICATIONS OR CONSTRUCTION ACTIVITIES THAT MAY OCCUR WITHIN OR ADJOINING THE PERIMETER OF THIS SURVEY. CONTACT DHA (425) 483-5355 FOR SITE UPDATES AND VERIFICATIONS.

## RIGHT-OF-WAY

BNSF RIGHT-OF-WAY AND PARCEL BOUNDARY INFORMATION REPRESENTED ON THESE DRAWINGS IS BASED ON STATION AND RIGHT-OF-WAY MAPS PROVIDED BY BNSF. PARK BOUNDARY LINES WERE SURVEYED BY THE SURVEYOR. ALL BOUNDARY LINES ARE APPROXIMATE UNLESS SPECIFICALLY NOTED OTHERWISE.

## NEAT LINE QUANTITIES USED

EMBANKMENT QUANTITIES ARE MEASURED TO THE NEAT LINES AS COMPACTED QUANTITIES, NO ADJUSTMENTS TO GRADING QUANTITIES HAVE BEEN MADE FOR COMPACTION, SHRINKAGE, SWELLING, OR CLEARING AND GRUBBING.

## BASIS OF TRACK STATIONING

TRACK STATIONING INCREASES FROM SOUTH TO NORTH FROM STA. 1250+00.00 AT THE CENTERLINE OF BOX CULVERT 21.8, AS SHOWN ON BNSF ROLLED PROFILE MAP NO. P62462.

## MILEPOST STATIONING (SHORT MILES)

FOR PURPOSES OF ESTABLISHING MILEPOST LOCATIONS, THE FOLLOWING INFORMATION WAS USED:

FROM MP	TO MP	DESCRIPTION	LENGTH OF MILE (FT)	LENGTH OF 1/10 OF MILE (FT)
20	21	LONG MILE	5483	548.3
21	22	LONG MILE	5326	532.6

## HORIZONTAL DATUM:

WASHINGTON STATE COORDINATE SYSTEM, NORTH ZONE NAD83(91), US FEET UTILIZING RTK GPS FIELD PROCEDURES CONTOUR INTERVAL: (1') ONE FOOT CONTOURS





## VERTICAL DATUM:

NAVD88, US FEET. TO CONVERT ELEVATIONS SHOWN HEREON TO MEAN LOWER LOW WATER DATUM PLEASE ADD 2.05 FEET.

## UTILITIES MAPPING:

ALL EXISTING UTILITIES SHOWN HEREIN ARE TO BE VERIFIED HORIZONTALLY AND VERTICALLY PRIOR TO ANY CONSTRUCTION. ALL EXISTING FEATURES INCLUDING BURIED UTILITIES ARE SHOWN AS INDICATED BY RECORD LOCATION OR FIELD TIED AS A RESULT OF A UTILITY PAINT-OUT DURING THE COURSE OF THE FIELD SURVEY. DUANE HARTMAN & ASSOCIATES, INC. (DHA) ASSUMES NO LIABILITY FOR THE ACCURACY OF THE RECORD INFORMATION. FOR THE FINAL LOCATION OF THE EXISTING UTILITIES IN AREAS CRITICAL TO CONSTRUCTION, CONTACT THE UTILITY OWNER/AGENCY AND UTILITIES UNDERGROUND CENTER (1-800/424-5555).

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<b>100% SUBMITTAL</b>		DESIGNED BY <i>TGR</i> DRAWN BY <i>TGR</i> CHECKED BY <i>MCQ</i> APPROVED BY <i>MAF</i> DATE <i>1/19/2021</i>	  		<b>BNSF RAILWAY &amp; SNOHOMISH COUNTY</b> <b>BNSF SCENIC SUBDIVISION</b> <b>MEADOWDALE BEACH PARK RAILROAD BRIDGE</b> <b>GENERAL NOTES</b>	CONTRACT NO. <b>14L006802</b> DRAWING NO. <b>CK-03</b> REVISION <b>3</b> OF 17 SHEET NO. SCALE <b>NONE</b>
REV	DATE	DESCRIPTION	BY	SUB	APP	

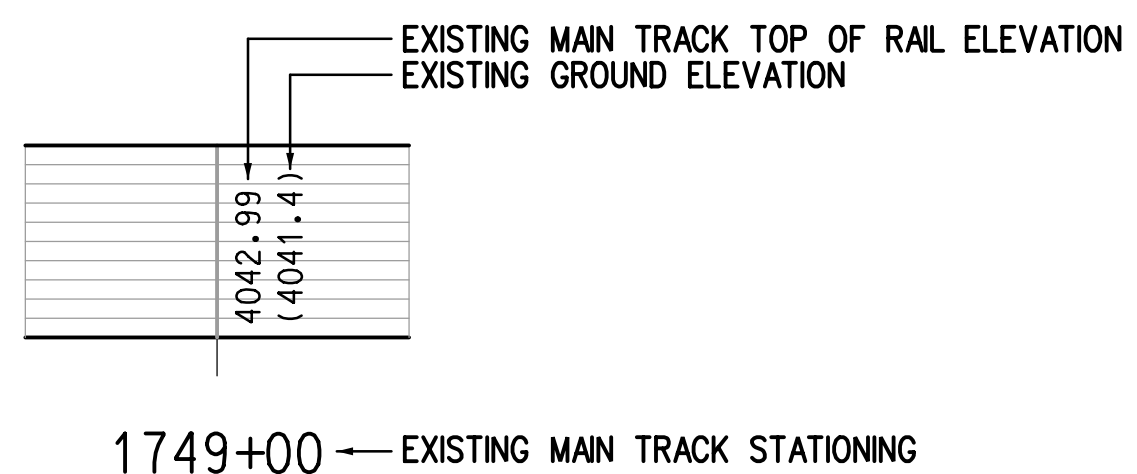
# ABBREVIATIONS

&	AND	MAX	MAXIMUM
@	AT	MH	MANHOLE
°	DEGREE(S)	MIN	MINIMUM
'	FOOT or FEET or MINUTE(S)	MP	MILEPOST or MEDIUM PRESSURE
"	INCH or INCHES or SECOND(S)	MSST	MAIN STREET SPUR TRACK
%	PERCENT	MT	MAIN TRACK
#	POUND or NUMBER	MTD	MULTIPLE TILE DUCT
△	CENTRAL ANGLE OF CIRCULAR CURVE	N	NORTH or NORTHERLY or NORTHING
2500	TRACK 2500	NMT1	NEW MAIN TRACK 1
AC	ASPHALT CONCRETE	NMT2	NEW MAIN TRACK 2
AP	ANGLE POINT	NMT3	NEW MAIN TRACK 3
APE	AREA OF POTENTIAL EFFECT	NO	NUMBER or NORTHERN
APPROX	APPROXIMATELY	NTS	NOT TO SCALE
APWA	AMERICAN PUBLIC WORKS ASSOCIATION	NW	NORTHWEST
AVE	AVENUE	OD	OUTSIDE DIAMETER
BC	BEGINNING OF CURVE	OH	OVERHEAD
BLVD	BOULEVARD	OP	OVERPASS
BNSF	BURLINGTON NORTHERN SANTA FE RAILWAY	OPP	OPPOSITE
BM	BENCHMARK	OTM	OTHER TRACK MATERIAL
BR	BRIDGE	O. TO O.	OUT TO OUT
CB	CATCH BASIN	P or PSGR	PASSENGER
CC	CENTER OF CURVE	PB	PULLBOX
CIP	CAST IRON PIPE OR CAST IN PLACE	PC	POINT OF CURVE
C/L OR CL	CENTERLINE	PCC	POINT OF COMPOUND CURVATURE or PORTLAND CEMENT CONCRETE
CLR	CLEAR	PI	POINT OF INTERSECTION
CONC	CONCRETE	PIP	PROTECT IN PLACE
CMP	CORRUGATED METAL PIPE	PITO	POINT OF INTERSECTION OF TURNOUT
CP	CONTROL POINT	POB	POINT OF BEGINNING
CORR	CORRUGATED	POE	POINT OF ENDING
CS	CURVE TO SPIRAL	POT	POINT ON TANGENT
CT	CONCRETE TIES	PRC	POINT OF REVERSE CURVATURE
CTLVR	CANTILEVER	(P), PROP	PROPOSED
DC	DEGREE OF CURVE	PS	POINT OF SWITCH
DESC	DESCRIPTION	PT	POINT OF TANGENT
DI	DUCTILE IRON	PVC	POINT OF VERTICAL CURVE or POLYVINYL CHLORIDE (PIPE)
DIP	DUCTILE IRON PIPE	PVI	POINT OF VERTICAL INTERSECTION
DMS	DEGREES MINUTES SECONDS	PVT	POINT OF VERTICAL TANGENT
DOT	DEPARTMENT OF TRANSPORTATION	R	RADIUS or RATE OF CHANGE
DR	DRIVE	RCB	REINFORCED CONCRETE BOX
DU	DUCT	ROW or R/W	RIGHT-OF-WAY
DWG	DRAWING	RCP	REINFORCED CONCRETE PIPE
Ea	SUPERELEVATION, ACTUAL	RD	ROAD
E	EAST or EASTERLY or EASTING	RH	RIGHT HAND
EC	END OF CURVE	RPM	RAISED PAVEMENT MARKER
EF	EACH FACE	RR	RAILROAD
EGL	ENERGY GRADE LINE	RT	RIGHT
EL or ELEV	ELEVATION	S	SOUTH or SOUTHERLY or SLOPE
EQ	EQUAL or EQUATION	SC	SPIRAL TO CURVE
EQNHD	EQUATION AHEAD	SDMH	STORM DRAIN MANHOLE
EQNBK	EQUATION BACK	SDNG	SIDING TRACK
EW	EACH WAY	SF	SQUARE FOOT or SQUARE FEET
Eu	SUPERELEVATION, UNBALANCED	SO	SOUTHERN
(E), EX	EXISTING	SMH or SSMH	SANITARY SEWER MANHOLE
EXMT OR EMT	EXISTING MAIN TRACK	STA	STATION
EMT1	EXISTING MAIN TRACK 1	STD	STANDARD
EMT2	EXISTING MAIN TRACK 2	ST	STREET or SPIRAL TO TANGENT
F	FREIGHT	SUB	SUBDIVISION
FH	FIRE HYDRANT	SW	SOUTHWEST
FL	FLOWLINE	T	TANGENT or TALGO
FS	FINISHED SURFACE	TC	TRACK CENTER(S) or TOP OF CURB
FT	FOOT or FEET	TEMP	TEMPORARY
G	GRADE	TG	TOP OF GRATE
G1	GRADE ENTERING VERTICAL CURVE	TGC	THE GAS COMPANY
G2	GRADE EXITING VERTICAL CURVE	T.O. or TO	TURNOUT
ga	GAGE	T/R or TOR	TOP OF RAIL
GB	GRADE BREAK	TF	TRACK FOOT or TRACK FEET
GM	GAS MATER	TRK	TRACK
GRD	GROUND	TS	TANGENT TO SPIRAL
GV	GAS VALVE	TT	TIMBER TRANSITION TIES
HGL	HYDRAULIC GRADE LINE	TYP	TYPICAL
HORIZ	HORIZONTAL	UD	UNDERDRAIN
HP	HIGH POINT or HIGH PRESSURE	UNO	UNLESS NOTED OTHERWISE
HPA	HYDRAULIC PROJECT APPROVAL	UP	UNDERPASS
HWY	HIGHWAY	UPRR	UNION PACIFIC RAILROAD
I	TOTAL INTERSECTION ANGLE	V	VELOCITY
INV	INVERT	VAR	VARIES
IE	INVERT ELEVATION	VCP	VITRIFIED CLAY PIPE
L	LENGTH	VERT	VERTICAL
Lc	LENGTH OF CURVE (CIRCULAR)	W	WEST or WESTERLY
LF	LINEAR FOOT or LINEAR FEET	WDFW	WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
LH	LEFT HAND	WM	WATER METER
LP	LOW POINT	WUTC	WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION
Ls or LS	LENGTH OF SPIRAL	WV	WATER VALVE
LT	LEFT	XING	CROSSING
MAIN	MAIN TRACK	XO	CROSSOVER
MAX	MAXIMUM		

# SYMBOLS

	EXISTING	PROPOSED	EXISTING	PROPOSED
CANTILEVER WITH DUAL SIGNALS			HISTORICAL MILEPOST	
CANTILEVER WITH SIGNALS			RIGHT-OF-WAY	
CITY OR COUNTY BOUNDARY			PARK PROPERTY LINE	
TEMPORARY TRACK CROSSING			LEASE / EASEMENT	
CONCRETE PANELS			GRADING LIMIT FILL	
CROSSING GATE & FLASHING LIGHTS			GRADING LIMIT CUT	
CROSSING GATE			PEDESTRIAN ACCESS TRAIL AND TEMPORARY ACCESS PADS	
FLASHING LIGHTS			SOIL SEPARATION GEOTEXTILE FABRIC	
RAILROAD CROSSING SYMBOL			POINT OF VERTICAL INTERSECTION	
RAILROAD SIGNAL (SINGLE UNIT)			STATION EQUATION SYMBOL	
RAILROAD SIGNAL (TRIPLE UNIT)			TRACK	
SIGNPOST			TRACK TO BE REMOVED	
CL DITCH FLOWLINE			TRACK TO BE UPGRADED	
FENCE			TRACK TO BE RELOCATED FROM	
POWER POLE			TRACK TO RELOCATE TO	
SURVEY CONTROL POINT			WETLAND DELINEATION FLAG	
MONITORING WELL			WETLANDS	

# PROFILE DATA



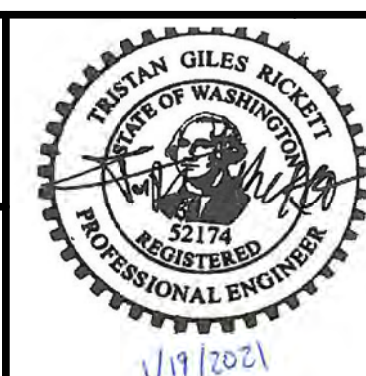
# UTILITIES

C&S	COMMUNICATION & SIGNALING	
E	ELECTRIC	
TV	CABLE TELEVISION	
SAN	SANITARY SEWER	
W	WATER	
G	GAS	
T	TELEPHONE	
FO	FIBER OPTIC	
C	CASING	
SD	STORM DRAIN	
OHE	OVERHEAD ELECTRIC	
OHFO	OVERHEAD FIBER OPTIC	

<b>CURVE C-20</b>	CURVE NUMBER
Dc = 1°12'	DEGREE OF CURVE
V = 80(P) - 70(F)	DESIGN SPEED (TIMETABLE SPEED)
Ea = 2 1/2"	ACTUAL SUPERELEVATION
Ls = 240'	LENGTH OF SPIRAL(S)

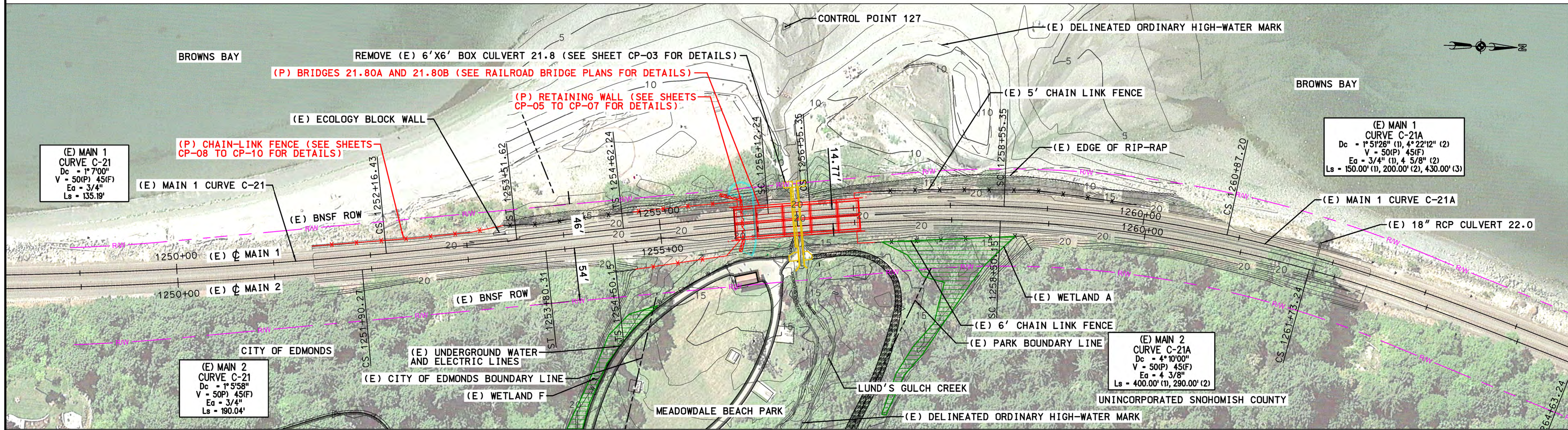
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CHECKED BY	MGQ / LJS
APPROVED BY	MAF
DATE	1/19/2021



BNSF RAILWAY & SNOHOMISH COUNTY  
BNSF SCENIC SUBDIVISION  
MEADOWDALE BEACH PARK RAILROAD BRIDGE  
ABBREVIATIONS AND SYMBOLS

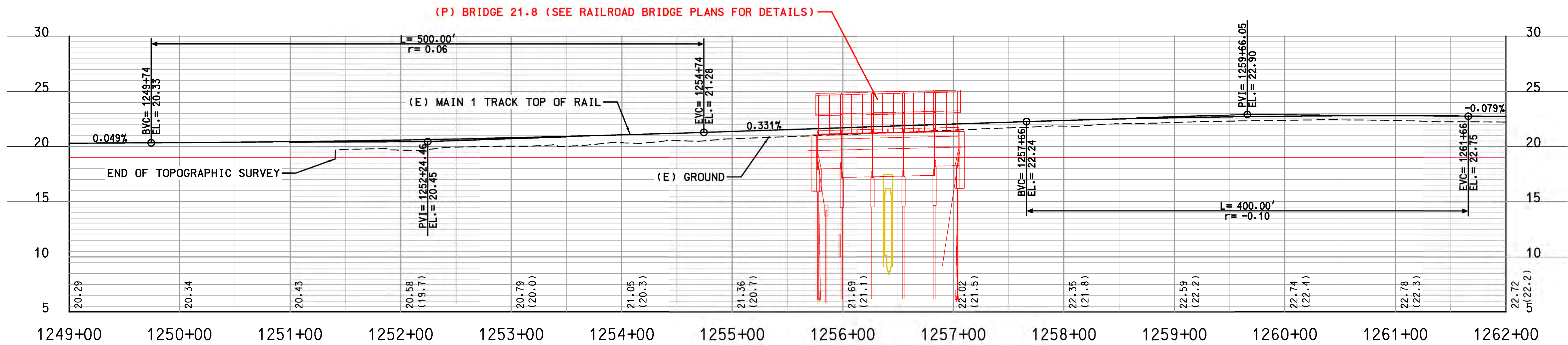
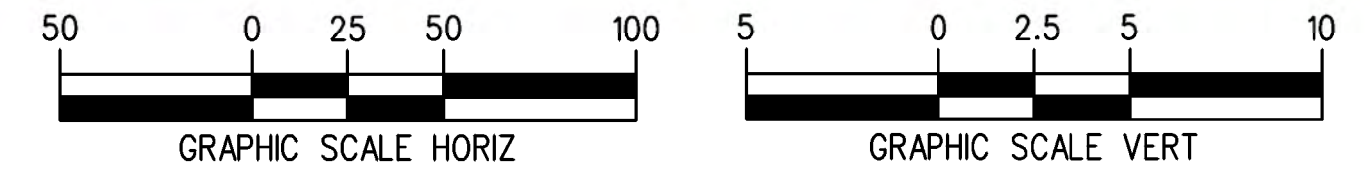
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DRAWING NO.	CK-04
REVISION	SHEET NO. 4 OF 17
SCALE	NONE



NOTES:

1. SEE "MEADOWDALE BEACH AND ESTUARY DESIGN PLANS" BY ANCHOR QEA FOR DEMOLITION OF PARK FEATURES AND UTILITIES RELOCATION AND REMOVAL DETAILS.

MAIN 1 PLAN

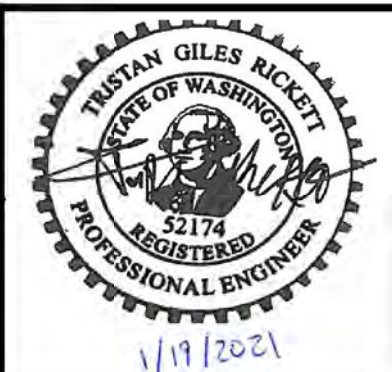


MAIN 1 PROFILE

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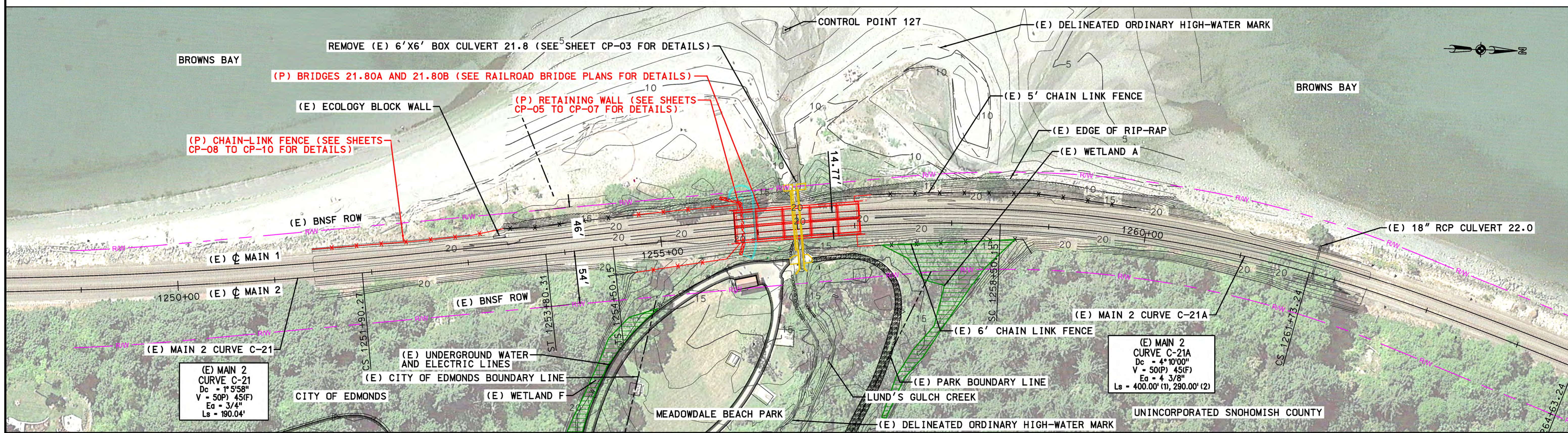
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 APPROVED BY MAF  
 DATE 1/19/2021



BNSF RAILWAY & SNOHOMISH COUNTY  
 BNSF SCENIC SUBDIVISION  
 MEADOWDALE BEACH PARK RAILROAD BRIDGE  
 TRACK PLAN AND PROFILE - MAIN 1  
 STA 1251+00 TO STA 1262+00  
 MP 21.7 TO MP 21.9

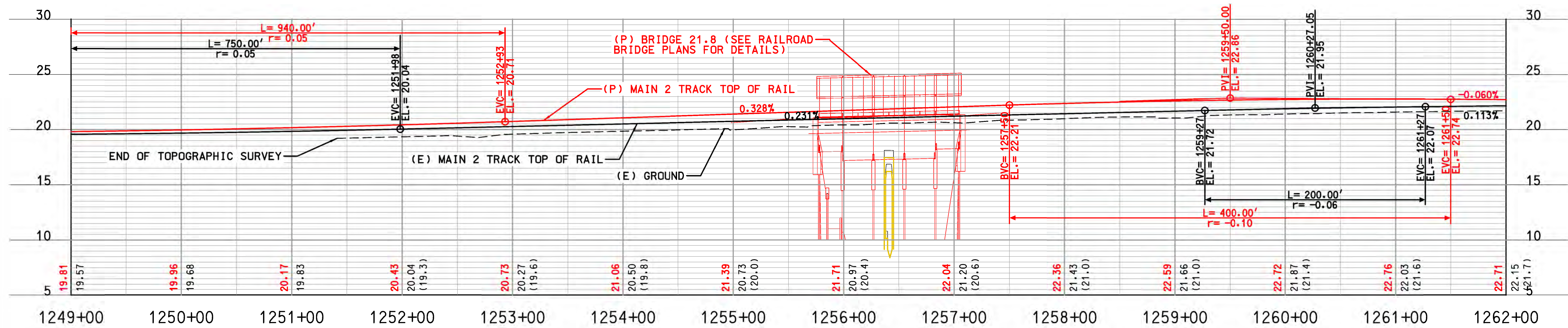
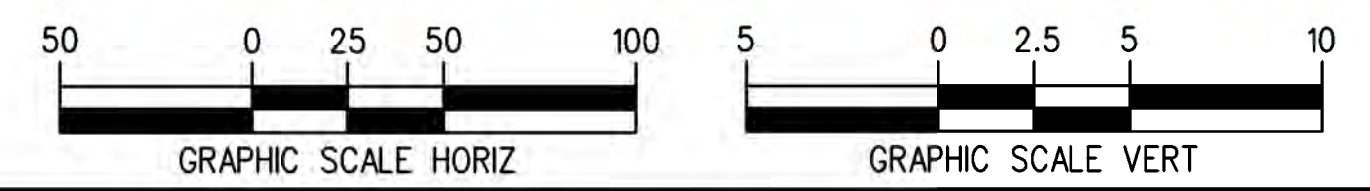
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 DRAWING NO. RP-01  
 REVISION SHEET NO. 5 OF 17  
 SCALE AS SHOWN

REV	DATE	DESCRIPTION	BY	SUB	APP



**NOTES:**  
 1. SEE "MEADOWDALE BEACH AND ESTUARY DESIGN PLANS" BY ANCHOR QEA FOR DEMOLITION OF PARK FEATURES AND UTILITIES RELOCATION AND REMOVAL DETAILS.

MAIN 2 PLAN



MAIN 2 PROFILE

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 CHECKED BY MGQ / LJS  
 APPROVED BY MAF  
 DATE 1/19/2021



BNSF RAILWAY & SNOHOMISH COUNTY  
 BNSF SCENIC SUBDIVISION  
 MEADOWDALE BEACH PARK RAILROAD BRIDGE  
 TRACK PLAN AND PROFILE - MAIN 2  
 STA 1251+00 TO STA 1262+00  
 MP 21.7 TO MP 21.9

CONTRACT NO. 14L006802	
DRAWING NO. RP-02	
REVISION	SHEET NO. 6 OF 17
SCALE AS SHOWN	

REV	DATE	DESCRIPTION	BY	SUB	APP

Alignment: Existing Main 1

CURVE NAME	CURVE POINT	BEARING	DISTANCE	STATION	NORTHING	EASTING	CURVE AND SPIRAL DELTAS (DMS)	TOTAL CENTRAL ANGLE (DMS)	DEGREE OF CURVE (CHORD)	RADIUS (FT)	SPIRAL/CURVE LENGTH (FT)	TANGENT LENGTH OF TOTAL CURVE (FT)	SPEED (MPH)	UNBALANCED SUPERELEVATION (IN)	ACTUAL SUPERELEVATION (IN)
(E) MAIN 1 CURVE C-21	PC	N 1°57'24.19" W	0.00	1247+47.58	316,395.69	1,271,952.78	5°14'10.05"	5°59'27.59"	1°07'00.46"	5130.46	468.85 (CURVE)	234.59	50(P) 45(F)	3(P) 2(F)	3/4
	PI			1250+17.47	316,665.43	1,271,943.56									
	CS			1252+16.43	316,862.90	1,271,915.40									
	ST	N 7°56'51.78" W		1253+51.62	316,996.87	1,271,897.29	0°45'17.54"								
(E) MAIN 1 CURVE C-21A	TS	N 7°56'51.78" W	110.61	1254+62.24	317,106.42	1,271,882.00	1°23'34.52"	27°56'41.89"	1°51'26.32"	34377.48	150.00 (SPIRAL)	20.00	50(P) 45(F)	3(P) 2(F)	3/4
	SC			1256+12.24	317,255.14	1,271,862.46	0°45'02.88"								
	CS			1256+55.35	317,298.01	1,271,857.84									
	SC			1258+55.35	317,497.62	1,271,847.17	6°13'34.20"								
	PI			1259+91.00	317,630.11	1,271,808.88	10°07'54.74"								
	CS			1260+87.20	317,728.15	1,271,869.52									
	ST	N 19°59'50.12" E		1265+17.20	318,139.16	1,271,994.14	9°23'35.56"								
	POE	N 19°59'50.12" E	543.16	1270+60.36	318,649.57	1,272,179.88									

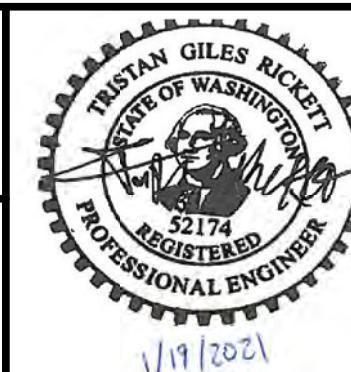
Alignment: Existing Main 2

CURVE NAME	CURVE POINT	BEARING	DISTANCE	STATION	NORTHING	EASTING	CURVE AND SPIRAL DELTAS (DMS)	TOTAL CENTRAL ANGLE (DMS)	DEGREE OF CURVE (CHORD)	RADIUS (FT)	SPIRAL/CURVE LENGTH (FT)	TANGENT LENGTH OF TOTAL CURVE (FT)	SPEED (MPH)	UNBALANCED SUPERELEVATION (IN)	ACTUAL SUPERELEVATION (IN)
(E) MAIN 2 CURVE C-21	PC	N 0°02'23.42" E	0.00	1245+60.91	316,210.82	1,271,970.40	6°55'10.62"	7°57'51.66"	1°05'58.12"	5211.27	629.36 (CURVE)	315.07	50(P) 45(F)	3(P) 2(F)	3/4
	PI			1249+25.77	316,575.68	1,271,970.65									
	CS			1251+90.27	316,838.68	1,271,932.88									
	ST	N 7°55'28.24" W		1253+80.31	317,027.07	1,271,907.82	1°02'41.05"								
(E) MAIN 2 CURVE C-21A	TS	N 7°55'28.24" W	69.83	1254+50.15	317,096.24	1,271,898.19	8°19'53.39"	27°50'01.88"	4°10'00.00"	1375.4	400.00 (SPIRAL)	162.33	50(P) 45(F)	3(P) 2(F)	3/4
	SC			1258+50.15	317,494.25	1,271,862.34									
	PI			1259+87.10	317,628.06	1,271,824.16	13°27'43.28"								
	CS			1261+73.24	317,814.17	1,271,902.40									
	ST	N 19°54'33.63" E		1264+63.24	318,090.00	1,271,991.47	6°02'25.21"								
	POE	N 19°54'33.63" E	570.30	1270+33.53	318,626.21	1,272,185.67									

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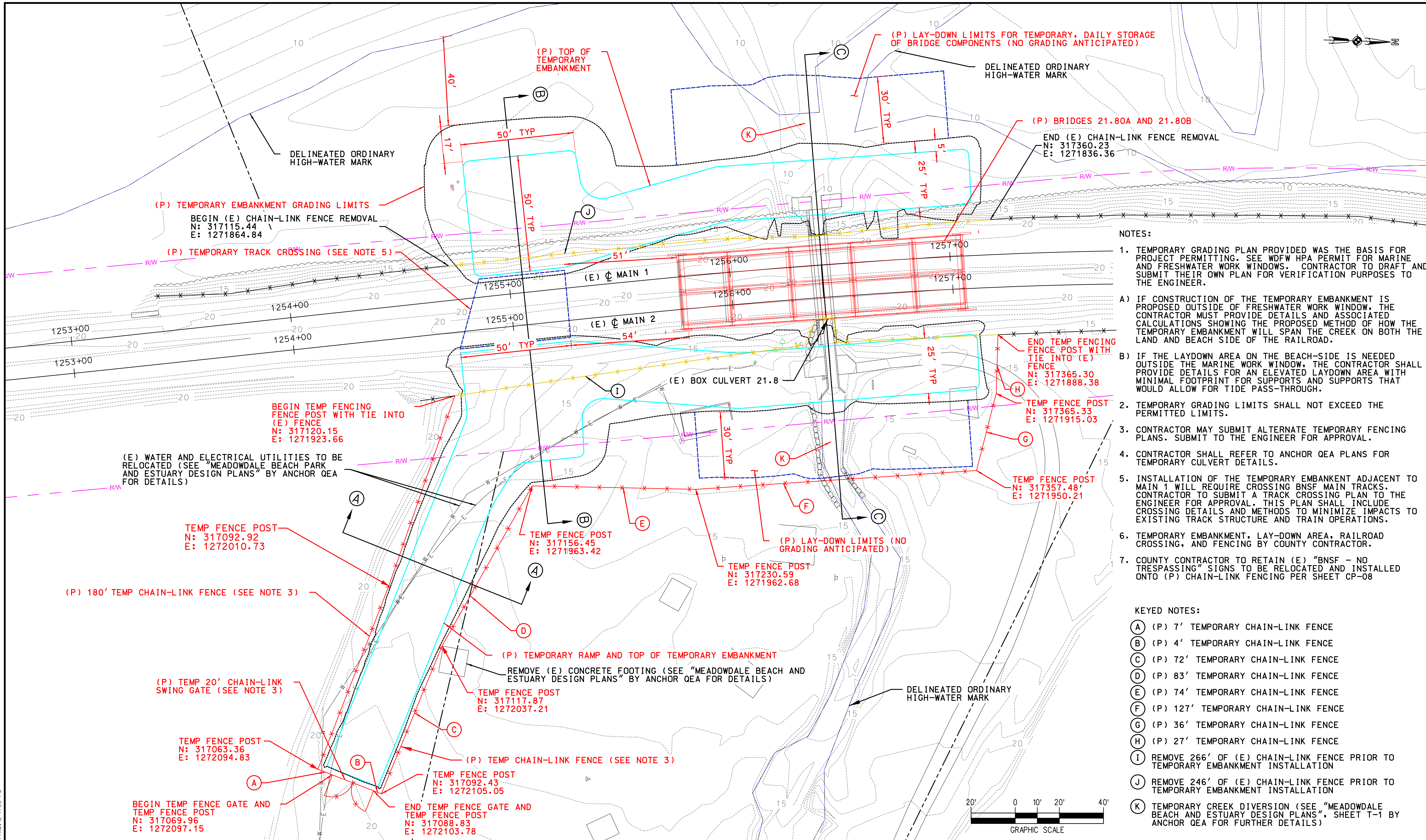
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 CHECKED BY MGO / LJS  
 APPROVED BY MAF  
 DATE 1/19/2021



BNSF RAILWAY & SNOHOMISH COUNTY  
 BNSF SCENIC SUBDIVISION  
 MEADOWDALE BEACH PARK RAILROAD BRIDGE  
 TRACK GEOMETRY DATA

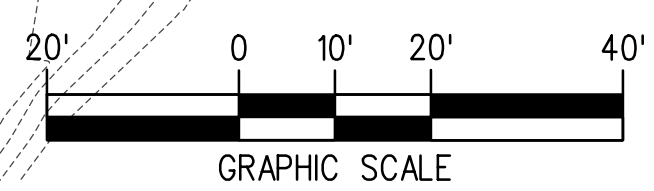
CONTRACT NO. 14L006802  
 DRAWING NO. RC-01  
 REVISION SHEET NO. 7 OF 17  
 SCALE NONE

REV	DATE	DESCRIPTION	BY	SUB	APP



- NOTES:**
- TEMPORARY GRADING PLAN PROVIDED WAS THE BASIS FOR PROJECT PERMITTING. SEE WDFW HPA PERMIT FOR MARINE AND FRESHWATER WORK WINDOWS. CONTRACTOR TO DRAFT AND SUBMIT THEIR OWN PLAN FOR VERIFICATION PURPOSES TO THE ENGINEER.
  - TEMPORARY GRADING LIMITS SHALL NOT EXCEED THE PERMITTED LIMITS.
  - CONTRACTOR MAY SUBMIT ALTERNATE TEMPORARY FENCING PLANS. SUBMIT TO THE ENGINEER FOR APPROVAL.
  - CONTRACTOR SHALL REFER TO ANCHOR QEA PLANS FOR TEMPORARY CULVERT DETAILS.
  - INSTALLATION OF THE TEMPORARY EMBANKMENT ADJACENT TO MAIN 1 WILL REQUIRE CROSSING BNSF MAIN TRACKS. CONTRACTOR TO SUBMIT A TRACK CROSSING PLAN TO THE ENGINEER FOR APPROVAL. THIS PLAN SHALL INCLUDE CROSSING DETAILS AND METHODS TO MINIMIZE IMPACTS TO EXISTING TRACK STRUCTURE AND TRAIN OPERATIONS.
  - TEMPORARY EMBANKMENT, LAY-DOWN AREA, RAILROAD CROSSING, AND FENCING BY COUNTY CONTRACTOR.
  - COUNTY CONTRACTOR TO RETAIN (E) "BNSF - NO TRESPASSING" SIGNS TO BE RELOCATED AND INSTALLED ONTO (P) CHAIN-LINK FENCING PER SHEET CP-08

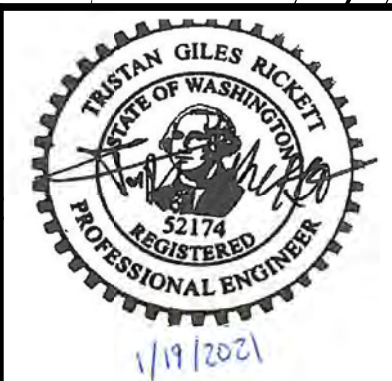
- KEYED NOTES:**
- (A) (P) 7' TEMPORARY CHAIN-LINK FENCE
  - (B) (P) 4' TEMPORARY CHAIN-LINK FENCE
  - (C) (P) 72' TEMPORARY CHAIN-LINK FENCE
  - (D) (P) 83' TEMPORARY CHAIN-LINK FENCE
  - (E) (P) 74' TEMPORARY CHAIN-LINK FENCE
  - (F) (P) 127' TEMPORARY CHAIN-LINK FENCE
  - (G) (P) 36' TEMPORARY CHAIN-LINK FENCE
  - (H) (P) 27' TEMPORARY CHAIN-LINK FENCE
  - (I) REMOVE 266' OF (E) CHAIN-LINK FENCE PRIOR TO TEMPORARY EMBANKMENT INSTALLATION
  - (J) REMOVE 246' OF (E) CHAIN-LINK FENCE PRIOR TO TEMPORARY EMBANKMENT INSTALLATION
  - (K) TEMPORARY CREEK DIVERSION (SEE "MEADOWDALE BEACH AND ESTUARY DESIGN PLANS", SHEET T-1 BY ANCHOR QEA FOR FURTHER DETAILS)



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 APPROVED BY MAF  
 DATE 1/19/2021

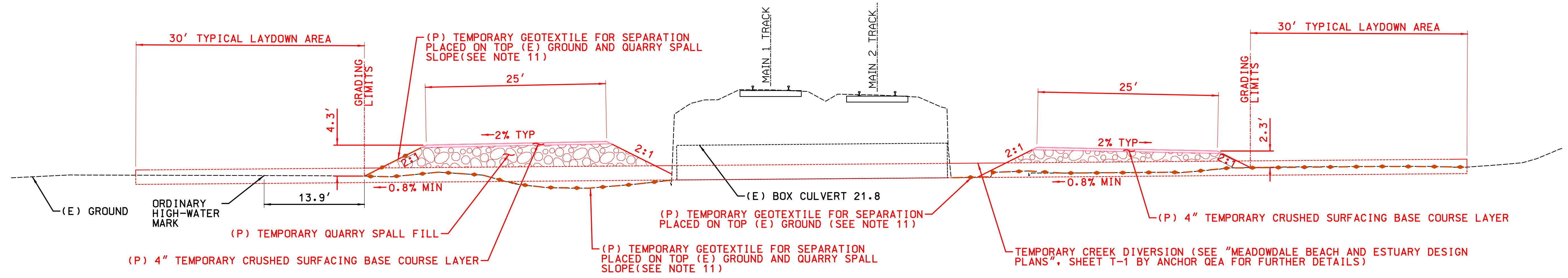


**BNSF RAILWAY & SNOHOMISH COUNTY**  
**BNSF SCENIC SUBDIVISION**  
**MEADOWDALE BEACH PARK RAILROAD BRIDGE**  
**TEMPORARY GRADING & FENCING REMOVAL PLAN**

CONTRACT NO. 14L006802	
DRAWING NO. CP-01	
REVISION	SHEET NO. 8 OF 17
SCALE AS SHOWN	

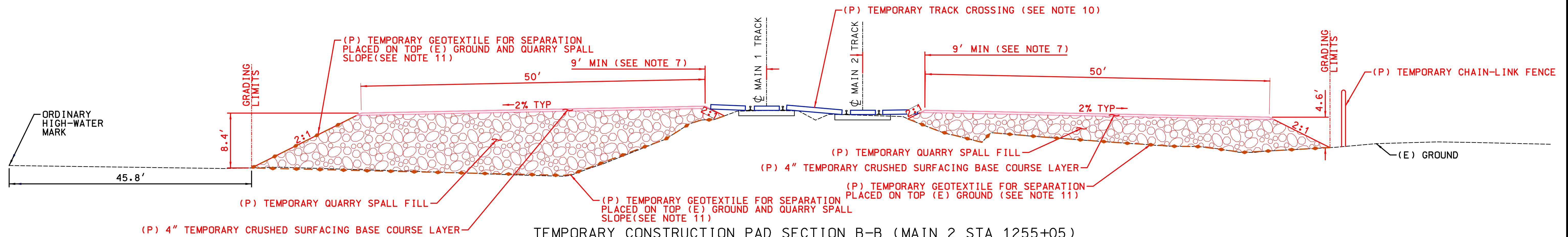
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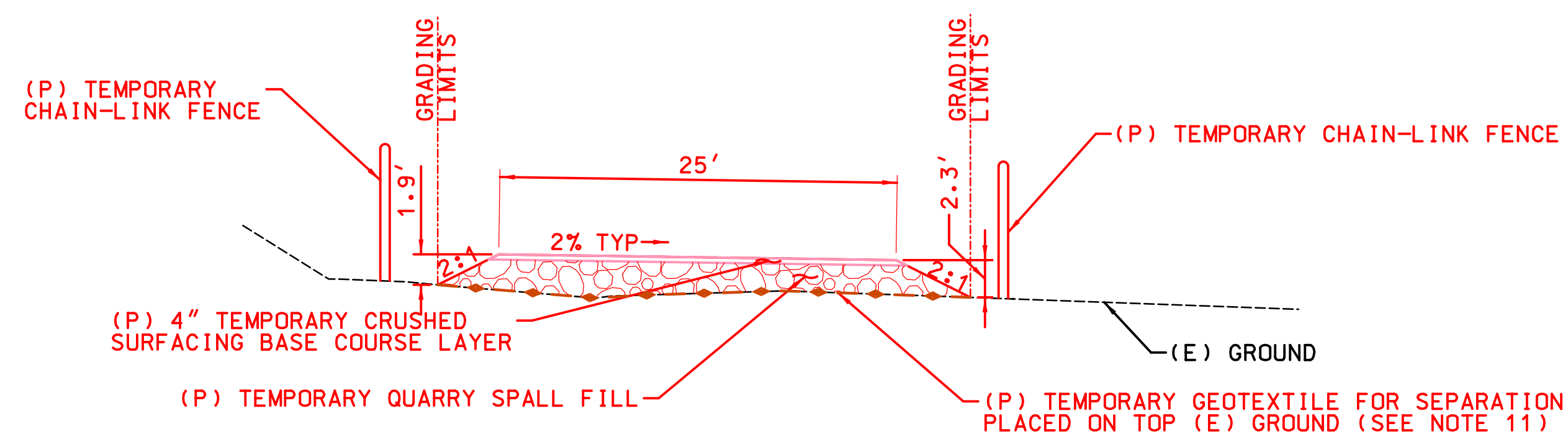
TEMPORARY CONSTRUCTION PAD SECTION C-C (MAIN 2 STA 1256+41)

NOT TO SCALE



TEMPORARY CONSTRUCTION PAD SECTION B-B (MAIN 2 STA 1255+05)

NOT TO SCALE



TEMPORARY CONSTRUCTION RAMP SECTION A-A

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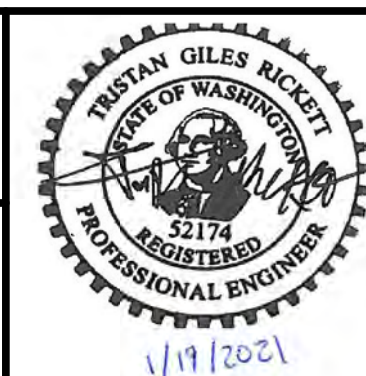
NOTES:

- TEMPORARY GRADING PLAN PROVIDED WAS THE BASIS FOR PROJECT PERMITTING. SEE WDFW HPA PERMIT FOR MARINE AND FRESHWATER WORK WINDOWS. CONTRACTOR TO DRAFT AND SUBMIT THEIR OWN PLAN FOR VERIFICATION PURPOSES TO THE ENGINEER.
- A) IF CONSTRUCTION OF THE TEMPORARY EMBANKMENT IS PROPOSED OUTSIDE OF FRESHWATER WORK WINDOW, THE CONTRACTOR MUST PROVIDE DETAILS AND ASSOCIATED CALCULATIONS SHOWING THE PROPOSED METHOD OF HOW THE TEMPORARY EMBANKMENT WILL SPAN THE CREEK ON BOTH THE LAND AND BEACH SIDE OF THE RAILROAD.
- B) IF THE LAYDOWN AREA ON THE BEACH-SIDE IS NEEDED OUTSIDE THE MARINE WORK WINDOW, THE CONTRACTOR SHALL PROVIDE DETAILS FOR AN ELEVATED LAYDOWN AREA WITH MINIMAL FOOTPRINT FOR SUPPORTS AND SUPPORTS THAT WOULD ALLOW FOR TIDE PASS-THROUGH.
- TEMPORARY GRADING LIMITS SHALL NOT EXCEED THE PERMITTED LIMITS
- MATERIAL RECOMMENDATIONS AND PAD WIDTHS PER LOCAL RAILROAD BRIDGE CONTRACTOR ON 8/9/2017
- TEMPORARY GRADING MATERIALS (INCLUDING MATS) NEED TO BE CLEAN AND UNCONTAMINATED
- QUARRY SPALL MATERIAL TO CONFORM WITH WSDOT STANDARD SPECIFICATION 9-13.1(5)
- CRUSHED SURFACING BASE COURSE MATERIAL TO CONFORM WITH WSDOT STANDARD SPECIFICATION 9-03.9(3)
- MINIMIZE GRADING WITHIN 9' OF TRACK CENTER LINES
- IN SECTION B-B, TOP OF PAD MATCHES EXISTING TOP OF RAIL ELEVATION PER LOCAL RAILROAD BRIDGE CONTRACTOR RECOMMENDATION
- IN SECTION C-C, TOP OF PAD IS APPROXIMATELY 8' BELOW TOP OF RAIL ELEVATION PER LOCAL RAILROAD BRIDGE CONTRACTOR RECOMMENDATION.
- INSTALLATION OF THE TEMPORARY EMBANKMENT ADJACENT TO MAIN 1 WILL REQUIRE CROSSING BNSF MAIN TRACKS. CONTRACTOR TO SUBMIT A TRACK CROSSING PLAN TO THE ENGINEER FOR APPROVAL. THIS PLAN SHALL INCLUDE CROSSING DETAILS AND METHODS TO MINIMIZE IMPACTS TO EXISTING TRACK STRUCTURE AND TRAIN OPERATIONS.
- GEOTEXTILE FOR SOIL SEPARATION MATERIAL REQUIREMENTS SHALL CONFORM TO WSDOT SPECIFICATION 9-33.2(1), TABLE 3 OR BE ON THE WSDOT QUALIFIED PRODUCTS LIST

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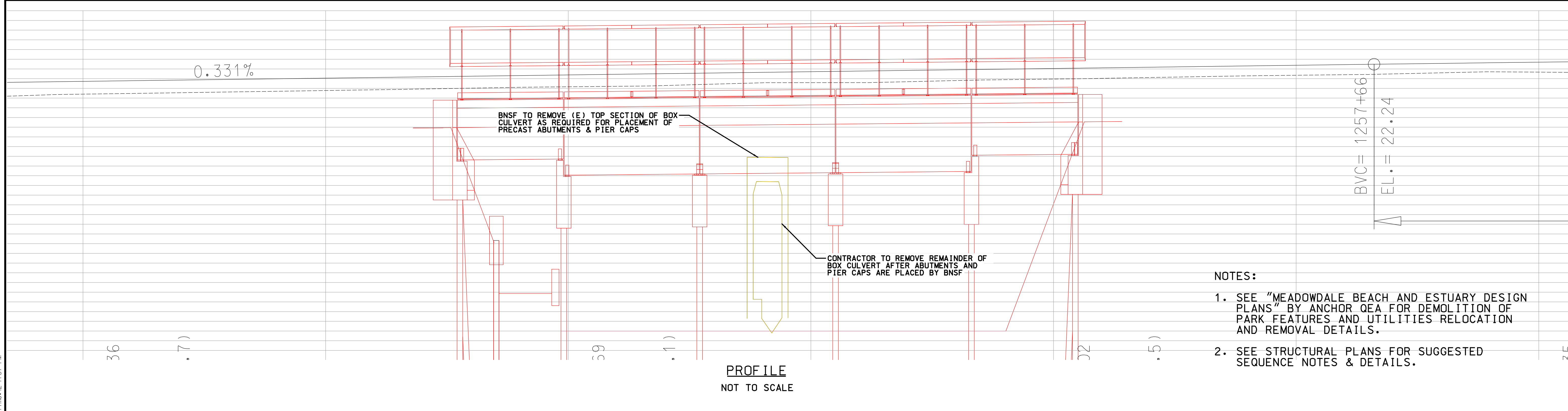
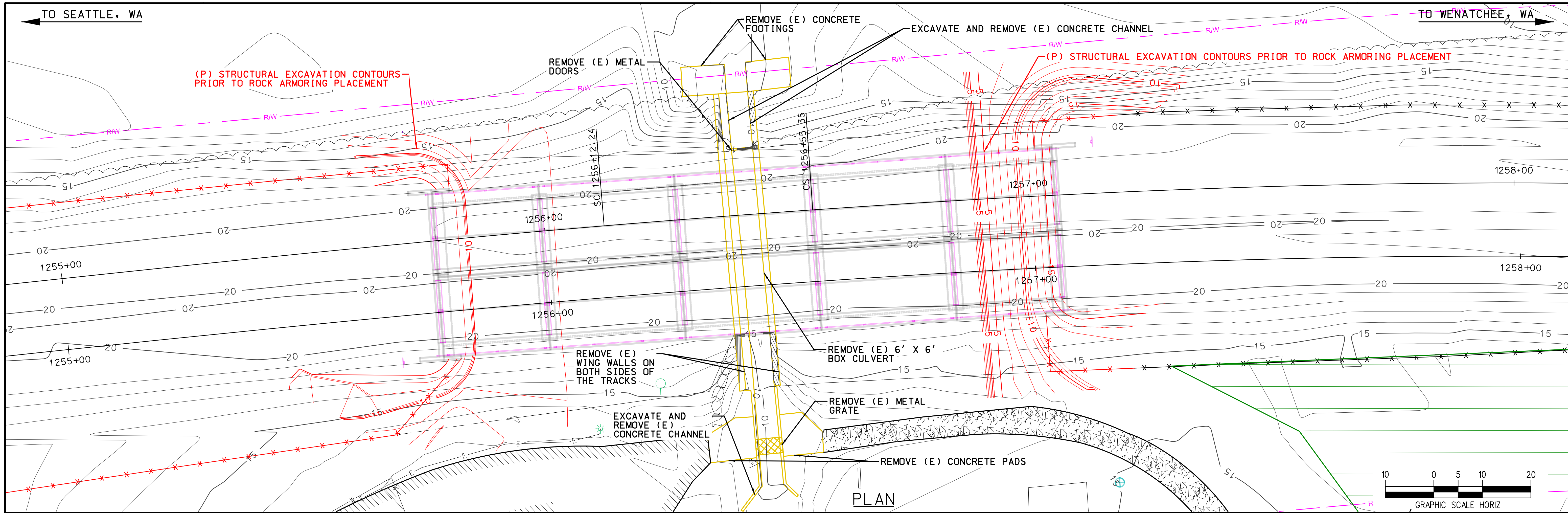
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BNSF RAILWAY & SNOHOMISH COUNTY  
 BNSF SCENIC SUBDIVISION  
 MEADOWDALE BEACH PARK RAILROAD BRIDGE  
 TEMPORARY GRADING TYPICAL SECTIONS

CONTRACT NO.	14L006802
DRAWING NO.	CP-02
REVISION	SHEET NO. 9 OF 17
SCALE	NONE

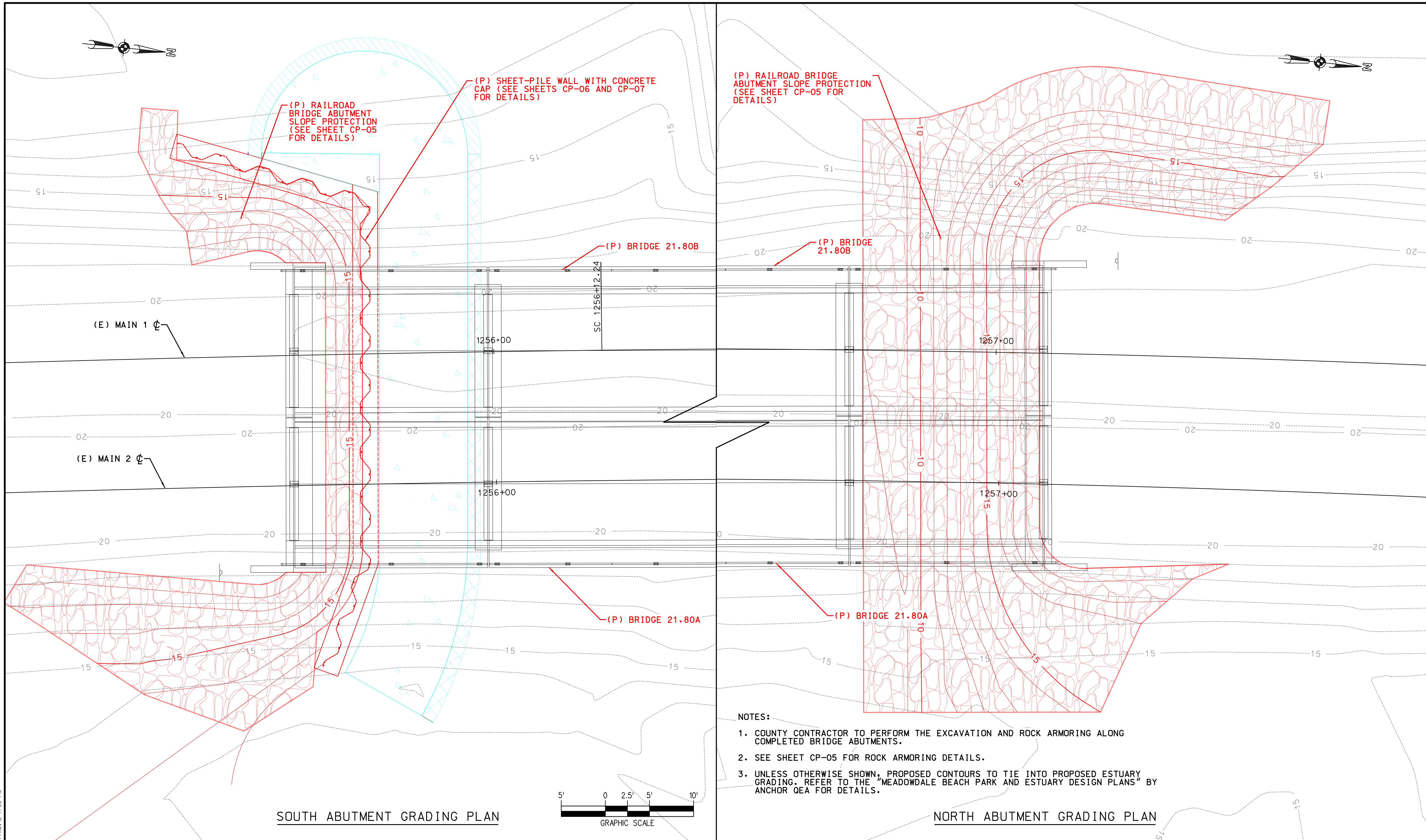
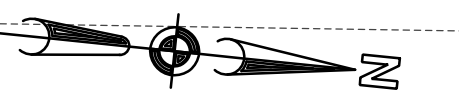
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- NOTES:**
1. SEE "MEADOWDALE BEACH AND ESTUARY DESIGN PLANS" BY ANCHOR OEA FOR DEMOLITION OF PARK FEATURES AND UTILITIES RELOCATION AND REMOVAL DETAILS.
  2. SEE STRUCTURAL PLANS FOR SUGGESTED SEQUENCE NOTES & DETAILS.

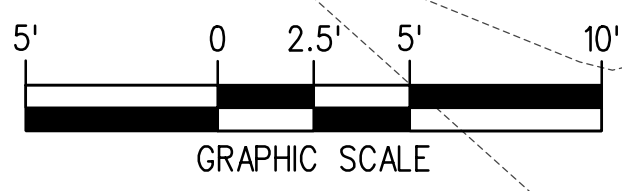
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REV	DATE	DESCRIPTION	BY	SUB	APP	



SOUTH ABUTMENT GRADING PLAN

NORTH ABUTMENT GRADING PLAN



NOTES:

1. COUNTY CONTRACTOR TO PERFORM THE EXCAVATION AND ROCK ARMORING ALONG COMPLETED BRIDGE ABUTMENTS.
2. SEE SHEET CP-05 FOR ROCK ARMORING DETAILS.
3. UNLESS OTHERWISE SHOWN, PROPOSED CONTOURS TO TIE INTO PROPOSED ESTUARY GRADING. REFER TO THE "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" BY ANCHOR QEA FOR DETAILS.

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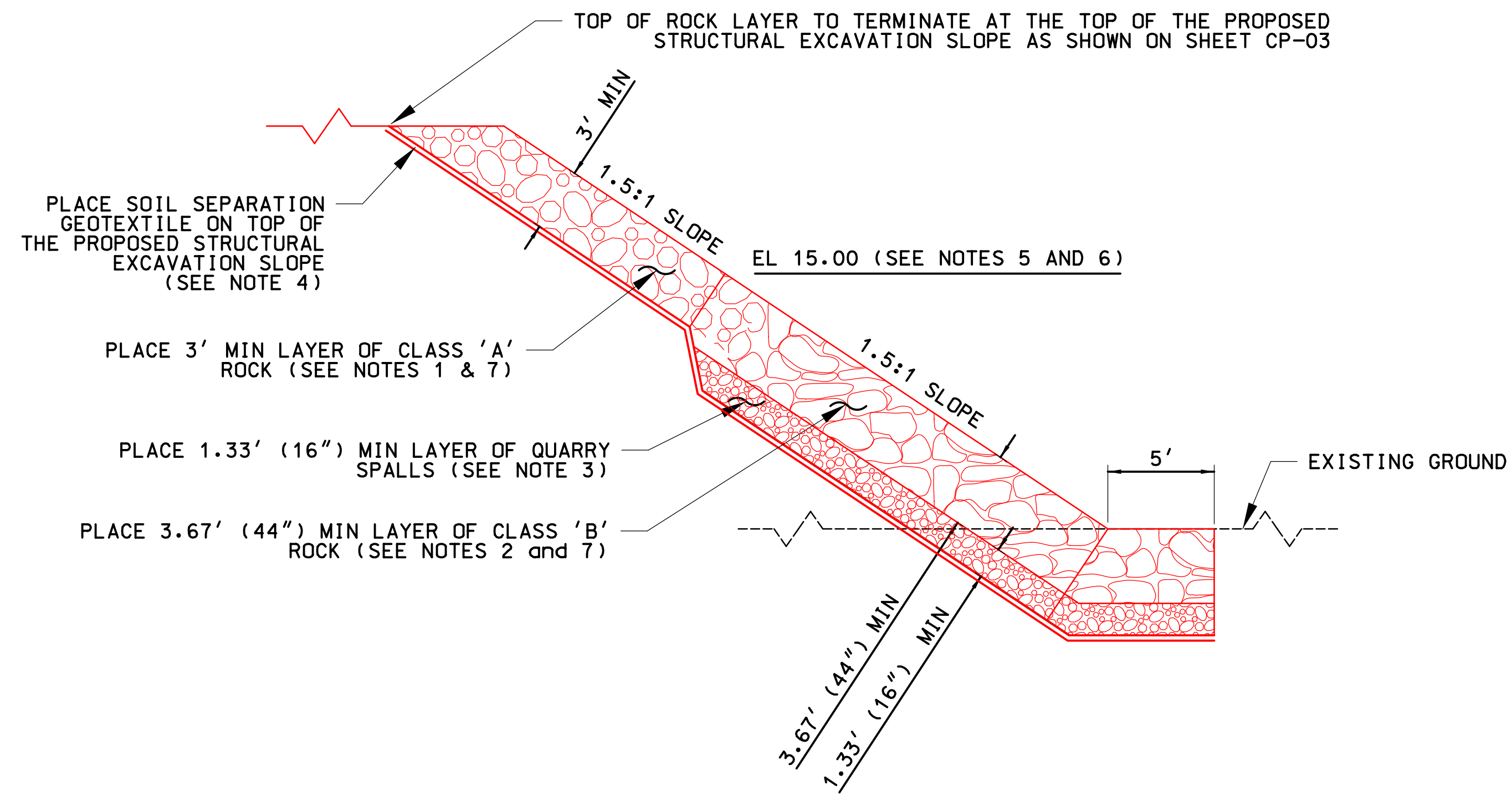
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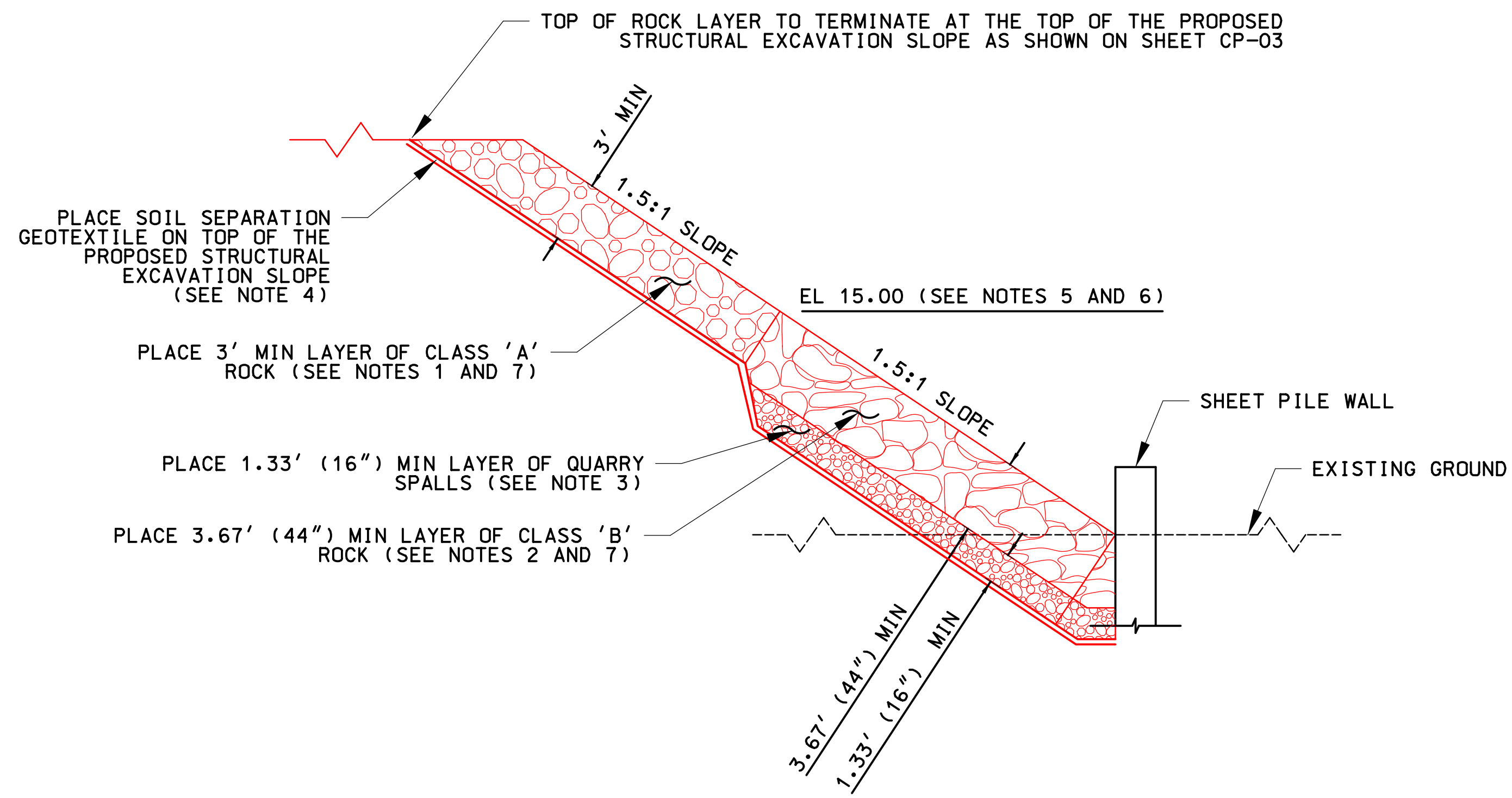
BNSF RAILWAY & SNOHOMISH COUNTY  
 BNSF SCENIC SUBDIVISION  
 MEADOWDALE BEACH PARK RAILROAD BRIDGE  
 ABUTMENT GRADING PLANS  
 SHEET 01 OF 01

CONTRACT NO.	14L006802
DRAWING NO.	CP-04
REVISION	
SHEET NO.	11 OF 17
SCALE	AS SHOWN

REV	DATE	DESCRIPTION	BY	SUB	APP



BRIDGE ABUTMENT SLOPE PROTECTION WITH TOE KEY-IN DETAIL  
NOT TO SCALE



BRIDGE ABUTMENT SLOPE PROTECTION WITH SHEETPILE DETAIL  
NOT TO SCALE

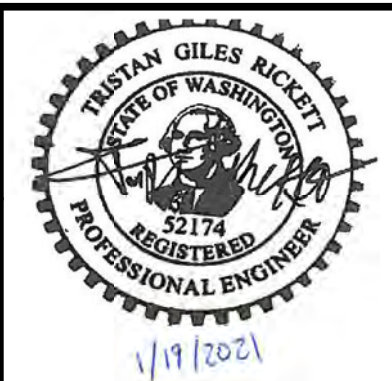
NOTES:

1. MATERIAL FOR THE WSDOT CLASS 'A' ROCK FOR EROSION AND SCOUR PROTECTION SHALL CONFORM TO WSDOT STANDARD SPECIFICATION 9-13.4(2)
2. MATERIAL FOR THE WSDOT CLASS 'B' ROCK FOR EROSION AND SCOUR PROTECTION SHALL CONFORM TO WSDOT STANDARD SPECIFICATION 9-13.4(2)
3. MATERIAL FOR THE QUARRY SPALL ROCK SHALL CONFORM TO WSDOT STANDARD SPECIFICATION 9-13.1(5)
4. GEOTEXTILE FOR SOIL SEPARATION MATERIAL REQUIREMENTS SHALL CONFORM TO WSDOT STANDARD SPECIFICATION 9-33.2(1), TABLE 3 OR BE ON THE WSDOT QUALIFIED PRODUCTS LIST
5. ROCK ARMORING ABOVE ELEVATION 15.00 SHALL CONSIST OF THE 3' MIN LAYER OF THE WSDOT CLASS 'A' ROCK PER THE DETAILS ON THIS SHEET
6. ROCK ARMORING BELOW ELEVATION 15.00 SHALL CONSIST OF THE 3.37' MIN LAYER OF THE WSDOT CLASS 'B' ROCK AND 1.67' MIN QUARRY-SPALL LAYER PER THE DETAILS ON THIS SHEET
7. CONTRACTOR MAY SUBMIT ALTERNATE ROCK MATERIAL IF THERE ARE CONSTRUCTABILITY CONSTRAINTS UNDER THE PROPOSED BRIDGE; MATERIAL SHALL BE APPROVED BY ENGINEER

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APPROVED BY MAF  
DATE 1/19/2021



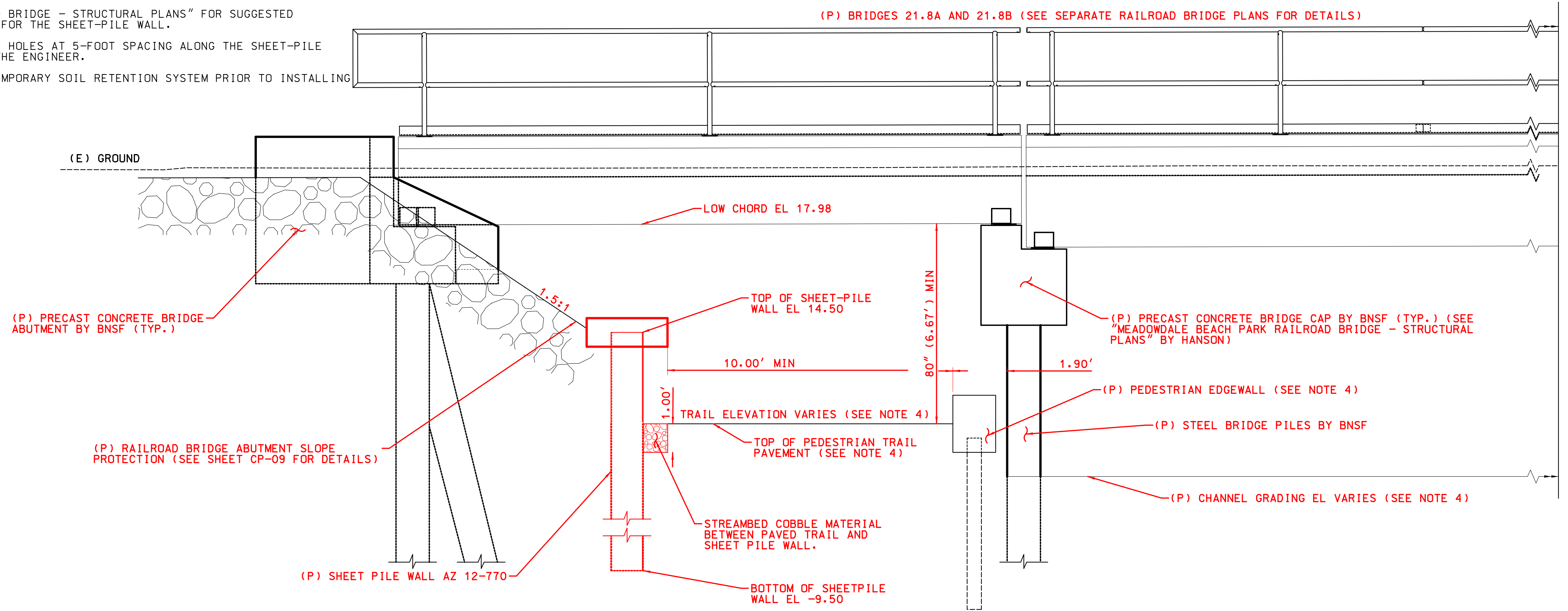
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BNSF SCENIC SUBDIVISION  
MEADOWDALE BEACH PARK RAILROAD BRIDGE  
EMBANKMENT ARMORING DETAILS  
SHEET 01 OF 01

CONTRACT NO. 14L006802	
DRAWING NO. CP-05	
REVISION	SHEET NO. 12 OF 17
SCALE	

REV	DATE	DESCRIPTION	BY	SUB	APP

**SHEET PILE NOTES**

1. SHEET PILES SHALL BE HOT-ROLLED SECTIONS AND CONFORM TO THE REQUIREMENTS OF ASTM A572 GR 50 OR APPROVED EQUAL. COLD FORMED SHEET PILE SECTIONS WILL NOT BE CONSIDERED FOR THIS PROJECT.
2. THE SHEET PILING SHALL BE NEW MATERIAL, IDENTIFIABLE, IN GOOD CONDITION FREE OF BENDS AND OTHER STRUCTURAL DEFECTS. THE INTERLOCKS MUST BE FREE SLIDING, PROVIDE A SWING ANGLE SUITABLE FOR THE INTENDED INSTALLATION, BUT NOT LESS THAN 6 DEGREES WHEN INTERLOCKED. THE SHEETS SHALL MAINTAIN CONTINUOUS INTERLOCKING WHEN INSTALLED THROUGHOUT THEIR ENTIRE LENGTH.
3. SHEET PILES SHALL BE SHOP FABRICATED SUCH THAT NO FIELD WELDING IS REQUIRED. SHEET PILES SHALL BE SUPPLIED AND DRIVEN WITHOUT SPLICES.
4. SEE "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" BY ANCHOR OEA, INC. FOR PEDESTRIAN TRAIL DETAILS AND ELEVATIONS, EDGEWALL DETAILS, AND CHANNEL GRADING.
5. SEE "MEADOWDALE RAILROAD BRIDGE - STRUCTURAL PLANS" FOR SUGGESTED CONSTRUCTION SEQUENCING FOR THE SHEET-PILE WALL.
6. ADD 1-INCH DIAMETER WEEP HOLES AT 5-FOOT SPACING ALONG THE SHEET-PILE WALL OR AS DIRECTED BY THE ENGINEER.
7. COORDINATE REMOVAL OF TEMPORARY SOIL RETENTION SYSTEM PRIOR TO INSTALLING SHEET-PILE WALL

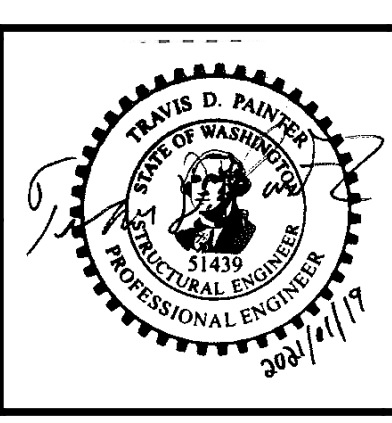


**PROPOSED PEDESTRIAN TRAIL TYPICAL SECTION WITH SHEET-PILE WALL**  
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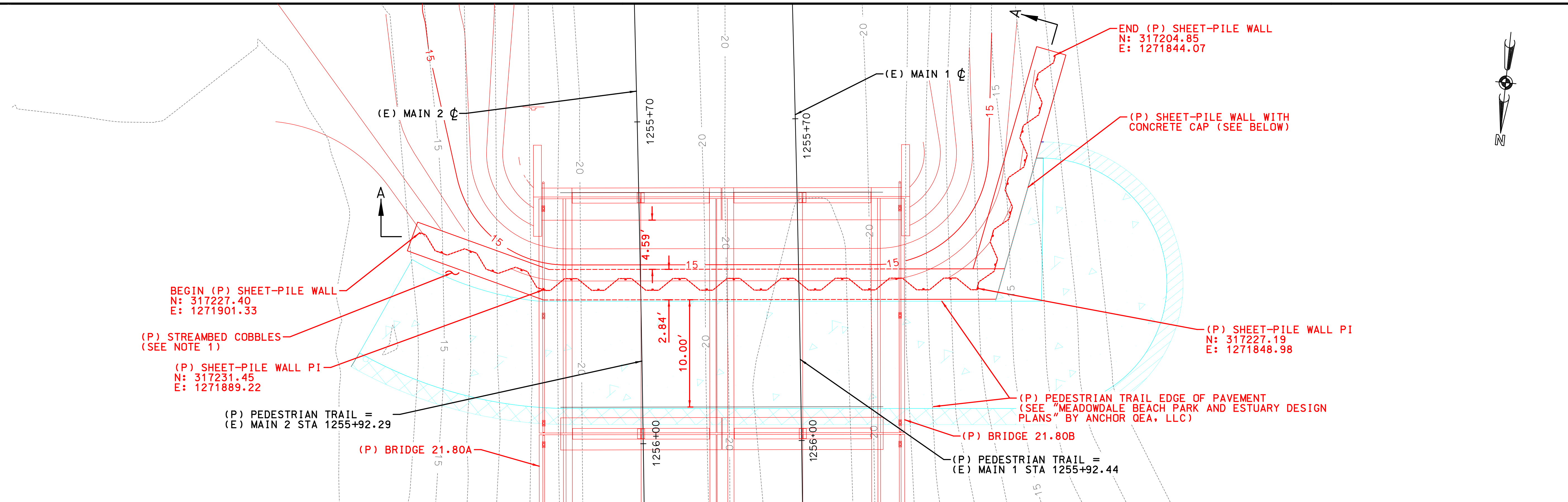
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REV	DATE	DESCRIPTION	BY	APP

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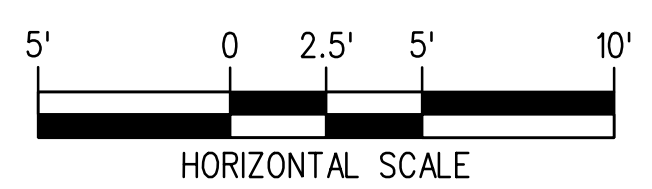


**BNSF RAILWAY & SNOHOMISH COUNTY**  
**BNSF SCENIC SUBDIVISION**  
**MEADOWDALE BEACH PARK RAILROAD BRIDGE**  
**PEDESTRIAN TRAIL UNDER BRIDGE**  
**TYPICAL SECTION**

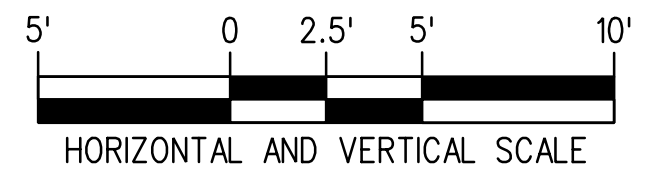
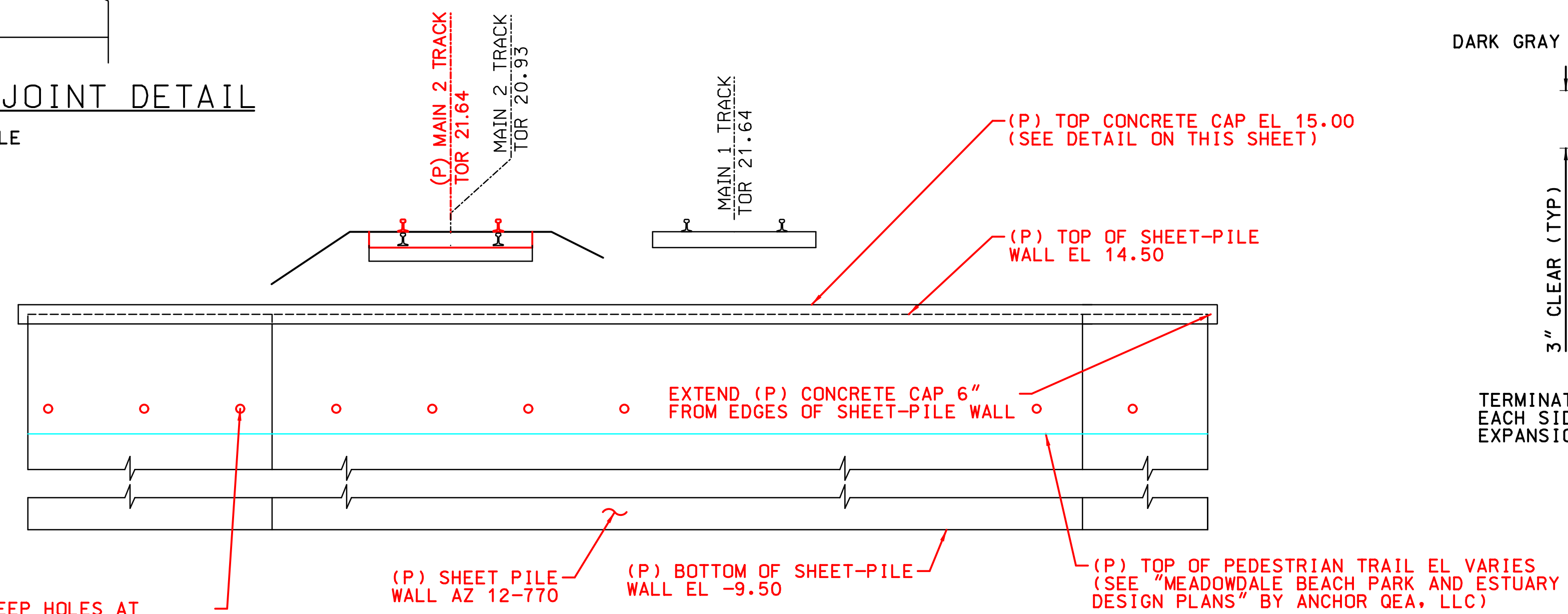
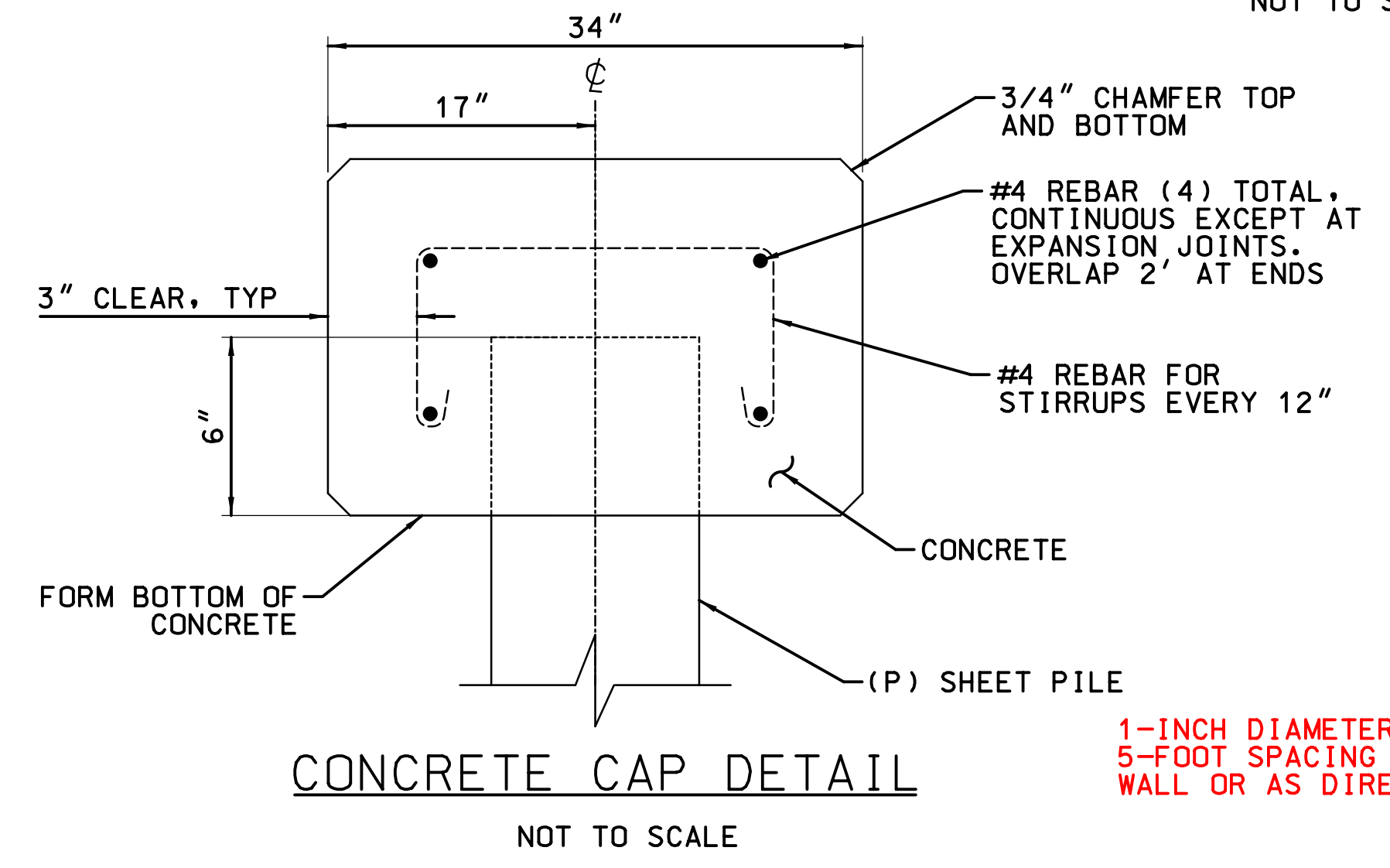
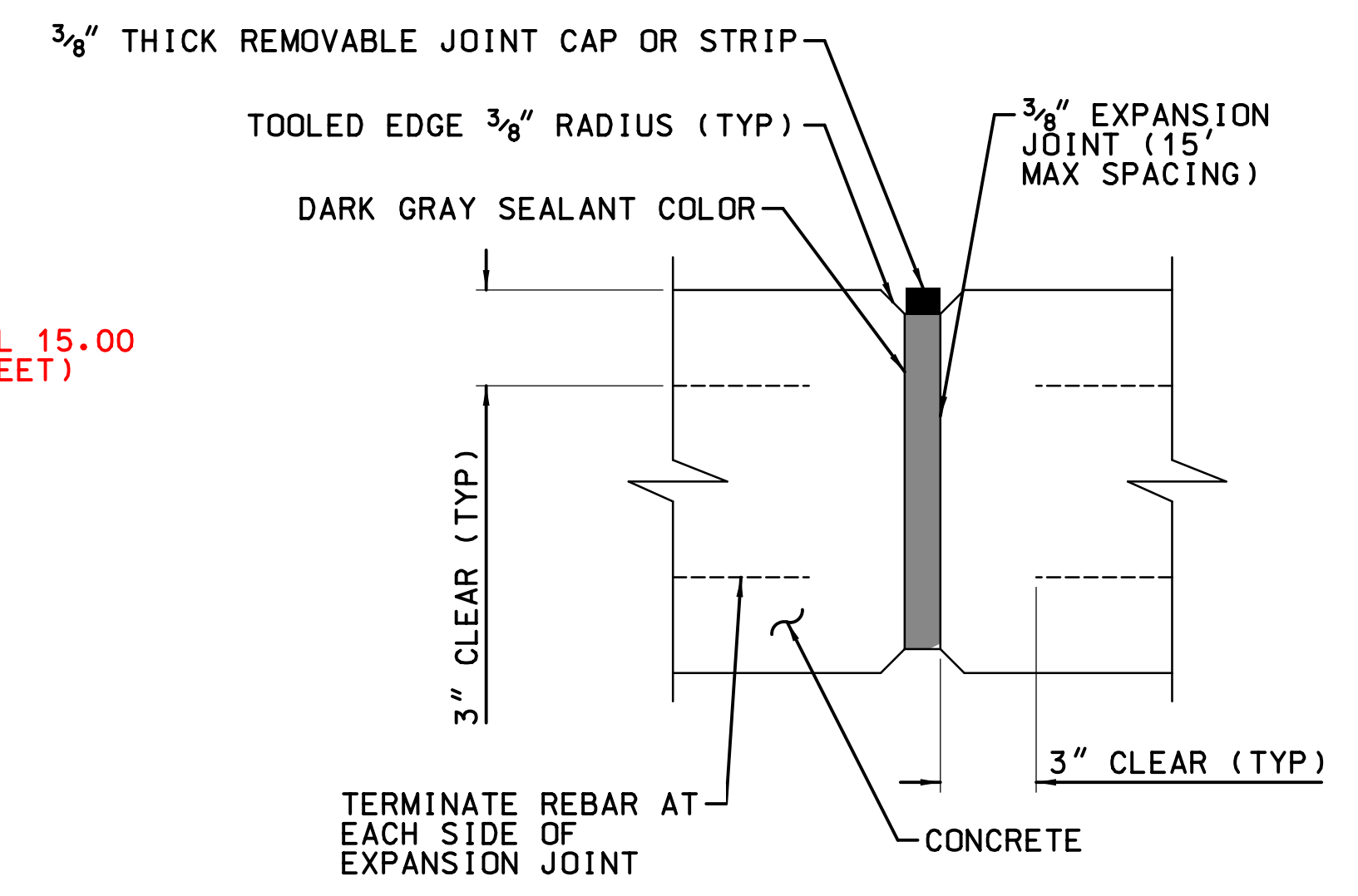
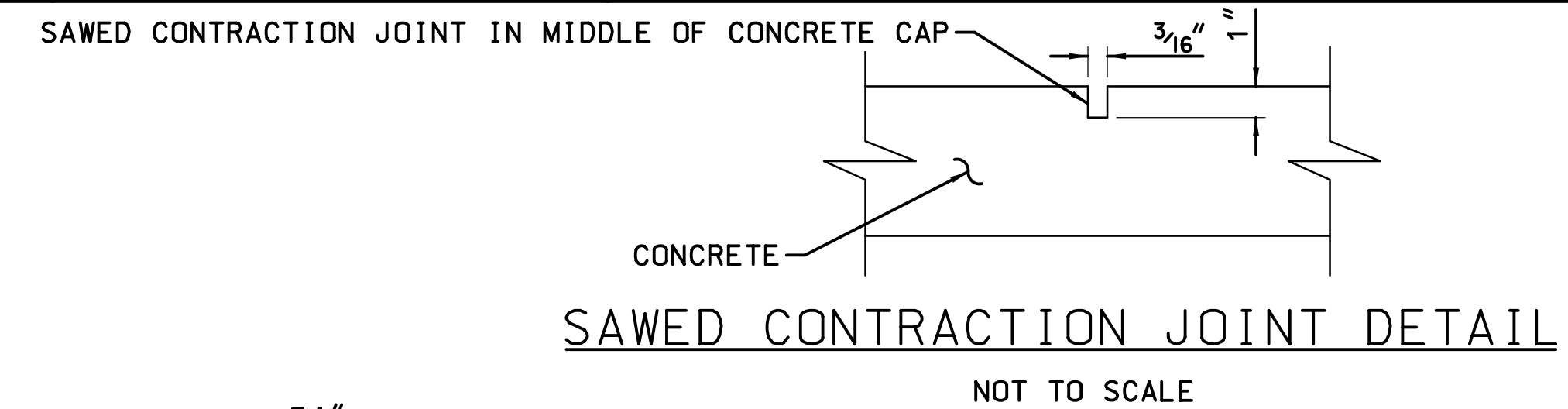
CONTRACT NO.	14L006802
DRAWING NO.	CP-06
REVISION	SHEET NO. 13 OF 17
SCALE	NONE



NOTE:  
 1. INSTALL 12" OF STREAMBED COBBLE MATERIAL BETWEEN PAVED TRAIL AND SHEET PILE WALL.



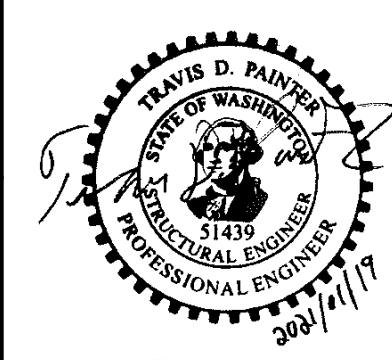
PLAN



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**100% SUBMITTAL**

DESIGNED BY TGR  
 DRAWN BY TGR  
 CHECKED BY MGQ / LJS  
 APPROVED BY MAF  
 DATE 1/19/2021



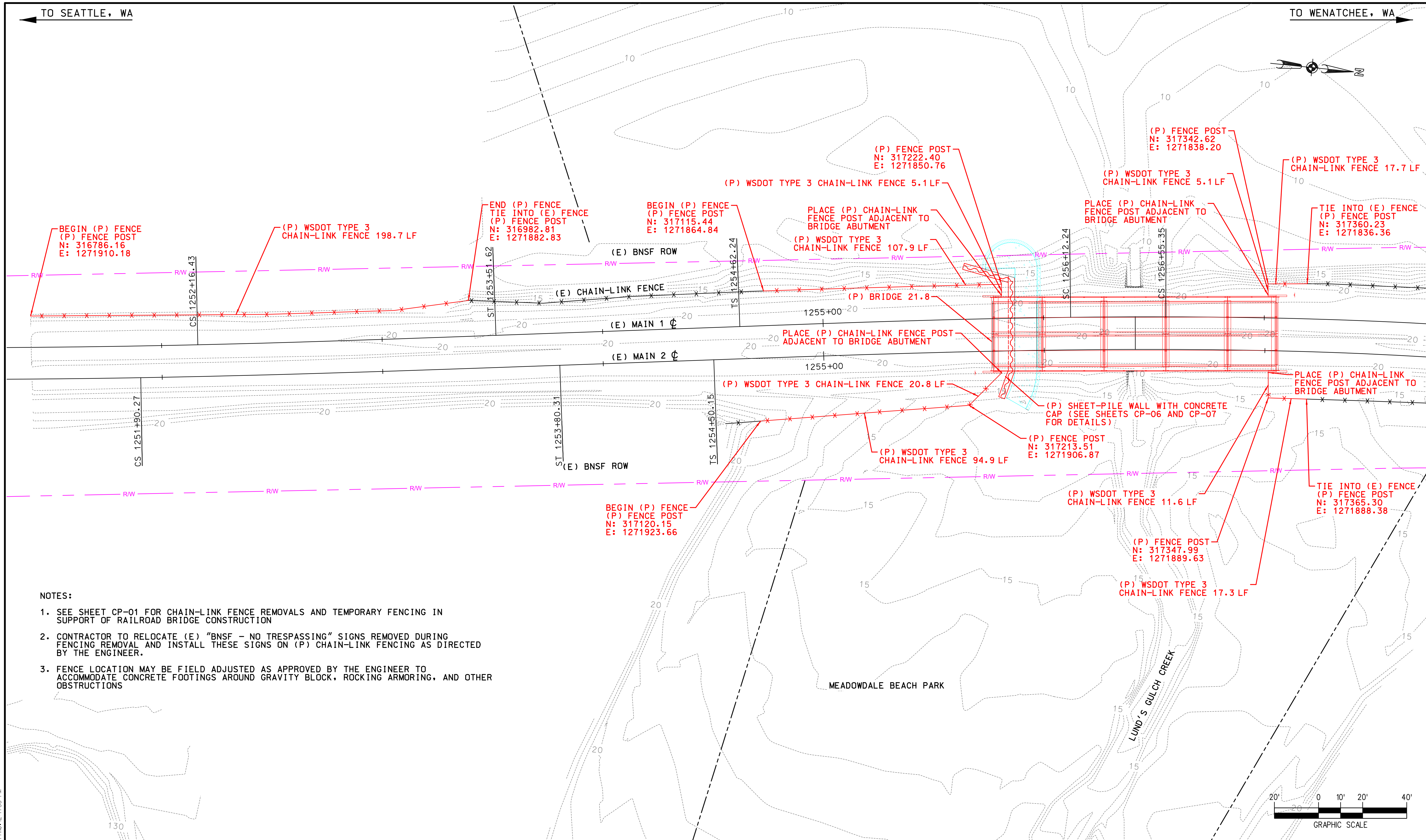
BNSF RAILWAY & SNOHOMISH COUNTY  
 BNSF SCENIC SUBDIVISION  
 MEADOWDALE BEACH PARK RAILROAD BRIDGE  
 SHEET-PILE WALL PLAN AND PROFILE  
 SHEET 01 OF 01

CONTRACT NO. 14L006802	
DRAWING NO. CP-07	
REVISION	SHEET NO. 14 OF 17
SCALE AS SHOWN	

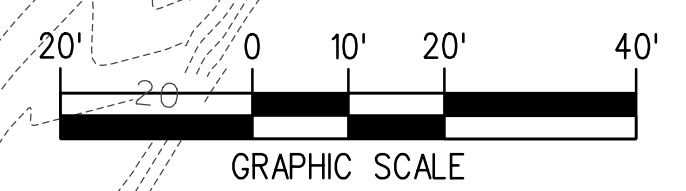
REV	DATE	DESCRIPTION	BY	SUB	APP

TO SEATTLE, WA

TO WENATCHEE, WA



- NOTES:**
1. SEE SHEET CP-01 FOR CHAIN-LINK FENCE REMOVALS AND TEMPORARY FENCING IN SUPPORT OF RAILROAD BRIDGE CONSTRUCTION
  2. CONTRACTOR TO RELOCATE (E) "BNSF - NO TRESPASSING" SIGNS REMOVED DURING FENCING REMOVAL AND INSTALL THESE SIGNS ON (P) CHAIN-LINK FENCING AS DIRECTED BY THE ENGINEER.
  3. FENCE LOCATION MAY BE FIELD ADJUSTED AS APPROVED BY THE ENGINEER TO ACCOMMODATE CONCRETE FOOTINGS AROUND GRAVITY BLOCK, ROCKING ARMORING, AND OTHER OBSTRUCTIONS



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<b>100% SUBMITTAL</b>		REV	DATE	DESCRIPTION	BY	SUB	APP

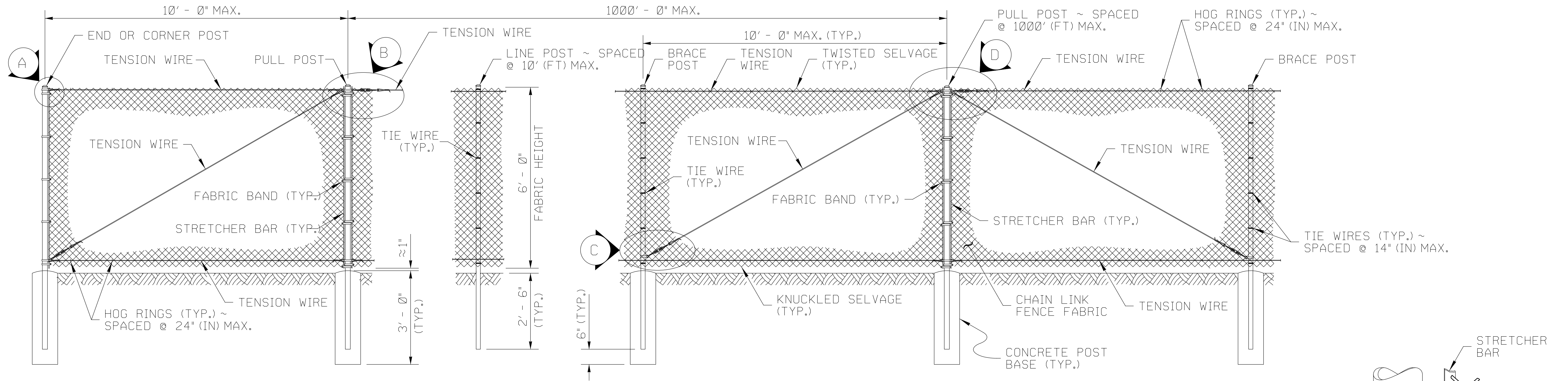
DESIGNED BY	TGR
DRAWN BY	TGR
CHECKED BY	MGQ / LJS
APPROVED BY	MAF
DATE	1/19/2021

**Snohomish County**  
Parks and Recreation



**BNSF RAILWAY & SNOHOMISH COUNTY**  
**BNSF SCENIC SUBDIVISION**  
**MEADOWDALE BEACH PARK RAILROAD BRIDGE**  
**FENCING PLAN**

CONTRACT NO.	14L006802
DRAWING NO.	CP-08
REVISION	SHEET NO. 15 OF 17
SCALE	AS SHOWN



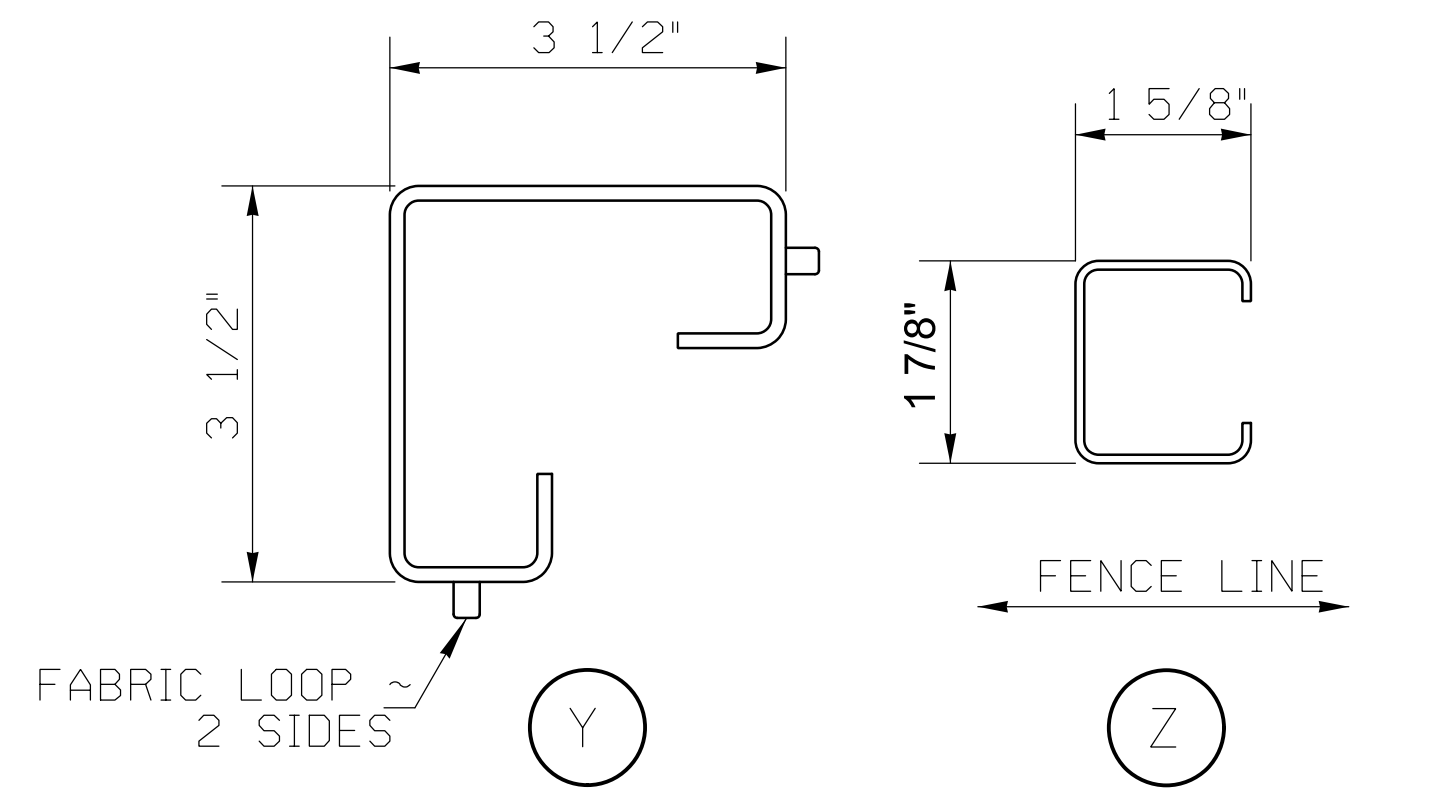
WSDOT TYPE 3 CHAIN-LINK FENCE

FABRIC BAND WITH CARRIAGE BOLT AND NUT ~ SPACED 15" (IN) MAX.

METHOD OF FASTENING STRETCHER BAR TO POST

POST AND RAIL SPECIFICATIONS

POST	PIPE	ROLL FORMED	
	NOM. SIZE (SCH. 40) I.D.	SECTION	WEIGHT (lb/ft)
END, CORNER, OR PULL POST	2 1/2" DIAM.	Y	5.10
LINE OR BRACE POST	2" DIAM.	Z	1.85



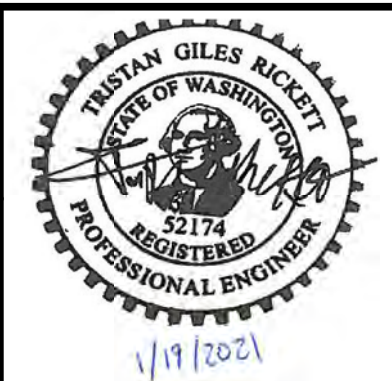
NOTES

- ALL CONCRETE POST BASES SHALL BE 10" (IN) MINIMUM DIAMETER, 3,000 PSI MINIMUM AT 28 DAYS, AND ADHERE TO WSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION 6-02.3(2)B.
- ALONG THE TOP AND BOTTOM, USING HOG RINGS, FASTEN THE CHAIN LINK FENCE FABRIC TO THE TENSION WIRE WITHIN THE LIMITS OF THE FIRST FULL FABRIC WEAVE.
- DETAILS ARE ILLUSTRATIVE AND SHALL NOT LIMIT HARDWARE DESIGN OR POST SELECTION OF ANY PARTICULAR FENCE TYPE.
- FENCING SHALL BE USED FOR SECURITY AND BOUNDARY DELINEATION ONLY.
- FOR WSDOT TYPE 3 CHAIN-LINK FENCE, THE CHAIN LINK FABRIC SHALL CONSIST OF 11-GAGE WIRE AS PER WSDOT SPECIFICATION STANDARD 9-16.1(1)B.
- FOR WSDOT TYPE 3 CHAIN-LINK FENCE, THE CHAIN LINK GATES SHALL BE CONSTRUCTED IN ACCORDANCE TO WSDOT STANDARD SPECIFICATION 9-16.1(1)E.

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**100% SUBMITTAL**

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 DRAWN BY TGR  
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 APPROVED BY MAF  
 DATE 1/19/2021

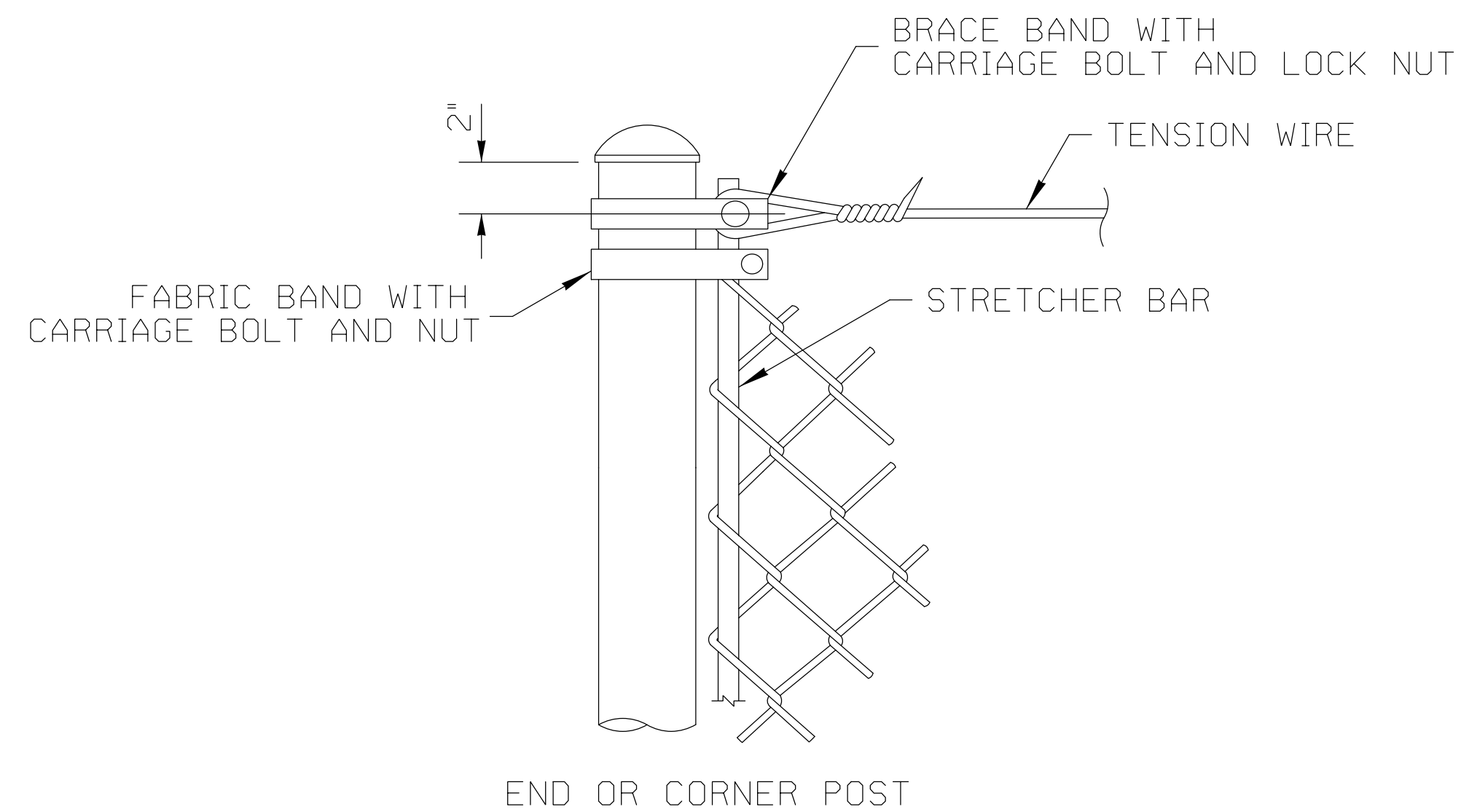


BNSF RAILWAY & SNOHOMISH COUNTY  
 BNSF SCENIC SUBDIVISION  
 MEADOWDALE BEACH PARK RAILROAD BRIDGE  
 FENCING DETAILS  
 SHEET 01 OF 02

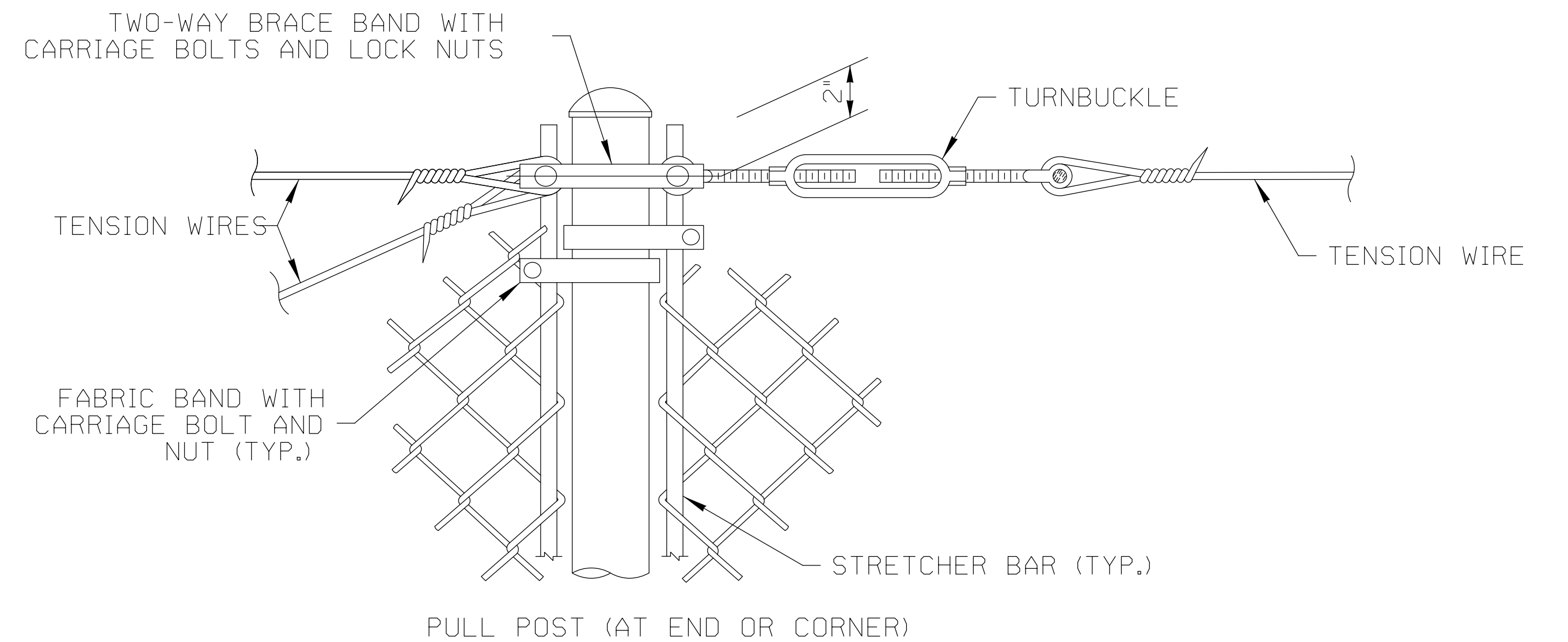
CONTRACT NO. 14L006802	
DRAWING NO. CP-09	
REVISION	SHEET NO. 16 OF 17
SCALE NONE	

REV	DATE	DESCRIPTION	BY	SUB	APP

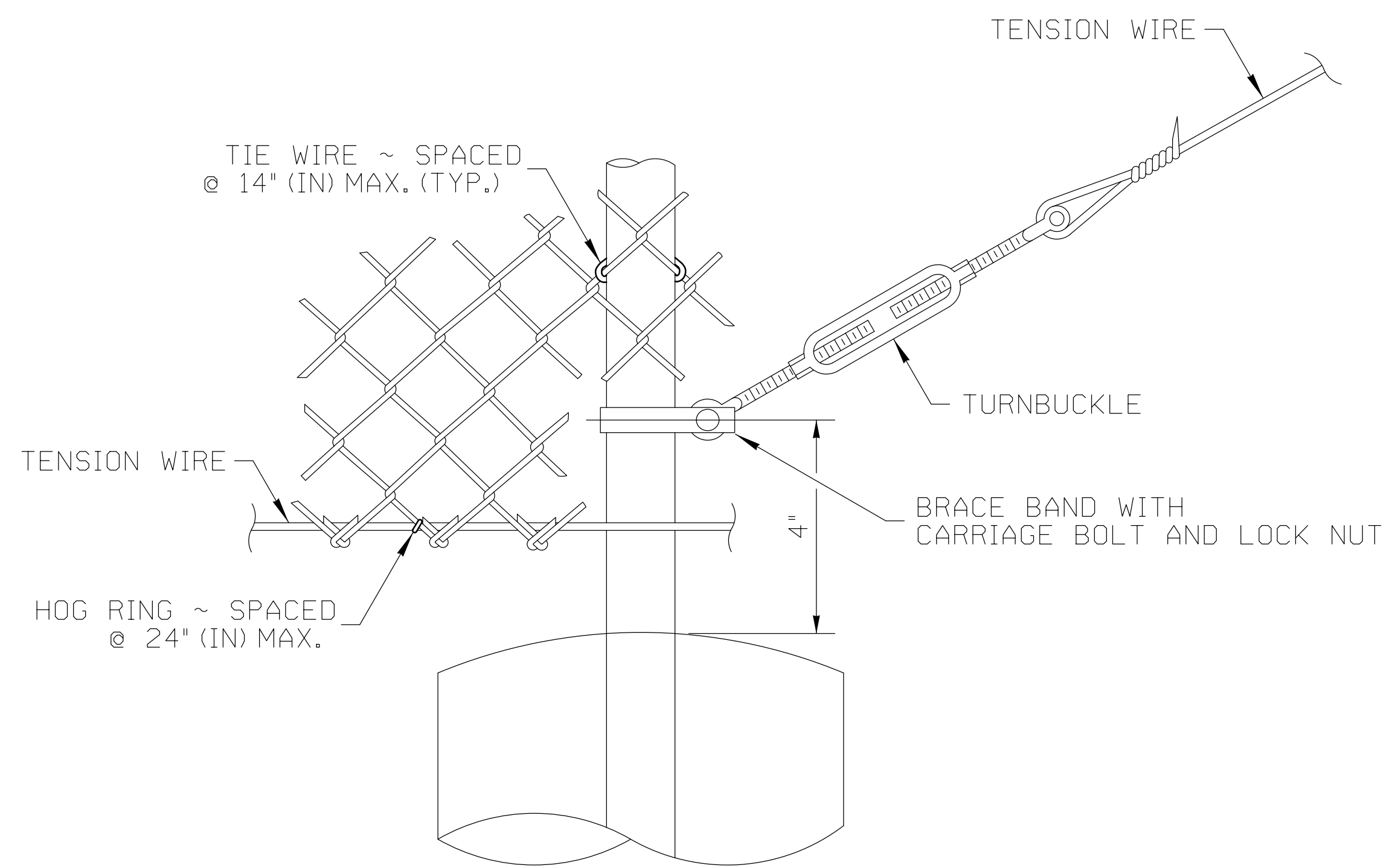




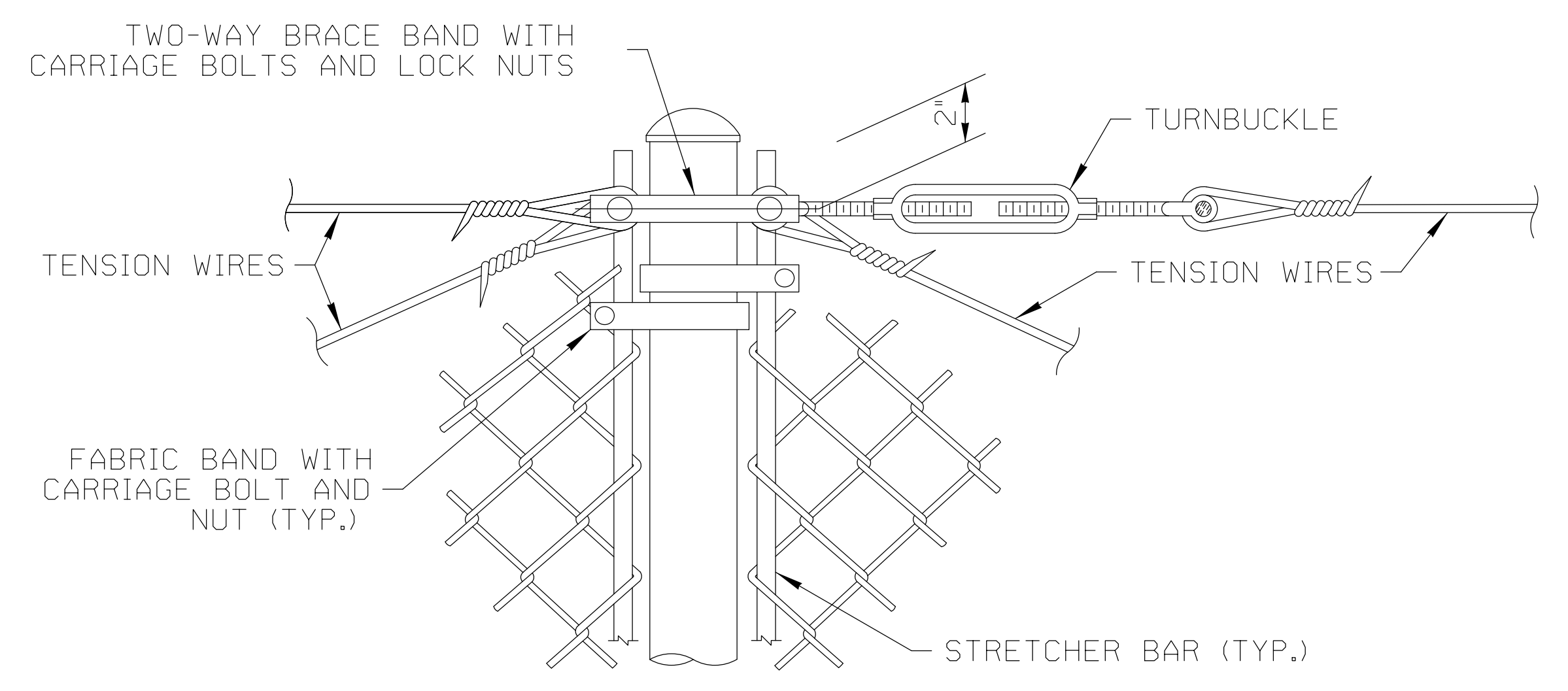
END OR CORNER POST  
DETAIL (A)



PULL POST (AT END OR CORNER)  
DETAIL (B)



BRACE POST  
DETAIL (C)

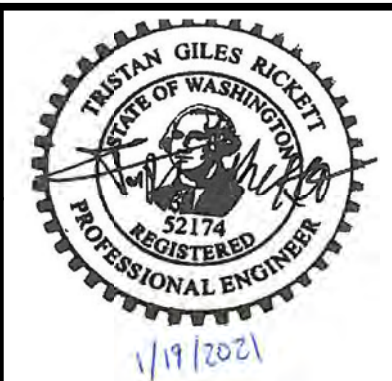


PULL POST (WITHIN RUN)  
DETAIL (D)

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**100% SUBMITTAL**

DESIGNED BY TGR  
 DRAWN BY TGR  
 CHECKED BY MGQ / LJS  
 APPROVED BY MAF  
 DATE 1/19/2021



BNSF RAILWAY & SNOHOMISH COUNTY  
 BNSF SCENIC SUBDIVISION  
 MEADOWDALE BEACH PARK RAILROAD BRIDGE  
 FENCING DETAILS  
 SHEET 02 OF 02

CONTRACT NO. 14L006802  
 DRAWING NO. CP-10  
 REVISION SHEET NO. 17 OF 17  
 SCALE NONE

REV	DATE	DESCRIPTION	BY	SUB	APP

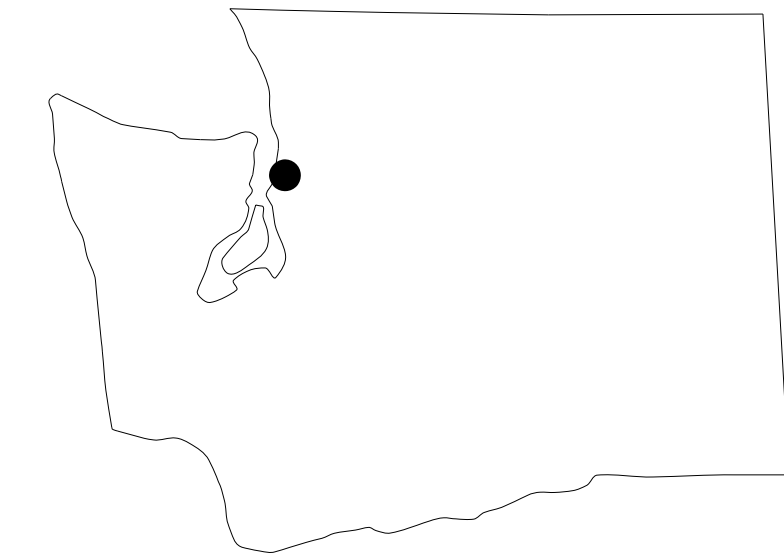
**NOTES:**

- 1. THIS PROJECT INCLUDES WORK WITHIN BNSF RIGHT-OF-WAY AND ON PARK PROPERTY TO CONSTRUCT A RAILROAD BRIDGE OVER LUNDS GULCH CREEK. WORK TO BE PERFORMED IS SHOWN ON THE "MEADOWDALE BEACH RAILROAD BRIDGE - CIVIL PLANS" AND THE "MEADOWDALE BEACH RAILROAD BRIDGE - STRUCTURAL PLANS" PREPARED BY HANSON PROFESSIONAL SERVICES AND ON THE "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" BY ANCHOR QEA.**
- 2. ALL WORK SHOWN WITHIN THIS SET OF PLANS SHALL BE RESPONSIBILITY OF BNSF OR THEIR DESIGNATED CONTRACTOR UNLESS OTHERWISE SPECIFIED; AND ALL WORK SHOWN ON THE "MEADOWDALE BEACH RAILROAD BRIDGE - CIVIL PLANS" AND ON THE "MEADOWDALE BEACH PARK AND ESTUARY DESIGN PLANS" SHALL BE ACCOMPLISHED BY THE CONTRACTOR UNDER CONTRACT WITH SNOHOMISH COUNTY UNLESS OTHERWISE SPECIFIED.**
- 3. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL DETAIL ON COORDINATION OF WORK.**

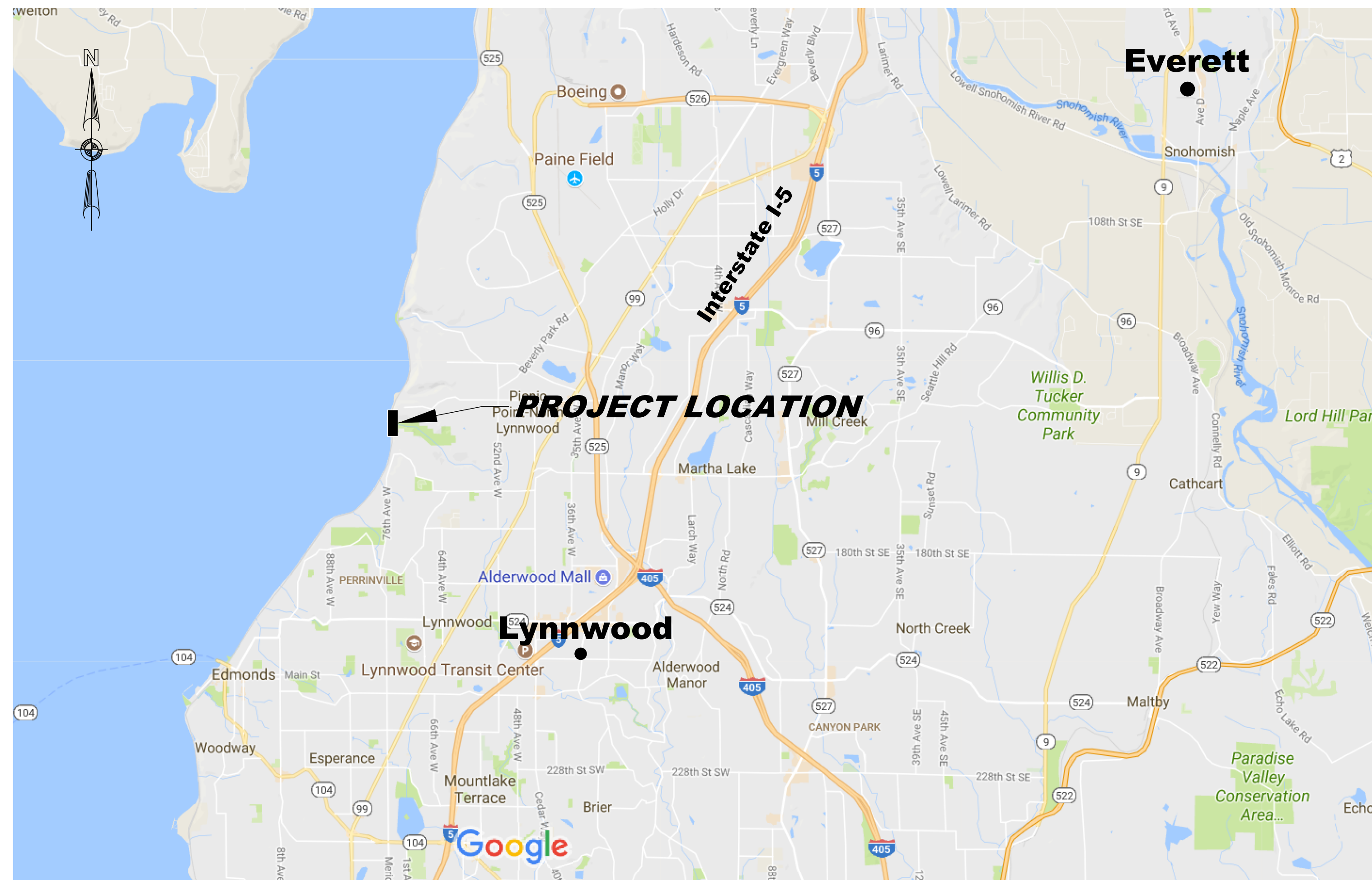


# BNSF NORTHWEST DIVISION MEADOWDALE BEACH PARK RAILROAD BRIDGE

WASHINGTON



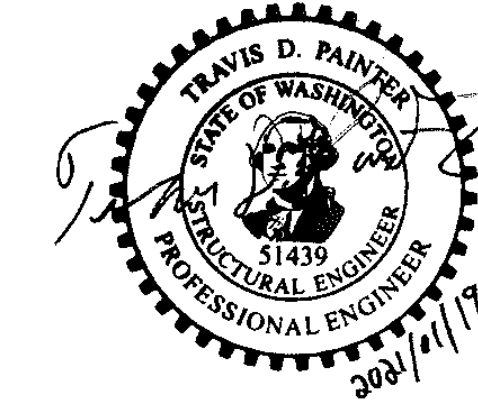
PROJECT LOCATION



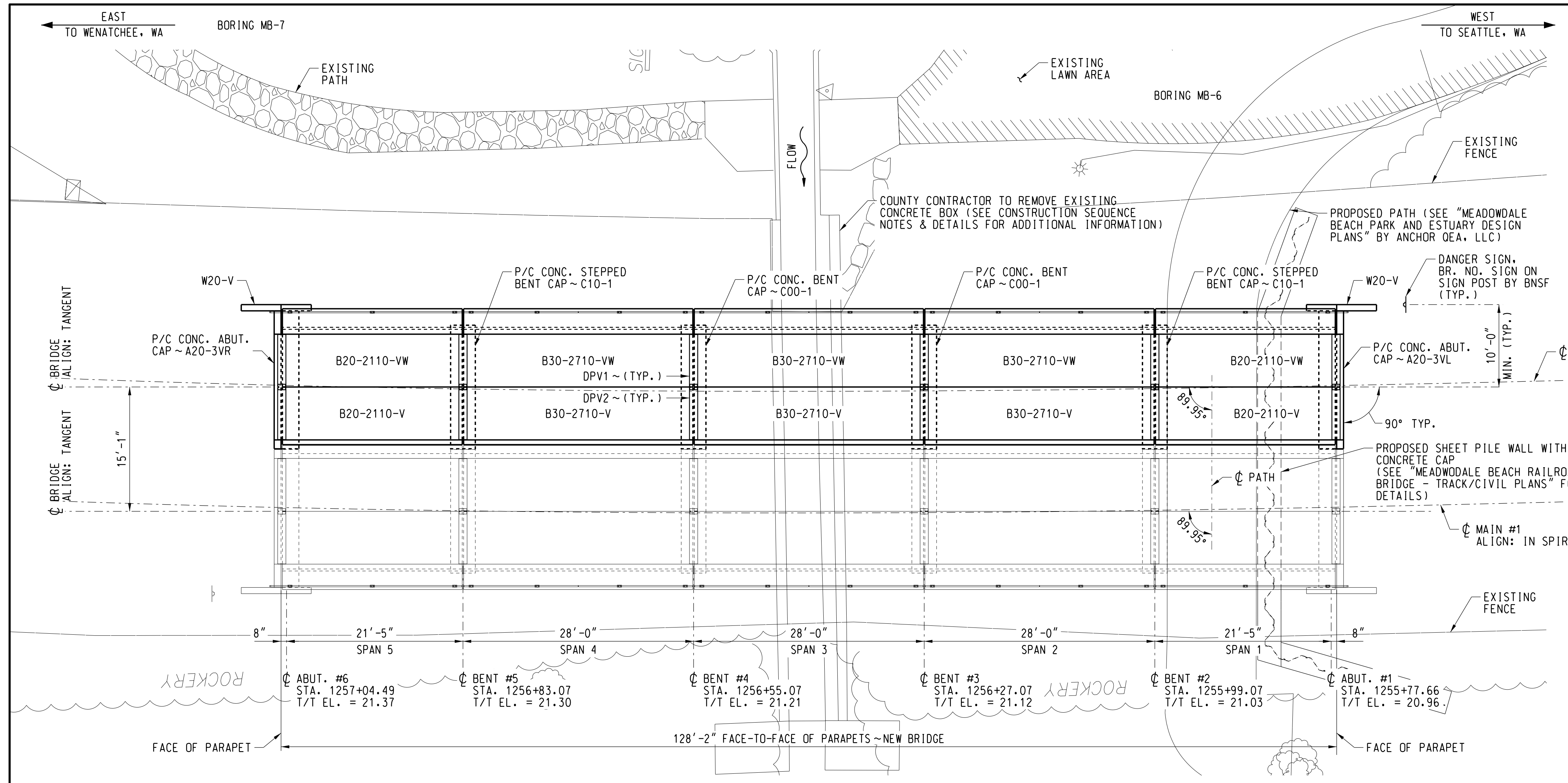
**VICINITY MAP**  
NOT TO SCALE

## SCENIC SUBDIVISION LINE SEGMENT 50 BRIDGE 21.8A AND BRIDGE 21.8B STRUCTURAL PLANS

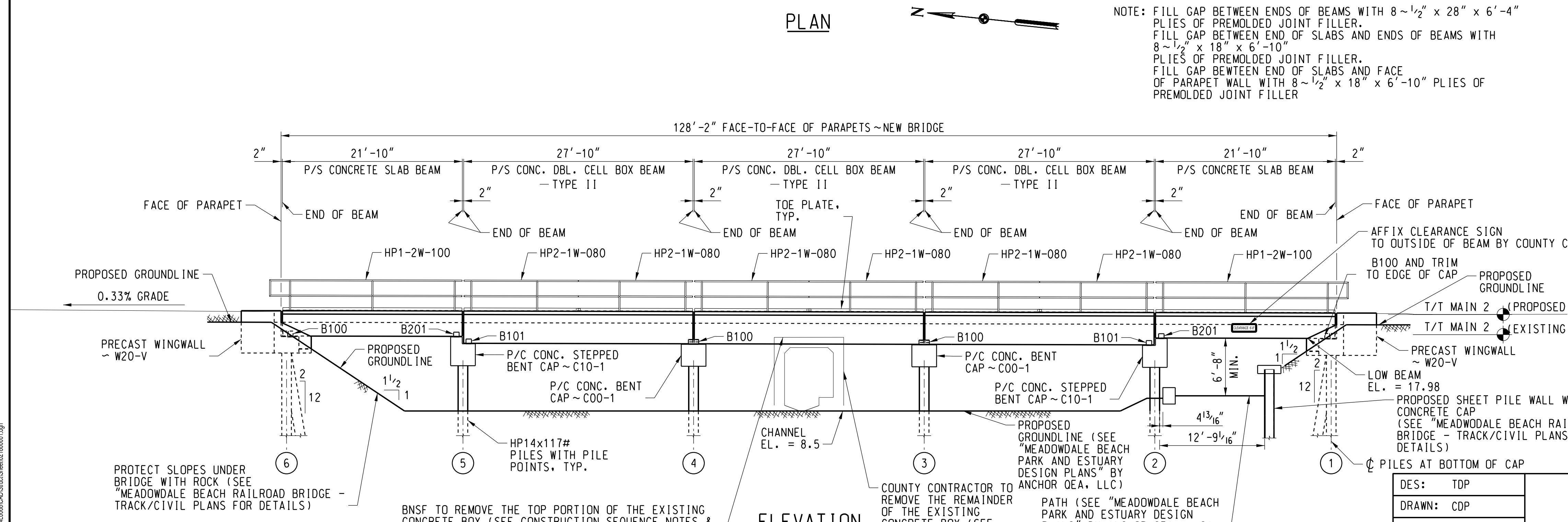
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**DATE: January 19, 2021**



PLAN



ELEVATION  
LOOKING RY SOUTH

LIST OF DRAWINGS - BR. 21.80A	
PLAN NO.	TITLE
0050-0021.800-001	GENERAL PLAN & ELEVATION
0050-0021.800-002	TYPICAL SECTIONS & PILE LAYOUT PLAN
0050-0021.800-003	CONSTRUCTION SEQUENCE NOTES & DETAILS
0050-0021.800-004	CONSTRUCTION SEQUENCE STAGING SECTIONS I, II & III
0050-0021.800-005	CONSTRUCTION SEQUENCE STAGING SECTIONS IV & V
0050-0021.800-006	CONSTRUCTION SEQUENCE PLAN - STAGE I, II & III
0050-0021.800-007	CONSTRUCTION SEQUENCE PLAN - STAGE IV
0050-0021.800-008	BILL OF MATERIAL
0050-0021.800-009	DRAINAGE SYSTEM
0050-0021.800-010	BORING LOGS

REFERENCES			
NO.	PLAN NO.	SHEET NO.	DESCRIPTION
1	X	X	JUNE 1, 2016 BNSF STANDARD BRIDGE & COMPONENT PLANS

TABLE OF EST. LIFTING WEIGHTS		
ITEM	MARK NO.	ESTIMATED WEIGHT (LBS)
PRECAST P/S CONCR. DBL. CELL BOX BEAM - TYPE II	B30-2710-VW	48,150
PRECAST P/S CONCR. DBL. CELL BOX BEAM - TYPE II	B30-2710-V	43,420
PRECAST P/S CONCR. SLAB BEAM	B20-2110-VW	46,280
PRECAST P/S CONCR. SLAB BEAM	B20-2110-V	42,570
PRECAST CONCR. ABUTMENT CAP	A20-3VR	21,510
PRECAST CONCR. ABUTMENT CAP	A20-3VL	21,510
PRECAST CONCR. BENT CAP	C00-1	20,060
PRECAST CONCR. STEPPED BENT CAP	C10-1	22,820
PRECAST CONCR. WINGWALL	W20-V	4,140

TABLE OF ELEVATIONS				
LOCATION	MAIN #2 TOP/TIE	TOP/CAP	PILE CUTOFF	T/T TO PILE CUTOFF MAIN #2
ABUT. 1	20.96*	17.91	15.91	5'-0 1/2"
BENT 2	21.03*	17.99/17.15	14.49	6'-6 1/2"
BENT 3	21.12*	17.24	14.58	6'-6 1/2"
BENT 4	21.21*	17.34	14.67	6'-6 1/2"
BENT 5	21.30*	18.26/17.43	14.76	6'-6 1/2"
ABUT. 6	21.37*	18.33	16.33	5'-0 1/2"

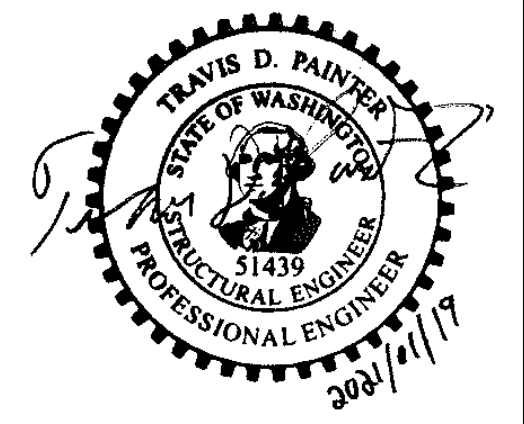
\* = TRACK RAISE

**ADJACENT WORK**  
WORK THESE SHEETS WITH SHEETS FOR BR. 21.80B

NOTE: STATIONS ARE BASED ON MAIN #2

**LEGEND:**  
T/T = TOP OF TIE RY  
= RAILWAY  
B.S. = BOTH SIDES

**DESIGN DATA:**  
2018 A.R.E.M.A. DESIGN SPECIFICATIONS  
LOADING: COOPER E 80 W/ DIESEL IMPACT



DES:	TOP
DRAWN:	CDP
CHECK:	MAF
DATE:	01/19/2021
PLAN:	
LINE SEG:	0050



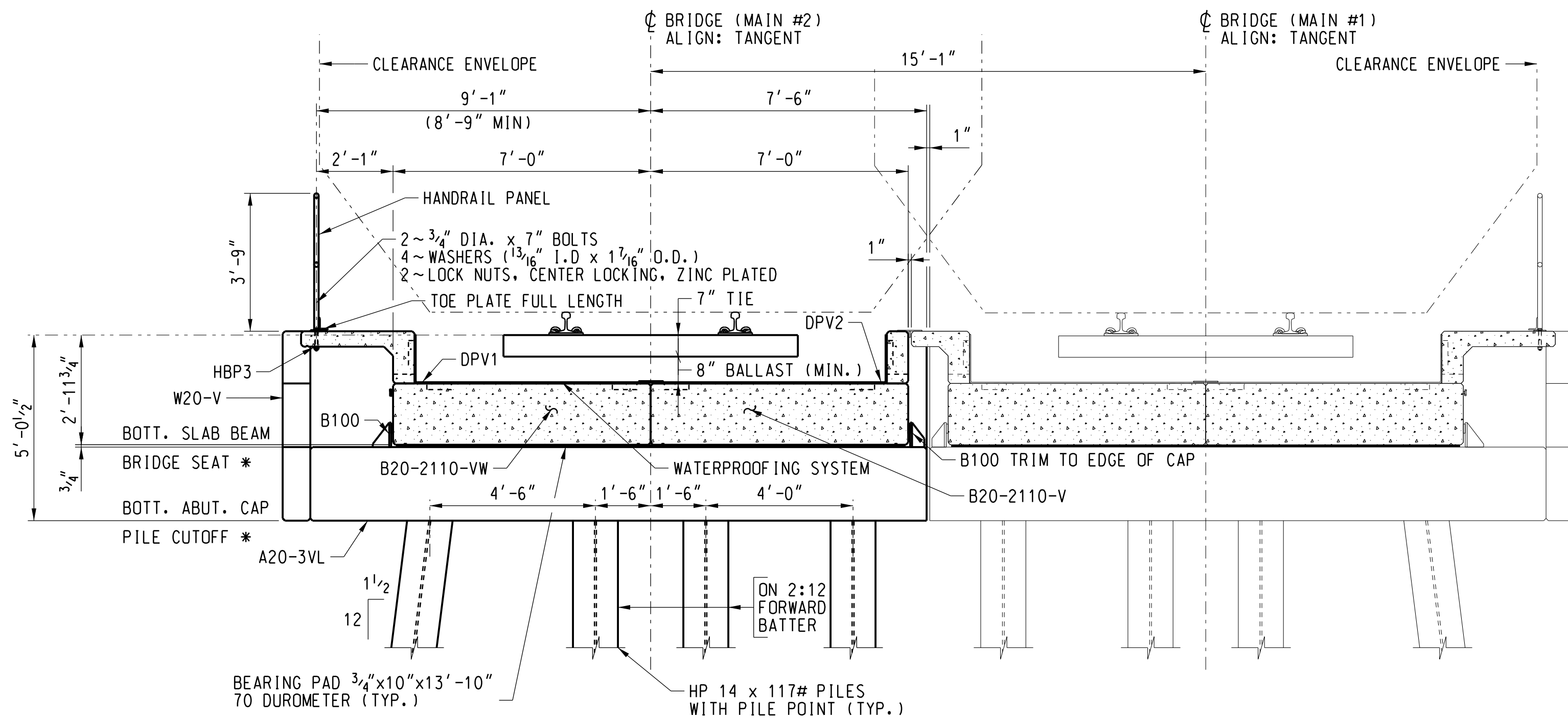
SEATTLE, WA TO WENATCHEE, WA  
BRIDGE NUMBER 21.80A  
OVER LUNDS GULCH CREEK  
EDMONDS, WA  
GENERAL PLAN & ELEVATION  
PLAN NO: 0050-0021.800-001 SHEET: 01 OF 10



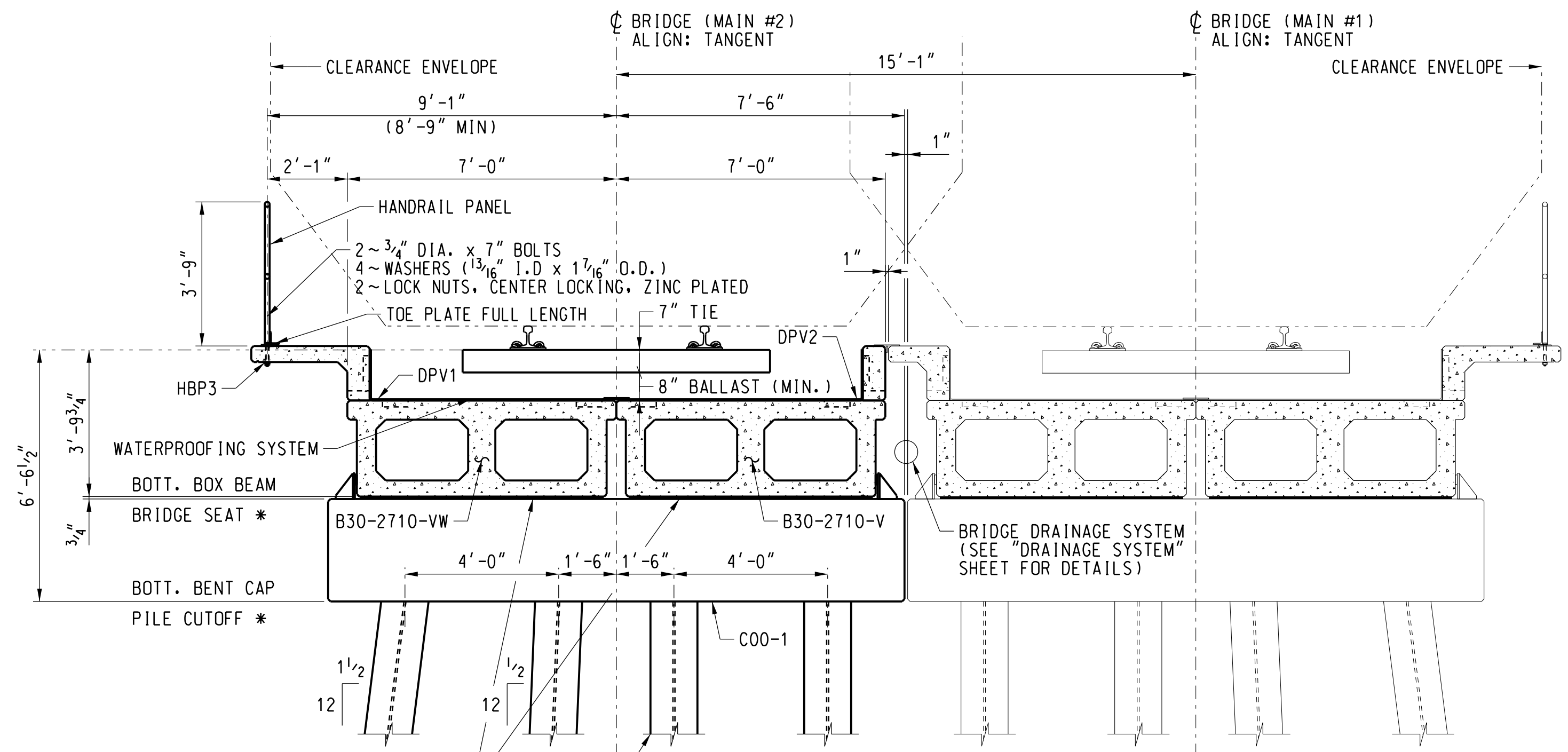
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**TYPICAL SECTION AT ABUTMENT**  
 (WEST ABUTMENT SHOWN, EAST ABUTMENT OPPOSITE HAND)  
 (PROPOSED TRACK ELEVATIONS SHOWN.)



**TYPICAL SECTION AT BENT**  
 (LOOKING BY WEST)  
 (PROPOSED TRACK ELEVATIONS SHOWN.)

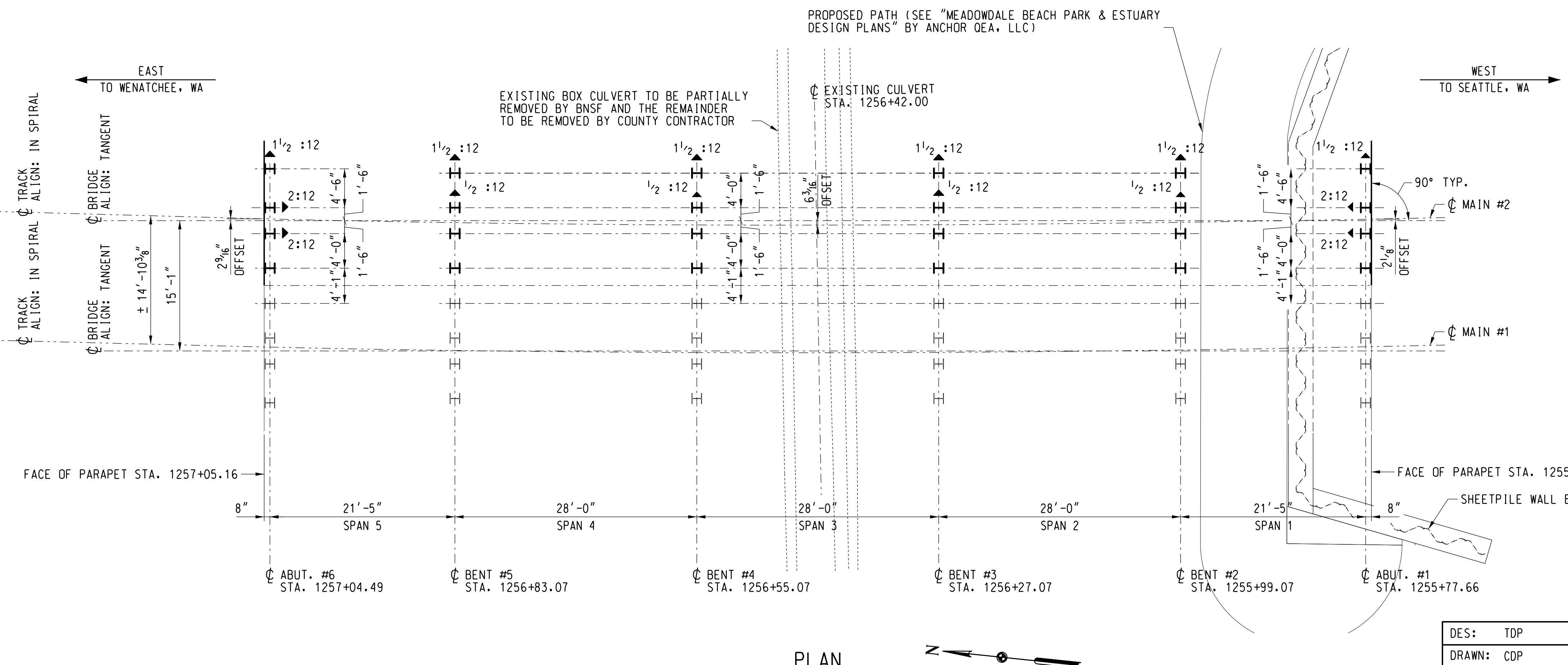
\* SEE ELEVATION TABLE ON SHEET 1 FOR ELEVATIONS.

**NOTES:**

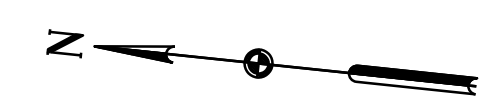
- ▼ - INDICATES DIRECTION OF BATTER.
- X:12 - INDICATES AMOUNT OF BATTER.
- ALL DIMENSIONS ARE GIVEN AT BOTTOM OF PRECAST CAP.
- USE WELD METAL TO WRITE THE DATE AND AVERAGE PILE DEPTH IN 3 INCH TALL LETTERS ON EACH BENT.
- PILES SHALL MEET THE MATERIAL REQUIREMENTS OF AND SHALL BE DRIVEN IN ACCORDANCE WITH BNSF STANDARD SPECIFICATIONS. HP14X117# PILES SHALL BE DRIVEN TO REFUSAL, IF POSSIBLE, OR TO A MINIMUM ULTIMATE RESISTANCE OF 250 TONS AS DETERMINED BY THE MODIFIED ENGINEERING NEWS-RECORD FORMULA AS PER THE BNSF ENGINEERING INSTRUCTION, 17.3.4.
- SEE PROJECT GEOTECHNICAL REPORT BY SHANNON & WILSON INC. DATED FEBRUARY 16, 2018
- PROVIDE PILE POINTS FOR PILES - MODEL VS314-117 BY VERSA STEEL INC., PORTLAND, OR OR EQUAL.
- ESTIMATED PILE LENGTH BELOW CUTOFF = 112FT
- FINAL ELEVATION TO BE DETERMINED FROM BORING LOG INFORMATION AND PILE DRIVING EQUIPMENT APPROVED BY THE ENGINEER.

**WATERPROOFING ING:**

WATERPROOFING SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED PER BNSF STANDARD SPECIFICATION SECTION 04800 AND AREMA CHAPTER 8, PART 29. CURB DRAINS TO BE CONNECTED TO THE DRAINAGE SYSTEM MUST REMAIN OPEN.



**PLAN**

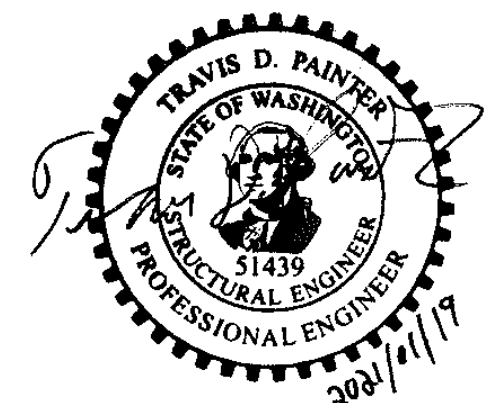


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SEATTLE, WA TO WENATCHEE, WA	
BRIDGE NUMBER 21.80A	
OVER LUNDS GULCH CREEK	
EDMONDS, WA	
TYPICAL SECTIONS & PILE LAYOUT PLAN	
PLAN NO: 0050-0021.800-002	SHEET: 02 OF 10



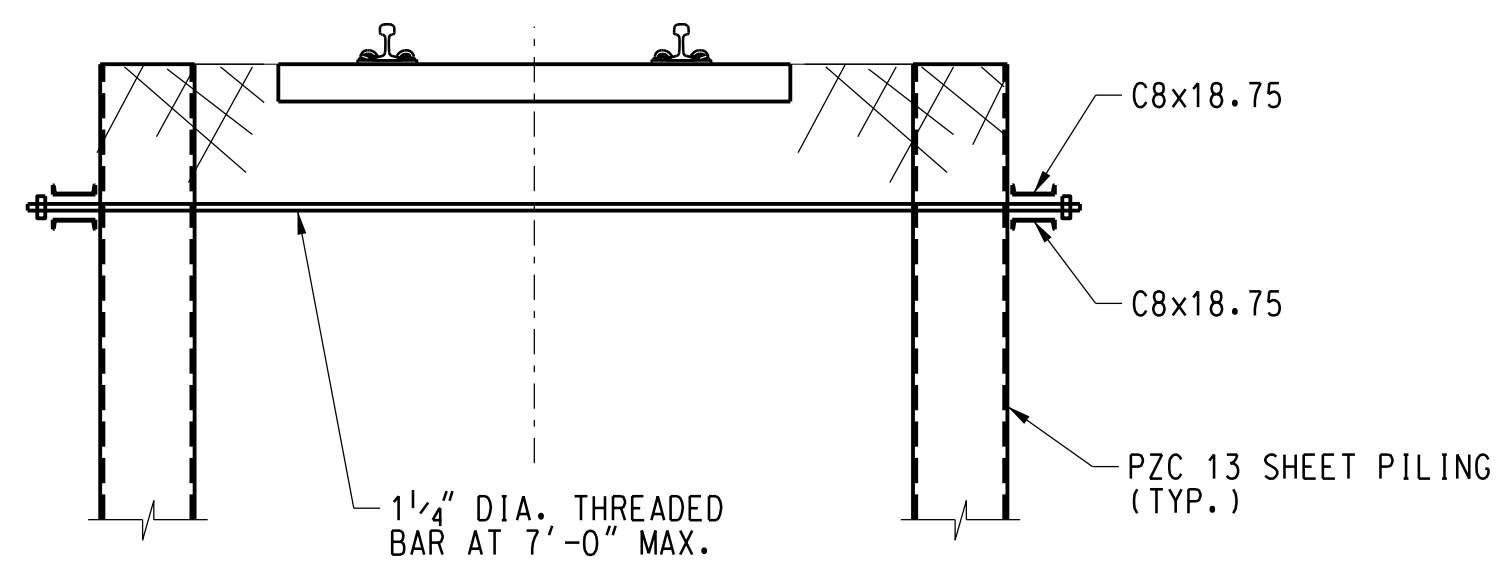
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**SUGGESTED CONSTRUCTION SEQUENCE**

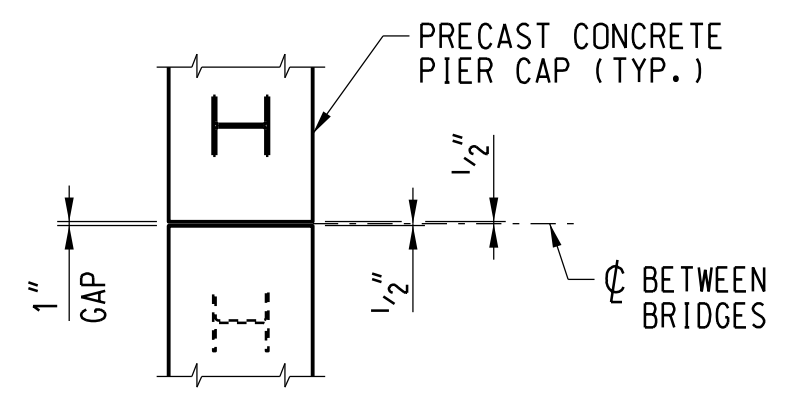
- PRIOR TO STAGE I, BNSF TO RAISE MAIN #2 ELEVATION TO MATCH MAIN #1
- STAGE I 1. BNSF TO DRIVE H-PILE AT ALL LOCATIONS. CUT OFF BELOW TOP OF TIE. ADJUST TRACK TIES WHERE NEEDED. (SEE PILE LAYOUT PLAN)
- STAGE II 1. COUNTY CONTRACTOR TO PROVIDE TEMPORARY SOIL RETENTION SYSTEM BETWEEN MAIN TRACK #1 AND MAIN TRACK #2 (SEE THIS SHEET)
- STAGE III 1. WITH MAIN #2 CLOSED, BNSF TO EXCAVATE AND CUT H-PILE TO CORRECT ELEVATION AT ABUTMENTS AND PIERS.  
 2. BNSF TO REMOVE EXISTING CONCRETE BOX CULVERT AS REQUIRED.  
 3. BNSF TO PLACE AND WELD PRECAST ABUTMENT & PIER CAPS.  
 4. BNSF TO PLACE CONTROLLED LOW-STRENGTH MATERIAL AT ABUTMENTS.  
 5. BNSF TO EXCAVATE BETWEEN FOUNDATION ELEMENTS AS REQUIRED TO INSTALL SUPERSTRUCTURE.  
 6. BNSF TO BACKFILL ABUTMENT CAPS.  
 7. BNSF TO SET BEARING PADS AND INSTALL SUPERSTRUCTURE.  
 8. BNSF TO INSTALL TRACKS ON MAIN #2 AND OPEN TO RAIL TRAFFIC.
- \* REPEAT STAGES I - III AS NECESSARY BY BNSF TO CONSTRUCT THE SECOND RAILROAD BRIDGE.
- STAGES IVa AND IVb- SAME AS III WITH CLOSURE WINDOW ON MAIN TRACK #1.
- STAGE V 1. TEMPORARY SOIL RETENTION SYSTEM SHALL BE REMOVED BY THE COUNTY CONTRACTOR (LOCATIONS OF INTERFERENCE WITH STRUCTURE INSTALLATION) AT ANY TIME AFTER BNSF'S EXCAVATION FOR THE SUPERSTRUCTURE (SEE SUGGESTED CONSTRUCTION SEQUENCING SHEETS FOR FURTHER DETAILS AND NOTE 3 BELOW).  
 2. COUNTY CONTRACTOR EXCAVATE TO REQUIRED ELEVATIONS FOR STREAM RESTORATION.  
 3. COUNTY CONTRACTOR COMPLETELY REMOVE REMAINING PORTIONS OF CULVERT.  
 4. COUNTY CONTRACTOR CONSTRUCT BRIDGE DRAINAGE SYSTEM.

DURING STAGES II AND/OR III, COUNTY CONTRACTOR TO PARTIALLY INSTALL SHEET-PILE WALL UNDER THE PROPOSED BRIDGE UP TO EITHER SIDE OF THE TEMPORARY SOIL RETENTION SYSTEM (SEE "MEADOWDALE BEACH RAILROAD BRIDGE - TRACK/CIVIL PLANS" FOR DETAILS).

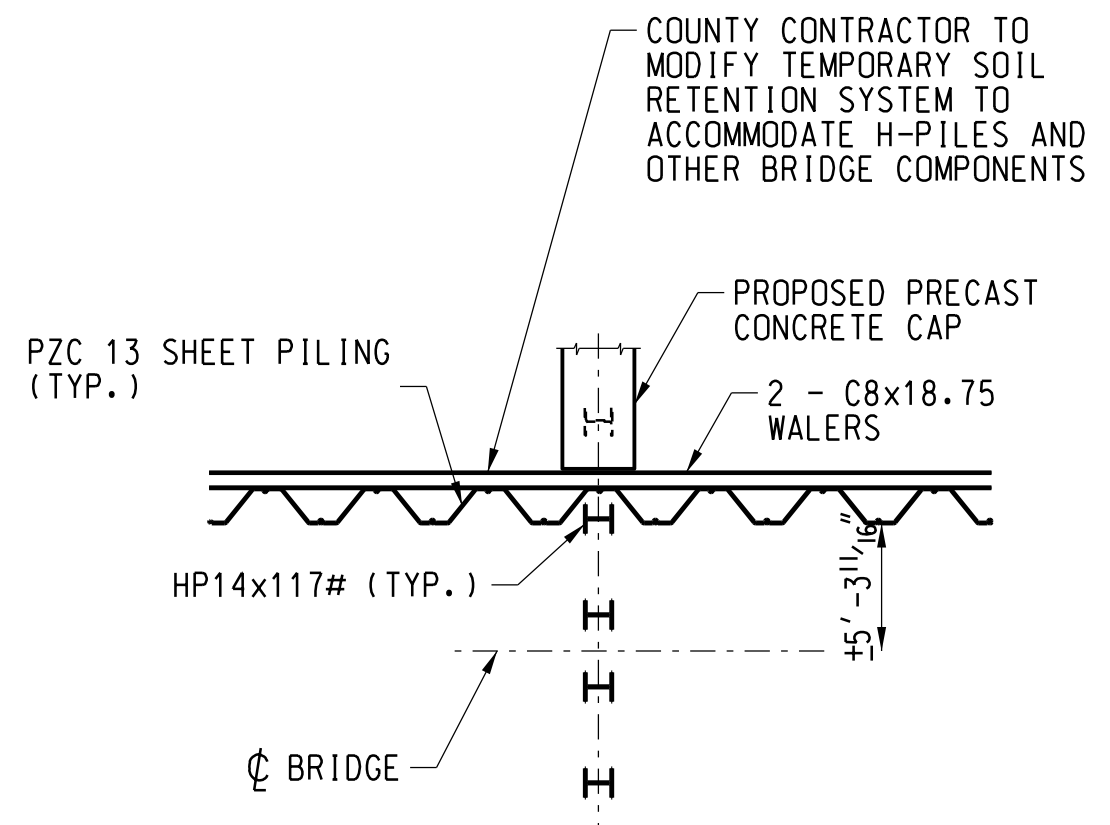
COUNTY CONTRACTOR TO COORDINATE WITH BNSF TO CONNECT AND COMPLETE THE SHEET-PILE WALL PRIOR TO BNSF PLACING BEAMS AND COUNTY CONTRACTOR COMPLETELY REMOVING THE TEMPORARY SOIL RETENTION SYSTEM.



**VIEW B-B**  
TYPICAL AT TIEBACKS



**PLAN - PIER CAPS**



**VIEW A-A**

**BNSF REQUIREMENTS FOR COUNTY CONTRACTOR**

NOTES

- CONTRACTOR SHALL NOTE DATES FOR BNSF TO MOVE TIES IN 3 WEEK PLANNING SCHEDULES TO COORDINATE WORK WITH BNSF FORCES
- DURING CLOSURE WINDOW, THE MOVEMENT AND LOCATION OF PERSONAL AND EQUIPMENT SHALL BE RESTRICTED DURING PASSAGE OF TRAINS ON ADJACENT TRACKS. THE CONTRACTOR SHALL COORDINATE WITH BNSF REPRESENTATIVE.
- CONTRACTOR SCHEDULE MUST INCLUDE TIME FOR BNSF FORCES TO MODIFY TIES AND/OR RAIL AS NEEDED.
- STAGED CLOSURE WINDOWS NEEDED BY THE COUNTY CONTRACTOR SHALL BE COORDINATED WITH BNSF A MINIMUM OF 60 DAYS AHEAD OF WHEN REQUIRED.
- COUNTY CONTRACTOR TO REFER TO THE EXHIBIT C AND C-1 IN THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FROM BNSF.

**TEMPORARY SOIL RETENTION SYSTEM NOTES**

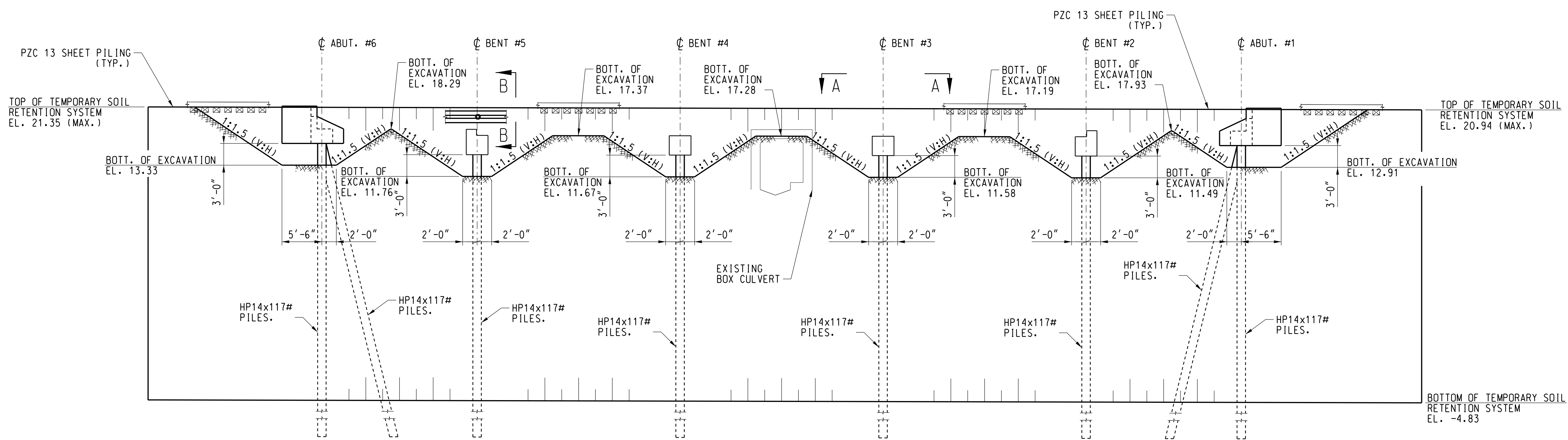
- THE COUNTY CONTRACTOR MUST COORDINATE WITH THE BNSF REPRESENTATIVE TO WORK AROUND THE TRAIN SCHEDULE TO MINIMIZE THE IMPACT ON TRAIN OPERATIONS.
- FOR ADDITIONAL SUGGESTED CONSTRUCTION SEQUENCE AND DETAILS, SEE SHEETS 04 TO 07.
- MATS OR OTHER MEANS OF PROTECTION MUST BE PROVIDED TO PROTECT RAILS AND BALLAST FROM DAMAGE DUE TO EQUIPMENT OR CONSTRUCTION OPERATIONS. COST INCLUDED IN TEMPORARY CROSSING. DETAILS SHALL BE SUBMITTED TO BNSF FOR REVIEW AND APPROVAL.
- THE COUNTY CONTRACTOR SHALL INSTALL THE TEMPORARY SOIL RETENTION SYSTEM IN XX (X) HOUR CLOSURE WINDOWS. COUNTY CONTRACTOR SHALL COORDINATE WITH BNSF ON MOVING TIES TO INSTALL PILES AND SHORING. THE XX (X) HOUR CLOSURE WINDOW SHALL INCLUDE TIME FOR BNSF FORCES TO MAKE MODIFICATIONS TO TIES AND/OR RAIL AS NEEDED TO COMPLETE WORK AND PRIOR TO RESTORING TRAIN OPERATIONS.
- ONLY CONCEPTUAL LAYOUT AND DETAILS ARE SHOWN FOR THE TEMPORARY SOIL RETENTION SYSTEM. THE FINAL DESIGN AND DETAILS ARE THE RESPONSIBILITY OF THE COUNTY CONTRACTOR. FINAL DESIGN AND DETAILS SIGNED AND SEALED BY A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF WASHINGTON SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
- FINAL CONSTRUCTION SEQUENCE, DESIGN AND DETAILS SHALL BE SUBMITTED TO BNSF FOR APPROVAL AND COORDINATION PRIOR TO INSTALLATION OF THE TEMPORARY SOIL RETENTION SYSTEM.
- DESIGN OF TEMPORARY SOIL RETENTION SYSTEM SHOULD BE PER THE BNSF GUIDELINES FOR TEMPORARY SHORING.

**WORK BY BNSF**

- BNSF SHALL INSTALL THE STEEL H-PILES, CAPS AND SPANS.
- ALL WELDING OF CAPS TO PILES SHALL BE PERFORMED BY A CERTIFIED WELDER.
- BNSF WILL CUT EXISTING TRACK PANELS TO BE REMOVED (INTO 40 FOOT LENGTHS) AND THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVAL OF THE TRACK FROM THE BALLAST.
- BNSF WILL INSTALL BRIDGE DECK WATERPROOFING.
- BNSF TO INSTALL THE REPLACEMENT TRACK PANELS.

**UTILITIES**

- RAILROAD UTILITIES MAY EXIST WITHIN BNSF RIGHT-OF-WAY. PRIOR TO THE START OF ANY CONSTRUCTION OR EXCAVATION, UTILITY RELOCATIONS WILL HAVE TO BE COORDINATED WITH BNSF. ANY RELOCATION OF UTILITIES MUST BE IN CONFORMANCE WITH BNSF UTILITY ACCOMMODATION POLICY AND WILL REQUIRE A UTILITY PERMIT LICENSE FROM BNSF.



**TYPICAL SECTION - TEMPORARY SOIL RETENTION SYSTEM**  
BY COUNTY CONTRACTOR

**NOTES:**

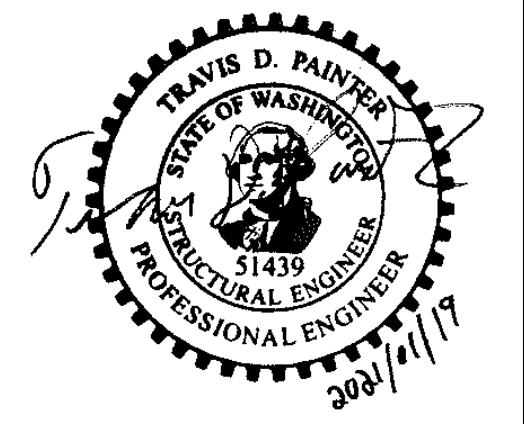
- PER THE TYPICAL SECTION, THE TEMPORARY SOIL RETENTION SYSTEM INCLUDES TWO DIFFERENT EXCAVATION REQUIREMENTS: (1) DEPTH TO ALLOW FOR SETTING OF SUPERSTRUCTURE. (2) DEPTH TO ALLOW FOR SETTING AND ATTACHING PRECAST CAPS AND ASSOCIATED SAFE WORKING SLOPES.
- AT ABUTMENTS AND PIERS, SHEET PILING MAY BE BRACED AGAINST THE DRIVEN H-PILES. IF THIS METHOD IS USED, THE CONTRACTOR SHALL SUBMIT A TEMPORARY SOIL RETENTION SYSTEM DESIGN INCLUDING PLAN DETAILS AND CALCULATIONS SIGNED AND SEALED BY A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF WASHINGTON TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
- IF THE CONTRACTOR ELECTS TO CUT AND REMOVE PORTIONS OF THE TEMPORARY SOIL RETENTION WALL INSTEAD OF REMOVING THE ENTIRE WALL, THE WALL SHALL BE REMOVED TO A DEPTH OF 5' BELOW FINISHED GRADE.
- COORDINATE REMOVAL OF TEMPORARY SOIL RETENTION SYSTEM PRIOR TO INSTALLING SHEET-PILE WALL

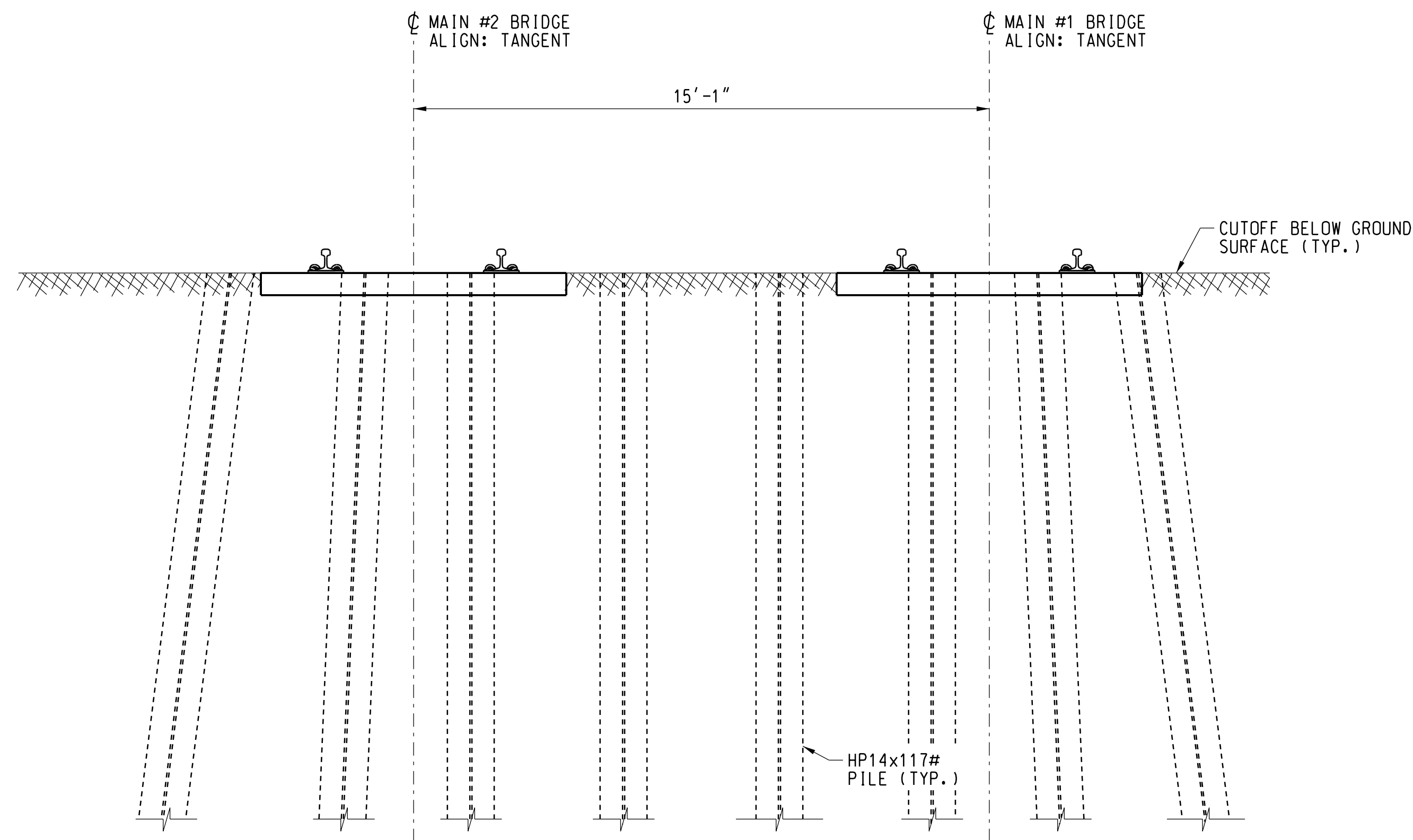
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PLAN:	
LINE SEG:	0050

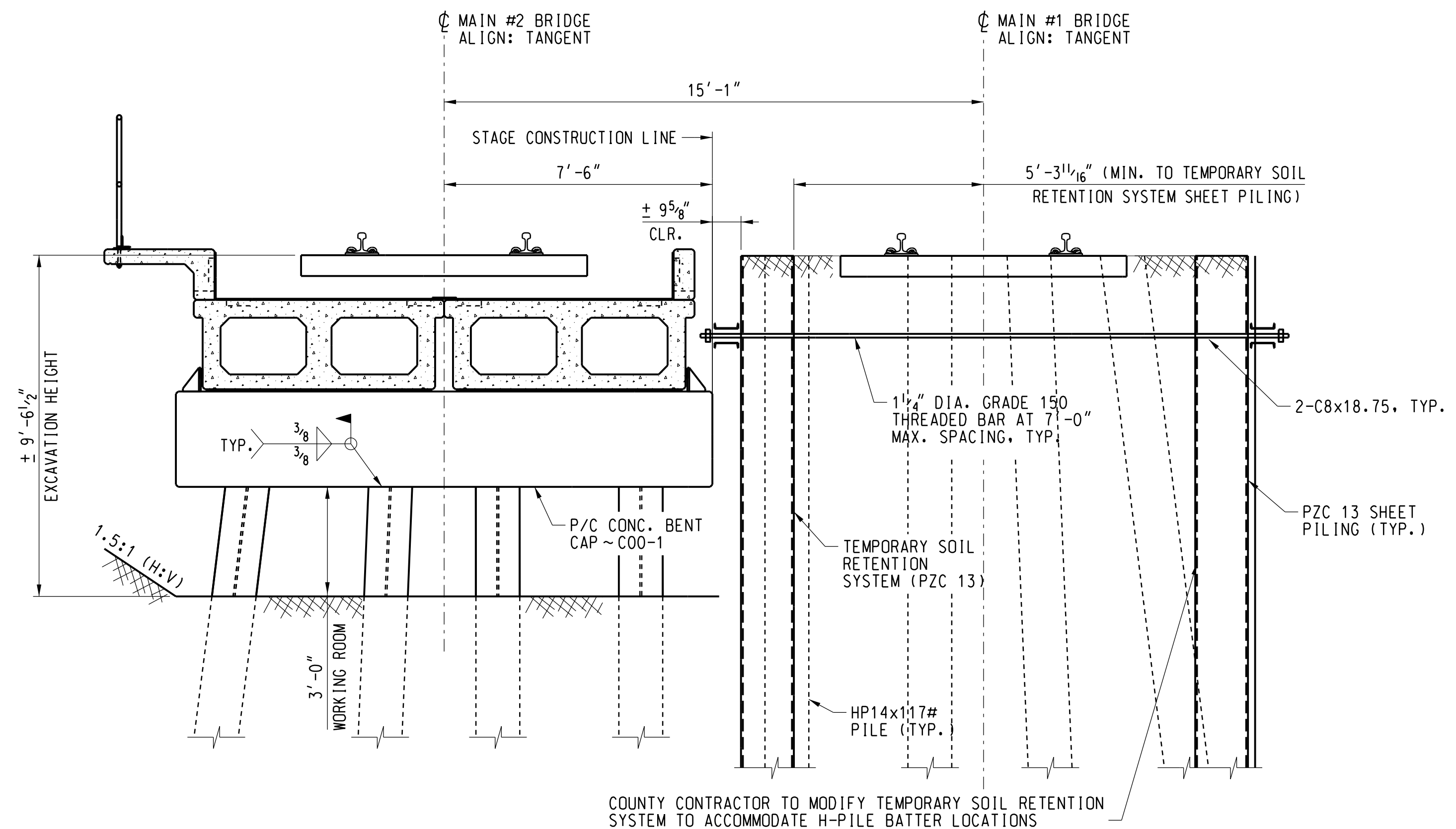
**Snohomish County**  
Parks and Recreation

SEATTLE, WA TO WENATCHEE, WA  
 BRIDGE NUMBER 21.80A  
 OVER LUNDS GULCH CREEK  
 EDMONDS, WA  
**CONSTRUCTION SEQUENCE NOTES & DETAILS**  
 PLAN NO: 0050-0021.800-003 SHEET: 03 OF 10

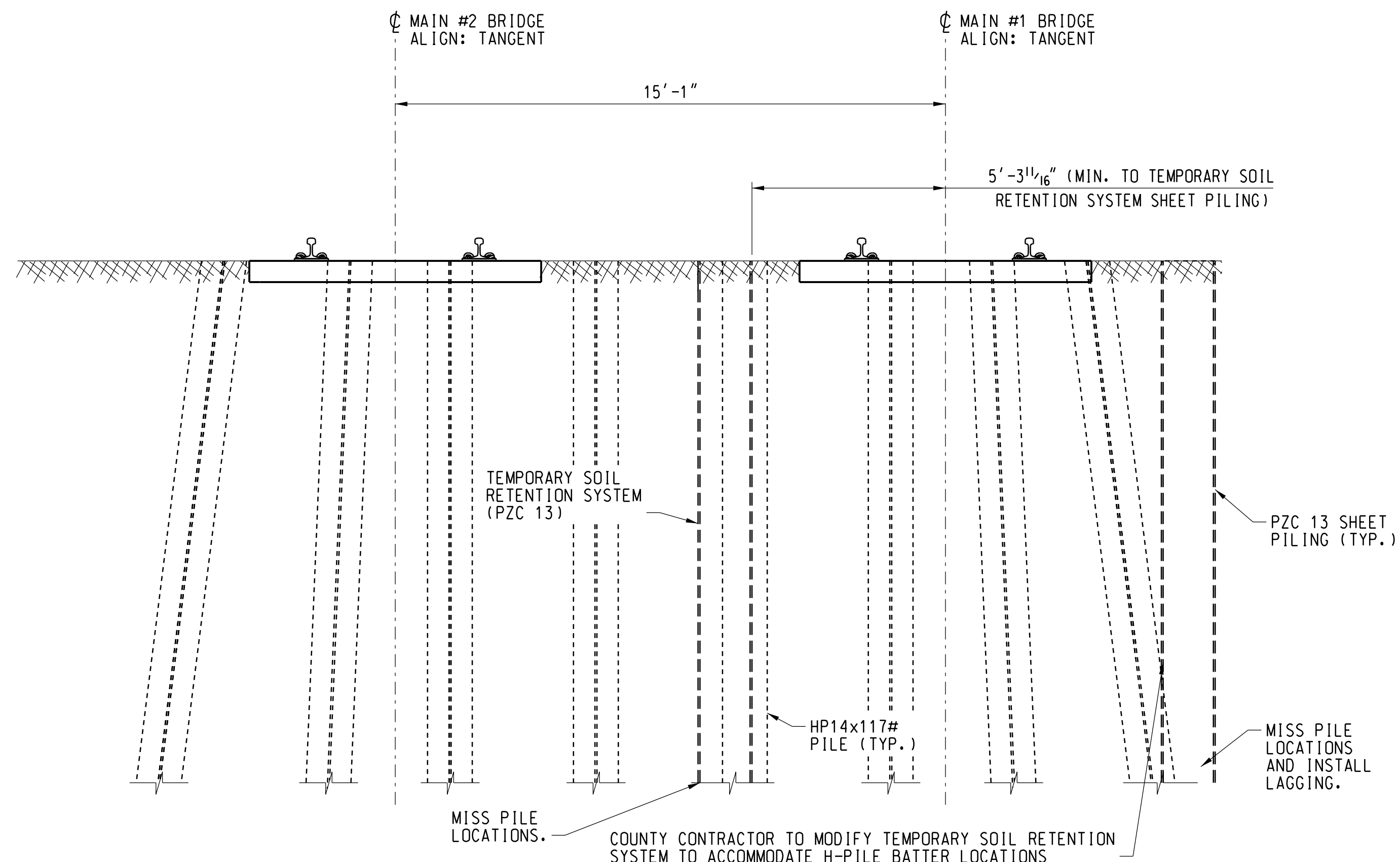




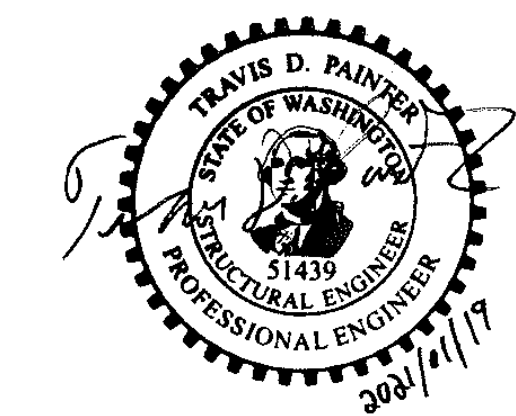
**SUGGESTED CONSTRUCTION SEQUENCE SECTION - STAGE I**  
 BY BNSF  
 (LOOKING RY WEST AT BENT #3)



**SUGGESTED CONSTRUCTION SEQUENCE SECTION - STAGE III**  
 SPANS AND CAPS BY BNSF, TEMPORARY SOIL RETENTION SYSTEM BY COUNTY CONTRACTOR  
 (LOOKING RY WEST AT BENT #3)



**SUGGESTED CONSTRUCTION SEQUENCE SECTION - STAGE II**  
 BY COUNTY CONTRACTOR  
 (LOOKING RY WEST AT BENT #3)



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DATE:	01/19/2021
PLAN:	
LINE SEG:	0050



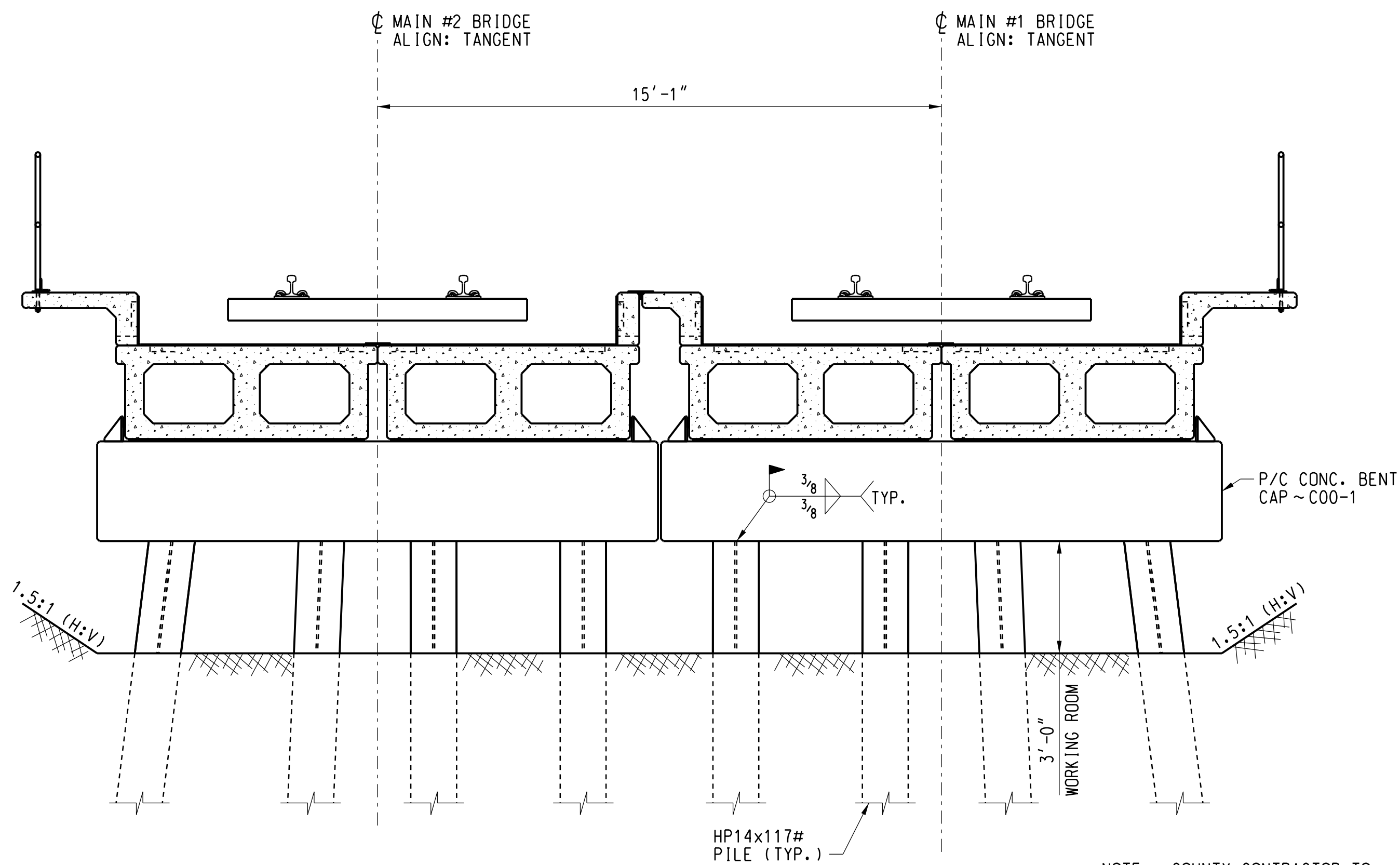
SEATTLE, WA TO WENATCHEE, WA	
BRIDGE NUMBER 21.80A	
OVER LUNDS GULCH CREEK	
EDMONDS, WA	
CONSTRUCTION SEQUENCE	
STAGING SECTIONS I, II, & III	
PLAN NO: 0050-0021.800-004	SHEET: 04 OF 10

**100% SUBMITTAL**



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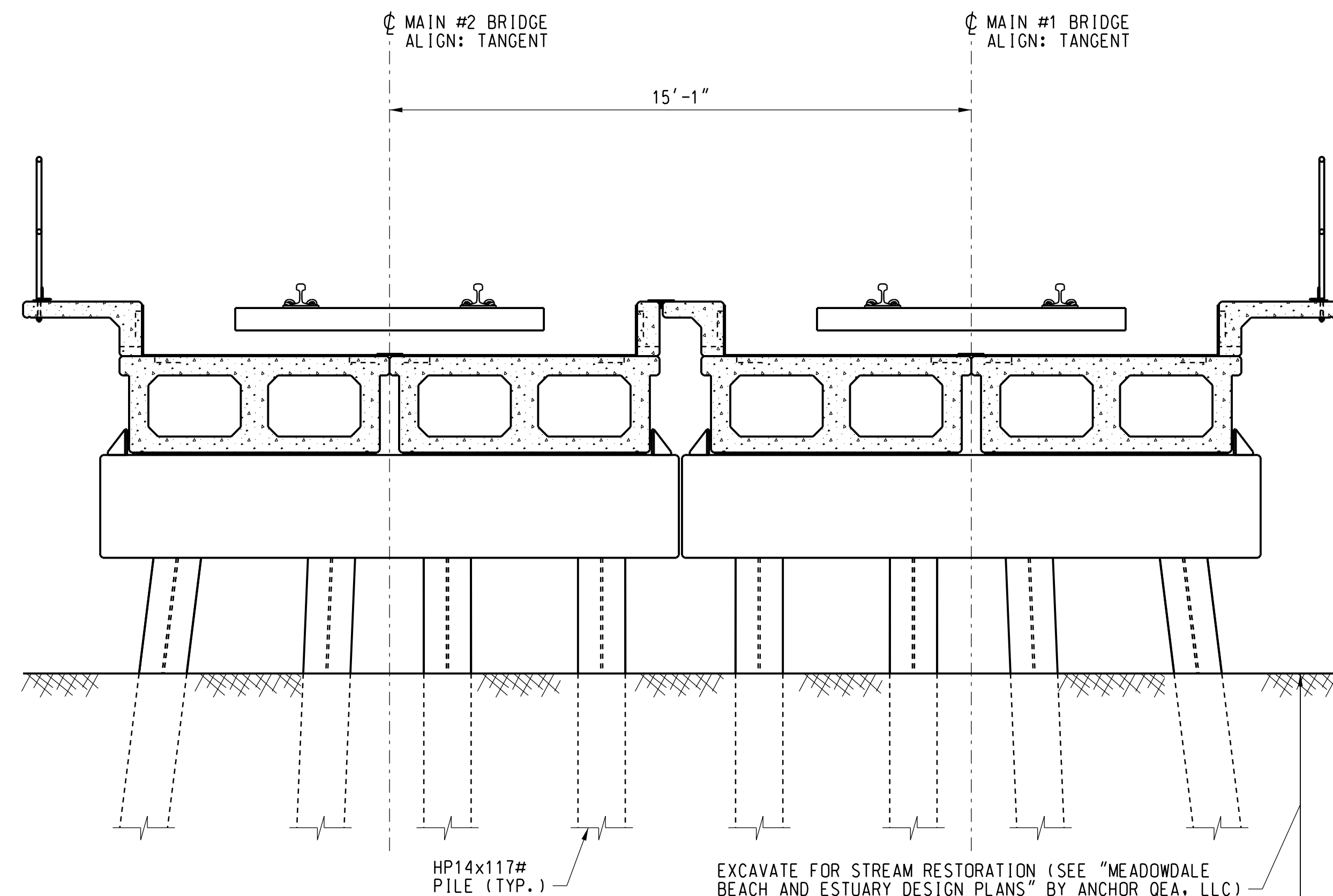
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**SUGGESTED CONSTRUCTION SEQUENCE SECTION - STAGE IV**

BY BNSF  
(LOOKING RY WEST AT BENT #3)

NOTE: COUNTY CONTRACTOR TO REMOVE SHORING BETWEEN STAGE III AND STAGE IV.



**SUGGESTED CONSTRUCTION SEQUENCE SECTION - STAGE V**

(LOOKING RY WEST AT BENT #3)  
BY COUNTY CONTRACTOR

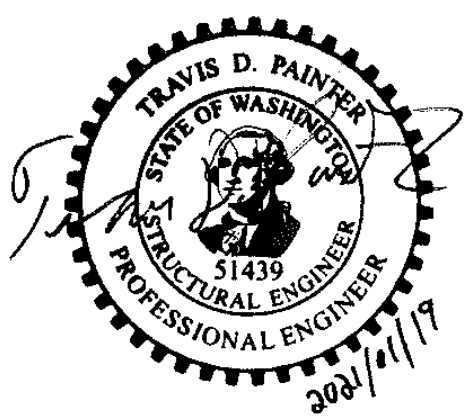
EXCAVATE FOR STREAM RESTORATION (SEE "MEADOWDALE BEACH AND ESTUARY DESIGN PLANS" BY ANCHOR OEA, LLC)

**100% SUBMITTAL**

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LINE SEG:	0050

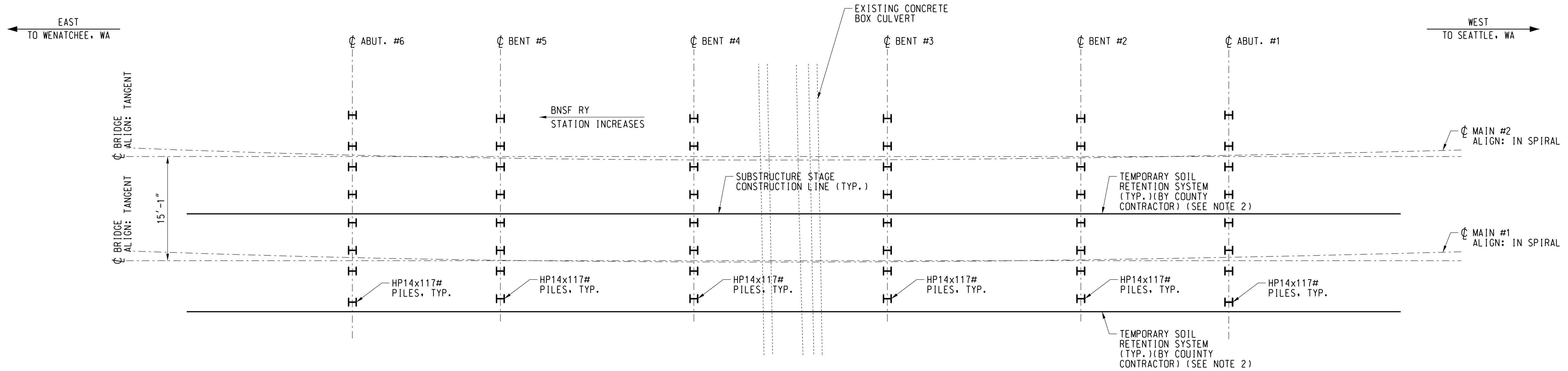


SEATTLE, WA TO WENATCHEE, WA
BRIDGE NUMBER 21.80A
OVER LUNDS GULCH CREEK
EDMONDS, WA
CONSTRUCTION SEQUENCE
STAGING SECTIONS IV & V
PLAN NO: 0050-0021.800-005
SHEET: 05 OF 10



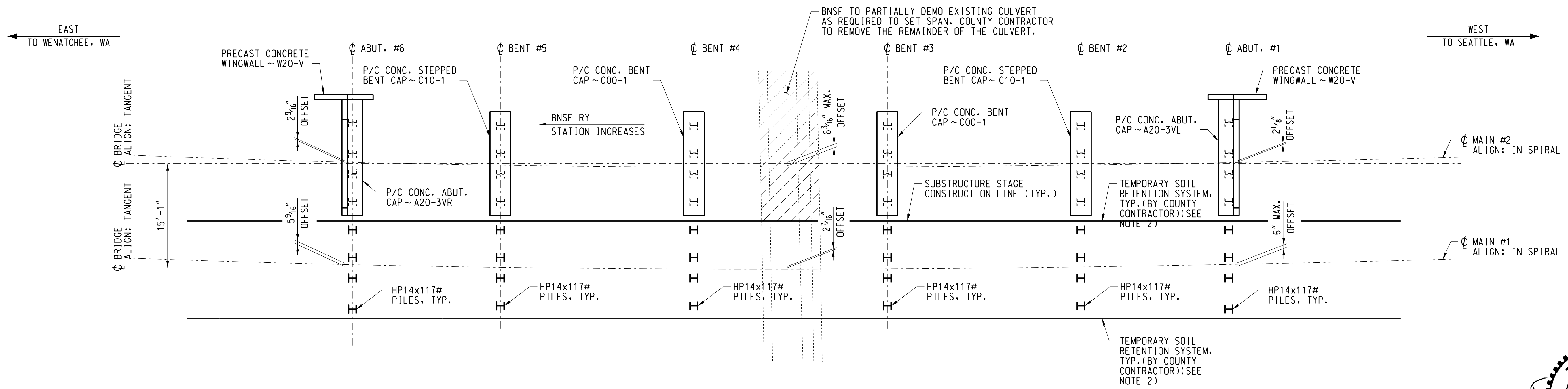
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Date Printed: 1/19/2021 Time Printed: 10:52:13 AM



- NOTES:**
1. SEE SHEETS 3, 4, & 5 TO DETERMINE RESPONSIBILITIES OF BNSF AND COUNTY CONTRACTOR.
  2. COUNTY CONTRACTOR TO MODIFY TEMPORARY SOIL RETENTION SYSTEM TO ACCOMMODATE H-PILES AND OTHER BRIDGE COMPONENTS
  3. COUNTY CONTRACTOR TO COORDINATE REMOVAL OF TEMPORARY SOIL RETENTION SYSTEM PRIOR TO INSTALLING SHEET-PILE WALL

**PLAN - SUGGESTED STAGE I & II**



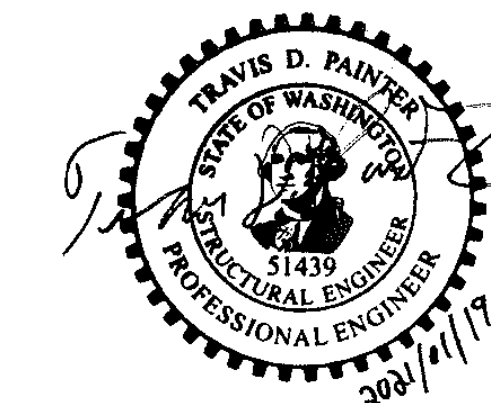
- NOTES:**
1. SEE SHEETS 3, 4, & 5 TO DETERMINE RESPONSIBILITIES OF BNSF AND COUNTY CONTRACTOR.
  2. COUNTY CONTRACTOR TO MODIFY TEMPORARY SOIL RETENTION SYSTEM TO ACCOMMODATE H-PILES AND OTHER BRIDGE COMPONENTS

**PLAN - SUGGESTED STAGE III**

DES:	TDP
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DATE:	01/19/2021
PLAN:	
LINE SEG:	0050



SEATTLE, WA TO WENATCHEE, WA	
BRIDGE NUMBER 21.80A	
OVER LUNDS GULCH CREEK	
EDMONDS, WA	
CONSTRUCTION SEQUENCE PLAN -	
STAGE I, II & III	
PLAN NO: 0050-0021.800-006	SHEET: 06 OF 10



**100% SUBMITTAL**



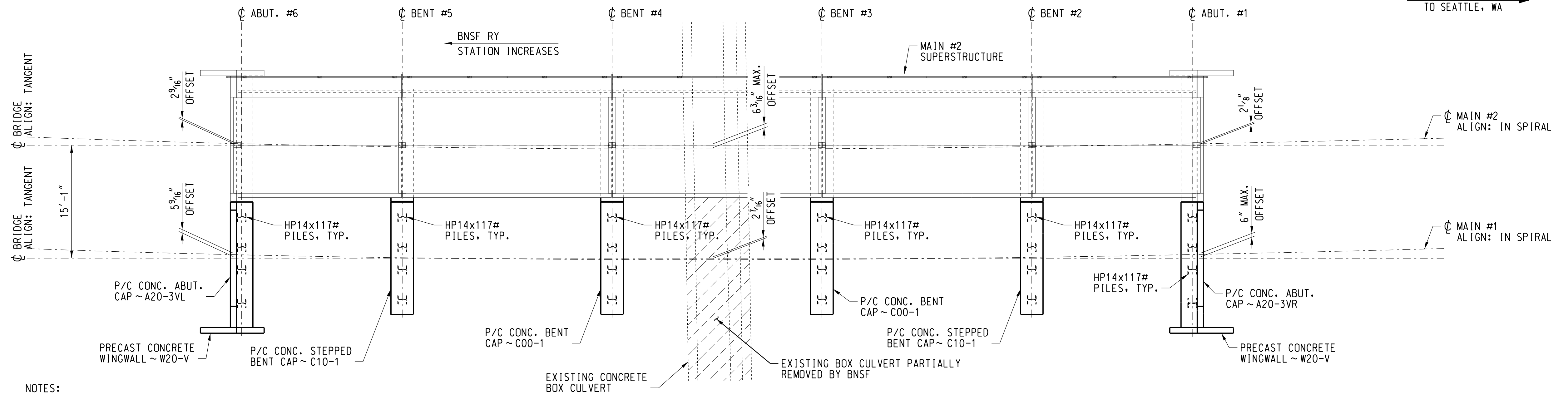
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EAST  
TO WENATCHEE, WA

WEST  
TO SEATTLE, WA



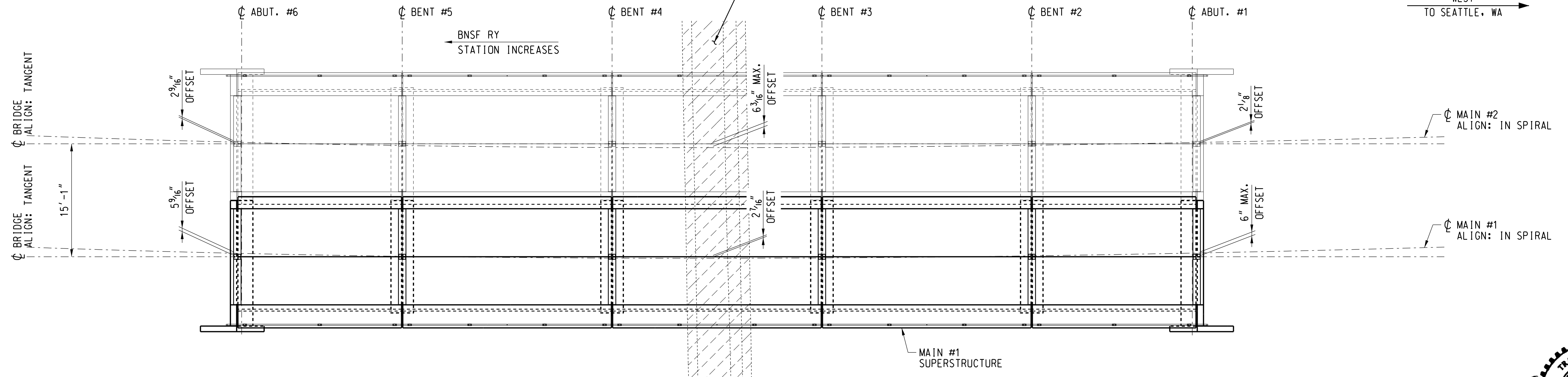
- NOTES:
1. SEE SHEETS 3, 4, & 5 TO DETERMINE RESPONSIBILITIES OF BNSF AND COUNTY CONTRACTOR.
  2. COUNTY CONTRACTOR MAY LEAVE TEMPORARY SOIL RETENTION SYSTEM IN PLACE AT BRIDGE ABUTMENTS.

**PLAN - SUGGESTED STAGE IVa**

REMOVE SHORING BETWEEN STAGE III AND STAGE IV

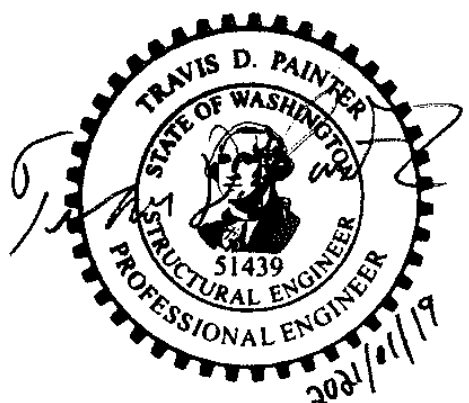
EAST  
TO WENATCHEE, WA

WEST  
TO SEATTLE, WA



**PLAN - SUGGESTED STAGE IVb**

(COMPLETELY REMOVE TEMPORARY SOIL RETENTION SYSTEM BEFORE PLACEMENT OF SPANS ON MAIN #1)



DES:	TDP
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PLAN:	
LINE SEG:	0050



SEATTLE, WA TO WENATCHEE, WA	
BRIDGE NUMBER 21.80A	
OVER LUNDS GULCH CREEK	
EDMONDS, WA	
CONSTRUCTION SEQUENCE PLAN -	
STAGE IV	
PLAN NO: 0050-0021.800-007	SHEET: 07 OF 10

**100% SUBMITTAL**

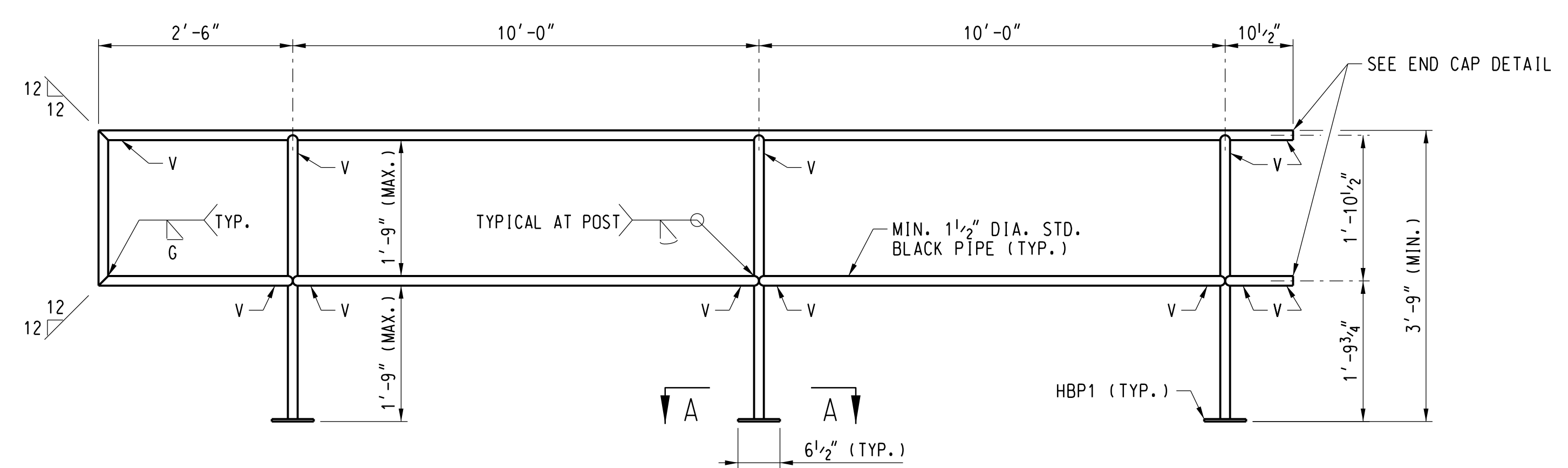


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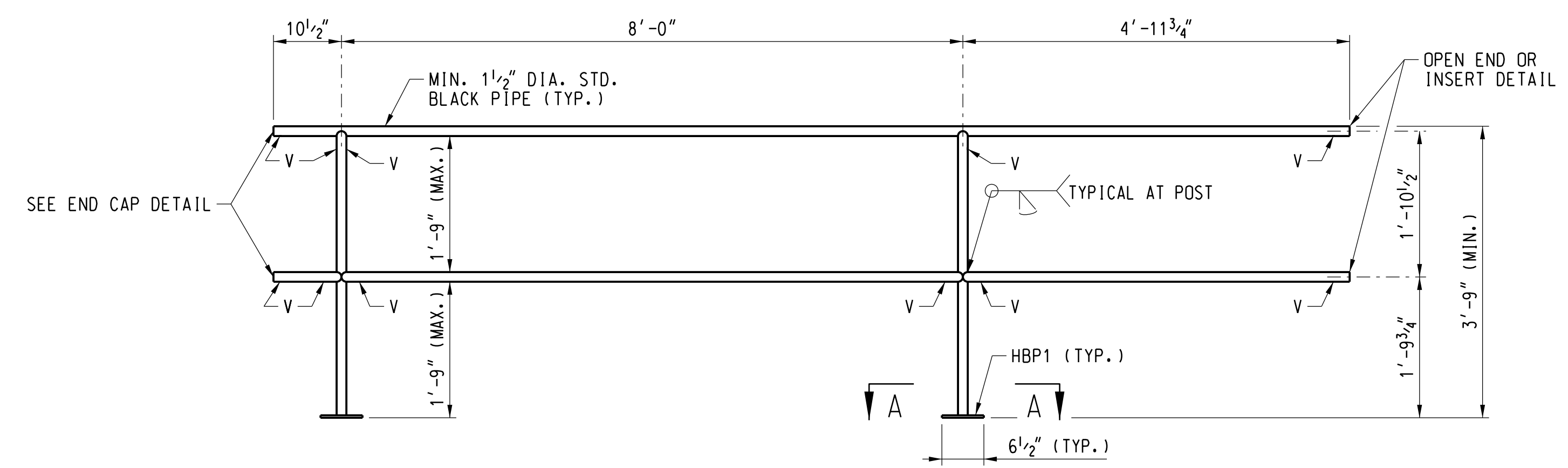
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CLEARANCE 6'-8"

**TYPICAL CLEARANCE SIGN 12"x36"**  
TO BE FURNISHED AND INSTALLED BY COUNTY CONTRACTOR



**HANDRAIL PANEL ~ HP1-2W-100**  
INCLUDE 4"x3"x3/8" TOE PLATE. GALVANIZE AFTER FABRICATION.



**HANDRAIL PANEL ~ HP2-1W-080**  
INCLUDE 4"x3"x3/8" TOE PLATE. GALVANIZE AFTER FABRICATION.

BILL OF MATERIAL (FOR BNSF ONLY)							
LINE	QUAN.	UNIT.	DESCRIPTION	MARK	SIZE	LENGTH	REMARKS
1	2	EA	P/C P/S CONC. SLAB BEAM w/ CURB	B20-2110-V	20"x7'-0"	21'-10"	PER PLAN NO. 0000-1210-01 & 02
2	2	EA	P/C P/S CONC. SLAB BEAM w/ WALK	B20-2110-VW	20"x7'-0"	21'-10"	PER PLAN NO. 0000-1210-01 & 02
3	3	EA	P/C P/S CONC. BOX BEAM w/ CURB (TYPE II)	B30-2710-V	30"x7'-0"	27'-10"	PER PLAN NO. 0000-1212-03 & 04
4	3	EA	P/C P/S CONC. BOX BEAM w/ WALK (TYPE II)	B30-2710-VW	30"x7'-0"	27'-10"	PER PLAN NO. 0000-1212-03 & 04
5	1	EA	PRECAST CONC. CAP - ABUTMENT	A20-3VR	3'-0"x5'-1 3/4"	16'-9"	PER PLAN NO. 0000-1120-05
6	1	EA	PRECAST CONC. CAP - ABUTMENT	A20-3VL	3'-0"x5'-1 3/4"	16'-9"	PER PLAN NO. 0000-1120-05
7	2	EA	PRECAST CONC. CAP - BENT	C00-1	3'-0"x2'-8"	15'-0"	PER PLAN NO. 0000-1110-01
8	2	EA	PRECAST CONC. CAP - BENT	C10-1	3'-0"x3'-6"	15'-0"	PER PLAN NO. 0000-1110-04
9	2	EA	PRECAST CONC. WINGWALL	W20-V	9"x5'-1 3/4"	8'-6"	PER PLAN NO. 0000-1121-02
10							
11	379.080	LBS.	STEEL H-PILES (72 PIECES)		HP14x117#	45'-0"	MAT'L PER ASTM 572, GR. 50
12							
13	8	EA	WASHER, GALVANIZED	W100	4"x3/4"	4"	PER PLAN NO. 0000-1000-06
14	6	EA	DECK PLATE, GALVANIZED	DPV1	12"x3/8"	7'-9 1/2"	PER PLAN NO. 0000-1910-04
15	6	EA	DECK PLATE, GALVANIZED	DPV2	12"x3/8"	7'-9 1/2"	PER PLAN NO. 0000-1910-04
16	8	EA	RESTRAINER BRACKET	B100	PC OF HP14x89#	8"	PER PLAN NO. 0000-1910-05
17	4	EA	RESTRAINER BRACKET	B101	PC OF HP14x89#	8"	PER PLAN NO. 0000-1910-05
18	4	EA	RESTRAINER BRACKET	B201	∠7"x4"x3/4"	8"	PER PLAN NO. 0000-1910-05
19							
20	2	EA	HANDRAIL PANEL w/ TOE PLATES, GALVANIZED	HP1-2W-100	1 1/2" DIA. PIPE	23'-4 1/2"	PER PLAN NO. 0000-1221-01
21	6	EA	HANDRAIL PANEL w/ TOE PLATES, GALVANIZED	HP2-1W-080	1 1/2" DIA. PIPE	13'-10 1/4"	PER PLAN NO. 0000-1221-01
22	18	EA	PLATE, GALVANIZED	HBP3	1/4"x1 1/2"	6"	PER PLAN NO. 0000-1910-06
23	36	EA	BOLT, HEX HEAD, GALVANIZED		3/4" DIA.	7"	PER PLAN NO. 0000-1000-13
24	72	EA	STD. WASHER, GALVANIZED 1 3/16" I.D. x 1 1/16" O.D.				PER PLAN NO. 0000-1000-13
25	36	EA	LOCK NUT, CENTER LOCKING, ZINC PLATED		3/4" DIA.		PER PLAN NO. 0000-1000-13
26							
27	4	EA	BEARING PAD, URETHANE, 70 DUROMETER		3/4"x10"	13'-10"	PER PLAN NO. 0000-1000-13
28	12	EA	BEARING PAD, URETHANE, 70 DUROMETER		3/4"x10"	6'-4"	PER PLAN NO. 0000-1000-13
29	32	EA	PREMOLDED JOINT FILLER, ASPHALT IMPREGNATED		1/2"x18"	6'-10"	PER PLAN NO. 0000-1000-06
30	16	EA	PREMOLDED JOINT FILLER, ASPHALT IMPREGNATED		1/2"x28"	6'-4"	PER PLAN NO. 0000-1000-06
31							
32	1	LS	BRIDGE DECK WATERPROOFING				PER STANDARD SPEC. 04800
33							
34	1	EA	BRIDGE NO. SIGN	21.80			DETAILS PLAN 3103.01.03
35	1	EA	DANGER SIGN, NO. 70		16"x30"		DETAILS PLAN 3070.01.01
36	2	EA	SIGN POST, NO. 1 BLACK			6'-0"	(TRACK STD. PLAN BOOK)
37							
38							
39							
SUPERVISOR STRUCTURES TO PROVIDE:							

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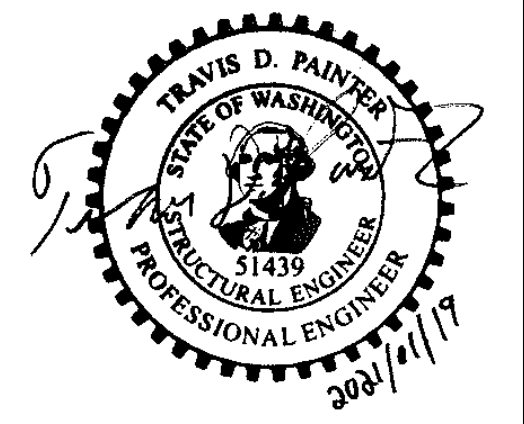
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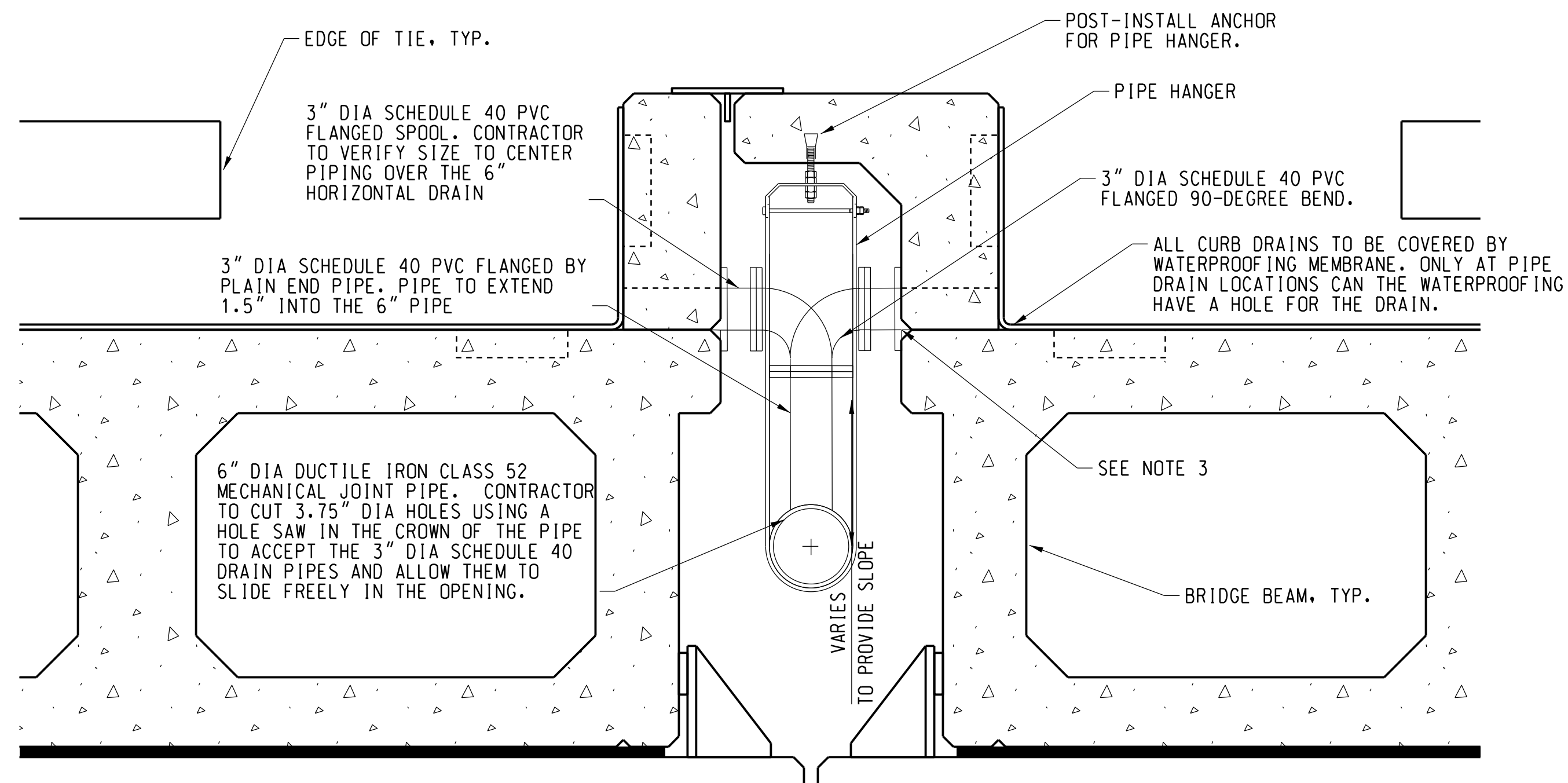
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PLAN:	
LINE SEG:	0050



SEATTLE, WA TO WENATCHEE, WA BRIDGE NUMBER 21.80A OVER LUNDS GULCH CREEK EDMONDS, WA <b>BILL OF MATERIAL</b>	PLAN NO: 0050-0021.800-008 SHEET: 08 OF 10
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NOTES:

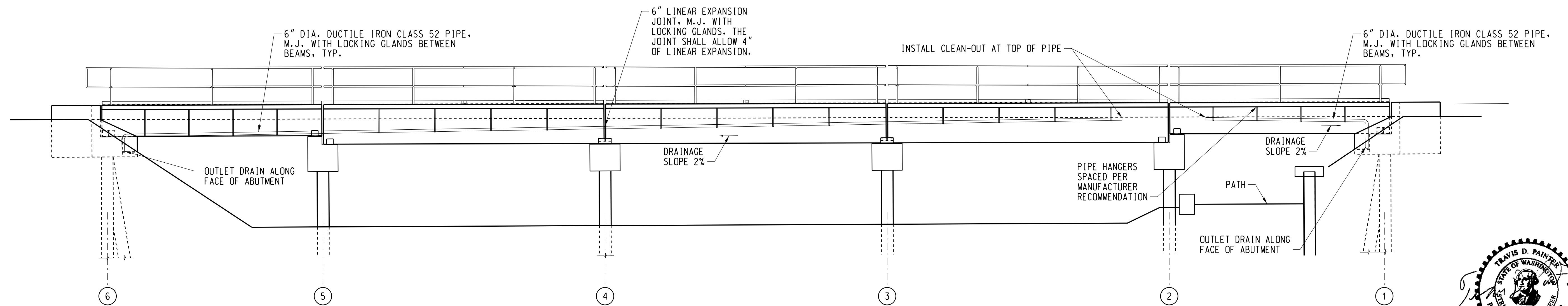
1. MAXIMUM FOUR (4) CURB CONNECTIONS PER SPAN. ALTERNATE CURB DRAIN LOCATIONS TO ALLOW FOR PIPE CLEARANCE.
2. DRAINAGE SYSTEM CONNECTS INTO EXISTING 3" DRAINS IN CURBS.
3. SEAL CONNECTION BETWEEN FLANGE AND THE CONCRETE SURFACE WITH SIKAFLEX-221. DRILL AND ANCHOR THE FLANGED FITTING TO THE CONCRETE USING 3/8" S.S. THREADED ANCHOR WITH 3" EMBEDMENT USING SIKA ANCHORFIX-1.

DECK DRAIN TYPICAL SECTION - BETWEEN BEAMS

BY COUNTY CONTRACTOR

GENERAL NOTES - BRIDGE DRAINAGE SYSTEM:

1. PIPE, FITTINGS, BRACKETS, JOINTS, SEALANTS, CLAMPS, ALL FASTENING AND MOUNTING HARDWARE, PIPE SUPPLIER APPROVED WELD BOND STRUCTURAL ADHESIVE FOR PIPE JOINTS, FABRICATION AND INSTALLATION SHALL BE INCLUDED IN THE COST OF "DRAINAGE SYSTEM", LUMP SUM.
2. THE STEEL COMPONENTS USED FOR SUPPORT BRACKETS AND CLAMPS SHALL MEET THE REQUIREMENTS OF ASTM A36.
3. ALL PIPE HANGERS, BRACKETS AND HARDWARE SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A-153 UNLESS OTHERWISE NOTED. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED. STAINLESS STEEL BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-193, CLASS 1, GRADE 8 OR 8F, 303 OR 304, AND STAINLESS STEEL WASHERS SHALL CONFORM TO ASTM A-240, TYPE 302 OR 304.
4. THE EXTERIOR SURFACES OF PVC AND DUCTILE IRON PIPES AND FITTINGS SHALL BE CLEANED ACCORDING TO SOCIETY OF PROTECTIVE COATING'S SPECIFICATION SSPC-SP1 PRIOR TO PAINTING AND SHALL BE COATED WITH AN ENGINEER APPROVED MUNSELL COLOR.



PROFILE DRAIN DETAIL

BY COUNTY CONTRACTOR



**100% SUBMITTAL**

DES:	TDP / LB
DRAWN:	CDP
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DATE:	01/19/2021
PLAN:	
LINE SEG:	0050



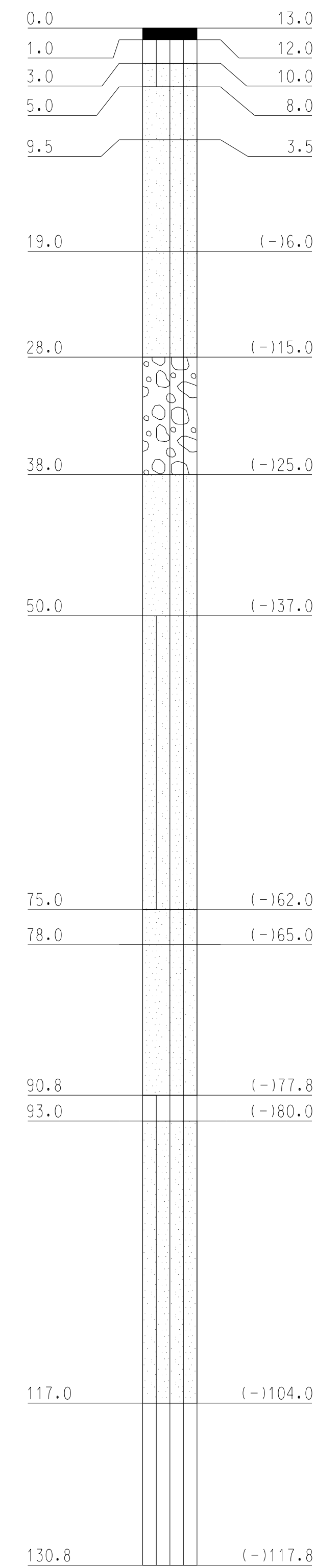
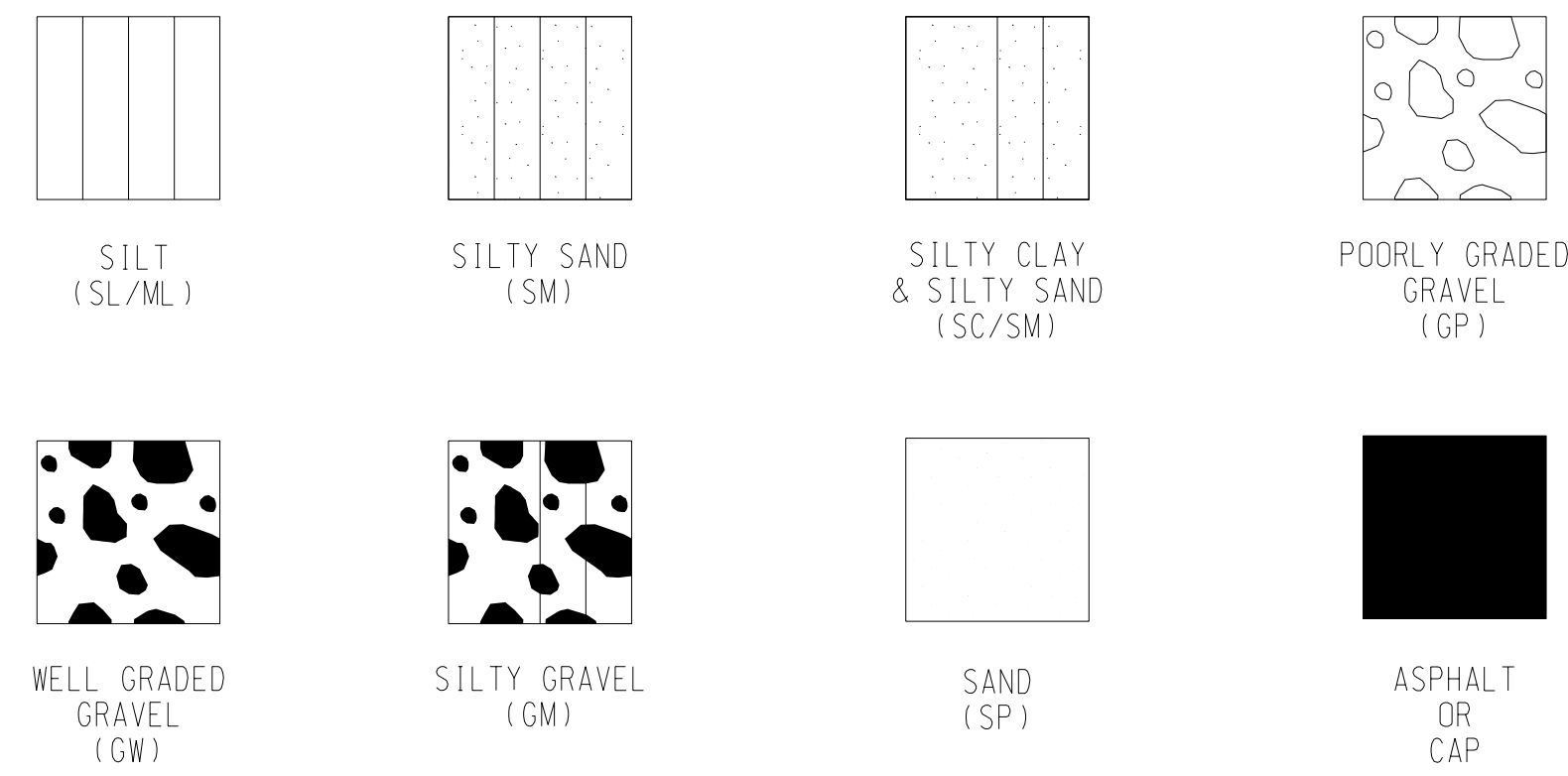
SEATTLE, WA TO WENATCHEE, WA	
BRIDGE NUMBER 21.80A	
OVER LUNDS GULCH CREEK	
EDMONDS, WA	
DRAINAGE SYSTEM	
PLAN NO:	0050-0021.800-009
SHEET:	09 OF 10



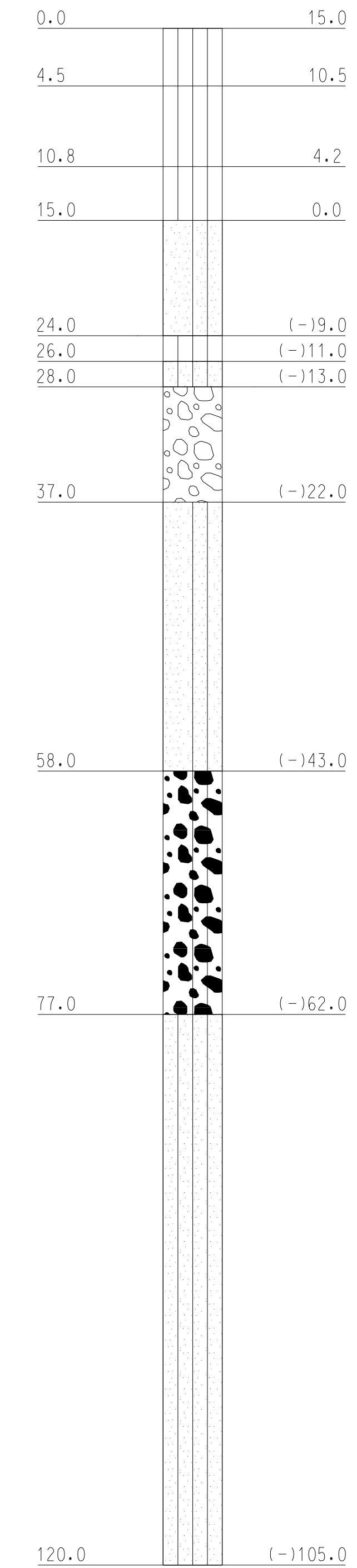
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BORING LOG LEGEND



BORING MB-6



BORING MB-7

NOTE:

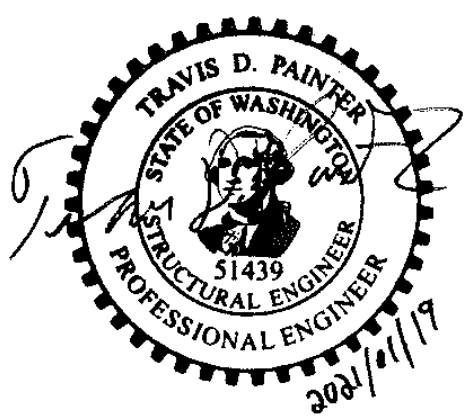
STICK BORING LOGS PROVIDED FOR REFERENCE ONLY. SEE GEOTECHNICAL REPORT BY SHANNON & WILSON, INC. FOR FULL DETAILS.

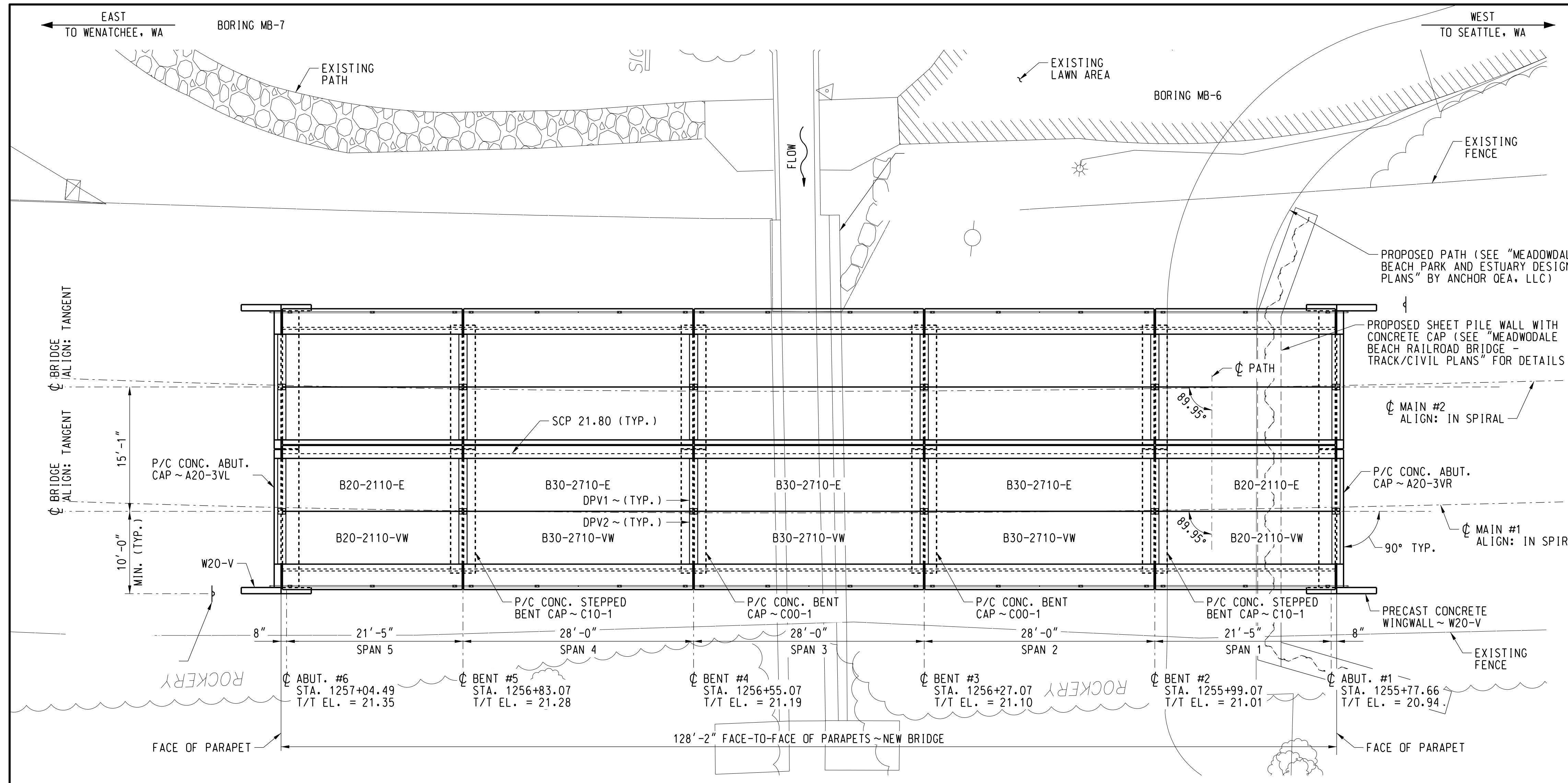
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LINE SEG:	0050



SEATTLE, WA TO WENATCHEE, WA  
 BRIDGE NUMBER 21.80A  
 OVER LUND'S GULCH CREEK  
 EDMONDS, WA  
 BORING LOGS





LIST OF DRAWINGS - BR. 21.80B	
PLAN NO.	TITLE
0050-0021.800-011	GENERAL PLAN & ELEVATION
0050-0021.800-012	TYPICAL SECTIONS & PILE LAYOUT PLAN
0050-0021.800-013	CONSTRUCTION SEQUENCE NOTES & DETAILS
0050-0021.800-014	CONSTRUCTION SEQUENCE STAGING SECTIONS I, II & III
0050-0021.800-015	CONSTRUCTION SEQUENCE STAGING SECTIONS IV & V
0050-0021.800-016	CONSTRUCTION SEQUENCE PLAN - STAGE I, II & III
0050-0021.800-017	CONSTRUCTION SEQUENCE PLAN - STAGE IV
0050-0021.800-018	BILL OF MATERIAL
0050-0021.800-019	DRAINAGE SYSTEM
0050-0021.800-020	BORING LOGS

REFERENCES			
NO.	PLAN NO.	SHEET NO.	DESCRIPTION
1	X	X	JUNE 1, 2016 BNSF STANDARD BRIDGE & COMPONENT PLANS

TABLE OF EST. LIFTING WEIGHTS			
ITEM	MARK NO.	ESTIMATED WEIGHT (LBS)	
PRECAST P/S CONC. DBL. CELL BOX BEAM - TYPE II	B30-2710-VW	48,150	
PRECAST P/S CONC. DBL. CELL BOX BEAM - TYPE II	B30-2710-E	45,370	
PRECAST P/S CONC. SLAB BEAM	B20-2110-VW	46,280	
PRECAST P/S CONC. SLAB BEAM	B20-2110-E	44,100	
PRECAST CONC. ABUTMENT CAP	A20-3VR	21,510	
PRECAST CONC. ABUTMENT CAP	A20-3VL	21,510	
PRECAST CONC. BENT CAP	C00-1	20,060	
PRECAST CONC. STEPPED BENT CAP	C10-1	22,820	
PRECAST CONC. WINGWALL	W20-V	4,140	

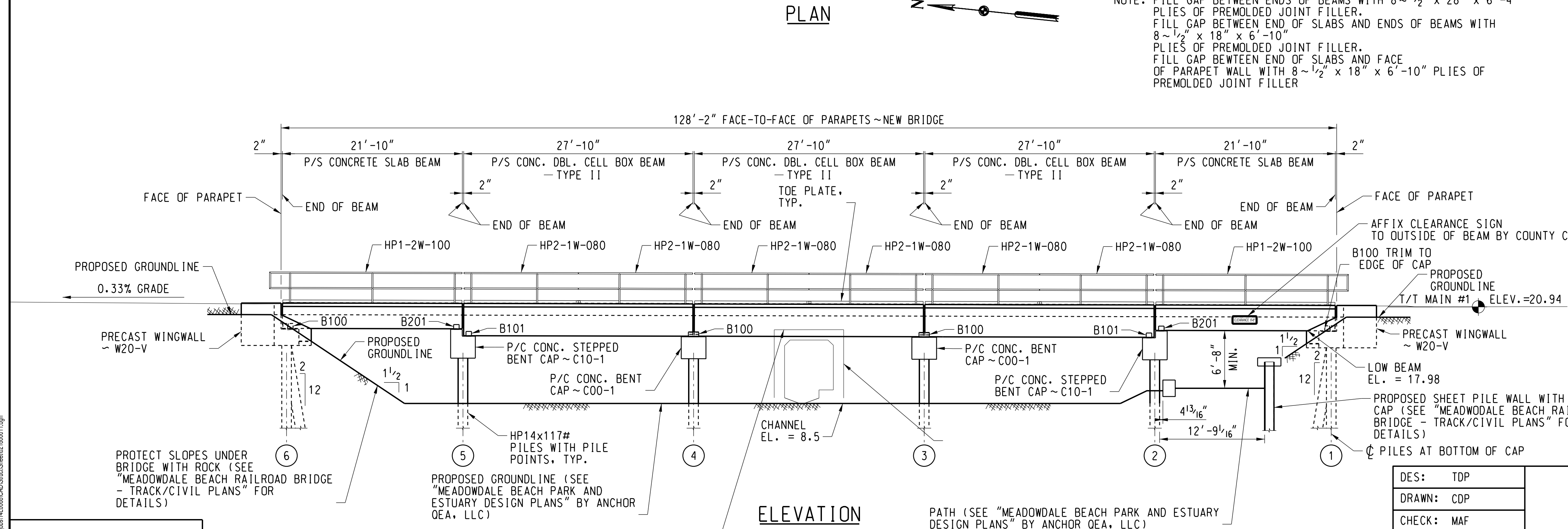
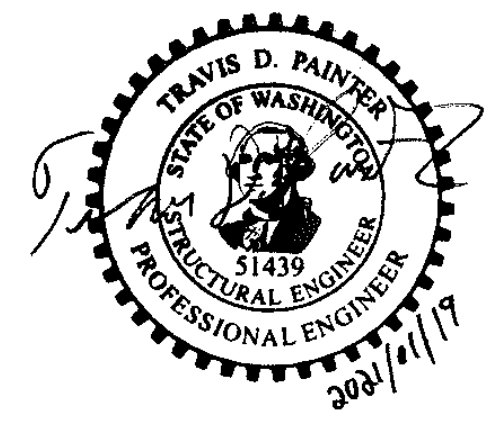
TABLE OF ELEVATIONS				
LOCATION	MAIN #1 TOP/TIE	TOP/CAP	PILE CUTOFF	T/T TO PILE CUTOFF MAIN #1
ABUT. 1	20.94	17.91	15.91	5'-0 1/4"
BENT 2	21.01	17.99/17.15	14.49	6'-6 1/4"
BENT 3	21.10	17.24	14.58	6'-6 1/4"
BENT 4	21.19	17.34	14.67	6'-6 1/4"
BENT 5	21.28	18.26/17.43	14.76	6'-6 1/4"
ABUT. 6	21.35	18.33	16.33	5'-0 1/4"

**ADJACENT WORK**  
 WORK THESE SHEETS WITH SHEETS FOR BR. 21.80A

NOTE: STATIONS ARE BASED ON MAIN #2

**LEGEND:**  
 T/T = TOP OF TIE  
 RY = RAILWAY  
 B.S. = BOTH SIDES

**DESIGN DATA:**  
 2018 A.R.E.M.A. DESIGN SPECIFICATIONS  
 LOADING: COOPER E 80 W/ DIESEL IMPACT



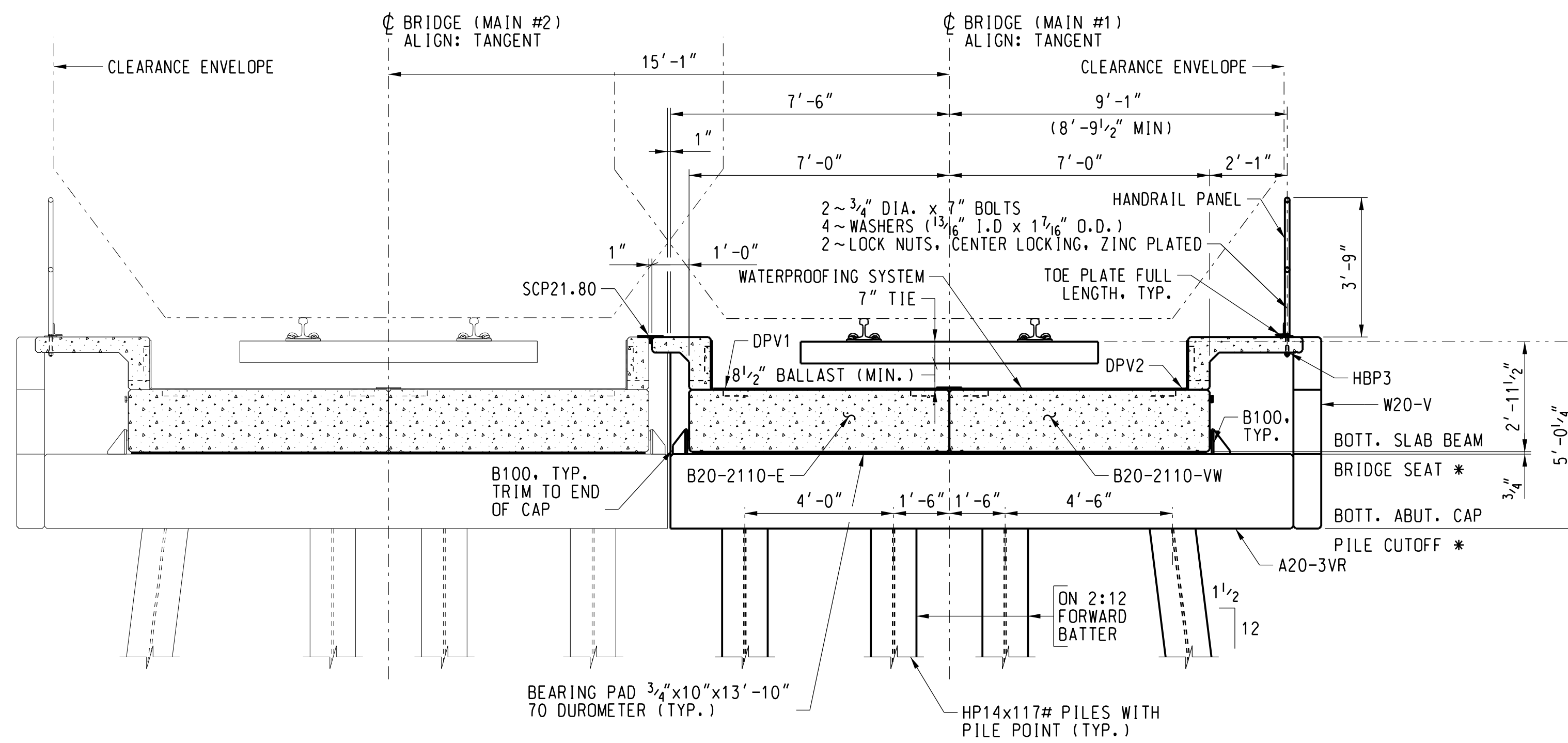
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DRAWN:	CDP
CHECK:	MAF
DATE:	01/08/2021
PLAN:	
LINE SEG:	0050



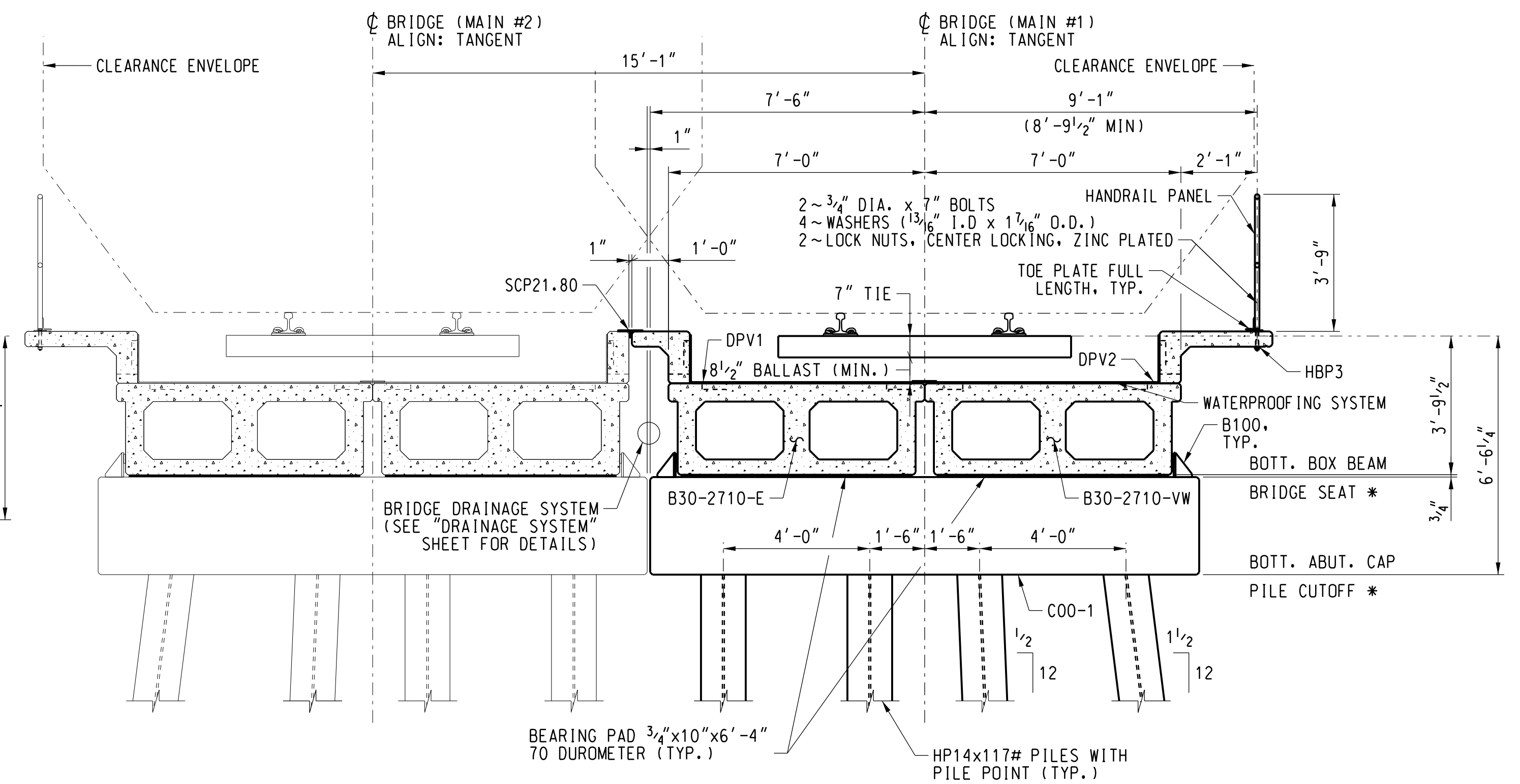
SEATTLE, WA TO WENATCHEE, WA  
 BRIDGE NUMBER 21.80B  
 OVER LUNDS GULCH CREEK  
 EDMONDS, WA  
 GENERAL PLAN & ELEVATION  
 PLAN NO: 0050-0021.800-011 SHEET: 01 OF 10



**100% SUBMITTAL**



**TYPICAL SECTION AT ABUTMENT**  
 (WEST ABUTMENT SHOWN, EAST ABUTMENT OPPOSITE HAND)  
 (PROPOSED TRACK ELEVATIONS SHOWN.)



**TYPICAL SECTION AT BENT**  
 (LOOKING BY WEST)  
 (PROPOSED TRACK ELEVATIONS SHOWN.)

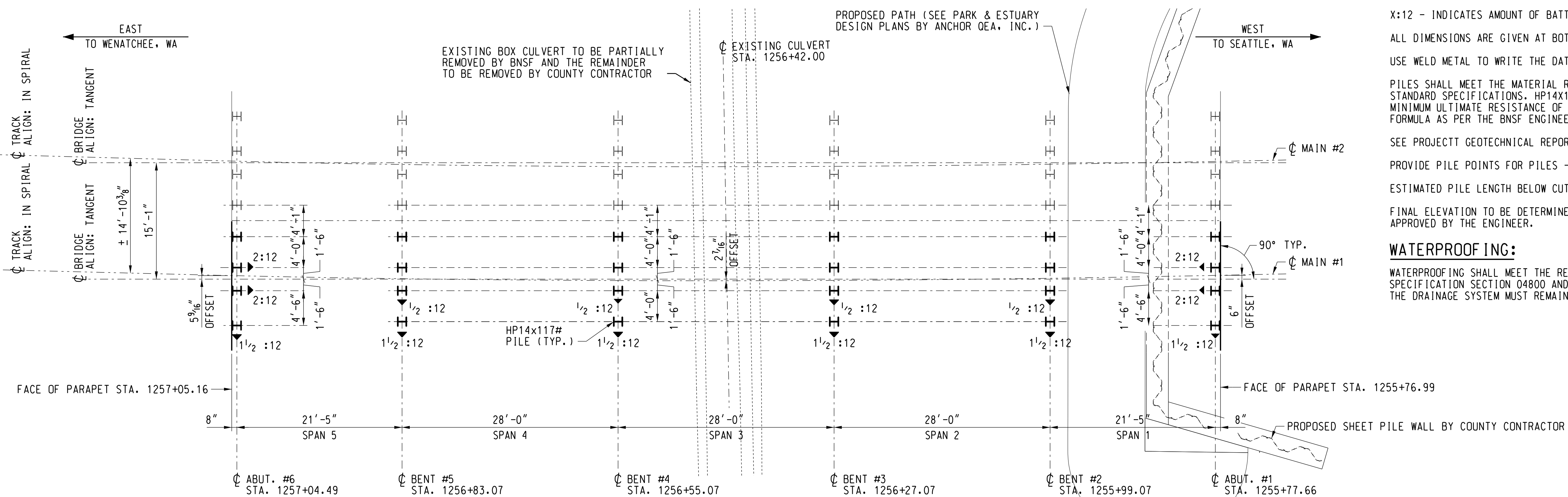
\* SEE ELEVATION TABLE ON SHEET 1 FOR ELEVATIONS.

**NOTES:**

- ▼ - INDICATES DIRECTION OF BATTER.
- X:12 - INDICATES AMOUNT OF BATTER
- ALL DIMENSIONS ARE GIVEN AT BOTTOM OF PRECAST CAP.
- USE WELD METAL TO WRITE THE DATE AND AVERAGE PILE DEPTH IN 3 INCH TALL LETTERS ON EACH BENT.
- PILES SHALL MEET THE MATERIAL REQUIREMENTS OF AND SHALL BE DRIVEN IN ACCORDANCE WITH BNSF STANDARD SPECIFICATIONS. HP14X117# PILES SHALL BE DRIVEN TO REFUSAL, IF POSSIBLE, OR TO A MINIMUM ULTIMATE RESISTANCE OF 250 TONS AS DETERMINED BY THE MODIFIED ENGINEERING NEWS-RECORD FORMULA AS PER THE BNSF ENGINEERING INSTRUCTION, 17.3.4.
- SEE PROJECT GEOTECHNICAL REPORT BY SHANNON & WILSON, INC. DATED FEBRUARY 16, 2018
- PROVIDE PILE POINTS FOR PILES - MODEL VS314-117 BY VERSA STEEL INC., PORTLAND, OR OR EQUAL.
- ESTIMATED PILE LENGTH BELOW CUTOFF = 112FT
- FINAL ELEVATION TO BE DETERMINED FROM BORING LOG INFORMATION AND PILE DRIVING EQUIPMENT APPROVED BY THE ENGINEER.

**WATERPROOFING:**

WATERPROOFING SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED PER BNSF STANDARD SPECIFICATION SECTION 04800 AND AREMA CHAPTER 8, PART 29. CURB DRAINS TO BE CONNECTED TO THE DRAINAGE SYSTEM MUST REMAIN OPEN.



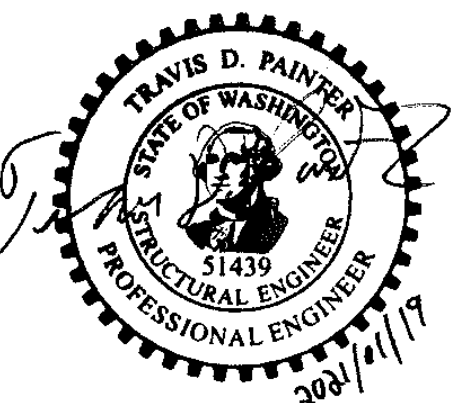
PLAN

**100% SUBMITTAL**

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DATE:	01/08/2021
PLAN:	
LINE SEG:	0050



SEATTLE, WA TO WENATCHEE, WA	
BRIDGE NUMBER 21.80B	
OVER LUNDS GULCH CREEK	
EDMONDS, WA	
TYPICAL SECTIONS & PILE LAYOUT PLAN	
PLAN NO: 0050-0021.800-012	SHEET: 02 OF 10



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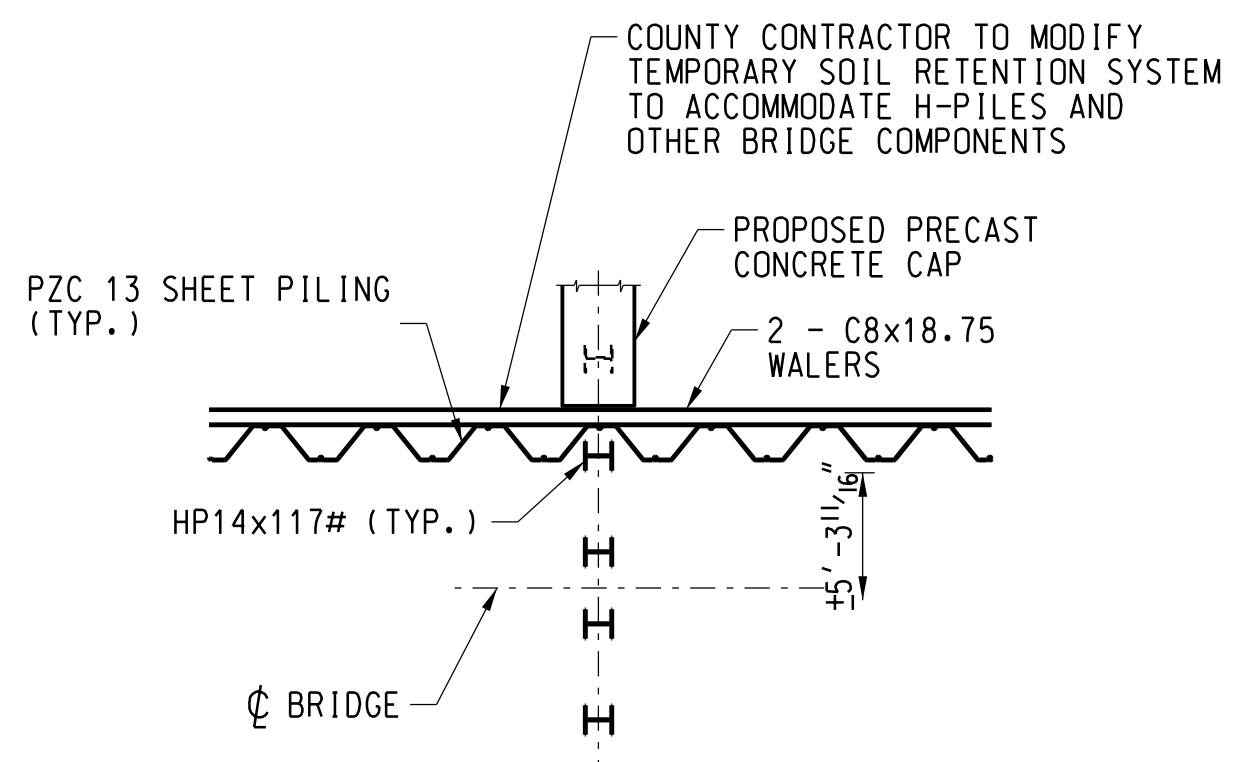
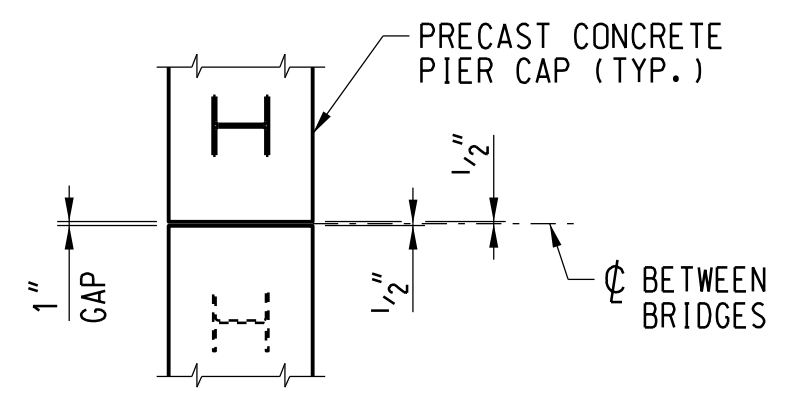
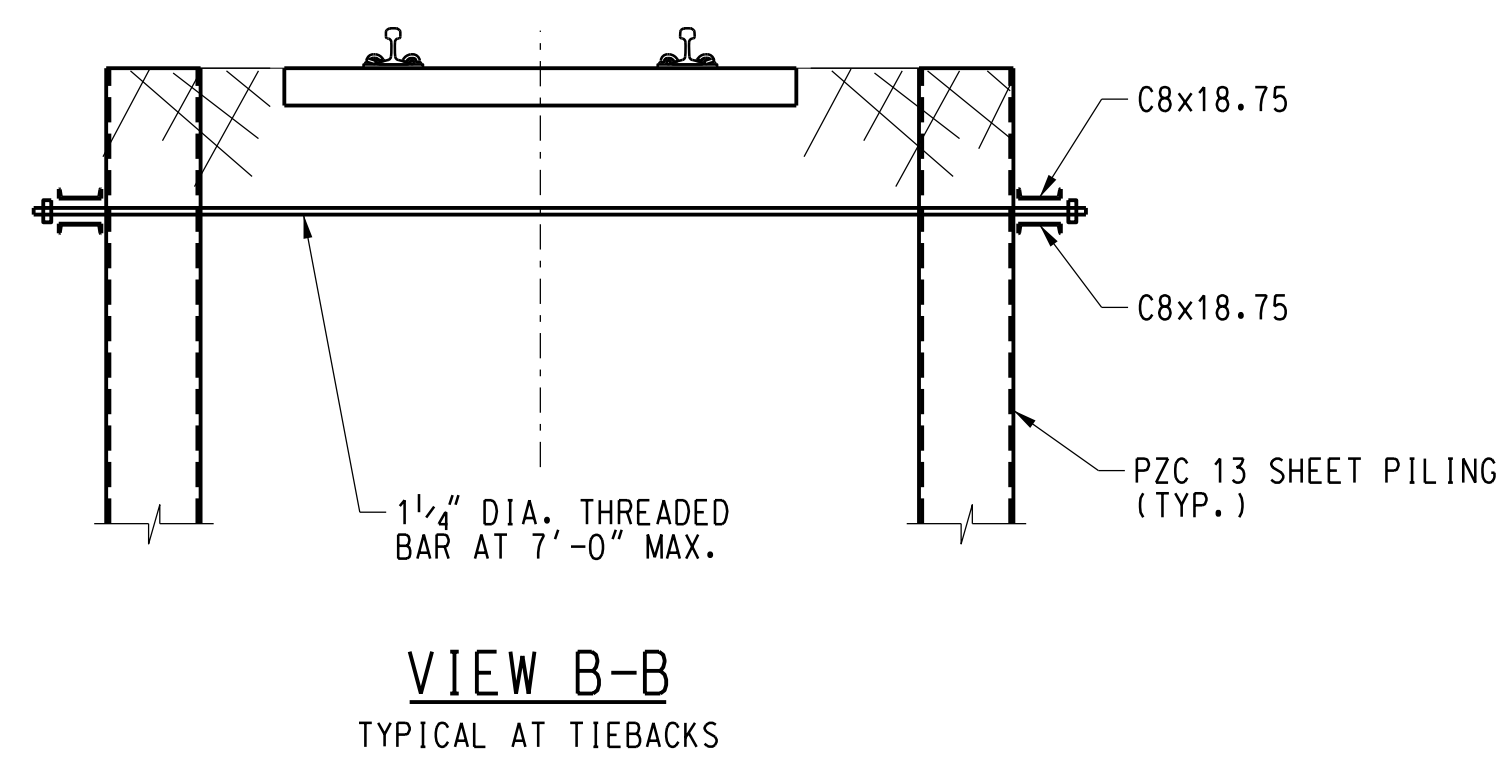
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**SUGGESTED CONSTRUCTION SEQUENCE**

- PRIOR TO STAGE I, BNSF TO RAISE MAIN #2 ELEVATION TO MATCH MAIN #1
- STAGE I 1. BNSF TO DRIVE H-PILE AT ALL LOCATIONS. CUT OFF BELOW TOP OF TIE. ADJUST TRACK TIES WHERE NEEDED. (SEE PILE LAYOUT PLAN)
- STAGE II 1. COUNTY CONTRACTOR TO PROVIDE TEMPORARY SOIL RETENTION SYSTEM BETWEEN MAIN TRACK #1 AND MAIN TRACK #2 (SEE THIS SHEET)
- STAGE III 1. WITH MAIN #2 CLOSED, BNSF TO EXCAVATE AND CUT H-PILE TO CORRECT ELEVATION AT ABUTMENTS AND PIERS.  
 2. BNSF TO REMOVE EXISTING CONCRETE BOX CULVERT AS REQUIRED.  
 3. BNSF TO PLACE AND WELD PRECAST ABUTMENT & PIER CAPS.  
 4. BNSF TO PLACE CONTROLLED LOW-STRENGTH MATERIAL AT ABUTMENTS.  
 5. BNSF TO EXCAVATE BETWEEN FOUNDATION ELEMENTS AS REQUIRED TO INSTALL SUPERSTRUCTURE.  
 6. BNSF TO BACKFILL ABUTMENT CAPS.  
 7. BNSF TO SET BEARING PADS AND INSTALL SUPERSTRUCTURE.  
 8. BNSF TO INSTALL TRACKS ON MAIN #2 AND OPEN TO RAIL TRAFFIC.
- \* REPEAT STAGES I - III AS NECESSARY BY BNSF TO CONSTRUCT THE SECOND RAILROAD BRIDGE.
- STAGES IVa AND IVb- SAME AS III WITH CLOSURE WINDOW ON MAIN TRACK #1.
- STAGE V 1. TEMPORARY SOIL RETENTION SYSTEM SHALL BE REMOVED BY THE COUNTY CONTRACTOR (LOCATIONS OF INTERFERENCE WITH STRUCTURE INSTALLATION) AT ANY TIME AFTER BNSF'S EXCAVATION FOR THE SUPERSTRUCTURE (SEE SUGGESTED CONSTRUCTION SEQUENCING SHEETS FOR FURTHER DETAILS AND NOTE 3 BELOW).  
 2. COUNTY CONTRACTOR EXCAVATE TO REQUIRED ELEVATIONS FOR STREAM RESTORATION.  
 3. COUNTY CONTRACTOR COMPLETELY REMOVE REMAINING PORTIONS OF CULVERT.  
 4. COUNTY CONTRACTOR CONSTRUCT BRIDGE DRAINAGE SYSTEM.

DURING STAGES II AND/OR III, COUNTY CONTRACTOR TO PARTIALLY INSTALL SHEET-PILE WALL UNDER THE PROPOSED BRIDGE UP TO EITHER SIDE OF THE TEMPORARY SOIL RETENTION SYSTEM (SEE "MEADOWDALE BEACH RAILROAD BRIDGE - TRACK/CIVIL PLANS" FOR DETAILS).

COUNTY CONTRACTOR TO COORDINATE WITH BNSF TO CONNECT AND COMPLETE THE SHEET-PILE WALL PRIOR TO BNSF PLACING BEAMS AND COUNTY CONTRACTOR COMPLETELY REMOVING THE TEMPORARY SOIL RETENTION SYSTEM.



**BNSF REQUIREMENTS FOR COUNTY CONTRACTOR**

NOTES

- CONTRACTOR SHALL NOTE DATES FOR BNSF TO MOVE TIES IN 3 WEEK PLANNING SCHEDULES TO COORDINATE WORK WITH BNSF FORCES
- DURING CLOSURE WINDOW, THE MOVEMENT AND LOCATION OF PERSONAL AND EQUIPMENT SHALL BE RESTRICTED DURING PASSAGE OF TRAINS ON ADJACENT TRACKS. THE CONTRACTOR SHALL COORDINATE WITH BNSF REPRESENTATIVE.
- CONTRACTOR SCHEDULE MUST INCLUDE TIME FOR BNSF FORCES TO MODIFY TIES AND/OR RAIL AS NEEDED.
- STAGED CLOSURE WINDOWS NEEDED BY THE COUNTY CONTRACTOR SHALL BE COORDINATED WITH BNSF A MINIMUM OF 60 DAYS AHEAD OF WHEN REQUIRED.
- COUNTY CONTRACTOR TO REFER TO THE EXHIBIT C AND C-1 IN THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FROM BNSF.

**TEMPORARY SOIL RETENTION SYSTEM NOTES**

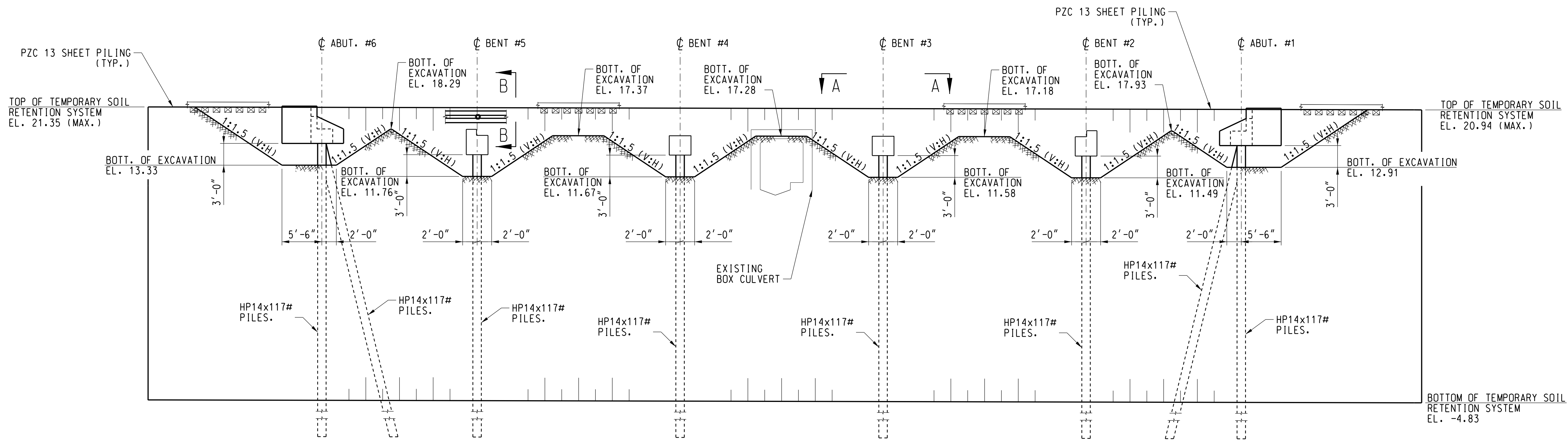
- THE COUNTY CONTRACTOR MUST COORDINATE WITH THE BNSF REPRESENTATIVE TO WORK AROUND THE TRAIN SCHEDULE TO MINIMIZE THE IMPACT ON TRAIN OPERATIONS.
- FOR ADDITIONAL SUGGESTED CONSTRUCTION SEQUENCE AND DETAILS, SEE SHEETS 04 TO 07.
- MATS OR OTHER MEANS OF PROTECTION MUST BE PROVIDED TO PROTECT RAILS AND BALLAST FROM DAMAGE DUE TO EQUIPMENT OR CONSTRUCTION OPERATIONS. COST INCLUDED IN TEMPORARY CROSSING. DETAILS SHALL BE SUBMITTED TO BNSF FOR REVIEW AND APPROVAL.
- THE COUNTY CONTRACTOR SHALL INSTALL THE TEMPORARY SOIL RETENTION SYSTEM IN XX (X) HOUR CLOSURE WINDOWS. COUNTY CONTRACTOR SHALL COORDINATE WITH BNSF ON MOVING TIES TO INSTALL PILES AND SHORING. THE XX (X) HOUR CLOSURE WINDOW SHALL INCLUDE TIME FOR BNSF FORCES TO MAKE MODIFICATIONS TO TIES AND/OR RAIL AS NEEDED TO COMPLETE WORK AND PRIOR TO RESTORING TRAIN OPERATIONS.
- ONLY CONCEPTUAL LAYOUT AND DETAILS ARE SHOWN FOR THE TEMPORARY SOIL RETENTION SYSTEM. THE FINAL DESIGN AND DETAILS ARE THE RESPONSIBILITY OF THE COUNTY CONTRACTOR. FINAL DESIGN AND DETAILS SIGNED AND SEALED BY A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF WASHINGTON SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
- FINAL CONSTRUCTION SEQUENCE, DESIGN AND DETAILS SHALL BE SUBMITTED TO BNSF FOR APPROVAL AND COORDINATION PRIOR TO INSTALLATION OF THE TEMPORARY SOIL RETENTION SYSTEM.
- DESIGN OF TEMPORARY SOIL RETENTION SYSTEM SHOULD BE PER THE BNSF GUIDELINES FOR TEMPORARY SHORING.

**WORK BY BNSF**

- BNSF SHALL INSTALL THE STEEL H-PILES, CAPS AND SPANS.
- ALL WELDING OF CAPS TO PILES SHALL BE PERFORMED BY A CERTIFIED WELDER.
- BNSF WILL CUT EXISTING TRACK PANELS TO BE REMOVED (INTO 40 FOOT LENGTHS) AND THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVAL OF THE TRACK FROM THE BALLAST.
- BNSF WILL INSTALL BRIDGE DECK WATERPROOFING.
- BNSF TO INSTALL REPLACEMENT TRACK PANELS.

**UTILITIES**

- RAILROAD UTILITIES MAY EXIST WITHIN BNSF RIGHT-OF-WAY. PRIOR TO THE START OF ANY CONSTRUCTION OR EXCAVATION, UTILITY RELOCATIONS WILL HAVE TO BE COORDINATED WITH BNSF. ANY RELOCATION OF UTILITIES MUST BE IN CONFORMANCE WITH BNSF UTILITY ACCOMMODATION POLICY AND WILL REQUIRE A UTILITY PERMIT LICENSE FROM BNSF.



**TYPICAL SECTION - TEMPORARY SOIL RETENTION SYSTEM**  
BY COUNTY CONTRACTOR

**NOTES:**

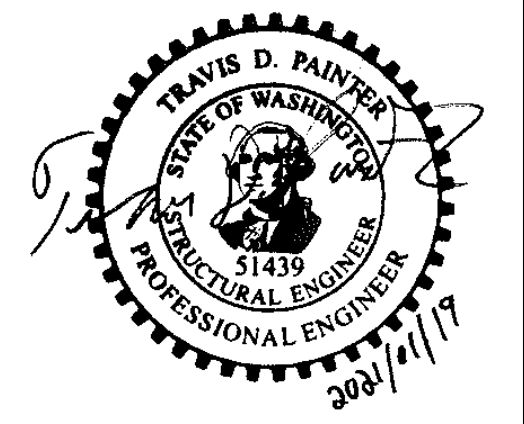
- PER THE TYPICAL SECTION, THE TEMPORARY SOIL RETENTION SYSTEM INCLUDES TWO DIFFERENT EXCAVATION REQUIREMENTS: (1) DEPTH TO ALLOW FOR SETTING OF SUPERSTRUCTURE. (2) DEPTH TO ALLOW FOR SETTING AND ATTACHING PRECAST CAPS AND ASSOCIATED SAFE WORKING SLOPES.
- AT ABUTMENTS AND PIERS, SHEET PILING MAY BE BRACED AGAINST THE DRIVEN H-PILES. IF THIS METHOD IS USED, THE CONTRACTOR SHALL SUBMIT A TEMPORARY SOIL RETENTION SYSTEM DESIGN INCLUDING PLAN DETAILS AND CALCULATIONS SIGNED AND SEALED BY A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF WASHINGTON TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
- IF THE CONTRACTOR ELECTS TO CUT AND REMOVE PORTIONS OF THE TEMPORARY SOIL RETENTION WALL INSTEAD OF REMOVING THE ENTIRE WALL, THE WALL SHALL BE REMOVED TO A DEPTH OF 5' BELOW FINISHED GRADE.
- COORDINATE REMOVAL OF TEMPORARY SOIL RETENTION SYSTEM PRIOR TO INSTALLING SHEET-PILE WALL

**100% SUBMITTAL**

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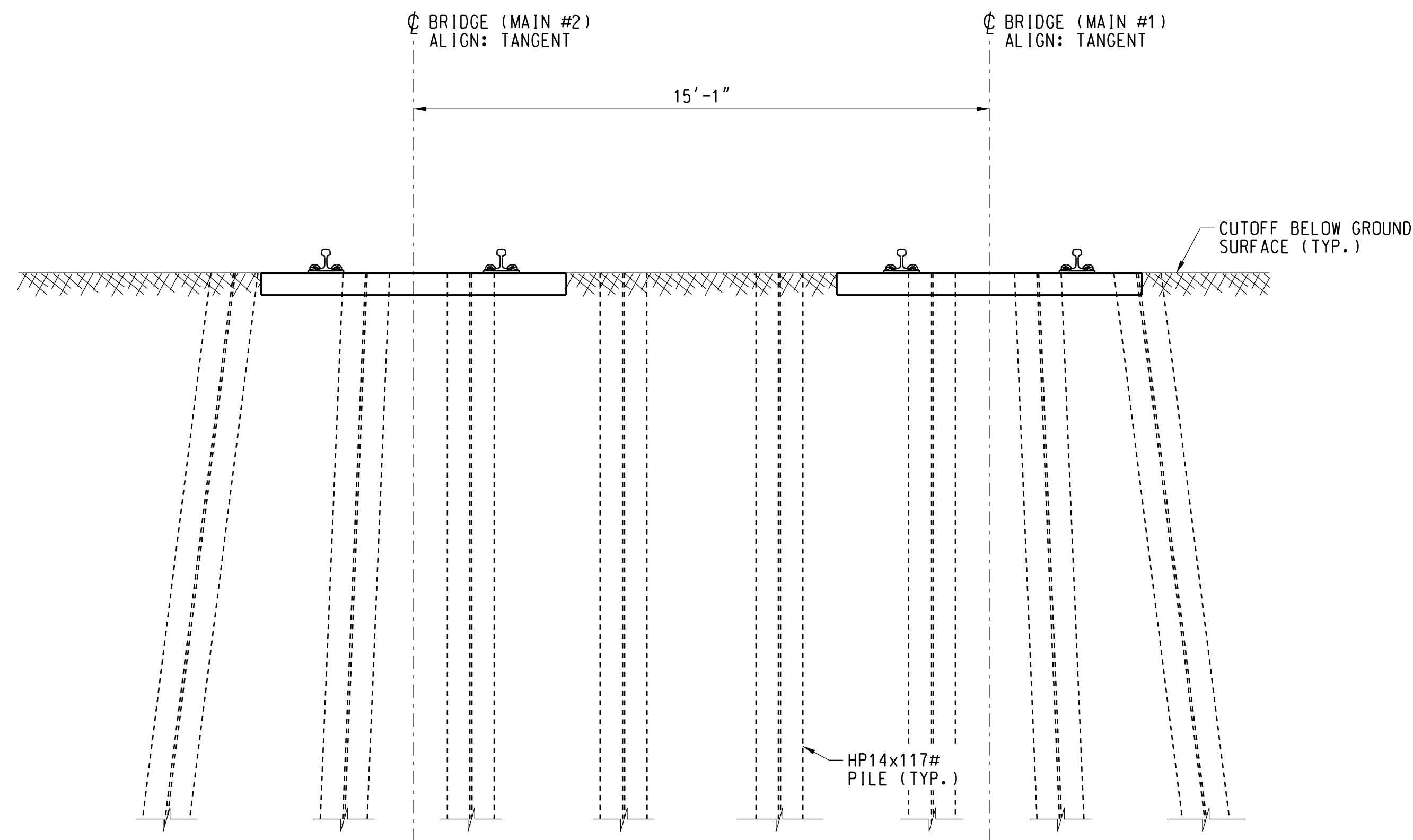
**Snohomish County**  
Parks and Recreation

SEATTLE, WA TO WENATCHEE, WA  
 BRIDGE NUMBER 21.80B  
 OVER LUNDS GULCH CREEK  
 EDMONDS, WA  
**CONSTRUCTION SEQUENCE NOTES & DETAILS**  
 PLAN NO: 0050-0021.800-013 SHEET: 03 OF 10

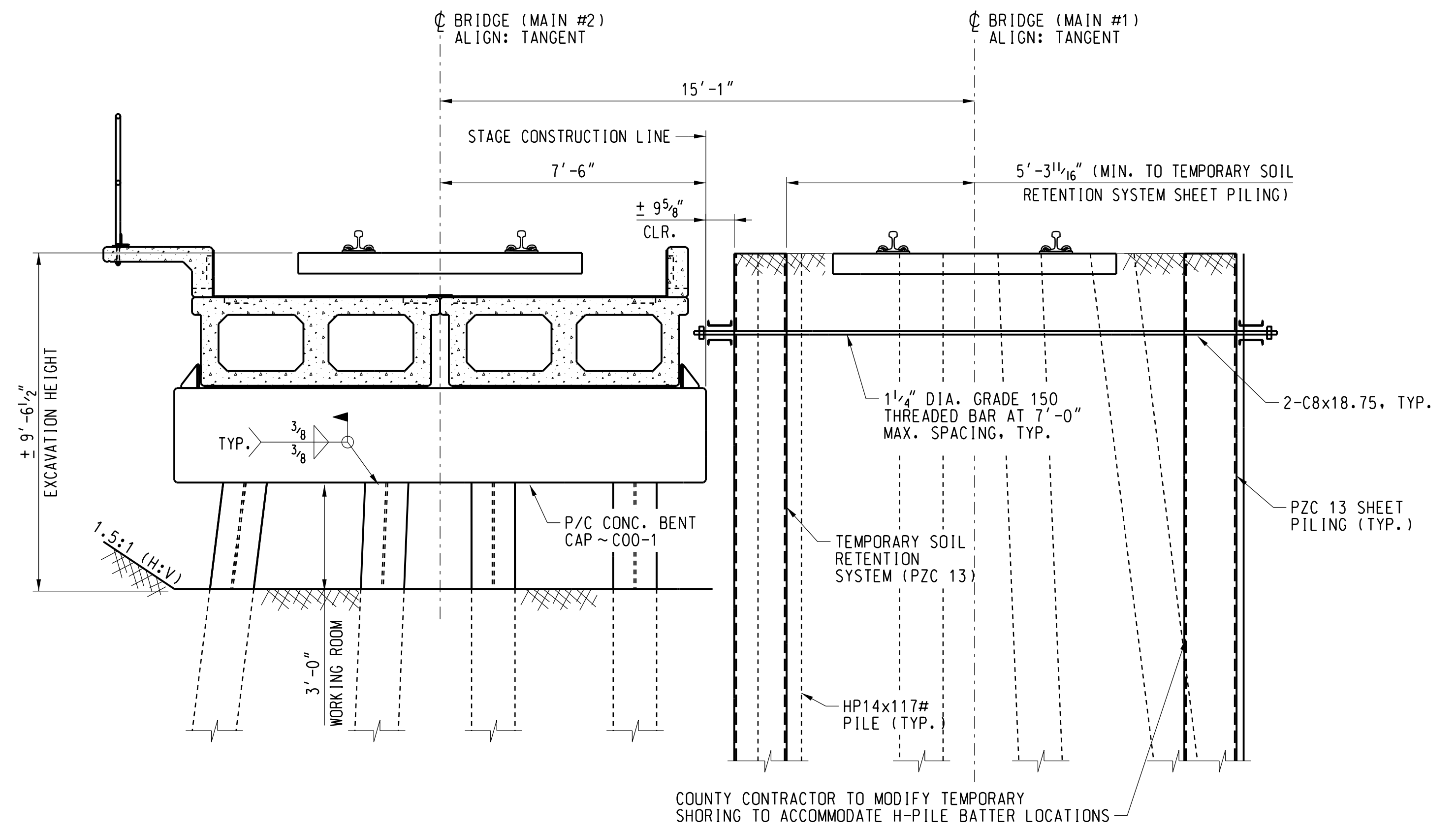


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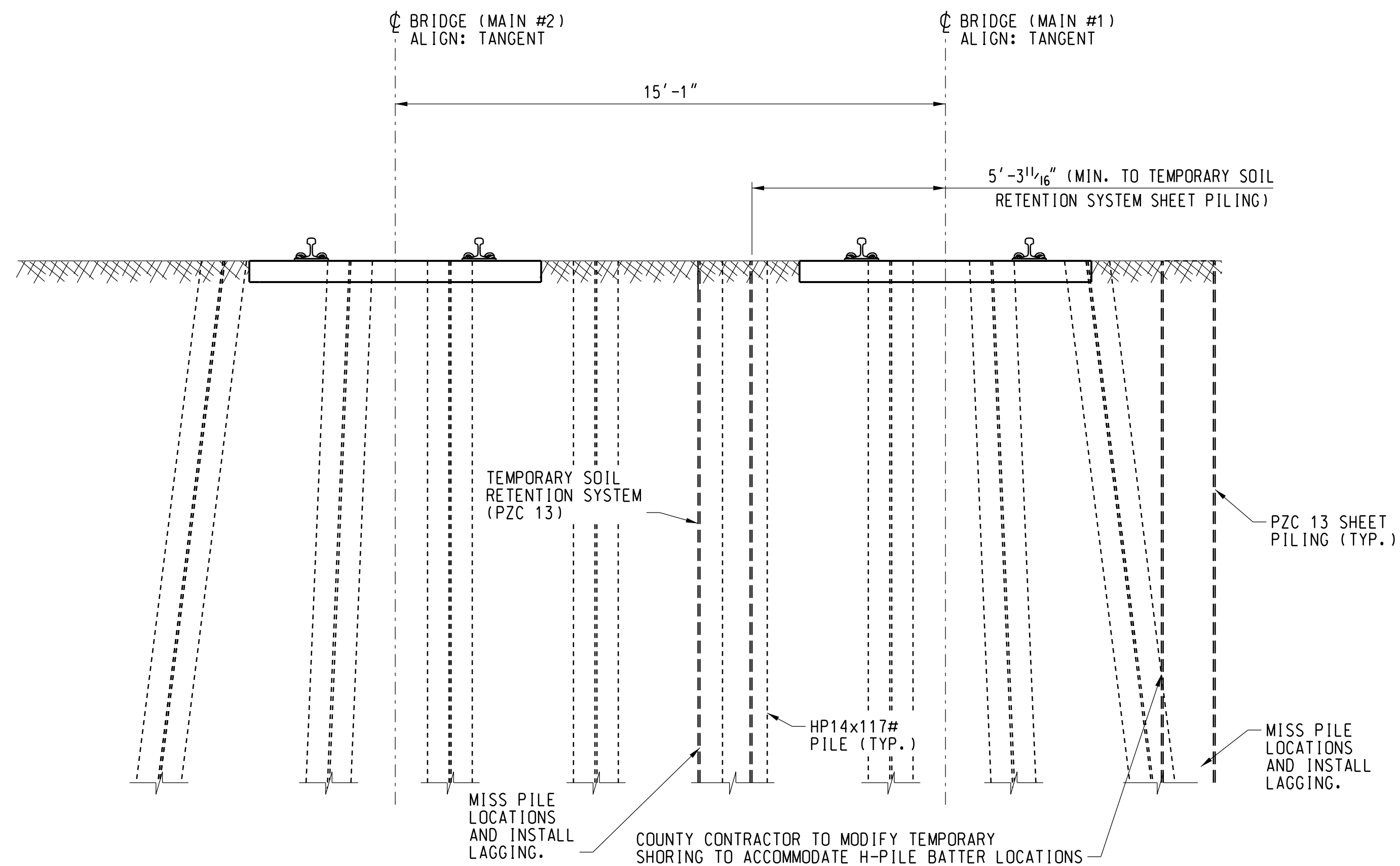
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**SUGGESTED CONSTRUCTION SEQUENCE SECTION - STAGE I**  
 (LOOKING RY WEST AT BENT #3)  
 BY BNSF



**SUGGESTED CONSTRUCTION SEQUENCE SECTION - STAGE III**  
 (LOOKING RY WEST AT BENT #3)  
 CAPS AND SPANS BY BNSF. COUNTY CONTRACTOR TO INSTALL TIES AS EXCAVATION PROGRESSES



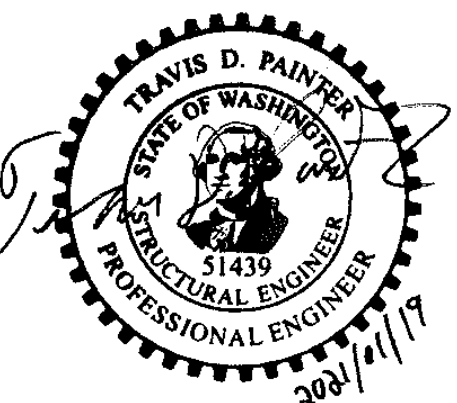
**SUGGESTED CONSTRUCTION SEQUENCE SECTION - STAGE II**  
 (LOOKING RY WEST AT BENT #3)  
 BY COUNTY CONTRACTOR

**100% SUBMITTAL**

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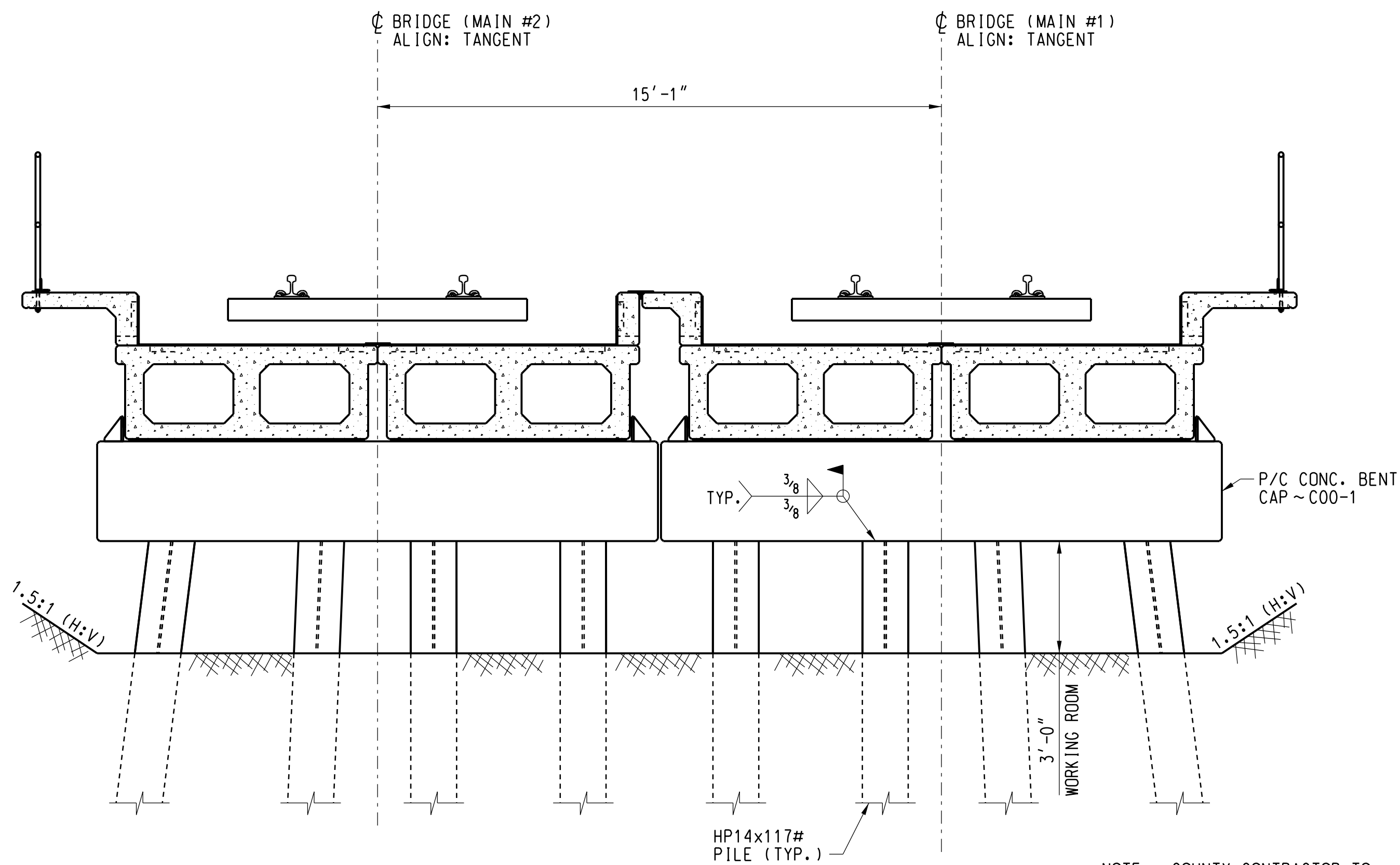
SEATTLE, WA TO WENATCHEE, WA	
BRIDGE NUMBER 21.80B	
OVER LUNDS GULCH CREEK	
EDMONDS, WA	
CONSTRUCTION SEQUENCE	
STAGING SECTIONS I, II, & III	
PLAN NO:	0050-0021.800-014
SHEET:	04 OF 10



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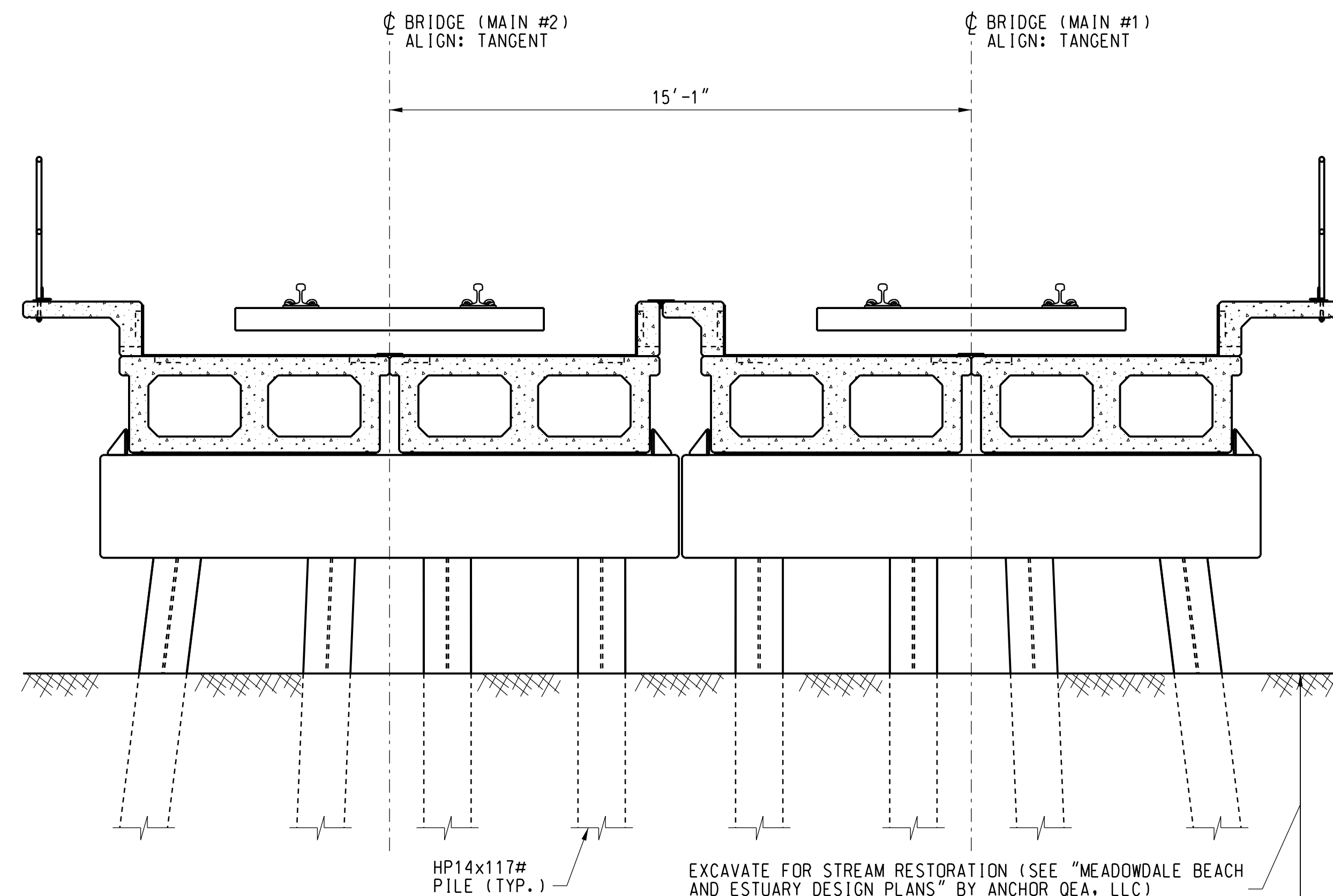




**SUGGESTED CONSTRUCTION SEQUENCE SECTION - STAGE IV**

(LOOKING BY WEST AT BENT #3)  
BY BNSF

NOTE: COUNTY CONTRACTOR TO REMOVE SHORING BETWEEN STAGE III AND STAGE IV.



**SUGGESTED CONSTRUCTION SEQUENCE SECTION - STAGE V**

(LOOKING BY WEST AT BENT #3)  
BY COUNTY CONTRACTOR

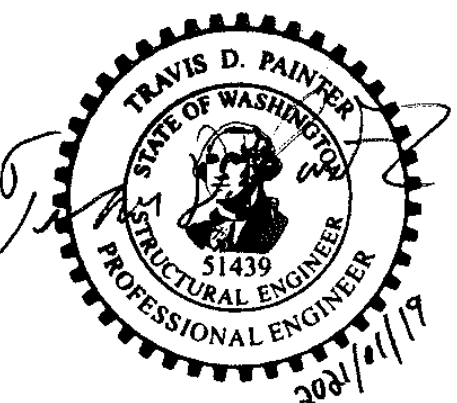
EXCAVATE FOR STREAM RESTORATION (SEE "MEADOWDALE BEACH AND ESTUARY DESIGN PLANS" BY ANCHOR OEA, LLC)

**100% SUBMITTAL**

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PLAN:	
LINE SEG:	0050

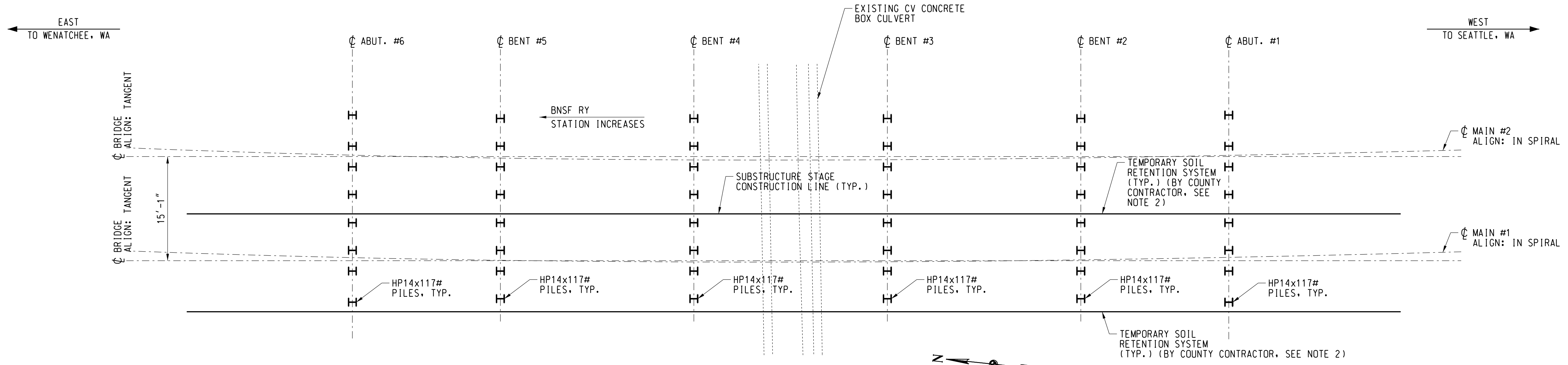


SEATTLE, WA TO WENATCHEE, WA	
BRIDGE NUMBER 21.80B	
OVER LUNDS GULCH CREEK	
EDMONDS, WA	
CONSTRUCTION SEQUENCE	
STAGING SECTIONS IV & V	
PLAN NO:	0050-0021.800-015
SHEET:	05 OF 10



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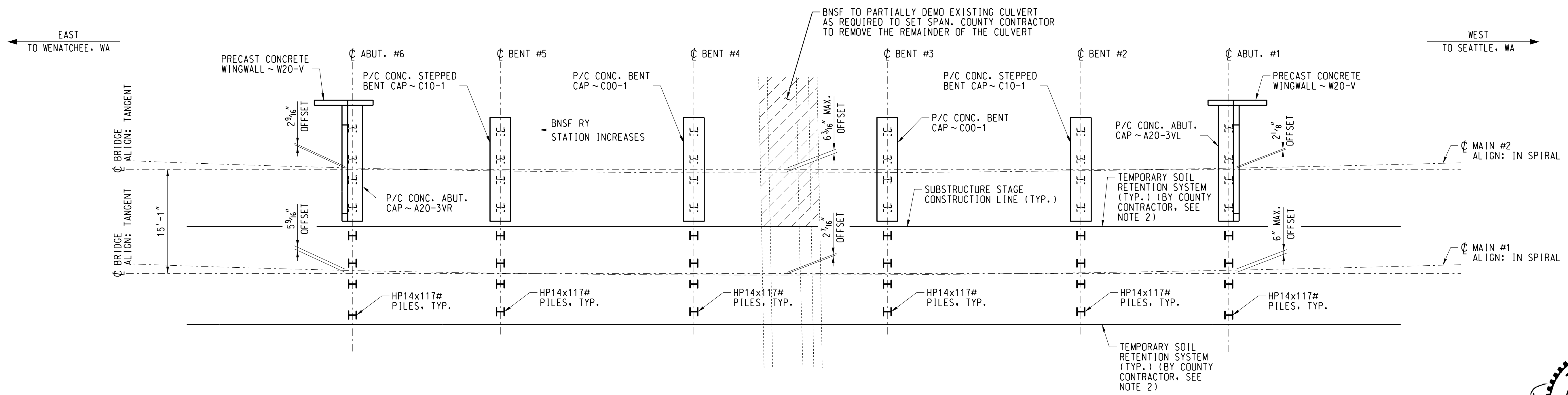
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**NOTES:**

1. SEE SHEETS 3, 4, & 5 TO DETERMINE RESPONSIBILITIES OF BNSF AND COUNTY CONTRACTOR.
2. COUNTY CONTRACTOR TO MODIFY TEMPORARY SOIL RETENTION SYSTEM TO ACCOMMODATE H-PILES AND OTHER BRIDGE COMPONENTS
3. COUNTY CONTRACTOR TO COORDINATE REMOVAL OF TEMPORARY SOIL RETENTION SYSTEM PRIOR TO INSTALLING SHEET-PILE WALL

**PLAN - SUGGESTED STAGE I & II**



**NOTES:**

1. SEE SHEETS 3, 4, & 5 TO DETERMINE RESPONSIBILITIES OF BNSF AND COUNTY CONTRACTOR.
2. COUNTY CONTRACTOR TO MODIFY TEMPORARY SOIL RETENTION SYSTEM TO ACCOMMODATE H-PILES AND OTHER BRIDGE COMPONENTS

**PLAN - SUGGESTED STAGE III**

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PLAN:	
LINE SEG:	0050



SEATTLE, WA TO WENATCHEE, WA
BRIDGE NUMBER 21.80B
OVER LUNDS GULCH CREEK
EDMONDS, WA
CONSTRUCTION SEQUENCE PLAN -
STAGE I, II & III
PLAN NO: 0050-0021.800-016
SHEET: 06 OF 10



**100% SUBMITTAL**

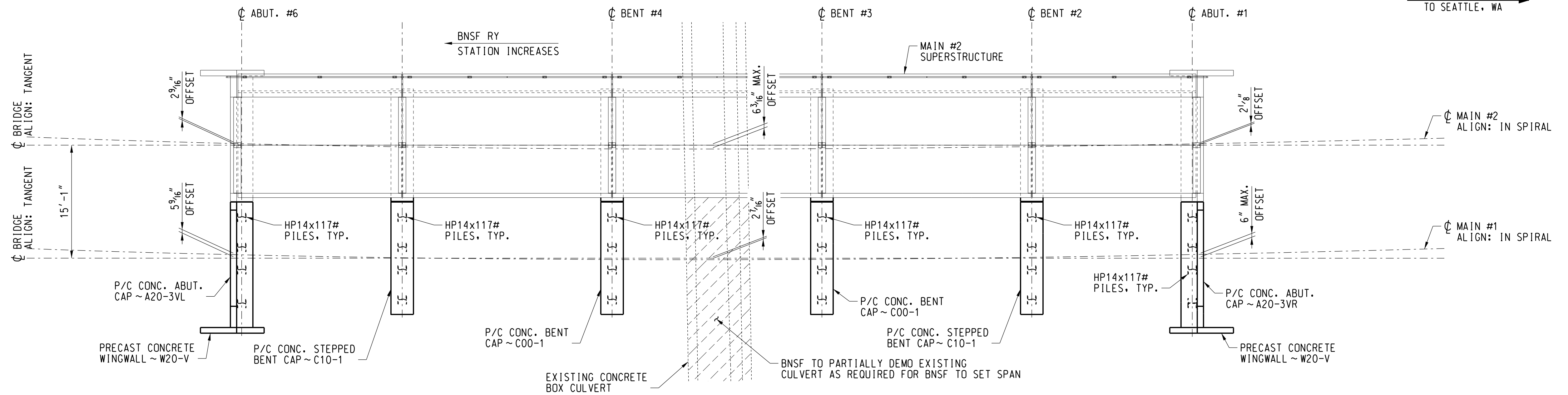


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EAST  
TO WENATCHEE, WA

WEST  
TO SEATTLE, WA

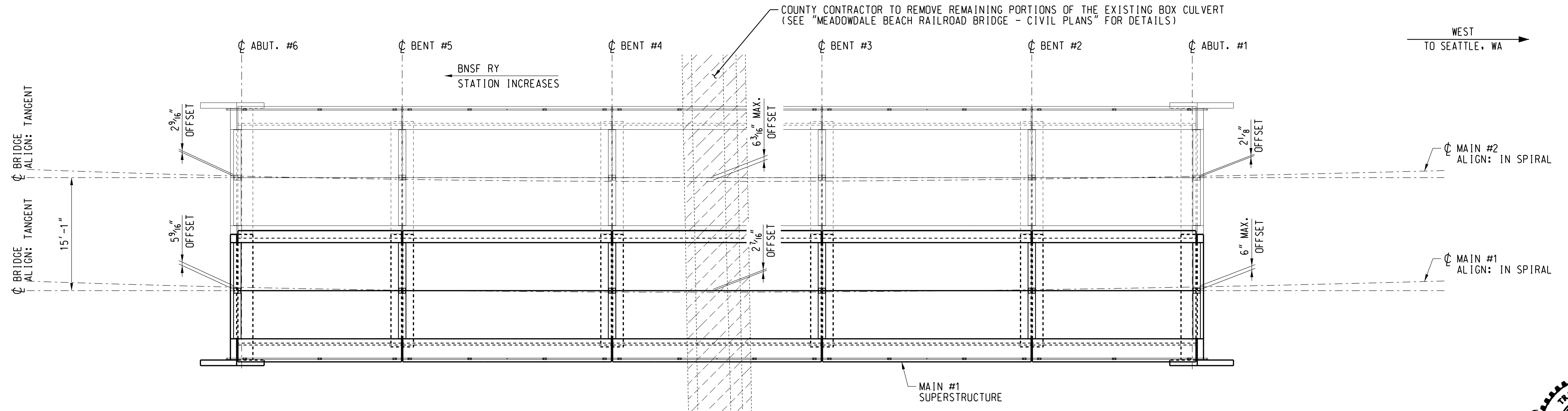


- NOTES:
- SEE SHEETS 3, 4, & 5 TO DETERMINE RESPONSIBILITIES OF BNSF AND COUNTY CONTRACTOR.
  - COUNTY CONTRACTOR MAY LEAVE TEMPORARY SOIL RETENTION SYSTEM IN PLACE AT BRIDGE ABUTMENTS.

PLAN - SUGGESTED STAGE IVa

EAST  
TO WENATCHEE, WA

WEST  
TO SEATTLE, WA



PLAN - SUGGESTED STAGE IVb



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SEATTLE, WA TO WENATCHEE, WA	
BRIDGE NUMBER 21.80B	
OVER LUNDS GULCH CREEK	
EDMONDS, WA	
CONSTRUCTION SEQUENCE PLAN -	
STAGE IV	
PLAN NO:	0050-0021.800-017
SHEET:	07 OF 10

**100% SUBMITTAL**

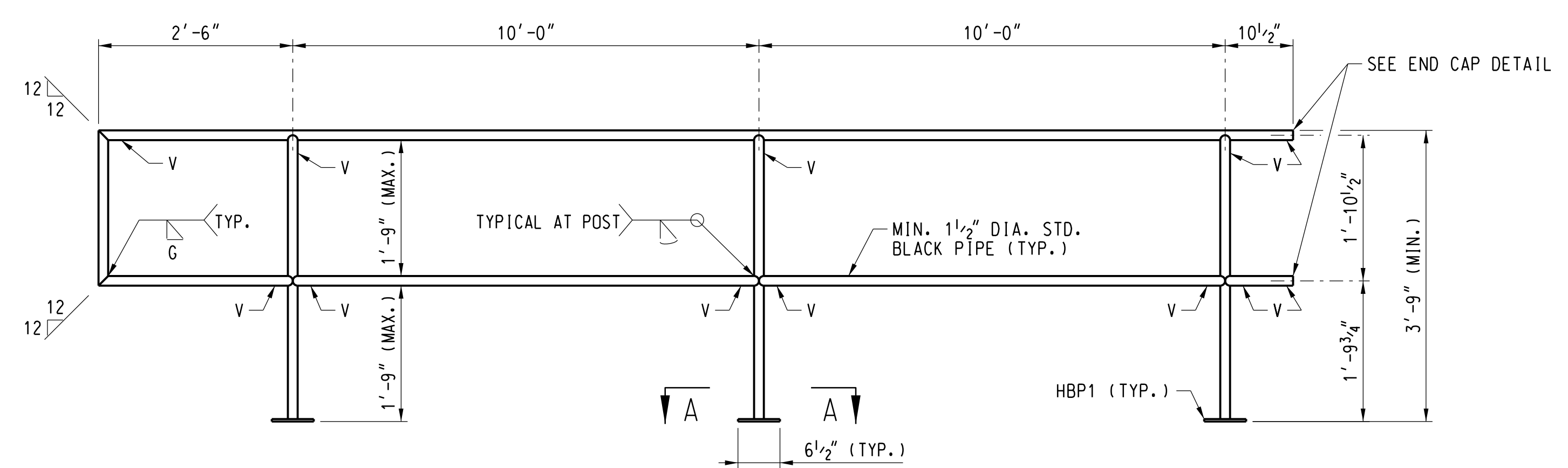


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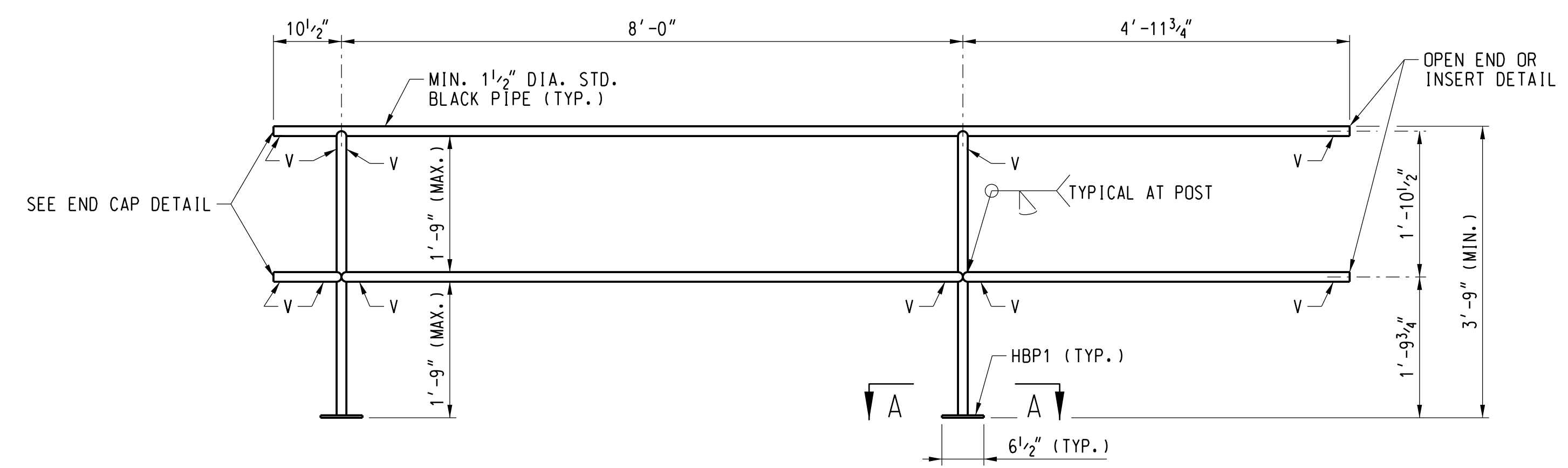
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CLEARANCE 6'-8"

**TYPICAL CLEARANCE SIGN 12"x36"**  
FO BE FURNISHED AND INSTALLED BY COUNTY CONTRACTOR



**HANDRAIL PANEL ~ HP1-2W-100**  
INCLUDE 4"x3"x3/8" TOE PLATE. GALVANIZE AFTER FABRICATION.



**HANDRAIL PANEL ~ HP2-1W-080**  
INCLUDE 4"x3"x3/8" TOE PLATE. GALVANIZE AFTER FABRICATION.

BILL OF MATERIAL (FOR BNSF ONLY)							
LINE	QUAN.	UNIT.	DESCRIPTION	MARK	SIZE	LENGTH	REMARKS
1	2	EA	P/C P/S CONC. SLAB BEAM w/ EXT. CURB	B20-2110-E	20"x7'-0"	21'-10"	PER PLAN NO. 0000-1210-01 & 02
2	2	EA	P/C P/S CONC. SLAB BEAM w/ WALK	B20-2110-VW	20"x7'-0"	21'-10"	PER PLAN NO. 0000-1210-01 & 02
3	3	EA	P/C P/S CONC. BOX BEAM w/ EXT. CURB (TYPE II)	B30-2710-E	30"x7'-0"	27'-10"	PER PLAN NO. 0000-1212-03 & 04
4	3	EA	P/C P/S CONC. BOX BEAM w/ WALK (TYPE II)	B30-2710-VW	30"x7'-0"	27'-10"	PER PLAN NO. 0000-1212-03 & 04
5	1	EA	PRECAST CONC. CAP - ABUTMENT	A20-3VR	3'-0"x5'-1 3/4"	16'-9"	PER PLAN NO. 0000-1120-05
6	1	EA	PRECAST CONC. CAP - ABUTMENT	A20-3VL	3'-0"x5'-1 3/4"	16'-9"	PER PLAN NO. 0000-1120-05
7	2	EA	PRECAST CONC. CAP - BENT	C00-1	3'-0"x2'-8"	15'-0"	PER PLAN NO. 0000-1110-01
8	2	EA	PRECAST CONC. CAP - BENT	C10-1	3'-0"x3'-6"	15'-0"	PER PLAN NO. 0000-1110-04
9	2	EA	PRECAST CONC. WINGWALL	W20-V	9"x5'-1 3/4"	8'-6"	PER PLAN NO. 0000-1121-02
10							
11	379.080	LBS.	STEEL H-PILES (72 PIECES)		HP14x117#	45'-0"	MAT'L PER ASTM 572, GR. 50
12							
13	8	EA	WASHER, GALVANIZED	W100	4"x3/4"	4"	PER PLAN NO. 0000-1000-06
14	6	EA	DECK PLATE, GALVANIZED	DPV1	12"x3/8"	7'-9 1/2"	PER PLAN NO. 0000-1910-04
15	6	EA	DECK PLATE, GALVANIZED	DPV2	12"x3/8"	7'-9 1/2"	PER PLAN NO. 0000-1910-04
16	9	EA	CURB PLATE, GALVANIZED (27'-10" SPANS)	SCP21.80-1	8"x3/8"	9'-3 1/4"	PER PLAN NO. 0000-1910-04
17	6	EA	CURB PLATE, GALVANIZED (21'-10" SPANS)	SCP21.80-2	8"x3/8"	7'-3 1/4"	PER PLAN NO. 0000-1910-04
18	8	EA	RESTRAINER BRACKET	B100	PC OF HP14x89#	8"	PER PLAN NO. 0000-1910-05
19	4	EA	RESTRAINER BRACKET	B101	PC OF HP14x89#	8"	PER PLAN NO. 0000-1910-05
20	4	EA	RESTRAINER BRACKET	B201	7"x4"x3/4"	8"	PER PLAN NO. 0000-1910-05
21							
22	2	EA	HANDRAIL PANEL w/ TOE PLATES, GALVANIZED	HP1-2W-100	1 1/2" DIA. PIPE	23'-4 1/2"	PER PLAN NO. 0000-1221-01
23	6	EA	HANDRAIL PANEL w/ TOE PLATES, GALVANIZED	HP2-1W-080	1 1/2" DIA. PIPE	13'-10 1/4"	PER PLAN NO. 0000-1221-01
24	18	EA	PLATE, GALVANIZED	HBP3	1/4"x1 1/2"	6"	PER PLAN NO. 0000-1910-06
25	36	EA	BOLT, HEX HEAD, GALVANIZED		3/4" DIA.	7"	PER PLAN NO. 0000-1000-13
26	72	EA	STD. WASHER, GALVANIZED 1 3/16" I.D. x 1 1/16" O.D.				PER PLAN NO. 0000-1000-13
27	36	EA	LOCK NUT, CENTER LOCKING, ZINC PLATED		3/4" DIA.		PER PLAN NO. 0000-1000-13
28							
29	4	EA	BEARING PAD, URETHANE, 70 DUROMETER		3/4"x10"	13'-10"	PER PLAN NO. 0000-1000-13
30	12	EA	BEARING PAD, URETHANE, 70 DUROMETER		3/4"x10"	6'-4"	PER PLAN NO. 0000-1000-13
31	32	EA	PREMOLDED JOINT FILLER, ASPHALT IMPREGNATED		1/2"x18"	6'-10"	PER PLAN NO. 0000-1000-06
32	16	EA	PREMOLDED JOINT FILLER, ASPHALT IMPREGNATED		1/2"x28"	6'-4"	PER PLAN NO. 0000-1000-06
33							
34	1	LS	BRIDGE DECK WATERPROOFING				PER STANDARD SPEC. 04800
35							
36	1	EA	BRIDGE NO. SIGN	21.80			DETAILS PLAN 3103.01.03
37	1	EA	DANGER SIGN, NO. 70		16"x30"		DETAILS PLAN 3070.01.01
38	2	EA	SIGN POST, NO. 1 BLACK			6'-0"	(TRACK STD. PLAN BOOK)
39							
SUPERVISOR STRUCTURES TO PROVIDE:							

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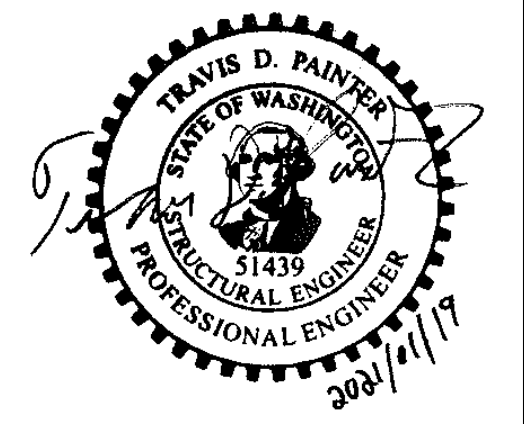
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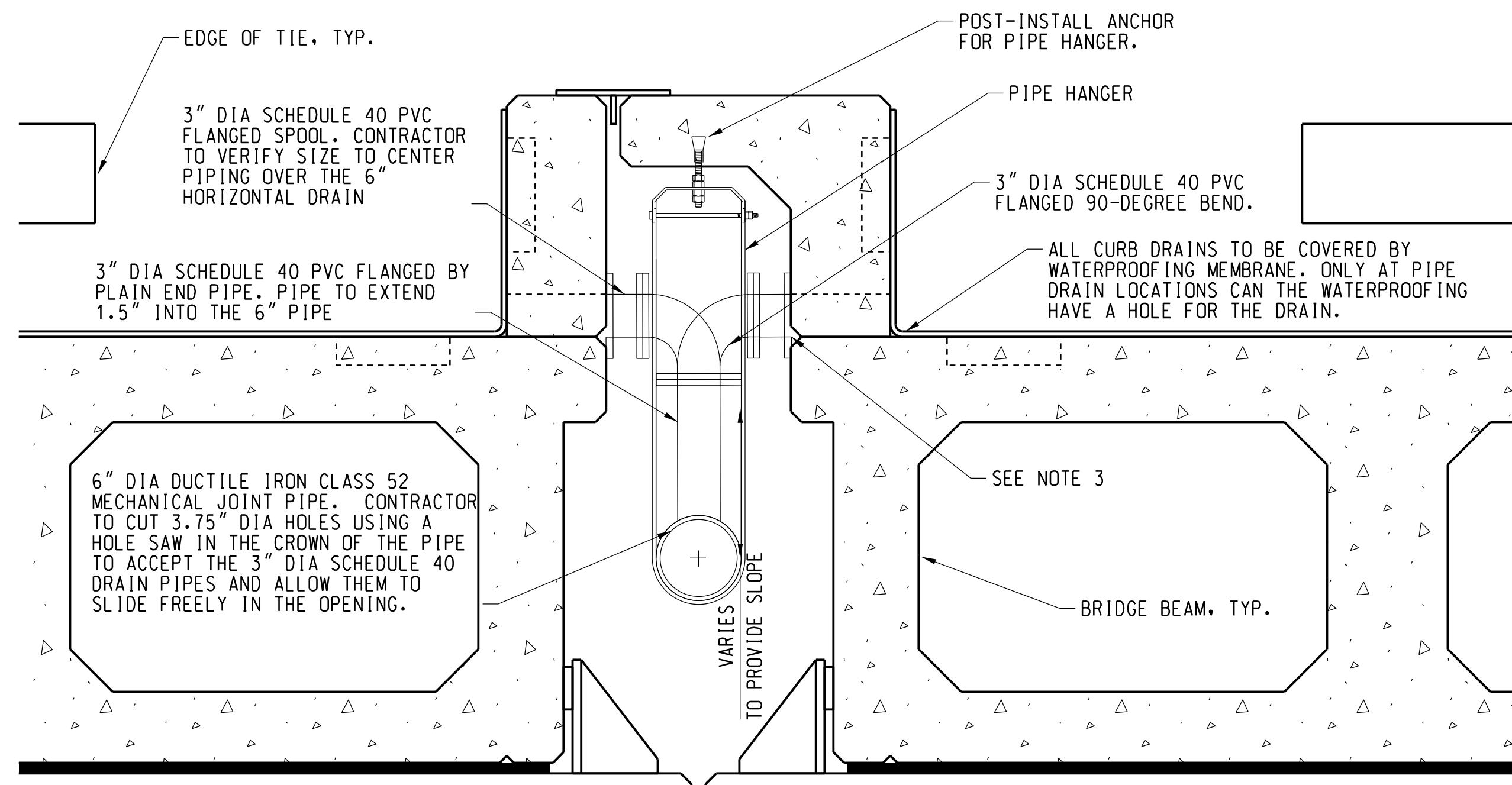
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PLAN:	
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SEATTLE, WA TO WENATCHEE, WA  
BRIDGE NUMBER 21.80B  
OVER LUNDS GULCH CREEK  
EDMONDS, WA  
BILL OF MATERIAL

PLAN NO: 0050-0021.800-018
SHEET: 08 OF 10





NOTES:

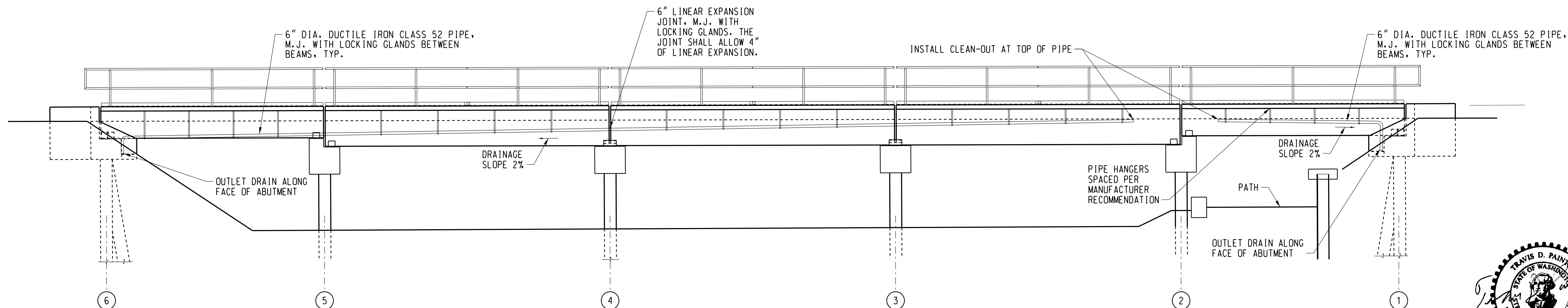
1. MAXIMUM FOUR (4) CURB CONNECTIONS PER SPAN. ALTERNATE CURB DRAIN SIDES TO ALLOW FOR PIPE CLEARANCE.
2. DRAINAGE SYSTEM CONNECTS INTO EXISTING 3" DRAINS IN CURBS.
3. SEAL CONNECTION BETWEEN FLANGE AND THE CONCRETE SURFACE WITH SIKAFLEX-221. DRILL AND ANCHOR THE FLANGED FITTING TO THE CONCRETE USING 3/8" S.S. THREADED ANCHOR WITH 3" EMBEDMENT USING SIKA ANCHORFIX-1.

DECK DRAIN TYPICAL SECTION - BETWEEN BEAMS

BY COUNTY CONTRACTOR

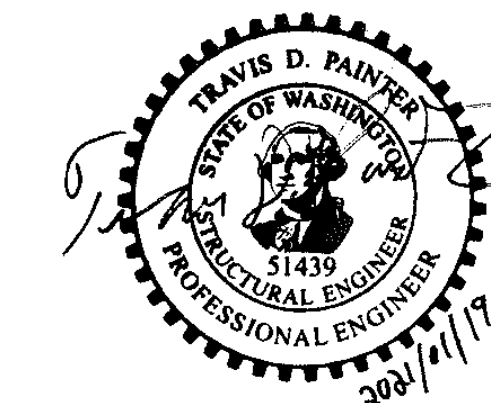
GENERAL NOTES - BRIDGE DRAINAGE SYSTEM:

1. PIPE, FITTINGS, BRACKETS, JOINTS, SEALANTS, CLAMPS, ALL FASTENING AND MOUNTING HARDWARE, PIPE SUPPLIER APPROVED WELD BOND STRUCTURAL ADHESIVE FOR PIPE JOINTS, FABRICATION AND INSTALLATION SHALL BE INCLUDED IN THE COST OF "DRAINAGE SYSTEM", LUMP SUM.
2. THE STEEL COMPONENTS USED FOR SUPPORT BRACKETS AND CLAMPS SHALL MEET THE REQUIREMENTS OF ASTM A36.
3. ALL PIPE HANGERS, BRACKETS AND HARDWARE SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A-153 UNLESS OTHERWISE NOTED. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED. STAINLESS STEEL BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-193, CLASS 1, GRADE 8 OR 8F, 303 OR 304, AND STAINLESS STEEL WASHERS SHALL CONFORM TO ASTM A-240, TYPE 302 OR 304.
4. THE EXTERIOR SURFACES OF PVC AND DUCTILE IRON PIPES AND FITTINGS SHALL BE CLEANED ACCORDING TO SOCIETY OF PROTECTIVE COATING'S SPECIFICATION SSPC-SP1 PRIOR TO PAINTING AND SHALL BE COATED WITH AN ENGINEER APPROVED MUNSELL COLOR.



PROFILE DRAIN DETAIL

BY COUNTY CONTRACTOR



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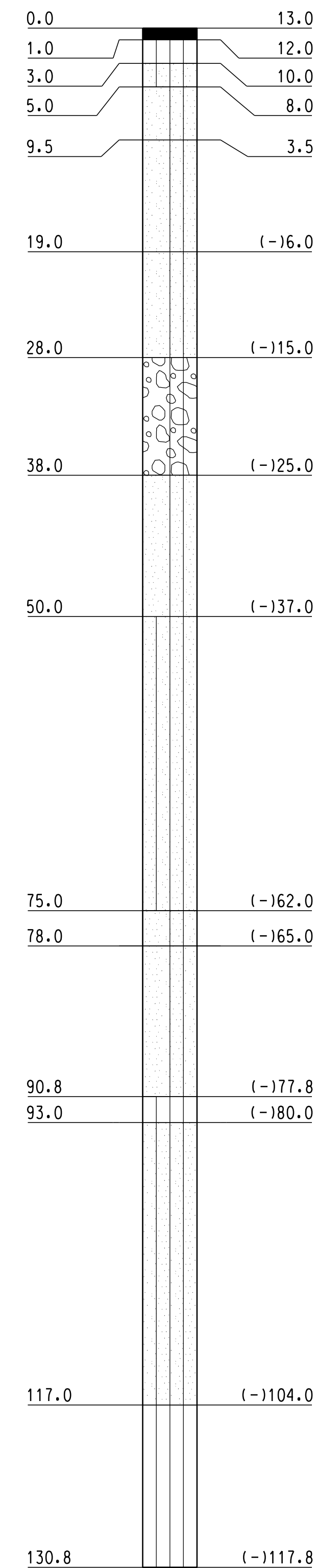
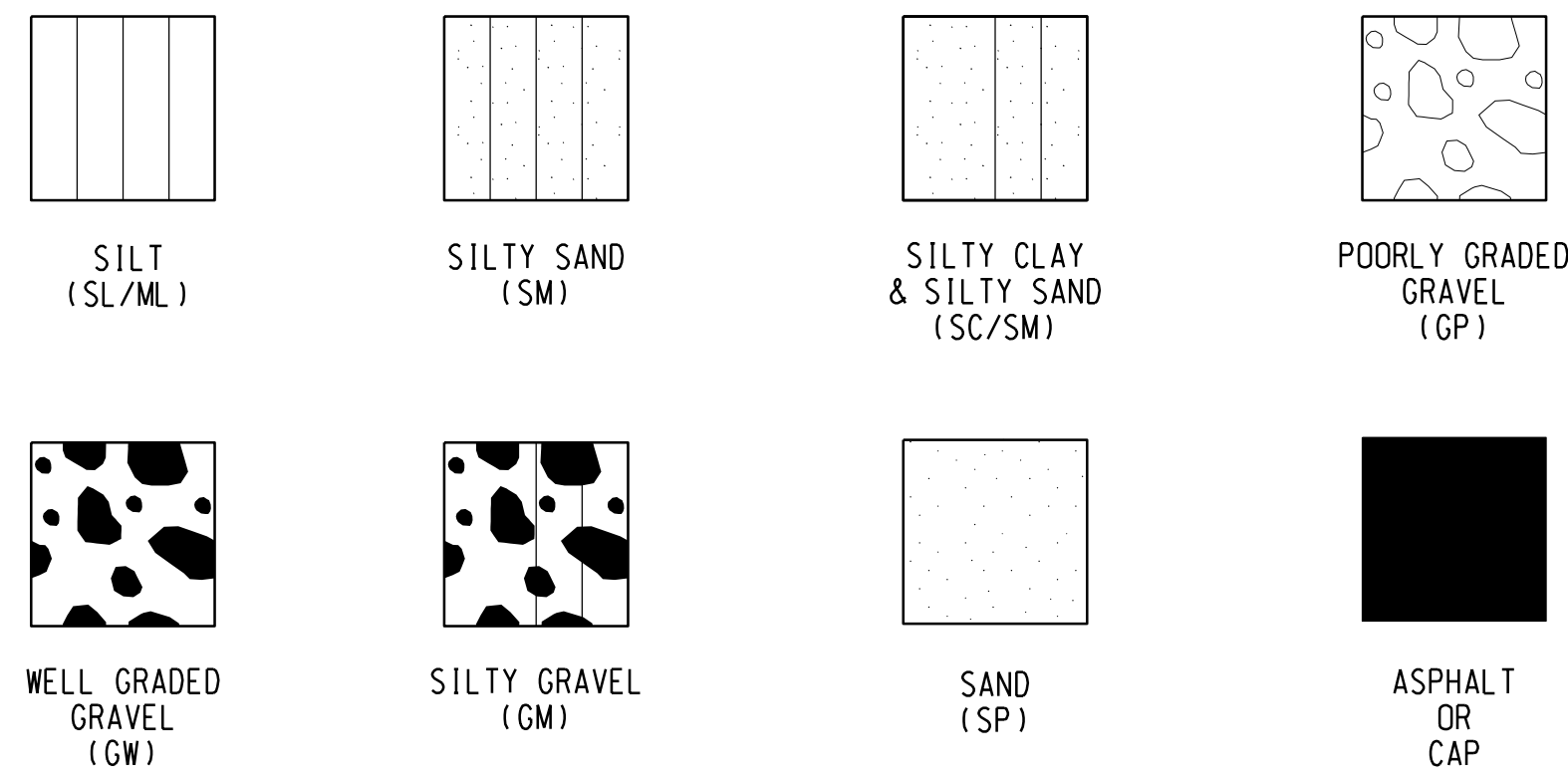
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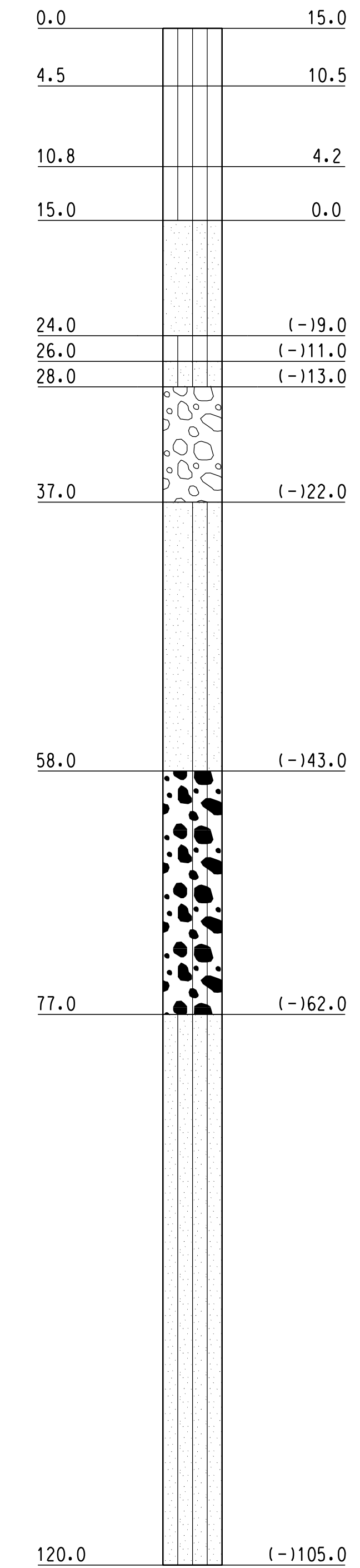
SEATTLE, WA TO WENATCHEE, WA	
BRIDGE NUMBER 21.80A	
OVER LUNDS GULCH CREEK	
EDMONDS, WA	
DRAINAGE SYSTEM	
PLAN NO:	0050-0021.800-019
SHEET:	09 OF 10

**100% SUBMITTAL**

**BORING LOG LEGEND**



**BORING MB-6**



**BORING MB-7**

**NOTE:**

STICK BORING LOGS PROVIDED FOR REFERENCE ONLY. SEE GEOTECHNICAL REPORT BY SHANNON & WILSON, INC. FOR FULL DETAILS.

**100% SUBMITTAL**

DES:	TDP
DRAWN:	CDP
CHECK:	MAF
DATE:	01/08/2021
PLAN:	
LINE SEG:	0050



SEATTLE, WA TO WENATCHEE, WA  
 BRIDGE NUMBER 21.80B  
 OVER LUNDS GULCH CREEK  
 EDMONDS, WA  
 BORING LOGS

PLAN NO: 0050-0021.800-020

SHEET: 10 OF 10

