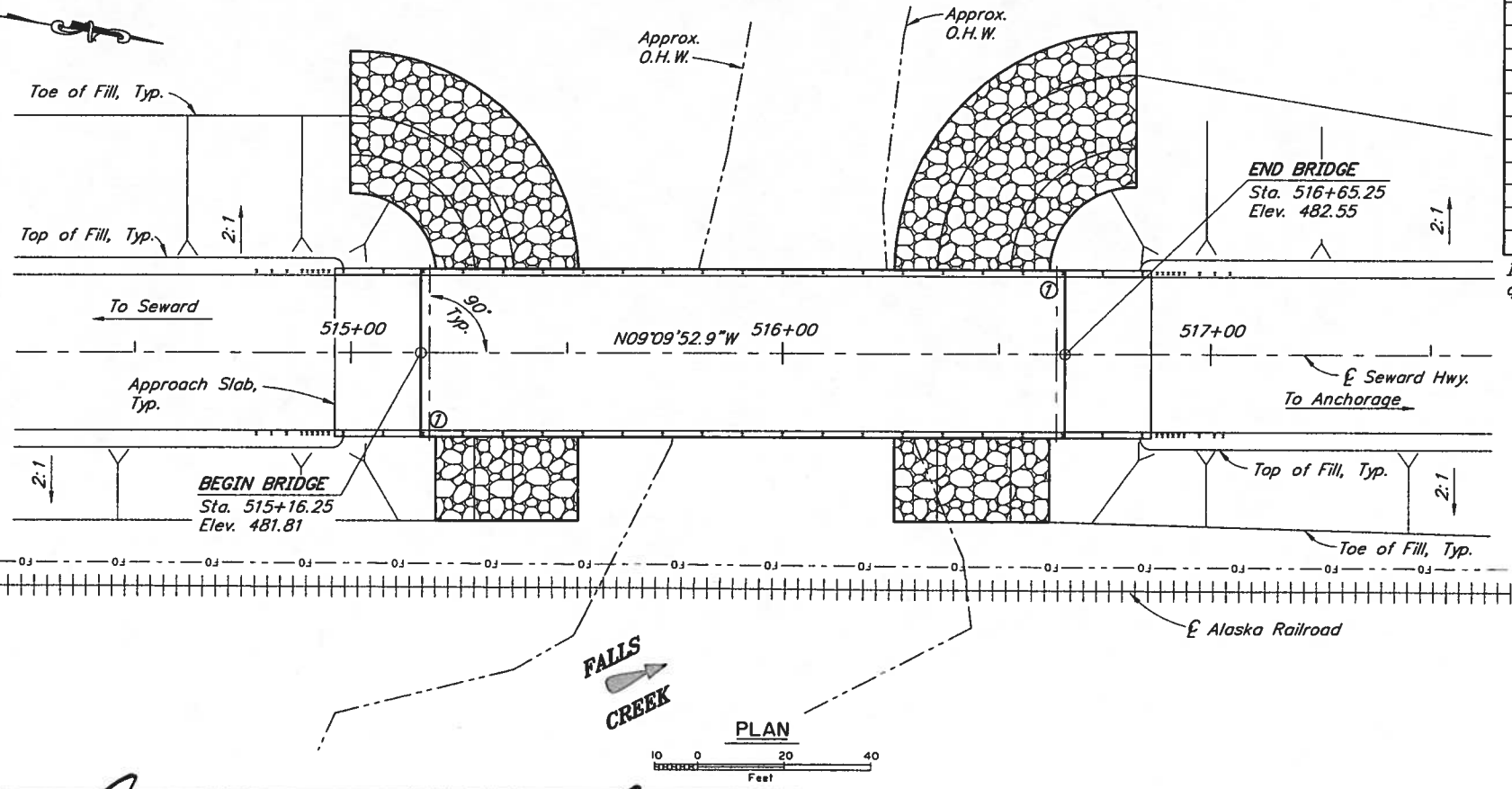


BRIDGE BASIS OF ESTIMATE

ITEM NO.	ITEM	PAY UNIT	ESTIMATING UNIT	SUBST.	SUPERST.	TOTAL
202(17B)	Removal of Existing Bridge No. 609	LS	SF	All Req'd	All Req'd	3048
202(42B)	Salvage of Falls Creek Modular Detour Bridge	LS	SF	All Req'd	All Req'd	3840
205(3)	Structural Fill	CY	CY	1285		1285
501(1)	Class A Concrete	LS	CY	197.3	116.4	313.7
501(5A)	Precast Concrete Member (145' Decked Bulb-Tee)	EA	EA		7	7
503(1)	Reinforcing Steel	LS	LBS	23,280		23,280
503(2)	Epoxy-Coated Reinforcing Steel	LS	LBS		19,129	19,129
505(5)	Furnish Structural Steel Piles (2'-0"x0.5" Pipe Piles)	LF	LF	1787.1		1787.1
505(6)	Drive Structural Steel Piles (2'-0"x0.5" Pipe Piles)	EA	EA	14		14
507(1)	Steel Bridge Railing	LF	LF		378.00	378.00
508(1B)	Waterproofing Membrane Bridge No. 609	LS	SY		756	756
520(1)	Temporary Crossing - Falls Creek	LS	SF	All Req'd	All Req'd	All Req'd
606(12)	Guardrail / Bridge Rail Connection	EA	EA		4	4
611(1)	Riprap, Class II	CY	CY	1114		1114
631(2)	Geotextile, Erosion Control, Class I	SY	SY	835		835

Item numbers are for reference only. Quantities shown are not necessarily the pay quantities nor the total quantity of the particular item.



BRIDGE DRAWING INDEX

TITLE	DWG. NO.
GENERAL LAYOUT	1
SITE PLAN	2
RIPRAP LAYOUT	3
ABUTMENT 1	4
ABUTMENT 2	5
WINGWALLS	6
FRAMING PLAN AND TYPICAL SECTION	7
GIRDERS	8
APPROACH SLABS	9
STEEL BRIDGE RAILING	10
FOUNDATION TEST HOLES	11

① Approximate location of Bridge Number Plate.

DESIGNED BY: <i>Travis Arndt</i>	CHECKED: <i>Leslie Daugherty</i>	LAYOUT BY: <i>Travis Arndt</i>	CHECKED BY: <i>Leslie Daugherty</i>
DRAWN BY: <i>Sam Sallie Jr</i>	CHECKED: <i>Travis Arndt</i>	SPECIFICATIONS BY: <i>Travis Arndt</i>	P S & E COMPARED: <i>Leslie Daugherty</i>
QUANTITIES BY: <i>Travis Arndt</i>	CHECKED: <i>Leslie Daugherty</i>	APPROVAL RECOMMENDED BY: <i>Rich Pratt</i>	

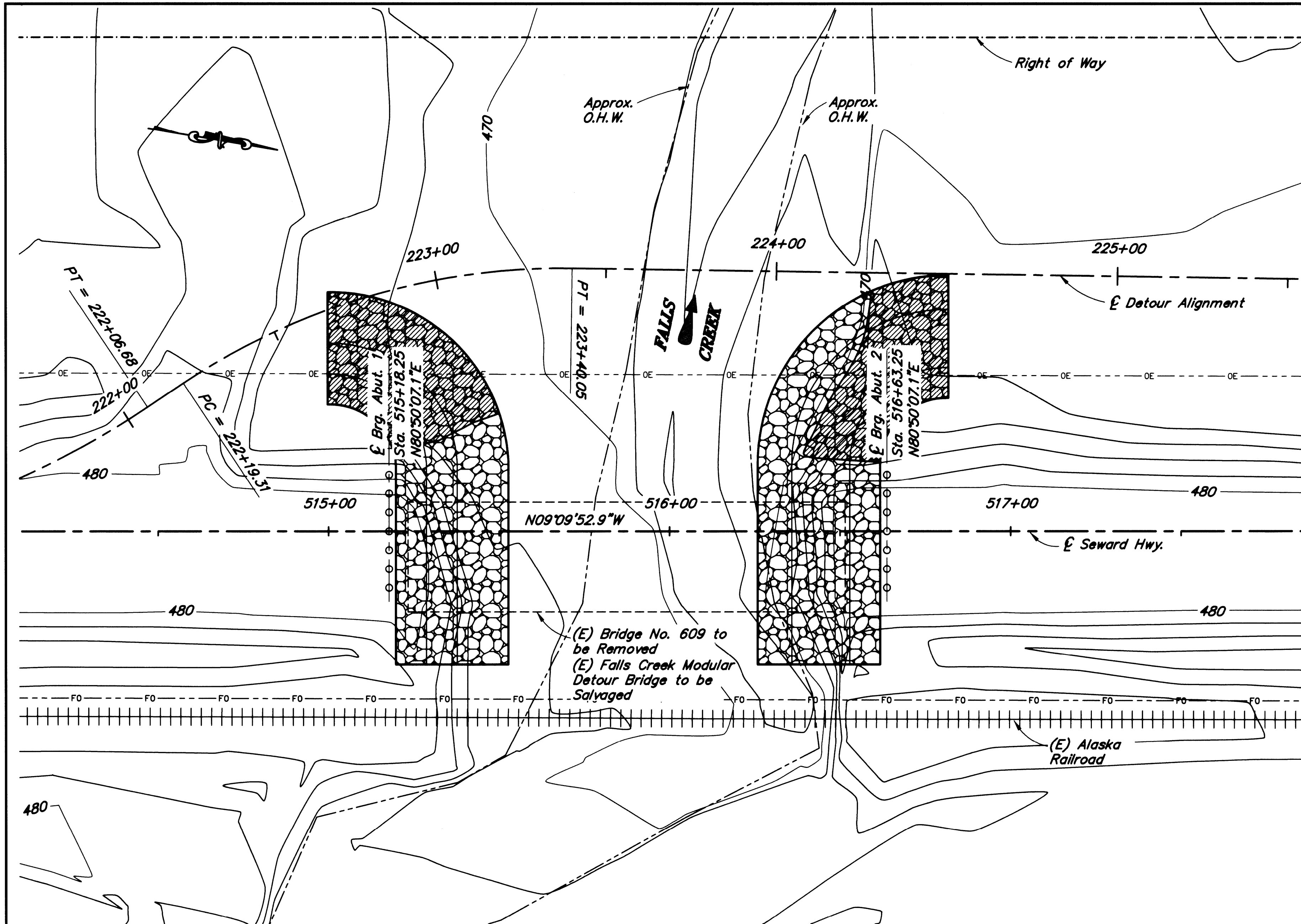
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION



FALLS CREEK BRIDGE
SEWARD HIGHWAY
GENERAL LAYOUT

BRIDGE NO. 609
DWG. NO. 1

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	BR-NH-031-1(30)/52035	2011	NF2	



GENERAL NOTES

DESIGN: AASHTO LRFD Bridge Design Specifications, 2010 edition, with latest interim specifications.

LIVE LOAD: HL-93

DEAD LOAD: Includes 50 psf for all wearing surfaces.

SEISMIC PARAMETERS: PGA = 0.52
 S_s = 1.20
 S_i = 0.50
 Site Class = D
 Liquefaction Potential = High
 AASHTO 7% probability of exceedance in 75 years.

REINFORCEMENT: ASTM A706, Grade 60, F_y = 60,000 psi
 Space evenly unless otherwise noted.

PRESTRESSED CONCRETE: See "GIRDER" Dwg.

CONCRETE: Class A Concrete unless otherwise noted, f'c = 4000 psi.

STRUCTURAL STEEL: ASTM A709, Grade 36T3, F_y = 36,000 psi
 Galvanize all structural steel in accordance with AASHTO M111 unless shown otherwise.

STEEL PILING: API 5L X52 PSL2, F_y = 52,000 psi.
 Pile tip reinforcing is required.

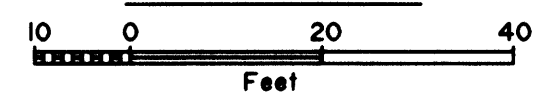
PILE DATA TABLE

LOCATION	PILE TYPE	DRIVING CRITERIA			DESIGN DATA		
		MINIMUM PENETRATION (ft)	ESTIMATED PILE TIP ELEVATION	DRIVING RESISTANCE (K)	STRENGTH FACTORED LOAD (K)	NOMINAL RESISTANCE (K)	RESISTANCE FACTOR, φ
Abutment 1	2'-0" x 0.5" Pipe	115'-0"	346.00	750	390	600	0.65
Abutment 2	2'-0" x 0.5" Pipe	115'-0"	341.75	825	390	600	0.65

ABBREVIATIONS:

- CL = Centerline
- E = Plate
- & = and
- @ = at
- ∅ = diameter
- (E) = existing
- A/C = asphalt concrete
- Approx. = approximate
- Abut. = Abutment
- API = American Petroleum Institute
- ASTM = American Society for Testing and Materials
- bot. = bottom
- Br. = bridge
- btwn. = between
- Brg. = Bearings
- C.I.P. = cast in place
- C.J.P. = complete joint penetration
- Clr. = clear, clearance
- cfs = cubic feet per second
- dia. = diameter
- D.H.W. = Design High Water
- Dwg. = drawing
- Elev. = elevation
- e.f. = each face
- E = expansion bearing
- fo = fiber optic line
- F = fixed bearing
- f.f. = far face
- Hwy. = highway
- Jt. = joint
- Lt. = left
- max. = maximum
- min. = minimum
- n.a. = not applicable
- n.f. = near face
- No. = number
- N/C = not calculated
- O.H.W. = ordinary high water
- ++++ = railroad tracks
- R.O.W. = right of way
- Rt. = right
- S.I.P. = stay in place
- spc. = space, spaces
- Sta. = station
- Symm. = symmetric
- Typ. = typical
- UT = ultrasonic testing
- Yr. = year

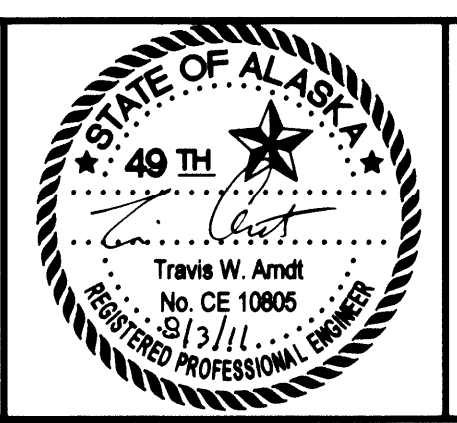
SITE PLAN



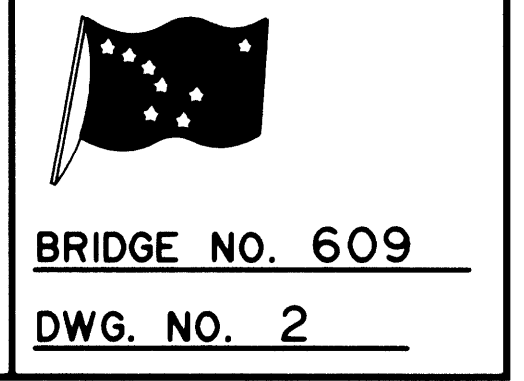
REVISIONS			
No.	Date	By	Description
1	8-3-11	TWA	Minimum Penetration Depth Change

DESIGNED BY: <i>Travis W. Arndt</i>	CHECKED: <i>Lealle Daugherty</i>	FOUNDATIONS REVIEWED BY: <i>Dave Hemstreet</i>
DRAWN BY: <i>Sam Sallie Jr.</i>	CHECKED: <i>Travis W. Arndt</i>	
QUANTITIES BY: <i>Travis W. Arndt</i>	CHECKED: <i>Lealle Daugherty</i>	

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 BRIDGE SECTION

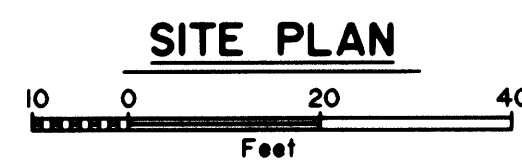
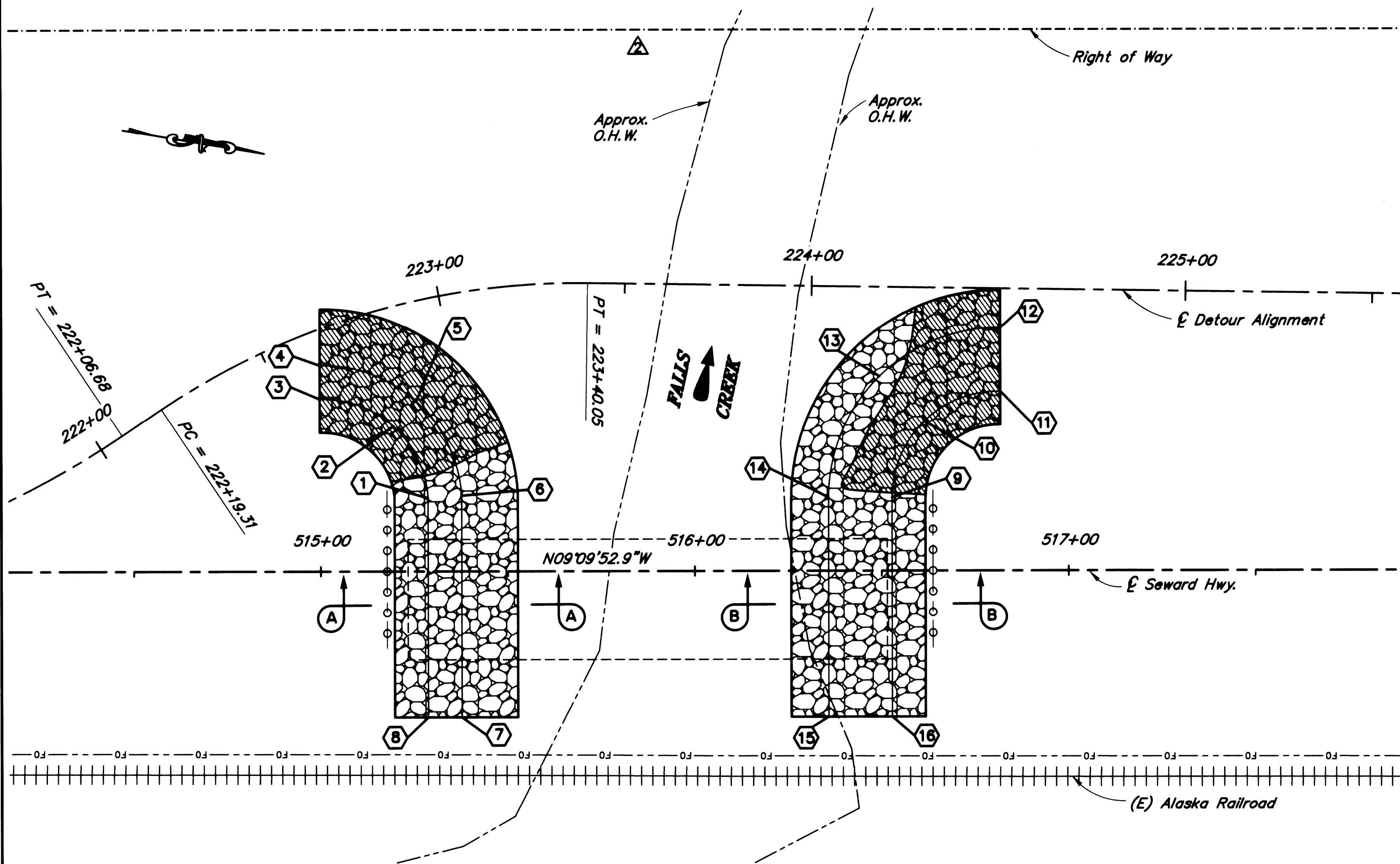


FALLS CREEK BRIDGE
 SEWARD HIGHWAY
 SITE PLAN



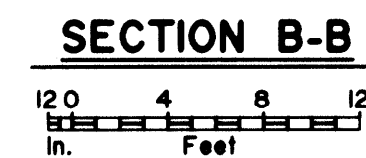
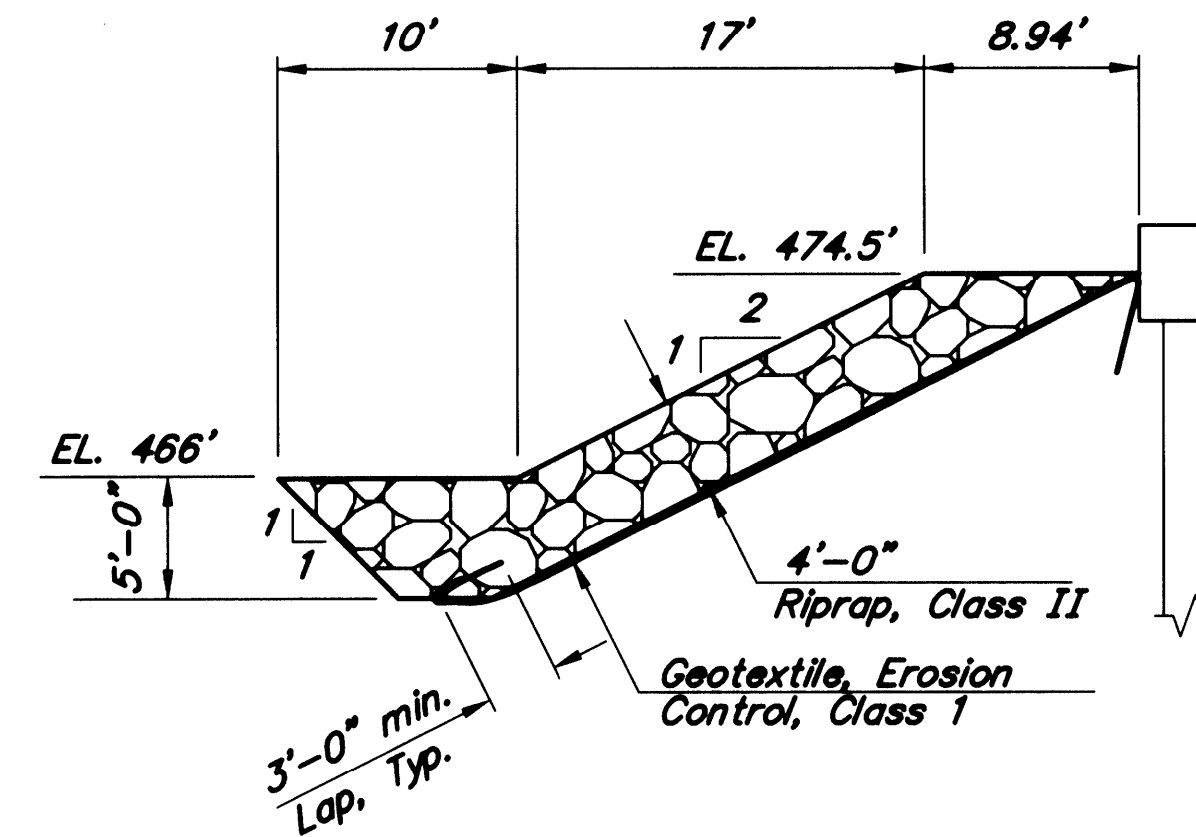
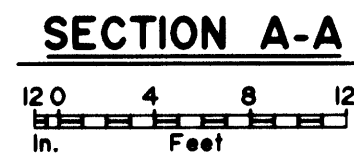
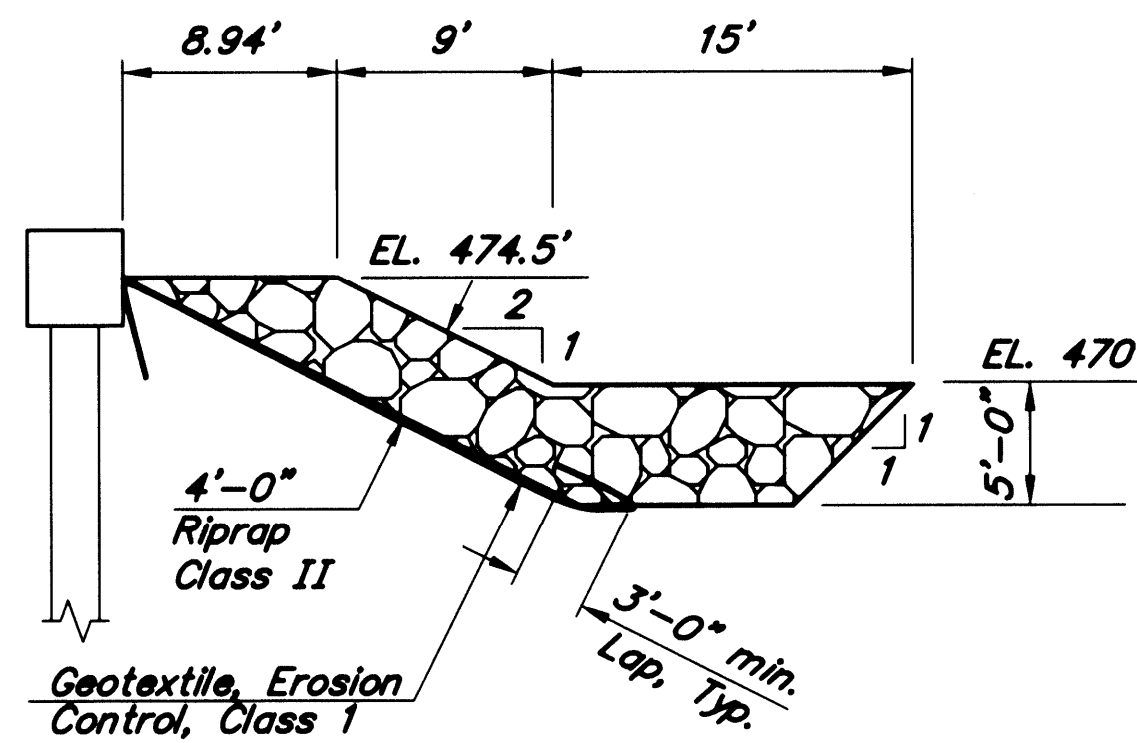
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	BR-NH-031-1(30)/52035	2011	NF3	

RIPRAP TABLE			
POINT	STATION	OFFSET	ELEVATION
①	515+28.69	19.50' Lt.	474.50
②	515+19.45	38.70' Lt.	474.50
③	514+99.75	45.91' Lt.	474.50
④	514+99.75	54.91' Lt.	470.00
⑤	515+25.55	41.31' Lt.	470.00
⑥	515+37.69	20.17' Lt.	470.00
⑦	515+37.69	38.90' Rt.	470.00
⑧	515+28.69	38.90' Rt.	474.50
⑨	516+52.81	19.52' Lt.	474.50
⑩	516+61.45	39.80' Lt.	474.50
⑪	516+81.75	47.80' Lt.	474.50
⑫	516+81.75	64.80' Lt.	466.00
⑬	516+49.43	51.82' Lt.	466.00
⑭	516+35.81	19.56' Lt.	466.00
⑮	516+35.81	38.90' Rt.	466.00
⑯	516+52.81	38.90' Rt.	474.50



HYDRAULIC & HYDROLOGIC SUMMARY			
Flood Frequency (Yr.)	50	100	500
Exceedance Probability (%)	2	1	0.2
Discharge (cfs)	1380	1690	2540
Water Surface Elevation (ft. NAVD88)*	471.7	472.1	473.0
Anticipated Add'l Backwater (ft)	0.0	0.0	0.0
Contraction Scour (ft)	0.0	0.0	0.0
Abutment Scour (ft)	N/C	N/C	N/C
Pier Scour (ft)	N/A	N/A	N/A
Long-Term Aggradation/Degradation (ft)	± 5		

- Drainage Area for this crossing is 11.8 square miles.
- Elevations are reported to the tenth of a foot for a comparison between the modeled flows. Standards regarding significant figures should be adhered to when using this information for other purposes.
- Hydraulic Capacity: 3,500 cfs, approximately, assuming clear water conditions without aggradation.
- The placement of riprap at the spill-through abutments will protect against abutment scour.
- Long-term bed elevation changes were estimated using engineering judgment.



REVISIONS			
No.	Date	By	Description
1	8-3-11	MWK	Right of Way Line Correction

Backfill on top or adjacent to riprap with native material to match existing banks.

DESIGNED BY: Michael Knapp <i>Michael W. Knapp</i>	CHECKED: Hiram Henry <i>Hiram Henry</i>	HYDRAULICS BY: Michael Knapp <i>Michael W. Knapp</i>	CHECKED BY:
DRAWN BY: Sam Sallie <i>Sam Sallie Jr.</i>	CHECKED: Michael Knapp <i>Michael W. Knapp</i>		
QUANTITIES BY: Michael Knapp <i>Michael W. Knapp</i>	CHECKED: Hiram Henry <i>Hiram Henry</i>		

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION



FALLS CREEK BRIDGE
SEWARD HIGHWAY
RIPRAP LAYOUT

BRIDGE NO. 609
DWG. NO. 3