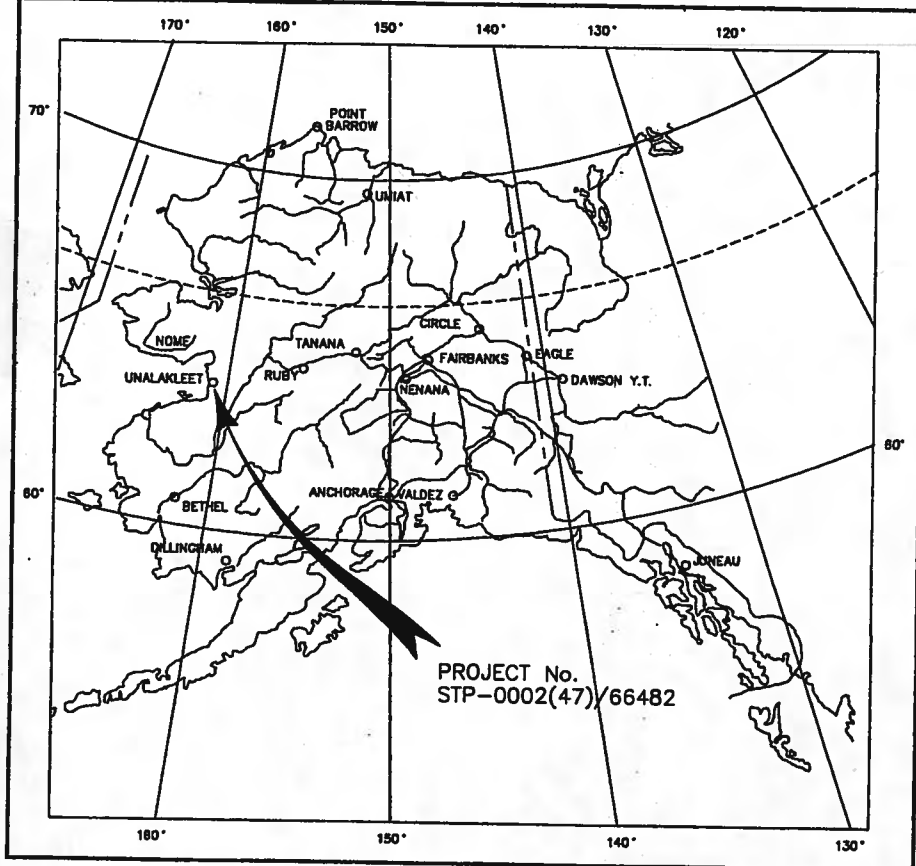


66482B01	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
	ALASKA	STP-0002(47)/66482	1998	1	38



VICINITY MAP

AS ADVERTISED
 FEB 12 1999
 Northern Region

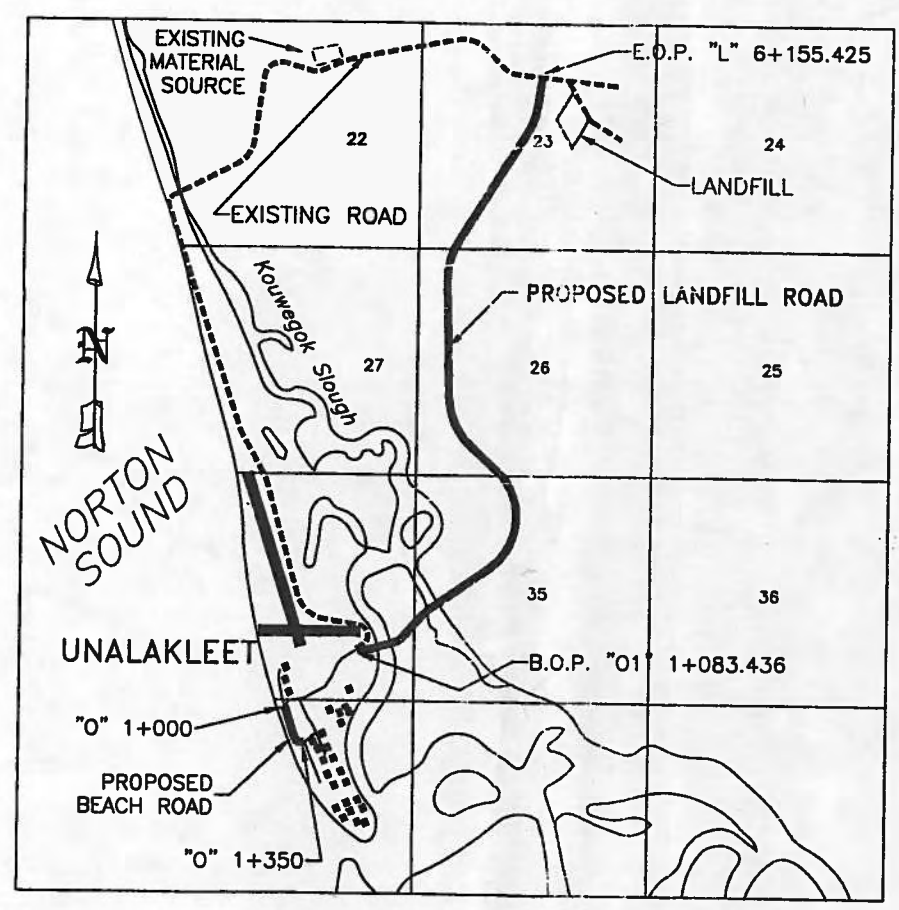
STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 &
 PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT
 PROJECT #STP-0002(47)/66482
 UNALAKLEET LANDFILL ROAD
 GRADING, DRAINAGE, AND BRIDGE

SHEET NO.	DESCRIPTION
1	TITLE
2	TYPICAL SECTIONS AND GENERAL NOTES
3	ESTIMATE OF QUANTITIES AND APPROACHES
4	CULVERT SUMMARY & DETAILS
5-13	PLAN AND PROFILE
14-15	SURVEY CONTROL
16	SIGN SUMMARY AND DETAILS
17	GUARDRAIL DETAILS
18-38	BRIDGE PLANS

THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT:

- A-1[M]
- C-01.03[M]
- D-01.02[M], D-04.10[M], D-05.10[M]
- E-13.00[M]
- G-00.00[M], G-04.06W[M]
- G-09.03W[M], G-29.02W[M]
- I-81.00[M]
- S-05.00[M], S-30.01[M]



LOCATION SKETCH

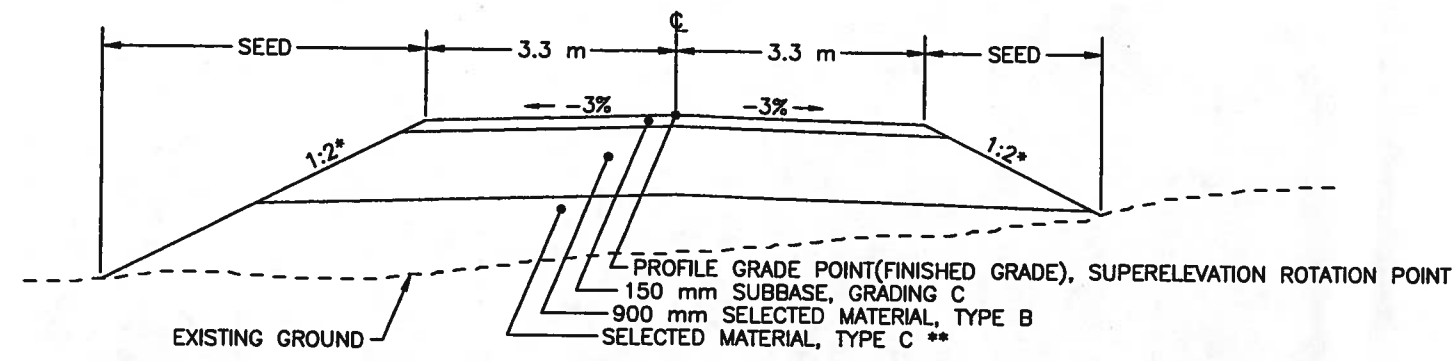
DESIGN DESIGNATIONS	
ADT (1988)	<250
ADT (2020)	<250
V (LANDFILL ROAD)	50 km/h
V (BEACH ROAD)	30 km/h

PROJECT SUMMARY	
WIDTH OF ROAD	6.6 METERS
LENGTH OF GRADING	5307 METERS
LENGTH OF BRIDGE	115 METERS
LENGTH OF PROJECT	5422 METERS

PLANS DEVELOPED BY: STEVEN S. POWERS	UNDER THE SUPERVISION OF: WILLIAM L. TOWNSEND	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES APPROVED BY: <i>Serg C. Tyndall</i> DATE 31 Aug 98 For David L. McCaleb, P.E. Preconstruction Engineer, Design & Engineering Services ACCERTED FOR CONSTRUCTION <i>David L. McCaleb</i> DATE 8-7 Anton K. Johansen, P.E. Regional Director, Northern Region

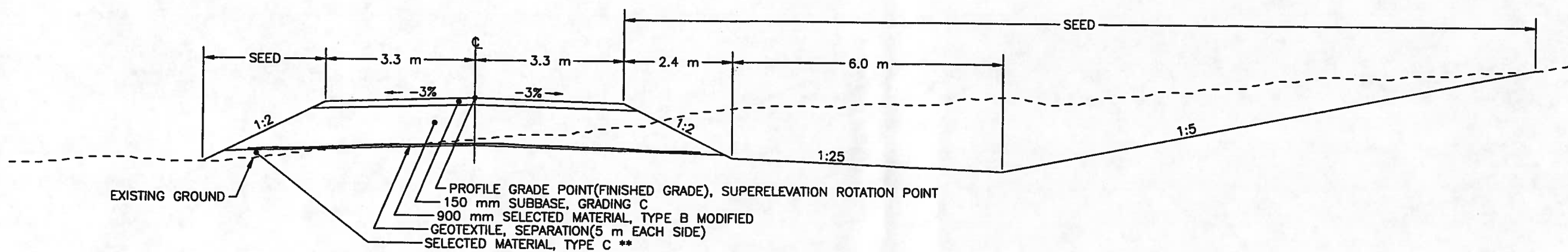
GENERAL NOTES

- IT IS ESTIMATED THAT THERE WILL BE 8800 CUBIC METERS OF UNCLASSIFIED EXCAVATION. IT IS ALSO ESTIMATED THAT 100 CUBIC METERS OF THIS WILL BE WASTE AND 8700 CUBIC METERS WILL BE USEABLE AS SELECTED MATERIAL, TYPE C. A SHRINKAGE FACTOR OF .90 WAS USED FOR THIS MATERIAL IN THE EMBANKMENT QUANTITY ESTIMATE.
- ALL WASTE SHALL BE DISPOSED OF OUTSIDE THE PROJECT LIMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WASTE DISPOSAL SITES AT AREAS APPROVED BY THE ENGINEER.
- SEE STANDARD DRAWING I-81.00[M] FOR THE SUPERELEVATION TRANSITION DETAILS. THE SUPERELEVATION SHALL BE ROTATED ABOUT CENTERLINE.
- GRADES AND ALIGNMENTS SHOWN ON THESE PLANS ARE SUBJECT TO MINOR REVISIONS.
- FROM APPROXIMATELY "O1"1+115 TO "O1"1+155, 39.6 m OF EXISTING 2.4 m HIGH CHAIN-LINK FENCE, WITH BARBED WIRE, SHALL BE REMOVED AND RECONSTRUCTED AT THE TOE OF THE NEW SLOPE AS DIRECTED BY THE ENGINEER. THE EXISTING LINE POSTS WERE DRIVEN AND THE NEW POSTS SHALL BE DRIVEN TO THE SAME DEPTHS. THE EXISTING TERMINAL POST HAS A CONCRETE FOOTING. THE NEW TERMINAL POST SHALL BE EMBEDDED 915 mm INTO A 965 mm DEEP x 300 mm DIAMETER CONCRETE FOOTING.
- HAND CLEARING IS REQUIRED ON THIS PROJECT EXCEPT WITHIN THE EXCAVATION LIMITS NEAR THE END OF THE "L"LINE, WHERE CLEARING AND GRUBBING WILL BE REQUIRED. THE HAND CLEARING IS REQUIRED TO REMOVE BRUSH AND TREES FOR THE CONSTRUCTION OF THE ROADWAY AND TO PREVENT SNOWDRIFTS ON THE ROADWAY. MUCH OF THE AREA WITHIN THE CLEARING LIMITS IS COVERED WITH LOW VEGETATION AND WILL NOT REQUIRE HAND CLEARING. AREAS WITH BRUSH AND TREES TO BE CLEARED ARE SPORADIC WITHIN THE CLEARING LIMITS. FOR ESTIMATION PURPOSES ONLY, THERE WILL BE APPROXIMATELY 6.5 HECTARES OF HAND CLEARING AND 0.80 HECTARES OF CLEARING AND GRUBBING. THE CLEARING LIMITS SHALL BE 30 m EACH SIDE OF CENTERLINE FROM "O1"1+083.436(B.O.P.) TO "L"5+950 AND 30 m ON THE LEFT AND 60 m ON THE RIGHT FROM "L"5+950 TO "L"6+152, EXCEPT FROM "L"4+075 TO "L"4+760 ON THE RIGHT CLEAR TO THE PROPERTY LINES OF LOT 2 OF USS 9363. NO CLEARING WILL BE REQUIRED FOR THE BEACH ROAD("O"LINE).
- FROM "O"1+030 TO "O"1+350(BEACH ROAD) SCARIFY THE EXISTING SURFACE WITHIN THE FILL LIMITS TO A DEPTH OF 150 mm AND RECOMPACT IN ACCORDANCE WITH THE REQUIREMENTS OF SUBSECTION 203-3.04. THIS WORK WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS.
- REFERENCE AND RESET THE MONUMENTS AT "O"1+127.314, 2.930 m LEFT AND "O"1+310.294, 2.930 m LEFT. THIS WORK WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO ITEM 642(1).



TYPICAL SECTION
 "O1"1+083.436 TO "L"5+975(LANDFILL ROAD) &
 "O"1+000 TO "O"1+350(BEACH ROAD)

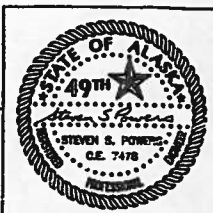
* 1:1.5 FROM "L"3+525 TO "L"3+600
 ** IN MANY AREAS IT MAY NOT BE PRACTICAL TO CONSTRUCT A THIN LAYER OF SELECTED MATERIAL, TYPE C AS DICTATED BY THE PROFILE GRADE AND TYPICAL SECTION. SELECTED MATERIAL, TYPE B SHALL BE PLACED IN AREAS WHERE THE THICKNESS OF SELECTED MATERIAL, TYPE C WOULD NOT BE SUFFICIENT TO SUPPORT CONSTRUCTION EQUIPMENT. NO SELECTED MATERIAL, TYPE C SHALL BE PLACED FROM "O"1+000 TO "O"1+350(BEACH ROAD).



TYPICAL SECTION
 "L"5+975 TO "L"6+155.425 E.O.P.(LANDFILL ROAD)

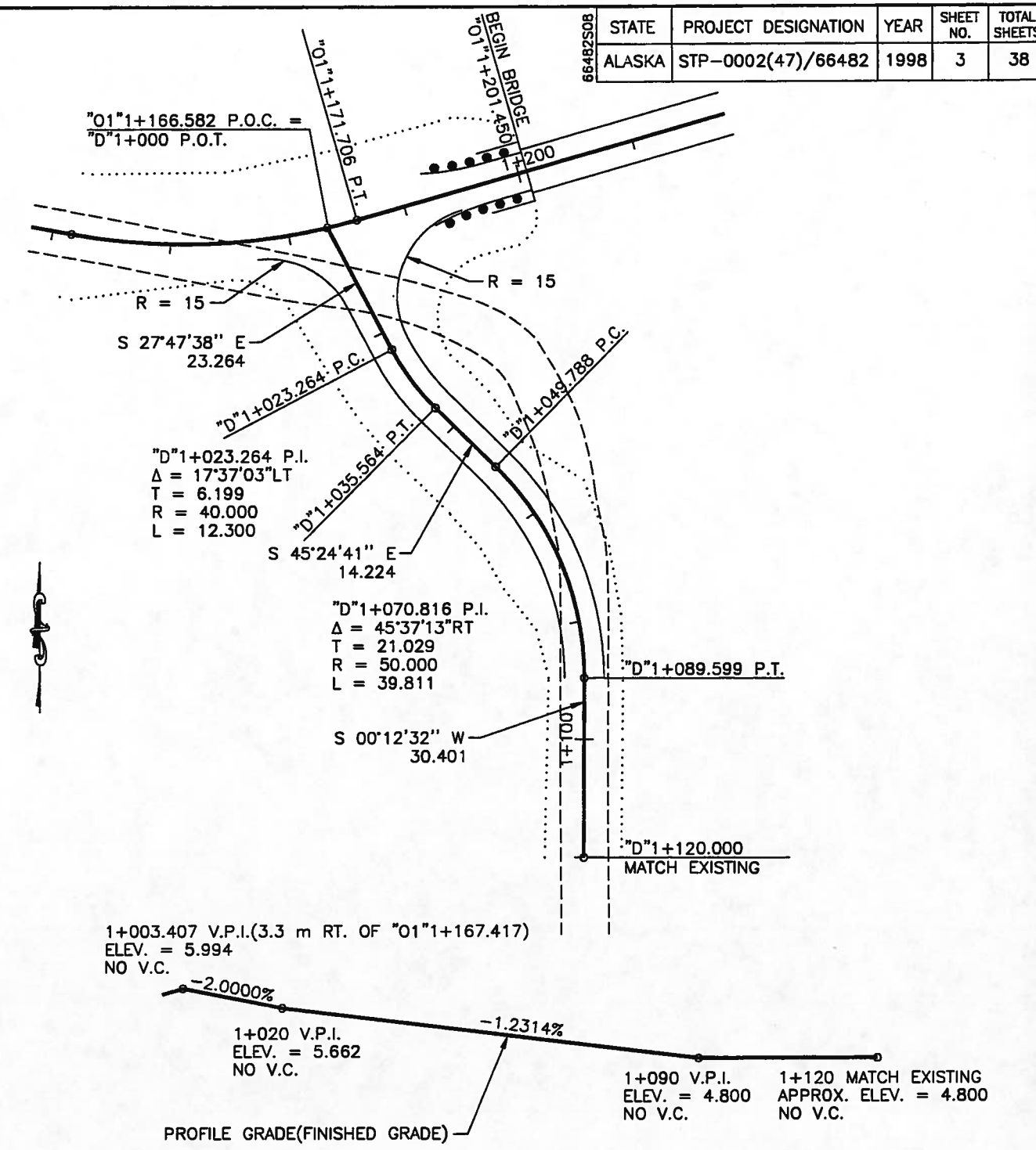
ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.

TYPICAL SECTIONS & GENERAL NOTES



ESTIMATE OF QUANTITIES			
ITEM NO.	PAY ITEM	PAY UNIT	QUANTITY
120(1)	DBE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
201(4B)	HAND CLEARING	LUMP SUM	ALL REQUIRED
203(3A)	UNCLASSIFIED EXCAVATION	LUMP SUM	ALL REQUIRED
203(6)	BORROW	MEGAGRAM	266 000
304(1)	SUBBASE, GRADING C	MEGAGRAM	13 300
501(2)	CLASS A-A CONCRETE	LUMP SUM	ALL REQUIRED
501(8)	PRECAST CONCRETE DECK PANELS	EACH	76
501(9)	PRECAST CONCRETE PIER CAPS	EACH	4
501(10)	PRECAST CONCRETE ABUTMENT PANELS	EACH	94
503(1)	REINFORCING STEEL	LUMP SUM	ALL REQUIRED
503(2)	EPOXY COATED REINFORCING STEEL	LUMP SUM	ALL REQUIRED
504(1)	STRUCTURAL STEEL, FURNISHED AND ERECTED	LUMP SUM	ALL REQUIRED
504(3)	WELDING QUALITY CONTROL AND NDE	LUMP SUM	ALL REQUIRED
505(5A)	STRUCTURAL STEEL PILES, FURNISHED (760 mm DIA.)	METER	262.1
505(5B)	STRUCTURAL STEEL PILES, FURNISHED (HP360x174)	METER	346.3
505(5C)	STRUCTURAL STEEL PILES, FURNISHED (HP310x125)	METER	341.6
505(6A)	STRUCTURAL STEEL PILES, DRIVEN (760 mm DIA.)	EACH	6
505(6B)	STRUCTURAL STEEL PILES, DRIVEN (HP360x174)	EACH	8
505(6C)	STRUCTURAL STEEL PILES, DRIVEN (HP310x125)	EACH	28
505(14)	SPECIAL PIPE PILE EXCAVATION	CONTINGENT SUM	ALL REQUIRED
507(1)	METAL BRIDGE RAILING	METER	230.2
603(17-600)	600 mm PIPE	METER	334.2
603(17-1500)	1500 mm PIPE	METER	37.8
606(10)	SLOTTED RAIL TERMINAL(SRT-350)	EACH	4
606(13)	GUARDRAIL/BRIDGE RAIL CONNECTION	EACH	4
607(4)	RECONSTRUCTED FENCE	METER	40
613(2)	CULVERT MARKER POSTS	EACH	38
615(1)	STANDARD SIGNS	SQUARE METER	6.99
618(2)	SEEDING	KILOGRAM	500
630(1)	GEOTEXTILE, SEPARATION	SQUARE METER	3100
639(1)	APPROACHES	EACH	2
640(1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
641(1)	EROSION AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED
641(2)	EROSION AND POLLUTION CONTROL	CONTINGENT SUM	ALL REQUIRED
641(3)	SILT FENCE	METER	707
641(6)	EROSION AND POLLUTION PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
642(1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
642(2)	THREE PERSON SURVEY PARTY	HOUR	15
643(2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
644(1)	FIELD OFFICE	LUMP SUM	ALL REQUIRED
644(2)	FIELD LABORATORY	LUMP SUM	ALL REQUIRED
644(3)	CURING SHED	LUMP SUM	ALL REQUIRED
644(6)	ENGINEERING TRANSPORTATION	LUMP SUM	ALL REQUIRED
645(1)	TRAINING PROGRAM, 2 TRAINEES/APPRENTICES	LABOR HOUR	1000

TABLE OF ESTIMATING FACTORS		
ITEM NO.	DESCRIPTION	FACTOR
203(6)	BORROW	2.37 Mg/m ³
304(2)	SUBBASE, GRADING C	2.33 Mg/m ³

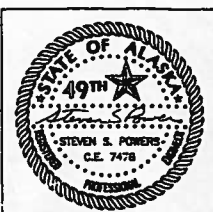


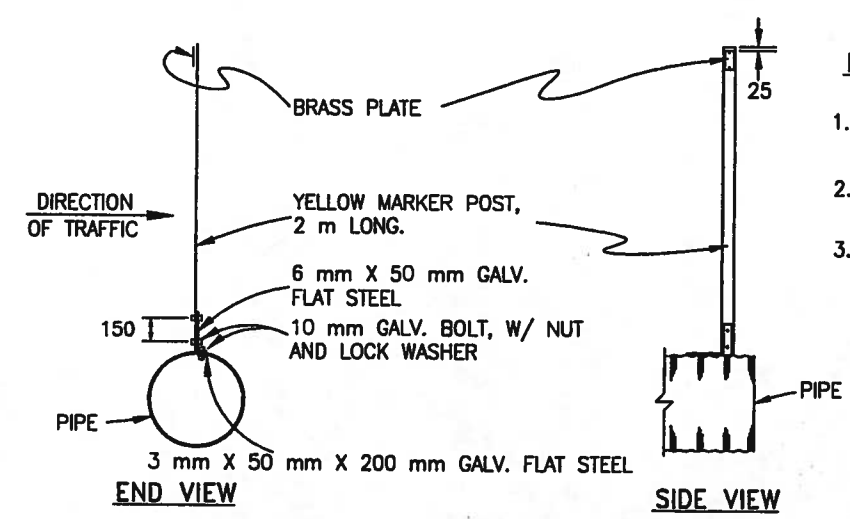
APPROACH NOTES

1. CONSTRUCT THE APPROACH SHOWN ABOVE IN ACCORDANCE WITH THE TYPICAL SECTION FOR THE ADJACENT ROADWAY. FILL THE AREA BETWEEN THE OLD ROAD AND THE NEW ROAD, "D"1+020 TO "D"1+055 LEFT, WITH SELECTED MATERIAL, TYPE C AND GRADE TO DRAIN AWAY FROM THE NEW ROADWAY, AS DIRECTED BY THE ENGINEER. CONSTRUCT SUPERELEVATIONS AND TRANSITIONS AS DIRECTED BY THE ENGINEER.
2. CONSTRUCT A 5 m WIDE APPROACH WITH 8 m RADII ON THE RIGHT AT "O1"1+388. THE FIRST 8 m OF THE APPROACH SHALL SLOPE AWAY FROM THE ROADWAY AT -2%. CONSTRUCT THE APPROACH WITH THE SAME TYPE AND DEPTH OF MATERIALS AS THE ADJACENT ROADWAY WITH 1:2 FILL SLOPES. MATCH INTO THE EXISTING GROUND APPROXIMATELY 22 m FROM THE SHOULDER OF THE ROADWAY.

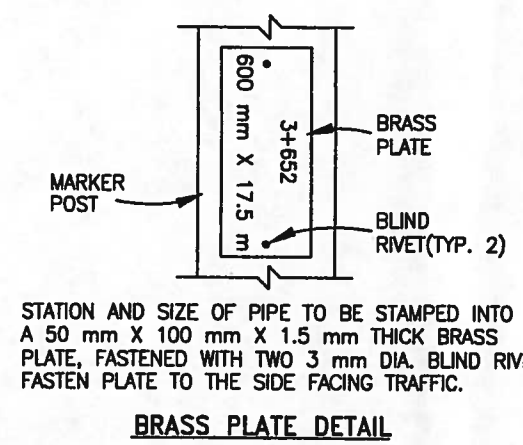
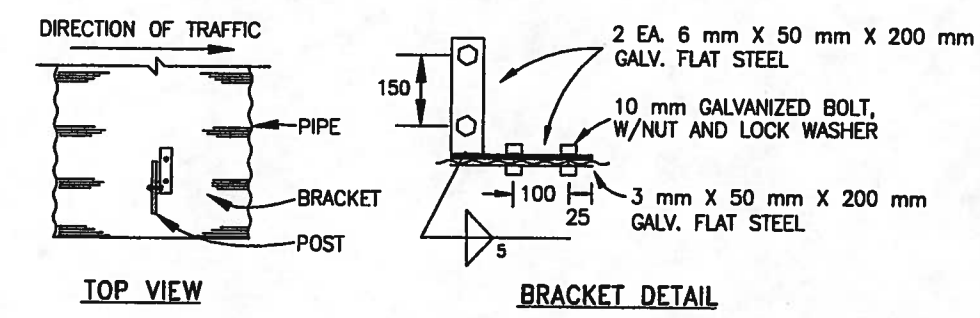
ALL DIMENSIONS ARE IN METERS (m) UNLESS NOTED OTHERWISE.

ESTIMATE OF QUANTITIES & APPROACHES



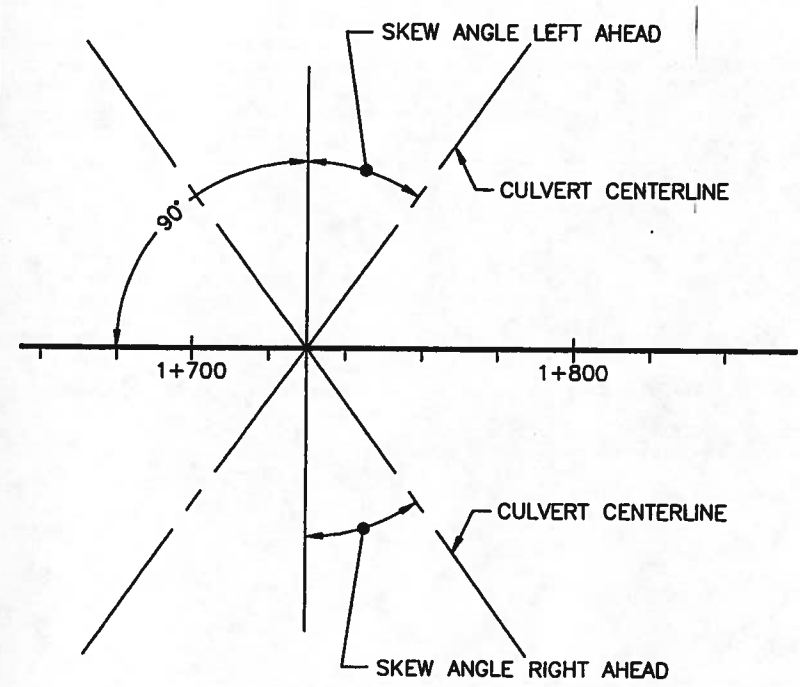


- NOTES:**
1. DRILL ALL BOLT HOLES. FLAME CUTTING SHALL NOT BE PERMITTED.
 2. MARKER POST ENDS SHALL BE SQUARE.
 3. GASKET MATERIAL SHALL BE PLACED BETWEEN DISSIMILAR METALS. GASKET MATERIAL SHALL BE APPROVED PRIOR TO INSTALLATION.

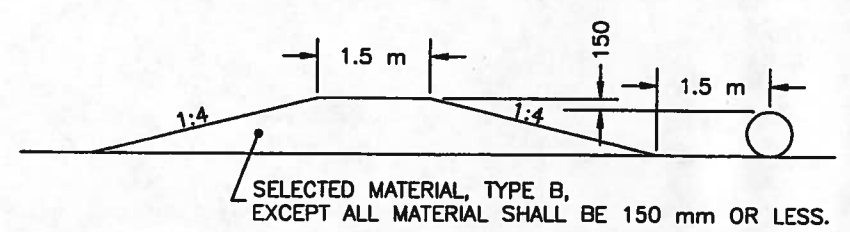


STATION AND SIZE OF PIPE TO BE STAMPED INTO A 50 mm X 100 mm X 1.5 mm THICK BRASS PLATE, FASTENED WITH TWO 3 mm DIA. BLIND RIVETS. FASTEN PLATE TO THE SIDE FACING TRAFFIC.

CULVERT MARKER POST DETAIL



CULVERT SKEW ANGLE DETAIL



DIKE DETAIL

THE TOP OF THE DIKE SHALL BE 5 m WIDE (PERPENDICULAR TO THE ROADWAY). MATCH INTO THE EXISTING GROUND AT A 1:2 FILL SLOPE OR AS DIRECTED BY THE ENGINEER.

ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.

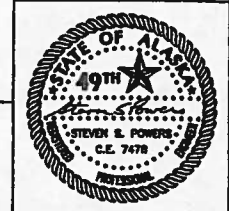
SUMMARY OF CULVERTS

STATION	PIPE LENGTH (m)		CULVERT MARKER POSTS	REMARKS
	600 mm	1500 mm		
"O1" 2+167	30.5		2	SKEW 65° RIGHT AHEAD
"O1" 2+627	17.1			SKEW 11'30" LEFT AHEAD
"O1" 2+628.2	15.9		2	PLACE 0.6 m HIGHER THAN PREVIOUS CULVERT W/SAME SKEW
"O1" 2+728	20.1		2	
"O1" 2+808	15.8		2	
"L" 3+098	23.2		2	SKEW 13° LEFT AHEAD
"L" 3+180	16.5		2	
"L" 3+278	17.1		2	
"L" 3+435	23.2		2	SKEW 23'30" LEFT AHEAD
"L" 3+462	20.7		2	
"L" 3+581		37.8	2	SKEW 40'09" RIGHT AHEAD
"L" 4+250	17.7		2	CONSTRUCT DIKE ON LEFT
"L" 4+307	15.8		2	CONSTRUCT DIKE ON LEFT
"L" 4+505	14.0		2	CONSTRUCT DIKE ON LEFT
"L" 4+745	15.8		2	CONSTRUCT DIKE ON LEFT
"L" 4+885	10.4		2	CONSTRUCT DIKE ON LEFT
"L" 5+575	13.4		2	
"L" 6+155	22.0		2	INSTALL UNDER EXISTING ROAD; DITCH OUTLET
"O" 1+190	12.8		2	
"O" 1+280	12.2		2	
TOTALS	334.2	37.8	38	

NOTES:

1. CULVERT LENGTHS AND LOCATIONS MAY BE ADJUSTED BY THE ENGINEER.
2. CULVERTS SHALL BE STAKED TO THE TOE OF SLOPES, EXCEPT AS NOTED IN THE SUMMARY.
3. CULVERT LENGTHS SHOWN IN THE SUMMARY REFLECT THE LENGTH REQUIRED FOR THE SKEW ANGLES. THE CULVERT INLET AND OUTLET ENDS SHALL BE POSITIONED AT THE LOWEST DRAINAGE POINTS AT THE TOE OF SLOPES, EXCEPT AS NOTED IN THE SUMMARY.
4. ALL CULVERTS, EXCEPT FOR THE CULVERTS AT "O1"2+628.2, "O"1+190, "O"1+280, SHALL BE BEDDED IN ACCORDANCE WITH THE STANDARD DRAWING D-01.02[M] TYPE A, FOUNDATION STABILIZATION DETAIL. THE DEPTH OF EXCAVATION BELOW THE CULVERTS SHALL BE 0.3 m. PLACE SEPARATION GEOTEXTILE AT THE BOTTOM OF THE BEDDING EXCAVATION AS APPROVED BY THE ENGINEER. THE MATERIAL BELOW AND WITHIN 0.45 m OF THE SIDES OF ALL CULVERTS SHALL BE SELECTED MATERIAL, TYPE B AND BE 75 mm OR LESS IN ANY DIMENSION. THE WORK, INCLUDING THE EXCAVATION BELOW FLOW LINE, REQUIRED TO BED THE CULVERTS WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO 603 ITEMS. BEDDING MATERIAL AND SEPARATION GEOTEXTILE WILL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS.

CULVERT SUMMARY & DETAILS

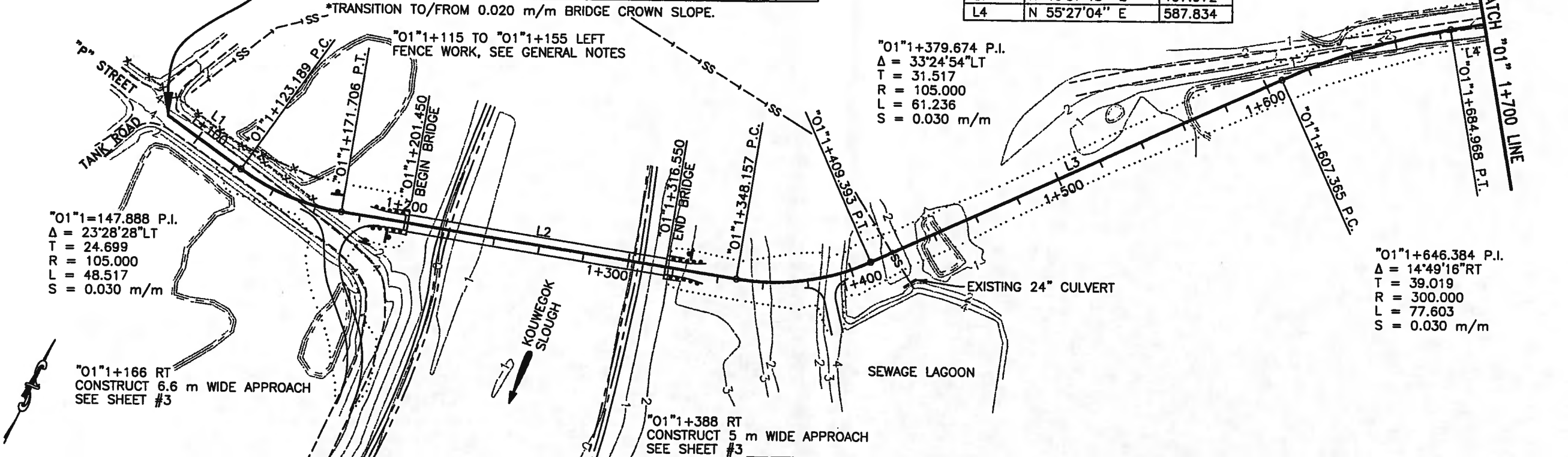


B.O.P. "01"1+083.436
(1.3 m LT. OF "L"1+031.647)

SUPERELEVATION TRANSITIONS			
BEGIN TRANSITION	BEGIN FULL SUPER	END FULL SUPER	END TRANSITION
"01"1+087.189	"01"1+123.189	"01"1+171.706	"01"1+199.706*
"01"1+320.157*	"01"1+348.157	"01"1+409.393	"01"1+445.393
"01"1+583.365	"01"1+619.365	"01"1+672.968	"01"1+708.968

"01" LINE TABLE		
NUMBER	DIRECTION	DISTANCE
L1	S 79°28'50" E	39.753
L2	N 74°02'42" E	176.451
L3	N 40°37'48" E	197.972
L4	N 55°27'04" E	587.834

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)/66482	1998	5	38



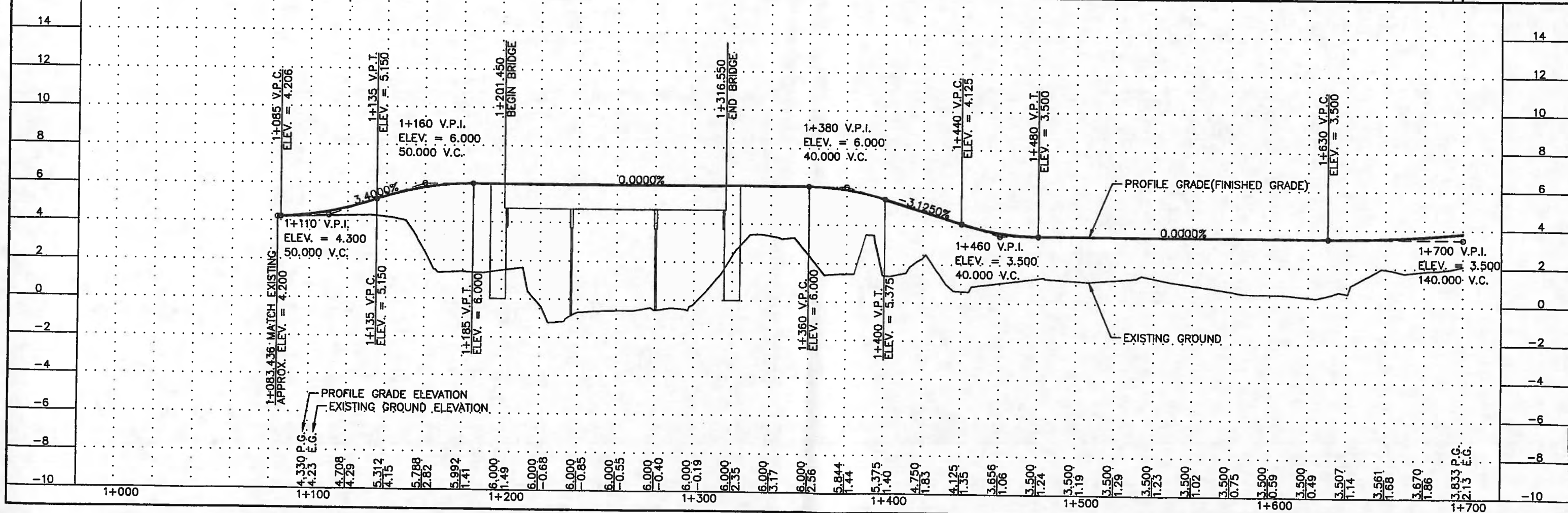
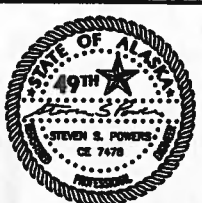
ALL DIMENSIONS ARE IN METERS (m) UNLESS NOTED OTHERWISE.

TBM ELEV.=4.478

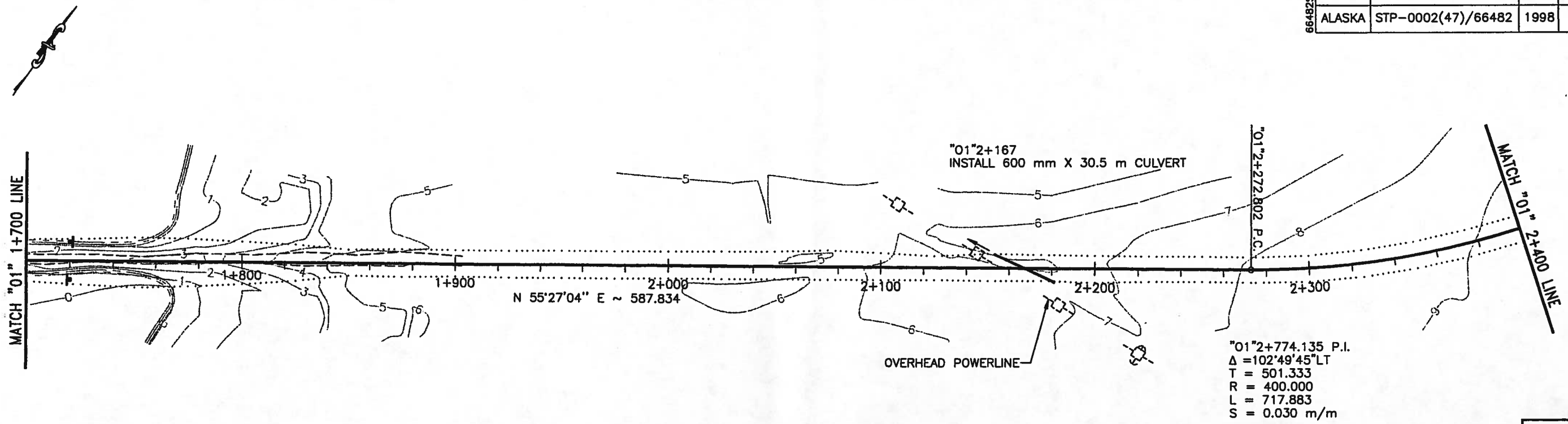
"01"1+397.045, 31.816 RT("L"1+360.026 P.I.), 5/8" REBAR

TBM ELEV.=2.176

"01"1+540.958, 27.687 RT("L"1+508.967 P.I.), 5/8" REBAR



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)/66482	1998	6	38



*01*2+774.135 P.I.
 $\Delta = 102'49'45''$ LT
 T = 501.333
 R = 400.000
 L = 717.883
 S = 0.030 m/m

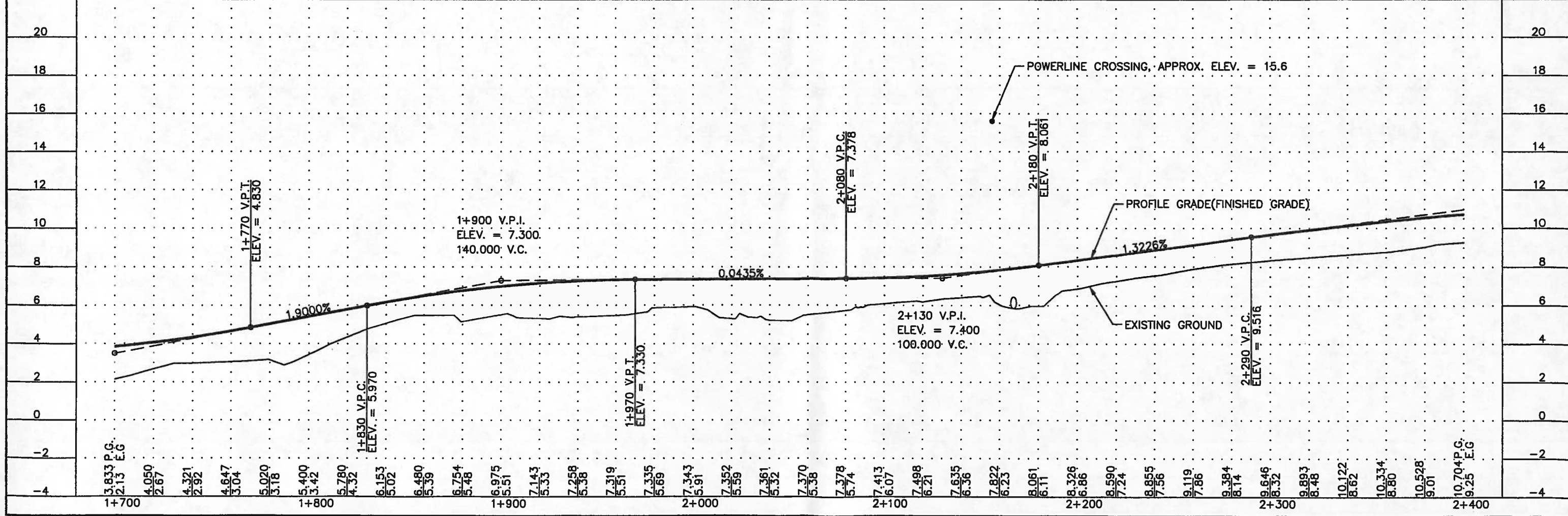
*01*2+248.802 BEGIN SUPERELEVATION TRANSITION
 *01*2+284.802 BEGIN FULL SUPERELEVATION
 *01*2+978.685 END FULL SUPERELEVATION
 *L*3+014.685 END SUPERELEVATION TRANSITION



ALL DIMENSIONS ARE IN METERS (m) UNLESS NOTED OTHERWISE.

TBM ELEV.=4.859
 *01*1+832.282, 1.449 LT(*L*1+802.020 P.O.T.), 5/8" REBAR

TBM ELEV.=8.828
 *01*2+336.595, 0.818 RT(*L*2+306.201 P.C.), 5/8" REBAR



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)/66482	1998	7	38

MATCH "O1" 2+400 LINE

MATCH "L" 3+100 LINE

"O1"2+774.135 P.I.
 $\Delta = 102^{\circ}49'45" \text{LT}$
 $T = 501.333$
 $R = 400.000$
 $L = 717.883$
 $S = 0.030 \text{ m/m}$

"O1"2+248.802 BEGIN SUPERELEVATION TRANSITION
 "O1"2+284.802 BEGIN FULL SUPERELEVATION
 "O1"2+978.685 END FULL SUPERELEVATION
 "L"3+014.685 END SUPERELEVATION TRANSITION

"O1"2+627
 INSTALL 600 mm X 17.1 m CULVERTS
 "O1"2+628.2
 INSTALL 600 mm X 15.9 m CULVERTS

"O1"2+728
 INSTALL 600 mm X 20.1 m CULVERT

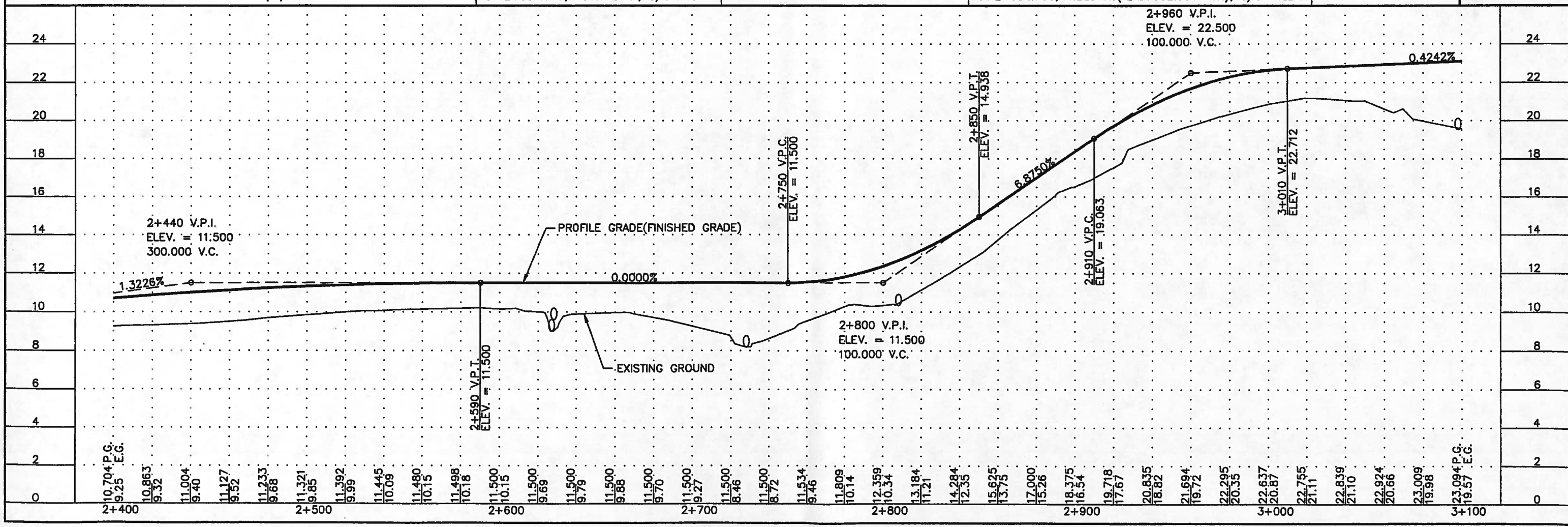
"O1"2+808
 INSTALL 600 mm X 15.8 m CULVERT

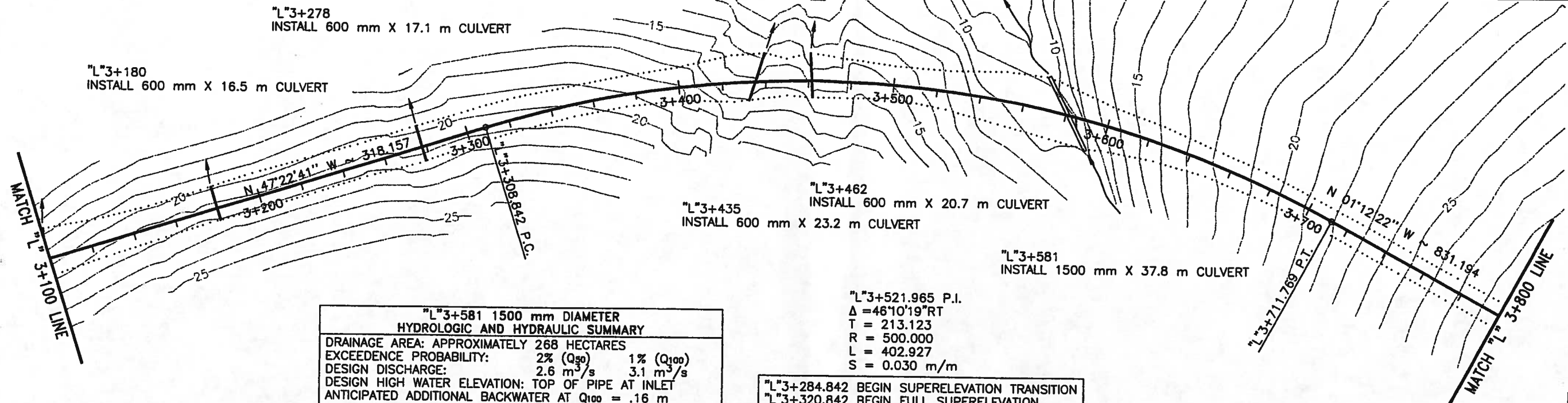
"L"3+098
 INSTALL 600 mm X 23.2 m CULVERT

TBM ELEV.=6.953
 "O1"2+581.777, 101.775 LT, 5/8" REBAR

TBM ELEV.=19.203
 "O1"2+932.798, 4.225 RT("L"2+932.391 P.T.), 5/8" REBAR

ALL DIMENSIONS ARE IN METERS (m) UNLESS NOTED OTHERWISE.





"L"3+581 1500 mm DIAMETER HYDROLOGIC AND HYDRAULIC SUMMARY	
DRAINAGE AREA:	APPROXIMATELY 268 HECTARES
EXCEEDENCE PROBABILITY:	2% (Q_{50}) 1% (Q_{100})
DESIGN DISCHARGE:	2.6 m^3/s 3.1 m^3/s
DESIGN HIGH WATER ELEVATION:	TOP OF PIPE AT INLET
ANTICIPATED ADDITIONAL BACKWATER AT Q_{100} :	= .16 m
THE CAPACITY OF THE STRUCTURE AT ROADWAY OVERTOPPING HAS AN EXCEEDENCE PROBABILITY LESS THAN 0.2% (Q_{500}).	

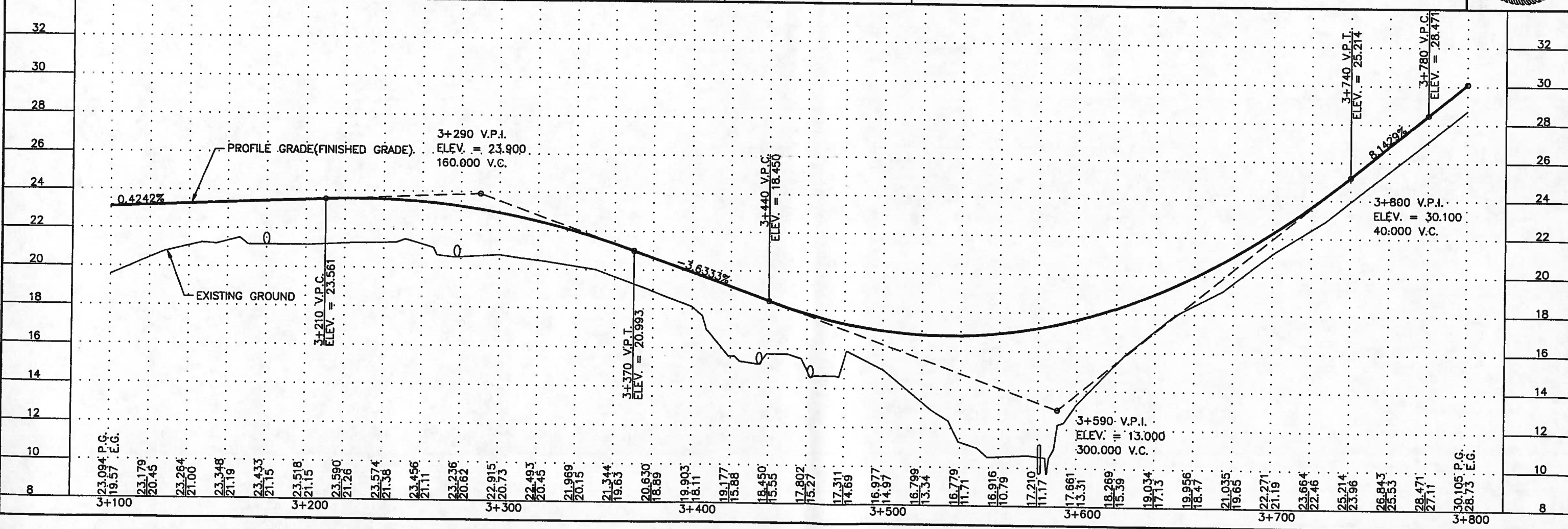
"L"3+521.965 P.I.
 $\Delta = 46^\circ 10' 19'' RT$
 $T = 213.123$
 $R = 500.000$
 $L = 402.927$
 $S = 0.030 m/m$

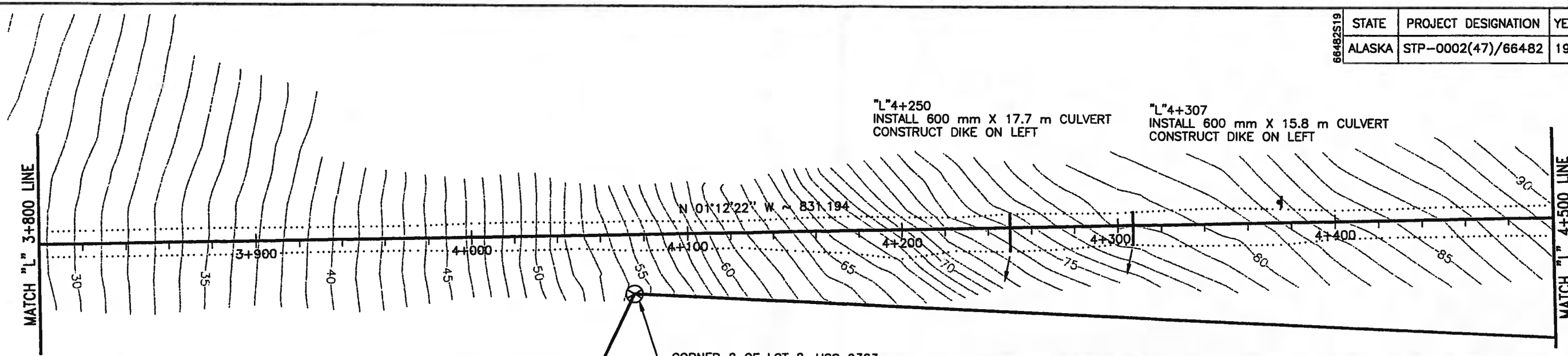
"L"3+284.842 BEGIN SUPERELEVATION TRANSITION
"L"3+320.842 BEGIN FULL SUPERELEVATION
"L"3+699.769 END FULL SUPERELEVATION
"L"3+735.769 END SUPERELEVATION TRANSITION



ALL DIMENSIONS ARE IN METERS (m) UNLESS NOTED OTHERWISE.

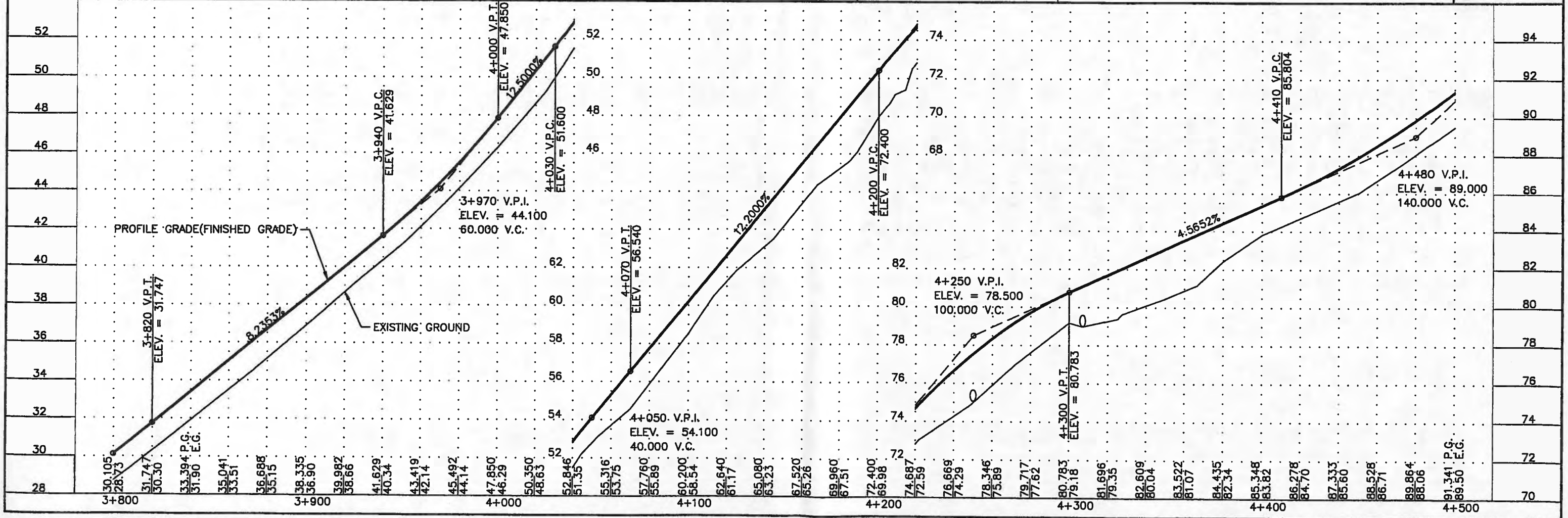
TBM ELEV.=10.906
"L"3+521.965 P.I., 5/8" REBAR

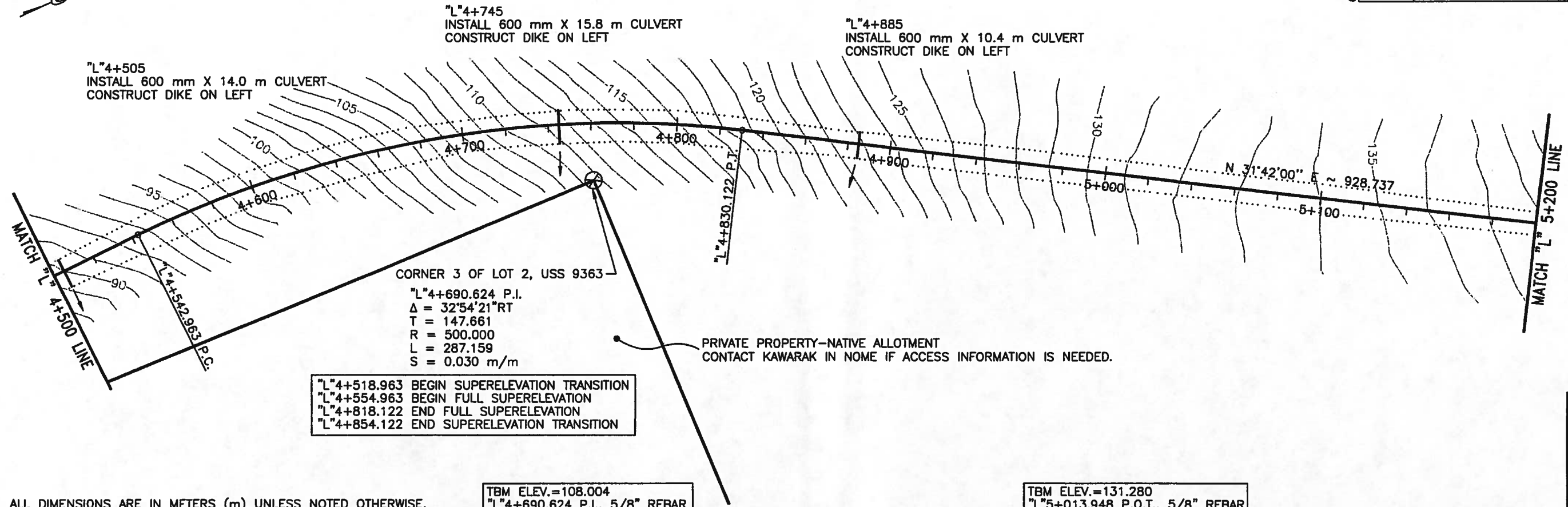




ALL DIMENSIONS ARE IN METERS (m) UNLESS NOTED OTHERWISE.

TBM ELEV.=73.017
 "L" 4+221.917 P.O.T., 5/8" REBAR



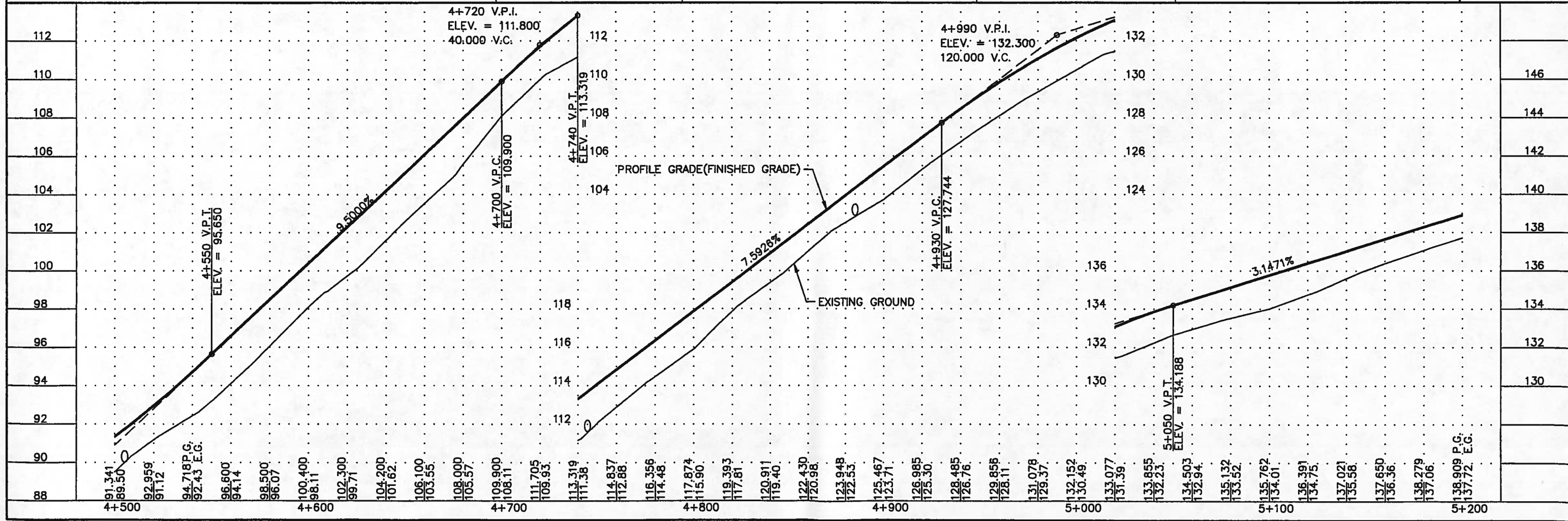
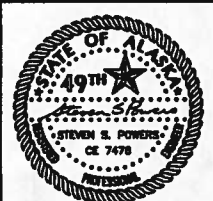


"L*4+518.963 BEGIN SUPERELEVATION TRANSITION
 "L*4+554.963 BEGIN FULL SUPERELEVATION
 "L*4+818.122 END FULL SUPERELEVATION
 "L*4+854.122 END SUPERELEVATION TRANSITION

ALL DIMENSIONS ARE IN METERS (m) UNLESS NOTED OTHERWISE.

TBM ELEV.=108.004
"L*4+690.624 P.I., 5/8" REBAR

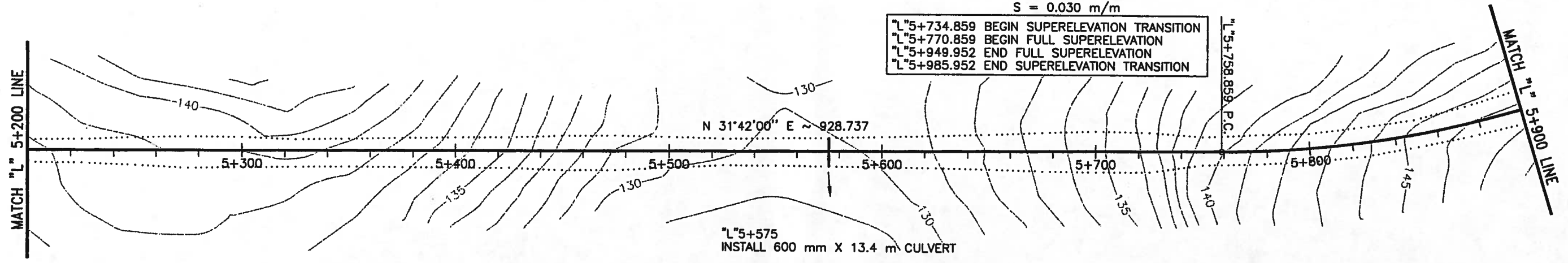
TBM ELEV.=131.280
"L*5+013.948 P.O.T., 5/8" REBAR



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)/66482	1998	11	38

"L"5+861.825 P.I.
 $\Delta = 23^{\circ}16'22''$ LT
 $T = 102.966$
 $R = 500.000$
 $L = 203.093$
 $S = 0.030$ m/m

"L"5+734.859 BEGIN SUPERELEVATION TRANSITION
"L"5+770.859 BEGIN FULL SUPERELEVATION
"L"5+949.952 END FULL SUPERELEVATION
"L"5+985.952 END SUPERELEVATION TRANSITION

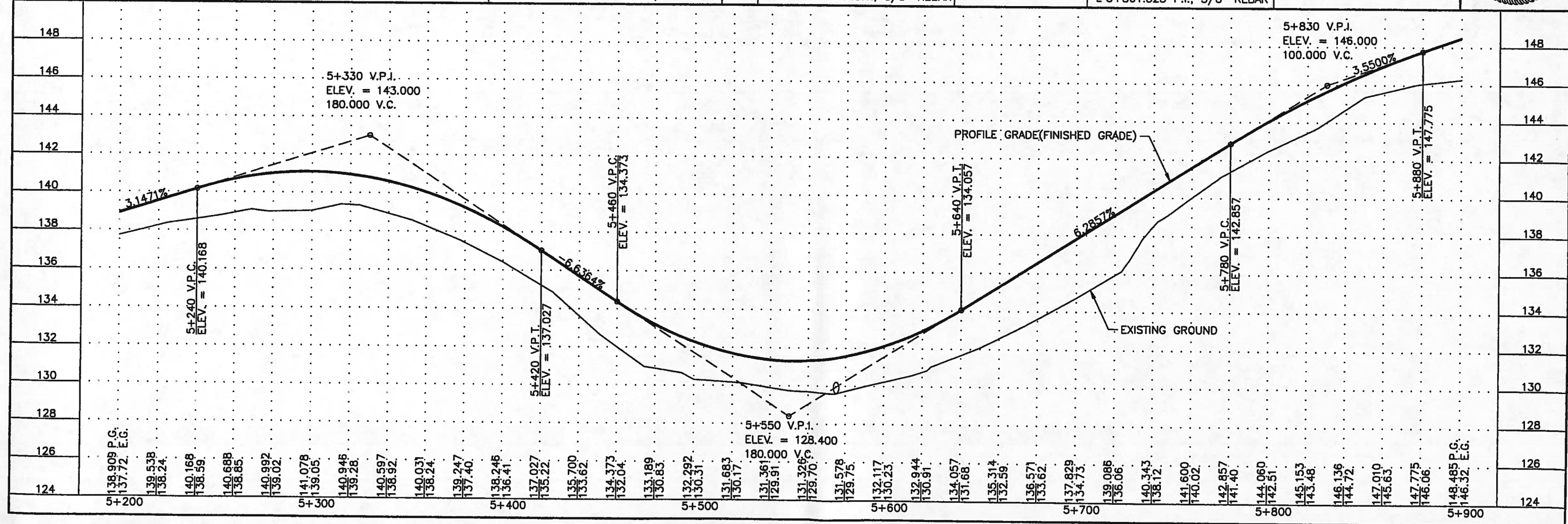


ALL DIMENSIONS ARE IN METERS (m) UNLESS NOTED OTHERWISE.

TBM ELEV.=145.344 HV-305
109.627 LT "L"5+242.918, 5/8" REBAR

TBM ELEV.=139.093
"L"5+268.450 P.O.T., 5/8" REBAR

TBM ELEV.=146.270
"L"5+861.825 P.I., 5/8" REBAR

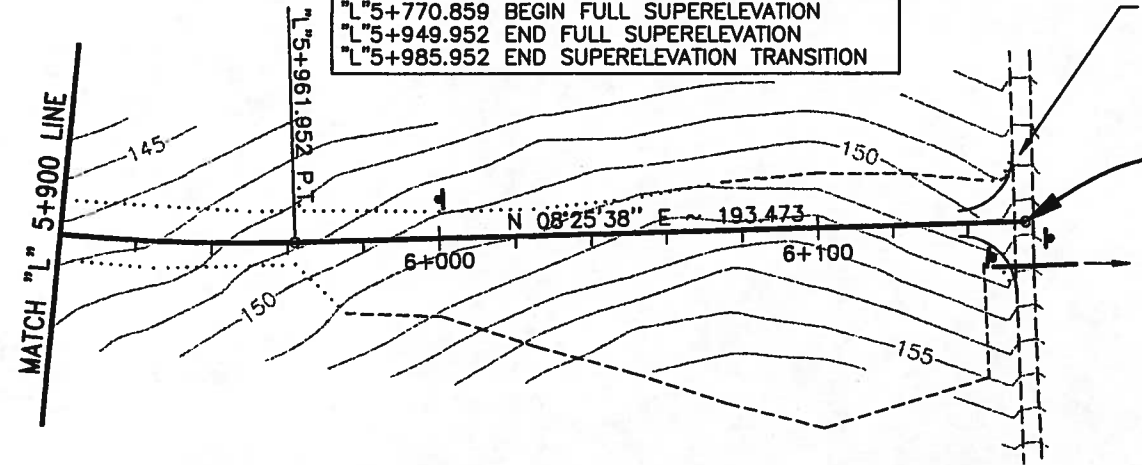


66482522	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
	ALASKA	STP-0002(47)/66482	1998	12	38

"L"5+861.825 P.I.
 $\Delta = 23^{\circ}16'22''$ LT
 $T = 102.966$
 $R = 500.000$
 $L = 203.093$
 $S = 0.030$ m/m

"L"5+734.859 BEGIN SUPERELEVATION TRANSITION
"L"5+770.859 BEGIN FULL SUPERELEVATION
"L"5+949.952 END FULL SUPERELEVATION
"L"5+985.952 END SUPERELEVATION TRANSITION

CONSTRUCT 15 m RADII TO MATCH INTO THE SHOULDER OF THE EXISTING ROAD. THIS WORK WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS OF WORK.

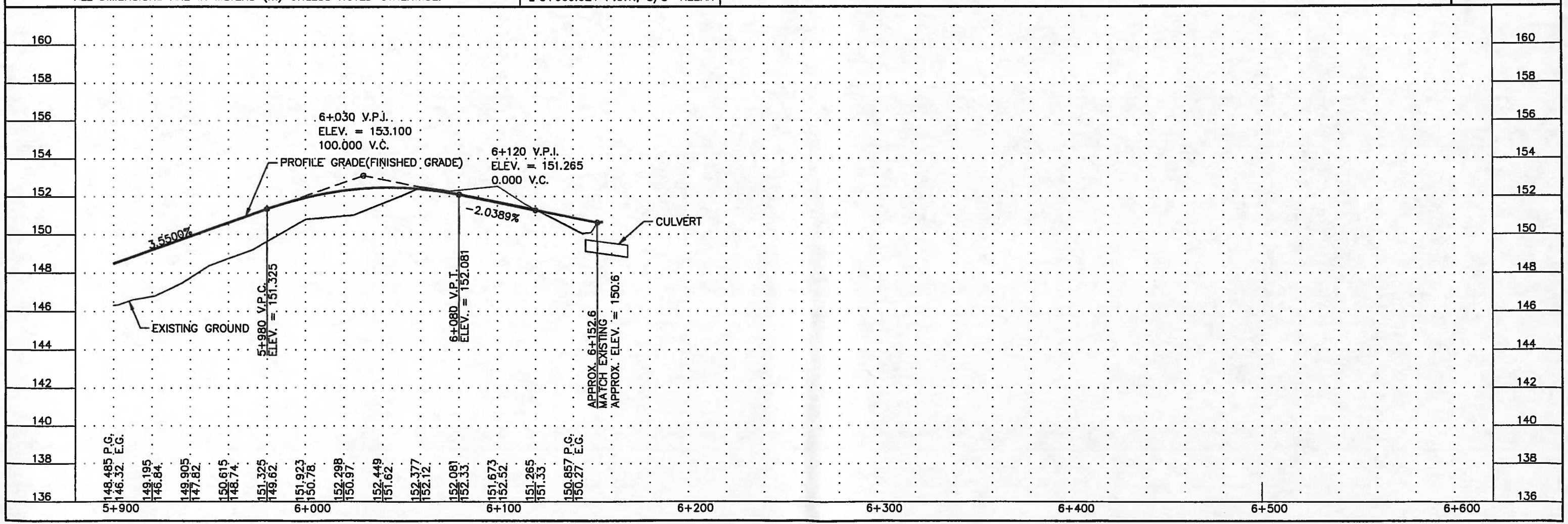


E.O.P. "L"6+155.425

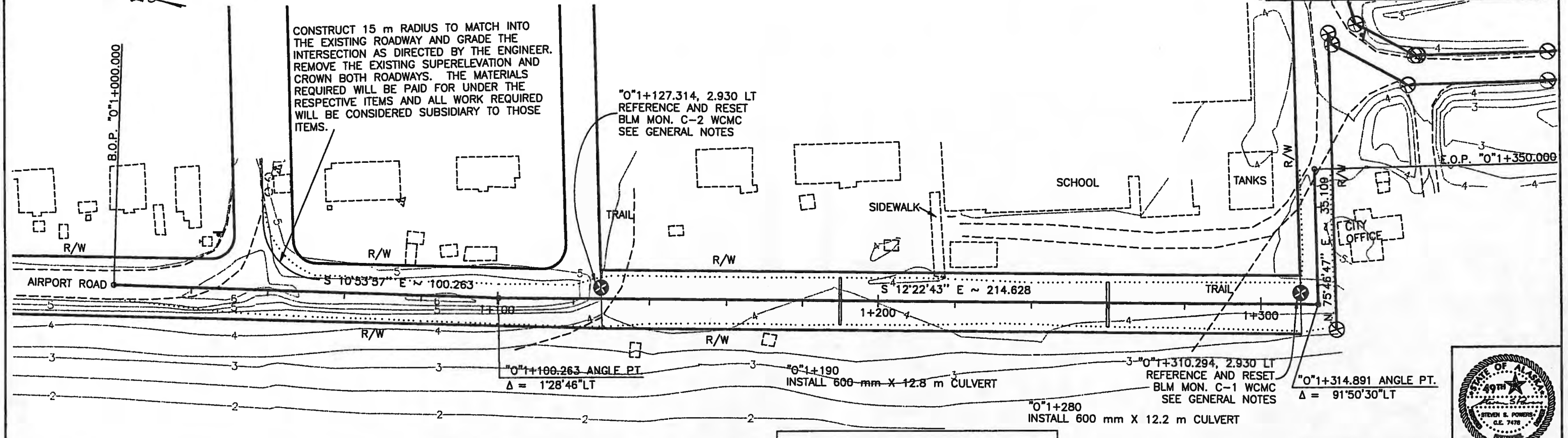
"L"6+155, 12 m RT.
INSTALL 600 mm X 22.0 m CULVERT
DITCH OUTLET AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO 603 ITEMS.

ALL DIMENSIONS ARE IN METERS (m) UNLESS NOTED OTHERWISE.

TBM ELEV.=152.485
"L"6+060.624 P.O.T., 5/8" REBAR

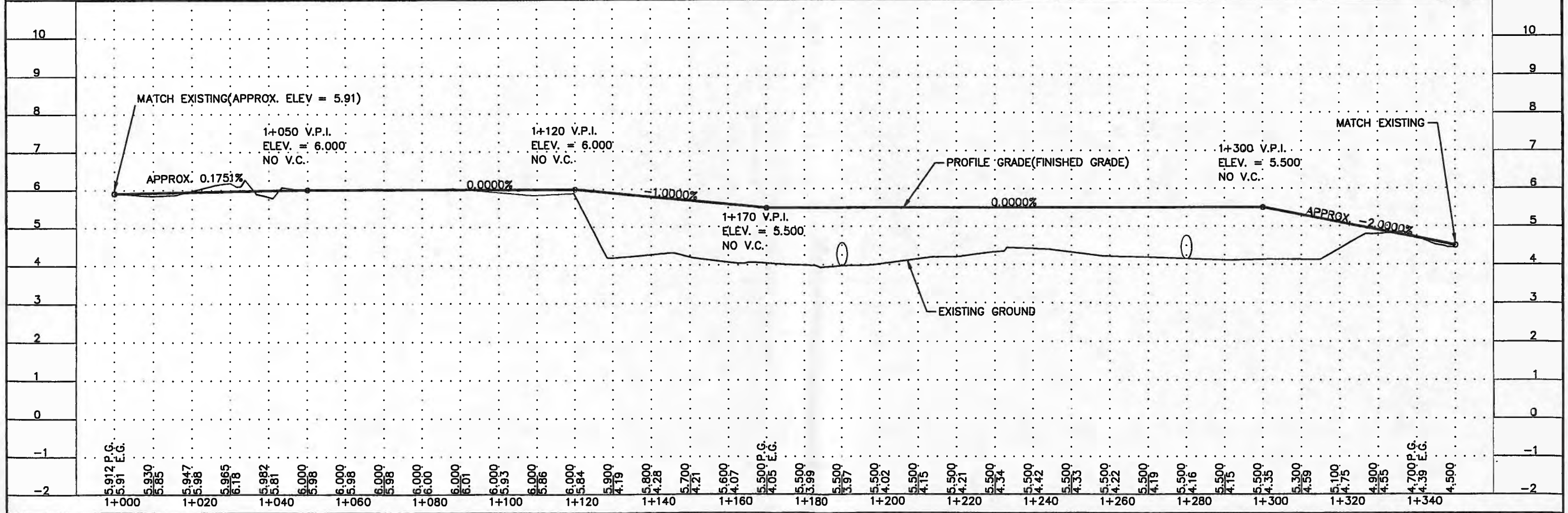


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)/66482	1998	13	38



ALL DIMENSIONS ARE SHOWN IN METERS (m) UNLESS NOTED OTHERWISE.

SEE SHEET 15 FOR THE BASIS OF ELEVATION



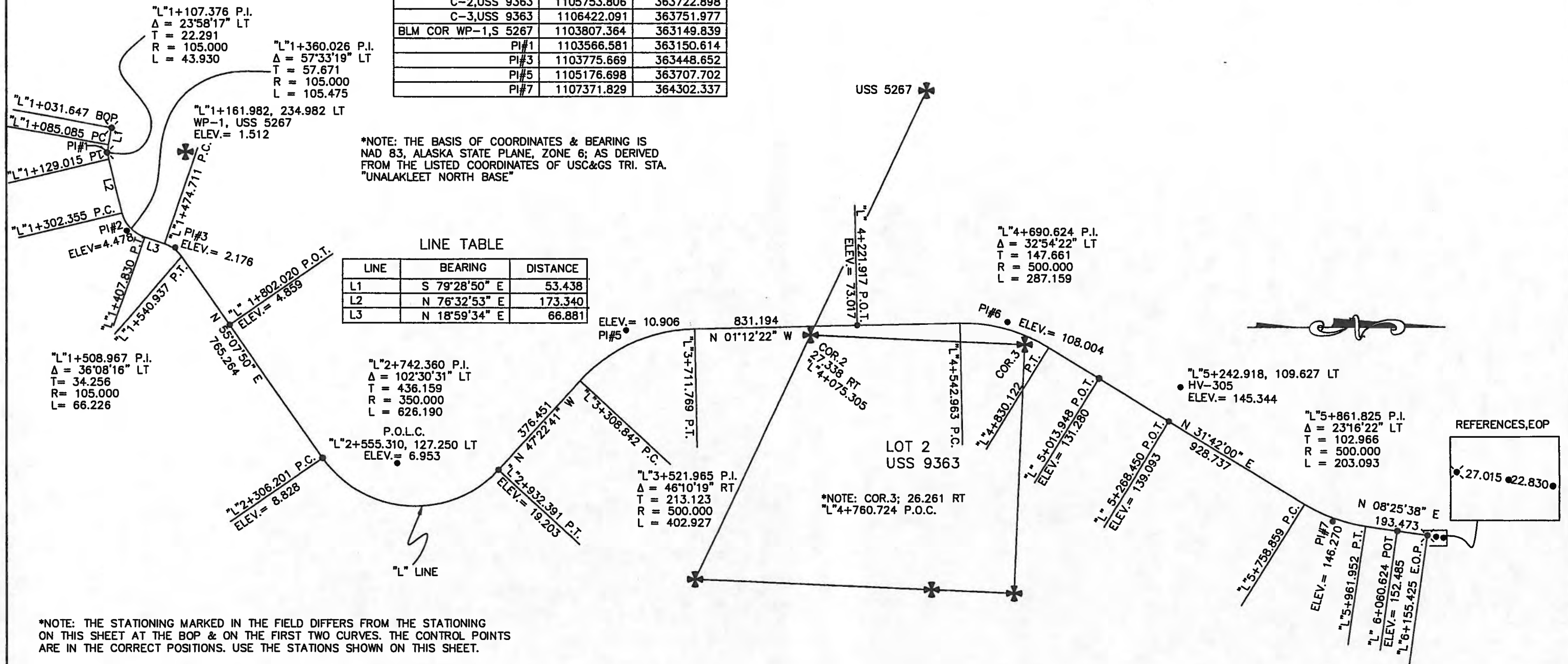
COORDINATE TABLE

DESCRIPTOR	NORTHING	EASTING
HV305	1106902.862	363883.848
C-2, USS 9363	1105753.806	363722.898
C-3, USS 9363	1106422.091	363751.977
BLM COR WP-1, S 5267	1103807.364	363149.839
PI#1	1103566.581	363150.614
PI#3	1103775.669	363448.652
PI#5	1105176.698	363707.702
PI#7	1107371.829	364302.337

*NOTE: THE BASIS OF COORDINATES & BEARING IS NAD 83, ALASKA STATE PLANE, ZONE 6; AS DERIVED FROM THE LISTED COORDINATES OF USC&GS TRI. STA. "UNALAKLEET NORTH BASE"

LINE TABLE

LINE	BEARING	DISTANCE
L1	S 79°28'50" E	53.438
L2	N 76°32'53" E	173.340
L3	N 18°59'34" E	66.881



"L"2+742.360 P.I.
 $\Delta = 102^{\circ}30'31"$ LT
 $T = 436.159$
 $R = 350.000$
 $L = 626.190$

"L"3+521.965 P.I.
 $\Delta = 46^{\circ}10'19"$ RT
 $T = 213.123$
 $R = 500.000$
 $L = 402.927$

"L"4+690.624 P.I.
 $\Delta = 32^{\circ}54'22"$ LT
 $T = 147.661$
 $R = 500.000$
 $L = 287.159$

"L"5+861.825 P.I.
 $\Delta = 23^{\circ}16'22"$ LT
 $T = 102.966$
 $R = 500.000$
 $L = 203.093$

*NOTE: THE STATIONING MARKED IN THE FIELD DIFFERS FROM THE STATIONING ON THIS SHEET AT THE BOP & ON THE FIRST TWO CURVES. THE CONTROL POINTS ARE IN THE CORRECT POSITIONS. USE THE STATIONS SHOWN ON THIS SHEET.

REFERENCE TABLE

STATION	RM#1	RM#2
"L" 1+031.647 BOP	28.912 LT	34.252 LT
PI#1 "L"1+107.376	28.180 RT	22.972 RT
"L" 2+306.201 PC	20.310 RT	19.358 RT
"L" 2+932.391 PT	21.813 LT	18.438 LT
PI#5 "L"3+521.965	20.080 RT	19.082 RT
PI#6 "L"4+690.624	31.430 LT	23.972 LT
PI#7 "L"5+861.825	35.547 RT	21.930 RT

LOCATIONS SURVEYOR'S CERTIFICATE

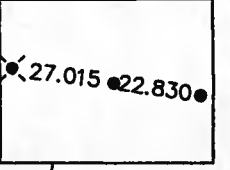
I HEREBY CERTIFY THAT I AM PROPERLY REGISTERED AND LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF ALASKA. THAT MONUMENTS SHOWN HEREON WERE RECOVERED BY ME OR UNDER MY SUPERVISION AND EXIST AS DESCRIBED.

H. L. Saylor
 H. L. SAYLOR LS 4922
 10-15-'98
 Date

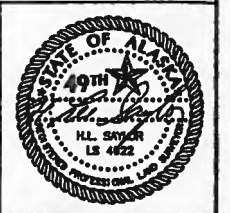
- SYMBOLS**
- ✦ BLM MONUMENT(FOUND)
 - ✦ 40d NAIL(SET)
 - 5/8" REBAR(SET)



REFERENCES, EOP

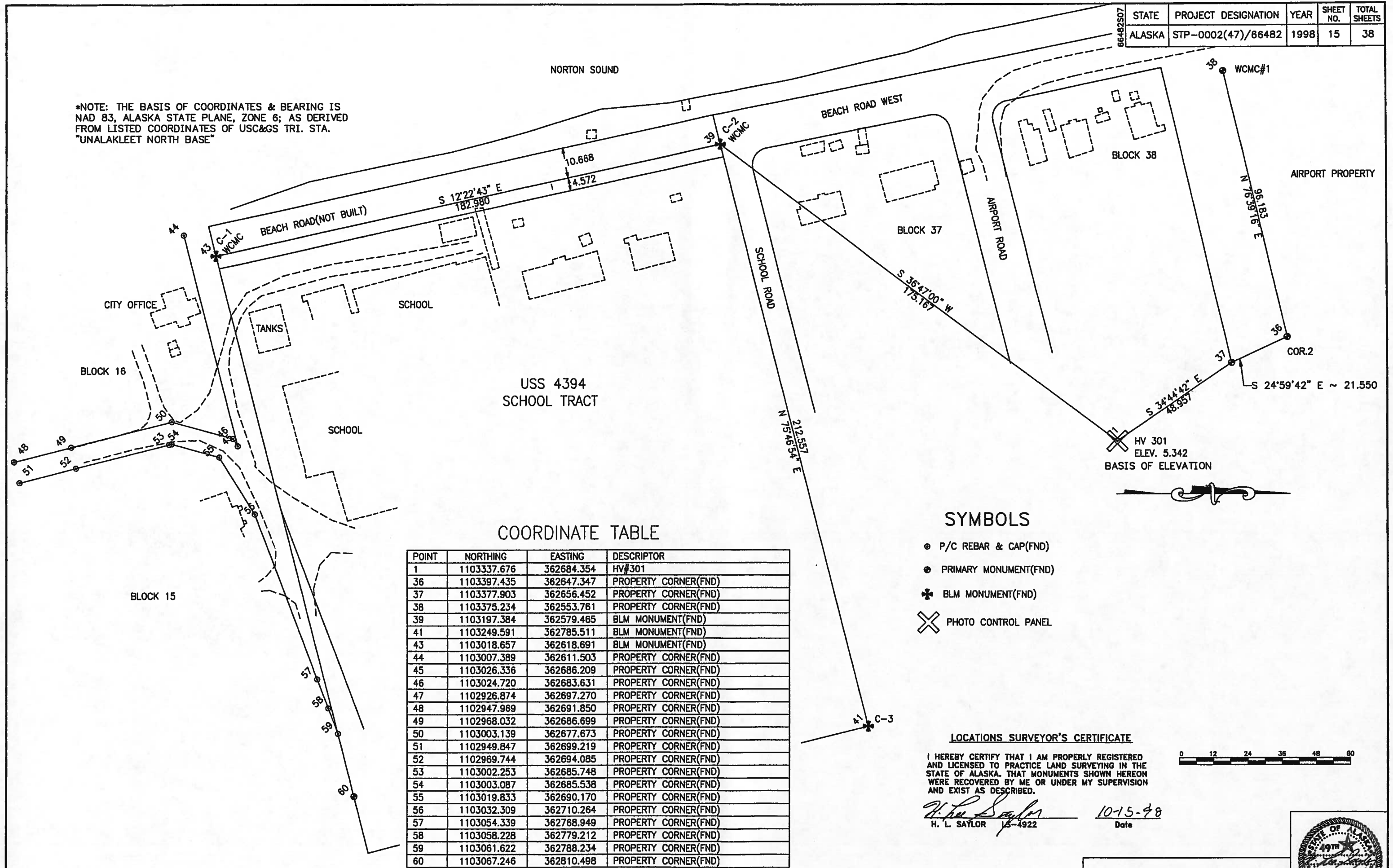


SURVEY CONTROL



ALL DIMENSIONS ARE IN METERS (m) UNLESS NOTED OTHERWISE.

*NOTE: THE BASIS OF COORDINATES & BEARING IS NAD 83, ALASKA STATE PLANE, ZONE 6; AS DERIVED FROM LISTED COORDINATES OF USC&GS TRI. STA. "UNALAKLEET NORTH BASE"



COORDINATE TABLE

POINT	NORTHING	EASTING	DESCRIPTOR
1	1103337.676	362684.354	HV#301
36	1103397.435	362647.347	PROPERTY CORNER(FND)
37	1103377.903	362656.452	PROPERTY CORNER(FND)
38	1103375.234	362553.761	PROPERTY CORNER(FND)
39	1103197.384	362579.465	BLM MONUMENT(FND)
41	1103249.591	362785.511	BLM MONUMENT(FND)
43	1103018.657	362618.691	BLM MONUMENT(FND)
44	1103007.389	362611.503	PROPERTY CORNER(FND)
45	1103026.336	362686.209	PROPERTY CORNER(FND)
46	1103024.720	362683.631	PROPERTY CORNER(FND)
47	1102926.874	362697.270	PROPERTY CORNER(FND)
48	1102947.969	362691.850	PROPERTY CORNER(FND)
49	1102968.032	362686.699	PROPERTY CORNER(FND)
50	1103003.139	362677.673	PROPERTY CORNER(FND)
51	1102949.847	362699.219	PROPERTY CORNER(FND)
52	1102969.744	362694.085	PROPERTY CORNER(FND)
53	1103002.253	362685.748	PROPERTY CORNER(FND)
54	1103003.087	362685.538	PROPERTY CORNER(FND)
55	1103019.833	362690.170	PROPERTY CORNER(FND)
56	1103032.309	362710.264	PROPERTY CORNER(FND)
57	1103054.339	362768.949	PROPERTY CORNER(FND)
58	1103058.228	362779.212	PROPERTY CORNER(FND)
59	1103061.622	362788.234	PROPERTY CORNER(FND)
60	1103067.246	362810.498	PROPERTY CORNER(FND)

SYMBOLS

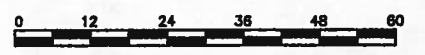
- P/C REBAR & CAP(FND)
- PRIMARY MONUMENT(FND)
- ✦ BLM MONUMENT(FND)
- ✕ PHOTO CONTROL PANEL

LOCATIONS SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM PROPERLY REGISTERED AND LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF ALASKA. THAT MONUMENTS SHOWN HEREON WERE RECOVERED BY ME OR UNDER MY SUPERVISION AND EXIST AS DESCRIBED.

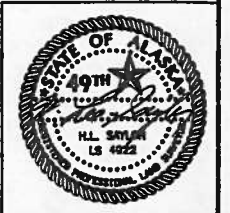
H. L. Saylor
H. L. SAYLOR LS-4922

10-15-98
Date



ALL DIMENSIONS ARE IN METERS (m) UNLESS NOTED OTHERWISE.

SURVEY CONTROL



SIGNING SUMMARY

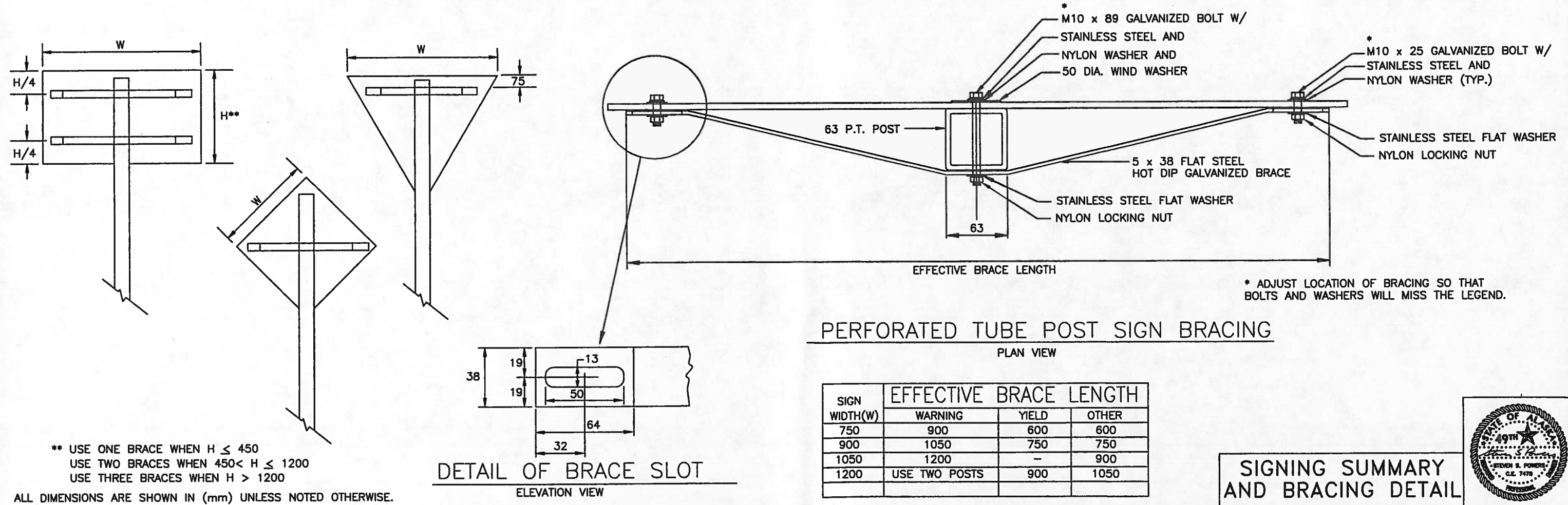
68-482.01	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
	ALASKA	STP-0002(47)/66482	1998	16	38

LOCATION NUMBER	STATION	LOCATION		CODE NO.	LEGEND	SIZE H X V (INCHES)	SIZE* H X V (mm)	THICKNESS		AREA (SQ. m)	MOUNTING HEIGHT (m)	DIRECTION	POSTS			REMARKS
		LEFT	RIGHT					(mm) UNFRAMED	(mm) FRAMED				TYPE	SIZE (mm)	NO.	
1	"01" 1+167	X		W1-7	DOUBLE ARROW	36x18	900x450	2.000		0.41	2.4	S	PST	63	1	
		X		OM-1	OBJECT MARKER	18x18	450x450	2.000		0.20	1.5	S				
2	"01" 1+186		X	R1-1	STOP	30x30	750x750	2.000		0.56	1.5	S	PST	63	1	
3	"01" 1+193		X	I-3	Kouwegok Slough	54x24	1350x600	3.125		0.81	1.5	W	PST	63	2	
4	"01" 1+325	X		I-3	Kouwegok Slough	54x24	1350x600	3.125		0.81	1.5	E	PST	63	2	
5	"01" 1+720		X	R2-1	SPEED LIMIT 35	24x30	600x750	2.000		0.45	1.5	SW	PST	63	1	
6	"01" 1+720	X		R2-1	SPEED LIMIT 25	24x30	600x750	2.000		0.45	1.5	NE	PST	63	1	
7	"L" 4+370	X		W7-1	HILL SYMBOL	30x30	750x750	2.000		0.56	1.5	N	PST	63	1	
8	"L" 6+000	X		R2-1	SPEED LIMIT 35	24x30	600x750	2.000		0.45	1.5	N	PST	63	1	
9	"L" 6+150.5		X	R1-1	STOP	30x30	750x750	2.000		0.56	1.5	S	PST	63	1	
10	"L" 6+162	X		W1-7	DOUBLE ARROW	36x18	900x450	2.000		0.41	2.4	S	PST	63	1	
		X		OM-1	OBJECT MARKER	18x18	450x450	2.000		0.20	1.5	S				
11	"0" 1+030	X		R1-1	STOP	30x30	750x750	2.000		0.56	1.5	NE	PST	63	1	
12	"0" 1+377		X	R1-1	STOP	30x30	750x750	2.000		0.56	1.5	S	PST	63	1	
								TOTAL		6.99						

NOTE:

1. PRIOR TO INSTALLING POSTS, THE CONTRACTOR SHALL LOCATE AND PROTECT ALL NEW AND EXISTING UNDERGROUND UTILITIES, INCLUDING BUT NOT LIMITED TO, PIPELINES, INTERCONNECT CABLES, SIGNAL SYSTEMS, LIGHTING SYSTEMS, STORM AND SANITARY SEWERS, WATER SYSTEMS, AND TELEPHONE AND ELECTRICAL CABLES. NOT ALL EXISTING UTILITIES MAY BE SHOWN ON THE PLANS.
2. SIGN POSTS SHALL USE SOIL EMBEDMENT PER STANDARD DRAWING S-30.01[M]
3. POST LENGTHS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR USING CRITERIA FOR RURAL ROADS.
4. ALL SINGLE POST SIGNS HAVING A HORIZONTAL DIMENSION 750 mm OR GREATER SHALL BE INSTALLED WITH A SIGN BRACE. SEE DETAIL ON THIS SHEET.
5. STOP SIGN LOCATIONS, ESPECIALLY THOSE AT LARGE RADIUS INTERSECTIONS, MAY NEED ADJUSTMENT IN THE FIELD. FINAL LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
6. I-3 SIGNS SHALL USE 150 mm UPPER CASE, 100 mm LOWER CASE SERIES "E" MODIFIED LETTERS.
7. ALL I-3 SIGNS SHALL BE INSTALLED WITH THE NEAR EDGE 900 mm BEHIND THE FACE OF GUARDRAIL AT A 1.5 m MOUNTING HEIGHT.

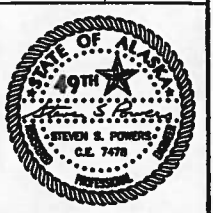
* NOMINAL SIZE CAN BE ROUNDED TO THE NEAREST ALASKA SIGN DESIGN SPECIFICATIONS (ASDS) CLASS "L" SIZE AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE BASED ON THE NOMINAL METRIC SIZE, EXCEPT AS NOTED IN THE SPECIAL PROVISIONS.



** USE ONE BRACE WHEN $H \leq 450$
 USE TWO BRACES WHEN $450 < H \leq 1200$
 USE THREE BRACES WHEN $H > 1200$

ALL DIMENSIONS ARE SHOWN IN (mm) UNLESS NOTED OTHERWISE.

SIGNING SUMMARY AND BRACING DETAIL

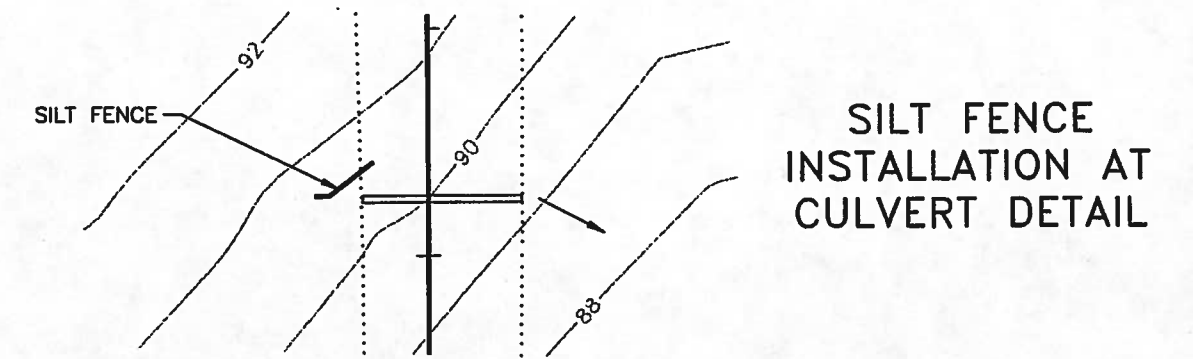


SILT FENCE SUMMARY

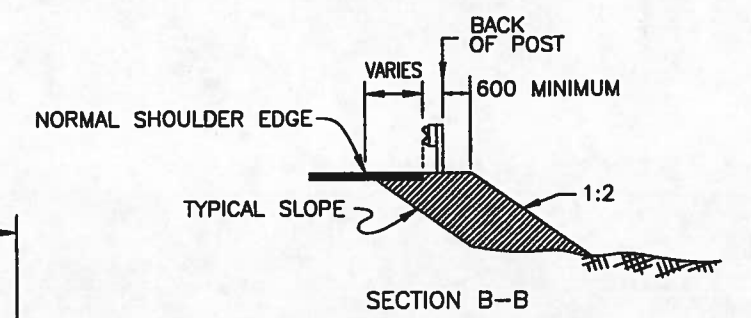
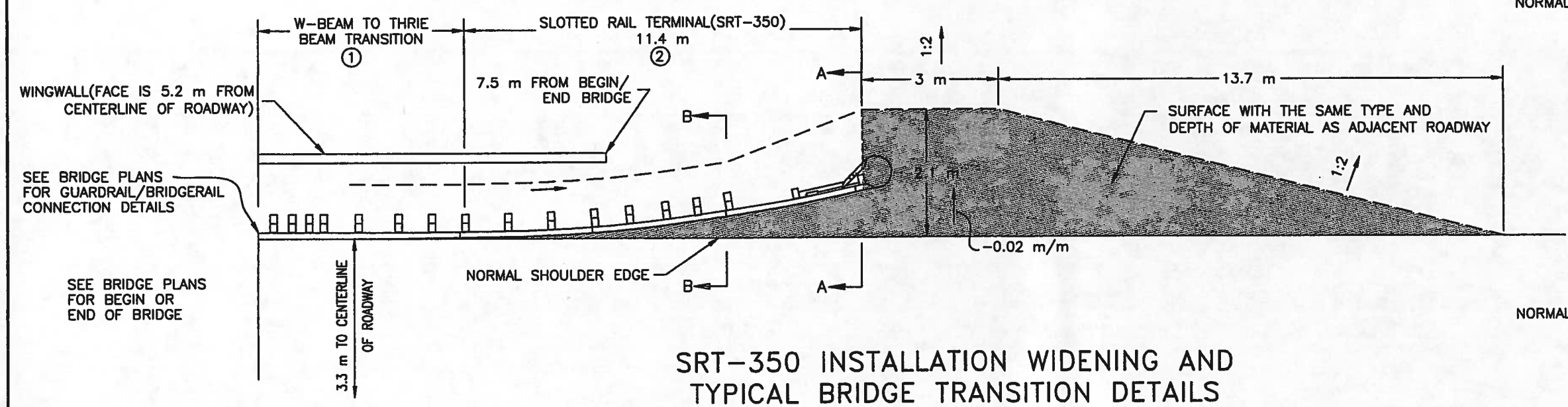
BEGIN STATION	END STATION	LOCATION		LENGTH (METERS)	REMARKS
		LEFT	RIGHT		
"01"1+110	"01"1+180	X		70	
"01"1+110	"01"1+140		X	30	
"D"1+035	"D"1+090		X	55	
"01"1+210		X	X	40	PLACE AHEAD OF ABUTMENT
"01"1+310		X	X	40	PLACE BACK FROM ABUTMENT
"01"1+430	"01"1+460		X	30	
"01"1+560	"01"1+780		X	220	
"01"1+620	"01"1+780	X		160	
"01"2+810			X	6	SEE INSTALLATION DETAIL ON THIS SHEET
"01"3+580			X	6	SEE INSTALLATION DETAIL ON THIS SHEET
"01"3+590			X	6	SEE INSTALLATION DETAIL ON THIS SHEET
"01"4+310		X		6	SEE INSTALLATION DETAIL ON THIS SHEET
"01"4+510		X		6	SEE INSTALLATION DETAIL ON THIS SHEET
"01"4+750		X		6	SEE INSTALLATION DETAIL ON THIS SHEET
"01"4+890		X		6	SEE INSTALLATION DETAIL ON THIS SHEET
"01"5+975			X	10	PLACE IN FLAT BOTTOM DITCH PERPENDICULAR TO ROADWAY
"01"6+040			X	10	PLACE IN FLAT BOTTOM DITCH PERPENDICULAR TO ROADWAY
			TOTAL:	707	

NOTES

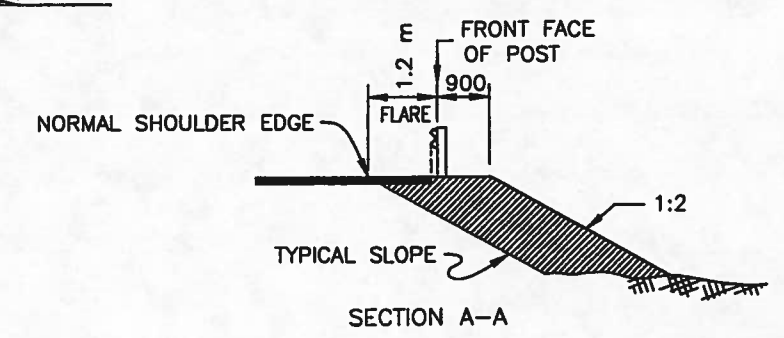
- LOCATIONS AND LENGTHS ARE APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER.
- SEE STANDARD DRAWING E-13.00[M] FOR SILT FENCE DETAILS.
- SILT FENCE SHALL BE INSTALLED AS SOON AS ERODIBLE SOILS ARE EXPOSED AND MAY NEED TO BE REMOVED AND REINSTALLED TO ALLOW CONSTRUCTION ACTIVITY TO PROCEED. ALL COSTS ASSOCIATED WITH THESE REMOVAL AND REINSTALLATION ACTIVITIES WILL NOT BE MEASURED OR PAID FOR DIRECTLY BUT SHALL BE SUBSIDIARY TO ITEM 641(3) SILT FENCE.
- SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY. ENDS OF THE FENCE SHALL BE TURNED UP HILL AND/OR TIED INTO THE EMBANKMENT.



AT THE KOUWEGOK SLOUGH BRIDGE, INSTALL FOUR ITEM 606(13) GUARDRAIL/BRIDGE RAIL CONNECTIONS(INCLUDES W-BEAM TO THRIE BEAM TRANSITIONS) AND FOUR ITEM 606(10) SLOTTED RAIL TERMINALS(SRT-350). CONSTRUCT THE WIDENINGS AS SHOWN ON THIS SHEET.



CONSTRUCT WIDENINGS WITH THE SAME TYPE AND DEPTH OF MATERIALS AS THE ADJACENT ROADWAY, EXCEPT SURFACING MATERIAL SHALL NOT BE PLACED BEHIND THE FACE OF GUARDRAIL.



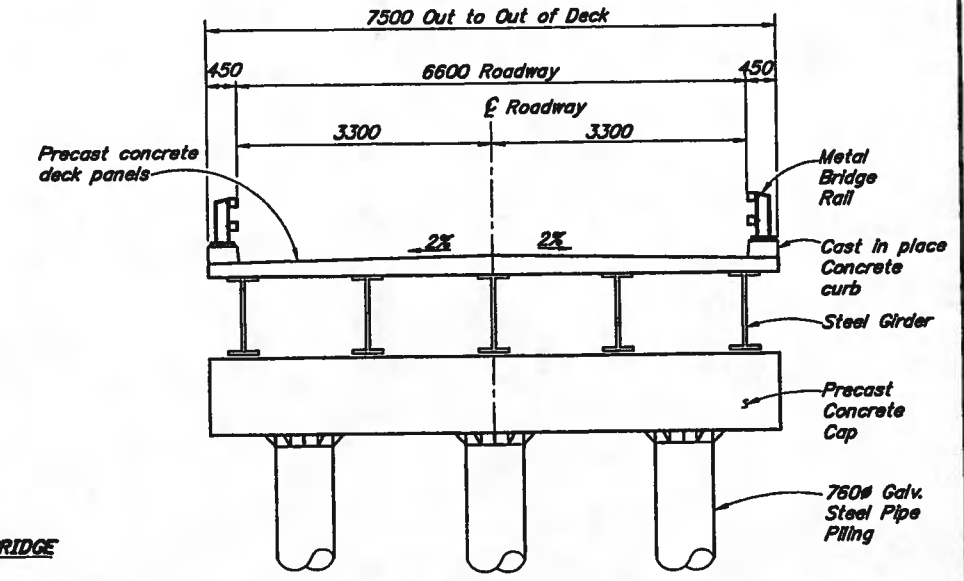
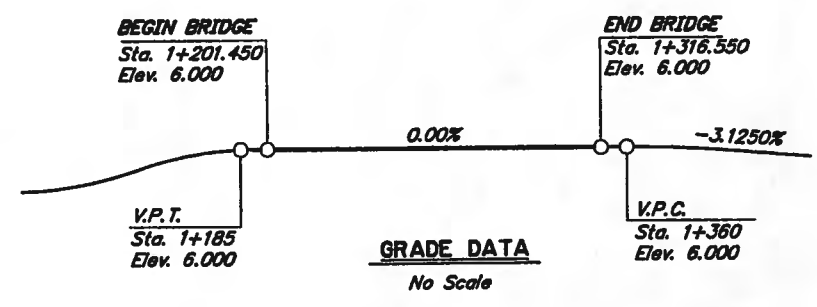
SRT-350 INSTALLATION WIDENING AND TYPICAL BRIDGE TRANSITION DETAILS

- SEE STANDARD DRAWINGS ALL POSTS AND BLOCKS SHALL BE WOOD. PAID FOR UNDER ITEM 606(13) GUARDRAIL/BRIDGE RAIL CONNECTION
- SYRO STEEL'S DRAWING NO. SS 425M WILL SHOW THE DETAILS FOR THE SLOTTED RAIL TERMINAL(SRT-350).

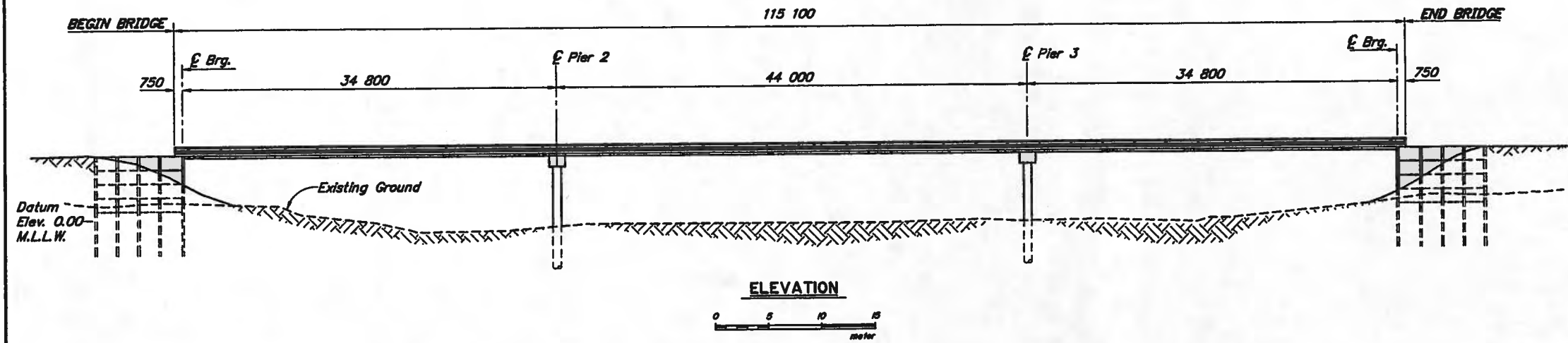
ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.

SILT FENCE SUMMARY & GUARDRAIL DETAILS

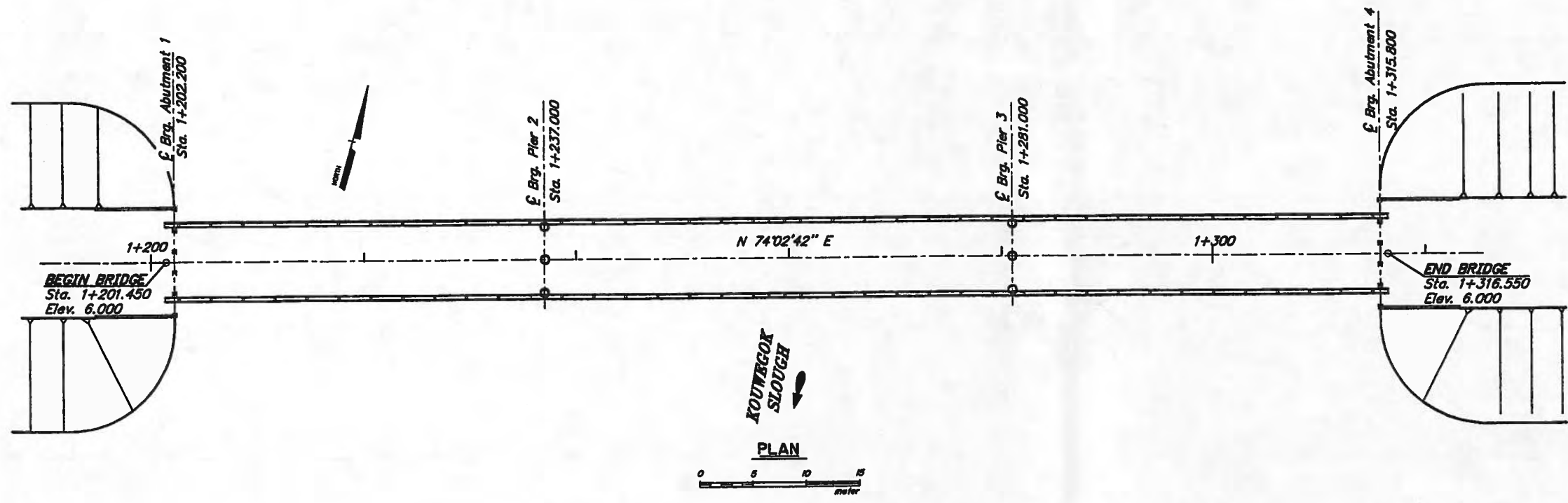




TYPICAL SECTION
 0 1000 2000 3000
 meter



DRAWING INDEX	
TITLE	DWG. NO.
GENERAL LAYOUT	1
SITE PLAN	2
ABUTMENTS	3
WINGWALL LAYOUT & DETAILS	4
PIERS	5
BEARING AND EXPANSION JOINT	6
TYPICAL SECTION	7
PRECAST DECK PANELS	8
FRAMING PLAN	9
GIRDER DETAIL 1	10
GIRDER DETAIL 2	11
GIRDER DETAIL 3	12
CAMBER DETAIL	13
METAL BRIDGE RAILING	14



All dimensions are in millimeters (mm) unless noted otherwise.



KOUWEGOK SLOUGH BRIDGE
 UNALAKLEET
 GENERAL LAYOUT

STATE of ALASKA
 DEPARTMENT of TRANSPORTATION
 and PUBLIC FACILITIES
 JUNEAU, ALASKA

BRIDGE NO. 1308
 SHEET NO. 1

Designed By: ERM
 Detail Check By: ERM
 Design Check By: ERM
 P. 112811308-1010
 8/19/2008 10:14
 Plot Scale = 0.25"
 Sheet No. 1 of 18

GENERAL NOTES

SPECIFICATION:

Design:AASHTO LRFD Bridge Design Specification, 1994 Edition, with the latest Interim Specifications.

Construction:State of Alaska Interim Standard Specifications for Construction (Metric) 94M with Special Provisions.

Live Load:HL93

Dead Load:1.1 kPa for future paving.

MATERIAL PROPERTIES:

Structural Steel:Fy = 345 MPa 50 KSI

Cast-in-Place Concrete:f'c = 31 MPa 4.5 KSI

Precast Concrete:f'c = 41 MPa 6 KSI

Reinforcing Steel:Fy = 414 MPa 60 KSI

STRUCTURAL MATERIALS:

Concrete:All cast in place concrete shall be Class "AA".

Reinforcing Steel:All reinforcing steel shall be standard U.S. sizes and shall conform to ASTM A615M Grade 400.

Structural Steel:All structural steel for girders, splices, splice plates and bearing stiffeners shall be ASTM A572M GR345. All other structural steel shall be ASTM A36M unless otherwise noted. All girders, splice plates and stiffeners shall be spray-metalized. All other steel members and hardware shall be galvanized except piles which shall be galvanized to 3m below grade (min.).

Girders and splice plates shall meet AASHTO LRFD fracture toughness requirements for Zone 3 for non-fracture critical steel. (20 N-m @ -12.2° C.)

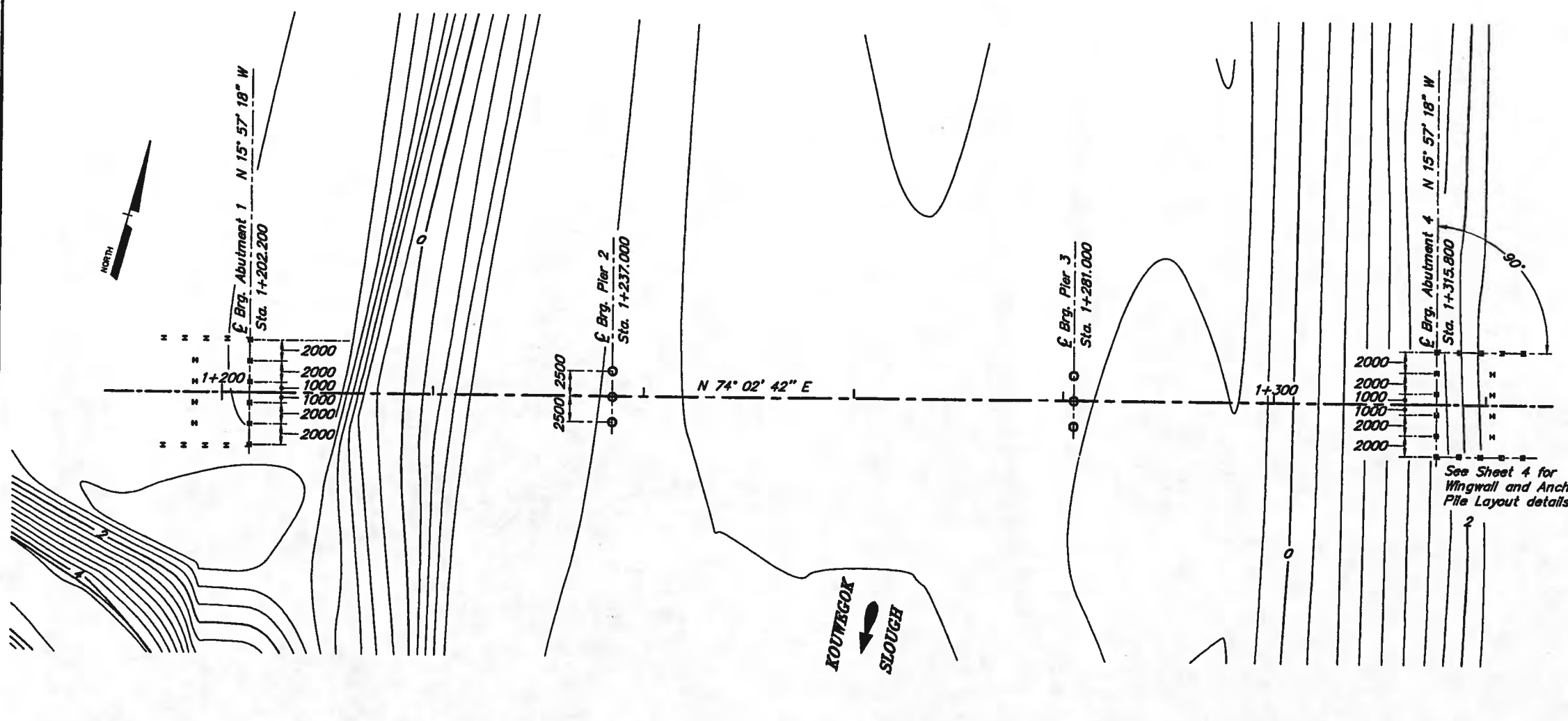
All pipe piles shall be 760x25 thick ASTM A709M, Grade 345, galvanized.

All steel H-piles shall be ASTM A709M, Grade 345, galvanized.

H-Piles be considered main members subjected to tension for purposes of NDE requirements.

PILE SPECIFICATIONS:

Piling: Design Pipe Pile Load = 1500 kN
 Ultimate Bearing Capacity = 4000 kN
 Design HP360 Load = 900 kN
 Ultimate HP360 Capacity = 2225 kN
 Design HP310 Load = 100 kN
 Ultimate HP310 Capacity = 400 kN



SITE PLAN
0 5 10 15
meter

PILE	LOCATION	MIN. TIP ELEV.	EST. TIP ELEV.
HP360x174	Abut. Brg. 1 & 4	-38.1 m	-39.6 m
HP310x125	Abut. Wingwalls 1 & 4	-6.3 m	-6.3 m
HP310x125	Abut. Anchor Piles 1 & 4	-7.7 m	-7.7 m
706x25 Pipe Piles	Piers 2 & 3	-40.0 m	-40.0 m

	100	Max. Observed
Flood Frequency (yr)	100	<1%
Exceedance Probability (%)	1%	<1%
Design High Water (m)	3.3	3.5
Design Discharge (cms)	-	530
Anticipated Add'l Backwater (m)	-	0.3
Contraction Scour (m)	-	1.1 m
Pier Scour (m)	-	1.4 m
Abutment Scour (m)	-	1.0 m

Drainage Area for this crossing = 4.9 Square Kilometers

NOTE:
 Hydraulic design of this structure is based on maximum observed storm surge. Maximum design discharge does not occur at maximum design high water elevation.

ITEM NO.	ITEM	UNIT	SUBST.	SUPERST.	TOTAL
501(2)	Class "AA" Concrete	LS-m ³	25.6	20.3	45.9
501(8)	Precast Concrete Deck Panels	EA	-	76	76
501(9)	Precast Concrete Pier Caps	EA	4	-	4
501(10)	Precast Concrete Abutment Panels	EA	94	-	94
503(1)	Reinforcing Steel	LS-kg	4900	-	4900
503(2)	Epoxy Coated Reinforcing Steel	LS-kg	-	40	40
504(1)	Structural Steel, Furnished, Fabricated and Erected	LS-kg	1270	239 560	240 830
504(3)	Welding Quality Control and NDE	L.S.	All Req'd.	All Req'd.	All Req'd.
505(SA)	Structural Steel Piles, Furnished (760#)	m	262.1	-	262.1
505(6A)	Structural Steel Piles, Driven (760#)	EA	6	-	6
505(5B)	Structural Steel Piles, Furnished (HP360x174)	m	346.3	-	346.3
505(6B)	Structural Steel Piles, Driven (HP360x174)	EA	8	-	8
505(5C)	Structural Steel Piles, Furnished (HP310x125)	EA	341.6	-	341.6
505(6C)	Structural Steel Piles, Driven (HP310x125)	EA	28	-	28
505(14)	Special Pipe Pile Excavation	G.S.	All Req'd.	-	All Req'd.
507(1)	Metal Bridge Railing	m	230.2	-	230.2

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

KOUWEGOK SLOUGH BRIDGE

UNALAKLEET

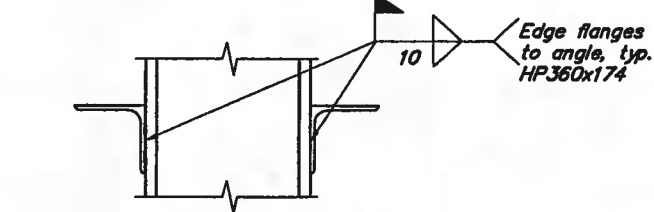
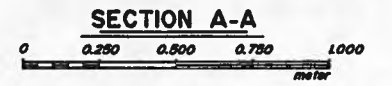
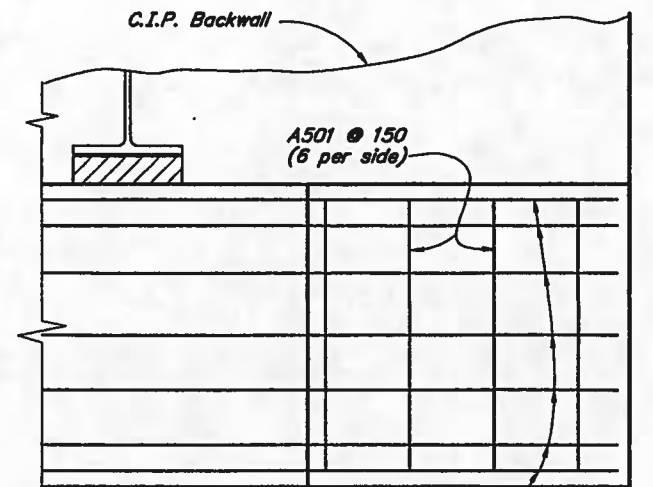
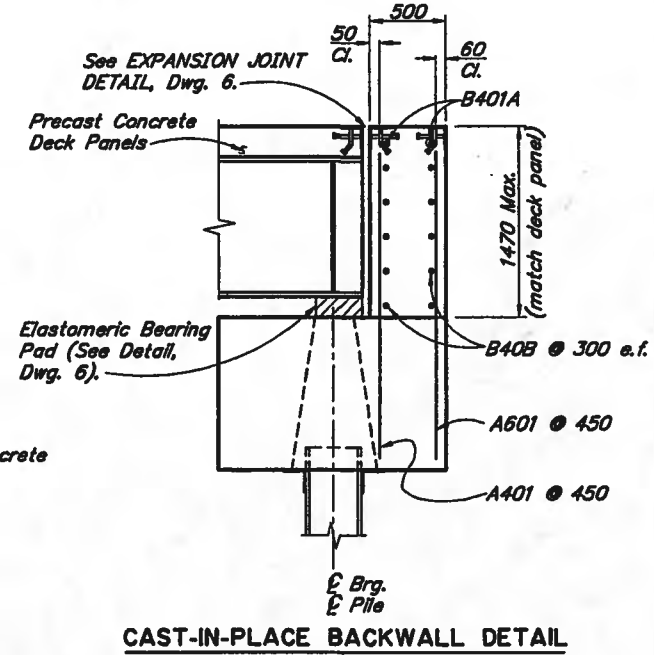
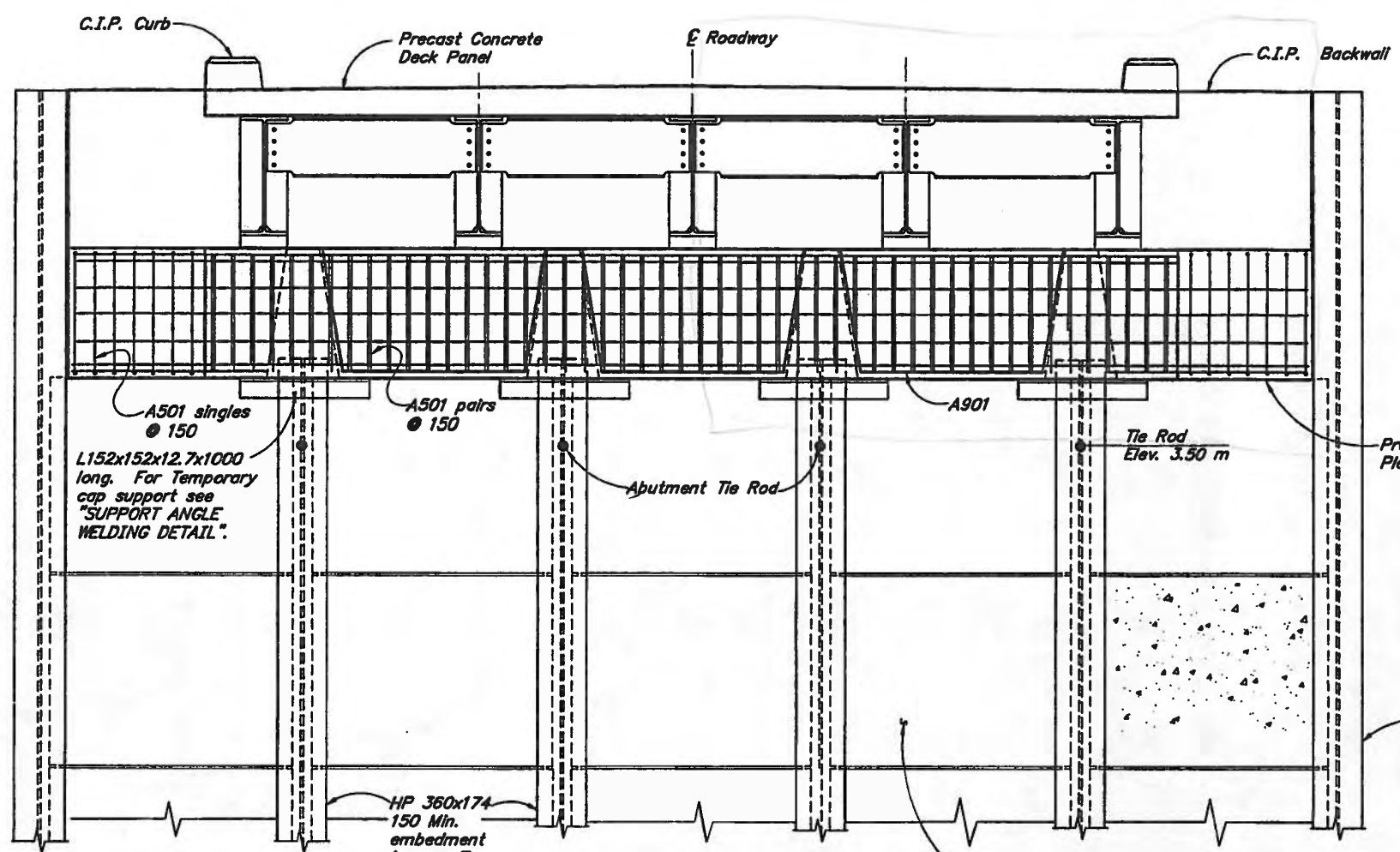
SITE PLAN

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 JUNEAU, ALASKA

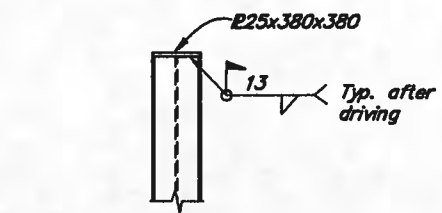
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)/86482	1998	20	38

REINFORCING STEEL-ONE ABUTMENT				
MARK	SIZE	NO.	LENGTH	TYPE
A401	4	22	2150	—
A501	5	114	3580	Bent
A601	6	22	2150	—
A901	9	6	3275	Bent
A1101	11	19	7400	—
A1102	11	17	9500	—
B401A	4	10	9500	—
B401B	4	2	9500	—

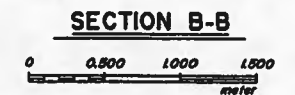
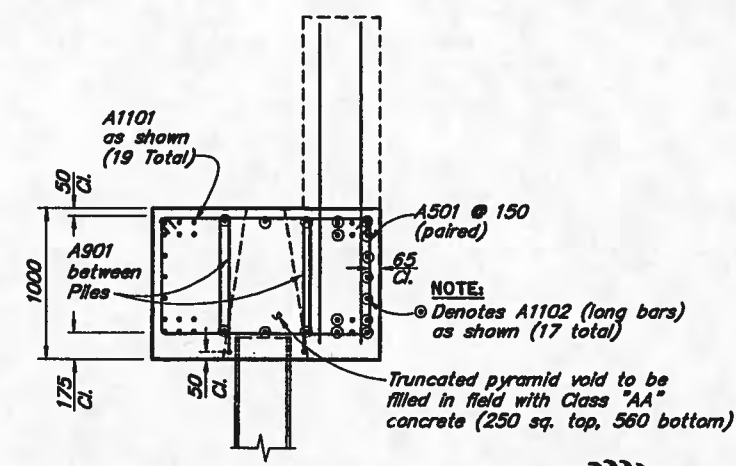
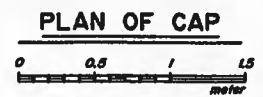
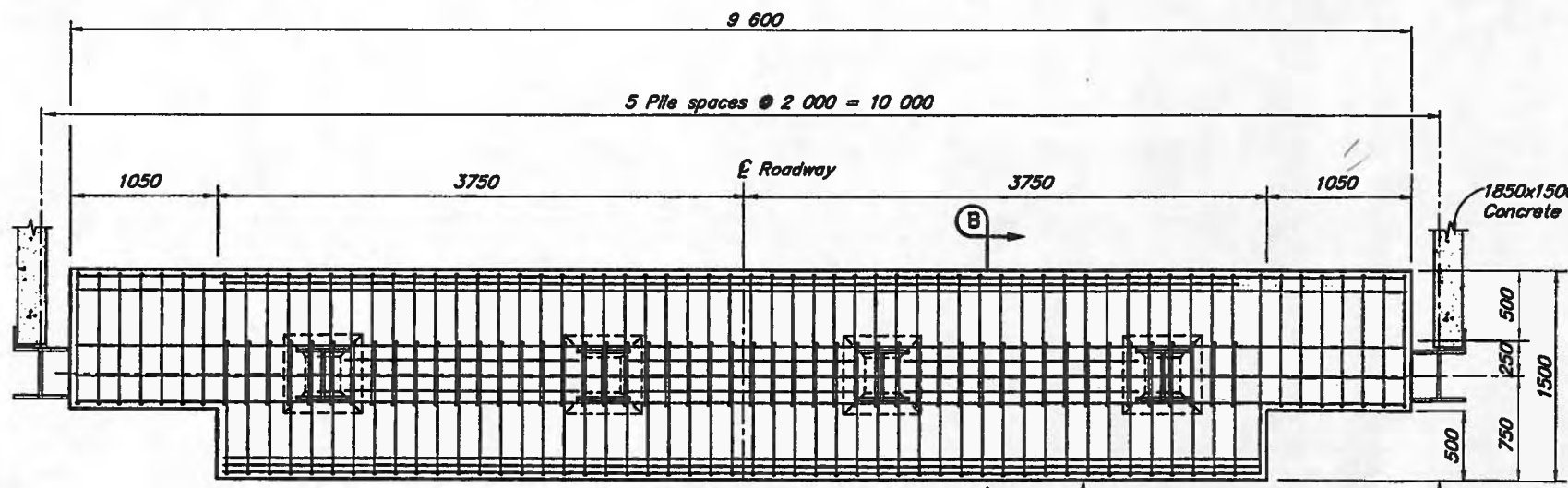
e = Epoxy Coated
 All "A" bars are incidental to 501(9) Precast Concrete Pler Caps



SUPPORT ANGLE WELDING DETAIL
No Scale



TOP PILE PLATE DETAIL
(Typ. HP360x174)
No Scale



KOUWEGOK SLOUGH BRIDGE
 UNALAKLEET
 ABUTMENTS

STATE of ALASKA
 DEPARTMENT of TRANSPORTATION
 and PUBLIC FACILITIES
 JUNEAU, ALASKA

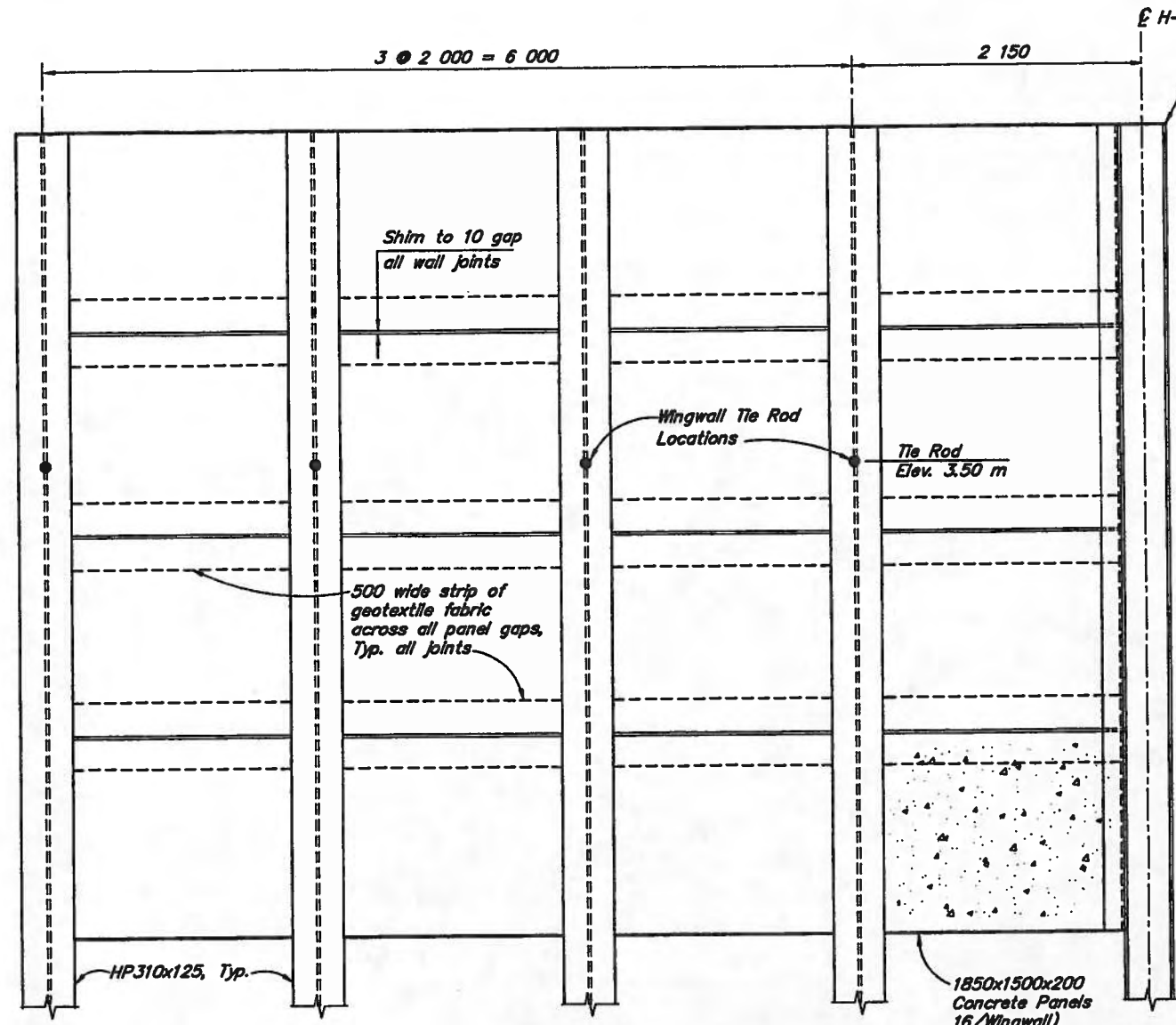
Designed By: RW
 Detail Checked By: RW
 Design Checked By: RW

P: 11/20/1998-10/00
 2/10/1998 22:30
 Plot Scale = 0.25
 Drawn or Revised By: RW

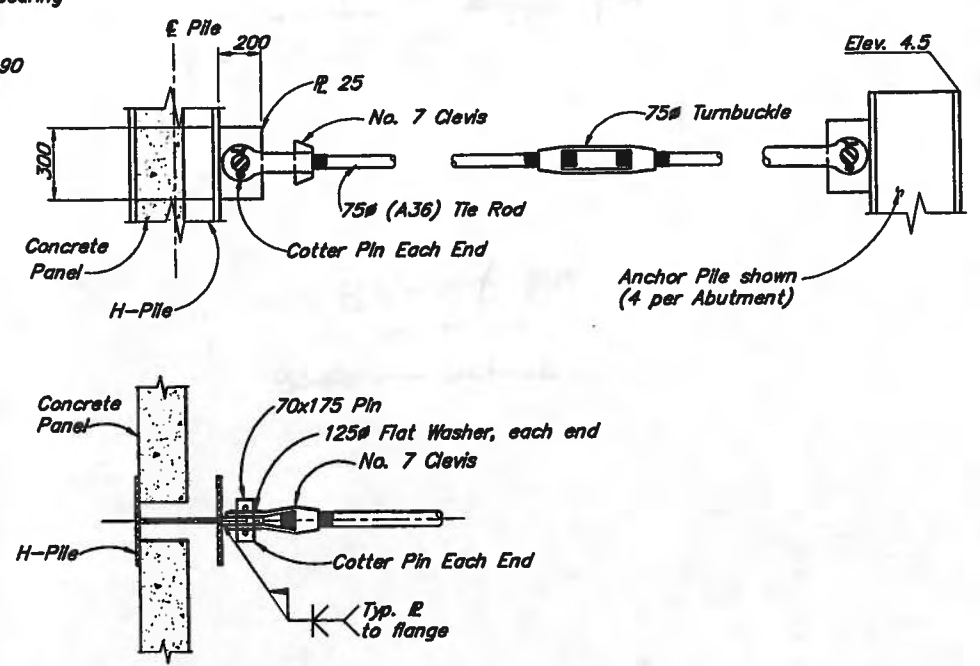
SHEET NO. 1308
 OF 3

REINFORCING STEEL-ONE PANEL				
MARK	SIZE	NO.	LENGTH	BENDING DIAGRAM
L401	4	6	1400	-
L501	5	11	1750	-

△ All bars on this sheet incidental to 501(10) Precast Concrete Abutment Panels.

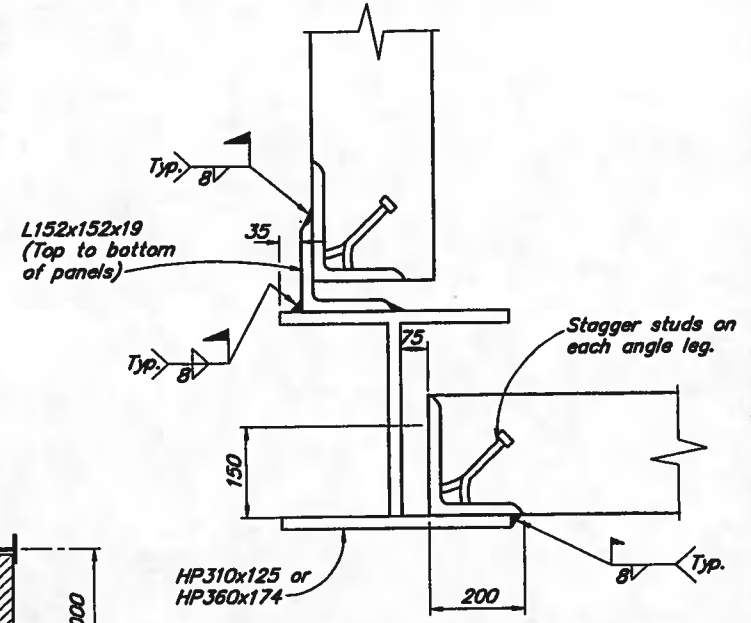


ELEVATION OF WINGWALL



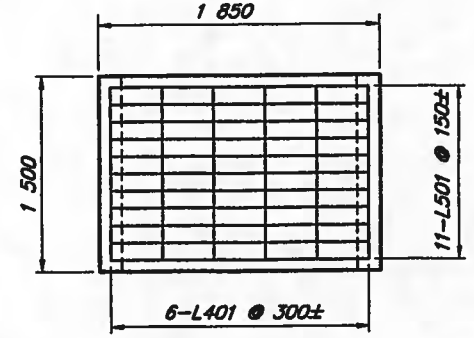
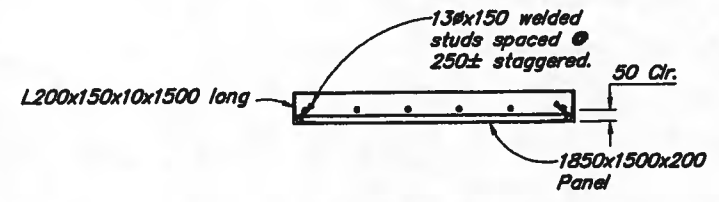
TIE ROD DETAILS

(Provide on Bearing, Wingwall and Anchor Piles)
No Scale

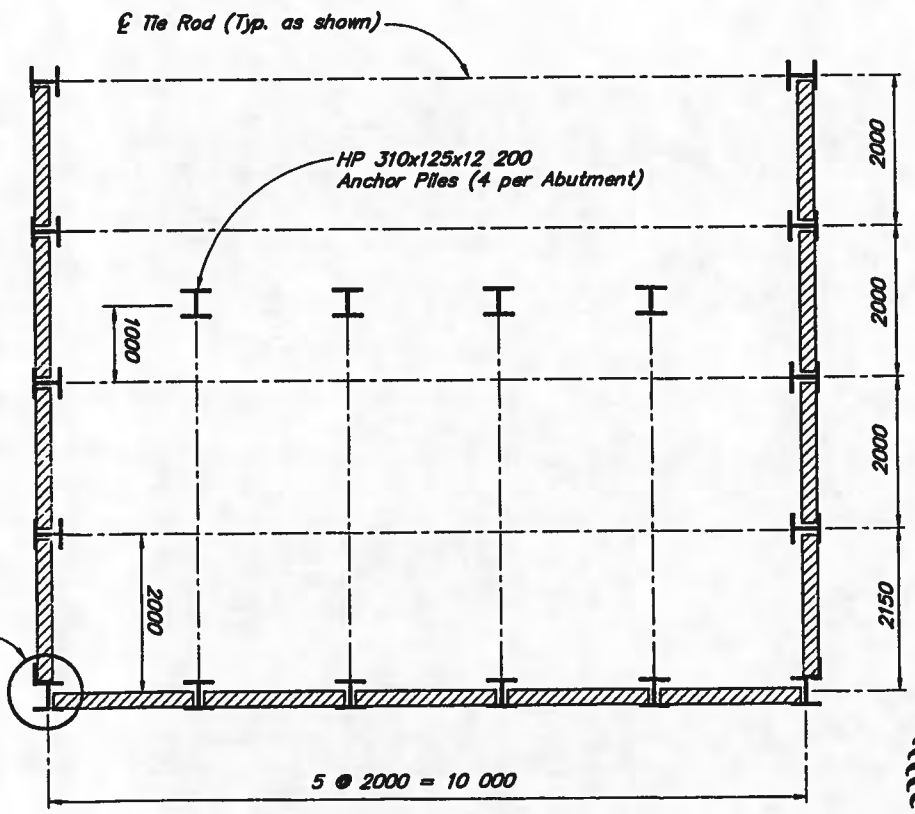
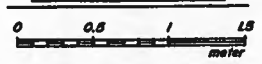


DETAIL "A"

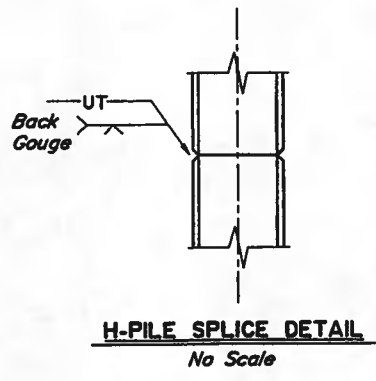
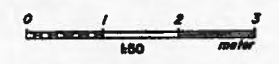
No Scale



PANEL DETAILS



WINGWALL AND ANCHOR PILE LAYOUT



H-PILE SPLICE DETAIL

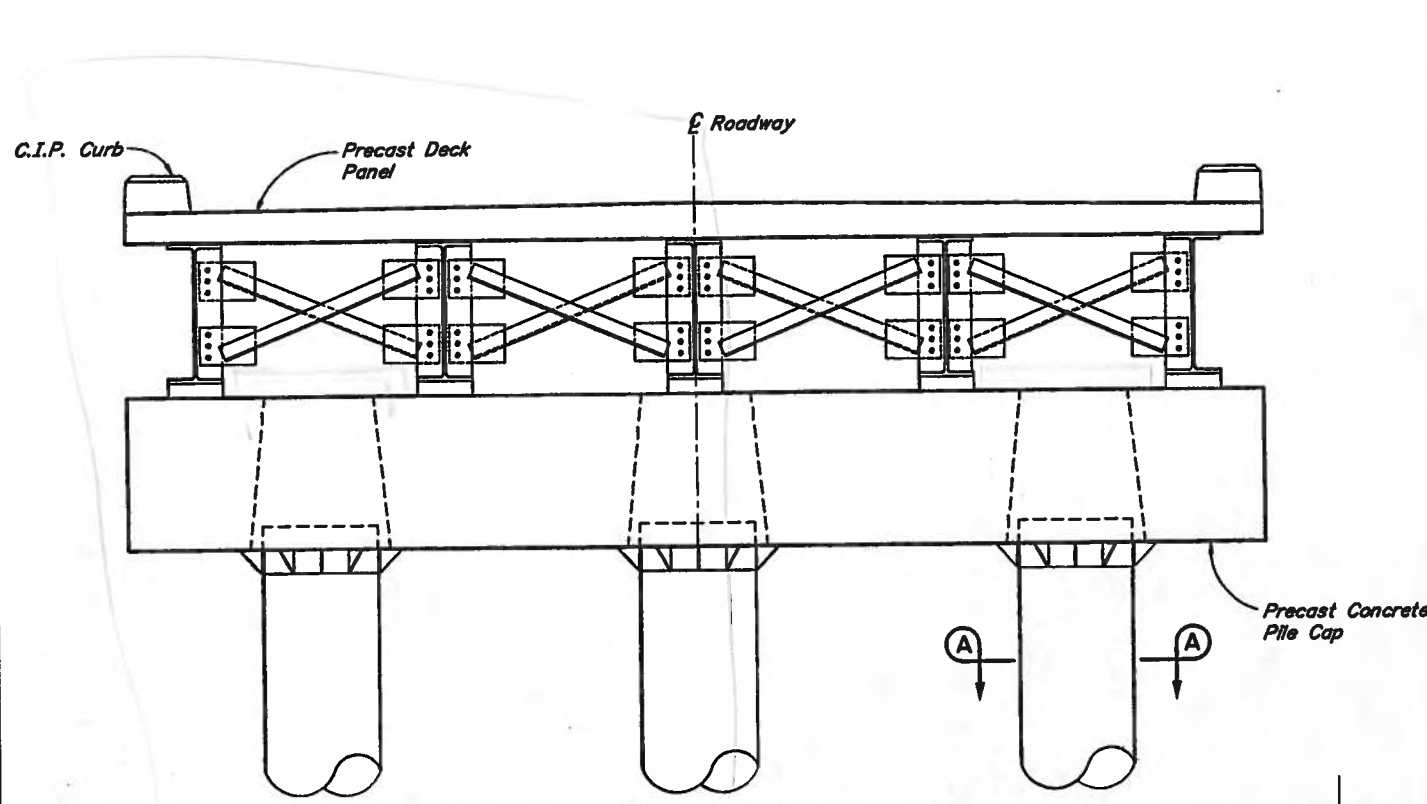
No Scale



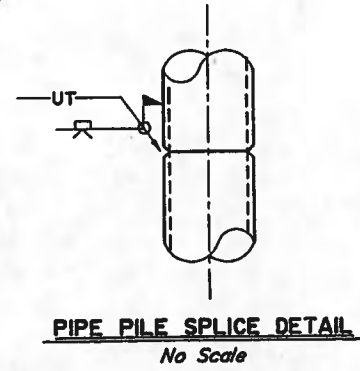
KOUWEGOK SLOUGH BRIDGE
UNALAKLEET
WINGWALL LAYOUT AND DETAILS
STATE OF ALASKA
DEPARTMENT of TRANSPORTATION and PUBLIC FACILITIES
JUNEAU, ALASKA

Designed By: RWM
Detail Check By: RWM
Design Check By: RWM
P: 145011308-4000
R: 10/19/98 10:45
Plot Scale = 0.50
Drawn or Rechecked By: RWM

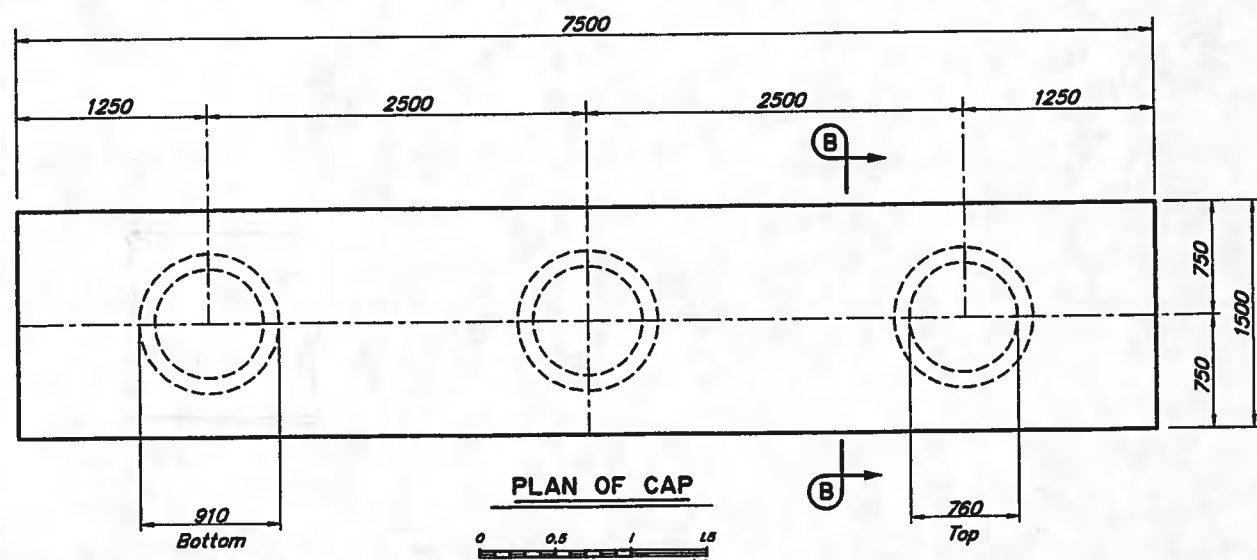
BRIDGE NO. 1308
SHEET NO. 4



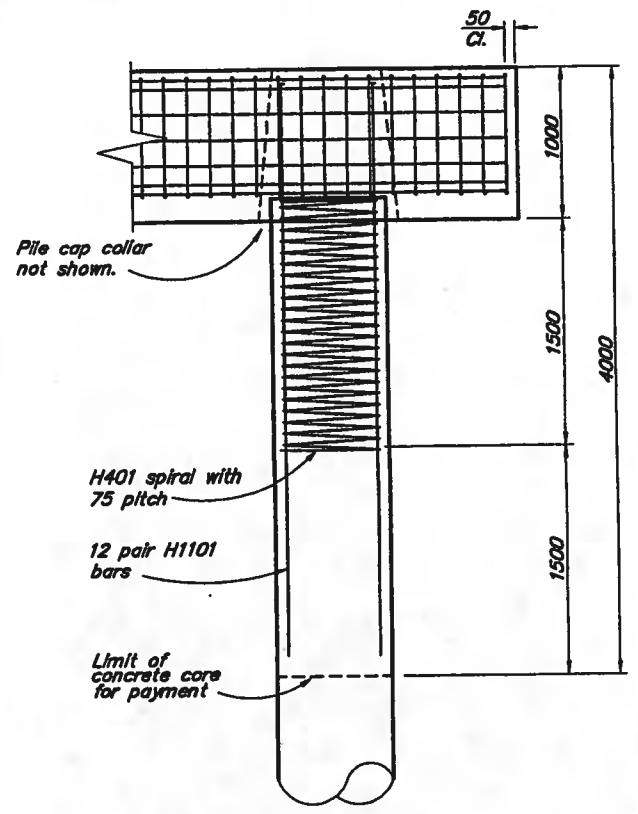
TYPICAL SECTION
0 0.5 1 1.5 meter



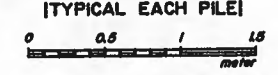
PIPE PILE SPLICE DETAIL
No Scale



PLAN OF CAP
0 0.5 1 1.5 meter



CONCRETE CORE DETAIL
(TYPICAL EACH PILE)

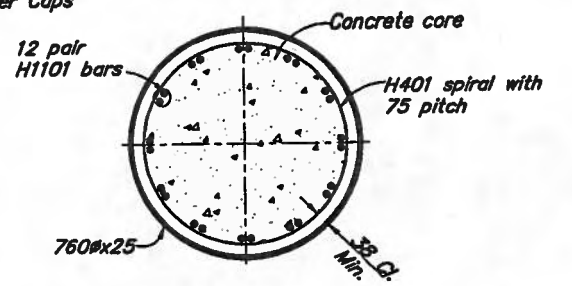


REINFORCING STEEL-ONE PIER

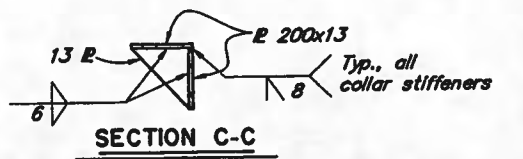
MARK	SIZE	NO.	LENGTH	TYPE
P501	5	100	3580	Bent
P1101	11	27	7400	
P1102	11	9	8600	Bent
H401	4	3	44 830	Spiral
H1101	11	72	3900	

* Headed reinforcing bar with head conforming to ASTM A970M-97.

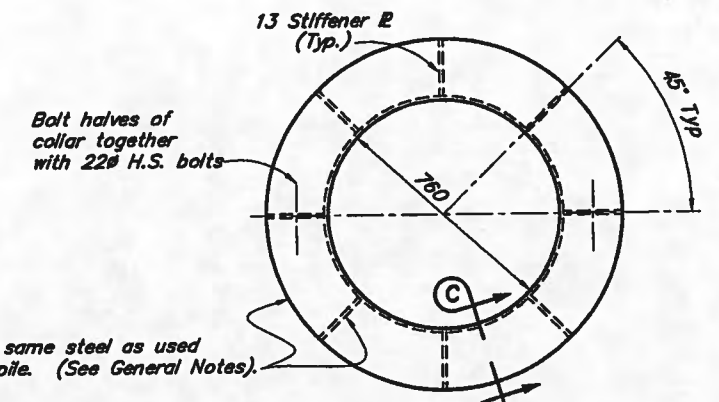
All "P" bars are incidental to 501(9) Pier Caps



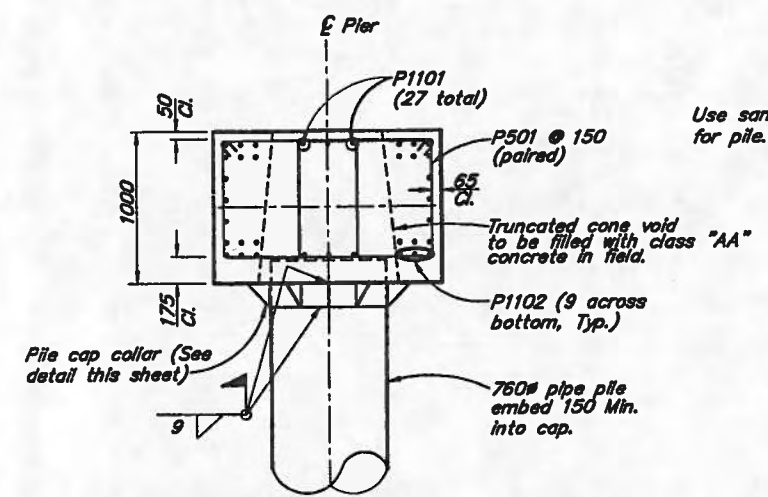
SECTION A-A
0 0.5 1 meter



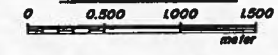
SECTION C-C



PILE CAP COLLAR
0 0.5 1 meter



SECTION B-B

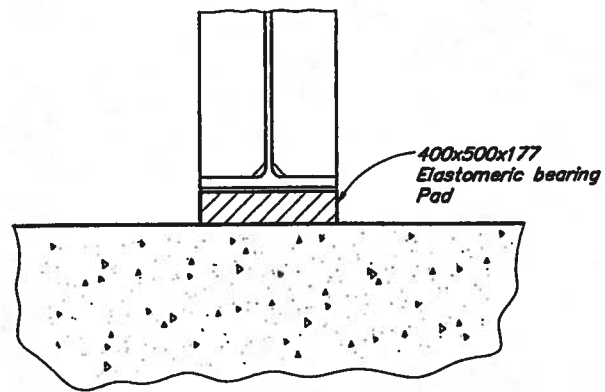


KOUWEGOK SLOUGH BRIDGE
UNALAKLEET
PIERS
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
and PUBLIC FACILITIES
JUNEAU, ALASKA

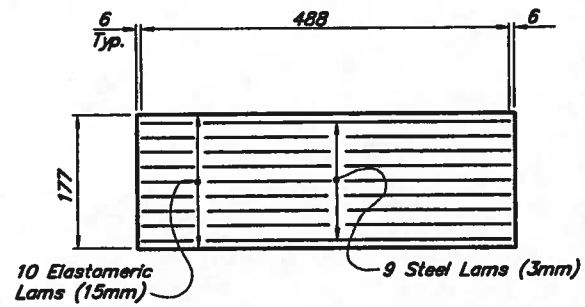
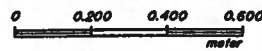
Designed By: RMW
Detail Check By: ESM
Design Check By: ESM

P 1302(1300-600)
6/11/1998 22:00
Plot Scale = 0.25
Drawn or Revised By: ESM

PROJECT NO. 1308
SHEET NO. 5

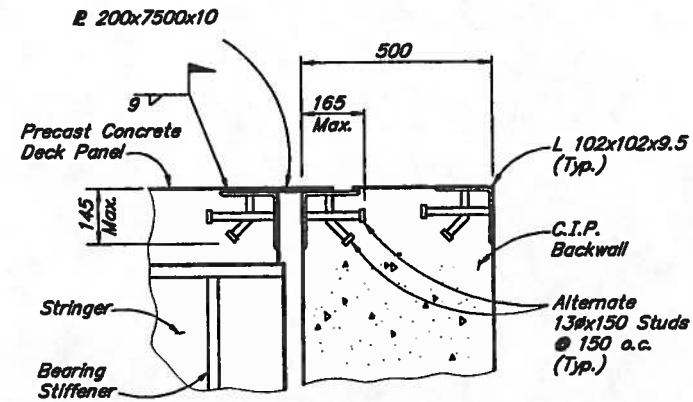
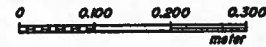


PARTIAL SECTION AT ABUTMENT AND PIERS

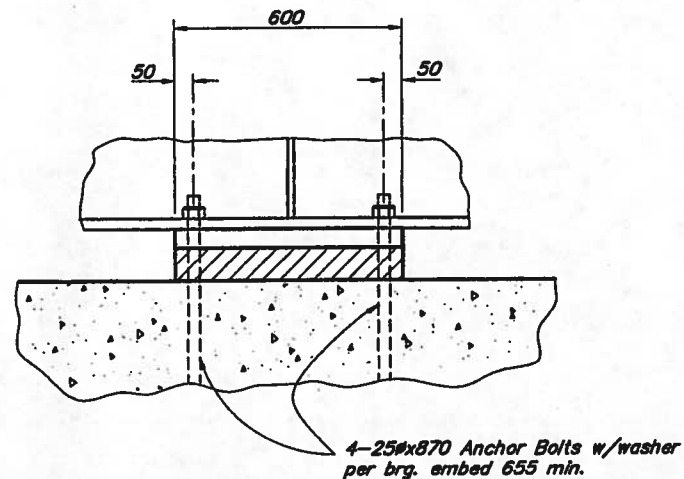
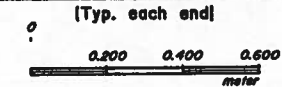


ELEVATION

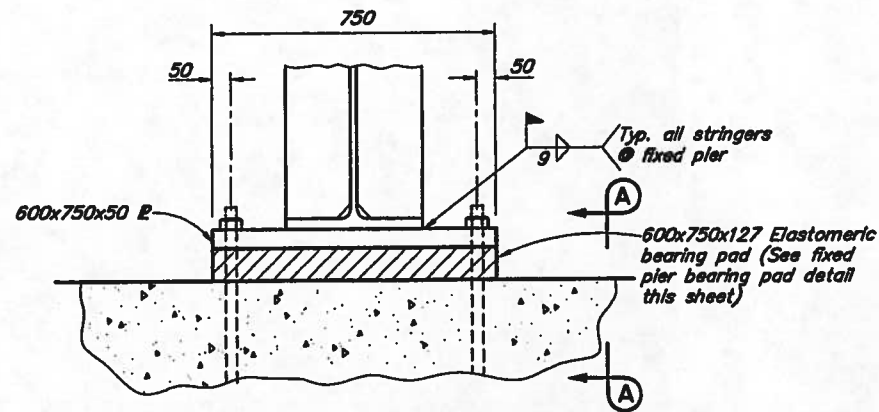
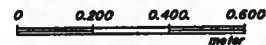
ABUTMENTS AND PIERS BEARING PAD (EXCEPT PIER 2)



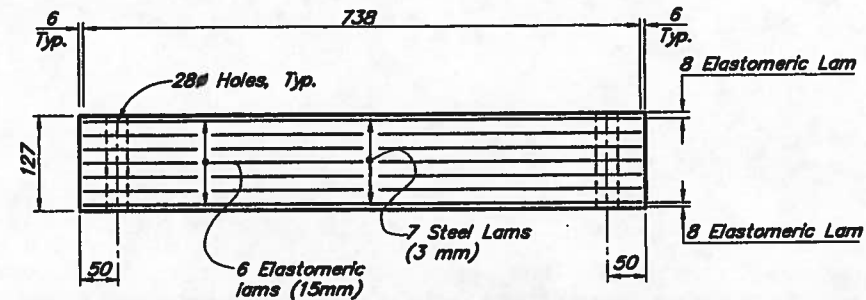
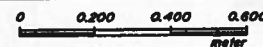
EXPANSION JOINT DETAIL



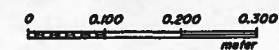
SECTION A-A



PARTIAL SECTION AT FIXED PIER

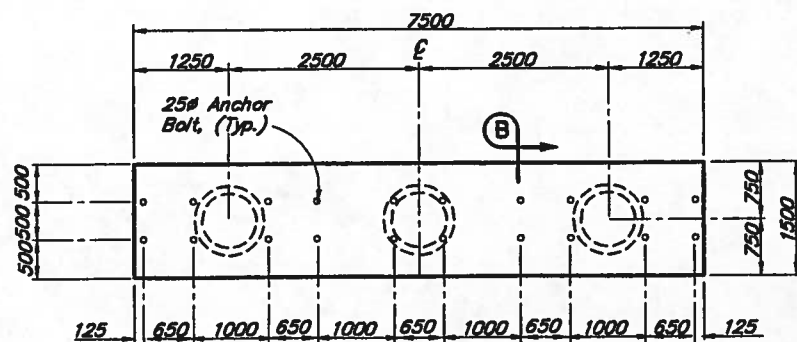


FIXED PIER BEARING PAD (PIER 2)



NOTE:

- Bearing seat elevations measured to top of precast concrete pile cap.



ANCHOR BOLT LAYOUT AT FIXED PIER



SUPPORT	BEARING ELEV.
E Brg. A1	4.546 m
E Brg. P2	4.546 m
E Brg. P3	4.546 m
E Brg. A4	4.546 m



KOUWEGOK SLOUGH BRIDGE

UNALAKLEET

BEARING AND EXP. JOINT

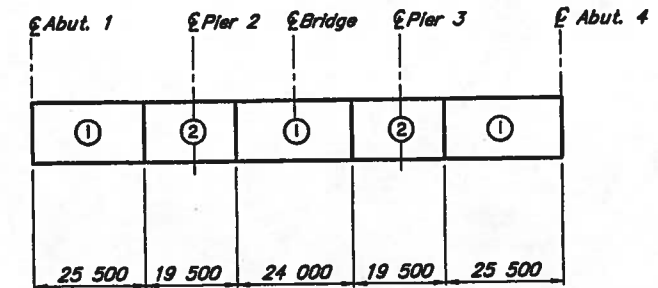
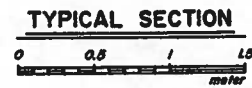
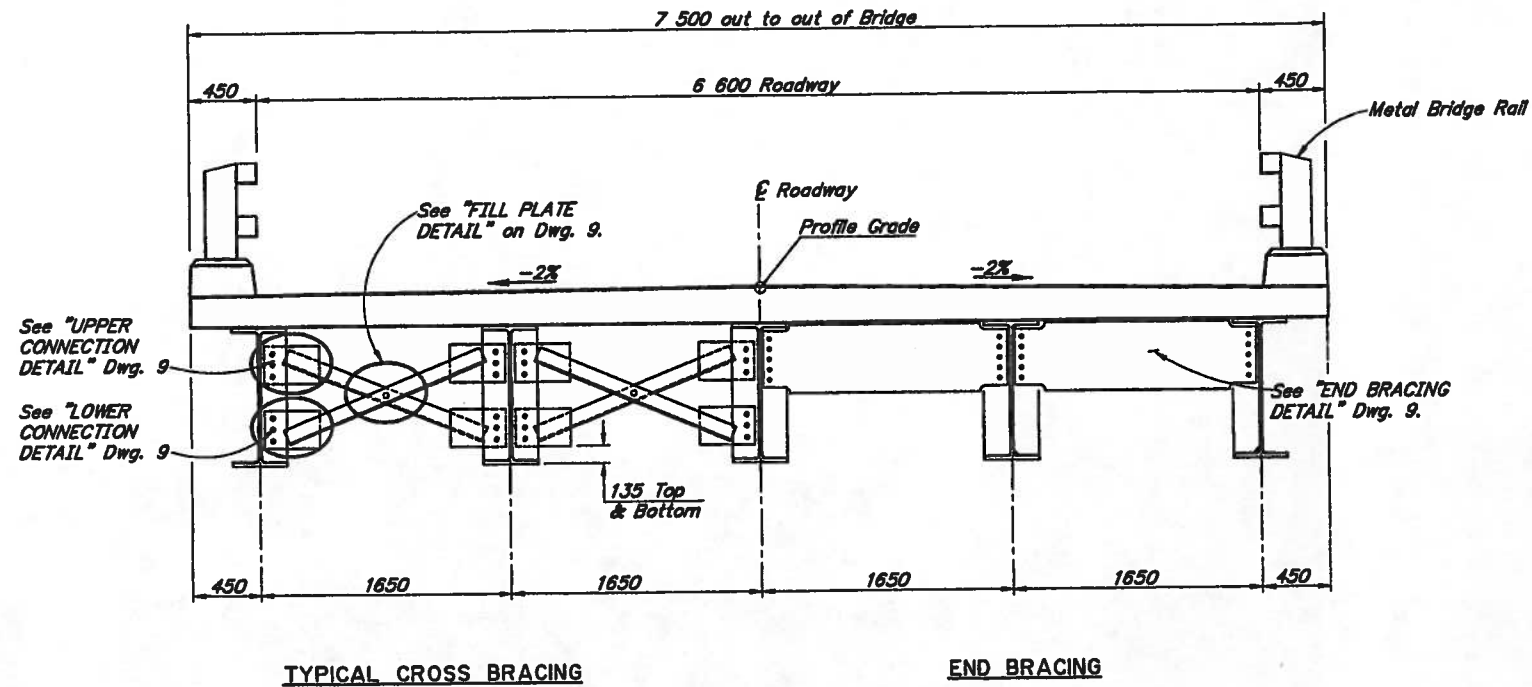
STATE of ALASKA
DEPARTMENT of TRANSPORTATION
and PUBLIC FACILITIES
JUNEAU, ALASKA

BRIDGE NO. 1308

DRAW. NO. 6

Designed By: EEM
Detail Check: By: EEM
Design Check: By: EEM

P 11201470-0200
6/19/98 13:52
Plot Scale = 125:00
Drawn or Modified By: CSM

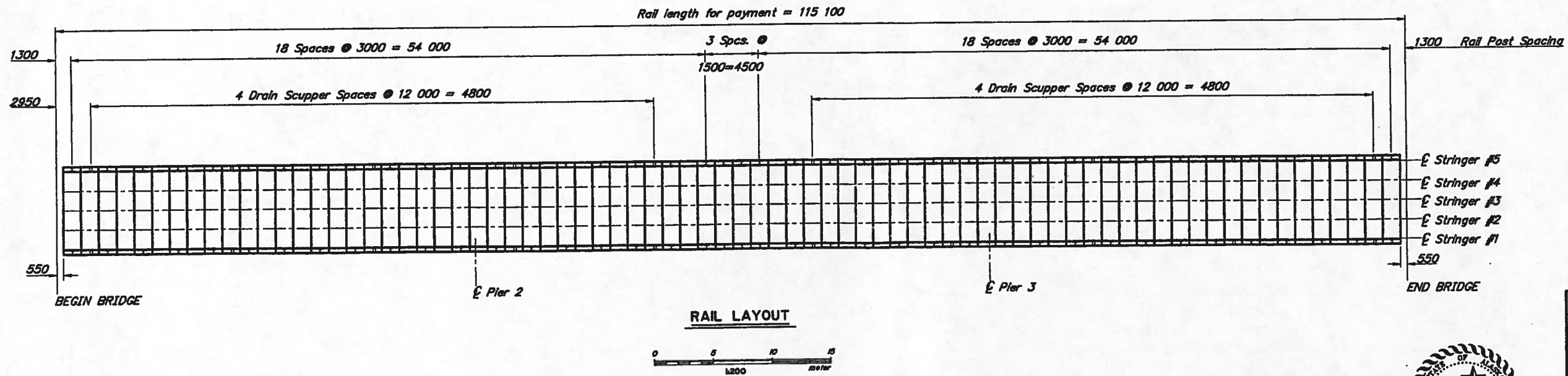


DECK PLACEMENT DIAGRAM
No Scale

CONCRETE PLACING NOTES:

The numbers 1 & 2 represent the sequence in which the precast deck panels are to be placed. Sections of like numbers need not be placed simultaneously, however, all like numbered sections must be placed prior to placing any sections of the succeeding number.

All grout to cure 48 hours prior to placing the next section.



KOUWEGOK SLOUGH BRIDGE
UNALAKLEET
TYPICAL SECTION

STATE OF ALASKA
DEPARTMENT of TRANSPORTATION
and PUBLIC FACILITIES
JUNEAU, ALASKA

Designed By: RWM
Detail Check By: ESM
Design Check By: ESM

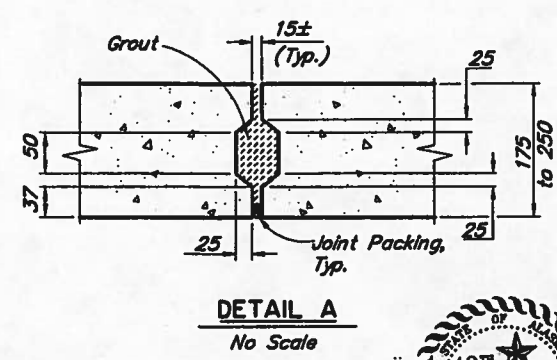
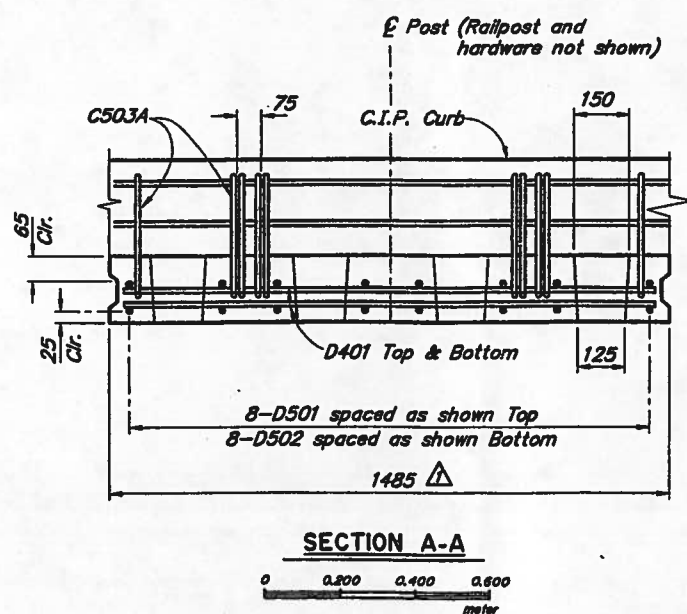
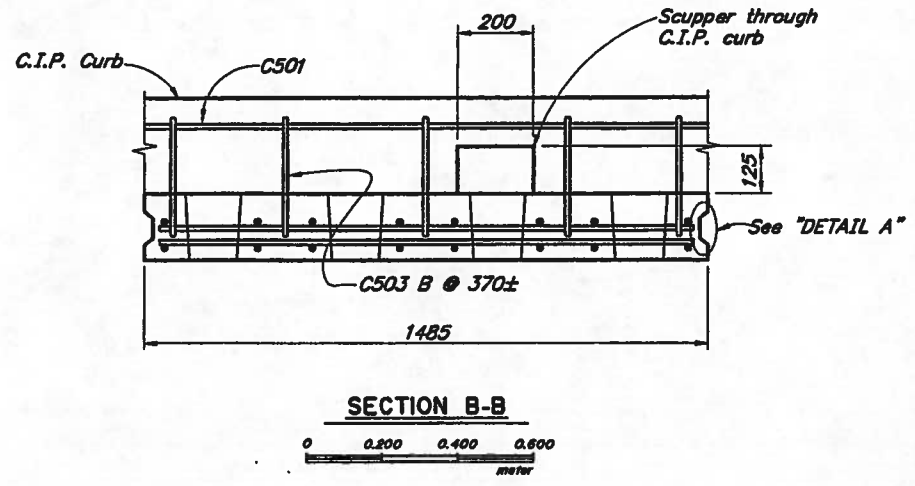
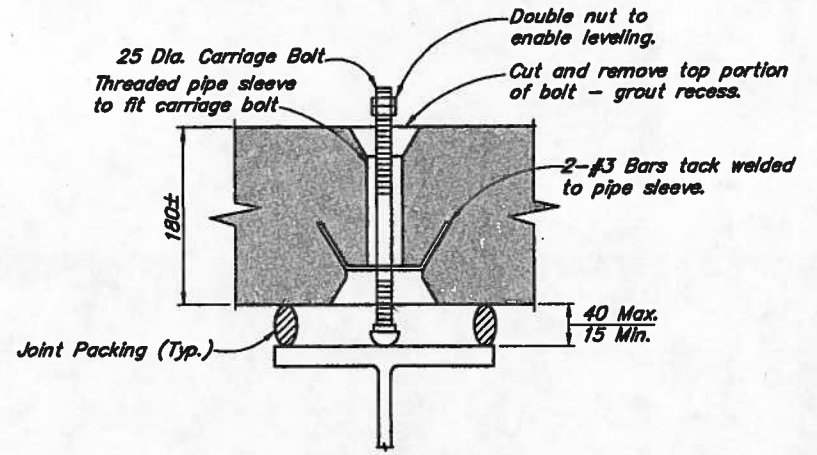
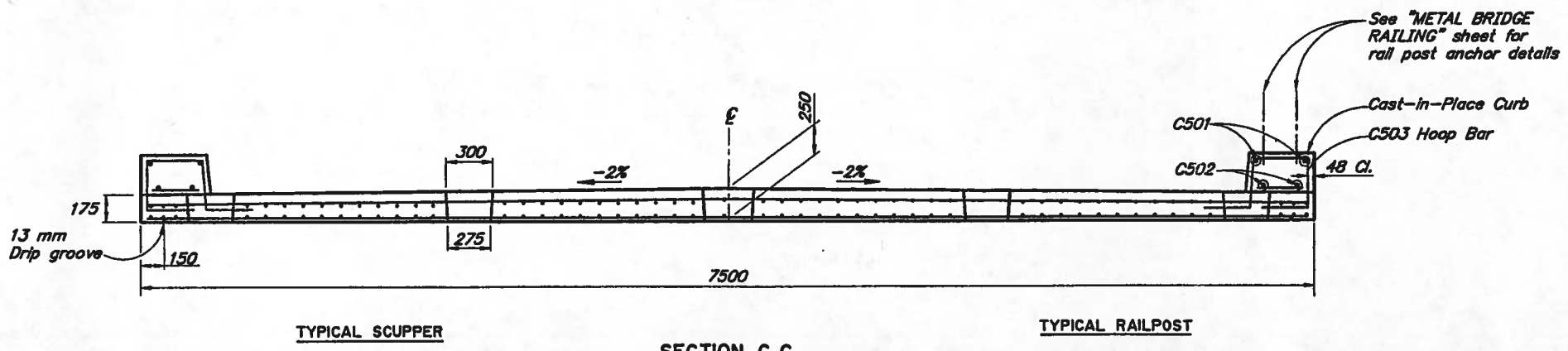
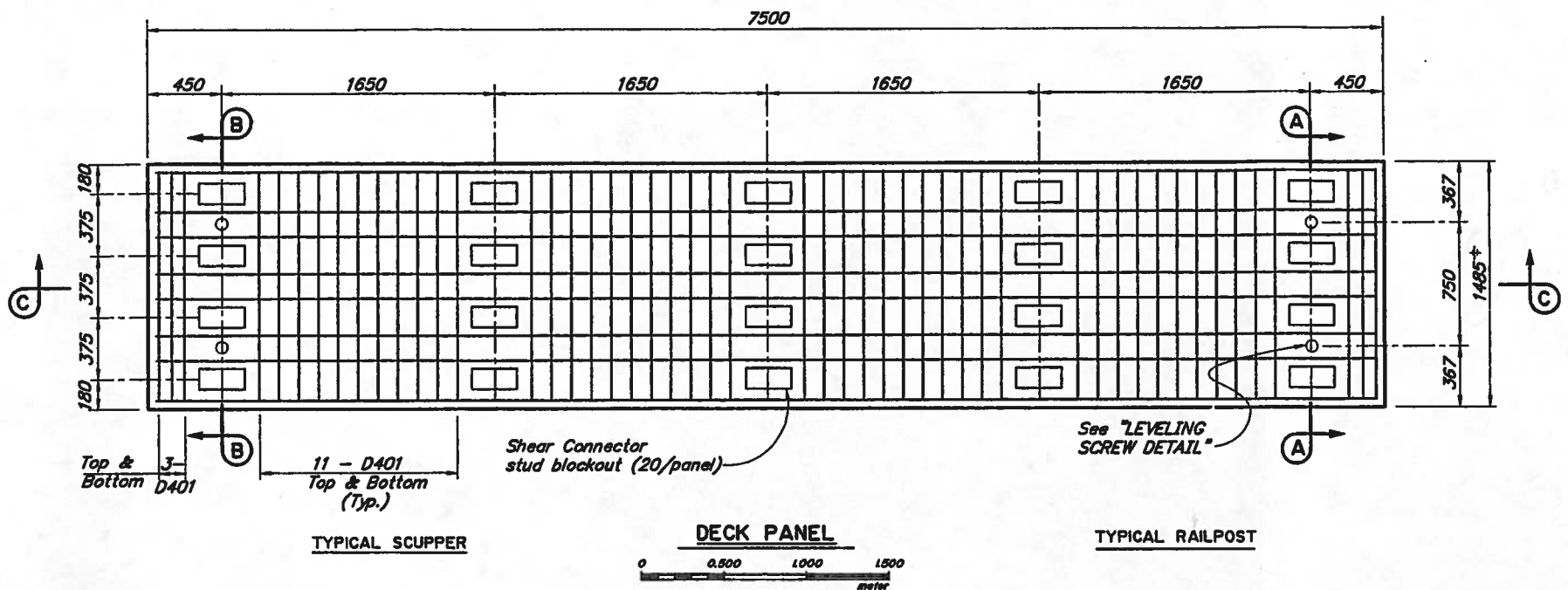
P 11320(1)209-7090
6/19/1998 EB 98
Plot Scale = 833:60
Drawn or Revised By: ESM

BRIDGE NO. 1308
DWS NO. 7

REINFORCING STEEL-ONE DECK PANEL					
MARK	SIZE	NO.	LENGTH	TYPE	
a	D401	4	100	1455	
e	D501	5	8	7400	
e	D502	5	8	7400	Bent
e	C501	5	4	114,000	
c	C502	5	4	1067	
c,e	C503A	5	20	1500	Bent
d,e	C503B	5	10	1500	Bent

- a - for entire bridge
- b - does not include lap splice.
- c - for rail post deck panels.
- d - for scupper blockout deck panels and non rail post deck panels.
- e - Epoxy Coated

- NOTES:**
- 1 Make first and last deck panel length 1490
 - 2 All reinforcing steel shown on this sheet is incidental to 501(B) Precast Deck Panel.
 - 3 C501 is for entire bridge.
 - 4 "LEVELING SCREW DETAIL" is schematic only. Contractor to submit leveling scheme for panels.
 - 5 The roadway surface of precast deck panels shall have a heavy broom finish. Surface under the railing curbs shall be roughened.



KOUWEGOK SLOUGH BRIDGE
UNALAKLEET
PRECAST DECK PANELS

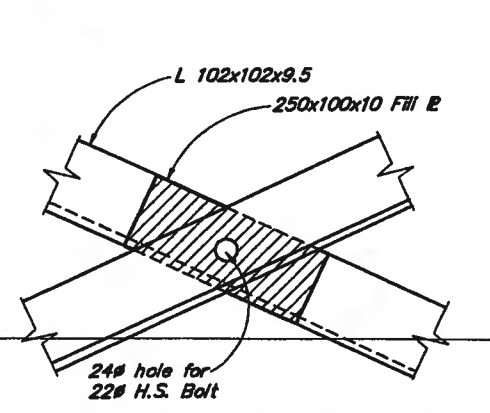
STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 and PUBLIC FACILITIES
 JUNEAU, ALASKA

PROJECT NO. 1308
 SHEET NO. 8

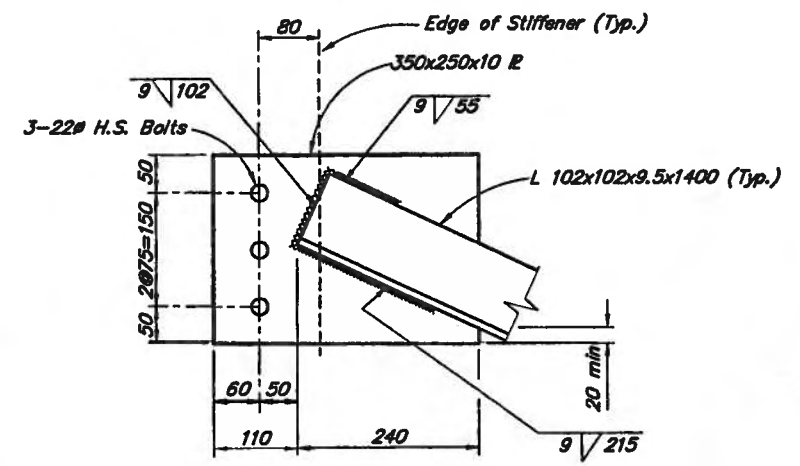
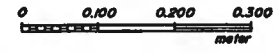
Designed By: EMM
 Detail Check By: EDN
 Design Check By: EDN

P: 11/20/1998-0.000
 4/19/2000 12:00
 Plot Scale = 50.00
 Drawn or Revised By: GSA

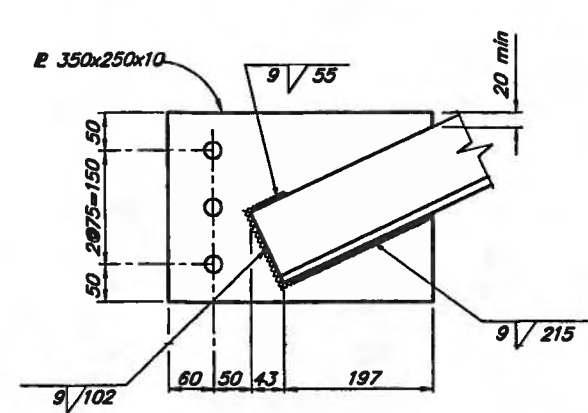
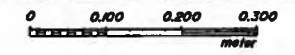
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)/66482	1998	26	38



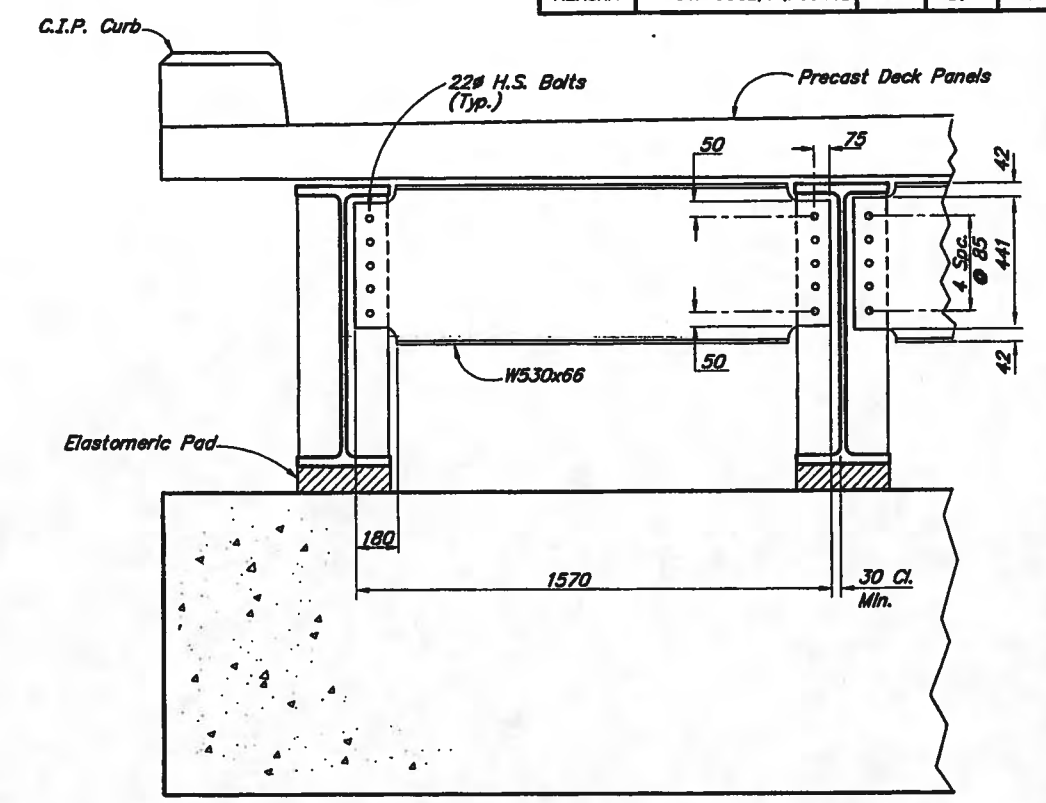
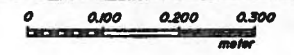
FILL PLATE DETAIL



UPPER CONNECTION DETAIL

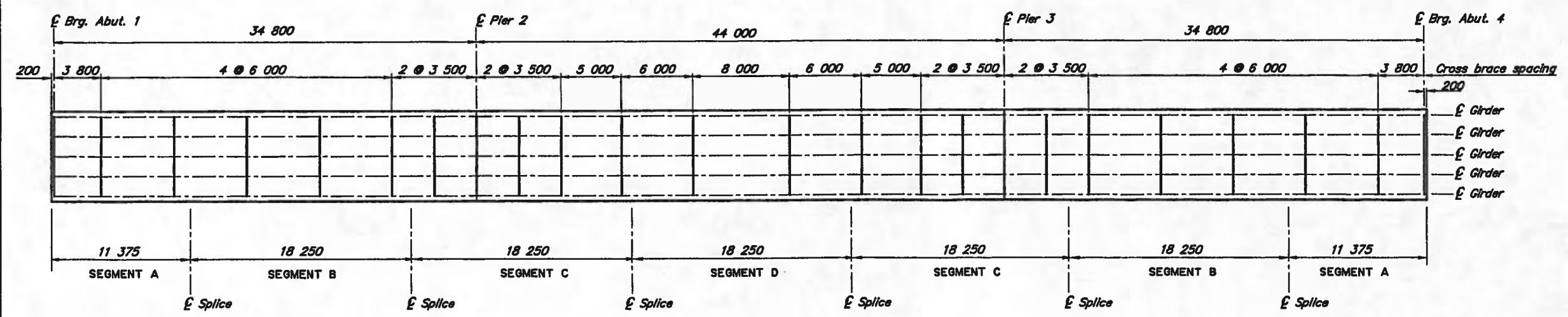


LOWER CONNECTION DETAIL

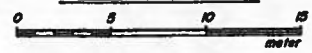


END BRACING DETAIL

[Typical at each Abutment]



FRAMING PLAN



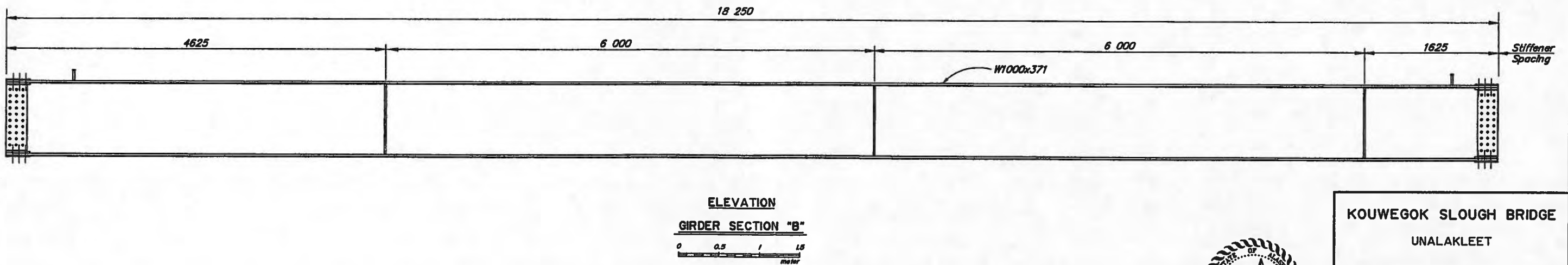
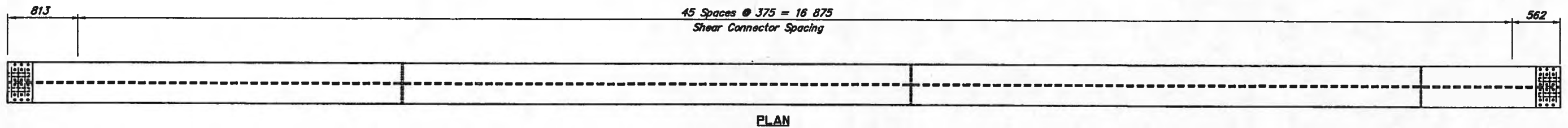
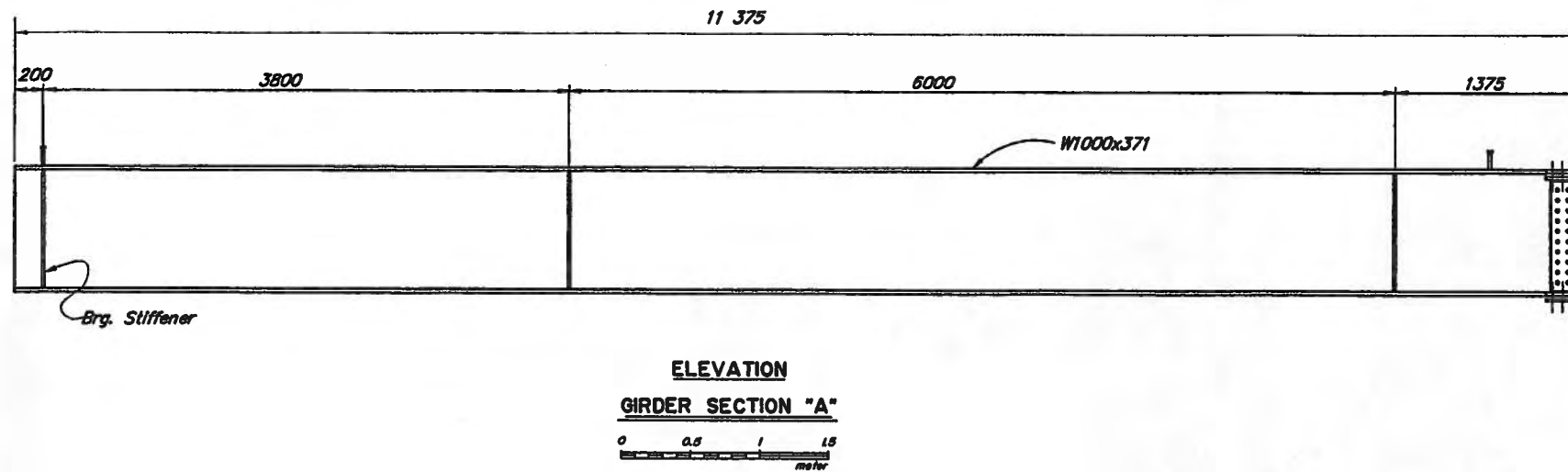
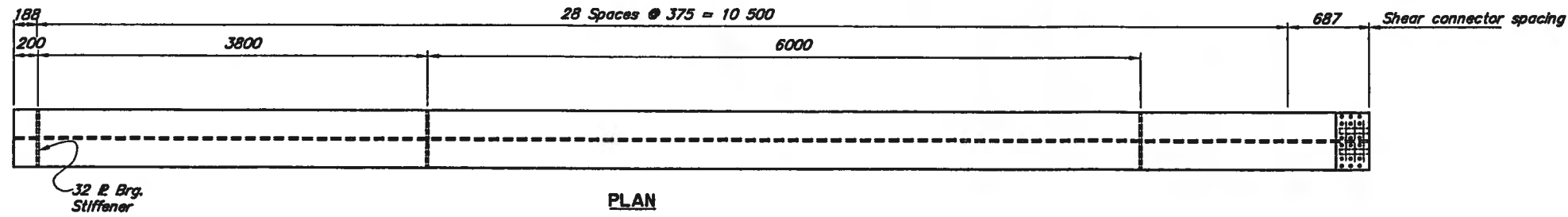
KOUWEGOK SLOUGH BRIDGE
UNALAKLEET
FRAMING PLAN

STATE of ALASKA
DEPARTMENT of TRANSPORTATION
and PUBLIC FACILITIES
JUNEAU, ALASKA

BRIDGE NO. 1308
DWS NO. 9

Designed By: FWH
Detail Check By: GSK
Design Check By: GSK
Date: 8/19/1998
Plot Scale: 1/8" = 1'-0"
Drawn or Revised By: GSK

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)/66482	1998	27	38



NOTE:
All other stiffeners are 10mm # for cross frame connections (See Dwg. 12)



KOUWEGOK SLOUGH BRIDGE
UNALAKLEET
GIRDER DETAIL I

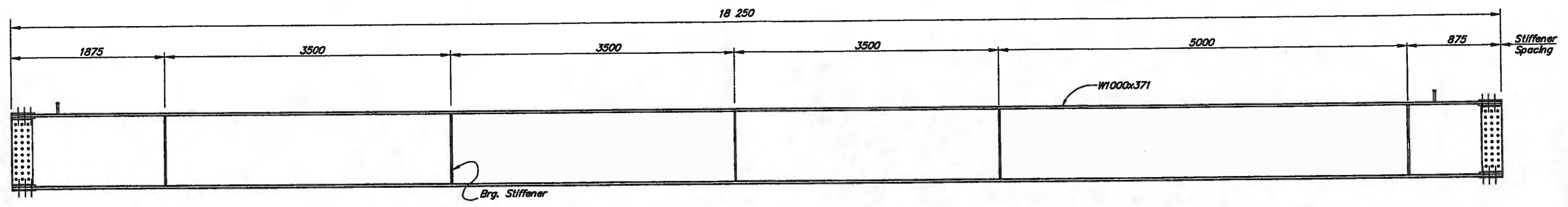
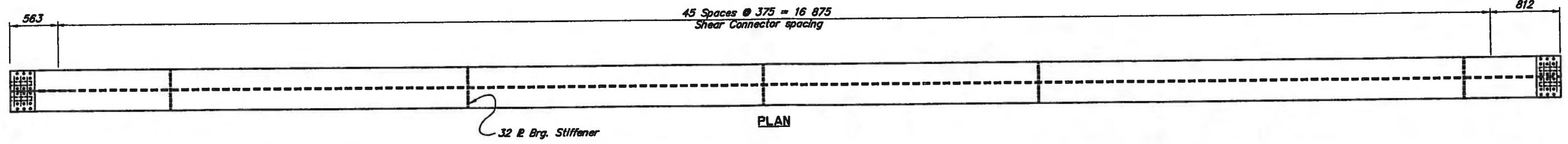
STATE of ALASKA
DEPARTMENT of TRANSPORTATION
and PUBLIC FACILITIES
JUNEAU, ALASKA

Designed By: RWB
Detail Check By: GEM
Design Check By: EBN

P: 120813308-10100
6/25/2000 13:35
Plot Scale = 0.01
Drawn or Revised By: GEM

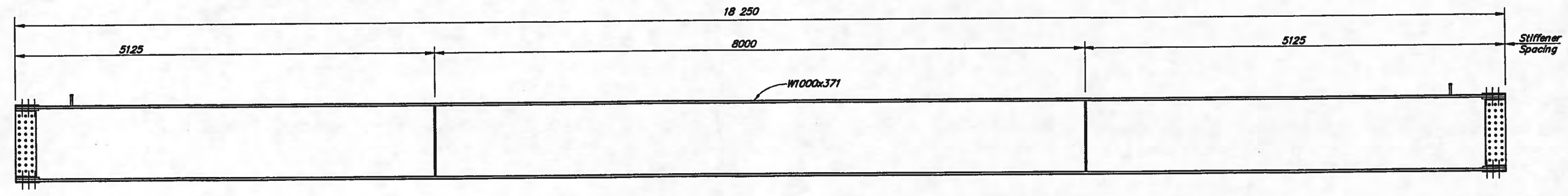
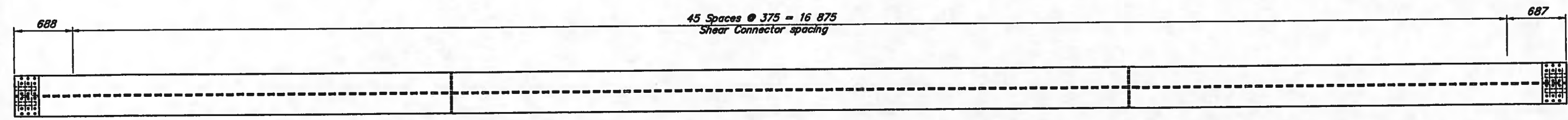
BRIDGE NO. 1308
DWB. NO. 10

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)/66482	1998	28	38



ELEVATION
GIRDER SECTION "C"

0 0.5 1 1.5
meter



ELEVATION
GIRDER SECTION "D"

0 0.5 1 1.5
meter

NOTE:
All other stiffeners are 10mm B for cross frame connections.



KOUWEGOK SLOUGH BRIDGE
UNALAKLEET
GIRDER DETAIL 2

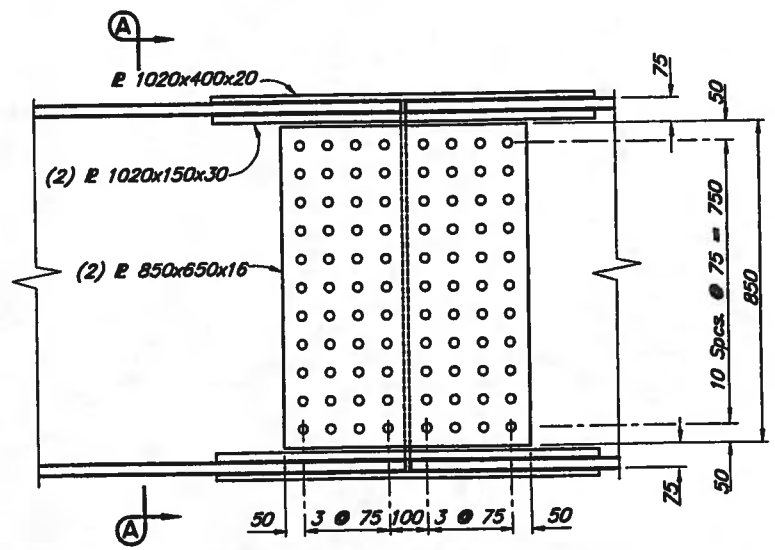
STATE OF ALASKA
DEPARTMENT of TRANSPORTATION
and PUBLIC FACILITIES
JUNEAU, ALASKA

Designed By: RSM
Detail Check By: ESM
Design Check By: ESM

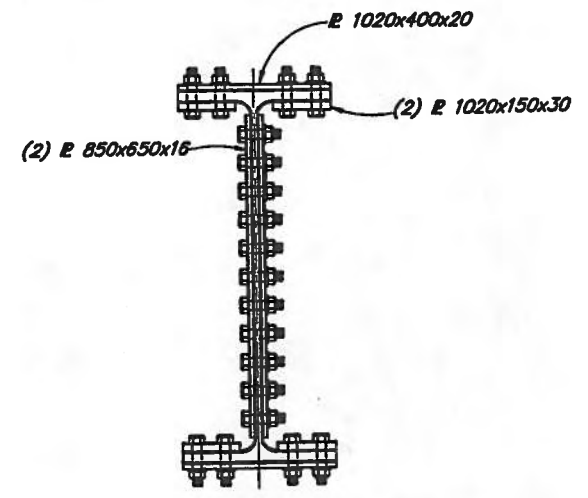
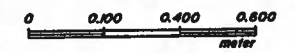
PL 1157(1105-1120)
6/10/98 13.38
Plot Scale = 0.67
Drawn or Recheck By: GJM

BRIDGE No. 1308
SHEET No. II

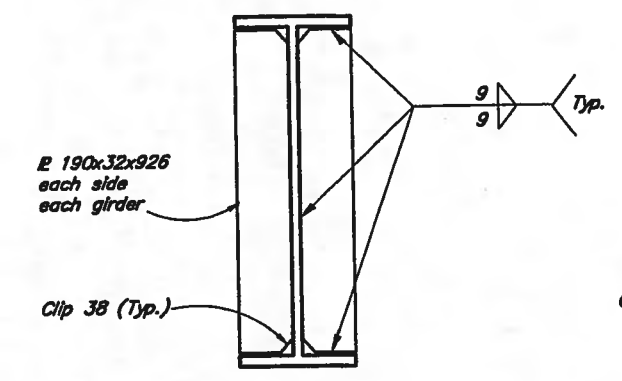
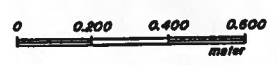
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)/66482	1998	29	38



FIELD SPLICE CONNECTION DETAIL

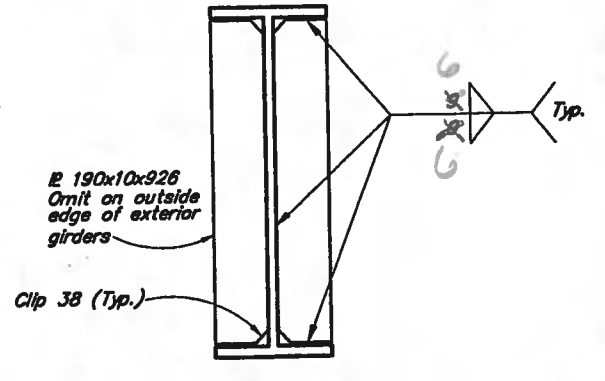


SECTION A-A



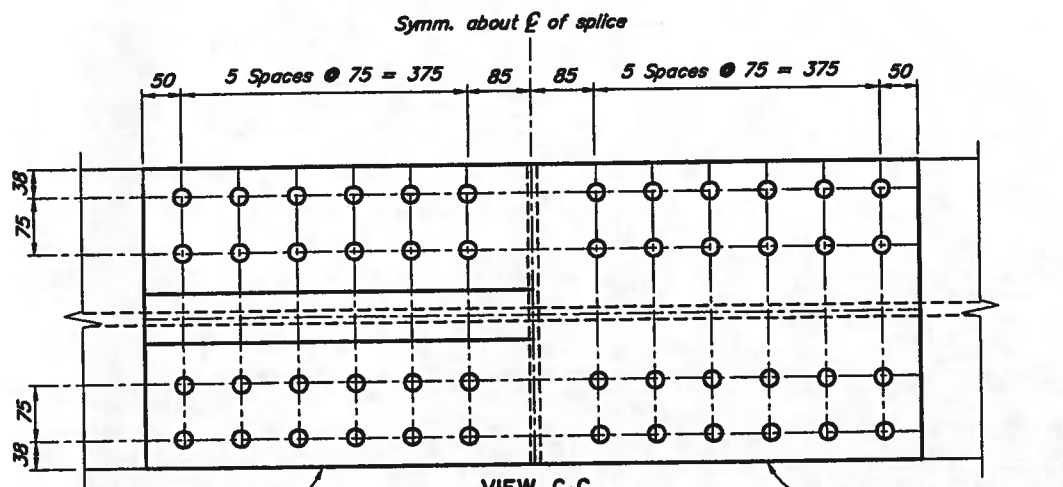
BEARING STIFFENER

No Scale

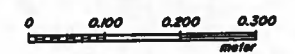


INTERMEDIATE STIFFENER

No Scale

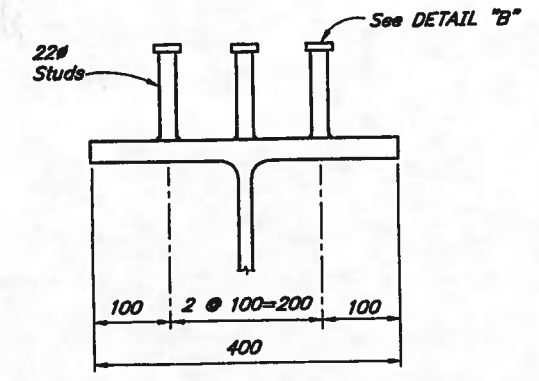


**VIEW C-C
FLANGE SPLICE**

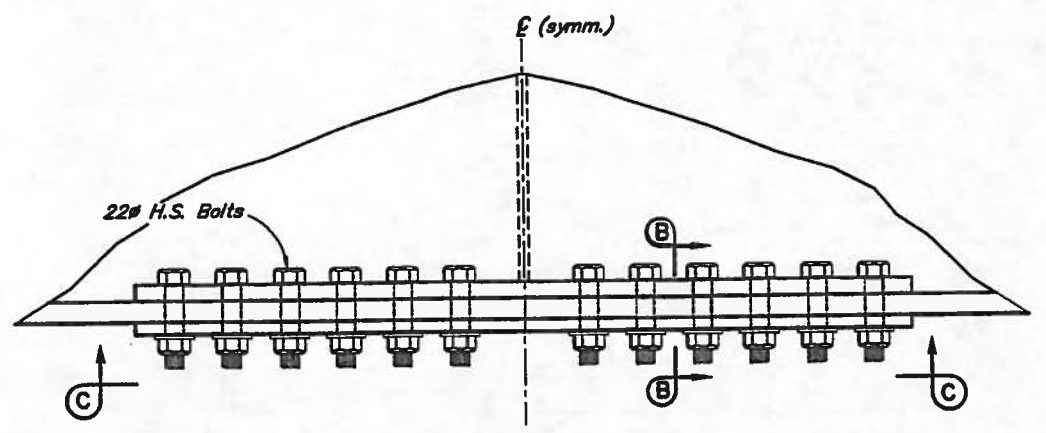
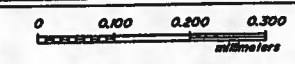


INSIDE P

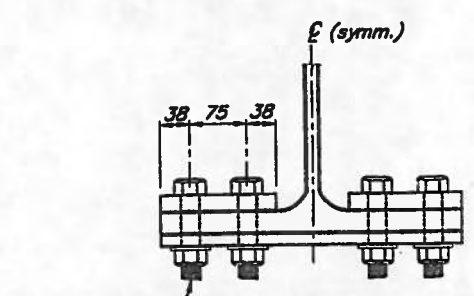
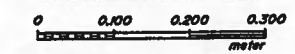
OUTSIDE P



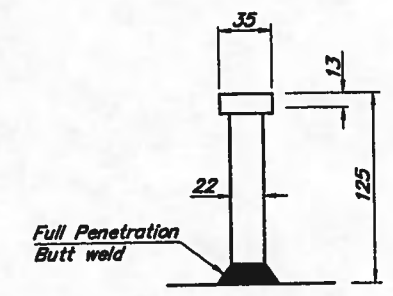
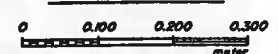
SHEAR CONNECTOR DETAIL



FLANGE SPLICE



SECTION B-B



DETAIL B

No Scale



Designed By: RWM
Detail Check By: GJM
Design Check By: GJM
P: 11,500 (1,500-12,500)
6/10/98 12.3
Plot Date = 12/00
Drawn or Recheck By: GJM

KOUWEGOK SLOUGH BRIDGE

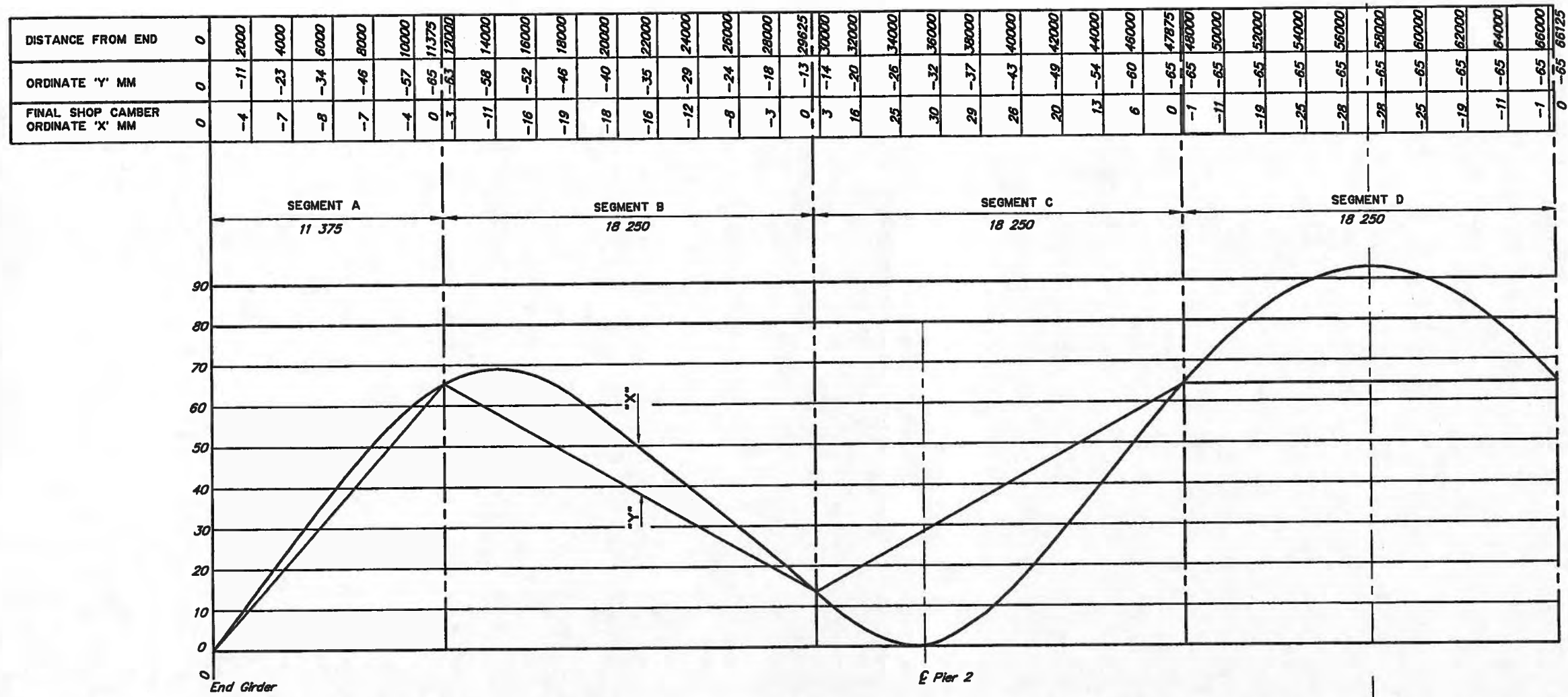
UNALAKLEET

GIRDER DETAIL 3

STATE OF ALASKA
DEPARTMENT of TRANSPORTATION
and PUBLIC FACILITIES
JUNEAU, ALASKA

BRIDGE NO. 1308
DWS NO. 12

Symm. @ 57000



DISTANCE FROM END	0	2000	4000	6000	8000	10000	11375	12000	14000	16000	18000	20000	22000	24000	26000	28000	29625	30000	32000	34000	36000	38000	40000	42000	44000	46000	47875	48000	50000	52000	54000	56000	58000	60000	62000	64000	66000	66725								
ORDINATE 'Y' MM	0	-11	-23	-34	-46	-57	-65	-63	-58	-52	-46	-40	-35	-29	-24	-18	-13	-14	-20	-26	-32	-37	-43	-49	-54	-60	-65	-65	-65	-65	-65	-65	-65	-65	-65	-65	-65	-65	-65	-65	-65	-65	-65	-65		
FINAL SHOP CAMBER ORDINATE 'X' MM	0	-4	-7	-8	-7	-4	0	-3	-11	-16	-19	-18	-16	-12	-8	-3	0	3	16	23	30	29	28	20	13	6	0	-1	-11	-19	-25	-28	-28	-25	-19	-11	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
STEEL GIRDER DEFLECTION MM	0	0	-4	-9	-12	-15	-18	-19	-20	-20	-19	-17	-15	-12	-9	-6	-4	-3	-2	-1	0	0	-2	-5	-8	-12	-16	-19	-19	-22	-25	-26	-27	-27	-26	-25	-25	-22	-19	-19	-19	-19	-19	-19		
CONCRETE DECK DEFLECTION MM	0	0	-9	-17	-24	-30	-35	-37	-39	-39	-37	-34	-29	-24	-18	-12	-8	-7	-7	-2	0	-1	-4	-10	-17	-24	-31	-38	-43	-48	-51	-53	-53	-51	-48	-48	-43	-38	-37	-37	-37	-37	-37	-37	-37	
CURB AND RAIL DEFLECTION MM	0	0	-2	-4	-6	-8	-9	-9	-10	-10	-9	-8	-7	-6	-4	-3	-2	-2	-1	0	0	-1	-2	-4	-6	-8	-9	-9	-11	-12	-13	-13	-13	-13	-13	-13	-12	-11	-9	-9	-9	-9	-9	-9	-9	
TOTAL DEFLECTION MM	0	-12	-30	-42	-53	-61	-65	-68	-69	-68	-65	-59	-51	-42	-31	-21	-13	-12	-4	0	-1	-8	-17	-29	-42	-54	-65	-76	-85	-90	-93	-93	-90	-85	-76	-68	-65	-65	-65	-65	-65	-65	-65	-65	-65	

CAMBER DIAGRAM



Designed By: RM
 Detail Check By: ESM
 Design Check By: ESM

AS 13001-1300-13200
 6/15/1998 13:02
 Plot Scale = 1:10
 Drawn or Revised By: CS

KOUWEGOK SLOUGH BRIDGE
 UNALAKLEET
 CAMBER DETAIL

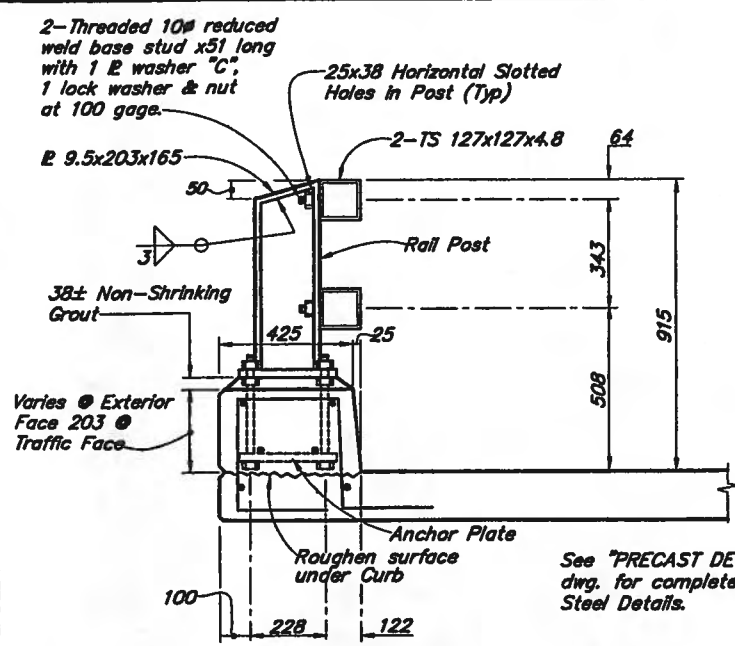
STATE OF ALASKA
 DEPARTMENT of TRANSPORTATION
 and PUBLIC FACILITIES
 JUNEAU, ALASKA



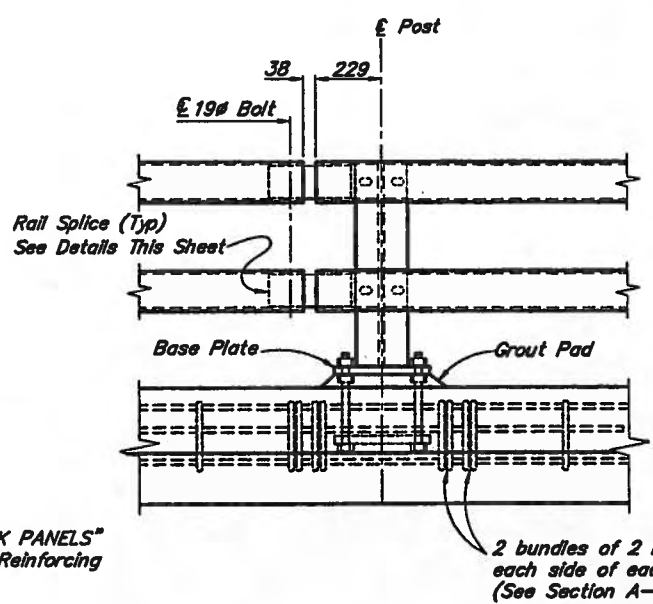
BRIDGE No. 1308

DWG. No. 13

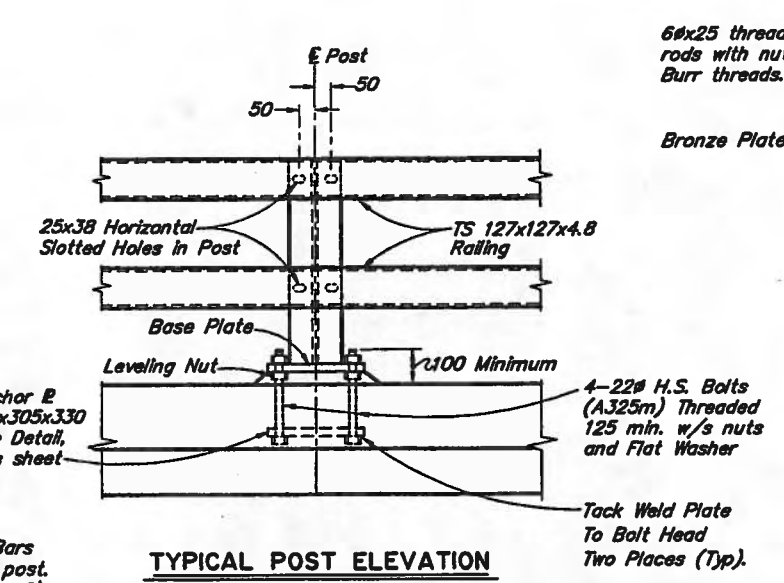
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)/66482	1998	31	38



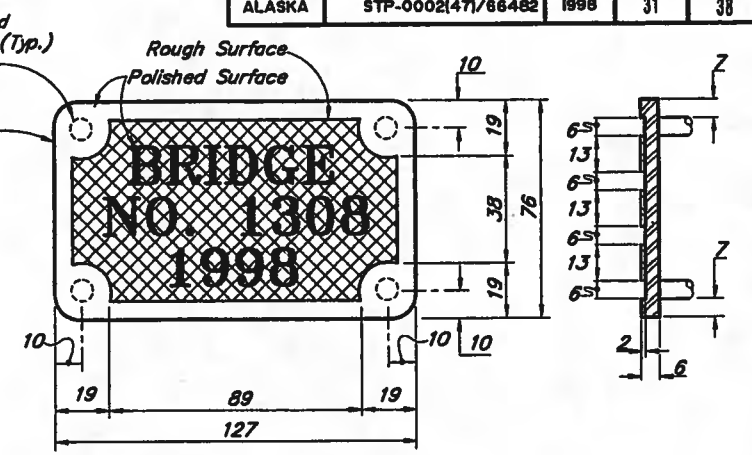
TYPICAL SECTION



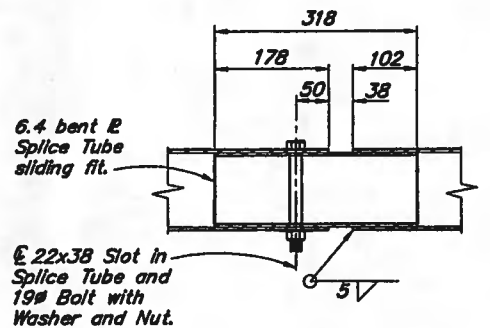
EXPANSION JOINT



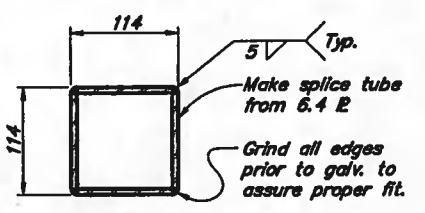
TYPICAL POST ELEVATION



BRONZE BRIDGE NO. PLATE



RAIL SPLICE DETAIL



SPLICE TUBE

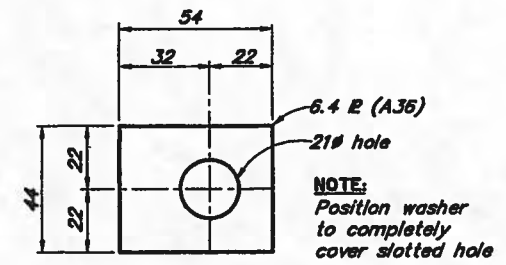
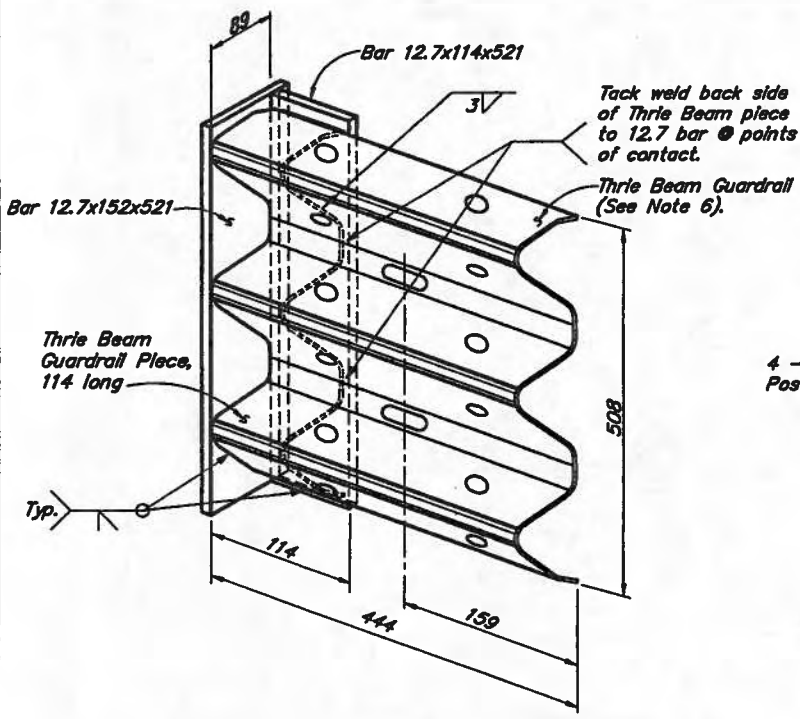


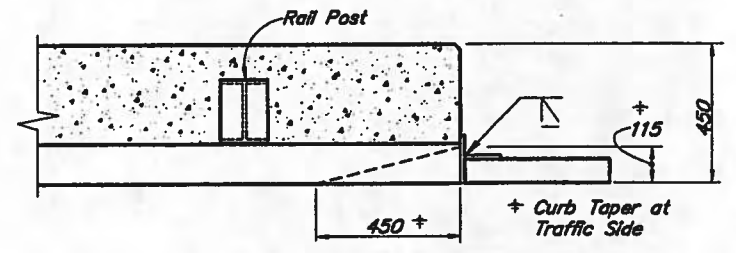
PLATE WASHER "C"

NOTES

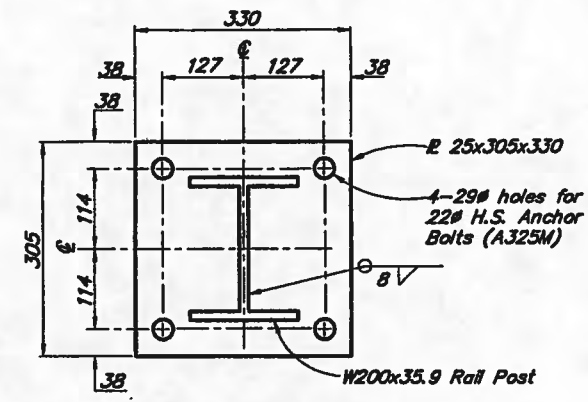
1. Locate bridge number plates on right hand side of approaching traffic at each end as shown (2 total).
2. Bridge number plates to be furnished by the Contractor. Bronze shall conform to A.S.T.M. B98-90 Alloy "A" or "B". Lettering shall conform to "CENTURY" type style. Studs and nuts shall conform to UNS C65100 or C65500. Stud to be bronze 6mm# threaded rod brazed to back of plate with nut. - 4 required.
3. All machine bolts shall have locking nuts or lock washers.
4. Railing expansion joints must be provided at 15m maximum intervals throughout the railing. Railing shall be continuous over 2 posts minimum.
5. Post shall be adjusted to a plumb position.
6. Three beam guard rail transition "NESTED" sections shall be installed one section on each side of transition bracket, typical either end of bridge.
7. Grout for rail posts shall have a minimum 24 hour f'c of 21 MPa.
8. ±See TYPICAL SECTION drawing 7 for rail post spacing.



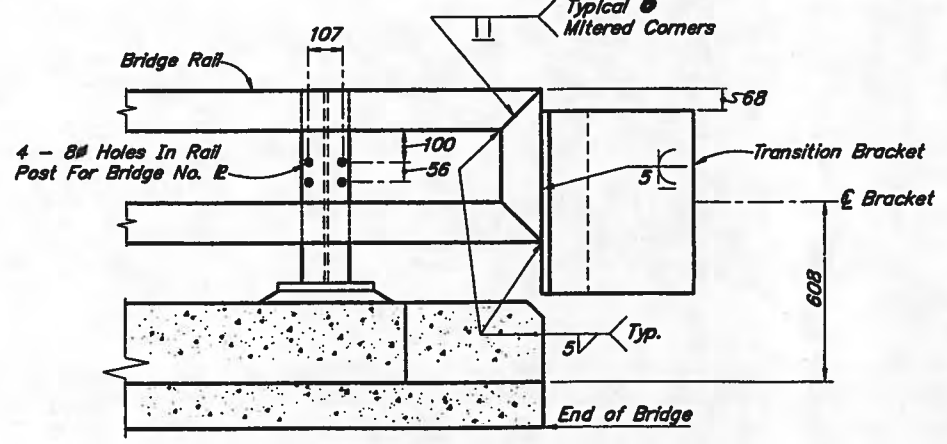
THREE BEAM TRANSITION BRACKET



PLAN

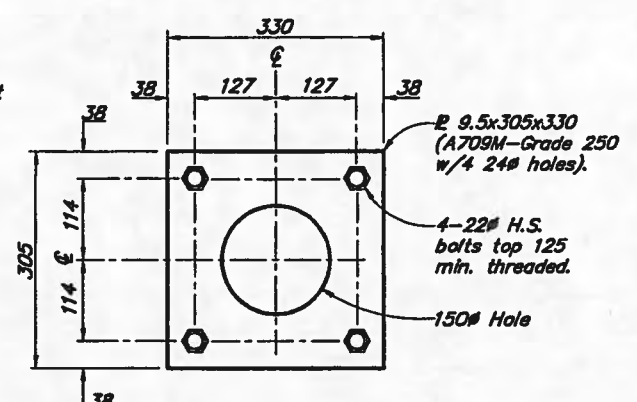


BASE PLATE DETAIL



ELEVATION

ATTACHMENT TO 2-TUBE BRIDGE RAIL WITH END TUBE

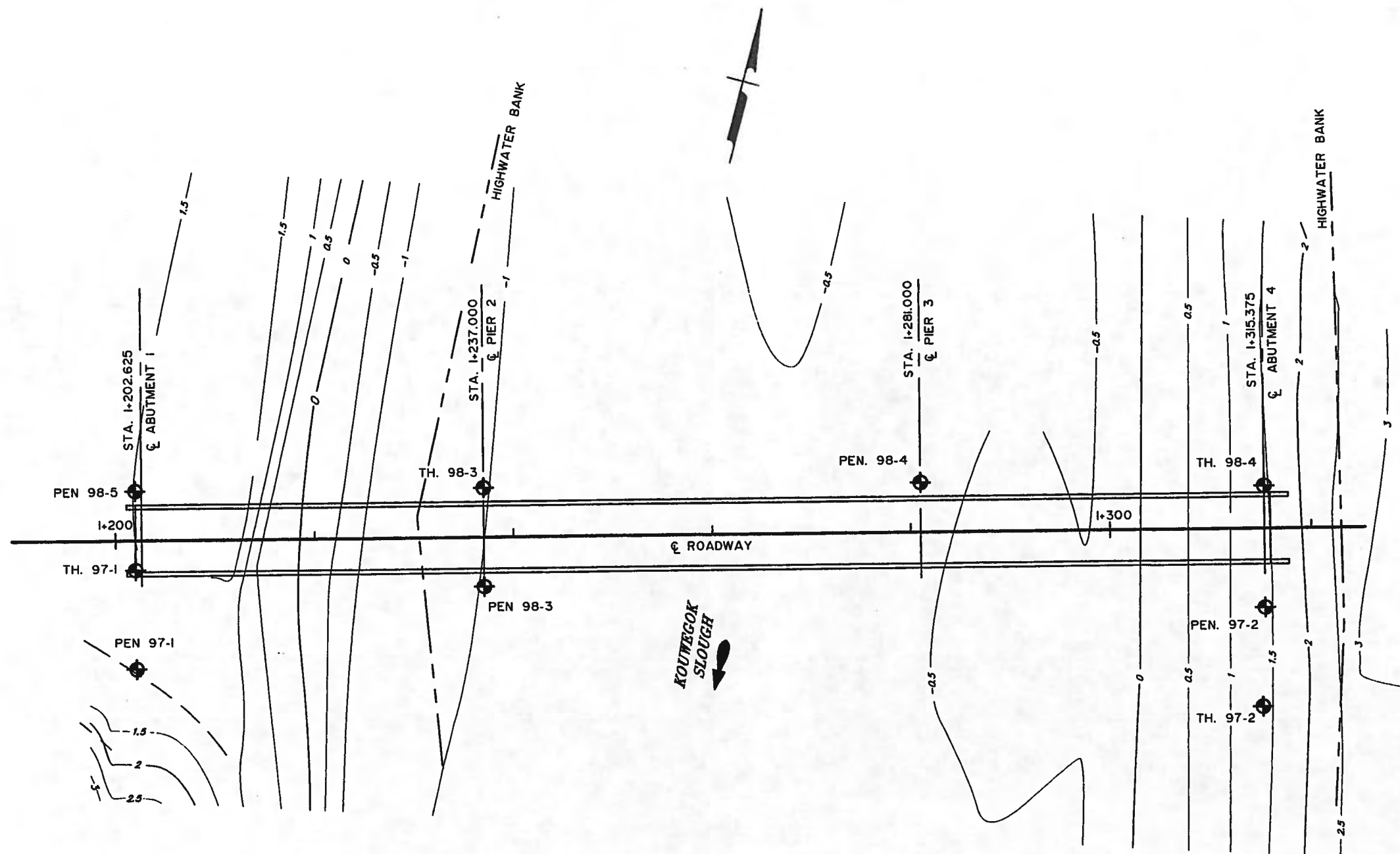


ANCHOR PLATE DETAIL

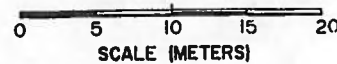


No Scale
KOUWEGOK SLOUGH BRIDGE
 UNALAKLEET
METAL BRIDGE RAIL
 STATE of ALASKA
 DEPARTMENT of TRANSPORTATION
 and PUBLIC FACILITIES
 JUNEAU, ALASKA

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)	1998	32	38



PLAN VIEW



DRAWN BY: G. W. H. / DATE: 07/98 / SCALE: 1:1

TEST HOLE LOGS
AND LOCATIONS
KOUWEGOK SLOUGH BRIDGE
UNALAKLEET

GENERAL LAYOUT

GENERAL NOTES:

- HORIZONTAL AND VERTICAL GEOMETRY WITH TOPOGRAPHIC DATA FURNISHED BY THE NORTHERN REGION HIGHWAY DESIGN SECTION ON MAY 1998.
- THIS SITE PLAN SHOWS TEST HOLE LOGS FROM INVESTIGATIONS COMPLETED IN 1997 AND 1998.
- THE TEST HOLES DEPICTED ARE A COMBINATION OF THE ORIGINAL FIELD LOGS, AND AN OFFICE EXAMINATION OF THE FIELD LOGS, SOIL SAMPLES AND/OR ROCK CORES.
- THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES OR RELATIVE DENSITIES. THE TRANSITION MAY BE GRADUAL.

- WHERE CASING OR HOLLOW STEM IS INDICATED, THE NEED WAS PREDICATED BY THE POSITION OF THE GROUNDWATER TABLE OR BY CAVING GROUND CONDITIONS. THE CASING OR HOLLOW STEM WAS INSTALLED TO PROVIDE TEMPORARY SOIL SUPPORT AND/OR PROVIDE FOR DRILL FLUID CIRCULATION.
- FIELD MOISTURE DESCRIPTIONS (DRY, MOIST, AND WET) ARE BASED ON THE FOLLOWING FIELD OBSERVATIONS:
 - DRY-A SOIL WITH NO VISIBLE MOISTURE, FEELS DRY WHEN HELD IN THE HAND. WILL NOT FORM A CAST.
 - MOIST-A SOIL WITH VISIBLE MOISTURE, FEELS MOIST IN THE HAND, WILL FORM A CAST.
 - WET-A SOIL WITH VISIBLE WATER, WETS THE HAND WHEN HELD, HAS FREE WATER WHEN SHAKEN.
 A COMBINATION OF THESE TERMS MAY BE USED TO DESCRIBE THE SOIL MOISTURE CONDITION.

SOIL GRAIN SIZE DEFINITIONS

BOULDER	>305 mm DIAMETER
COBBLE	75 mm to 305 mm DIAMETER
BROKEN ROCK (ANGULAR)	>75 mm DIAMETER
GRAVEL (ROUNDED); STONE (ANGULAR)	2.0 mm to 75 mm
SAND	0.075 mm to 2.0 mm
SILT/CLAY	<0.075 mm

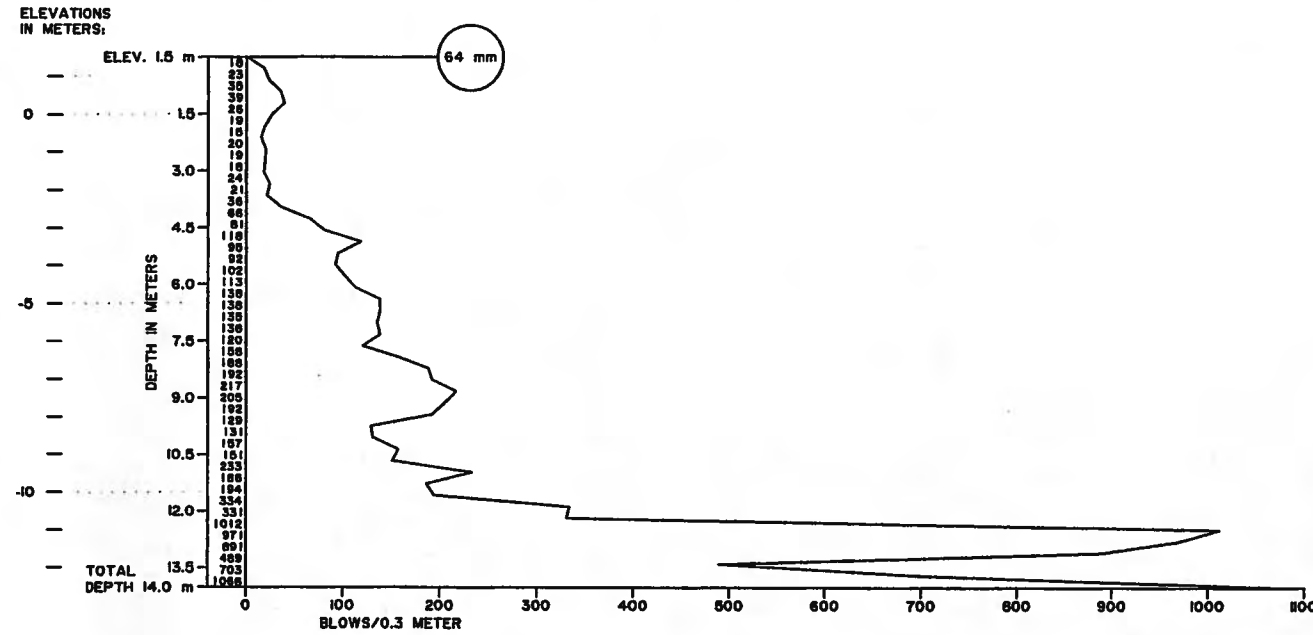
NOTE: SOIL CLASSIFICATIONS ARE VISUAL ONLY UNLESS AASHTO SOIL CLASS IS SHOWN ON THE LOG.



State of Alaska
DEPARTMENT of TRANSPORTATION
and
PUBLIC FACILITIES

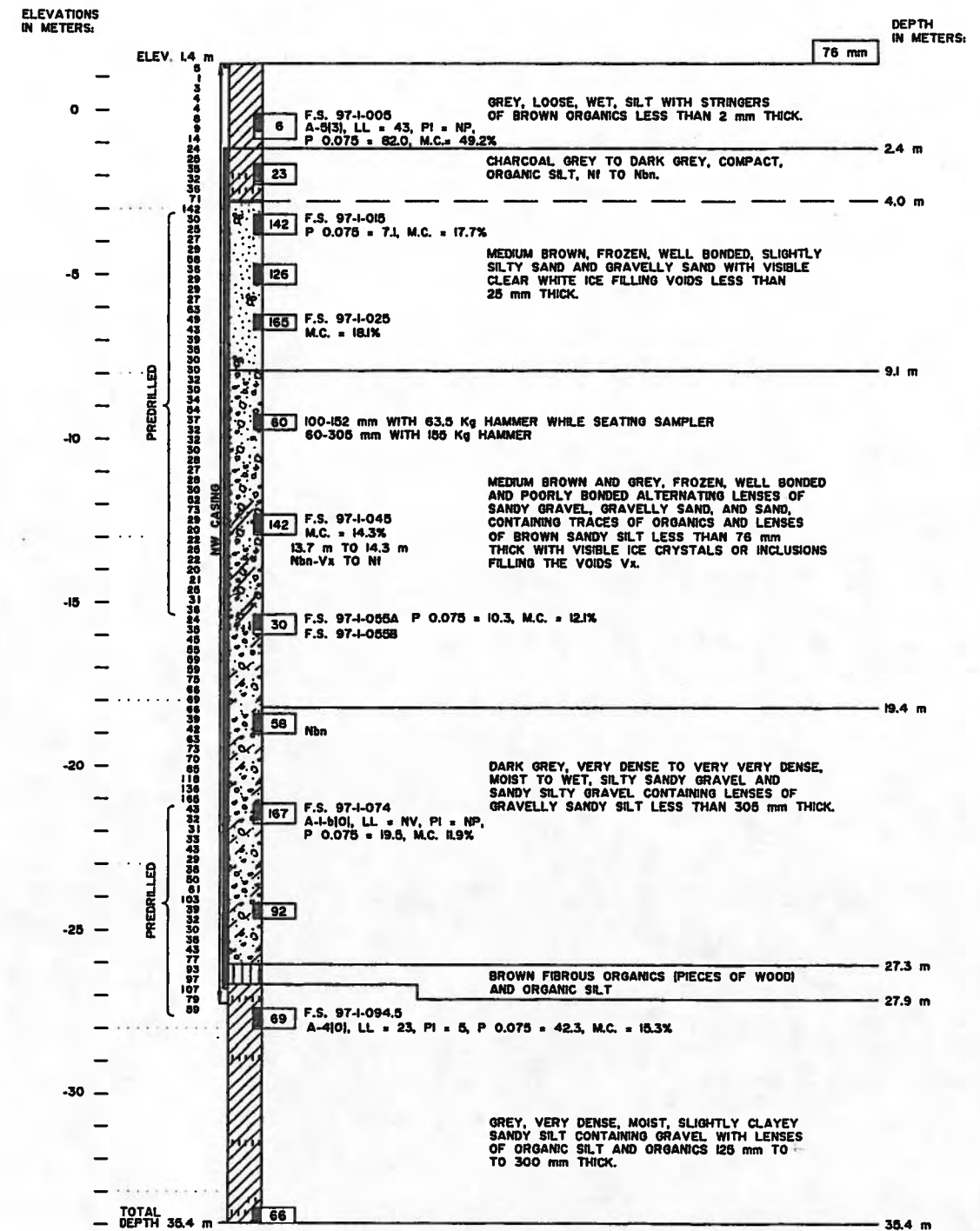
Bridge No: 1308
Drawing No: 1 OF 7

PENETROMETER 98-5
 STA. I-202, 5 m LT.
 4/15/98



NOTE:
 1. PENETROMETER ROD PULLOUT BREAK FORCE FROM 14.0 m IMMEDIATELY AFTER DRIVING STOPPED WAS 75,474 NEWTONS.
 2. PROPOSED ABUTMENT I LOCATION.

TEST HOLE 97-1
 STA. I-202, 3 m RT.
 10/15/97-10/18/97



NOTES:
 1. INSTALLED 25 mm DIAMETER PVC PIPE TO 35.4 m DEPTH AND FILLED WITH PROPYLENE GLYCOL ANTIFREEZE IN ORDER TO MONITOR SUBSURFACE TEMPERATURES.
 2. NW CASING PULLOUT BREAK FORCE FROM 28.9 m WAS 69,184 NEWTONS.
 3. SEE THERMISTOR READINGS AND TEMPERATURE DATA IN APPENDIX E OF THE 1998 FOUNDATION REPORT.

BASIC MATERIALS SYMBOLS

	Organic		Silt
	Cobbles/Boulders		Clay
	Gravel		Bedrock
	Sand		

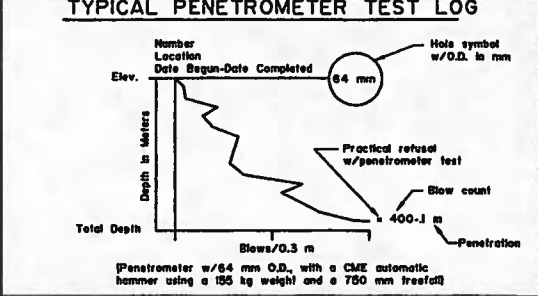
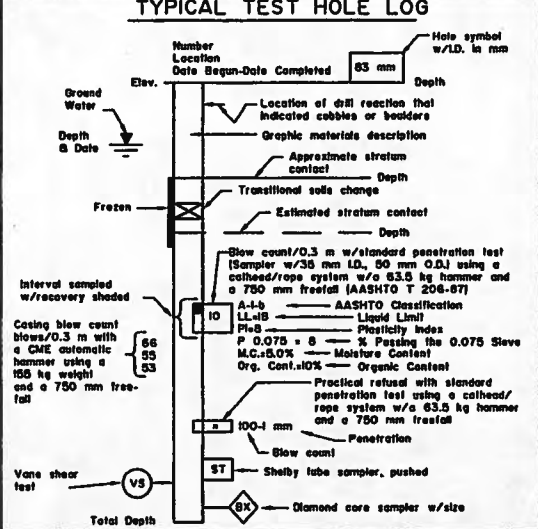
NOTE: SIGNIFICANT SOIL MIXTURES ARE SHOWN BY COMBINING SOIL SYMBOLS.

TYPICAL TEST HOLE SYMBOLS

Plan View	Location of any hole	Section View	Rotary	Auger	Diamond Core

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

GRANULAR		COHESIVE	
Blows/0.3 m	Rel. Density	Blows/0.3 m	Consistency
0-5	Very Loose	2	Very Soft
6-10	Loose	2-4	Soft
11-20	Firm	5-8	Medium
21-35	Compact	9-15	Stiff
36-50	Dense	16-30	Very Stiff
51-70	Very Dense	31-60	Hard
71+	V. Very Dense	61+	Very Hard

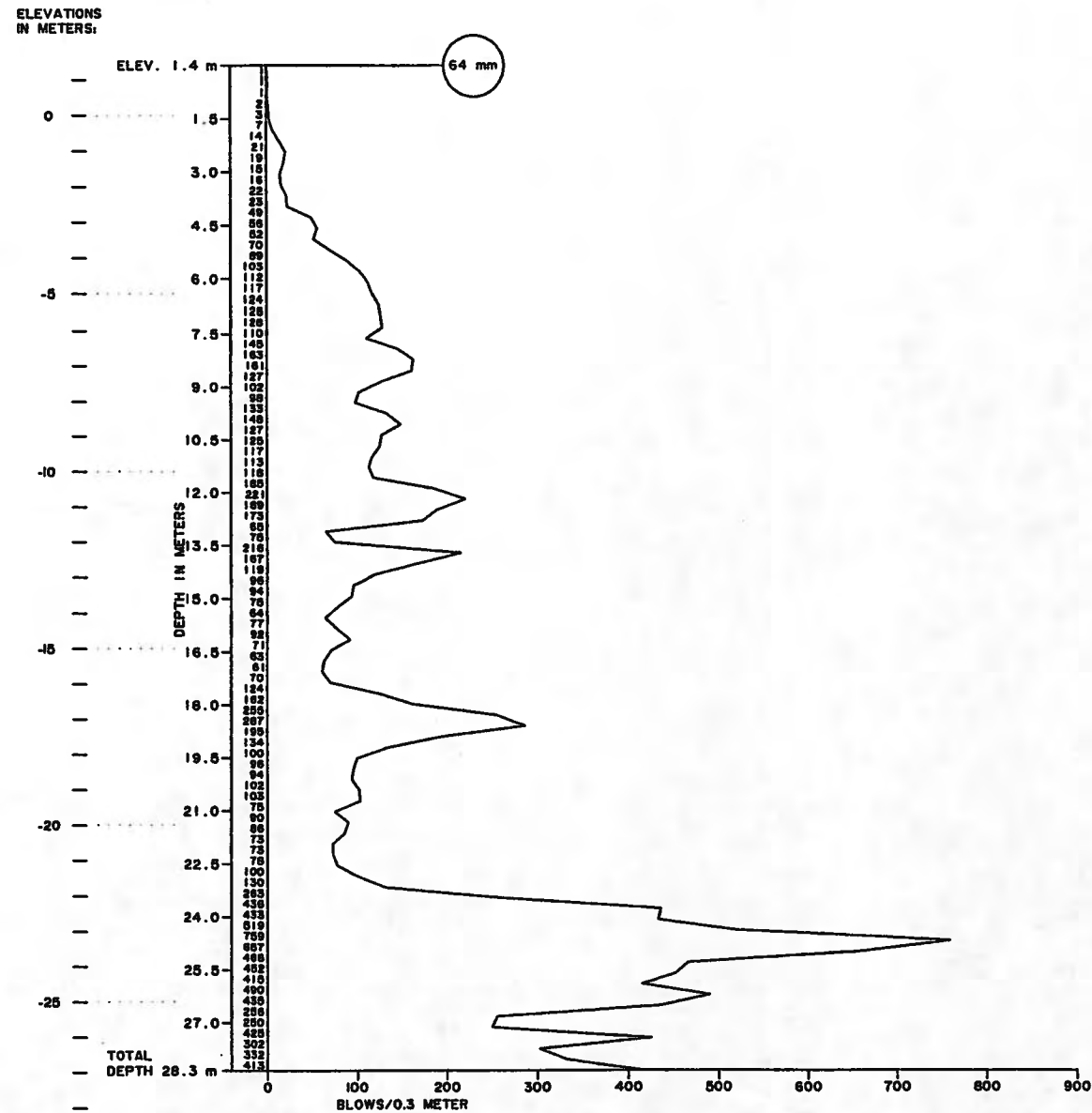


TEST HOLE LOGS AND LOCATIONS
 KOUWEGOK SLOUGH BRIDGE
 UNALAKLEET
 ABUTMENT I



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002[47]	1998	34	38

PENETROMETER 97-1
 STA. 1+202, 13 m RT.
 10/14/97-10/15/97



- NOTES:
- 64 mm SEASONAL FROST.
 - PULLOUT BREAK FORCE IMMEDIATELY AFTER DRIVING STOPPED AT 7.5 m WAS 18,868 NEWTONS AND AT 24.4 m WAS 75,474 NEWTONS.
 - PULLED PENETROMETER ROD BACK FROM 24.4 m TO 24.1 m AND LEFT OVERNIGHT IN GROUND AT 24.1 m. PENETROMETER ROD DRIVETIP LOOKED NEW AFTER PULLING, NOT EVEN NICKED.
 - UNABLE TO PULL PENETROMETER ROD AT 24.1 m WITH CME 850 TWIN FEED CYLINDERS; +14,783 NEWTONS AFTER BEING IN THE GROUND OVERNIGHT FOR 15 HOURS.
 - DROVE PENETROMETER ROD 24.4 m TO 26.8 m 10:15 AM TO 12:00 NOON
 - PULLOUT BREAK FORCE AT 26.9 m WAS 78,618 NEWTONS.
 - DROVE PENETROMETER ROD 26.8 m TO 28.3 m 12:45 PM TO 1:35 PM
 - UNABLE TO PULL PENETROMETER ROD AT 28.3 m WITH CME 850 TWIN FEED CYLINDERS; +14,783 NEWTONS.
 - HAMMERED PENETROMETER ROD BACK FROM 28.3 m TO 28.1 m STILL UNABLE TO PULL WITH CME 850 TWIN CYLINDERS.
 - PULLOUT FORCE AT 27.4 m WAS 14,783 NEWTONS.
 - HOLE STAYED OPEN TO 1.4 m WHEN ROD PULLED.

BASIC MATERIALS SYMBOLS

	Organic		Silt
	Cobbles/Boulders		Clay
	Gravel		Bedrock
	Sand		

NOTE: SIGNIFICANT SOIL MIXTURES ARE SHOWN BY COMBINING SOIL SYMBOLS.

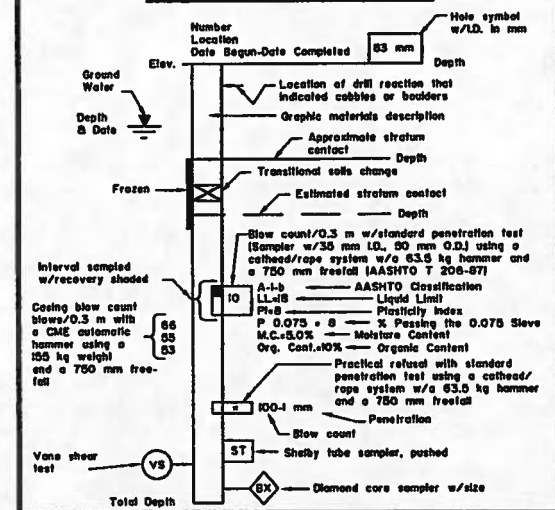
TYPICAL TEST HOLE SYMBOLS

	Location of any hole
	Rotary
	Auger
	Diamond Core

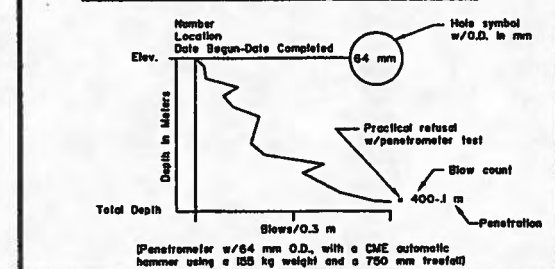
RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

GRANULAR		COHESIVE	
Blows/0.3 m	Rel. Density	Blows/0.3 m	Consistency
0-5	Very Loose	2	Very Soft
6-10	Loose	2-4	Soft
11-20	Firm	5-8	Medium
21-30	Compact	9-16	SHH
31-60	Dense	16-30	Very SHH
61-70	Very Dense	31-60	Hard
71+	V. Very Dense	61+	Very Hard

TYPICAL TEST HOLE LOG



TYPICAL PENETROMETER TEST LOG



TEST HOLE LOGS AND LOCATIONS
 KOUWEGOK SLOUGH BRIDGE
 UNALAKLEET

ABUTMENT I

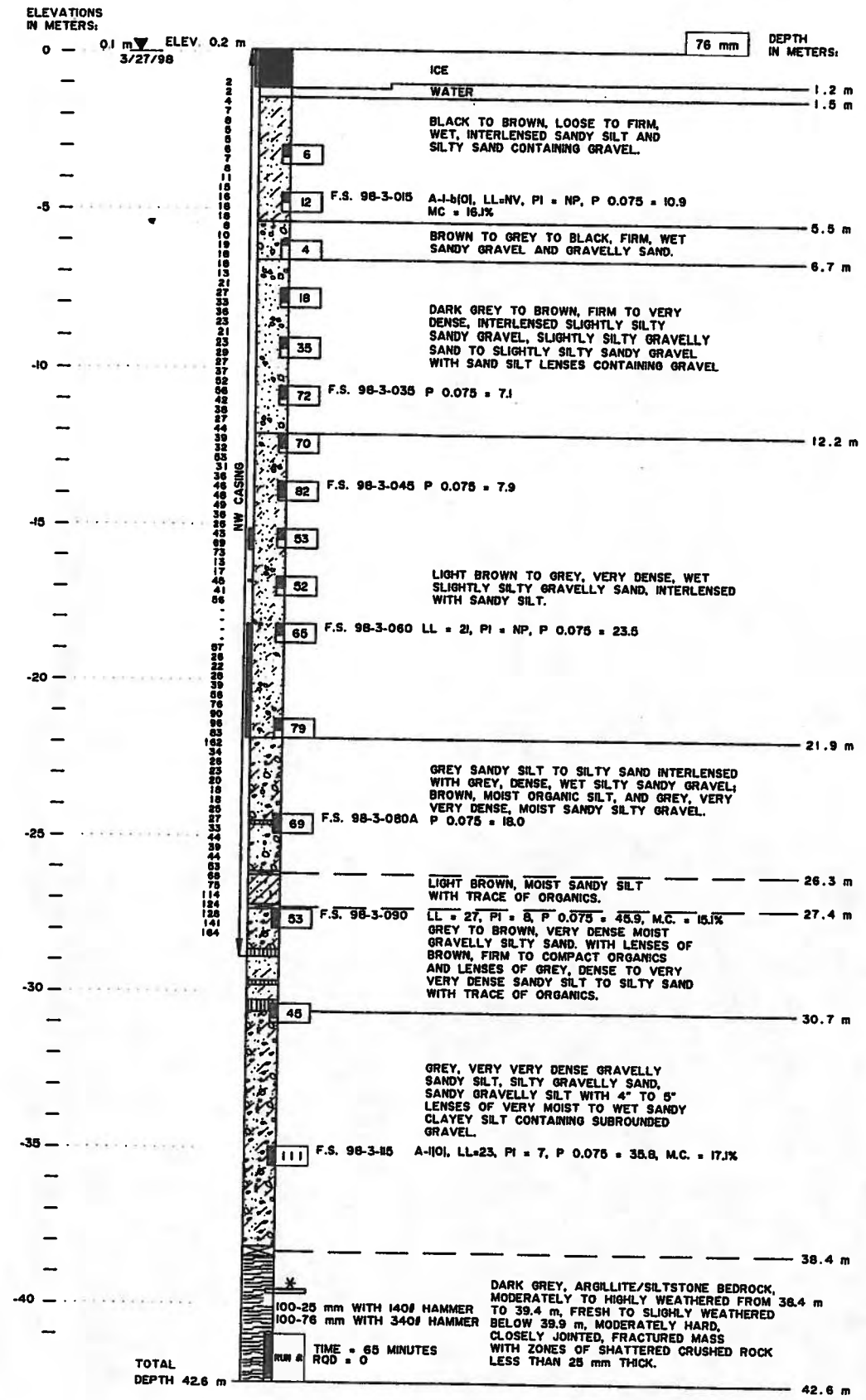
State of Alaska
 DEPARTMENT OF TRANSPORTATION
 and
 PUBLIC FACILITIES

Bridge No: 1308
 Drawing No: 3 OF 7

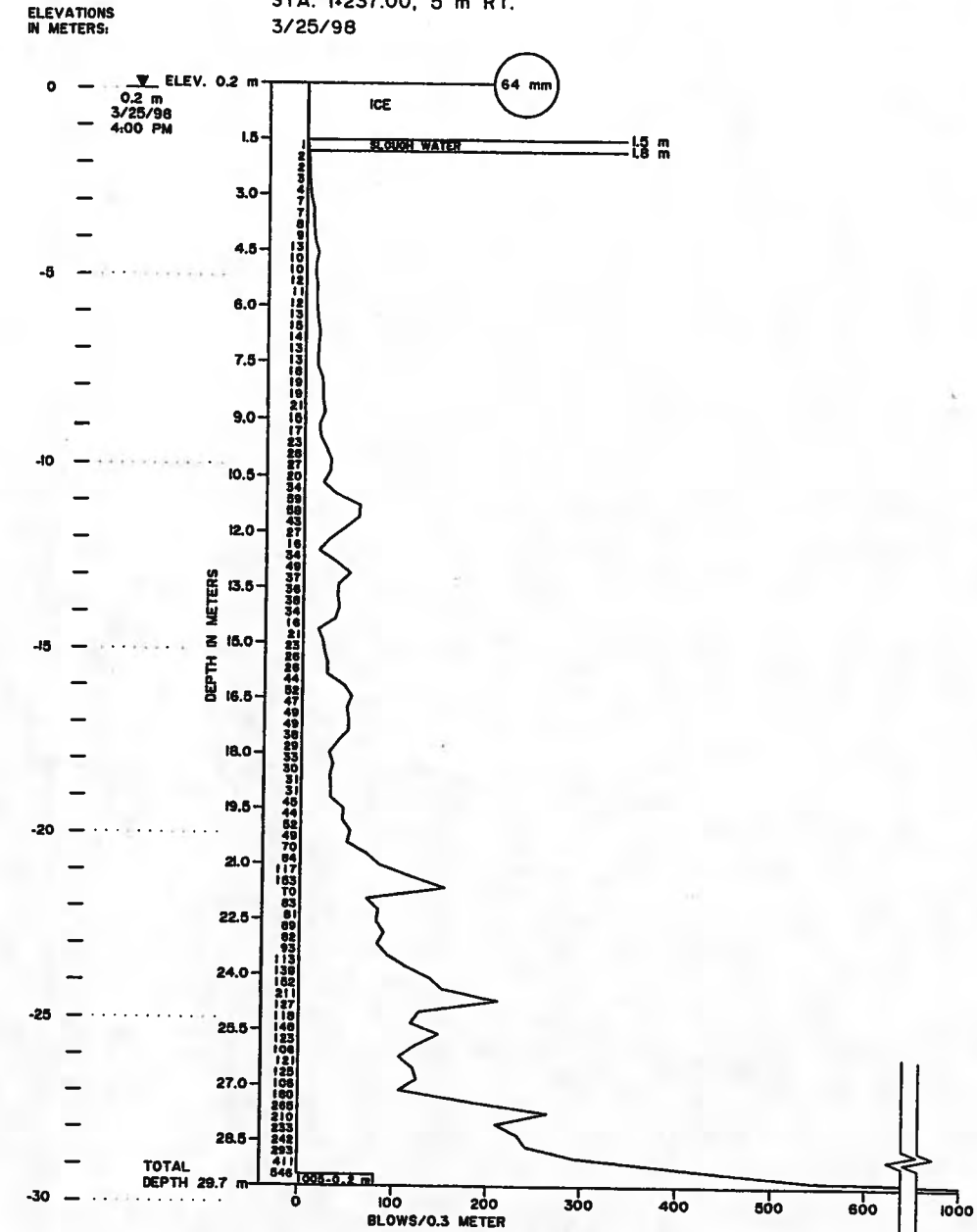


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)	1998	35	38

TEST HOLE 98-3
 STA. 1+237.00, 5 m LT.
 3/27/98-4/14/98



PENETROMETER 98-3
 STA. 1+237.00, 5 m RT.
 3/25/98



- NOTES:
- PENETROMETER ROD PULLOUT BREAK FORCE FROM 29.7 m WAS 170,263 NEWTONS IMMEDIATELY AFTER DRIVING STOPPED.
 - UNABLE TO TURN PENETROMETER ROD IN GROUND BELOW 18.8 m DEPTH.

BASIC MATERIALS SYMBOLS

	Organic		Silt
	Cobbles/Boulders		Clay
	Gravel		Bedrock
	Sand		

NOTE: SIGNIFICANT SOIL MIXTURES ARE SHOWN BY COMBINING SOIL SYMBOLS.

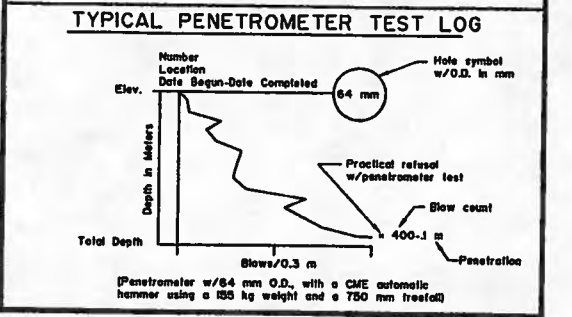
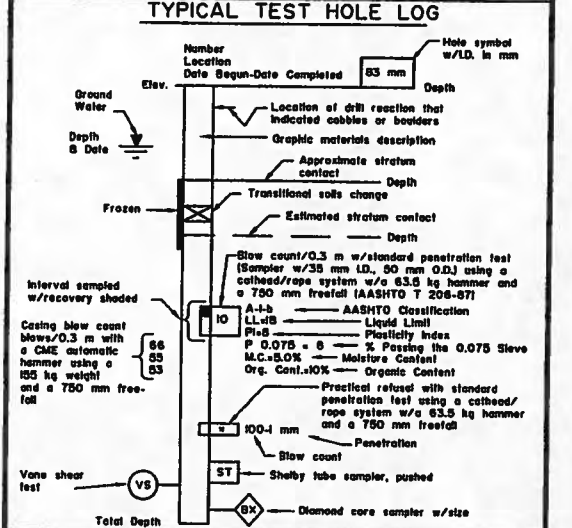
TYPICAL TEST HOLE SYMBOLS

Plan View: Location of any hole

Section View: Rotary, Auger, Diamond Core

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION
 Based on Standard Penetration Test

Blows/0.3 m	RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION		
	GRANULAR	COHESIVE	
0-5	Very Loose	2	Very Soft
6-10	Loose	2-4	Soft
11-20	Firm	5-8	Medium
21-30	Compact	9-15	Stiff
31-50	Dense	16-30	Very Stiff
51-70	Very Dense	31-60	Hard
71+	V. Very Dense	61+	Very Hard



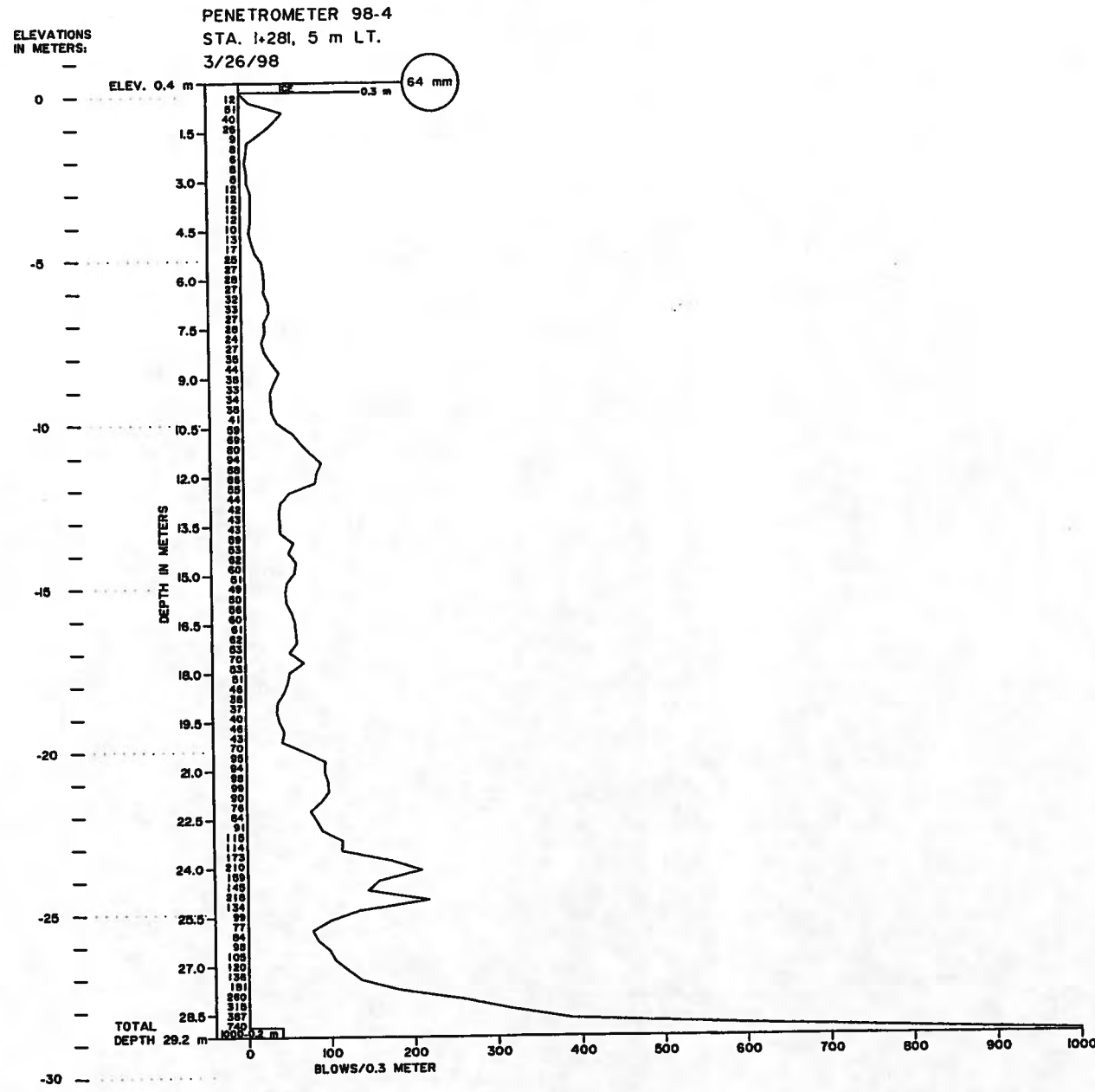
TEST HOLE LOGS AND LOCATIONS
 KOUWEGOK SLOUGH BRIDGE
 UNALAKLEET
 PIER 2

State of Alaska
 DEPARTMENT of TRANSPORTATION
 and
 PUBLIC FACILITIES

Bridge No: 1308
 Drawing No: 4 OF 7



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)	1998	38	38



- NOTES:**
- PENETROMETER ROD PULLOUT BREAK FORCE FROM 29.2 m WAS 157,186 NEWTONS IMMEDIATELY AFTER DRIVING STOPPED.
 - UNABLE TO TURN PENETROMETER ROD IN GROUND WITH A 0.9 m PIPE WRENCH BELOW 12.2 m DEPTH.

BASIC MATERIALS SYMBOLS

	Organic		Silt
	Cobbles/Boulders		Clay
	Gravel		Bedrock
	Sand		

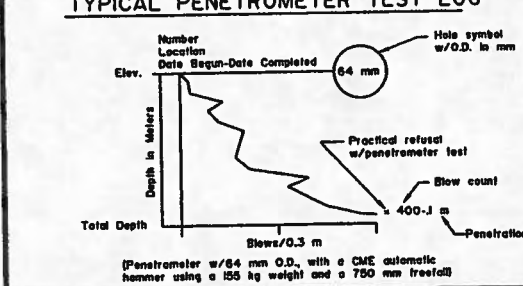
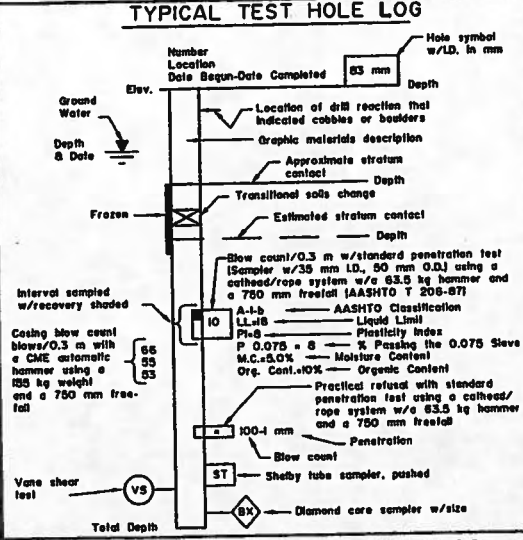
NOTE: SIGNIFICANT SOL MIXTURES ARE SHOWN BY COMBINING SOL SYMBOLS.

TYPICAL TEST HOLE SYMBOLS

Plan View		Section View	
	Location of any hole		Rotary
	Auger		Diamond Core

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION
Based on Standard Penetration Test

GRANULAR		COHESIVE	
Blows/0.3 m	Rel. Density	Blows/0.3 m	Consistency
0-5	Very Loose	2	Very Soft
6-10	Loose	2-4	Soft
11-20	Firm	5-8	Medium
21-30	Compact	9-15	Stiff
31-50	Dense	16-30	Very Stiff
51-70	Very Dense	31-60	Hard
71+	V. Very Dense	61+	Very Hard



**TEST HOLE LOGS AND LOCATIONS
KOUWEGOK SLOUGH BRIDGE
UNALAKLEET
PIER 3**

State of Alaska
DEPARTMENT of TRANSPORTATION
and
PUBLIC FACILITIES

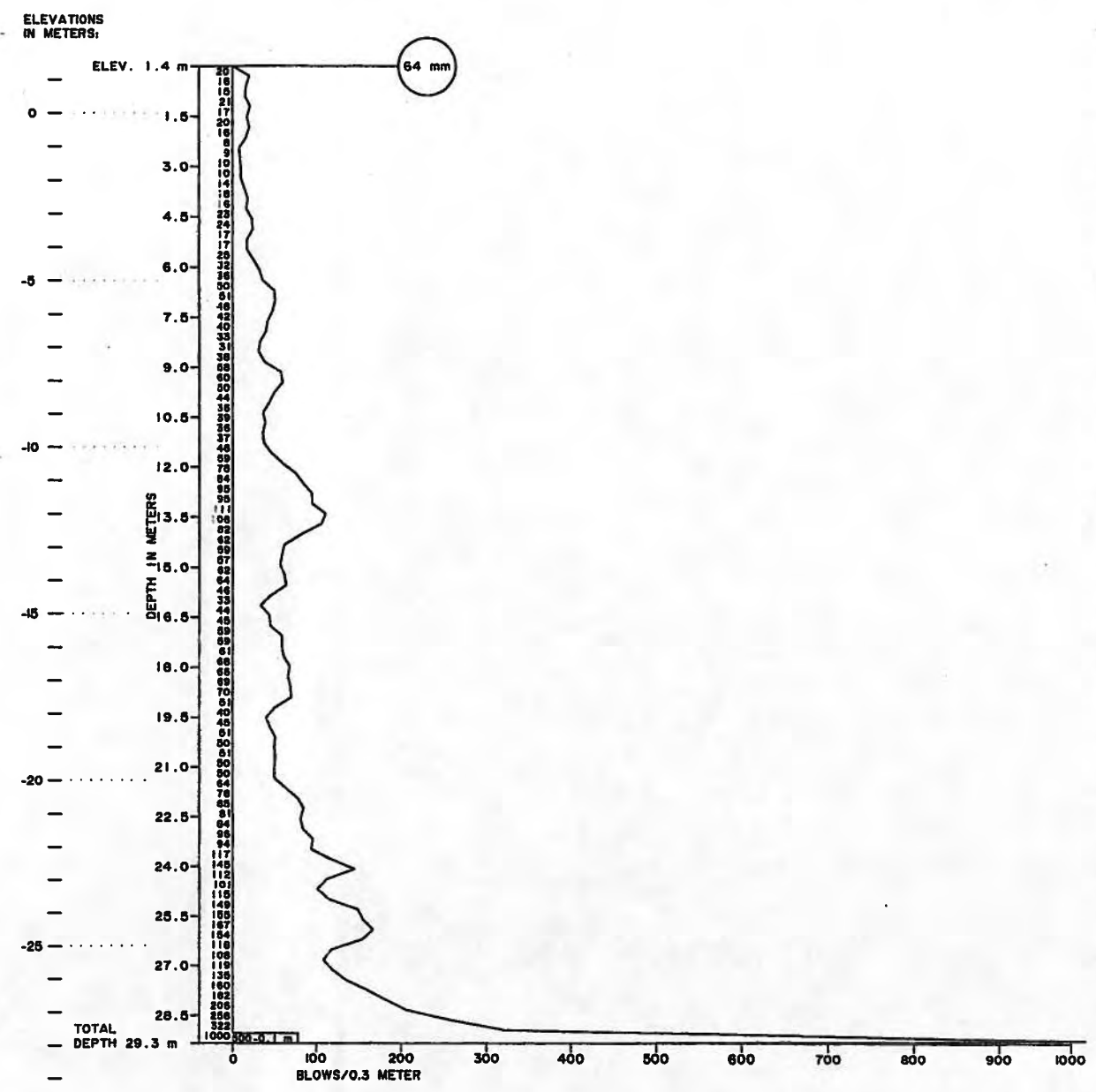
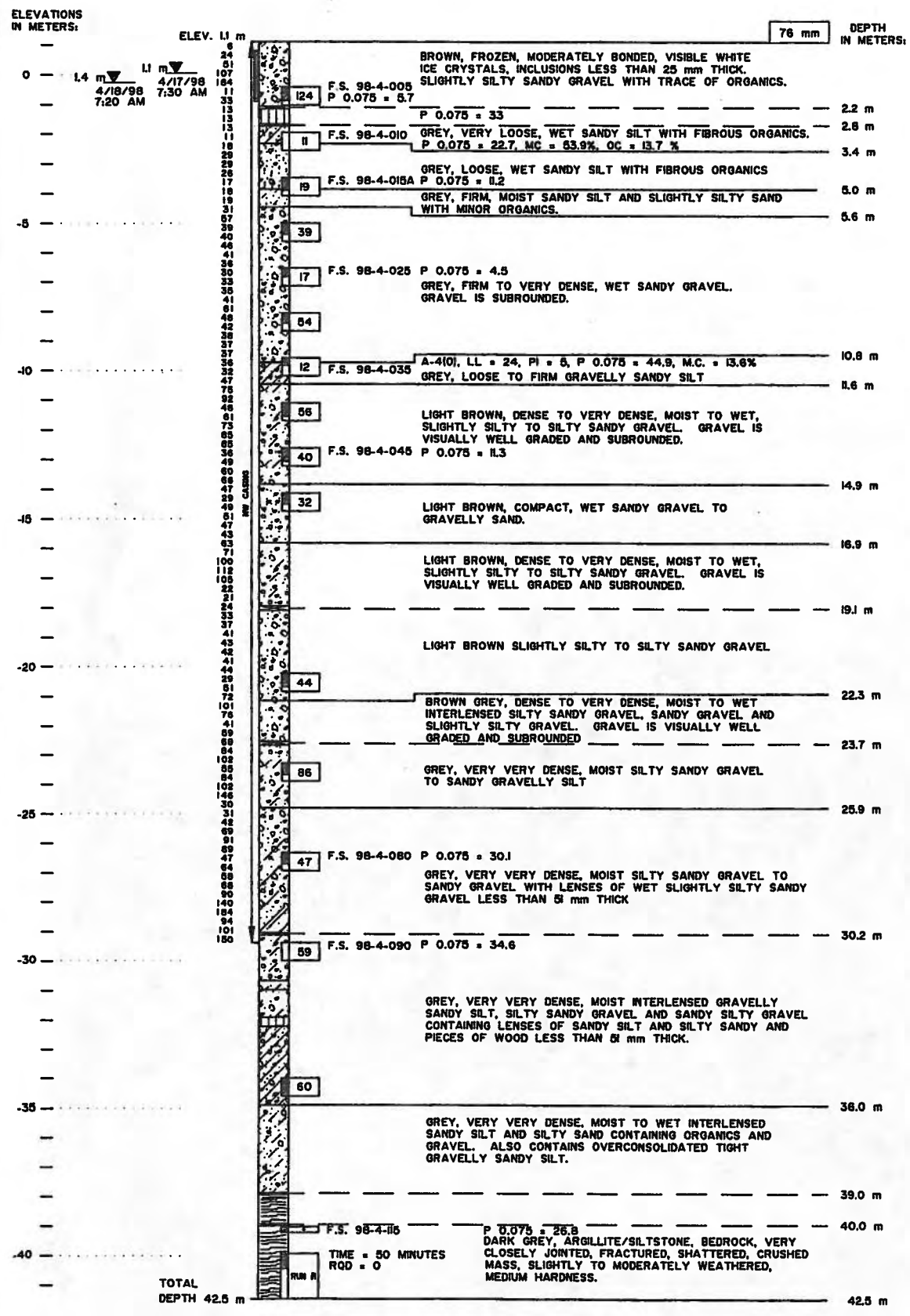


DRAWN BY: S. GARDNER, DATE: 6/7/98, SCALE: 1" = 100'

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)	1998	37	38

TEST HOLE 98-4
 STA. 1+281.00, 4.3 m LT.
 4/16/98-4/18/98

PENETROMETER 97-2
 STA. 1+315, 8 m RT.
 10/19/97



NOTES:
 1. PULLOUT FORCE AT 27.8 m WAS 23,210 NEWTONS.
 2. STOPPED AT 21.0 m FOR 60 MINUTES.

BASIC MATERIALS SYMBOLS

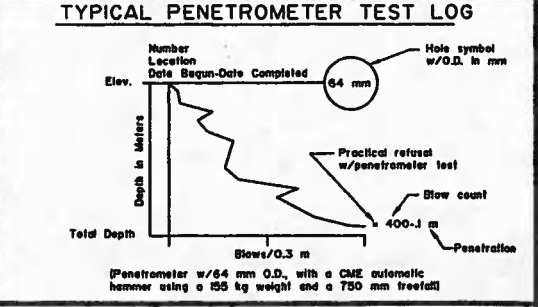
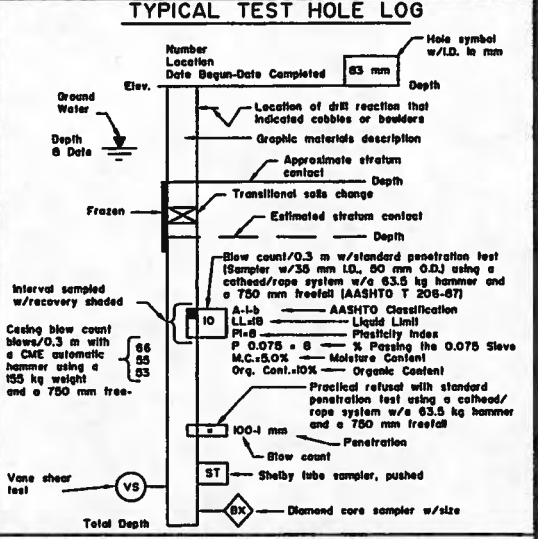
Organic	Silt
Cobbles/Boulders	Clay
Gravel	Bedrock
Sand	

NOTE: SIGNIFICANT SOIL MIXTURES ARE SHOWN BY COMBINING SOIL SYMBOLS.

TYPICAL TEST HOLE SYMBOLS

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION
 Based on Standard Penetration Test

Plan View Location of any hole	GRANULAR		COHESIVE	
	Blows/0.3 m	Rel. Density	Blows/0.3 m	Consistency
0-5	Very Loose	2	Very Soft	
6-10	Loose	2-4	Soft	
11-20	Firm	5-8	Medium	
21-35	Compact	9-15	Stiff	
36-50	Dense	16-30	Very Stiff	
51-70	Very Dense	31-60	Hard	
71+	V. Very Dense	61+	Very Hard	



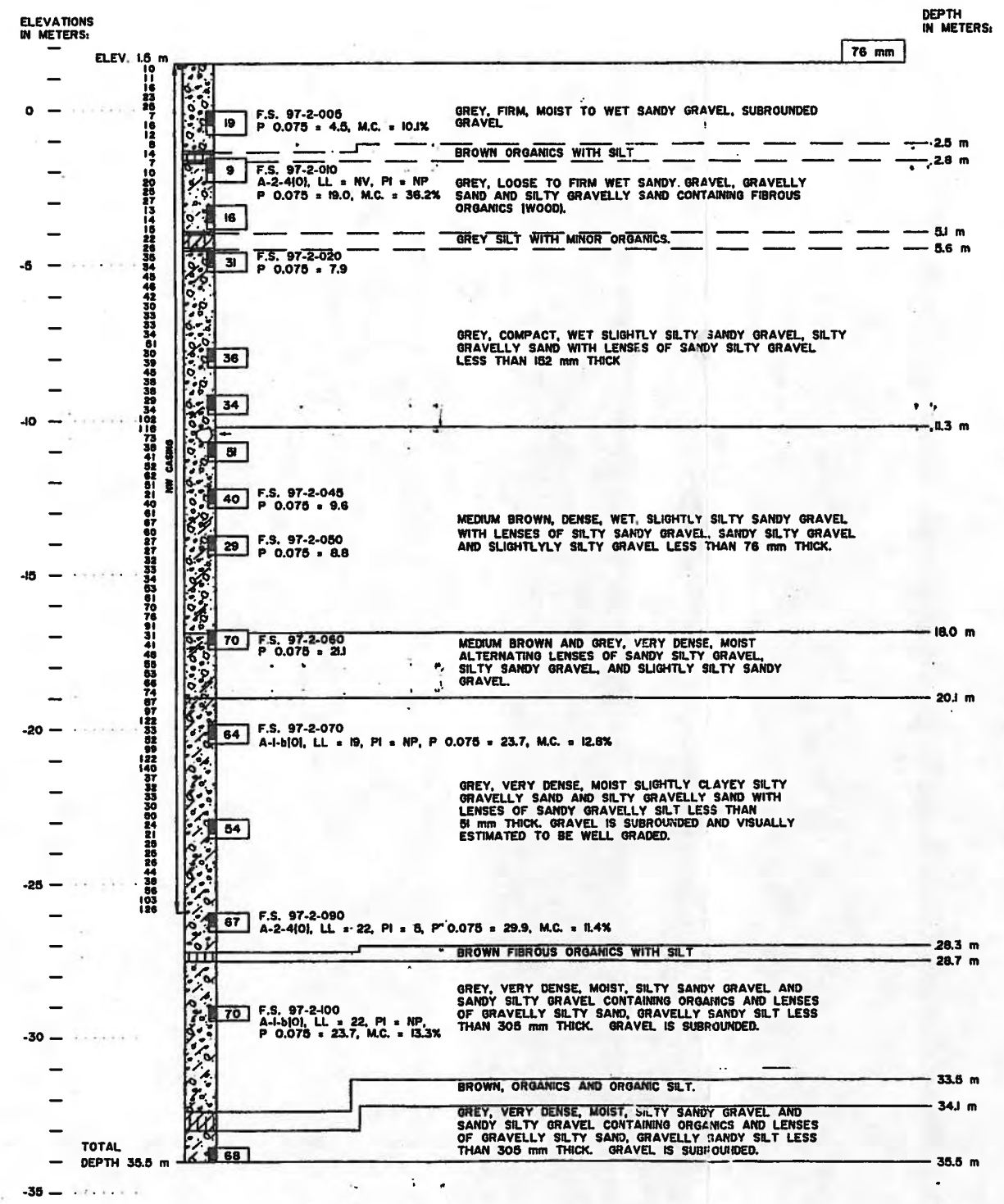
TEST HOLE LOGS AND LOCATIONS
 KOUWEGOK SLOUGH BRIDGE
 UNALAKLEET
 ABUTMENT 4

State of Alaska
 DEPARTMENT of TRANSPORTATION
 and
 PUBLIC FACILITIES



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0002(47)	1998	38	38

TEST HOLE 97-2
 STA. 1+315, 18 m RT.
 10/20/97-10/21/97



BASIC MATERIALS SYMBOLS

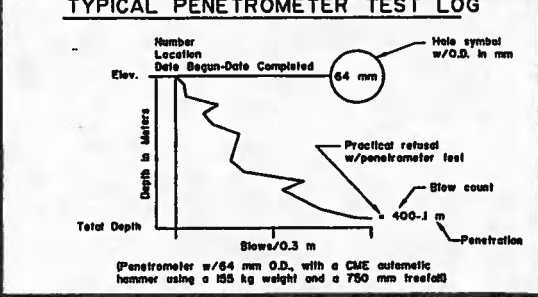
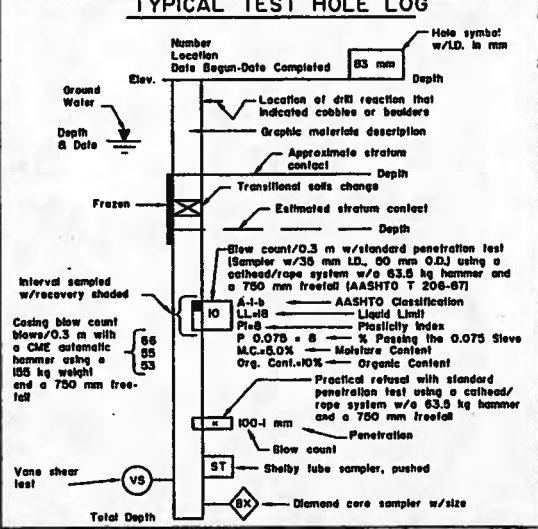
	Organic		Silt
	Cobbles/Boulders		Clay
	Gravel		Bedrock
	Sand		

NOTE: SIGNIFICANT SOIL MIXTURES ARE SHOWN BY COMBINING SOIL SYMBOLS.

TYPICAL TEST HOLE LOG

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION
 Based on Standard Penetration Test

Plan View Location of any hole	GRANULAR		COHESIVE	
	Blows/0.3 m	Rel. Density	Blows/0.3 m	Consistency
	0-5	Very Loose	2	Very Soft
	6-10	Loose	2-4	Soft
	11-20	Firm	5-8	Medium
	21-35	Compact	9-15	Stiff
	36-50	Dense	16-30	Very Stiff
	51-70	Very Dense	31-60	Hard
	71+	V. Very Dense	61+	Very Hard



TEST HOLE LOGS
 AND LOCATIONS
 KOUWEGOK SLOUGH BRIDGE
 UNALAKLEET
 ABUTMENT 4

State of Alaska
 DEPARTMENT OF TRANSPORTATION
 and
 PUBLIC FACILITIES

Bridge No: 1308
 Drawing No: 7 OF 7

