

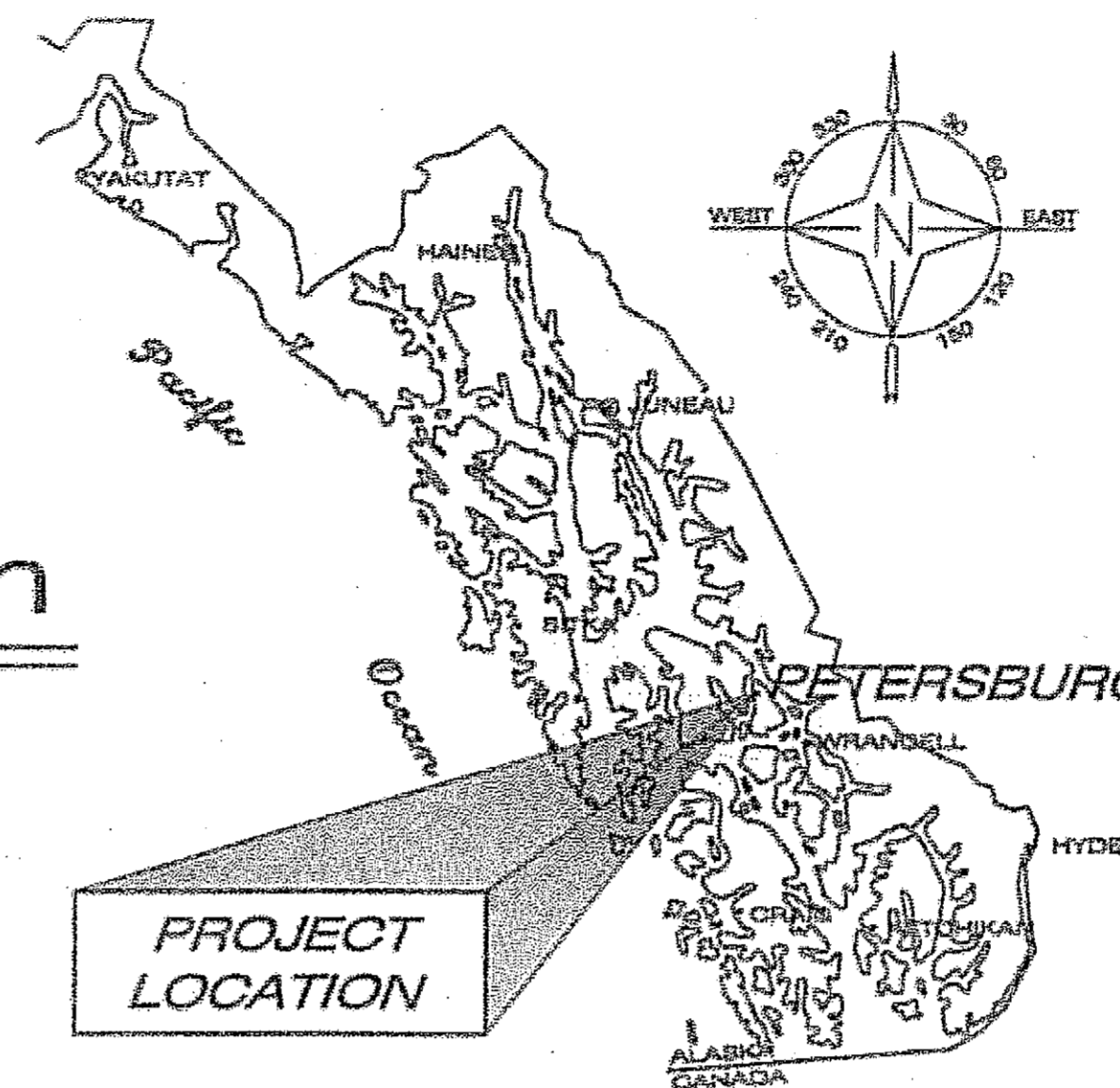
State of Alaska

Department of Transportation
and Public Facilities

Design and Engineering Services Division - SE Region

PETERSBURG, ALASKA

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I) MGS-0937(33)-69225

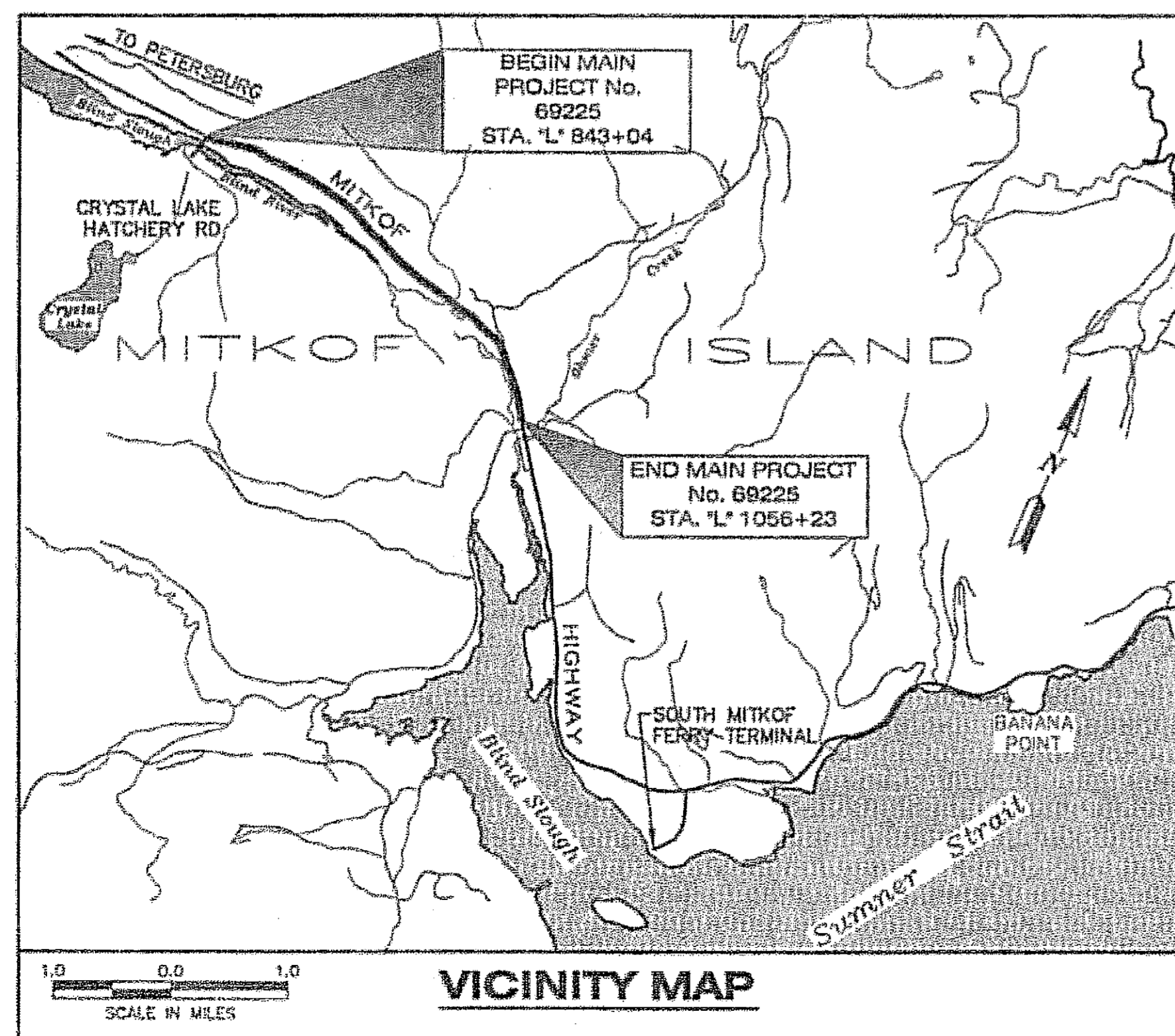


As-Built Plans

CONTRACTOR	Rock-N-Road Construction
PROJECT ENGINEER	Kraig Norheim
BEGIN DATE	Feb. 6, 2007
END DATE	SEPT 14, 2007
TOTAL CONTRACT AMOUNT	\$1,439,140.15

CRYSTAL LAKE HATCHERY ROAD TO OHMER CREEK BRIDGE

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
PE *Kraig Norheim* Date 2-12-08



HIGHWAY RESURFACING

DESIGN DESIGNATIONS		PROJECT SUMMARY	
ITEM	STATIONS	2006	2026
A.D.T.		240	290
D.H.V. 12.7%		30	40
V. (MPH)	B.O.P. 843+04 TO E.O.P. 1056+23	50	50
P.H.F.		0.9	0.9
Direction Distribute		55/45	55/45
%T.		3.0%	3.0%
E.A.L. (20yr.)			50,000

CDS ROUTE NO. 294,000
CDS MILEPOINT 16.237 to 20.164
LENGTH OF PROJECT - 20,736 FT.

LENGTH OF GRADING - 20,736 FT.
WIDTH OF GRADING 29 FT.

THE FOLLOWING STANDARD DRAWINGS APPLY TO THESE PROJECTS:

- | | | |
|---------|----------|---------|
| A-1 | E-13.00 | S-05.01 |
| C-04.12 | G-04.06S | S-30.03 |
| D-04.21 | G-04.07W | |
| D-06.10 | I-81.00 | |
| E-00.00 | S-00.10 | |

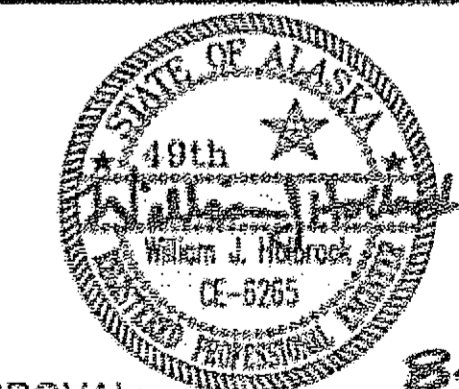
INDEX

SHEET NO.	DESCRIPTION
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B1	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES & BASIS OF ESTIMATE
D1-D2	CULVERTS & DITCHES WORK SUMMARIES
D3	MISCELLANEOUS SUMMARIES
D4	SIGN SUMMARY
E1-E3	CULVERT DETAILS
E4	CULVERT & EMBANKMENT CONSTRUCTION WORK PLANS
E5	FISH BAFFLE DETAILS
E6-E8	FISH CULVERT PLANS & PROFILES
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R1	USFS QUARRY DEVELOPMENT PLAN

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Fri, 01/Sep/06 11:53AM wnhickok

PLOT: PSPACE OR MSPACE: 1=1(F)

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES DIVISION - SE REGION



RECOMMENDED FOR APPROVAL: *Jack D. Beedle* 8-31-06
 JACK D. BEEDLE, P.E. 9/1/06
 REGIONAL PRE-CONSTRUCTION ENGINEER DATE
 APPROVED: *Malcolm A. Menzies* 9.1.06
 for DIRECTOR, SOUTHEAST REGION DATE
 MALCOLM A. MENZIES, P.E.
 CERTIFIED TRUE & CORRECT AS-BUILT OF ACTUAL FIELD CONDITION:
 CONSTRUCTION PROJECT MANAGER DATE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	MGS-0937(33)-69225	2006	A1	26

TAB: B1

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE
TYPICAL SECTIONS

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN

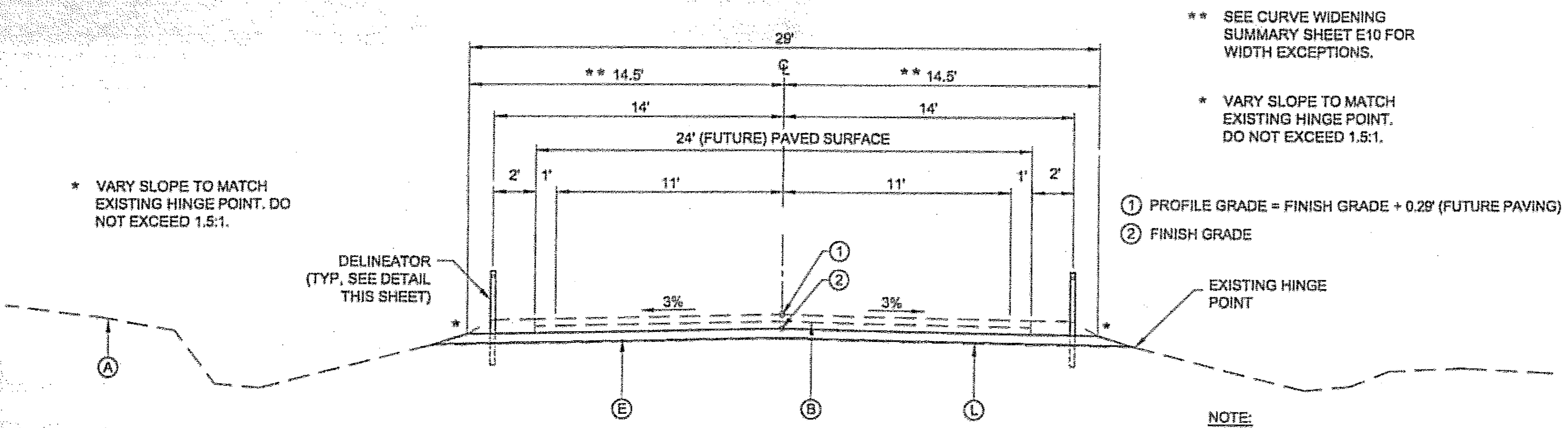
DRAWN BY: B. BENNETT / R. GRANTHAM

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE
 (PHASE I)
 PROJECT NO. 69225
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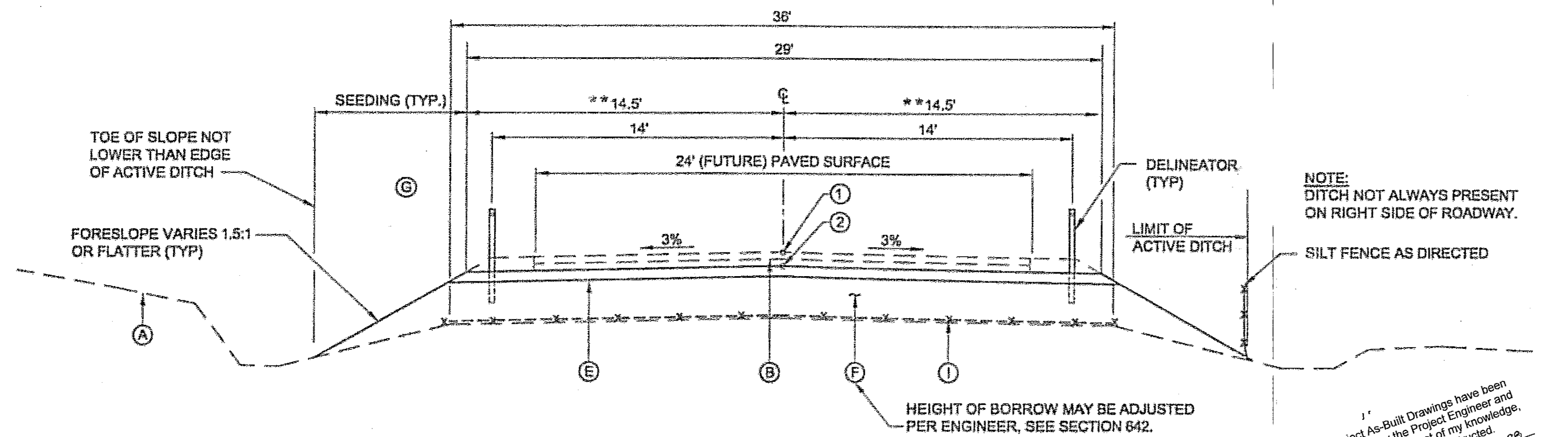
TYPICAL SECTIONS

PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

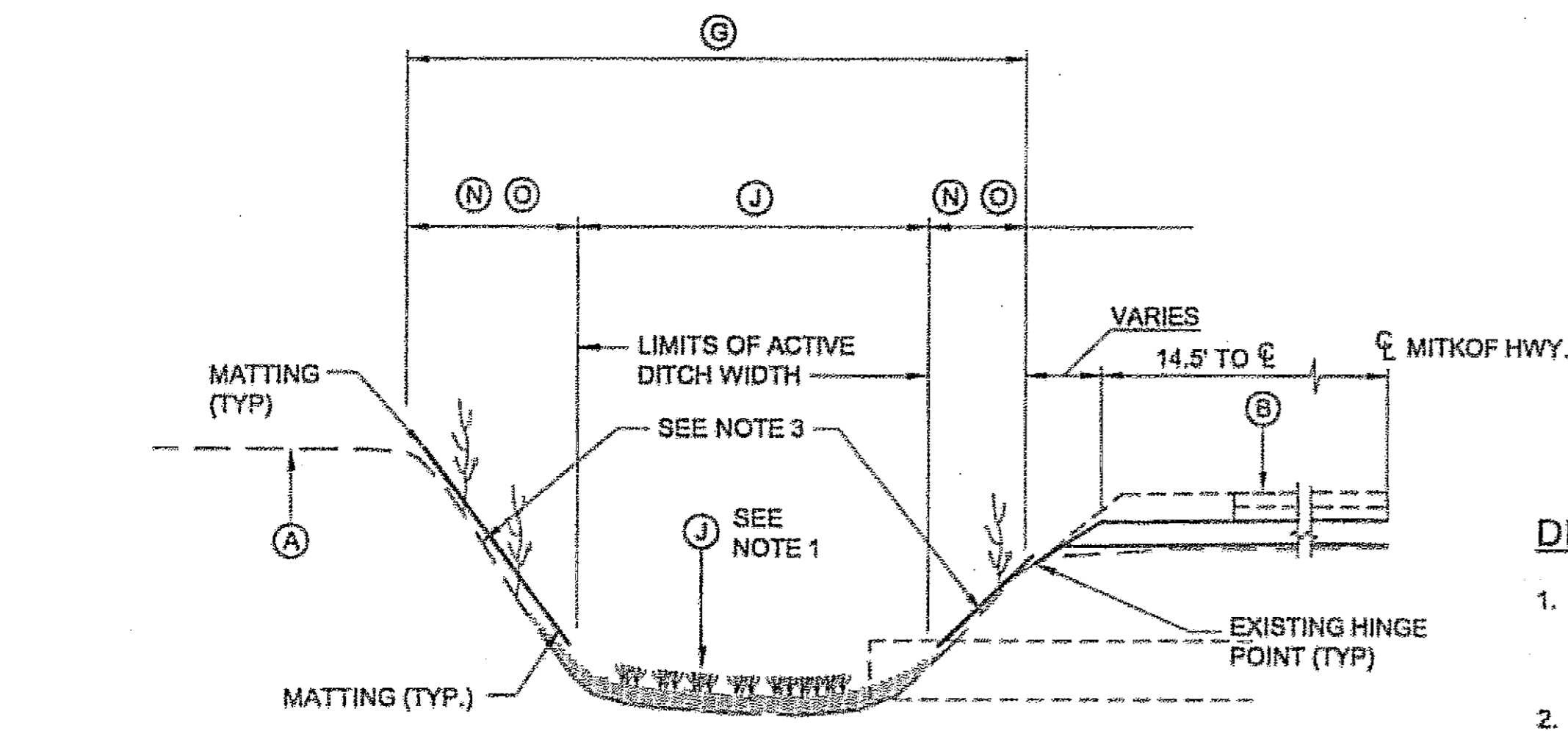
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
B1	26



TYPICAL SECTION A - STANDARD ROADWAY
 B.O.P. STA. 843+04 TO 889+00
 STA. 980+00 TO E.O.P 1056+23



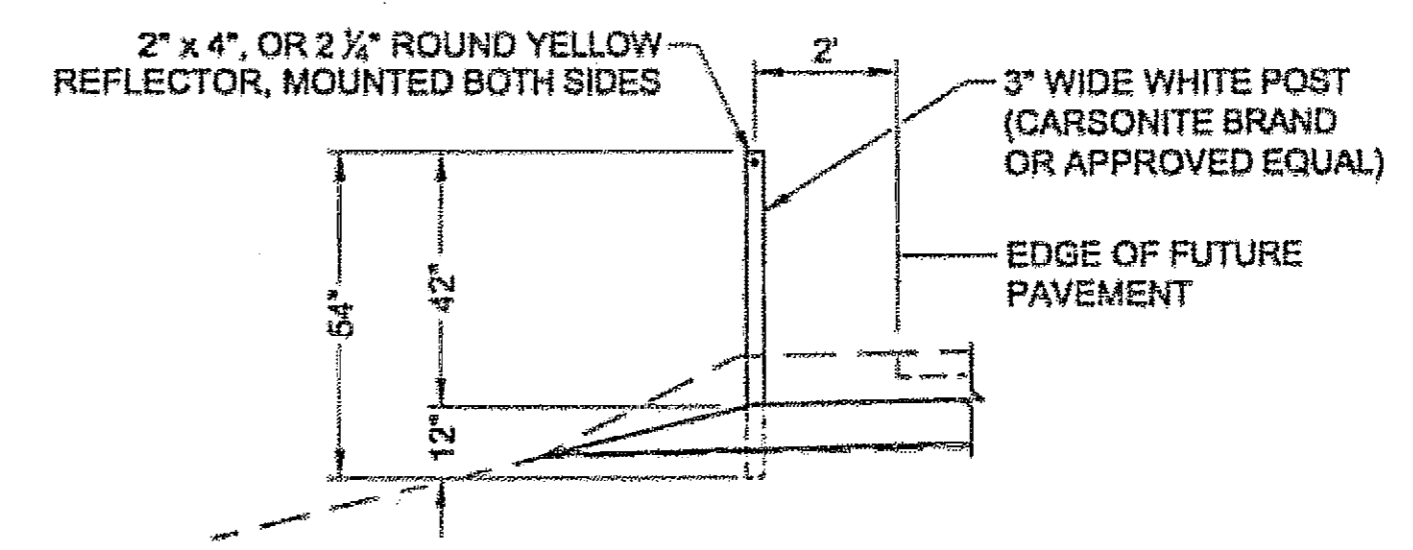
TYPICAL SECTION B - RAISED ROADWAY
 STA. 895+00 TO 974+00



DETAIL DITCH RECONDITIONING
 (SEE TABLE ON SHEET D3 FOR LOCATIONS)

DITCH RECONDITIONING NOTES:

1. REMOVE ORGANICS, MUD, SAND, GRAVEL AND WOODY DEBRIS TO LIMITS OF ACTIVE DITCH WIDTH. REESTABLISH EXISTING DITCH GRADE.
2. SEEDING SHALL OCCUR IN AREAS WHERE VEGETATIVE MAT HAS BEEN DISTURBED. SEEDING IN DISTURBED DITCHES SHALL TAKE PLACE DURING DRY WEATHER CONDITIONS.
3. CLEARING AND MATTING LOCATIONS PER TABLE D3 AND AS DIRECTED. MATTING INSTALLATION PER STND DWG E-00.00



DELINEATOR DETAIL
 NOTE:
 1. SEE SECTION 615-3.02 SPECIALS FOR SPACING

NOTES:
 TRANSITION FILL:
 600 FEET BETWEEN TYPICAL SECTION A & TYPICAL SECTION B, STA. 889+00 & 895+00
 600 FEET BETWEEN TYPICAL SECTION B AND TYPICAL SECTION A, STA. 974+00 & 980+00
 CARRY GEOTEXTILE SEPARATION FABRIC 300' MINIMUM INTO TRANSITIONS.

LEGEND:

(A)	EXISTING GROUND
(B)	FUTURE PAVING (N.I.C.)
(E)	4" SUBBASE GRADING "C" (ITEM 304(4))
(F)	18" BORROW (SELECT MATERIAL, TYPE "D") (ITEM 203(20))
(G)	SEEDING (ITEM 618(1))
(I)	GEOTEXTILE SEPARATION (ITEM 630(1))
(J)	DITCH RECONDITIONING- (ITEM 303(3))
(L)	RECONDITIONING (ITEM 303(1))
(N)	CLEARING (ITEM 201(1B))
(O)	MATTING (ITEM 619(2))

** SEE CURVE WIDENING SUMMARY SHEET E10 FOR WIDTH EXCEPTIONS.
 * VARY SLOPE TO MATCH EXISTING HINGE POINT. DO NOT EXCEED 1.5:1.

- ① PROFILE GRADE = FINISH GRADE + 0.28' (FUTURE PAVING)
- ② FINISH GRADE

NOTE:
 DITCH NOT ALWAYS PRESENT ON RIGHT SIDE OF ROADWAY.

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE: *[Signature]* Date: 2-12-08

ESTIMATE OF QUANTITIES

ITEM NO	PAY ITEM	PAY UNIT	QUANTITY
201(1B)	CLEARING	LUMP SUM	ALL REQUIRED
202(1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQUIRED
203(19)	DITCH BLOCK	EACH	40 3
203(20)	BORROW, TYPE D DELETED BY CO #1	LUMP SUM	ALL REQUIRED
303(1)	RECONDITIONING	STATION	122
303(3)	DITCH RECONDITIONING	STATION	23
304(4)	SUBBASE, GRADING "C"	LUMP SUM	ALL REQUIRED
603(1-18)	18-INCH CSP	LINEAR FOOT	48 8
603(1-30)	30-INCH CSP	LINEAR FOOT	5
603(9-48)	48-INCH CORRUGATED ALUMINUM PIPE	LINEAR FOOT	65 DELETED BY CO #1
603(11-48)	END SECTION FOR 48-INCH CORRUGATED ALUMINUM PIPE	EACH	1 DELETED BY CO #1
603(17-24)	24-INCH PIPE	LINEAR FOOT	2507 156.3
603(17-36)	36-INCH PIPE	LINEAR FOOT	184 185
603(17-42)	42-INCH PIPE	LINEAR FOOT	90
603(20-36)	END SECTION FOR 36-INCH PIPE	EACH	3
603(20-42)	END SECTION FOR 42-INCH PIPE	EACH	1
603(22)	CULVERT MARKER POST, FLEXIBLE	EACH	144
608(7)	RAISE EXISTING GUARDRAIL	LINEAR FOOT	175
611(1)	RIPRAP, CLASS I	CUBIC YARD	498 95.9
615(1)	STANDARD SIGN	SQUARE FOOT	132.08
615(5)	DELINEATOR, FLEXIBLE	EACH	336 386
618(1)	SEEDING	ACRE	4.2 5.2
619(2)	MATTING	SQUARE YARD	3756 1380.5
630 (1)	GEOTEXTILE, SEPARATION	SQUARE YARD	34000 30860
633 (1)	SILT FENCE	LINEAR FOOT	3000 1962.5
639(2)	COMMERCIAL DRIVEWAY	EACH	4
640(1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
640(4)	WORKERS MEALS AND LODGING OR PER DIEM	LUMP SUM	ALL REQUIRED
641(1)	EROSION AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED
641(3)	TEMPORARY EROSION AND POLLUTION CONTROL	LUMP SUM	ALL REQUIRED
641(4)	TEMPORARY EROSION AND POLLUTION CONTROL AMENDMENTS	CONTINGENT SUM	ALL REQUIRED
642(1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
642(3)	THREE PERSON SURVEY PARTY	HOURLY	50 0
643(2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
643(3)	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQUIRED
643(15)	FLAGGING	CONTINGENT SUM	ALL REQUIRED
643(23)	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
643(25)	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQUIRED
644(6)	VEHICLES	LUMP SUM	ALL REQUIRED
645(1)	TRAINING PROGRAM, 1- TRAINEE / APPRENTICE	LABOR HOUR	500 DELETED BY CO #1
203(20A)	Borrow, TYPE D created by CO #1	LUMP SUM	ALL REQUIRED

FISH CULVERT REPLACEMENT - ESTIMATE OF QUANTITIES

ITEM NO	PAY ITEM	PAY UNIT	QUANTITY	REMARKS
202(1)	REMOVAL OF STRUCTURES & OBSTRUCTIONS (CULVERT PIPE)	LUMP SUM (L.F.)	208	
203(19)	DITCH BLOCKS	EACH	5	0 DITCH BLOCKS & 5 TEMPORARY CHECK DAMS
	BEDDING	CUBIC YARD	35	
203(20)	BORROW TYPE "D"	CUBIC YARD	450	
304(4)	SUBBASE, GRADING "C"	CUBIC YARD	25	
603(9-48)	48-INCH CORRUGATED ALUMINUM PIPE	LINEAR FOOT	65	
603(11-48)	END SECTION FOR 48-INCH CORRUGATED ALUMINUM PIPE	EACH	1	
603(17-36)	36-INCH PIPE	LINEAR FOOT	60	
603(17-42)	42-INCH PIPE	LINEAR FOOT	90	
603(20-36)	END SECTION FOR 36 INCH PIPE	EACH	1	
603(20-42)	END SECTION FOR 42 INCH PIPE	EACH	1	
611(1)	RIPAP, CLASS I	CUBIC YARD	3	
618(1)	SEEDING	ACRE	0.1	
630(1)	GEOTEXTILE SEPARATION	SQUARE YARD	635	
633(1)	SILT FENCE	LINEAR FOOT	200	

NOTE: QUANTITIES SHOWN IN THIS SUMMARY TABLE ARE INCLUDED IN MAIN ESTIMATE OF QUANTITIES SUMMARY. THIS TABLE IDENTIFIES QUANTITIES ASSOCIATED WITH FISH ENHANCEMENTS FUNDING SOURCE.

Project As-Built Drawings have been reviewed by the Project Engineer and reviewed to the best of my knowledge, the project as constructed.
 PE *W. J. Mah* Date 2-12-00

BASIS OF ESTIMATE

ITEM	PAY ITEM	ESTIMATING FACTOR
201(1B)	CLEARING	0.8 ACRES
202(1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (CULVERT PIPE)	3201 LINEAR FOOT
203(19)	DITCH BLOCK	5 CUBIC YARDS/EACH-3 TOTAL
203(20)	BORROW, TYPE "D"	45,000 CUBIC YARD
	TEMPORARY CHECK DAMS	5 CUBIC YARDS/EACH-7 TOTAL
304(4)	SUBBASE, GRADING "C"	7,430 CUBIC YARD
630 (1)	GEOTEXTILE, SEPARATION	*8,700 L.F X 36 L.F. +9 = 34,800 S.Y.
		* OVERLAPS NOT COUNTED
203(20A)	Borrow, TYPE D	19,200 CUBIC YARDS

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Thu, 31/Aug/06 10:39AM wmbickok

TAB: C1

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

ESTIMATE OF QUANTITIES & BASIS OF ESTIMATE

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN

DRAWN BY: R. GRANTHAM

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD TO OHMER CREEK BRIDGE

ESTIMATE OF QUANTITIES & BASIS OF ESTIMATE
 PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
C1	26

CULVERT PIPE EXTENSION, REPAIR, OR REPLACEMENT, & FISH ENHANCEMENTS SUMMARY

PIPE STATION	EXIST PIPE SIZE (INCHES)	EXISTING PIPE MATERIAL	EXISTING SKEW ANGLE	PIPE LENGTH (FEET)	WATERS US STREAM	FISH STREAM	ACTION										REMARKS		
							REPLACE PIPE (INCHES)	EXTEND REPAIR PIPE (INCHES)	INSTALL INLET ARMOR	INSTALL OUTLET ROCK	ADD X (FEET) AT INLET	ADD X (FEET) AT OUTLET	REMOVE X (FEET) AT INLET	REMOVE X (FEET) AT OUTLET	ADD INLET END SECTION	REMOVE INLET END SECTION		REMOVE OUTLET END SECTION	
1	845+28	24	CMP	13	58.5				24	X	X	5'		5'					
2	848+14	36	CMP	28	86.5	X				X	X								
3	852+99	30	CMP	32	80.5	X				X	X	5'		5'					
4	857+80	48	CMP	8	66.8	X				X	X								
5	881+70	24	CMP	5	54.6	X					X			4'					
6	867+75	24	CMP	5	66.7	X								4'					
7	870+37	24	CMP	19	58.3	X								4'			X		
8	872+17	24	CMP	20	63.8	X								4'					
9	876+51	24	CMP		57.5	X								4'					
10	885+42	24	CMP		55.5	X						4'		4'					
11	893+14	84Wx81H	SPPA	11	65.2	X	X												FIX BENT PIPE AT OUTLET BY EXPANDING DENTED PIPE BACK TO OVAL SHAPE
12	899+40	24	CMP	6	52.1							4'		4'					
13	906+31	24	CMP	13	66.4							4'		4'					
14	908+37	18	CMP		56.5							24							
15	909+13	18	CMP		46.4							24							
16	911+48	18	CMP		48.5							24							
17	913+82	24	CMP		48.2							24							
18	914+85	18	CMP		48.4							24							
19	916+16	18	CMP	9	42.7							24							
20	917+82	18	CMP		59.3							24							
21	920+46	18	CMP	12	64.8							24							
22	923+24	24	CMP	0	50.1	X						24							
24	928+83	18	CMP		48.5							24							
25	927+96	24	CMP		52.7							24							SHORTEN PIPE
26	929+51	18	CMP	9	48.5	X						24							
27	931+97	18	CMP	5	60.2							24							SHORTEN PIPE
28	932+73	18	CMP		52.2							24							SHORTEN PIPE
29	935+41	18	CMP		50.5							24							
30	938+66	18	CMP		50.2							24							
31	938+72	24	CMP		52.8							24							SHORTEN PIPE
32	939+72	18	CMP		49.2							24							
33	940+54	18	CMP	7	53.1							24							
34	941+20	18	CMP	5	55.6							24							
35	942+49	18	CMP		49.8							24							
36	944+50	18	CMP		50.2							24							SHORTEN PIPE
37	945+56	18	CMP	4	50.1							24							
38	947+58	18	CMP		48.8							24							
39	950+94	18	CMP		52.6							24							
40	953+78	18	CMP		49.8							24							
41	958+44	18	CMP	5	64.7							24							
42	958+37	18	CMP	2	54.8							24							SHORTEN PIPE
43	961+19	18	CMP		50.8	X	X					24							SHORTEN PIPE
44	962+64	24	CMP	5	48.5	X	X					24							
45	965+33	18	CMP		48.4							24							
46	967+57	18	CMP		47.3							24							
47	969+83	18	CMP		50.6							24							
48	971+81	18	CMP		48.4							24							
49	974+82	18	CMP		44.5							24							
50	977+88	18	CMP	6	82.9							24							
51	980+21	24	CMP	34	80.6							24							
52	983+41	103Wx71H	SPPA		70.3	X	X												DO NOTHING
53	983+53	103Wx71H	SPPA		70.4	X	X												DO NOTHING
54	988+36	18	CMP	6	49							24							
55	990+54	18	CMP	4	50.7							24							
56	992+62	18	CMP		55.2							24							
57	994+46	18	CMP		67.5							24							
58	998+58	36Wx22H	CMPA	29	58.7	X	X					36							
59	1000+53	18	CMP	11	48.4							24							
60	1003+88	38Wx22H	CMPA		68.9	X						38							
61	1007+17	18	CMP		56.1							24							
62	1010+15	18	CMP		58							24							
63	1013+11	18	CMP		53.6							24							
63a	1014+27	24	HDPE	24	67.1							24							
64	1015+70	18	CMP		48.7							24							
65	1018+04	36Wx22H	CMPA	18	52.7							36							
66	1022+31	30	CMP	24	97	X	X												DO NOTHING
67	1023+50	18	CMP	17	79.1														DO NOTHING
68	1026+85	30	CMP	4	89.1	X	X												
69	1033+23	18	CMP	12	88.8									4'					
71	1037+40	18	CMP	22	53.3									4'					
72	1041+68	18	CMP	7	61.2									4'					
73	1043+69	24	CMP		57.1									4'					
74	1050+52	18	CMP	30	55.1														
75	1053+15	24	CMP		53.2														
84	1090+75	36	CMP	8	60.3	X	X					48							DO NOTHING SEE DETAIL SHEET E8

* NOTE: LENGTHS GIVEN ARE ALONG AXIS OF PIPE.

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
PE: *[Signature]* Date: 2-12-08

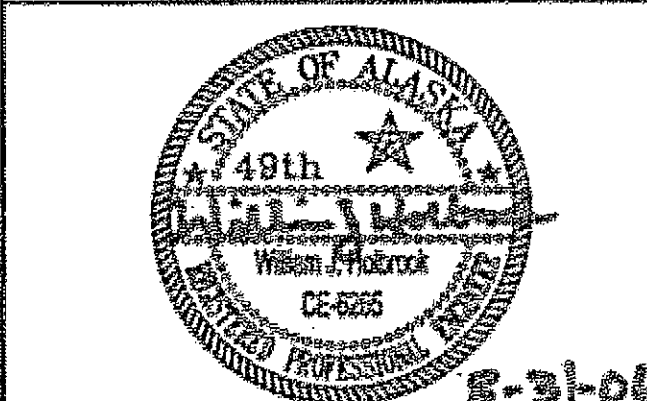
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Wed, 30/Aug/06 04:10PM wnhickak
TAB: D1

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PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
PROJECT NO. 69225
CRYSTAL LAKE HATCHERY ROAD
TO OHMER CREEK BRIDGE

**CULVERTS & DITCHES
WORK SUMMARY**

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN

DRAWN BY: R. GRANTHAM

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION -- SE REGION
PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
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**CULVERTS & DITCHES
WORK SUMMARY**

PROJECT DESIGNATION NUMBERS
MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
D1	26

NEW CULVERT MATERIAL SUMMARY

PIPE NO.	STATION	CULVERT SIZE						CULVERT MATERIAL
		18 INCH	24 INCH	30 INCH	36 INCH	42 INCH	48 INCH	
1	845+28		5					* CMP
2	848+14							
3	852+99			5				CMP
4	857+90							
5	861+70		4					CMP
6	867+75		4					CMP
7	870+37		4					CMP
8	872+17		4					CMP
9	876+51		4					CMP
10	885+42		4					CMP
11	893+14							
12	899+40		4					CMP
13	906+91		4					CMP
14	908+37		4					HDPE
15	909+13		4					HDPE
16	911+48		4					HDPE
17	913+92		4					HDPE
18	914+95		4					HDPE
19	916+16		4					HDPE
20	917+82		60					HDPE
21	920+46		60					HDPE
22	923+24		60					HDPE
24	926+83		50					HDPE
25	927+96		50					HDPE
26	929+51		50					HDPE
27	931+97		50					HDPE
28	932+73		50					HDPE
29	935+41		50					HDPE
30	936+66		50					HDPE
31	938+72		50					HDPE
32	939+72		50					HDPE
33	940+54		50					HDPE
34	941+20		50					HDPE
35	942+49		50					HDPE
36	944+50		50					HDPE
37	945+56		50					HDPE
38	947+58		50					HDPE
39	950+94		50					HDPE
40	953+76		50					HDPE
41	956+44		50					HDPE
42	958+37		50					HDPE
43	961+19		50					SEE SHT. E6
44	962+64		50					SEE SHT. E6
45	965+33		50					HDPE
46	967+57		50					HDPE
47	969+63		50					HDPE
48	971+81		50					HDPE
49	974+62		50					HDPE
50	977+88		50					HDPE
51	980+21		50					HDPE
52	983+41							
53	983+53							
54	988+36		50					HDPE
55	990+54		50					HDPE
56	992+62		50					HDPE
57	994+46		50					HDPE
58	998+58			60				SEE SHT. E7
59	1000+53		50					HDPE
60	1003+68				70			CC CMP
61	1007+17		50					HDPE
62	1010+15		50					HDPE
63	1013+11		50					HDPE
63a	1014+27		50					HDPE
64	1015+70		50					HDPE
65	1018+04				55			CC CMP
66	1022+31							
67	1023+50							
68	1026+65							SEE SHT. E7
69	1033+23	4				90		CMP
71	1037+40	4						CMP
72	1041+68	4						CMP
73	1043+69	4						CMP
74	1050+52	60						CMP
74.28A	1050+16	934+20	45					CMP
74	1050+75							SEE SHT. E8
Total 18 Inch Pipe=		4						
Total 24 Inch Pipe=								
Total 30 Inch Pipe=				5				
Total 36 Inch Pipe=					185			
Total 42 Inch Pipe=						90		
Total 48 Inch Pipe=							0	

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE *Henry J. Holbrook* Date 2-12-08

- * NOTE:
- 1.) ALL ORIGINAL CONSTRUCTION METAL PIPES ARE BITUMINOUS COATED.
 - 2.) REPAIR AND EXTENSION PIPE LENGTHS SHALL MATCH EXISTING PIPE IN MATERIAL AND COATING (EXCEPT AS NOTED IN THE SPECIALS)
 - 3.) FIELD VERIFY ALL EXISTING PIPES TO REMAIN.
 - 4.) ALL REPLACEMENT 24" PIPE SHALL BE HIGH DENSITY POLYETHYLENE PIPE (HDPE).
- CC=CONTRACTORS CHOICE

CULVERT REMOVAL SUMMARY

PIPE NO.	STATION	SIZE (INCHES)	REMOVAL LENGTH (FEET)	REMARKS
1	845+28	24	5	
3	852+99	30	5	
5	861+70	24	4	
6	867+75	24	4	
7	870+37	24	4	
8	872+17	24	4	
9	876+51	24	4	
10	885+42	24	4	
12	899+40	24	4	
13	906+91	24	4	
14	908+37	18	57	
15	909+13	18	46	
16	911+48	18	47	
17	913+92	24	48	
18	914+95	18	48	
19	916+16	18	43	
20	917+82	18	69	
21	920+46	18	65	
22	923+24	24	50	
24	926+83	18	49	
25	927+96	24	53	
26	929+51	18	49	
27	931+97	18	60	
28	932+73	18	52	
29	935+41	18	51	
30	936+66	18	50	
31	938+72	24	53	
32	939+72	18	49	
33	940+54	18	53	
34	941+20	18	56	
35	942+49	18	50	
36	944+50	18	50	
37	945+56	18	50	
38	947+58	18	47	
39	950+94	18	53	
40	953+76	18	50	
41	956+44	18	65	
42	958+37	18	55	
43	961+19	18	51	
44	962+64	24	49	
45	965+33	18	48	
46	967+57	18	47	
47	969+63	18	51	
48	971+81	18	48	
49	974+62	18	45	
50	977+88	18	63	
51	980+21	24	81	
54	988+36	18	49	
55	990+54	18	51	
56	992+62	18	55	
57	994+46	18	68	
58	998+58	36x22	59	
59	1000+53	18	48	
60	1003+68	36x22	89	
61	1007+17	18	56	
62	1010+15	18	58	
63	1013+11	18	54	
63a	1014+27	24	67	
64	1015+70	18	49	
65	1018+04	36x22	53	
68	1026+65	30	89	
69	1033+23	18	11	
71	1037+40	18	11	
72	1041+68	18	11	
73	1043+69	24	4	
74	1050+52	18	4	
94	1090+75	36	60	
TOTAL =			3201'	

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 ATTACHMENT NUMBER

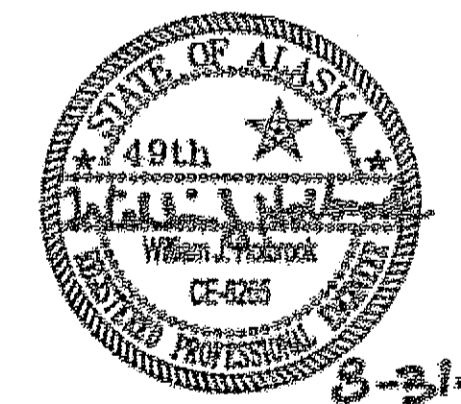
RECORD OF REVISIONS

No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

**CULVERTS & DITCHES
 WORK SUMMARY**

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN
 DRAWN BY: DR DODGE / R. GRANTHAM
 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE
 (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

**CULVERTS & DITCHES
 WORK SUMMARY**
 PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
D2	26

DITCH BLOCK SUMMARY				
PIPE	STATION	INLET	OUTLET	REMARKS
P-38	947+58	X		LOCATE AT SOUTHEAST SIDE OF CULVERT
P-41	958+44	X		LOCATE AT SOUTHEAST SIDE OF CULVERT
P-45	965+33	X		LOCATE AT SOUTHEAST SIDE OF CULVERT
TOTAL = 3 EACH				

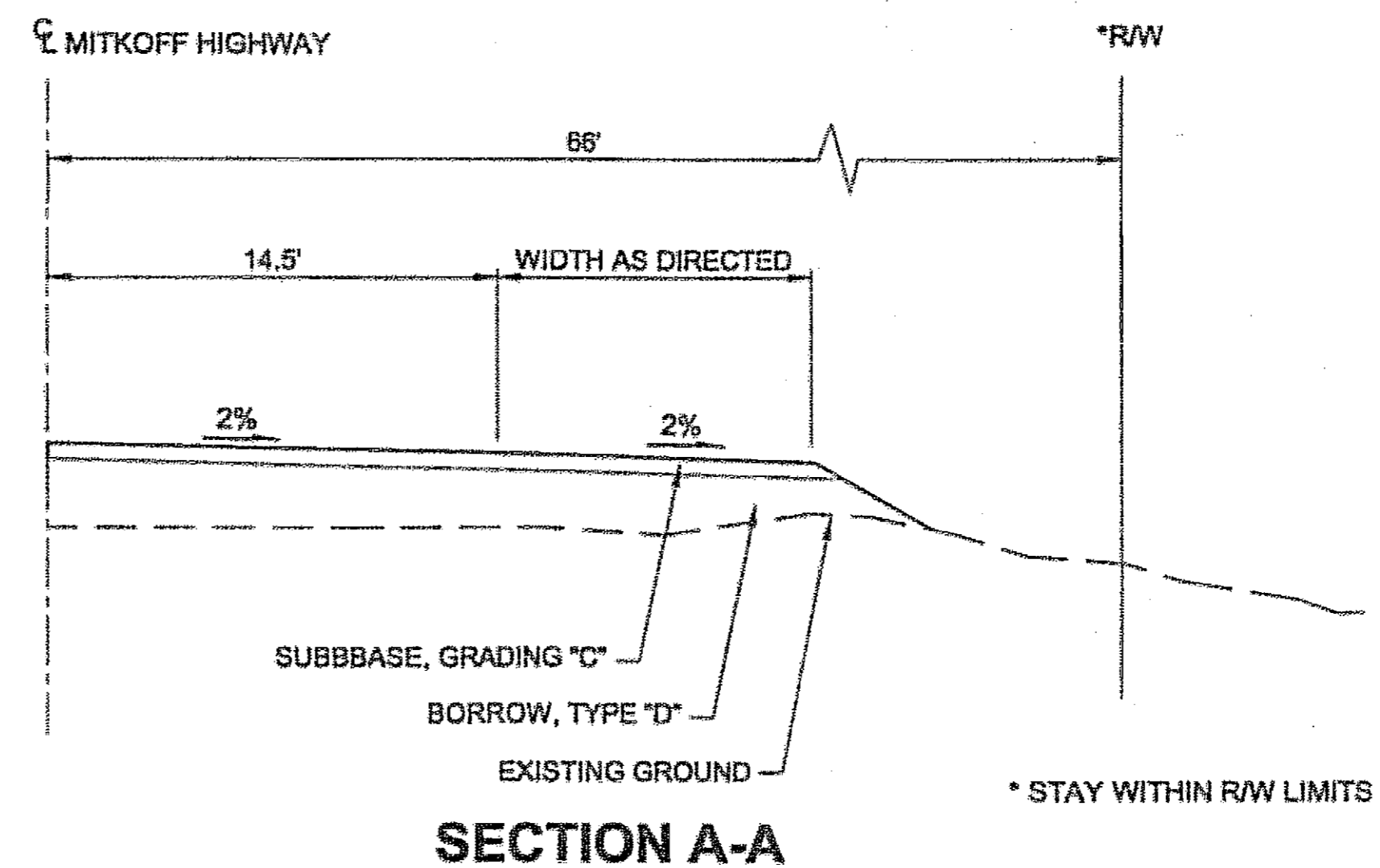
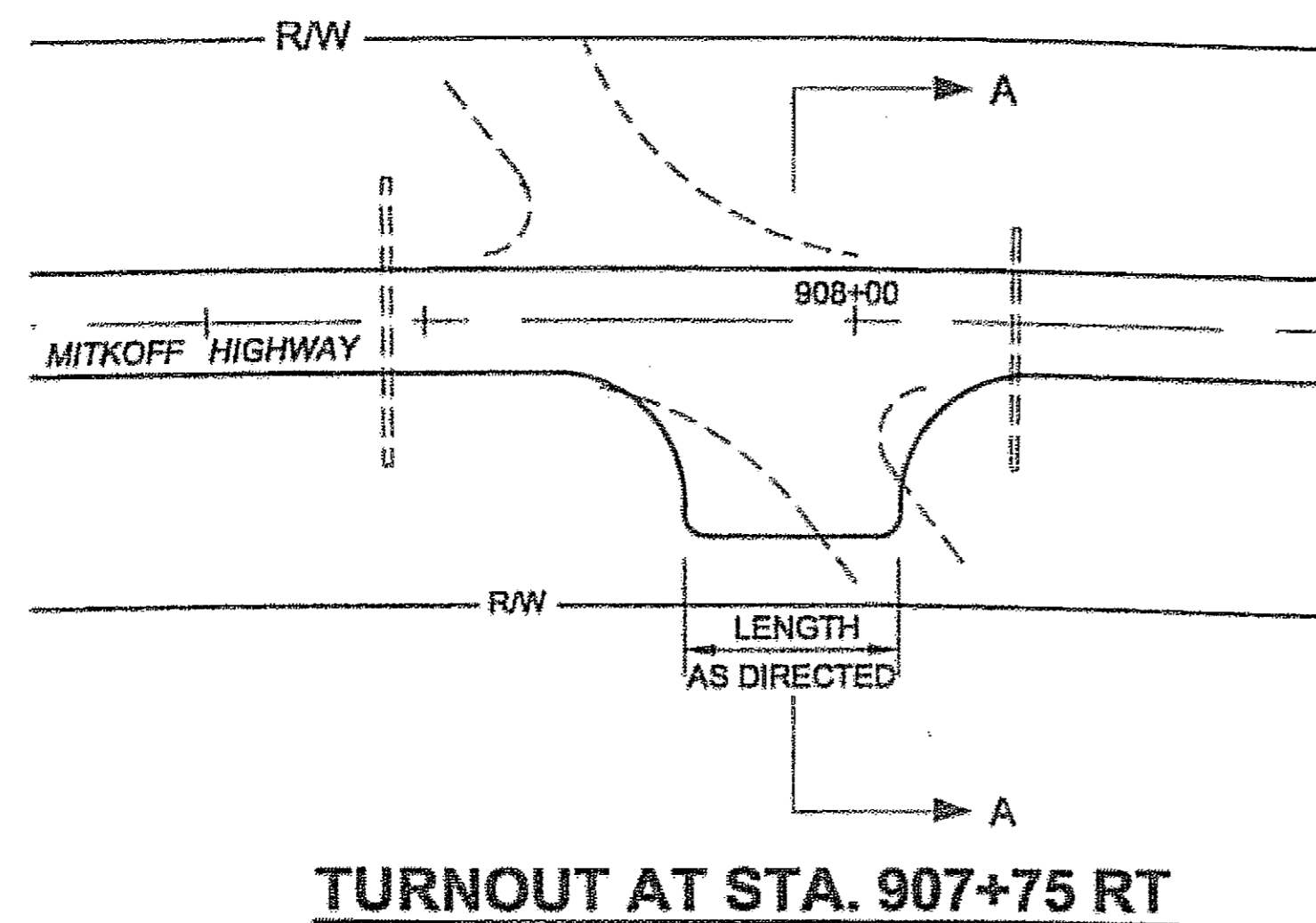
TEMPORARY CHECK DAM				
PIPE	STATION	INLET	OUTLET	REMARKS
P-11	893+00	X	X	3 TOTAL AT P-11
P-58	998+60	X		
P-68	1026+70	X	X	2 TOTAL AT P-68
P-94	1090+80	X		
TOTAL = 7 EACH				

DITCH RECONDITIONING SUMMARY						
FROM STATION	TO STATION	LEFT	RIGHT	LENGTH		TOTAL LENGTH
				LEFT	RIGHT	
907+50	915+00	X	-	750	-	750
934+50	943+75	X	-	925	-	925
949+25	955+00	X	-	575	-	575
TOTAL: 2,250 L. F.						

MATTING SUMMARY					
STATION TO	STATION	INLET DITCH	OUTLET DITCH	SUBTOTAL LENGTH (FT)	REMARKS
907+50	915+00	X		750	
934+50	943+75	X		925	
949+25	955+00	X		575	
TOTAL: 2,250 L.F. COVERAGE AREA = 2,250 x 15 / 9 = 3,750 S.Y.					

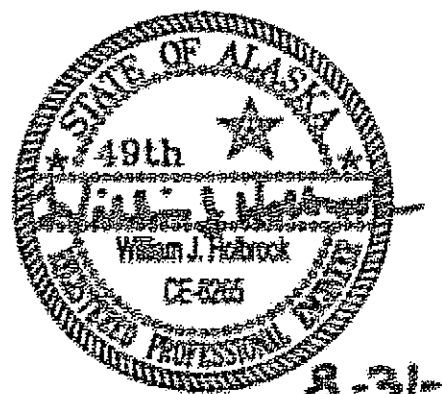
Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE *Harry J. Holbrook* Date 2-12-08

DRIVEWAY, ACCESS ROAD AND TURNOUT SUMMARY					
STATION	OFFSET		TYPE = C= COMMERCIAL T= TURNOUT A= ACCESS ROAD	REMARKS	
	LEFT	RIGHT			
907+75		X	T	CONSTRUCT AS DIRECTED, SEE DETAIL BELOW	
979+45 (Man Made Hole)		X	C		
1013+85 (3 Lakes Loop)	X		A	CONSTRUCT AS DIRECTED	
1052+50 (F.S. Rd. #6245)		X	A	CONSTRUCT AS DIRECTED	



PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE
**MISCELLANEOUS
 SUMMARIES**

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN

DRAWN BY: R. GRANTHAM

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE
 (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

**MISCELLANEOUS
 SUMMARIES**

PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
D3	26

Sign Summary - PSG 69225

SIGN NO.	"L" STATION	OFFSET		LEGEND	CODE NO. (ASDS)	WIDTH (INCHES)	HEIGHT (INCHES)	AREA (SQ FT)	NO. OF *POSTS	FACING TRAFFIC	REMARKS	
		LT	RT									
1	843+02		X	STOP	R1-1	30	30	6.25	1	NB		
2	843+02		X	MITKOF HIGHWAY	D3-1	48	8	2.667	1	NB	MOUNT ABOVE SIGN 1	
3	843+02		X	CRYSTAL LAKE RD	D3-1	48	8	2.667	1	WB	MOUNT ABOVE SIGN 1	
4	843+02	X		NO STUDDED TIRES	R12-103	90	84	52.5	2	WB	APRIL 15 TO OCT 1	
5	844+22		X	NO ROAD MAINTENANCE	R11-100	48	24	8	1	EB	AFTER NOV 1	
6a	844+98	X		WATCHABLE WILDLIFE SYMBOL	D7-RG-1000	24	24	4	1	WB		
6b	844+98	X		<=	D9-301	24	6	1	-	WB	MOUNT BELOW SIGN 6a	
7	846+94	X		<= CRYSTAL LAKE HATCHERY	D1-2-1L	78	36	19.5	2	WB		
8	869+48		X	MILEPOST 18	D10-2	10	27	1.88	1	EB		
9	869+48		X	MILEPOST 18	D10-2	10	27	1.88	1	WB	MOUNT BEHIND SIGN 8	
10	927+69		X	MILEPOST 19	D10-2	10	27	1.88	1	EB		
11	927+69		X	MILEPOST 19	D10-2	10	27	1.88	-	WB	MOUNT BEHIND SIGN 10	
12	978+74		X	MILEPOST 20	D10-2	10	27	1.88	1	EB		
13	978+74		X	MILEPOST 20	D10-2	10	27	1.88	-	WB	MOUNT BEHIND SIGN 12	
14	979+70		X	STOP	R1-1	30	30	6.25	1	NB		
15	979+70		X	MITKOF HIGHWAY	D3-1	48	8	2.667	-	NB	MOUNT ABOVE SIGN 14	
19	1013+43	X		STOP	R1-1	30	30	6.25	1	SB		
20	1013+43	X		MITKOF HIGHWAY	D3-1	48	8	2.667	-	SB	MOUNT ABOVE SIGN 19	
21	1013+43	X		THREE LAKES LP	D3-1	48	8	2.667	-	WB	MOUNT ABOVE SIGN 19	
22	1032+96		X	MILEPOST 21	D10-2	10	27	1.88	1	SB		
23	1032+96		X	MILEPOST 21	D10-2	10	27	1.88	-	NB	MOUNT BEHIND SIGN 22	
								TOTAL:	132.05			

* ALL POSTS SHALL BE 2.5" PST, SOIL EMBEDMENT APPLICATION PER STD. DWG S-30.03

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE *[Signature]* Date 2-12-08

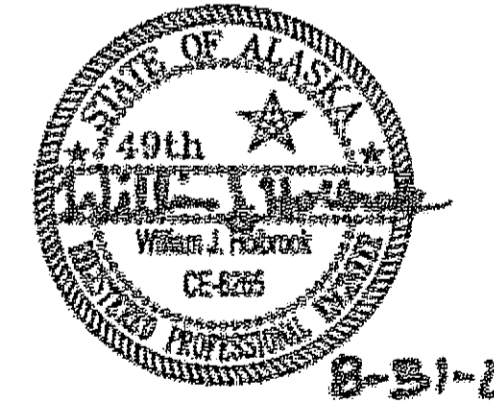
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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

SIGN SUMMARY

DESIGNED BY: B. HOLBROOK



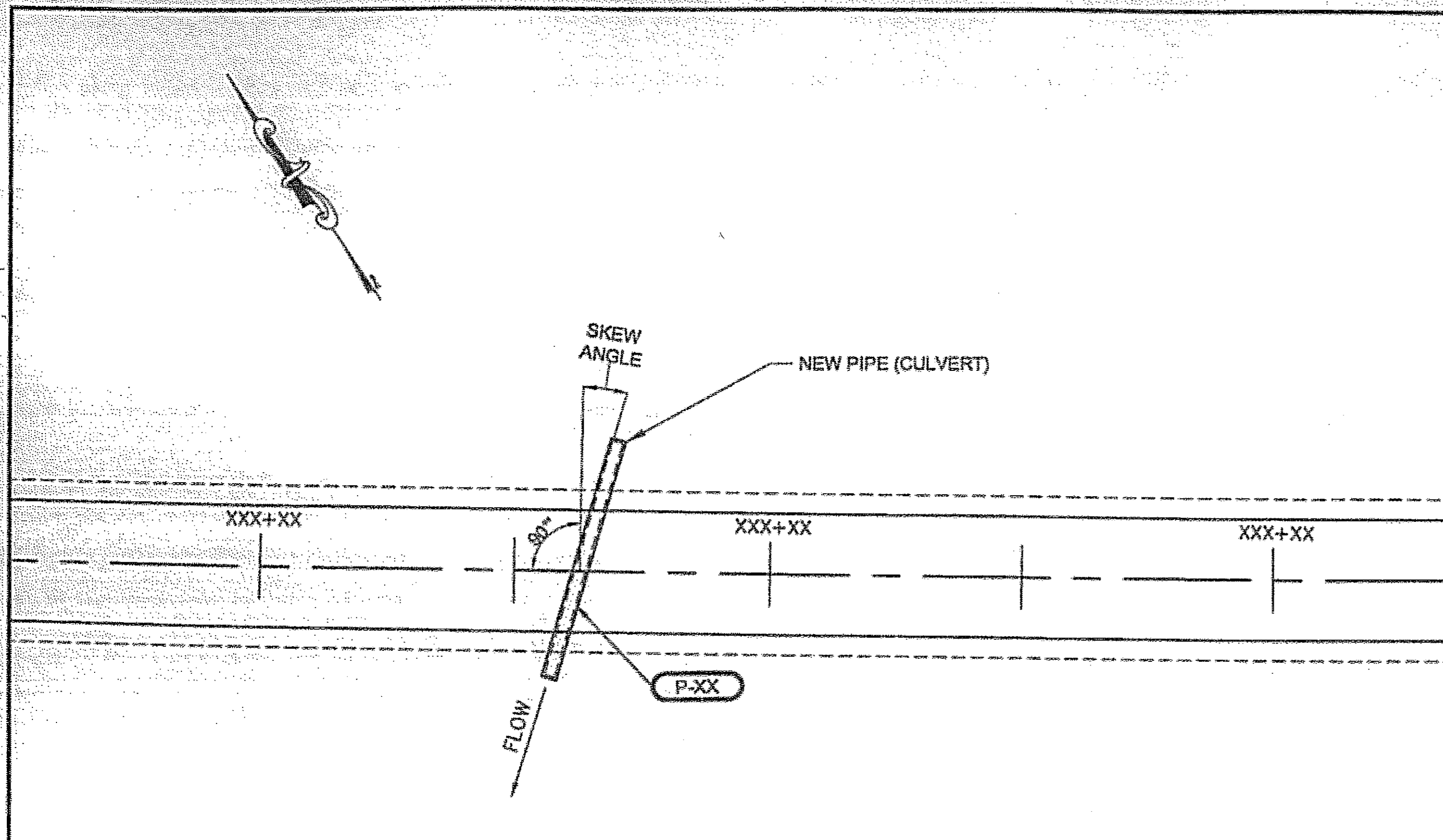
CHECKED BY: J. HEUMANN
 DRAWN BY: R. GRANTHAM

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE
 (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

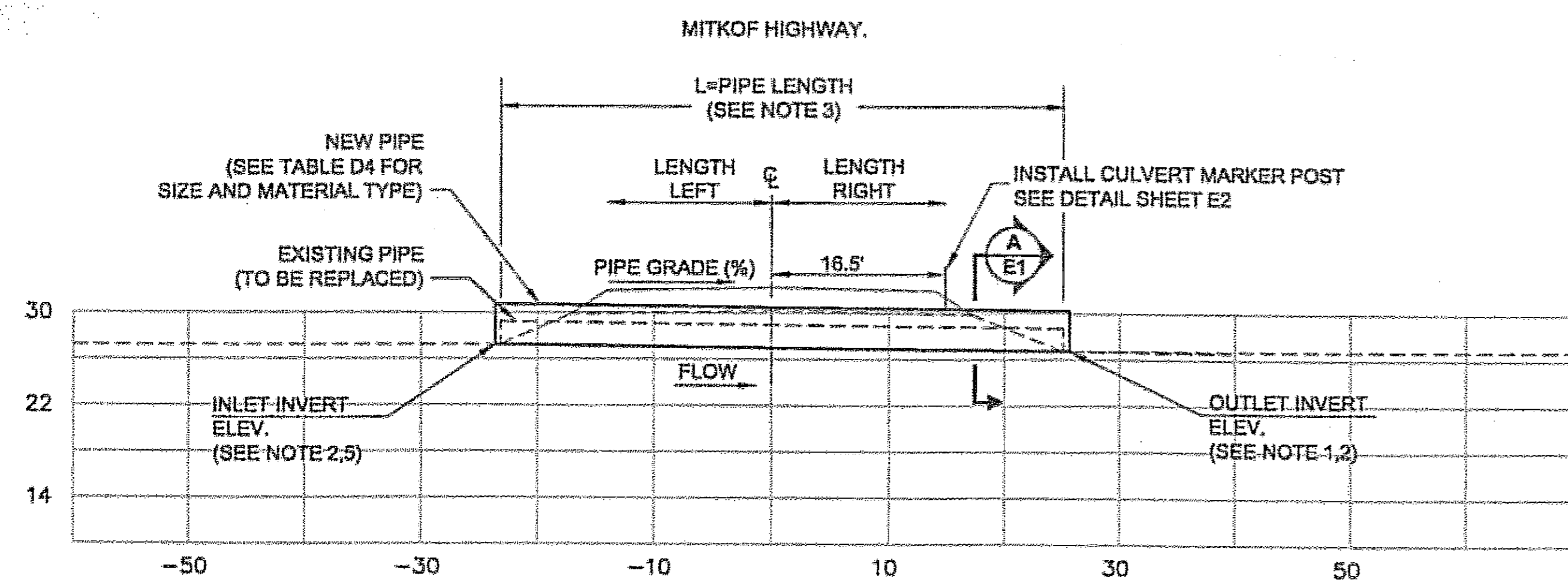
SIGN SUMMARY

PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
D4	26



NEW & REPLACEMENT CULVERT PLAN

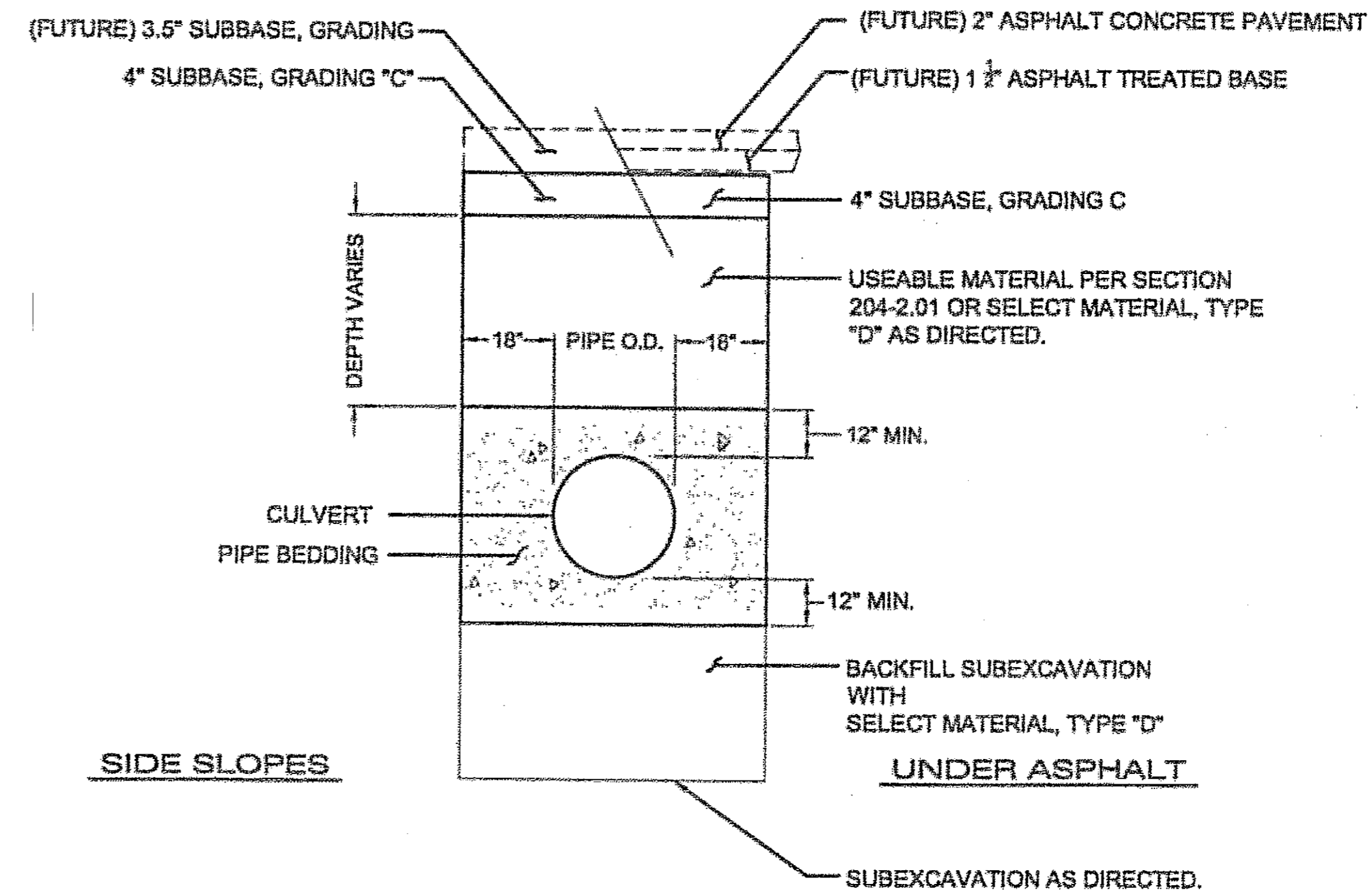


NEW & REPLACEMENT CULVERT PROFILE

* SEE NOTE 4

* PIPE INVERT = EXISTING STREAMBED

P-XX SECTION



SECTION A-A

TYPICAL CULVERT BEDDING/BACKFILL SECTION

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE *King J. Nishi* Date 2-12-08

GENERAL CULVERT NOTES:

1. REPLACEMENT CULVERTS ARE TO BE INSTALLED AT SAME INVERT ELEVATION, GRADE, SKEW ANGLE, AND CHANNEL ALIGNMENT AS EXISTING PIPE UNLESS OTHERWISE DETAILED IN THESE PLANS OR AS DIRECTED.
2. FOR EXISTING PIPE REPAIR, AND /OR EXTENSIONS. SEE DETAIL ON SHEET E2.
3. NEW PIPE LENGTH SHALL MATCH EXISTING PIPE LENGTH, EXCEPT AS NOTED IN CULVERT PIPE EXTENSION, REPAIR OR REPLACEMENT, AND FISH ENHANCEMENTS SUMMARY TABLE SHEET D1, COLUMN 13. EXISTING PIPE LENGTHS CAN BE FOUND IN SAME SUMMARY TABLE, COLUMN 11.
4. FOR BURIED AND PARTIALLY BURIED EXISTING PIPES TO BE REPLACED, GRADES AND INVERTS ARE TO BE AS DIRECTED AND CONTINGENT UPON DITCH CLEANING OPERATIONS.
5. NEW END SECTIONS ARE TO BE INSTALLED ONLY AT INLET, AND ONLY AT DESIGNATED PIPES, SEE SHEET D1.
6. AT FISH PASSAGE CULVERT LOCATIONS WHERE EXISTING PIPE IS BEING REPLACED, SEE PLAN SHEETS STARTING WITH SHEET E8 FOR SPECIAL INSTALLATION DETAILS

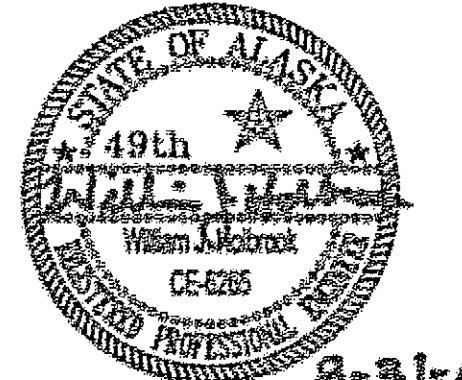
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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE
CULVERT INSTALLATION DETAILS

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN
 DRAWN BY: B. BENNETT / R. GRANTHAM

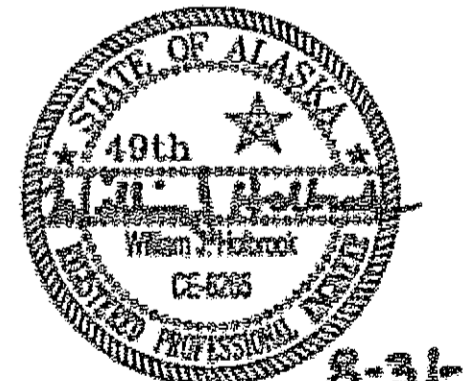
STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

CULVERT INSTALLATION DETAILS

PROJECT DESIGNATION NUMBERS	
MGS-0937(33)-69225	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
E1	26

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE
CULVERT REPAIR DETAILS

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN
 DRAWN BY: B. BENNETT

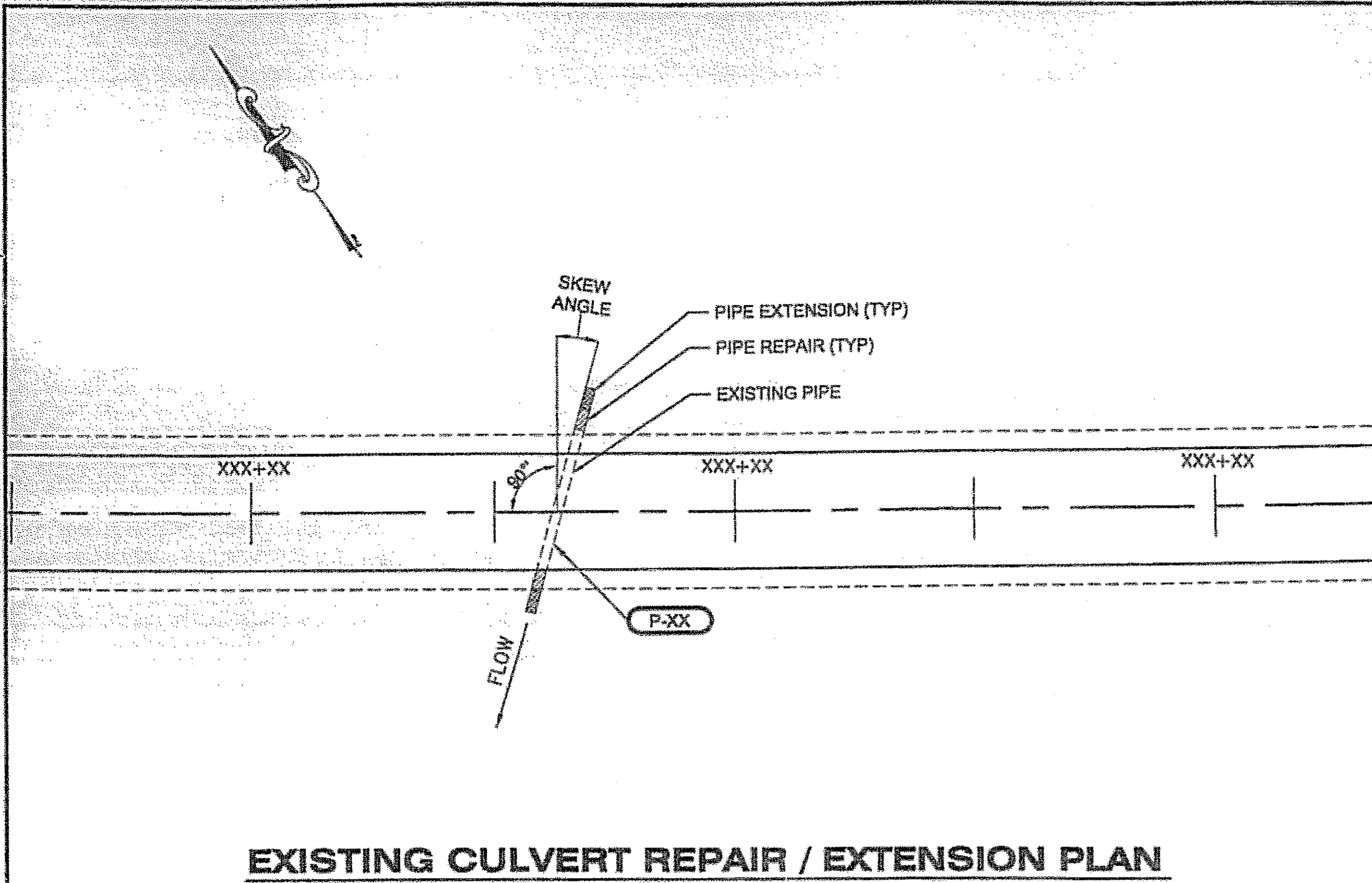
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 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE
 (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE
**CULVERT REPAIR
 DETAILS**
 PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
E2	26

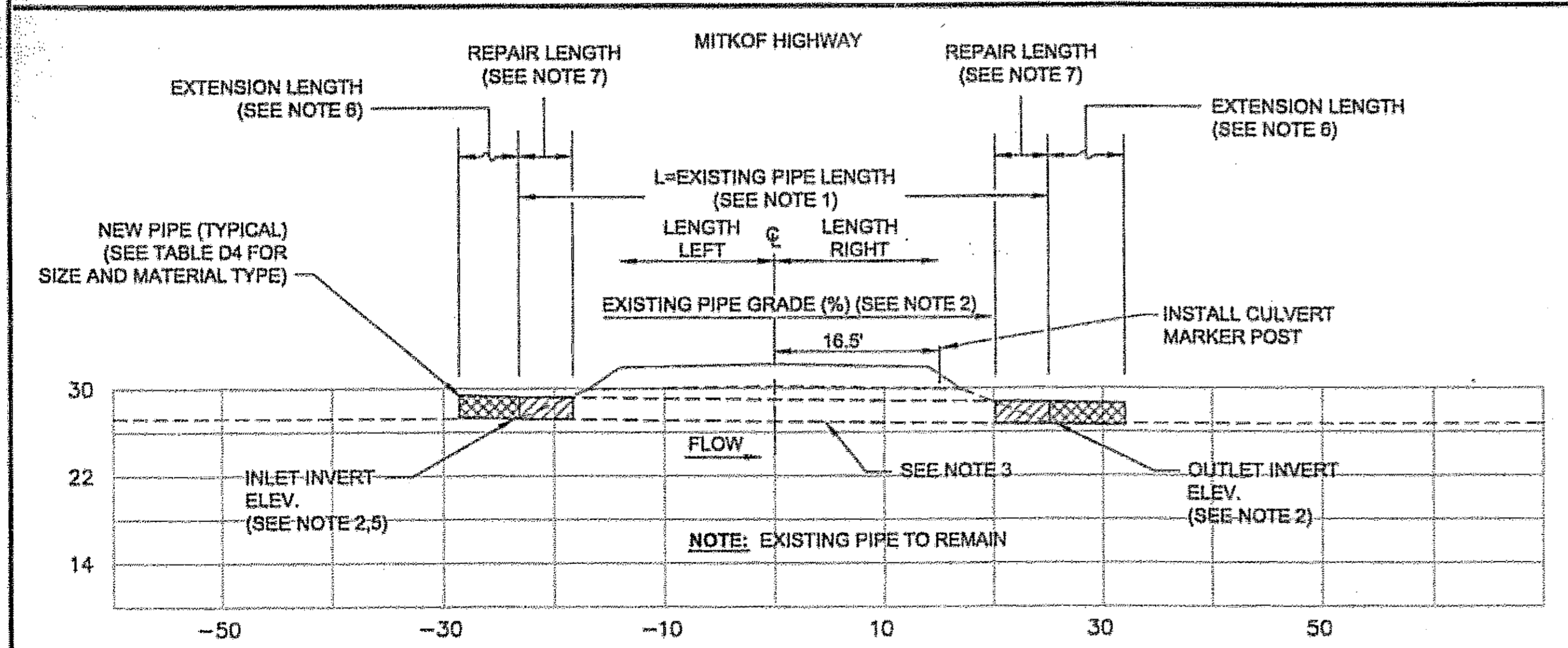
GENERAL CULVERT NOTES:

- SEE EXISTING PIPE LENGTHS IN SUMMARY TABLE SHEET D1, COLUMN 11.
- EXISTING PIPE REPAIR, EXTENSIONS AND NEW END SECTION INSTALLATIONS SHALL MAINTAIN EXISTING PIPE GRADE, SKEW ANGLE AND CHANNEL ALIGNMENT UNLESS OTHERWISE DIRECTED.
- EXISTING PIPE SHALL REMAIN, EXCEPT AS NOTED IN CULVERT PIPE EXTENSION, REPAIR OR REPLACEMENT, AND FISH ENHANCEMENTS SUMMARY TABLE SHEET D1.
- BURIED AND PARTIALLY BURIED EXISTING PIPES HAVING ENDS TO BE REPAIRED OR EXTENDED SHALL BE FLUSHED CLEANED AS PART OF PIPE RESTORATION OPERATIONS.
- NEW END SECTIONS SHALL BE INSTALLED AT INLET LOCATIONS NOTED IN TABLE SHEET D1.
- EXISTING PIPES SHALL BE EXTENDED AT LOCATIONS CALLED FOR IN ACTION COLUMN OF SUMMARY TABLE D1.
- EXISTING PIPES SHALL BE TRIMMED BACK AND PORTIONS OF PIPE AT EITHER END REPLACED AT LOCATIONS CALLED FOR IN ACTION COLUMN OF SUMMARY TABLE D1.

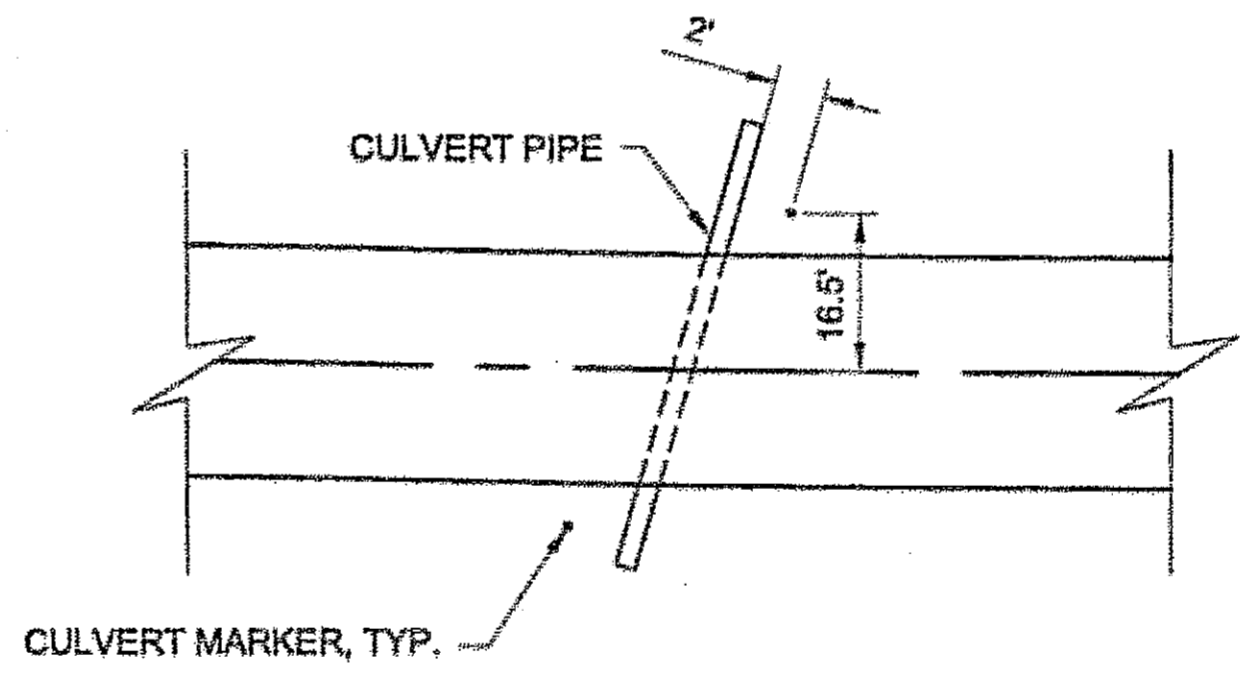
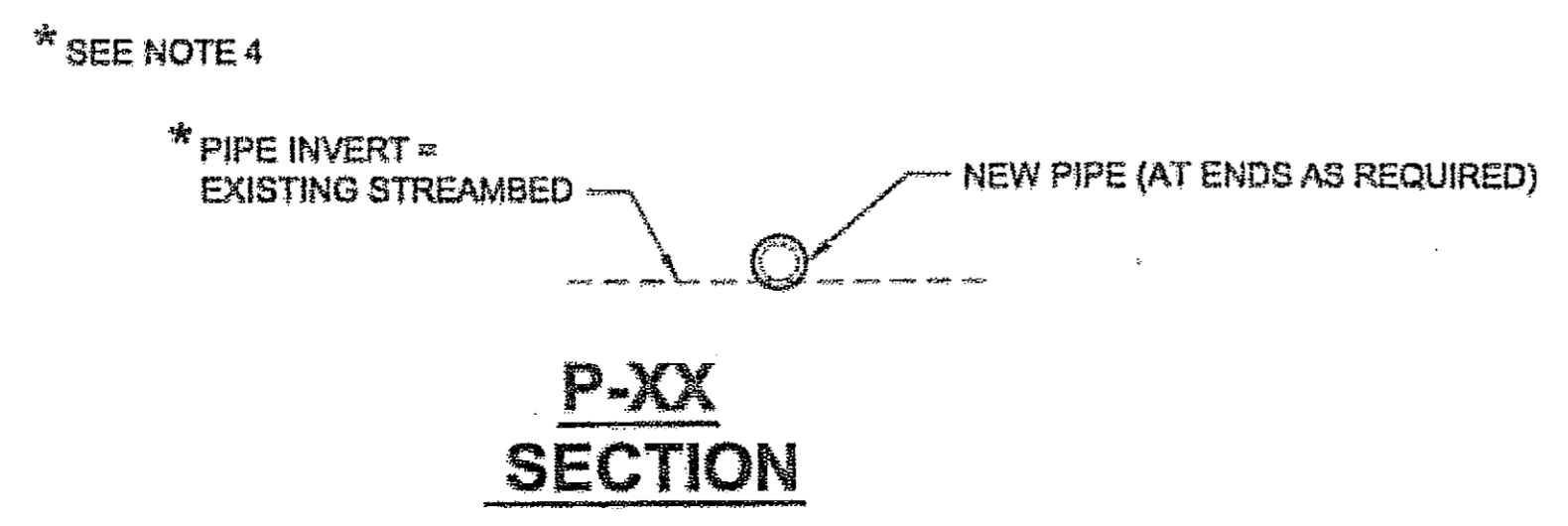
Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE *W. J. Holbrook* Date 2-12-08



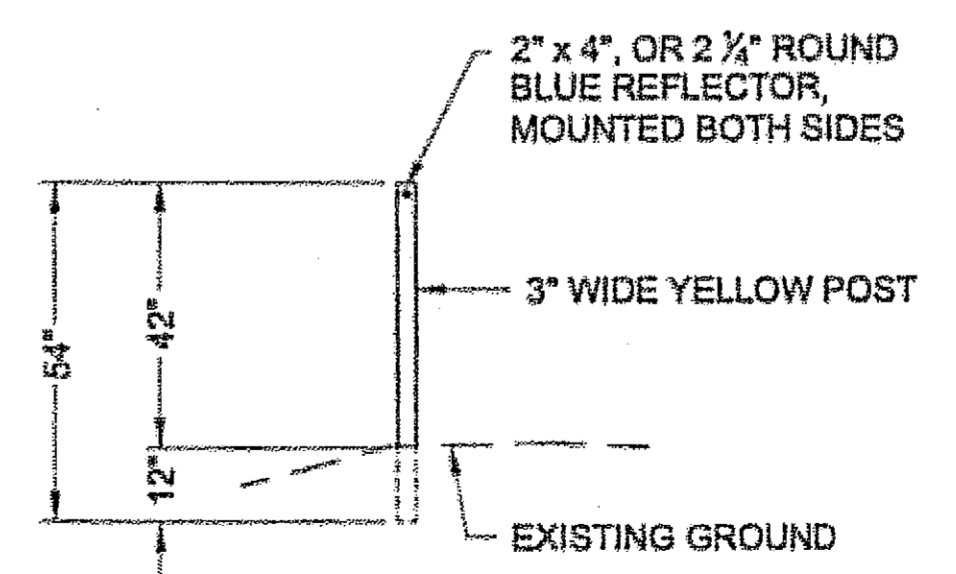
EXISTING CULVERT REPAIR / EXTENSION PLAN



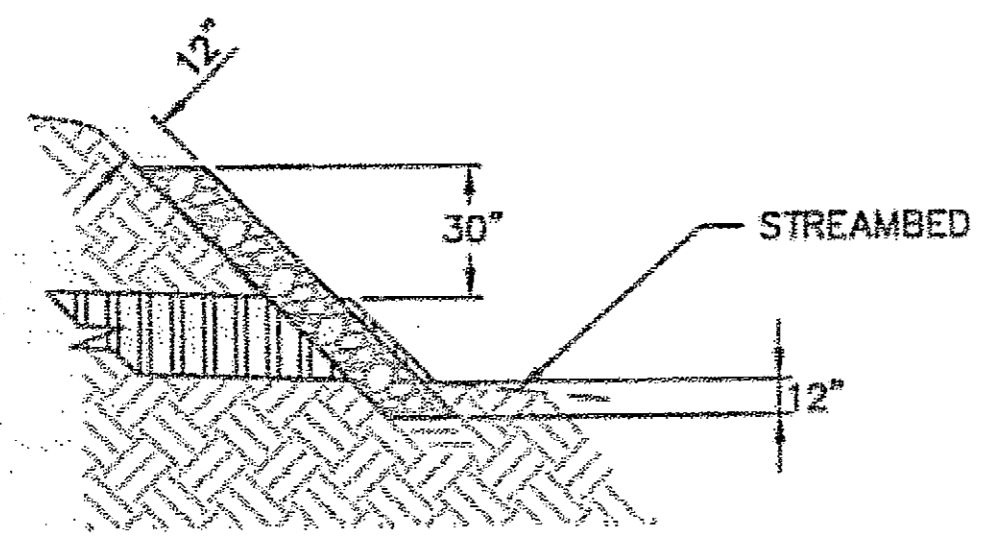
EXISTING CULVERT REPAIR/EXTENSION PROFILE



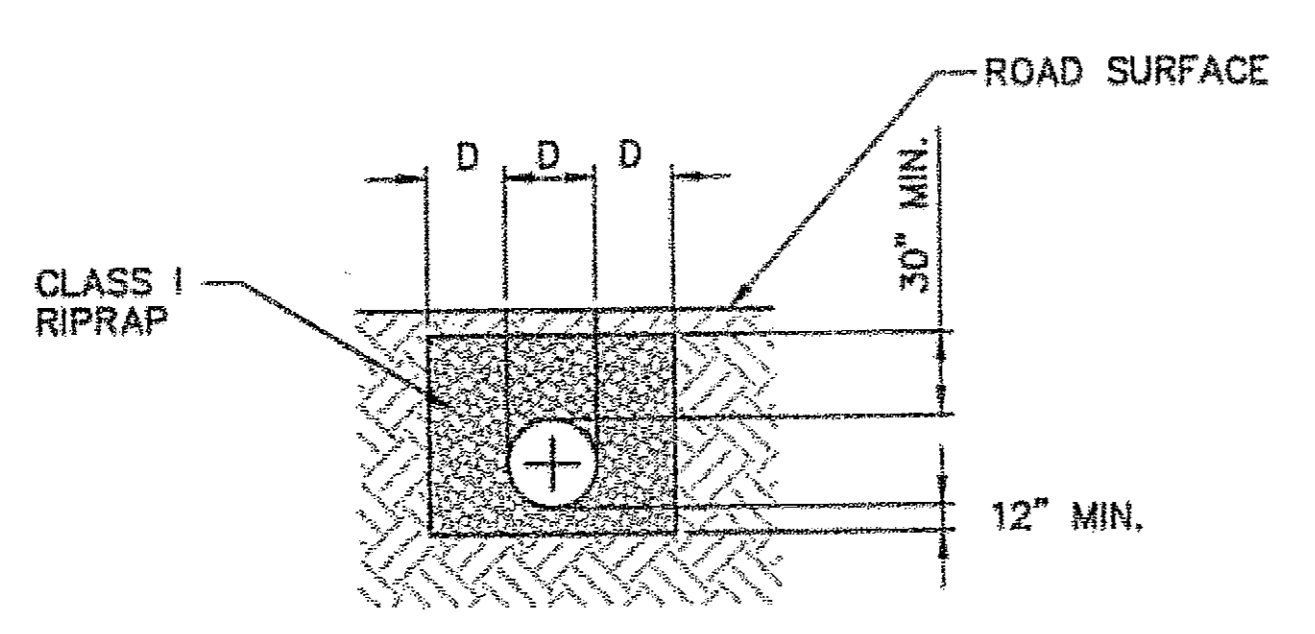
TYPICAL CULVERT MARKER POST INSTALLATION PLAN



CULVERT MARKER POST DETAIL



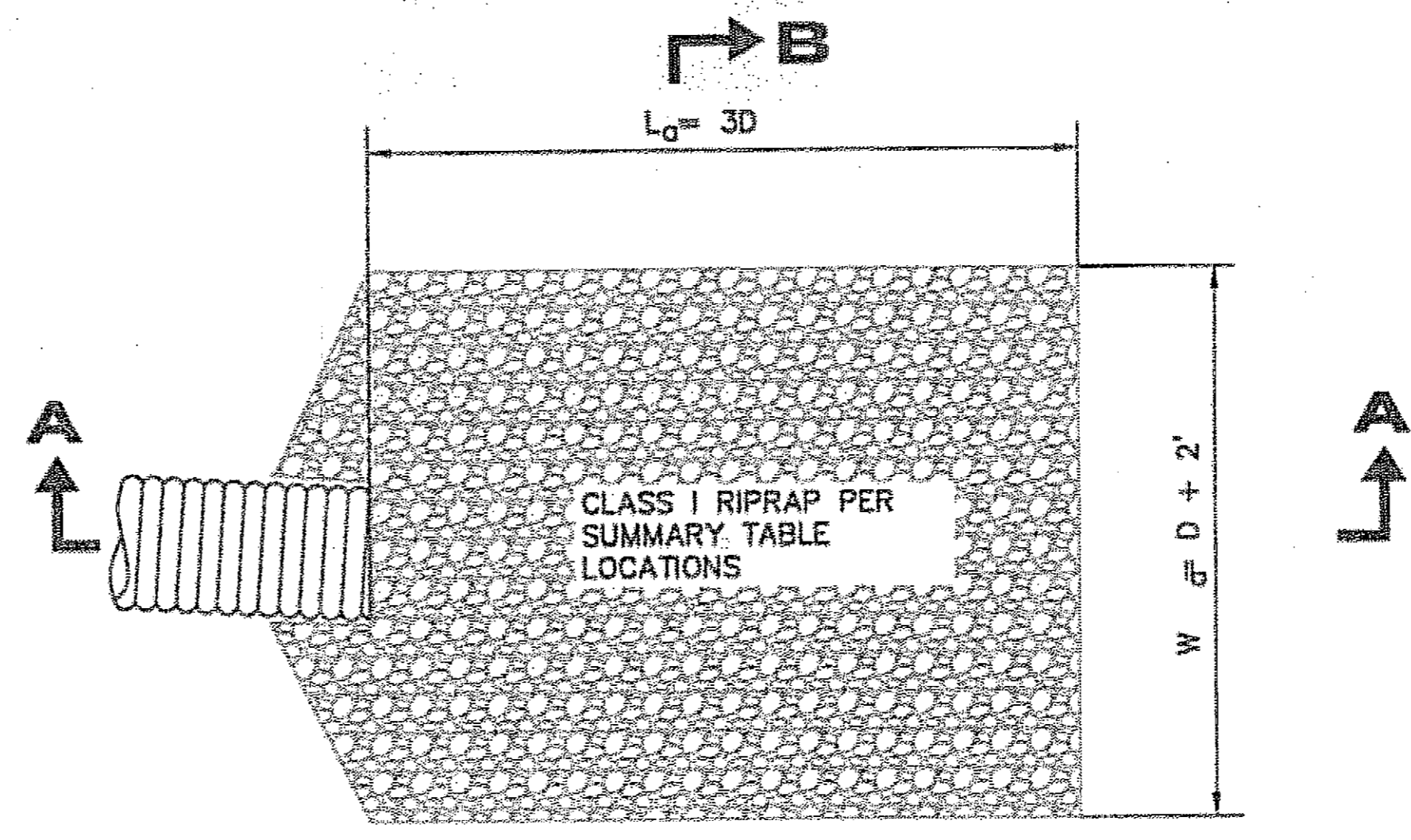
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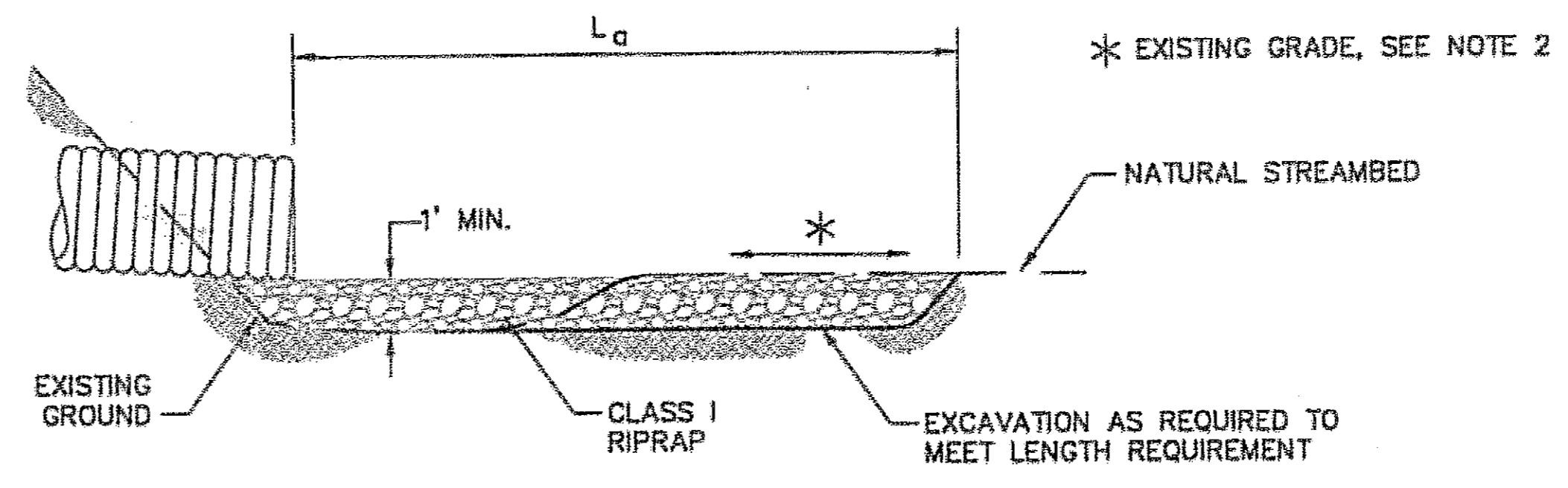
ELEVATION

CULVERT INLET ARMOR DETAIL
P-1, P-2, P-3 & P-4

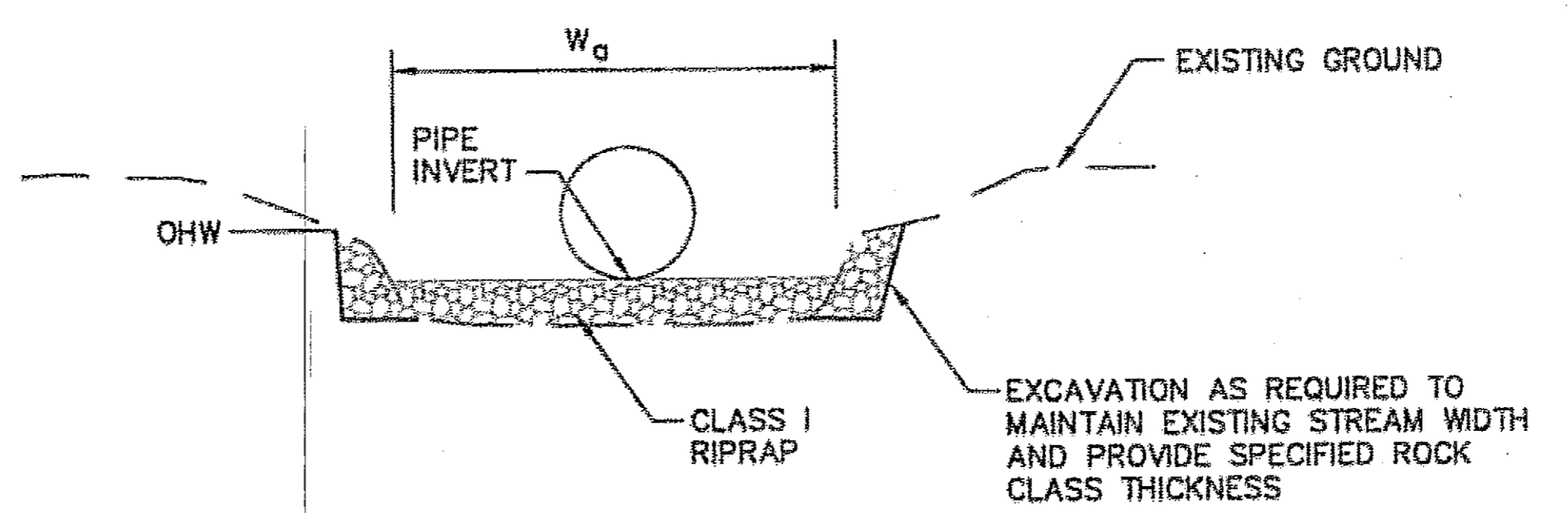
Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
PE *William J. Holbrook* Date 2-2-06



PLAN
N.T.S.



SECTION A-A
N.T.S.



VIEW B-B
N.T.S.

RIPRAP LINED OUTLET APRON DETAIL

NOTES:

1. "La" = LENGTH OF APRON. "Wa" = WIDTH OF APRON.
2. APRON SHALL BE SET AT EXISTING STREAM GRADE AND ALIGNMENT.
3. OHW = ORDINARY HIGH WATER.
4. "D" = PIPE DIAMETER.
5. FOR LOCATIONS SEE CULVERT PIPE EXTENSION, REPAIR OR REPLACEMENT AND FISH ENHANCEMENTS SUMMARY SHEET D1.

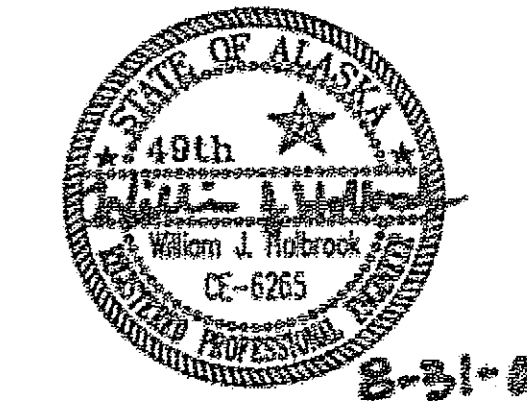
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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
PROJECT NO. 69225
CRYSTAL LAKE HATCHERY ROAD
TO OHMER CREEK BRIDGE

CULVERT DETAILS

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN

DRAWN BY: B. BENNETT/R. GRANTHAM

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION - SE REGION
PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
PROJECT NO. 69225
CRYSTAL LAKE HATCHERY ROAD
TO OHMER CREEK BRIDGE

CULVERT DETAILS

PROJECT DESIGNATION NUMBERS
MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
E3	26

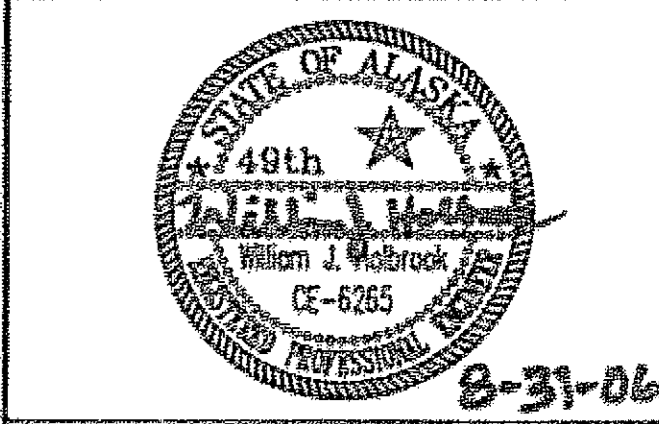
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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

CULVERT & EMBANKMENT CONSTRUCTION WORK PLANS

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN

DRAWN BY: B. BENNETT/R. GRANTHAM

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION

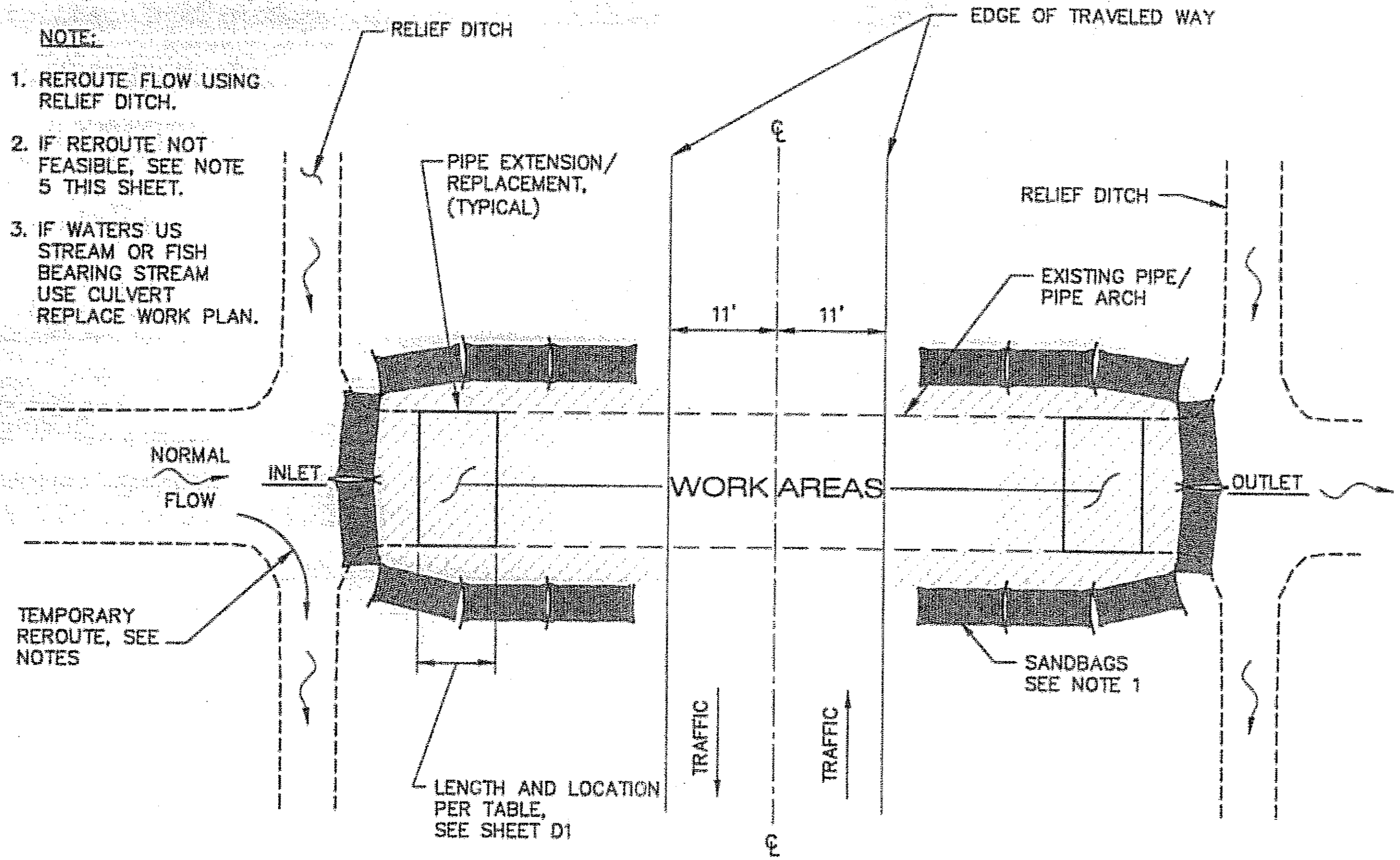
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 (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

CULVERT & EMBANKMENT
 CONSTRUCTION
 WORK PLANS

PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
E4	26

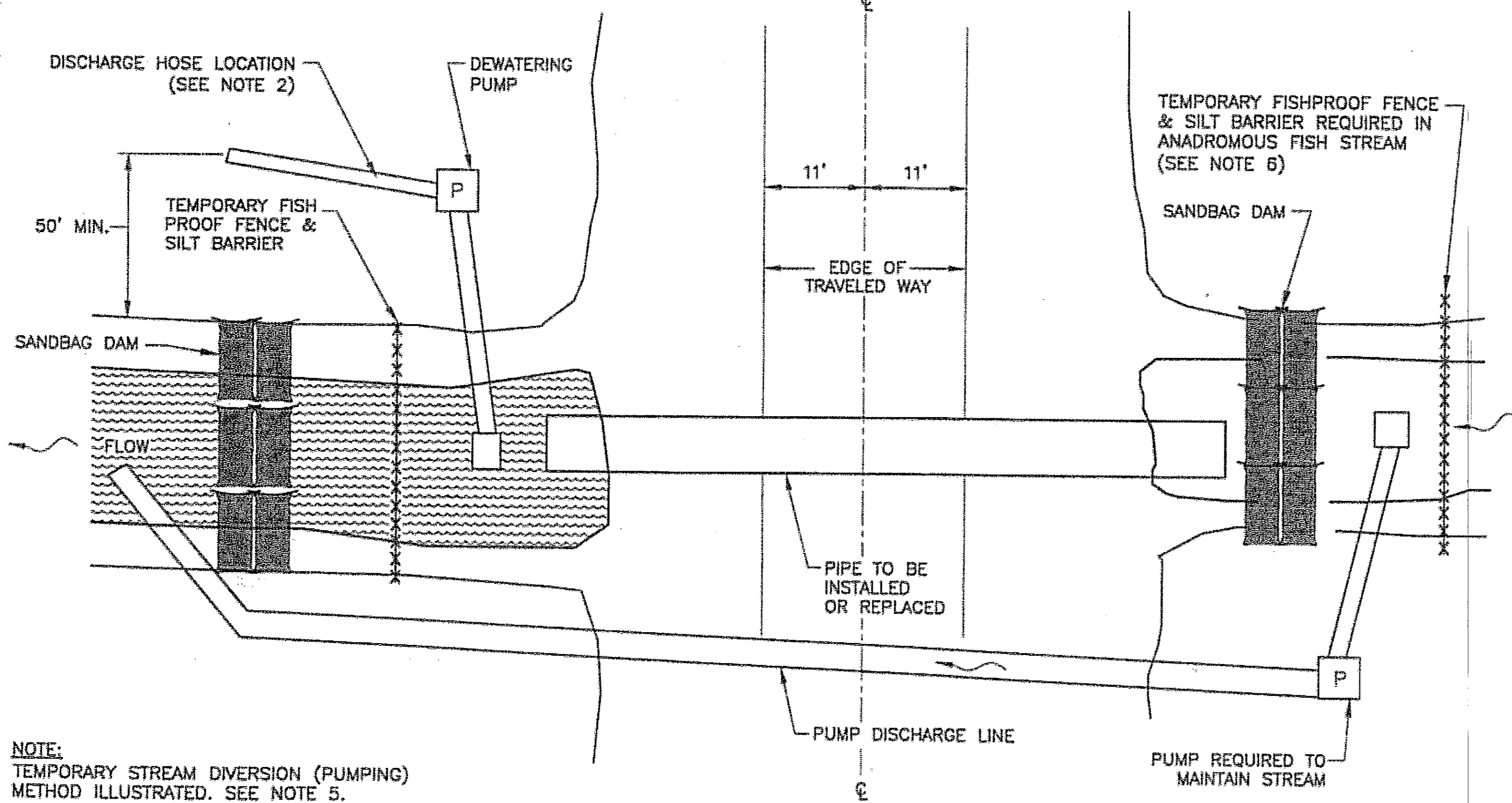
- NOTE:**
1. REROUTE FLOW USING RELIEF DITCH.
 2. IF REROUTE NOT FEASIBLE, SEE NOTE 5 THIS SHEET.
 3. IF WATERS US STREAM OR FISH BEARING STREAM USE CULVERT REPLACE WORK PLAN.



**CONSTRUCTION WORK PLAN
 CULVERT REPAIR***

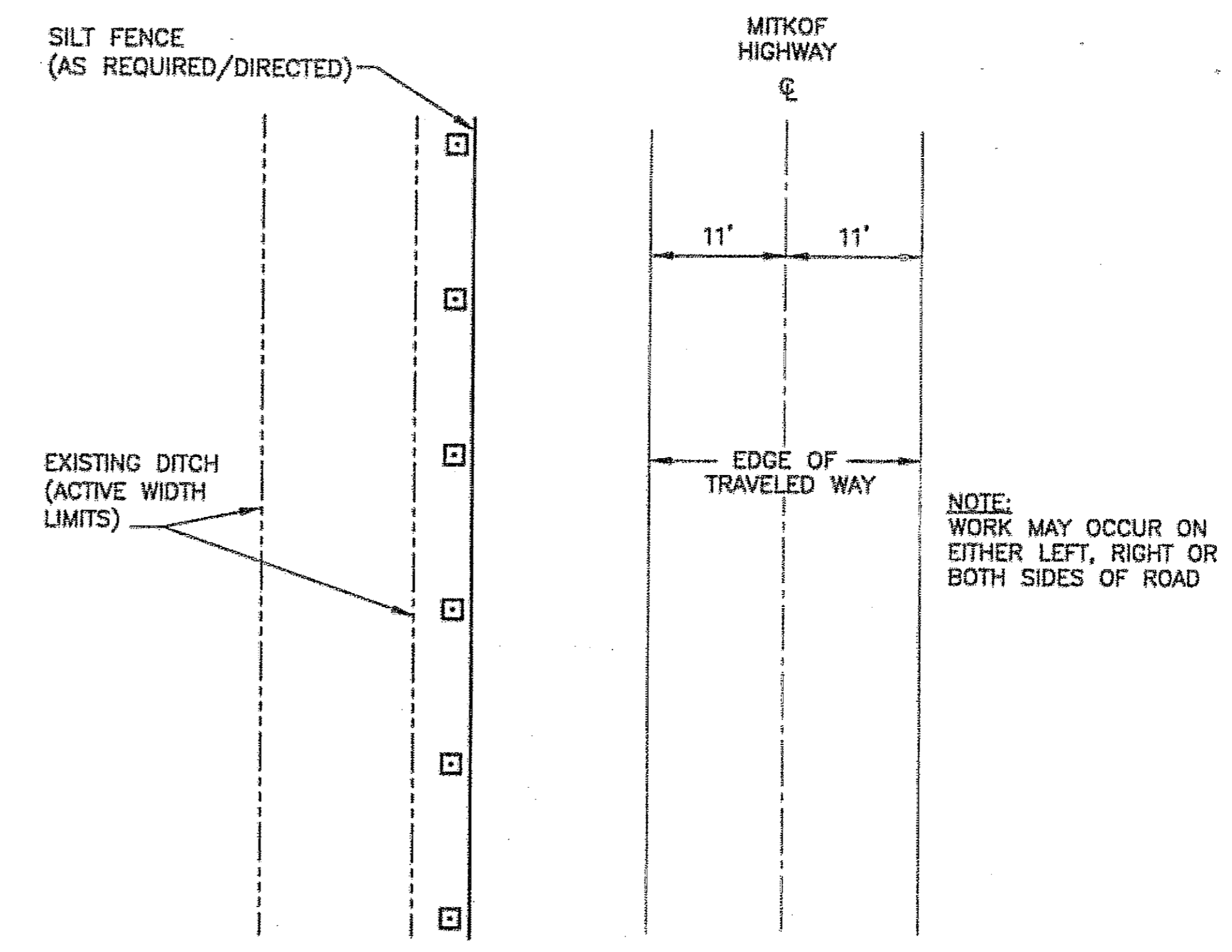
NOTES:

1. A WORK PLAN BASED ON THESE DETAILS AND THE FISH AND GAME PERMIT (SEE APPENDIX B) SHALL BE SUBMITTED FOR APPROVAL BEFORE WORKING IN ANY FISH STREAM OR WATERS OF U.S. THE PLAN WILL INCLUDE MATTING AND NATIVE GRASS MIX ABOVE ORDINARY HIGH WATER AND IN ALL DISTURBED AREAS. THE STREAM FLOW SHALL BE DIVERTED TO ONE OF THE PIPES WHILE WORKING ON THE OTHER. A COMBINATION OF SILT FENCE, STRAW BALES, PLASTIC SHEETS AND SANDBAGS SHALL BE USED TO MINIMIZE IMPACTS TO THE STREAM. SANDBAGS AND PLASTIC SHEETS SHALL BE USED TO DIRECT FLOW AWAY FROM THE WORK AREA.
2. IF DEWATERING PUMPS ARE USED, DISCHARGE SHALL BE SITUATED A MINIMUM OF 50' FROM STREAMBED HIGHWATER LINE. THE 50' SEPARATION MUST BE VEGETATED; AND THE DISCHARGE END SHALL BE RELOCATED PERIODICALLY AS REQUIRED. PUMP INTAKE MUST BE OPERATED, AND MAINTAINED TO PREVENT FISH ENTRAPMENT, ENTRAINMENT, OR INJURY WITH THE USE OF PERFORATED PLATE AND WOVEN WIRE HAVING A MESH SIZE NOT GREATER THAN 3/32" OR PROFILE BAR AND WEDGEWIRE HAVING OPENINGS NOT GREATER THAN 3/4" APPROACH VELOCITIES SHALL NOT EXCEED A PASSIVE VELOCITY OF 0.2 FEET PER SECOND (FPS) OR AN ACTIVE VELOCITY OF 0.4 FPS.
3. REVEGETATE STREAM BANKS AND ALL UPLAND AREAS DISTURBED BY CONSTRUCTION ACTIVITY PER SECTIONS 618, 621 AND 641.
4. PROVIDE NOTICE AT LEAST 5 WORKING DAYS IN ADVANCE OF IN WATER WORK.
5. TEMPORARY STREAM DIVERSION METHOD (PUMPING) ILLUSTRATED. OTHER STREAM DIVERSION METHODS ACCEPTABLE SUBJECT TO APPROVAL.
6. SEE CULVERT EXTENSION REPAIR, OR REPLACEMENT AND FISH ENHANCEMENTS SUMMARY SHEET D1 FOR LIST OF FISH AND WATERS US CULVERTS.



NOTE:
 TEMPORARY STREAM DIVERSION (PUMPING)
 METHOD ILLUSTRATED. SEE NOTE 5.

**CONSTRUCTION WORK PLAN
 CULVERT REPLACE**

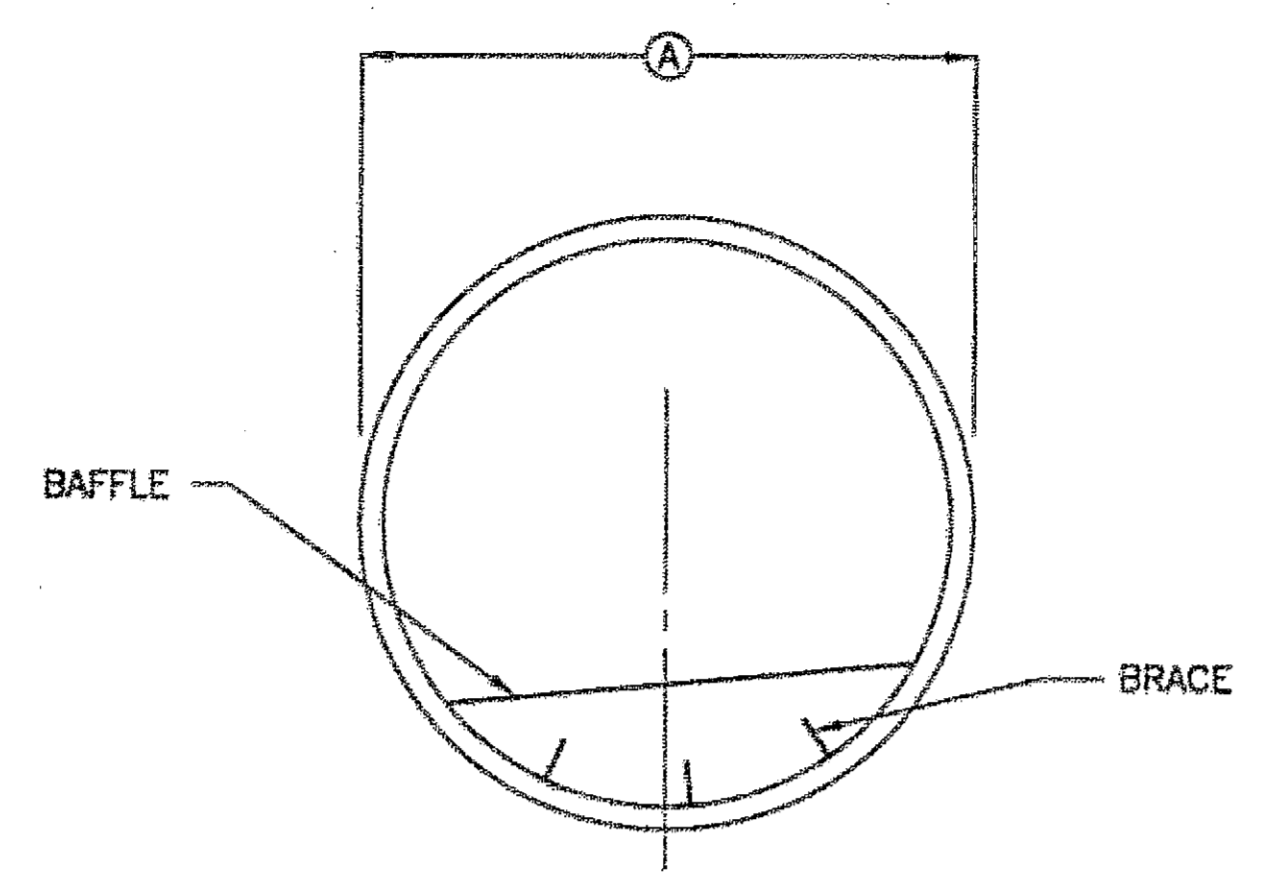


**CONSTRUCTION WORK PLAN
 RAISED ROADWAY FILL AREAS**

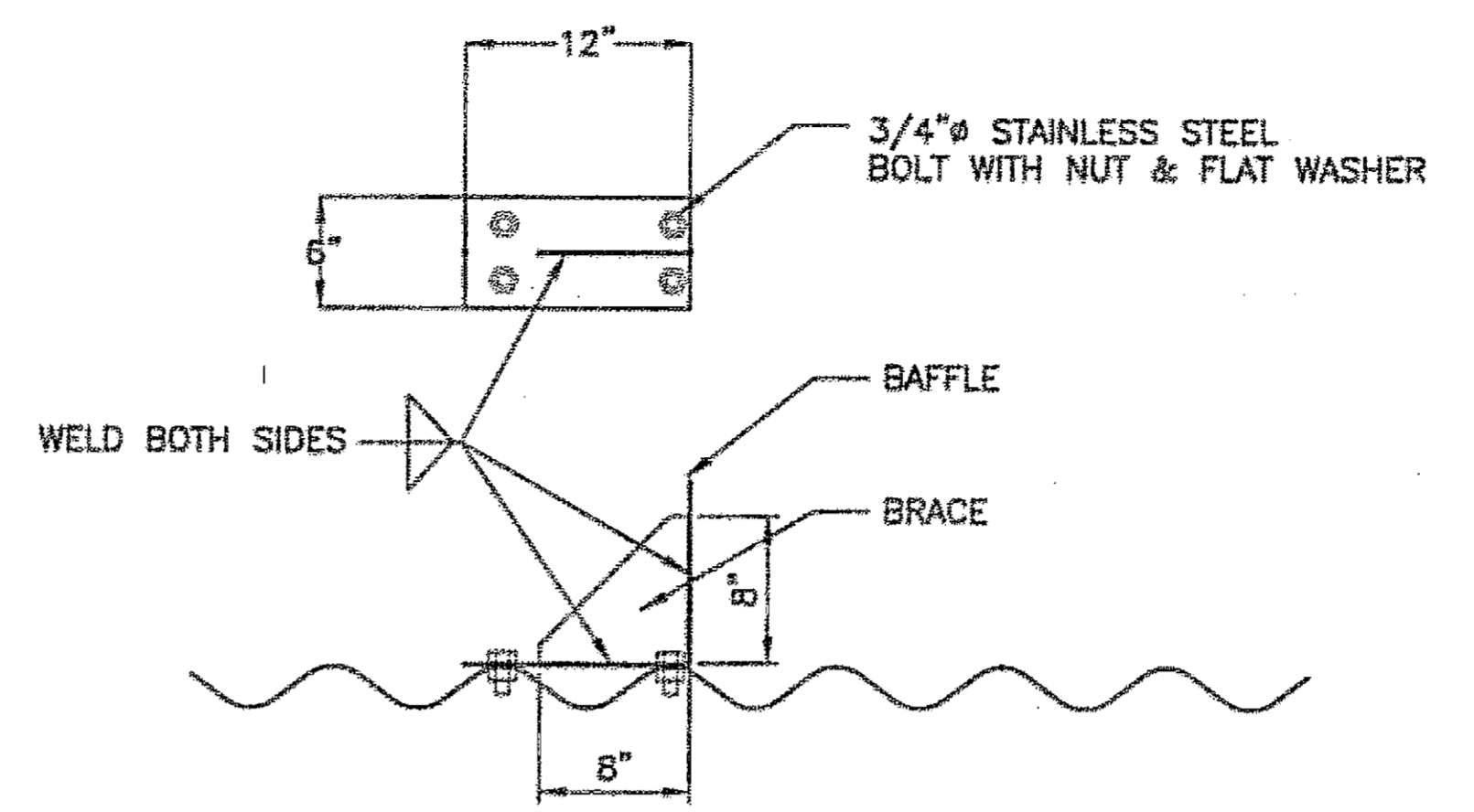
ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

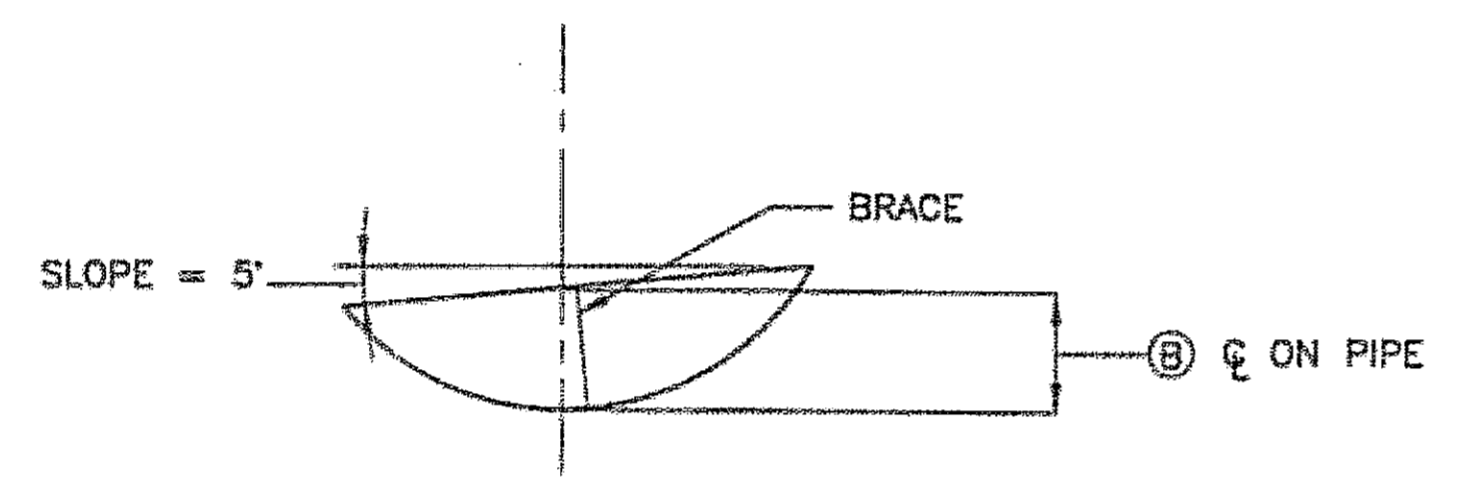
FISH BAFFLE DETAILS



**BAFFLE & PIPE
 DETAIL**



BRACE DETAIL



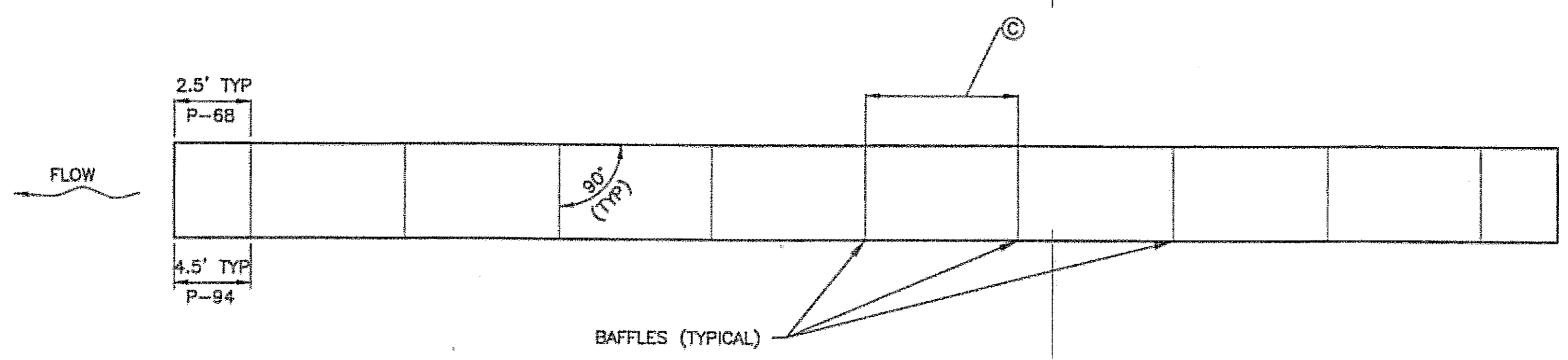
BAFFLE DETAIL

NOTES:

1. TOP EDGE OF BAFFLE SHALL BE SLOPED 5 DEGREES FROM HORIZONTAL. SEE TABLE FOR HEIGHT OF BAFFLE ON CENTERLINE OF PIPE
2. ALL BAFFLES AND BRACES SHALL BE MANUFACTURED FROM 1/2" SHEET MATERIAL AND COATING (SAME AS PIPE). PREDRILL BAFFLE HOLES
3. EACH BAFFLE SHALL HAVE A MINIMUM OF 3 BRACES WITH A MAXIMUM SPACING BETWEEN BRACES OF 15".
4. ALL DIMENSIONS ON THIS SHEET ARE NOMINAL-- BAFFLES SHALL BE MANUFACTURED TO FIT PARTICULAR PIPE.
5. PIPE SHALL HAVE ANNULAR CORRUGATIONS.

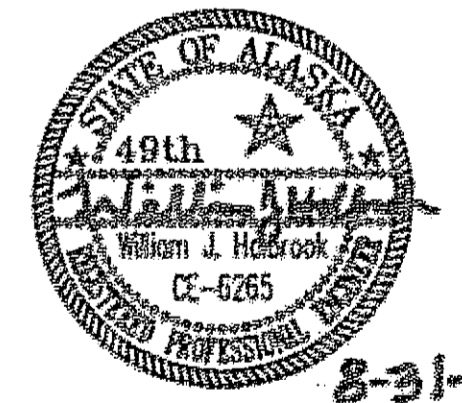
*Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE [Signature] Date 2-18-08*

PIPE NO.	(A)	(B)	(C)	REQ'D NO. OF BAFFLES	PIPE MATERIAL	PIPE LENGTH
P-68	42"	12"	7'	13	ALUMIN. OR STEEL	90'
P-94	48"	12"	7'	9	ALUMIN.	65'



**TYPICAL BAFFLE PLAN
 LAYOUT**

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN

DRAWN BY: B. BENNETT/R. GRANTHAM

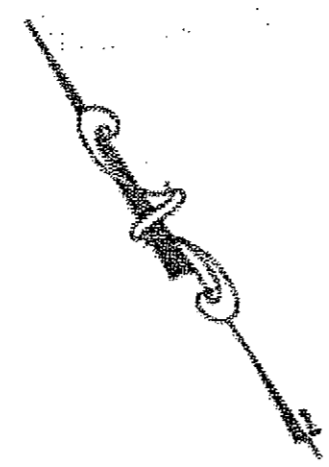
STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE
 (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

**FISH BAFFLE
 DETAILS**

PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
E5	26

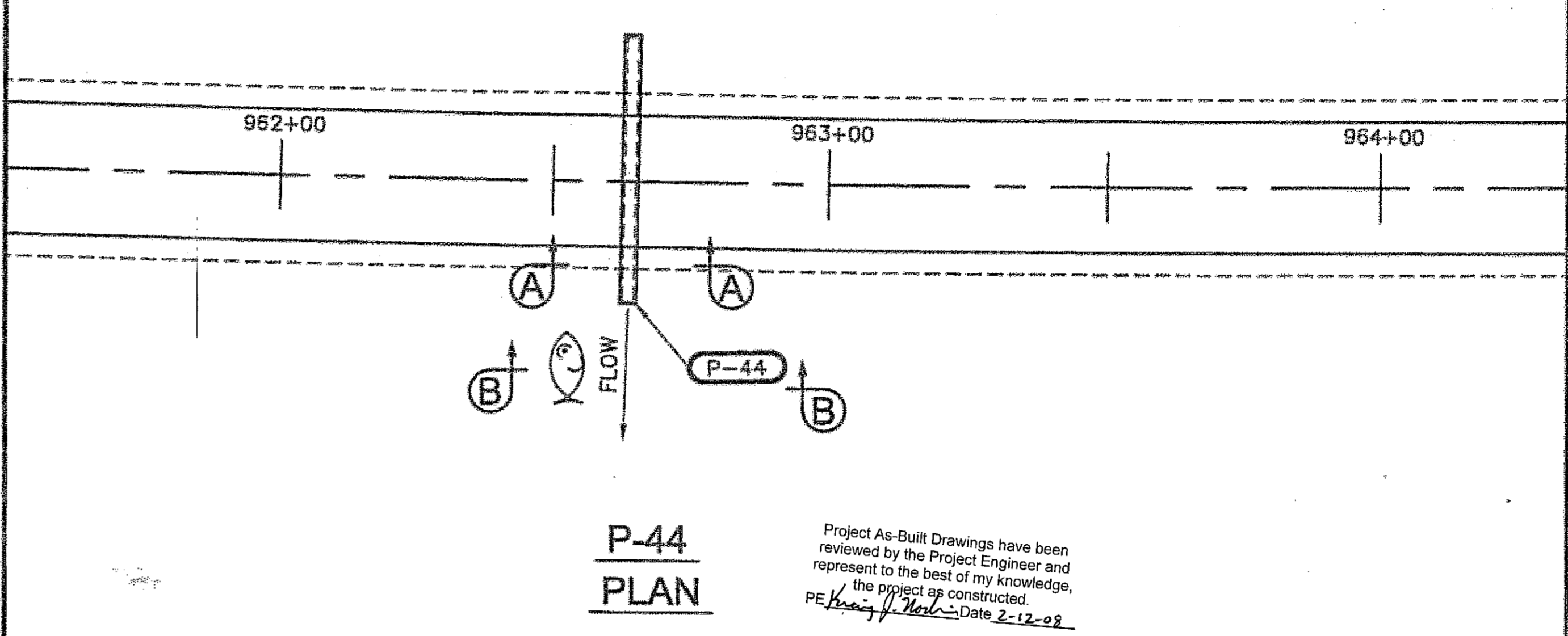
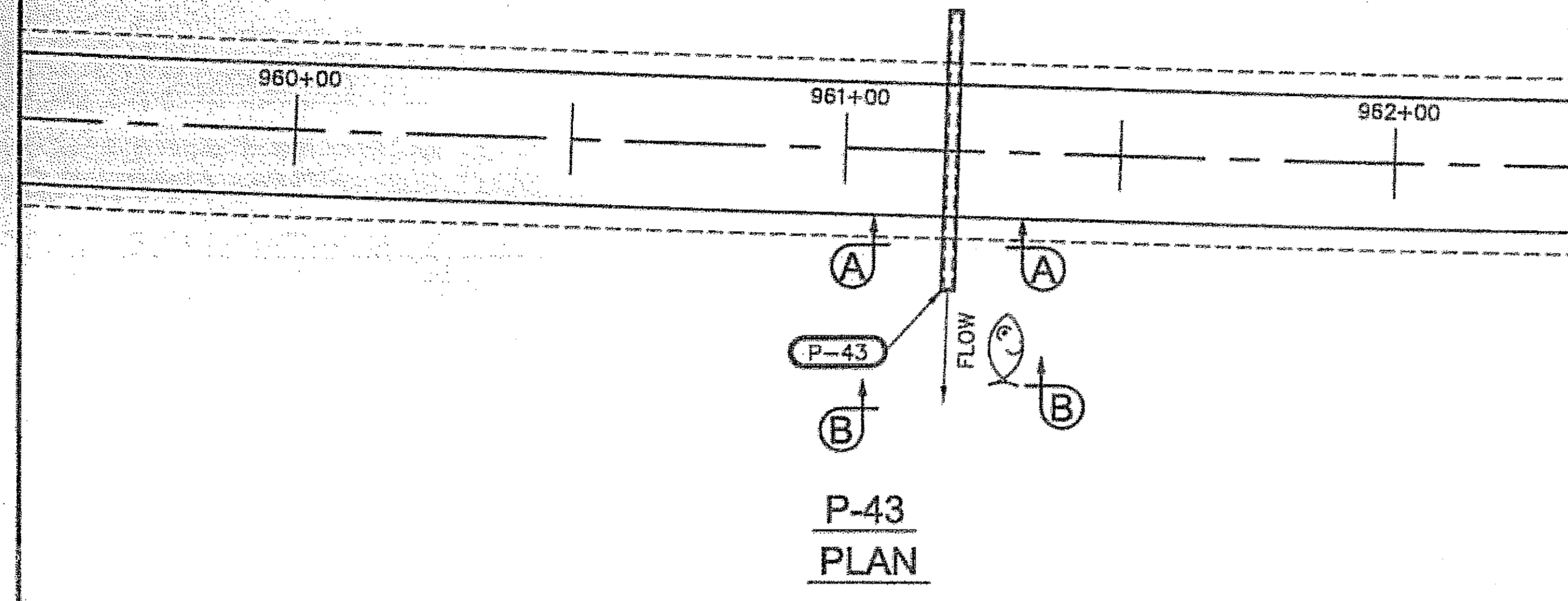
GENERAL NOTE:
1. PIPES P-43 AND P-44 SHALL BE HDPE WITH SMOOTH INNER WALL HDPE LINER.



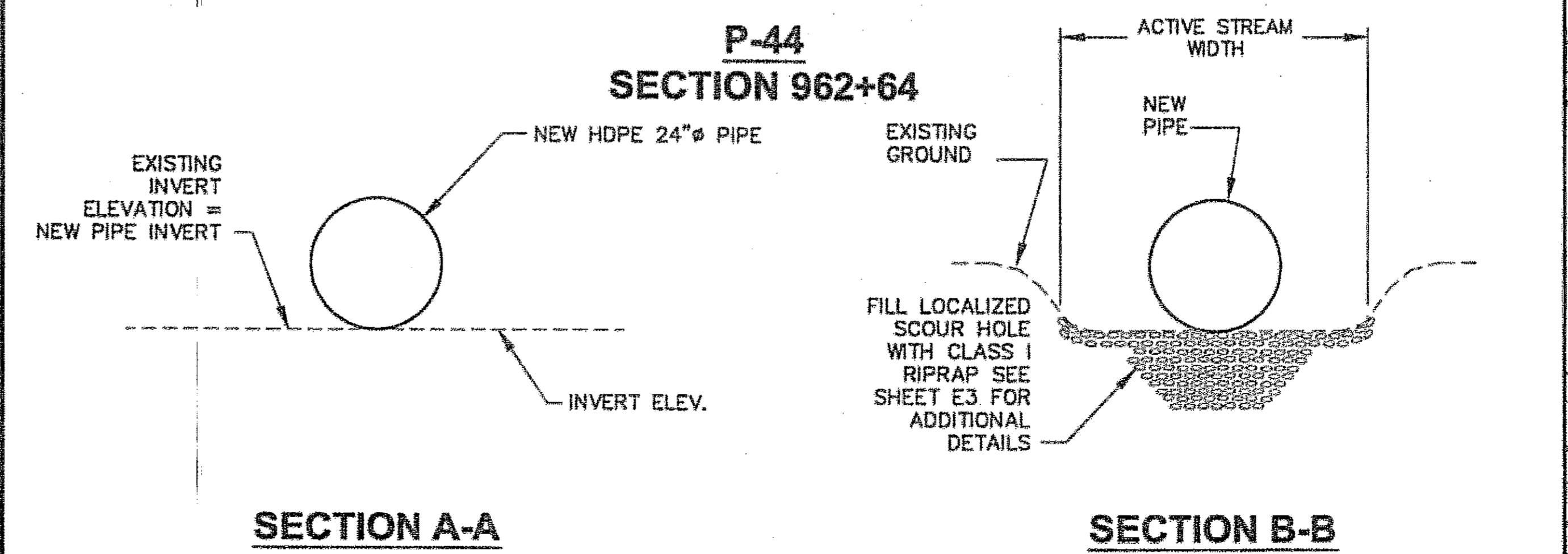
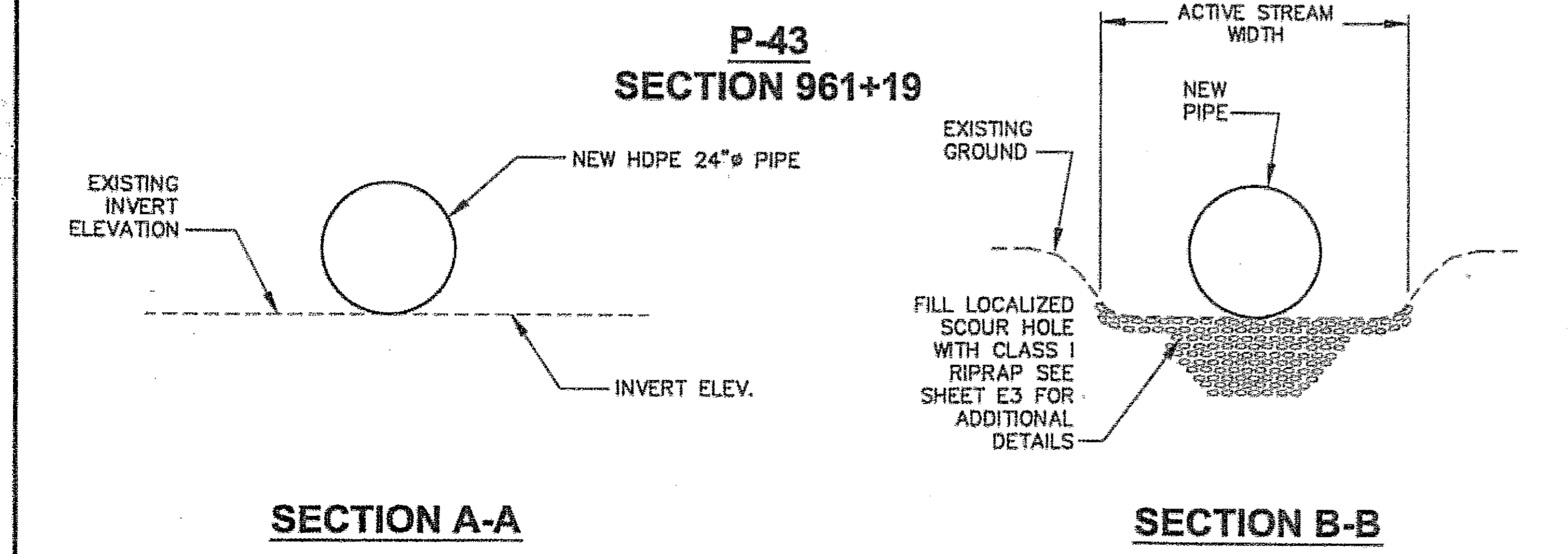
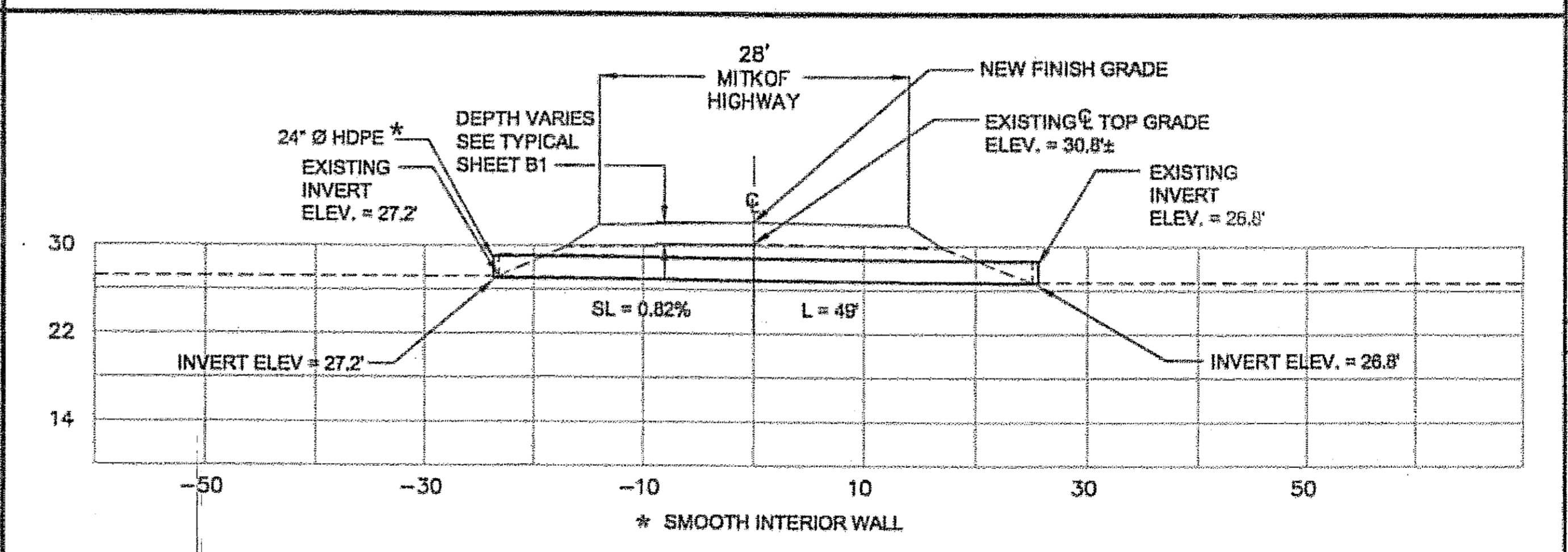
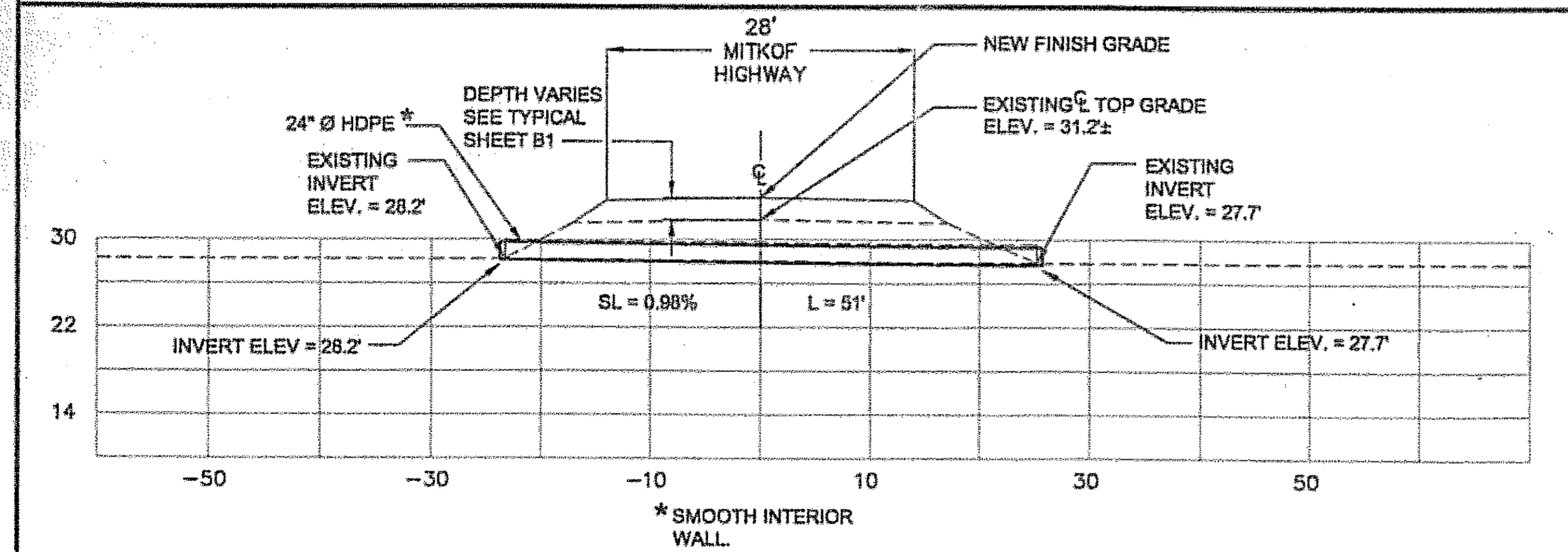
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No.	DATE	DESCRIPTION

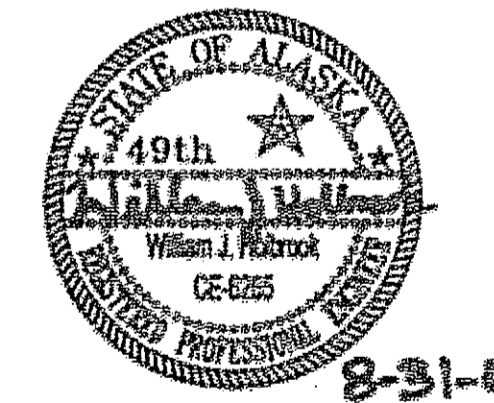
PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE
FISH CULVERT PLAN & PROFILE



Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
PE *Kevin J. Heumann* Date 2-12-08



DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN
DRAWN BY: B. BENNETT

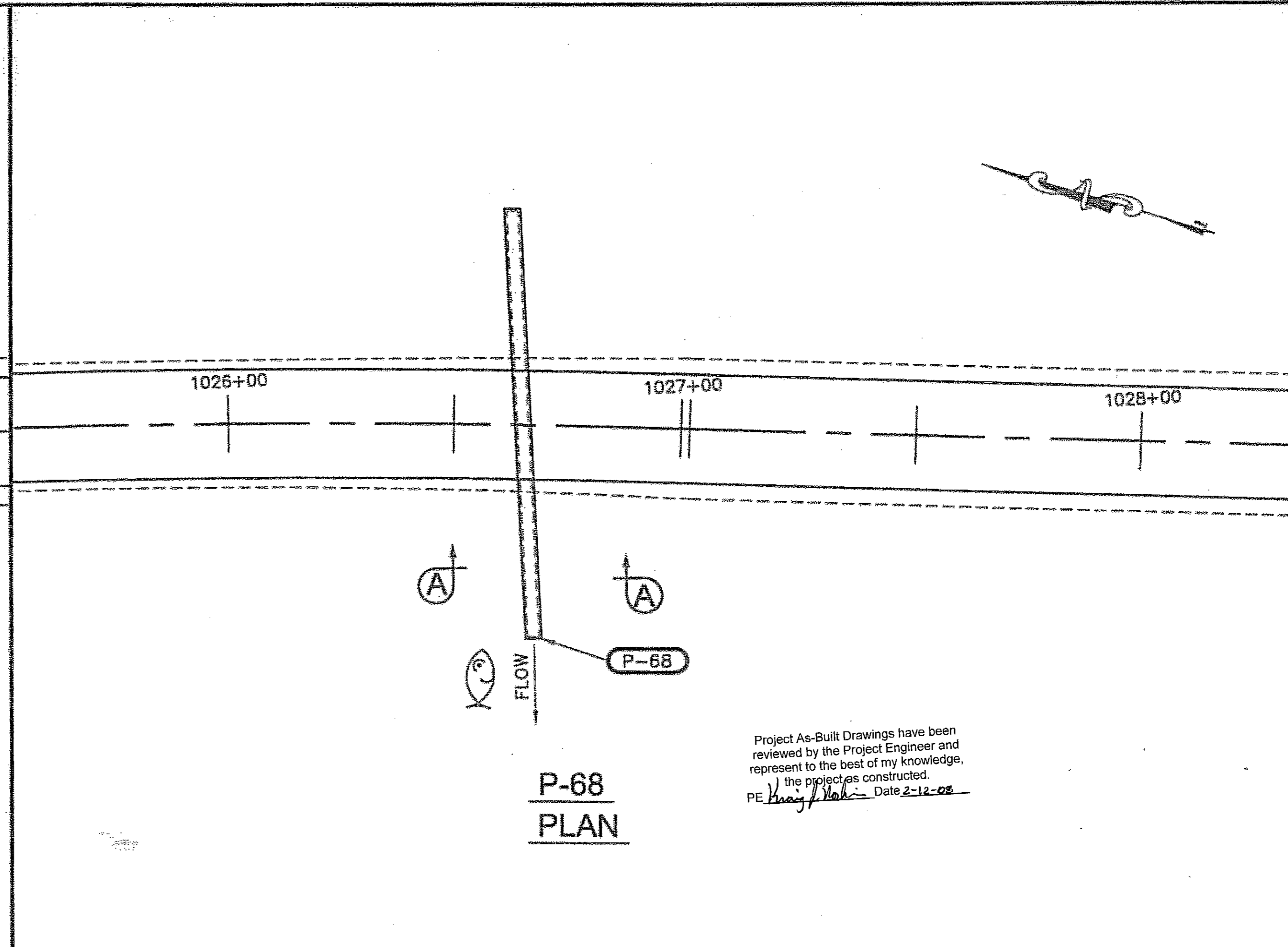
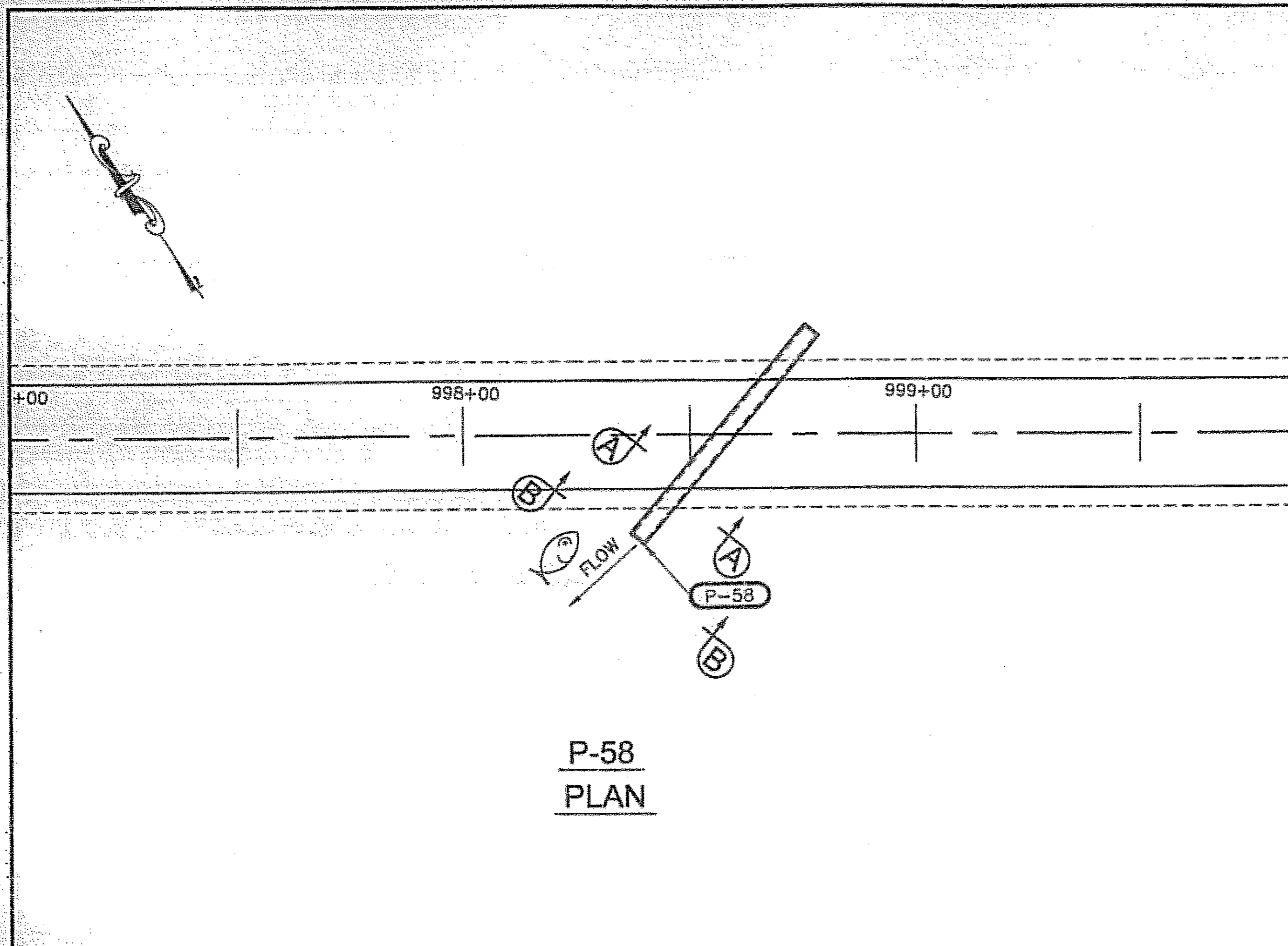
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION - SE REGION
PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
PROJECT NO. 69225
CRYSTAL LAKE HATCHERY ROAD TO OHMER CREEK BRIDGE

FISH CULVERT PLAN & PROFILE
PROJECT DESIGNATION NUMBERS
MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
E6	26

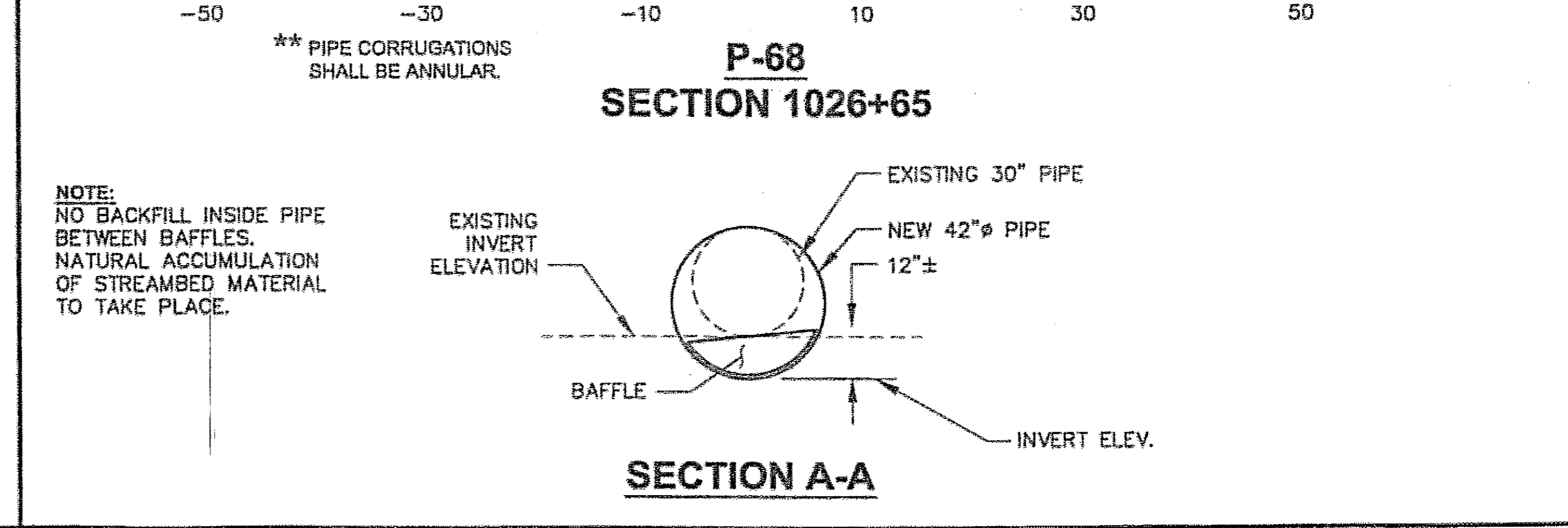
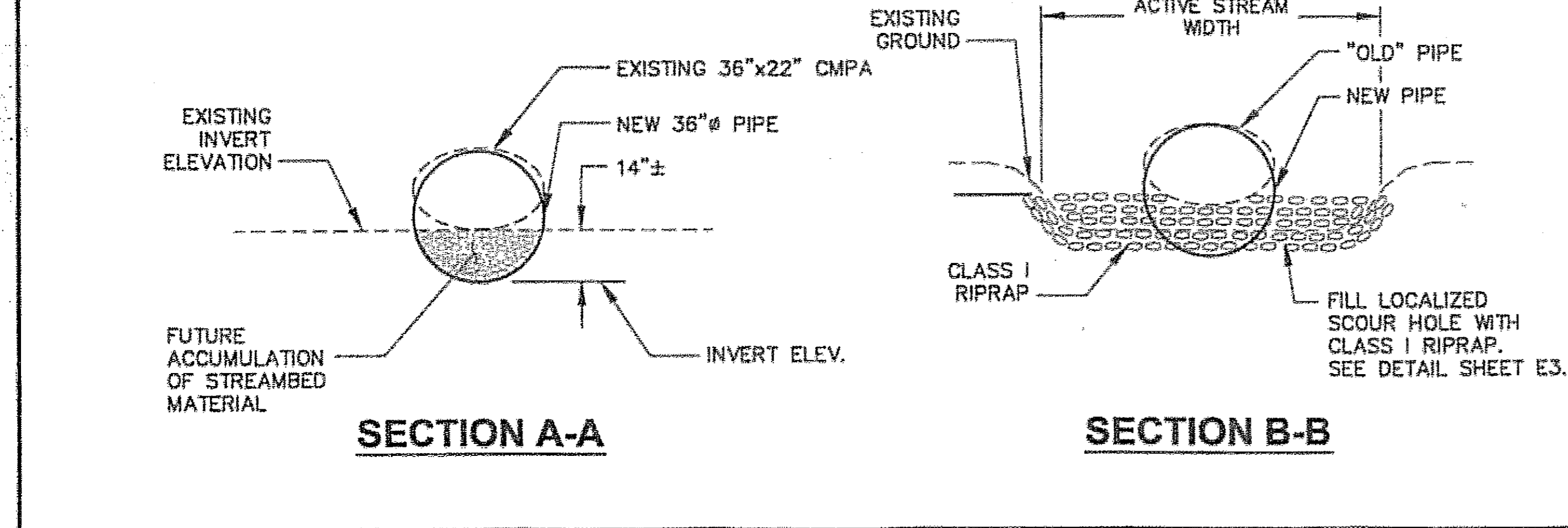
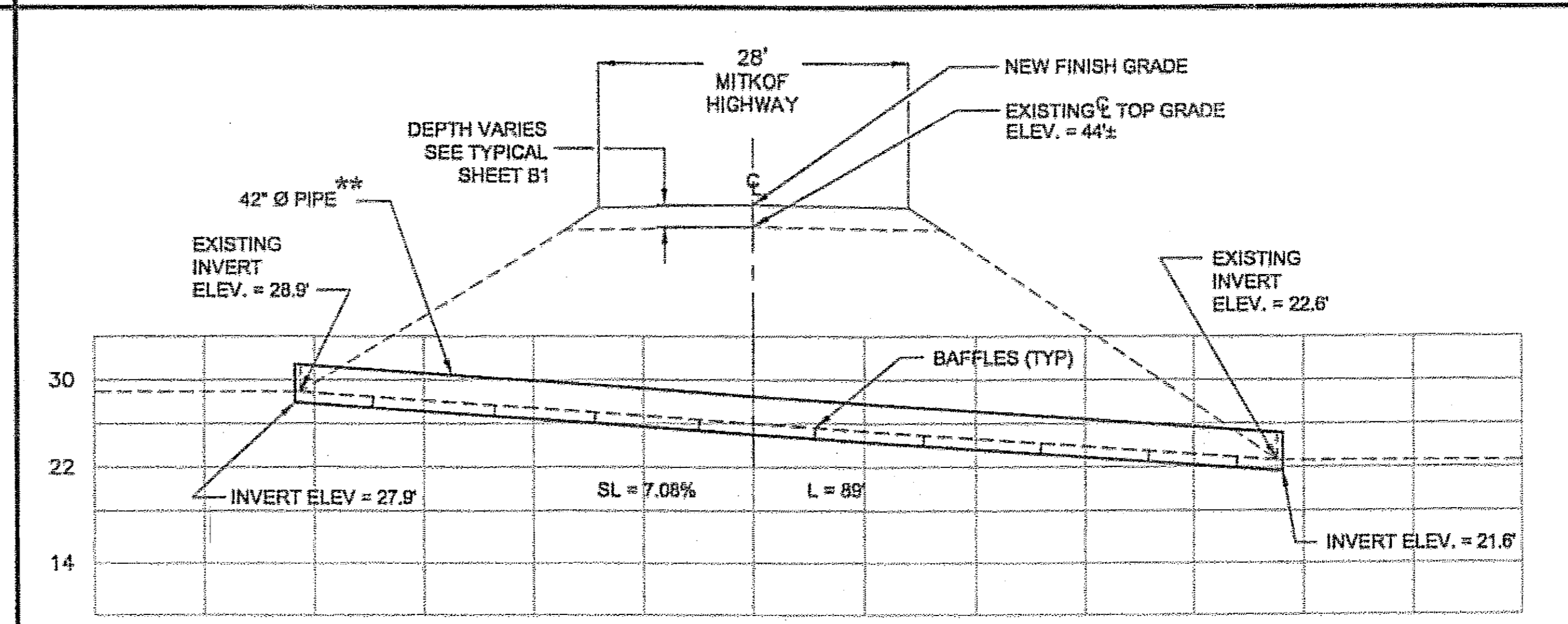
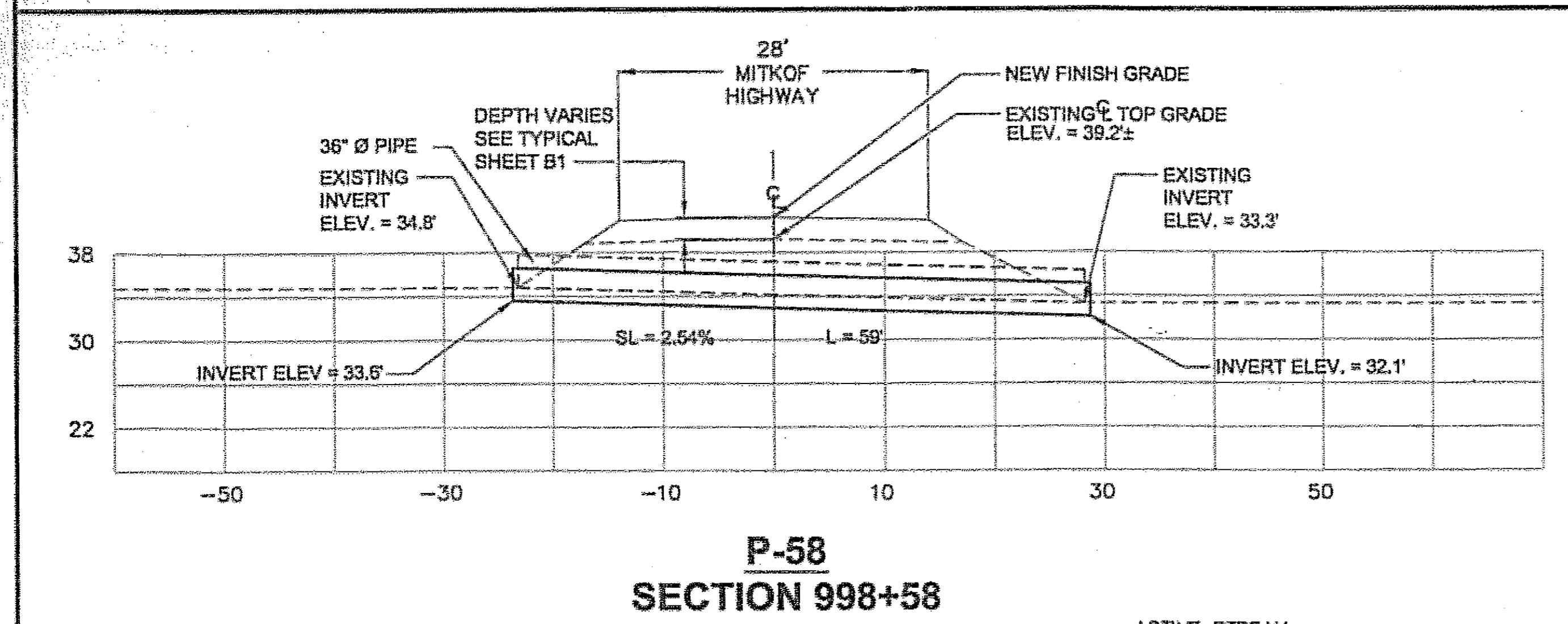
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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

FISH CULVERT PLAN & PROFILE



DESIGNED BY: B. HOLBROOK

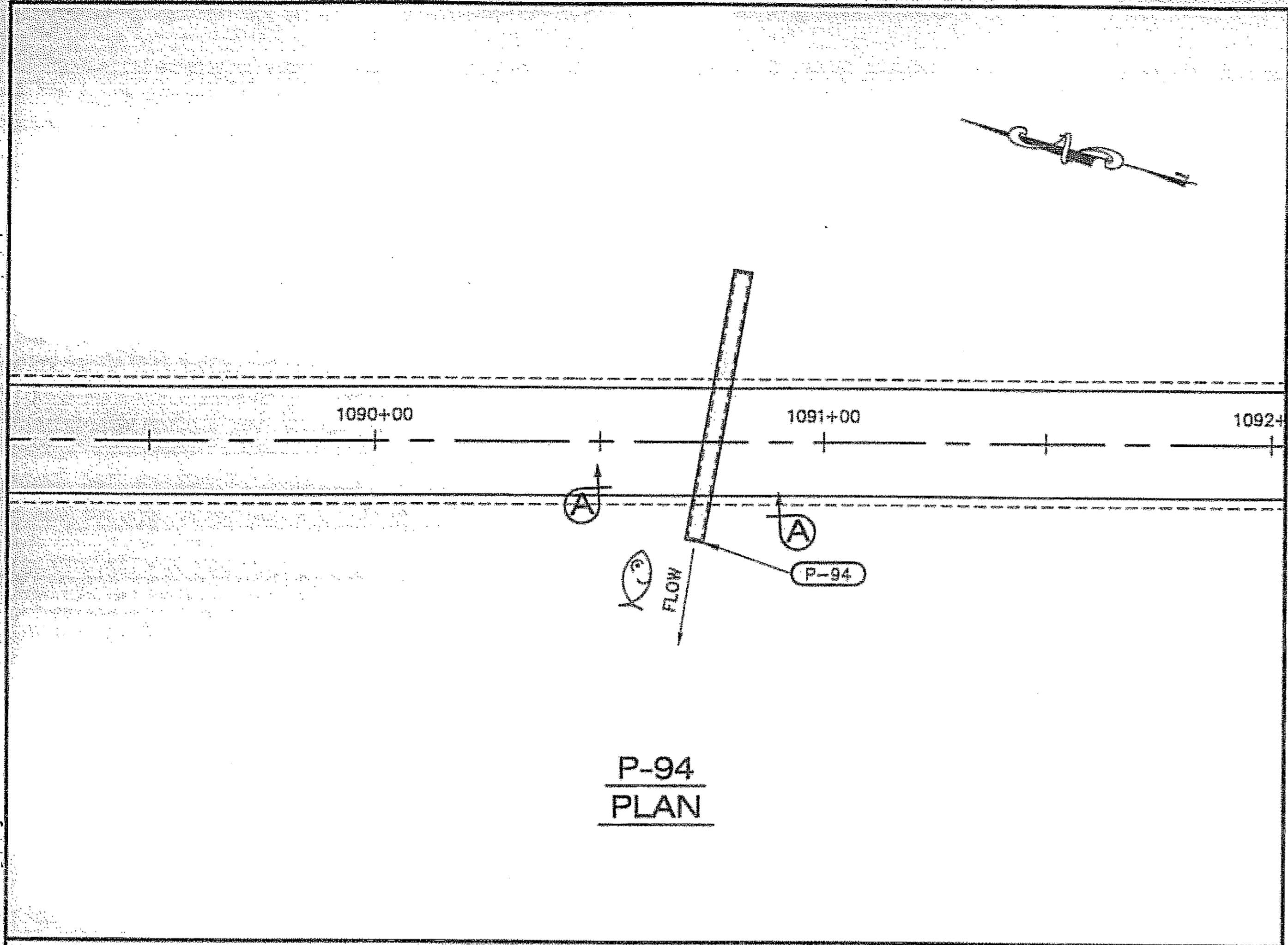
CHECKED BY: J. HEUMANN
 DRAWN BY: B. BENNETT

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD TO OHMER CREEK BRIDGE

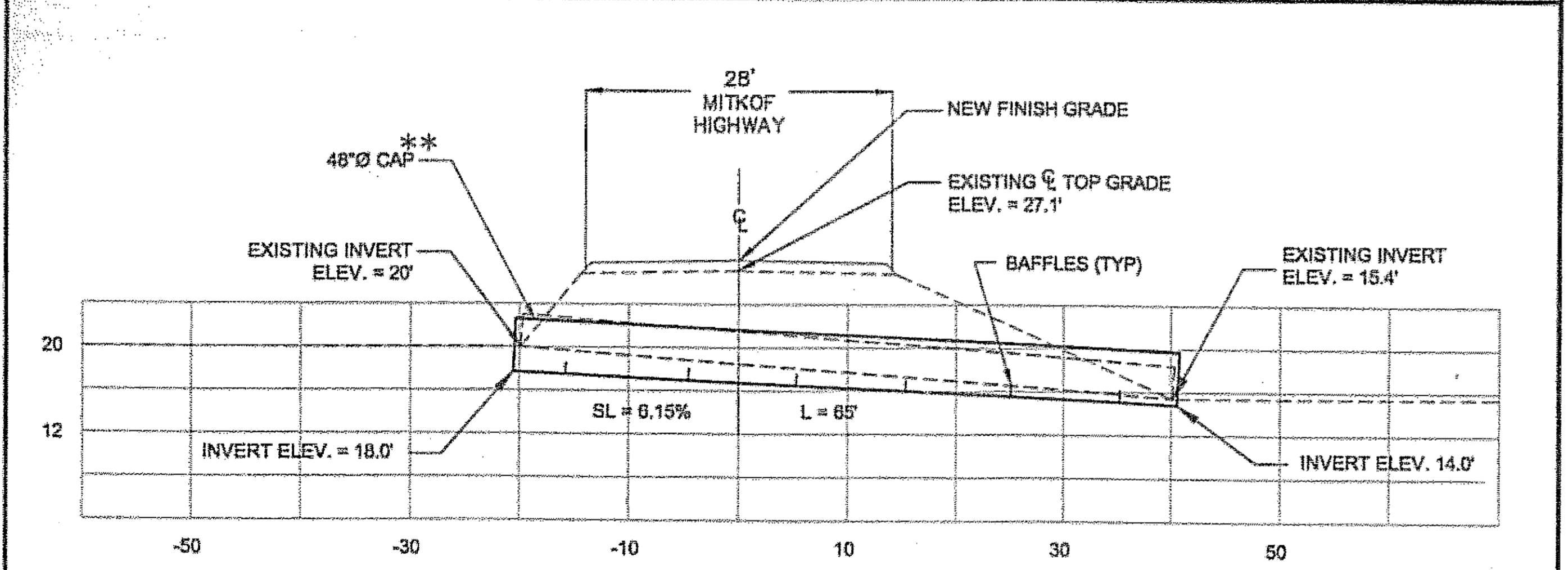
FISH CULVERT PLAN & PROFILE

PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
E7	26

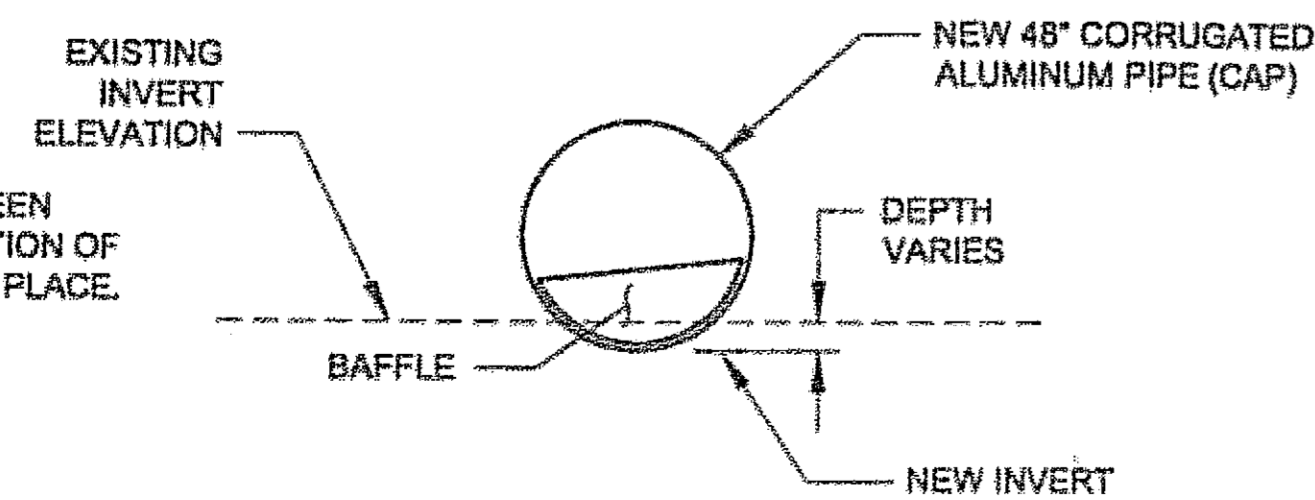


Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE *W. J. Holbrook* Date 2-12-08



** PIPE SHALL BE ALUMINUM WITH ANGULAR CORRUGATIONS

NOTE:
NO BACKFILL INSIDE PIPE BETWEEN BAFFLES. NATURAL ACCUMULATION OF STREAMBED MATERIAL TO TAKE PLACE.



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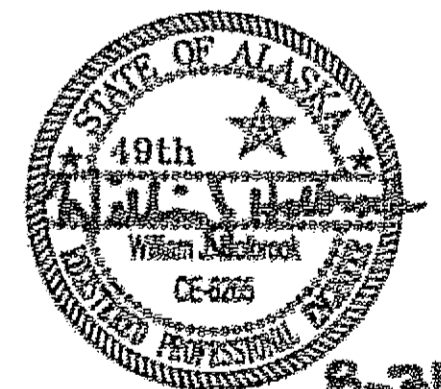
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ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

FISH CULVERT PLAN & PROFILE

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN

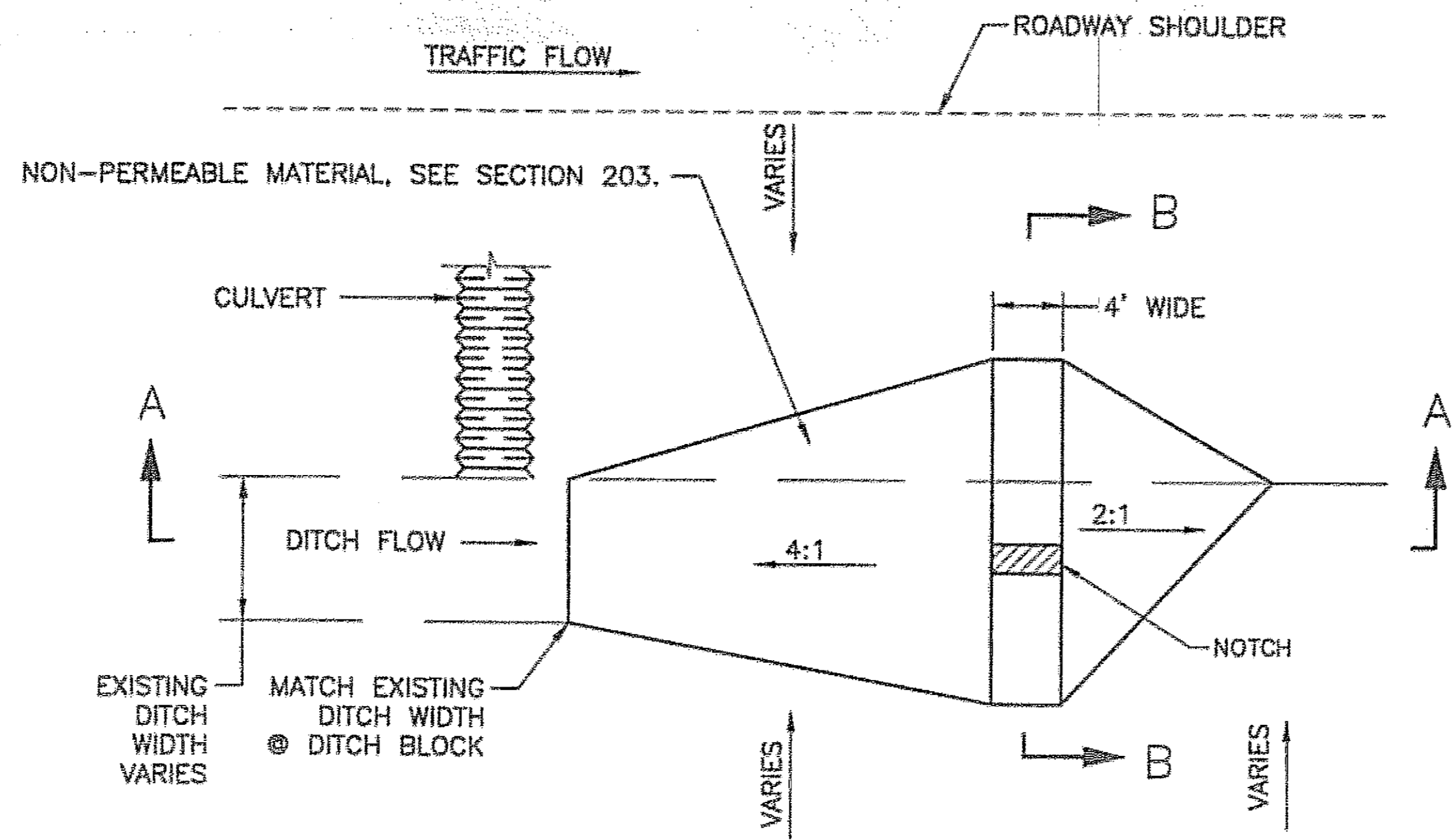
DRAWN BY: B. BENNETT

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

**FISH CULVERT
 PLAN & PROFILE**

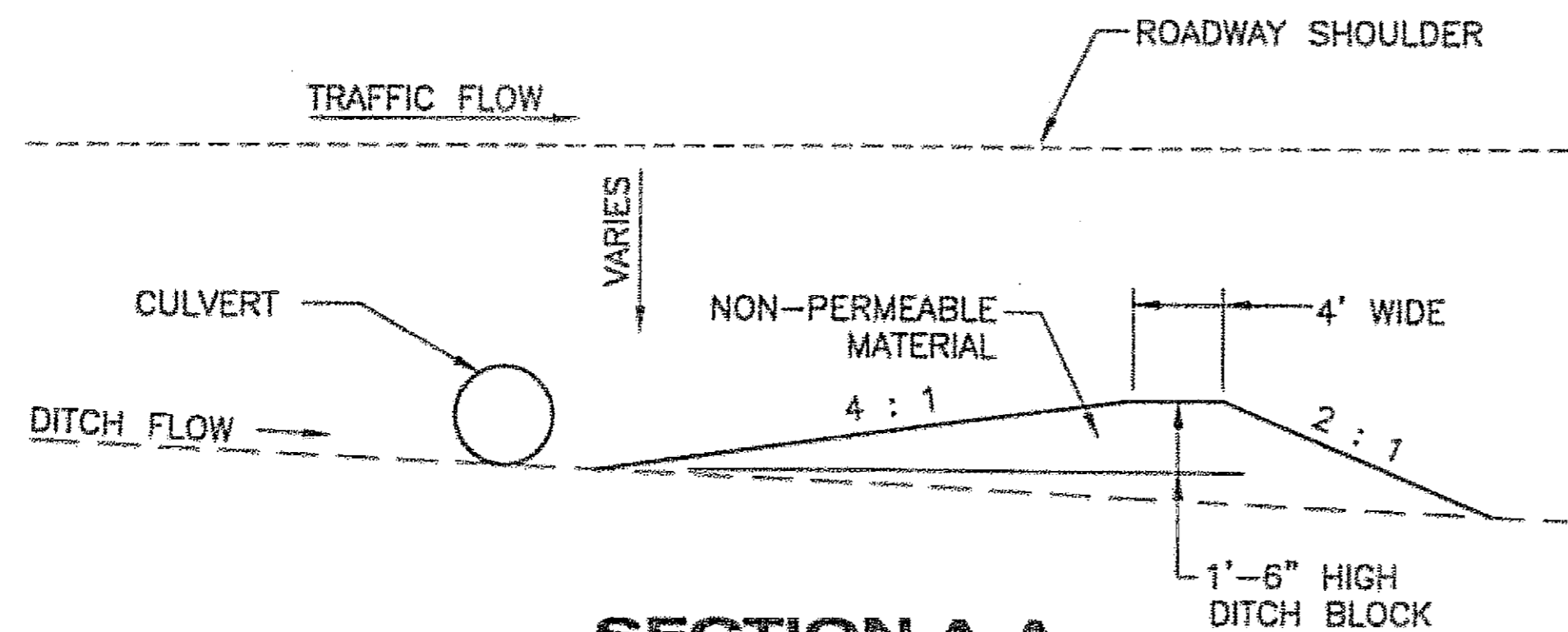
PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
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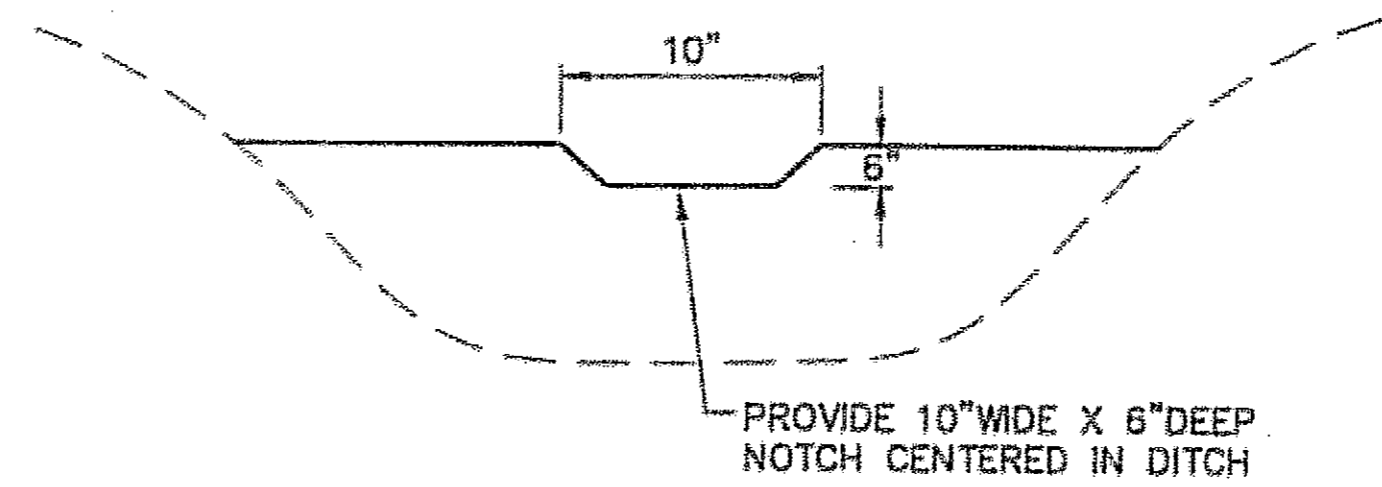


PLAN
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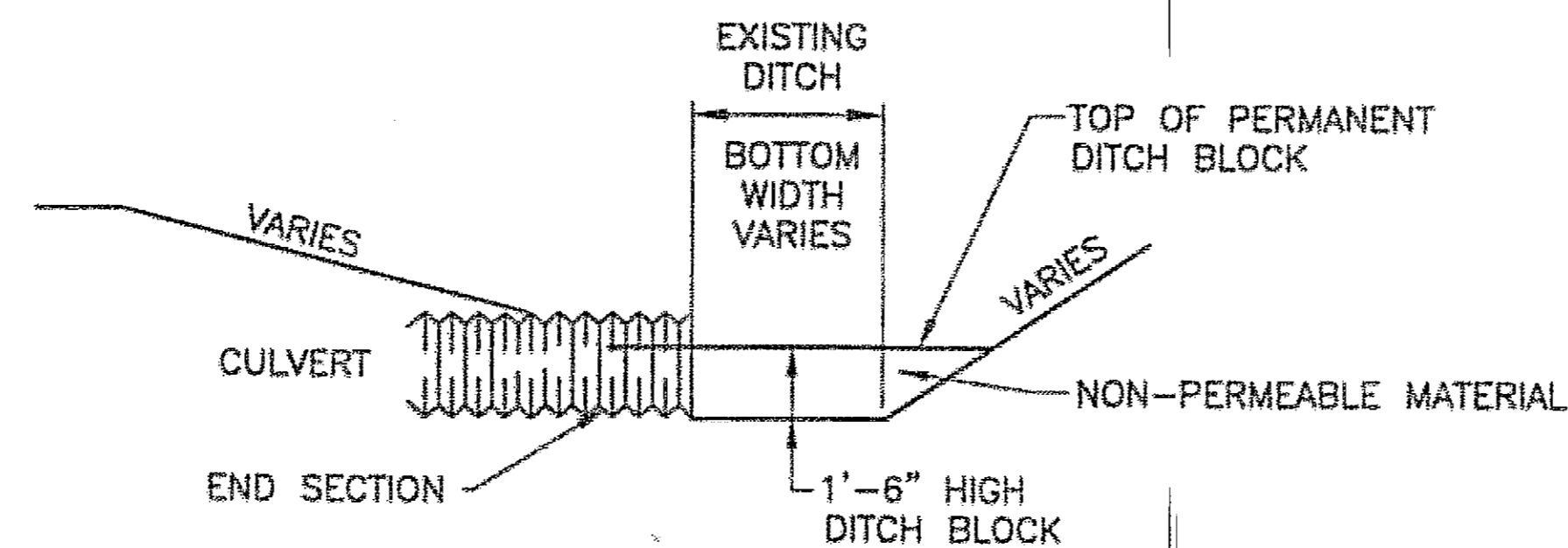
Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
PE *Henry J. Holbrook* Date 2-12-08



SECTION A-A
N.T.S.



SECTION B-B
N.T.S.



ELEVATION
N.T.S.

PERMANENT DITCH BLOCK DETAILS

SEE SUMMARY SHEET D4 FOR LOCATIONS

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ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

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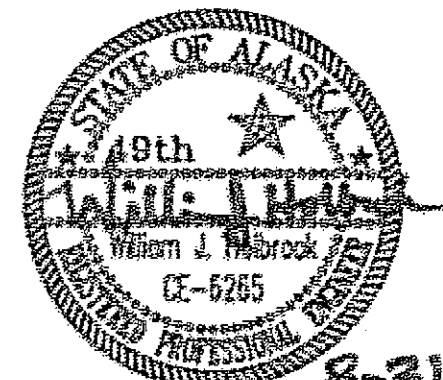
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PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
PROJECT NO. 69225
CRYSTAL LAKE HATCHERY ROAD
TO OHMER CREEK BRIDGE

**DITCH BLOCK
DETAILS**

DESIGNED BY: B. HOLBROOK



8-31-06

CHECKED BY: J. HEUMANN

DRAWN BY: B. BENNETT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION - SE REGION
PSG-SOUTH MITKOF HIGHWAY UPGRADE
(PHASE I)
PROJECT NO. 69225
CRYSTAL LAKE HATCHERY ROAD
TO OHMER CREEK BRIDGE

**DITCH BLOCK
DETAILS**

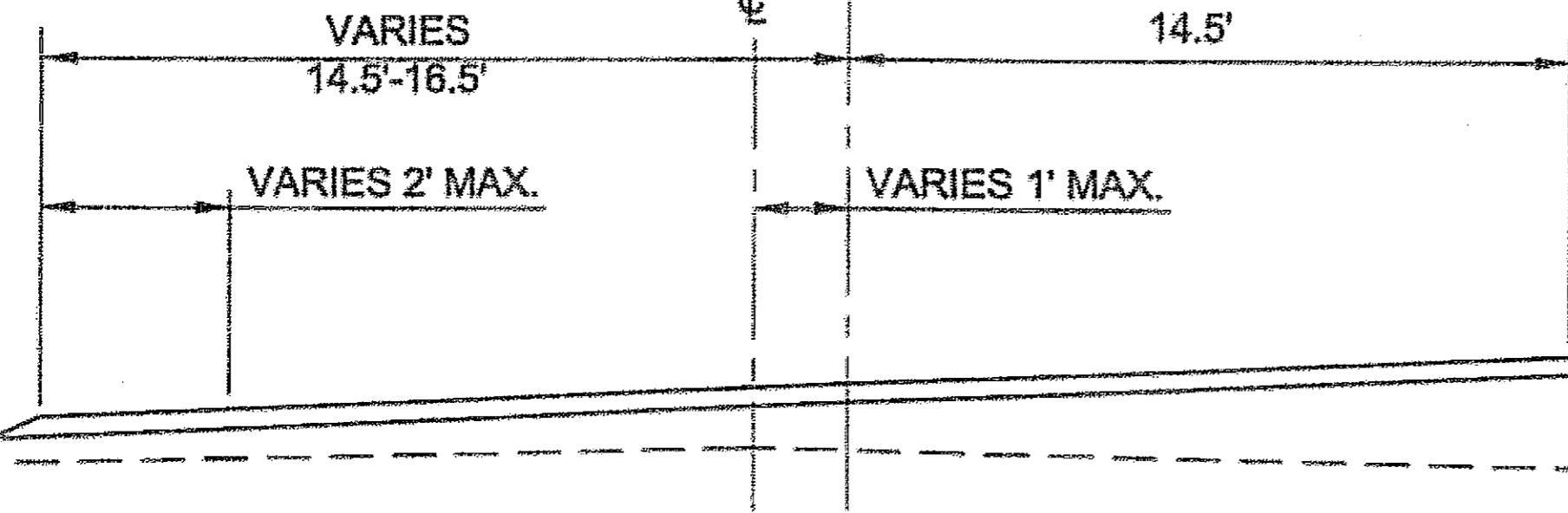
PROJECT DESIGNATION NUMBERS
MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
E9	26

GEOMETRIC

€

SHIFTED
€



TYPICAL CURVE WIDENING SECTION

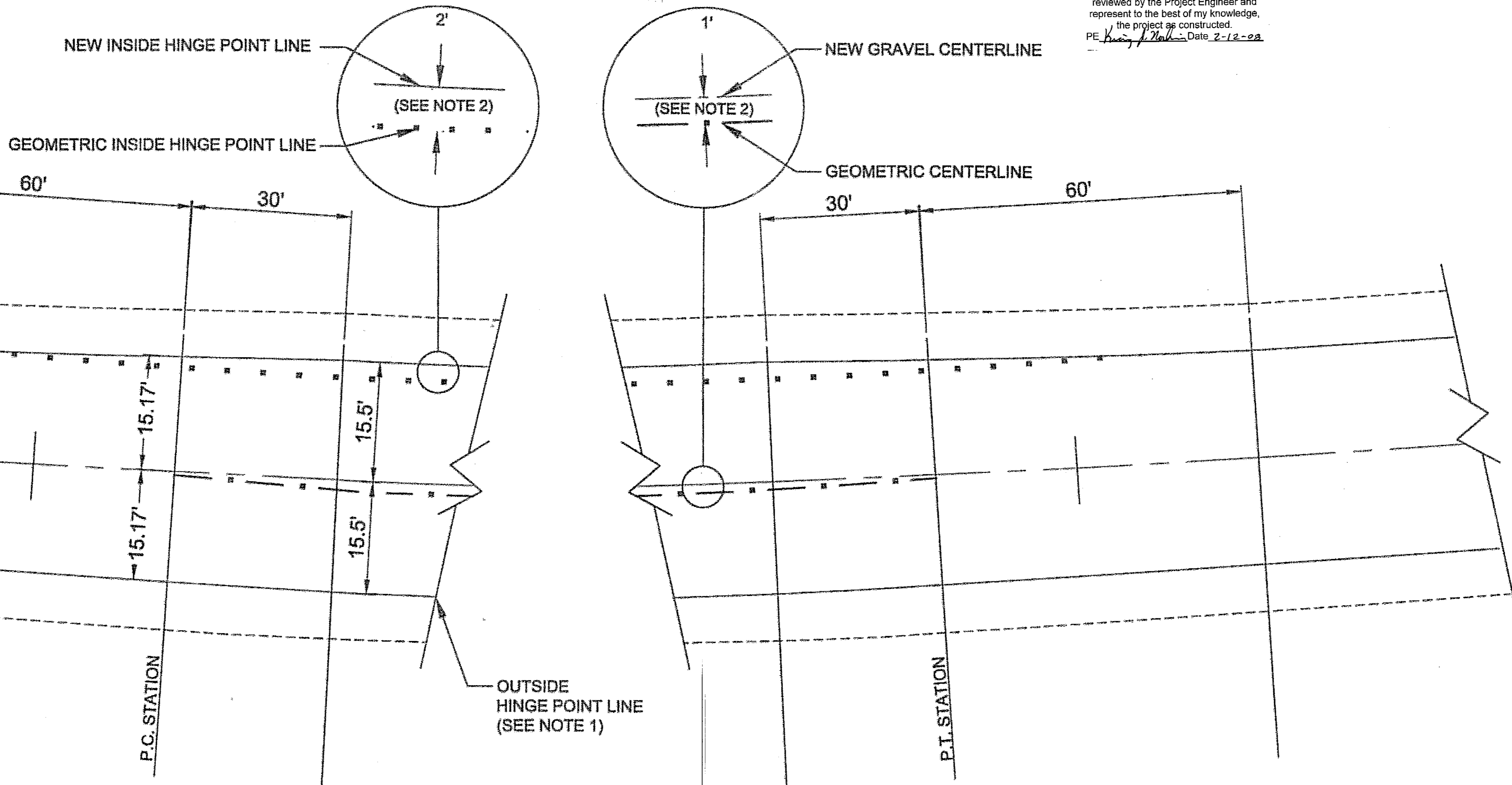
N.T.S.

CURVE WIDENING SUMMARY			
CURVE No.	PC STATION	PT STATION	REMARKS
3	900+22.70	916+10.50	
4	927+84.77	932+51.27	
5	942+66.92	965+22.00	
6	1008+68.80	1026+99.90	

NOTES:

- HOLD THE OUTSIDE HINGE POINT PER THE TYPICAL SECTION AND WIDEN TO THE INSIDE EXCLUSIVELY.
- AFTER ESTABLISHING BOTH ENDS OF THE TRANSITION, USE A STRING LINE TO CREATE AN ARC BETWEEN TYPICAL AND WIDENED ROAD WIDTHS.

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE *[Signature]* Date 2-12-06



PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

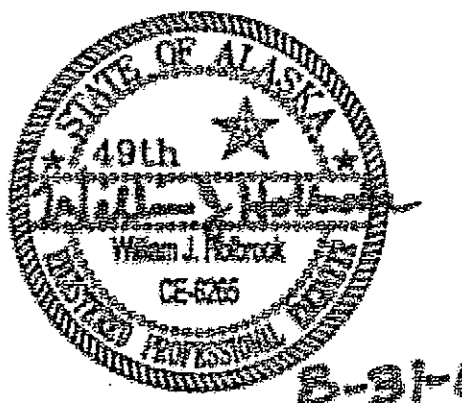
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ADDENDUM NUMBER
 ATTACHMENT NUMBER

RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

DESIGNED BY: M. LAVERING



CHECKED BY: J. HEUMANN
 DRAWN BY: DR DODGE

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE
 (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

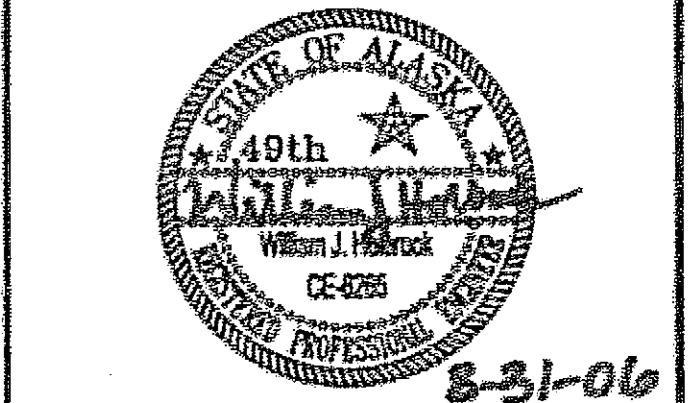
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 DETAILS**
 PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
E10	26

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE
MISCELLANEOUS DETAILS

DESIGNED BY: B. HOLBROOK

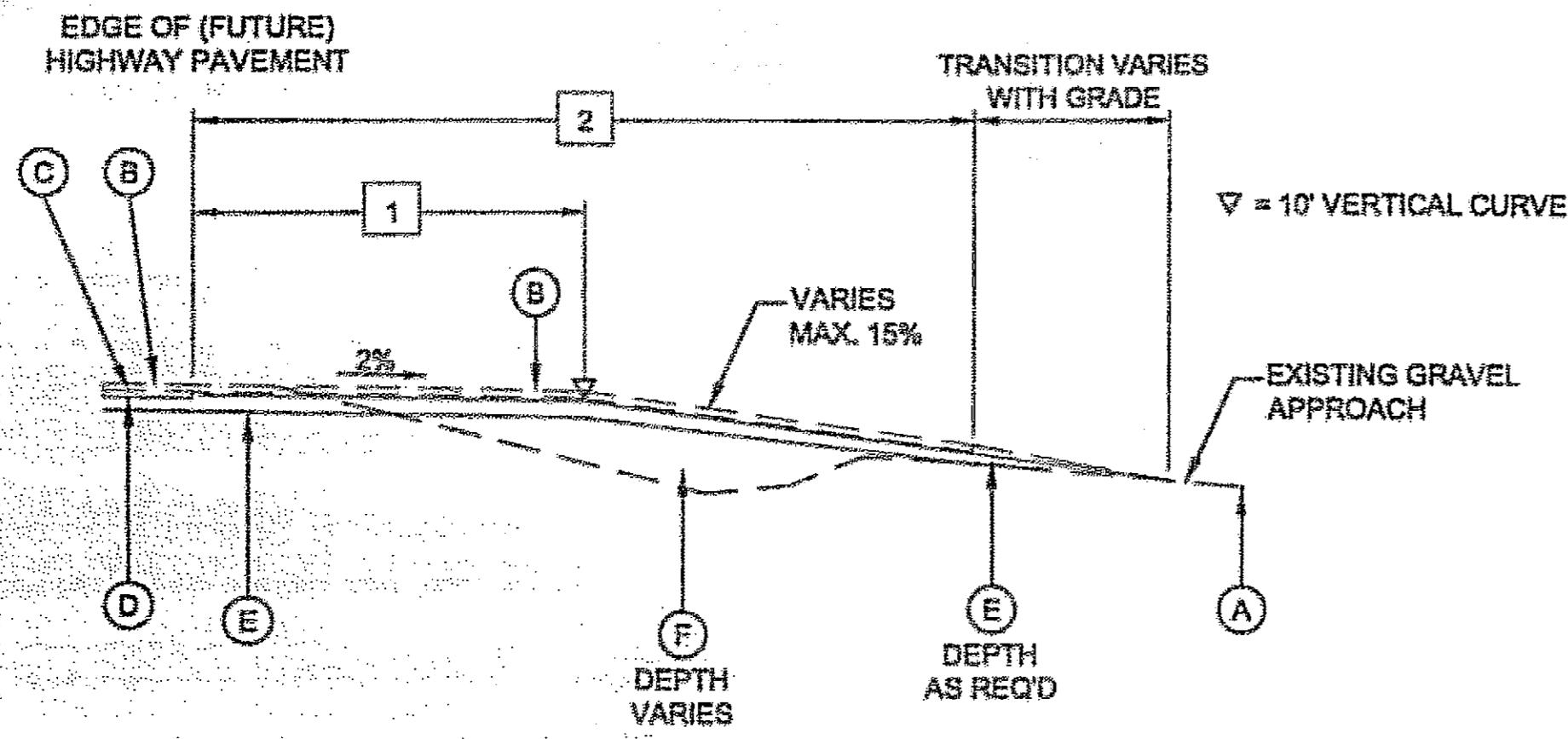


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 DRAWN BY: DR DODGE / R. GRANTHAM

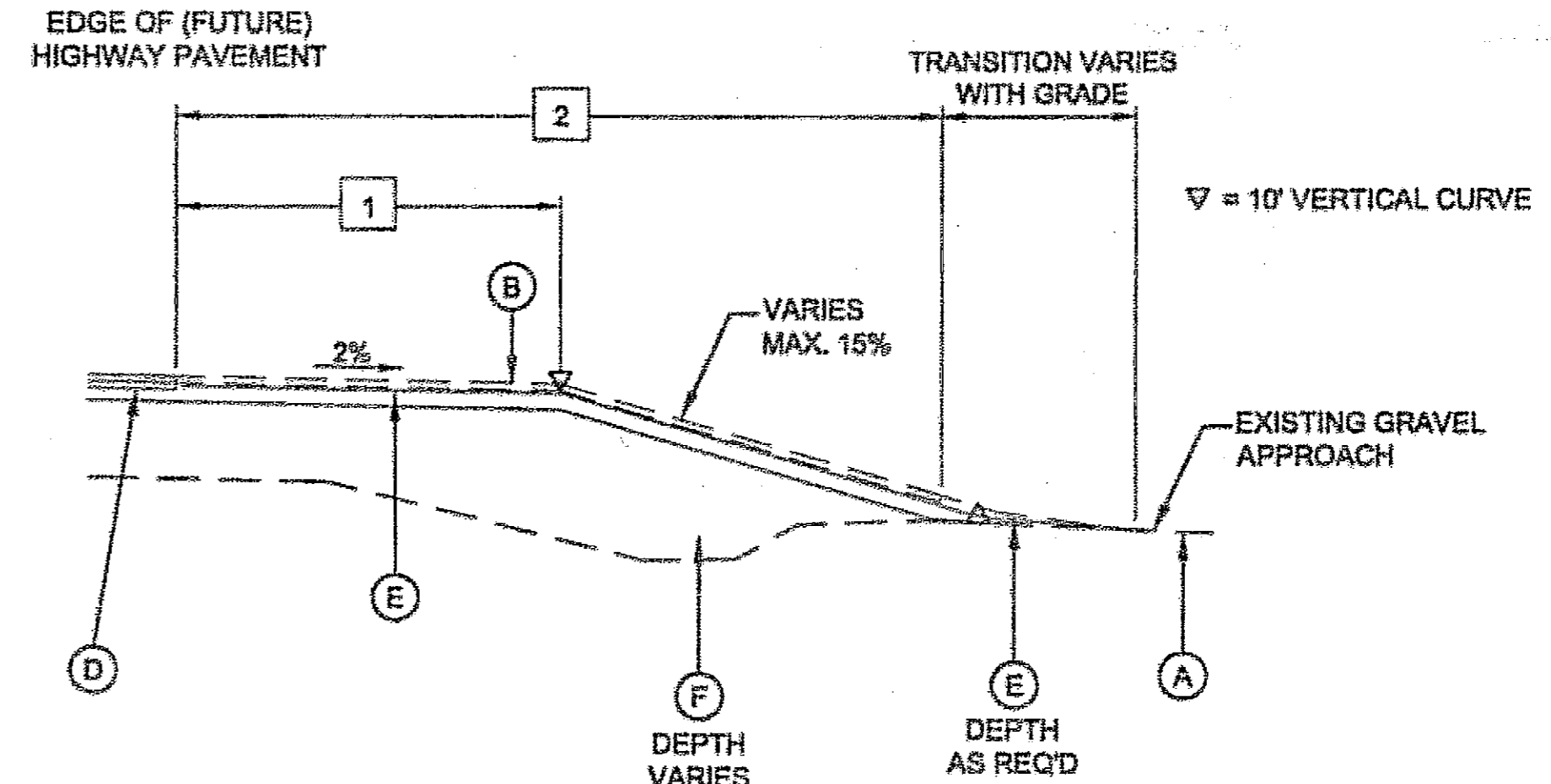
STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE
 (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

MISCELLANEOUS DETAILS
 PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

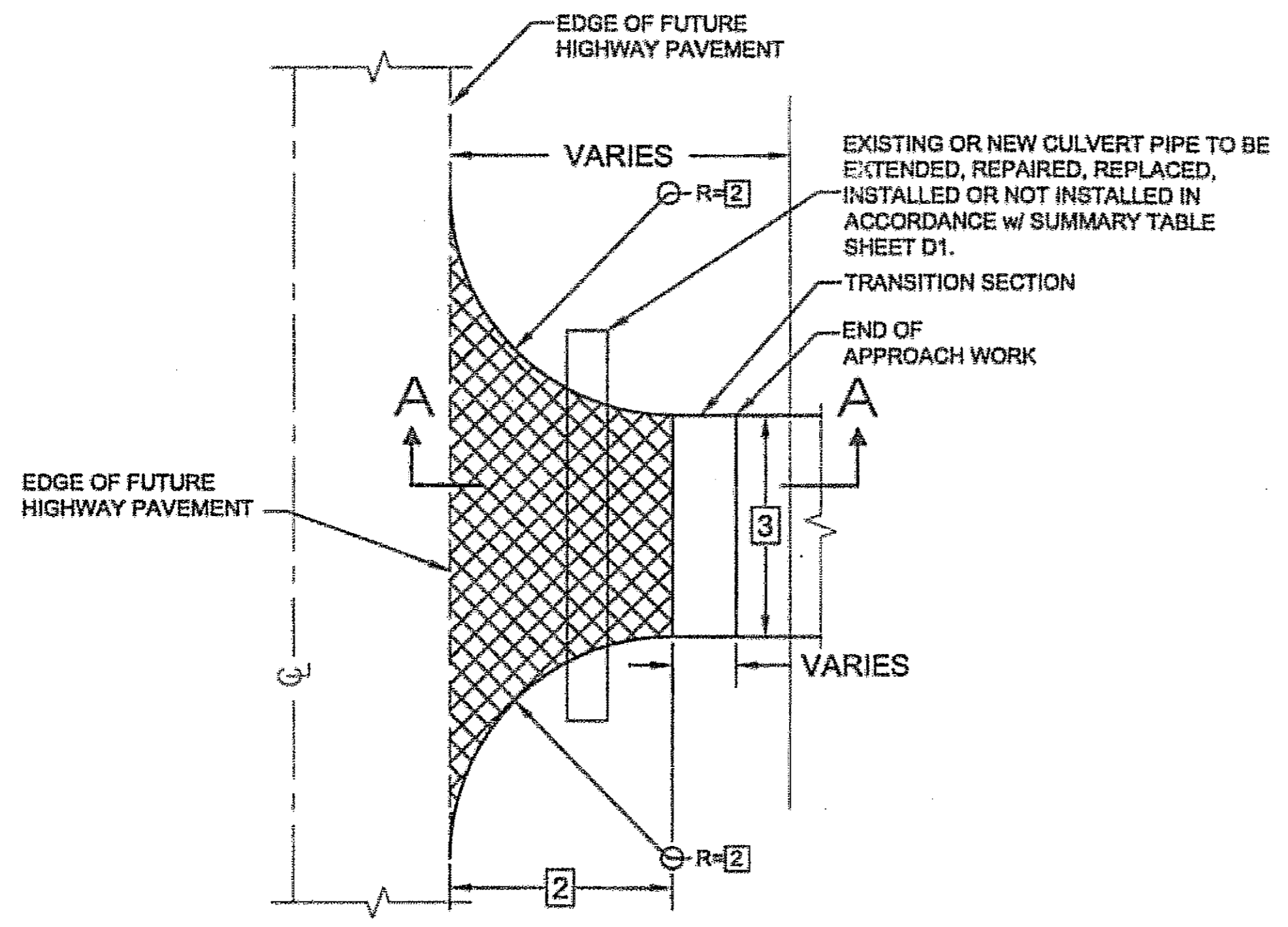
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
E11	26



SECTION A-A
 (STANDARD TYPICAL SECTION)



SECTION A-A
 (RAISED TYPICAL SECTION)



PLAN
TYPICAL APPROACH

*Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed. Date: 2-1-2008
 PE: Kevin J. Verbeke*

COMMERCIAL APPROACHES

- 1 30' LANDING
- 2 40' OR TO ROW LINE, WHICHEVER IS LESS
- 3 MATCH EXISTING WIDTH, 34' MAX.

RESIDENTIAL APPROACHES

- 1 10' LANDING
- 2 20' OR TO ROW LINE, WHICHEVER IS LESS
- 3 MATCH EXISTING WIDTH, 20' MAX.

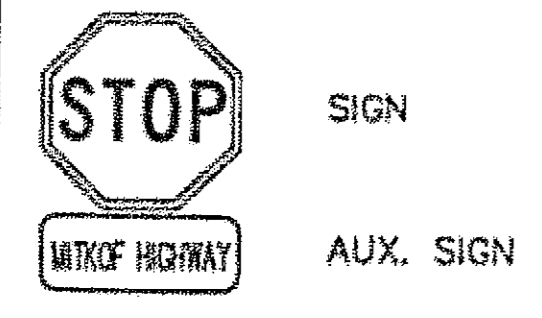
N.I.C.

LEGEND

- (A) EXISTING GROUND
- (B) 2" FUTURE ASPHALT CONCRETE PAVEMENT, TYPE II, CLASS B
- (C) STE-1 ASPHALT FOR FUTURE TACK COAT
- (D) 1 1/2" FUTURE ASPHALT TREATED BASE COURSE
- (E) 4" SUBBASE GRADING "C"
- (F) SELECT MATERIAL, TYPE "D"
- (G) SEEDING
- (H) W-BEAM GUARDRAIL
- (I) GEOTEXTILE, SEPARATION FABRIC
- (J) DITCH RECONDITIONING
- (K) REMOVING AND DISPOSING OF GUARDRAIL
- (L) RECONDITIONING

N.I.C.

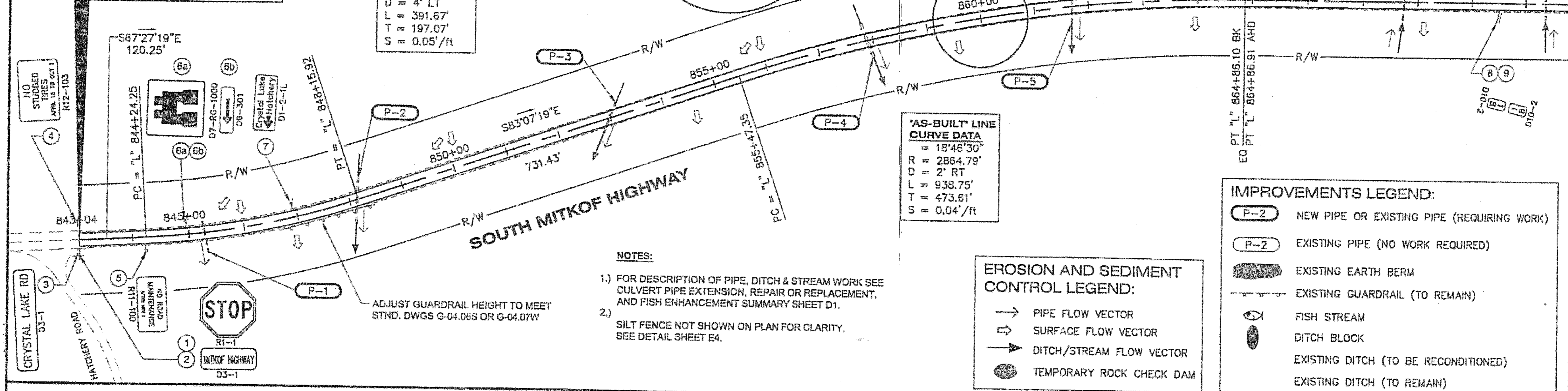
SIGNING LEGEND:



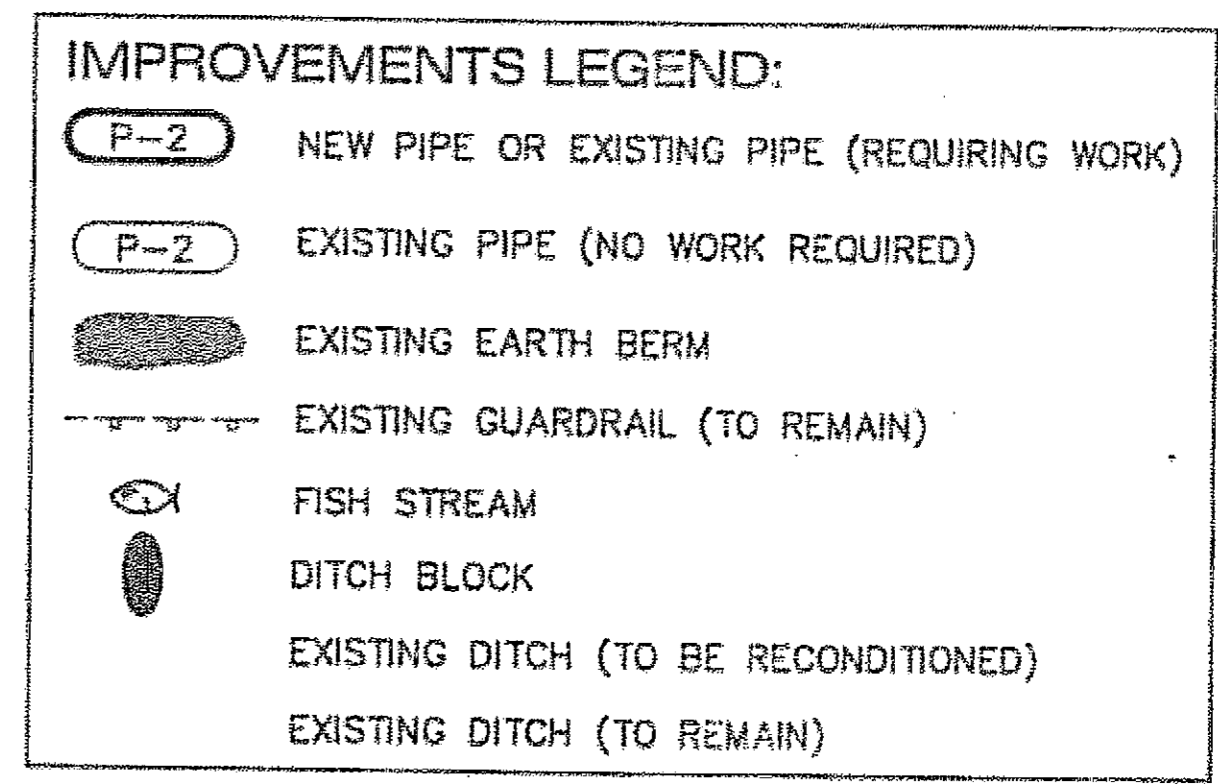
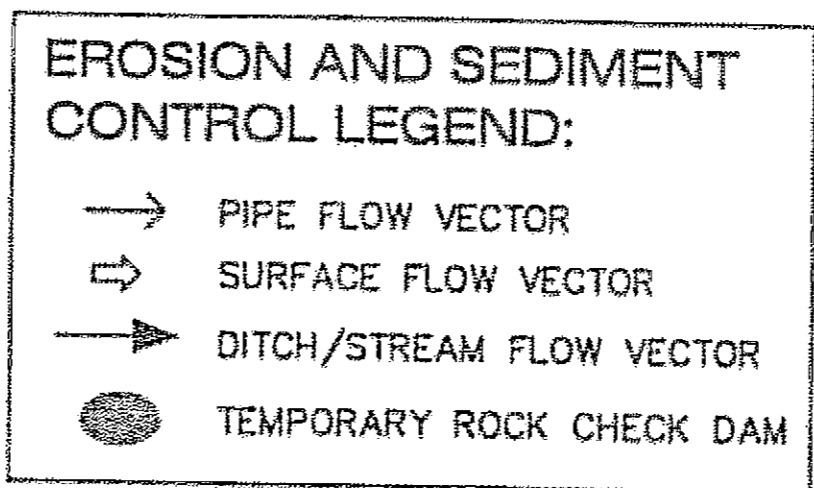
* BOP STA 843+04 IS LOCATED AT THE END OF EXISTING PAVEMENT.

'AS-BUILT' LINE CURVE DATA
 $\Delta = 15^{\circ}40'00''$
 $R = 1432.39'$
 $D = 4' LT$
 $L = 391.67'$
 $T = 197.07'$
 $S = 0.05'/ft$

* BEGINNING OF PROJECT STA. "L" 843+04

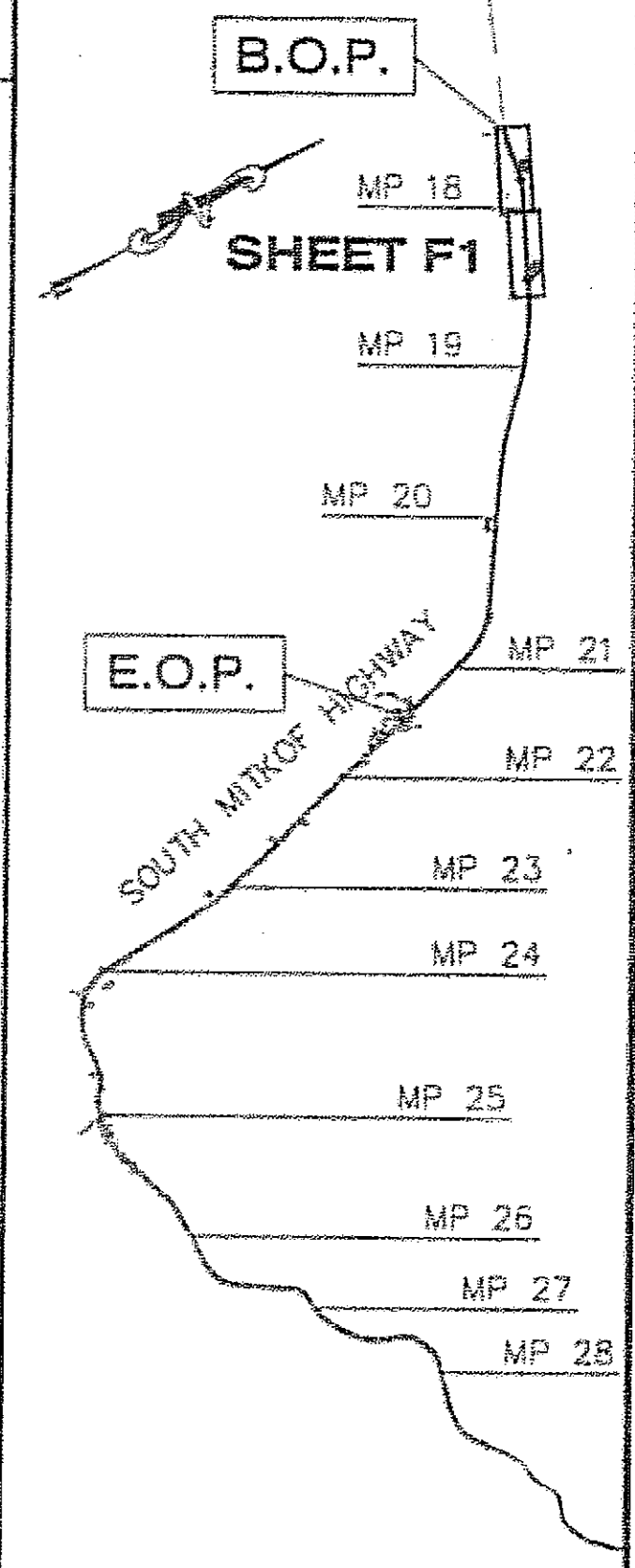


- NOTES:**
- FOR DESCRIPTION OF PIPE, DITCH & STREAM WORK SEE CULVERT PIPE EXTENSION, REPAIR OR REPLACEMENT, AND FISH ENHANCEMENT SUMMARY SHEET D1.
 - SILT FENCE NOT SHOWN ON PLAN FOR CLARITY. SEE DETAIL SHEET E4.

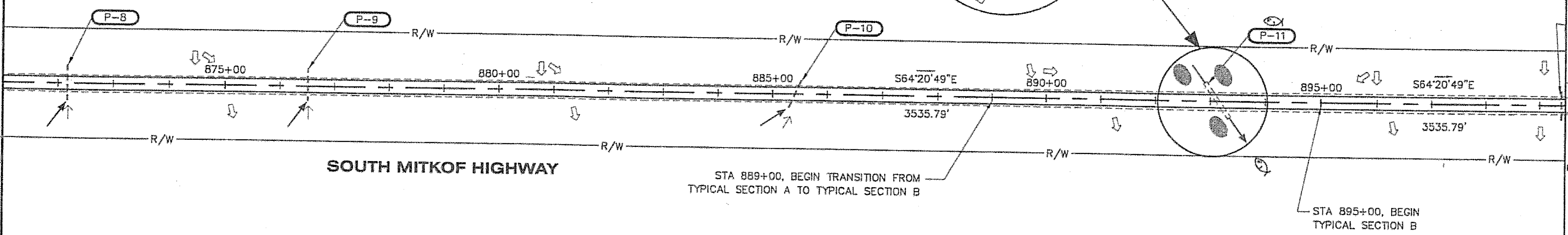
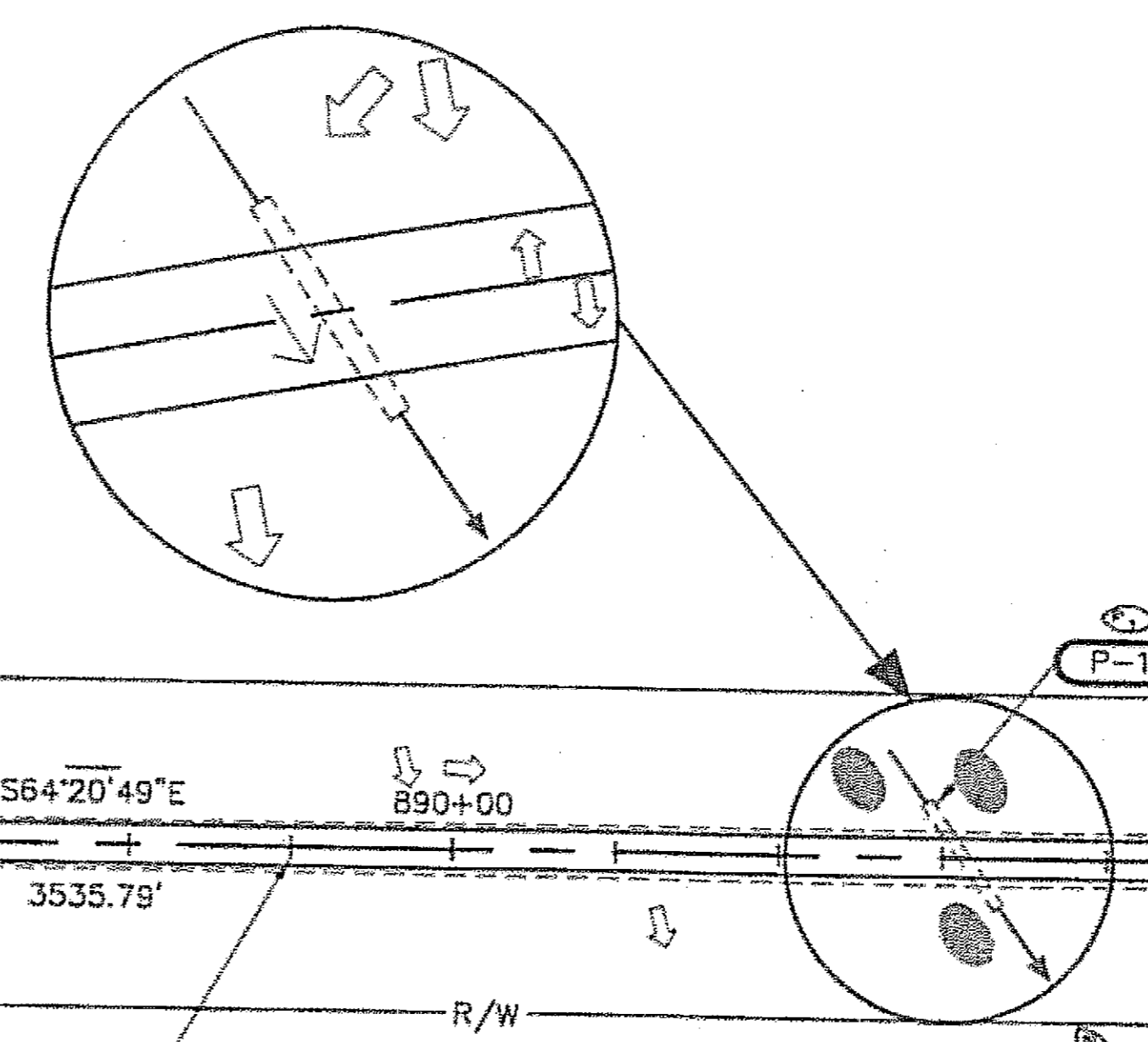


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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE *Arny J. York* Date 2-12-08



DESIGNED BY: B. HOLBROOK

CHECKED BY: J. HEUMANN

DRAWN BY: DR DODGE/R. GRANTHAM

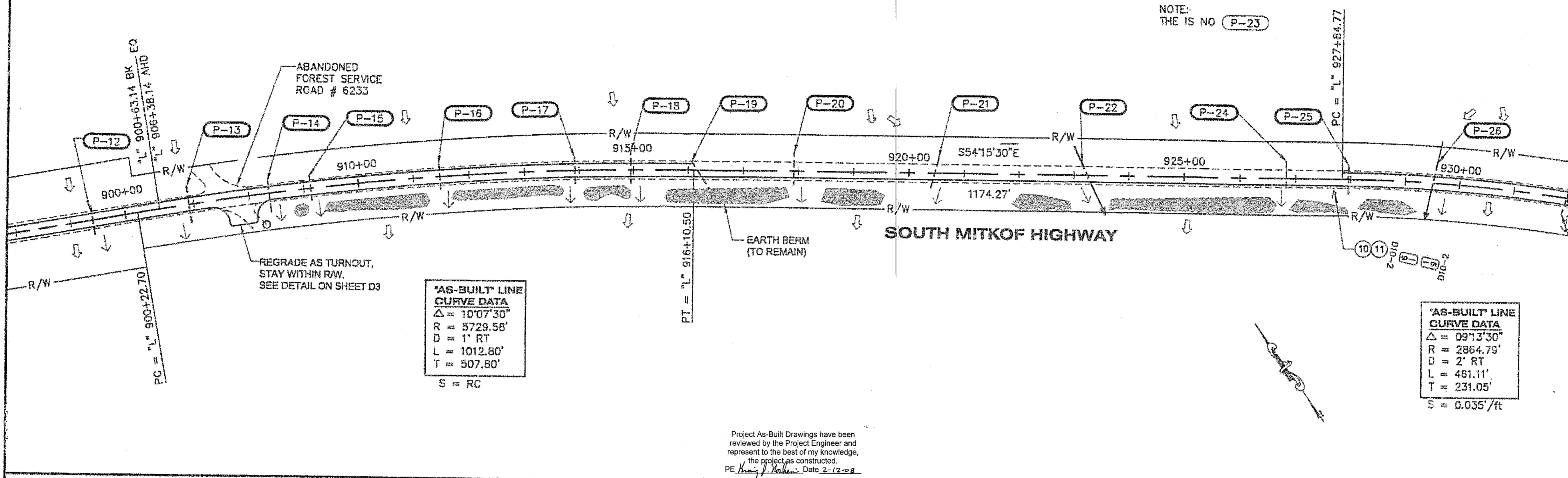
STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSB-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD TO OHMER CREEK BRIDGE

LAYOUT PLAN VIEWS

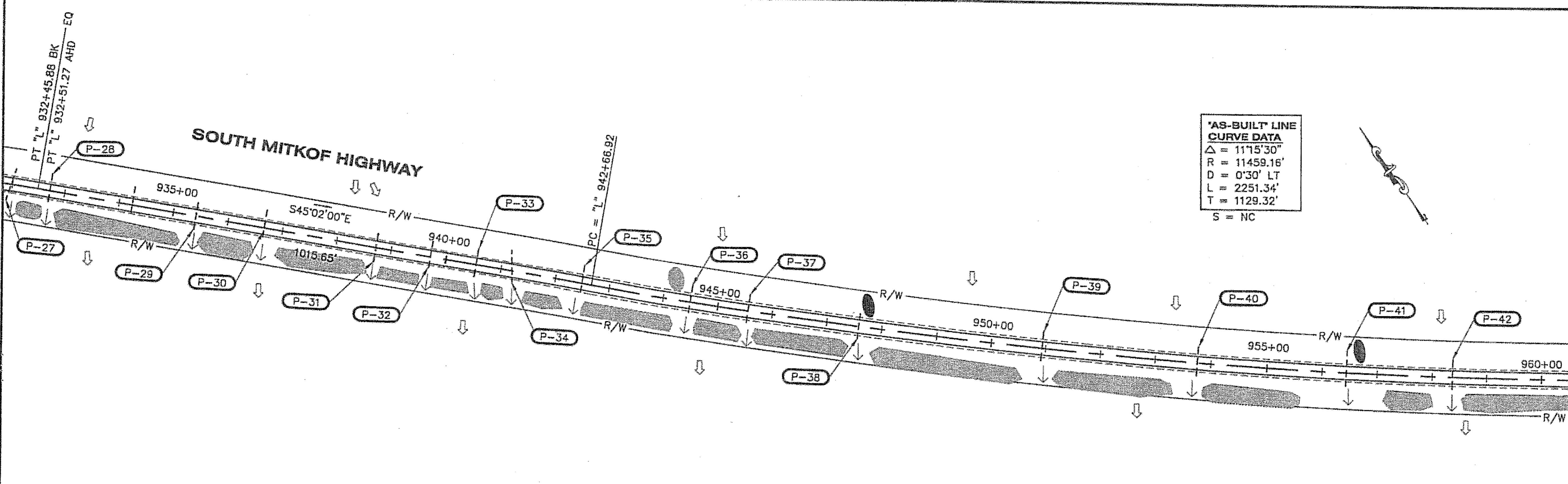
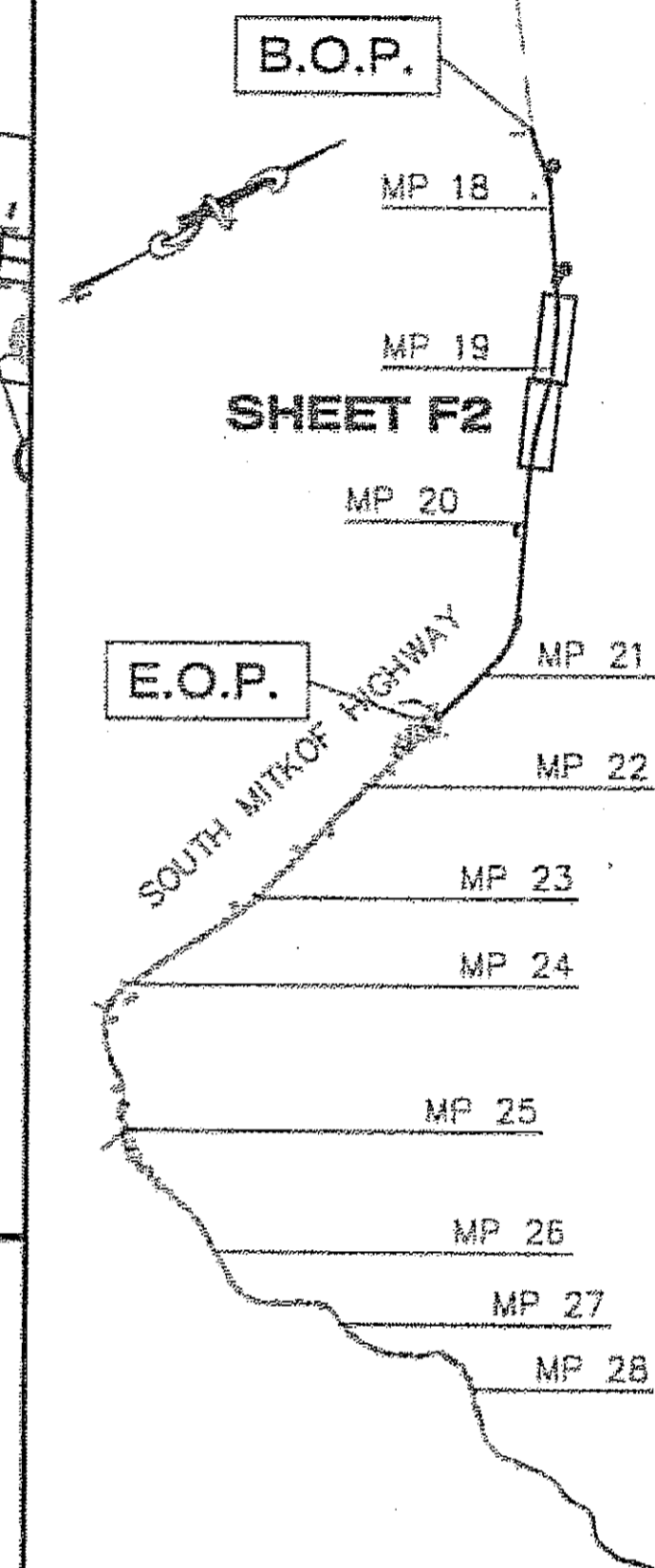
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MGS-0937(33)-69225	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
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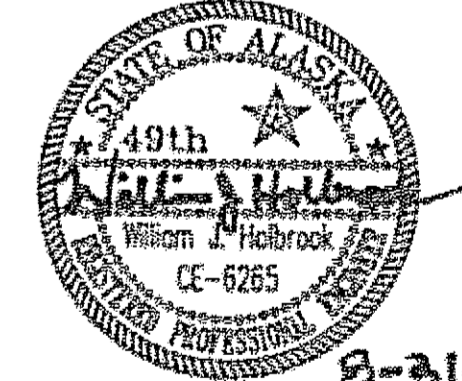
ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE *W. J. Walker*, Date 2-12-08



DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN
 DRAWN BY: DR DODGE/R. GRANTHAM
 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD TO OHMER CREEK BRIDGE

LAYOUT PLAN VIEWS

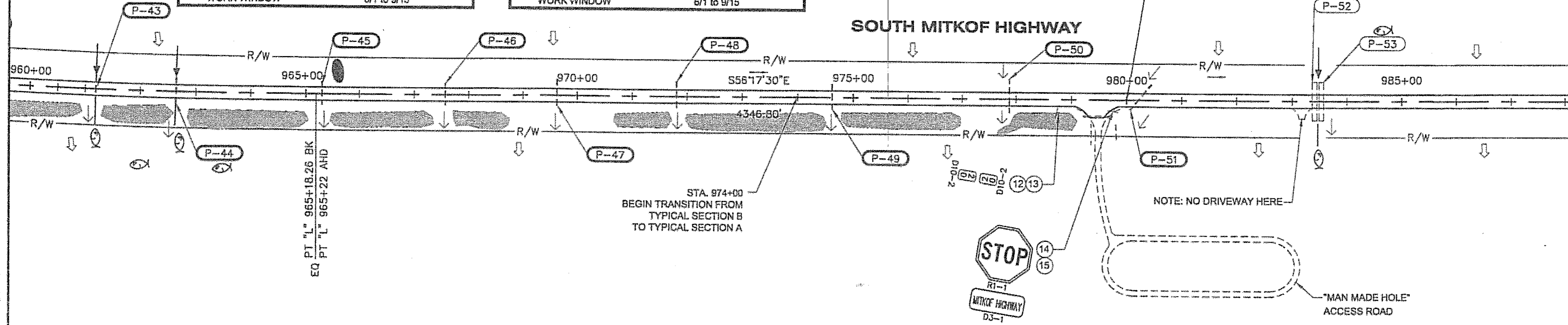
PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
F2	26

HYDRAULIC SUMMARY P-43		
CULVERT SIZE 24" HDPE (0.060 IN. MIN. THICKNESS) WITH 0 (INLET) TO 0.58' IMBEDDED DEPTH SMOOTH - BORE INNER LINING		
DRAINAGE AREA =		0.01 SQ. MI.
LENGTH		50.0
INVERT ELEVATIONS		28.2' (INLET) 27.2' (OUTLET)
DESIGN FREQUENCY	DESIGN FLOWS (CFS)	DESIGN HIGHWATER ELEVATION (FT.)
Q ₅₀	12	31.2
CAPACITY @ HwD=1.0		12 CFS
PURPOSE: STREAM CHANNEL CROSSING WITH FISH PASSAGE PREVENTION PROVISIONS.		
WORK WINDOW		8/1 to 9/15

HYDRAULIC SUMMARY P-44		
CULVERT SIZE 24" HDPE (0.060 IN. MIN. THICKNESS) WITH 0 (INLET) TO 0.58' IMBEDDED DEPTH SMOOTH - BORE INNER LINING		
DRAINAGE AREA =		0.01 SQ. MI.
LENGTH		49.0
INVERT ELEVATIONS		27.2' (INLET) 26.2' (OUTLET)
DESIGN FREQUENCY	DESIGN FLOWS (CFS)	DESIGN HIGHWATER ELEVATION (FT.)
Q ₅₀	12	30.8
CAPACITY @ HwD=1.0		12 CFS
PURPOSE: STREAM CHANNEL CROSSING WITH FISH PASSAGE PREVENTION PROVISIONS.		
WORK WINDOW		8/1 to 9/15

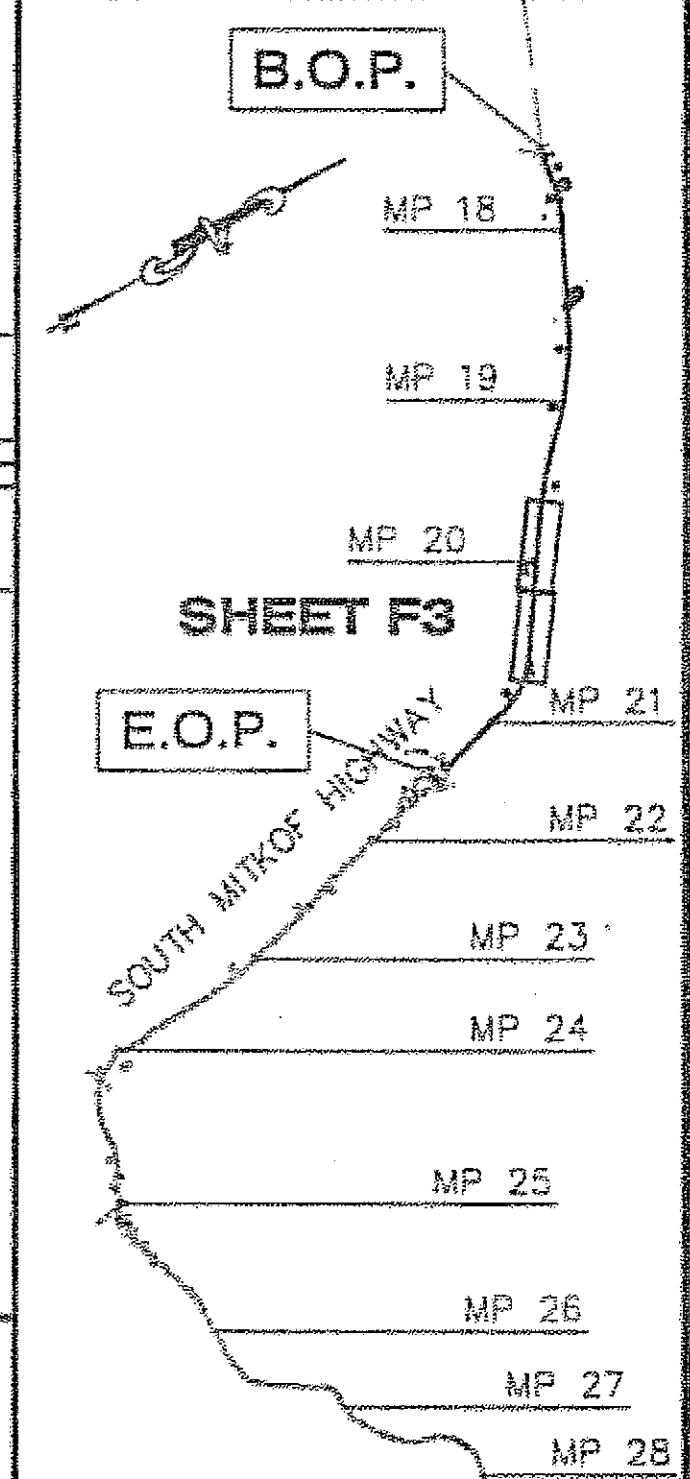
NOTE: THERE ARE NO SIGN NOS. 16, 17 & 18.



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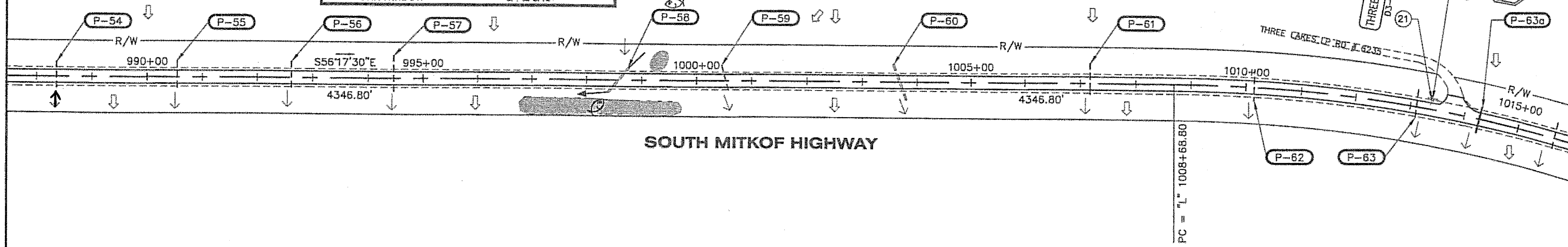
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RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



HYDRAULIC SUMMARY P-58		
CULVERT SIZE 36" CAP (16 GA. MIN. THICKNESS) WITH 1.2' IMBEDDED DEPTH ANNULAR CORRUGATIONS (3" x 1")		
DRAINAGE AREA =		0.025 SQ. MI.
LENGTH		59.0
INVERT ELEVATIONS		33.6' (INLET) 32.1' (OUTLET)
DESIGN FREQUENCY	DESIGN FLOWS (CFS)	DESIGN HIGHWATER ELEVATION (FT.)
Q ₅₀	24	39.2
CAPACITY @ HwD=0.8		35 CFS
PURPOSE: STREAM CHANNEL CROSSING WITH FISH PASSAGE PROVISIONS.		
WORK WINDOW		8/1 to 9/15

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project, as constructed.
PE *Kevin J. Walden*, Date 2-12-08



DESIGNED BY: B. HOLBROOK

CHECKED BY: J. HEUMANN

DRAWN BY: DR DODGE/R. GRANTHAM

STATE OF ALASKA
49th
B. Holbrook
William J. Holbrook
CE-6265
PROFESSIONAL ENGINEER
8-31-06

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION - SE REGION
PSG-SOUTH MITKOF HIGHWAY UPGRADE
(PHASE I)
PROJECT NO. 89225
CRYSTAL LAKE HATCHERY ROAD
TO OHMER CREEK BRIDGE

**LAYOUT PLAN
VIEWS**

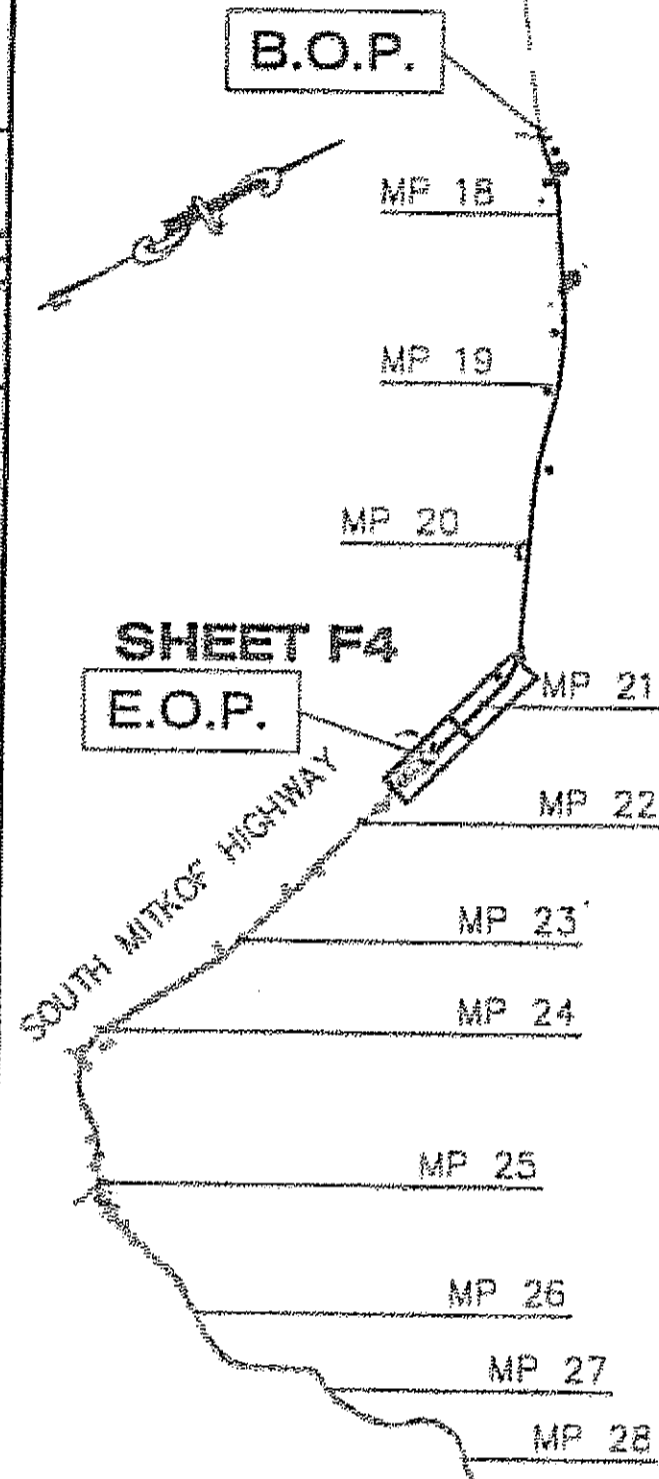
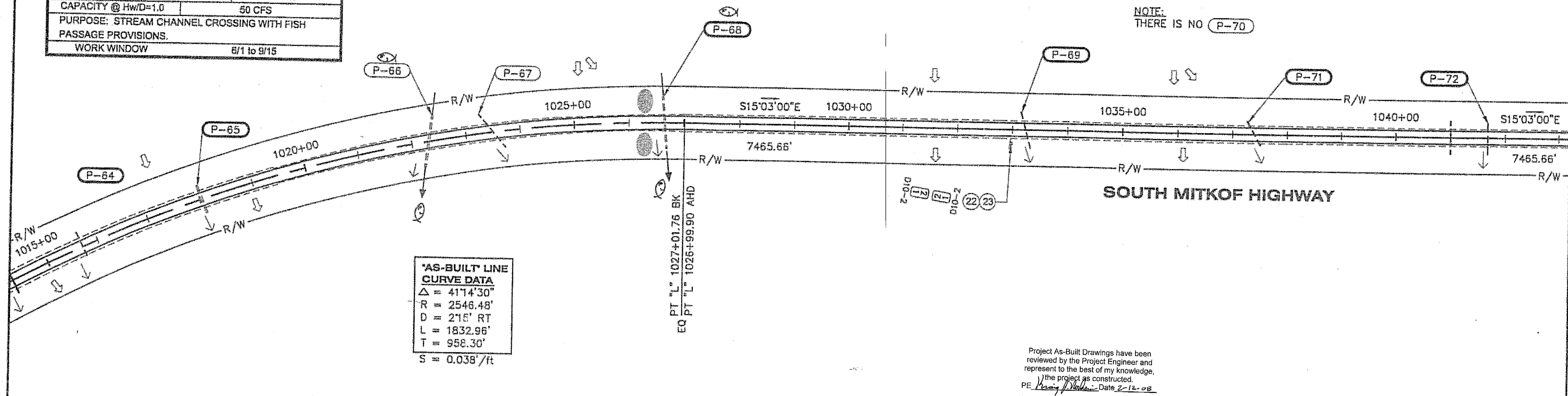
PROJECT DESIGNATION NUMBERS	
MGS-0937(33)-69225	
STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
F3	26

HYDRAULIC SUMMARY P-68		
CULVERT SIZE 42" CAP (18 GA. MIN. THICKNESS)		
WITH 1' IMBEDDED DEPTH		
ANNULAR CORRUGATIONS (3" x 1")		
DRAINAGE AREA =	0.06 SQ. MI.	
LENGTH	89.0	
INVERT ELEVATIONS	27.9' (INLET)	
	21.6' (OUTLET)	
DESIGN FREQUENCY	DESIGN FLOWS (CFS)	DESIGN HIGHWATER ELEVATION (FT.)
C_s	50	44.0
CAPACITY @ Hw/D=1.0	50 CFS	
PURPOSE: STREAM CHANNEL CROSSING WITH FISH PASSAGE PROVISIONS.		
WORK WINDOW	8/1 to 9/15	

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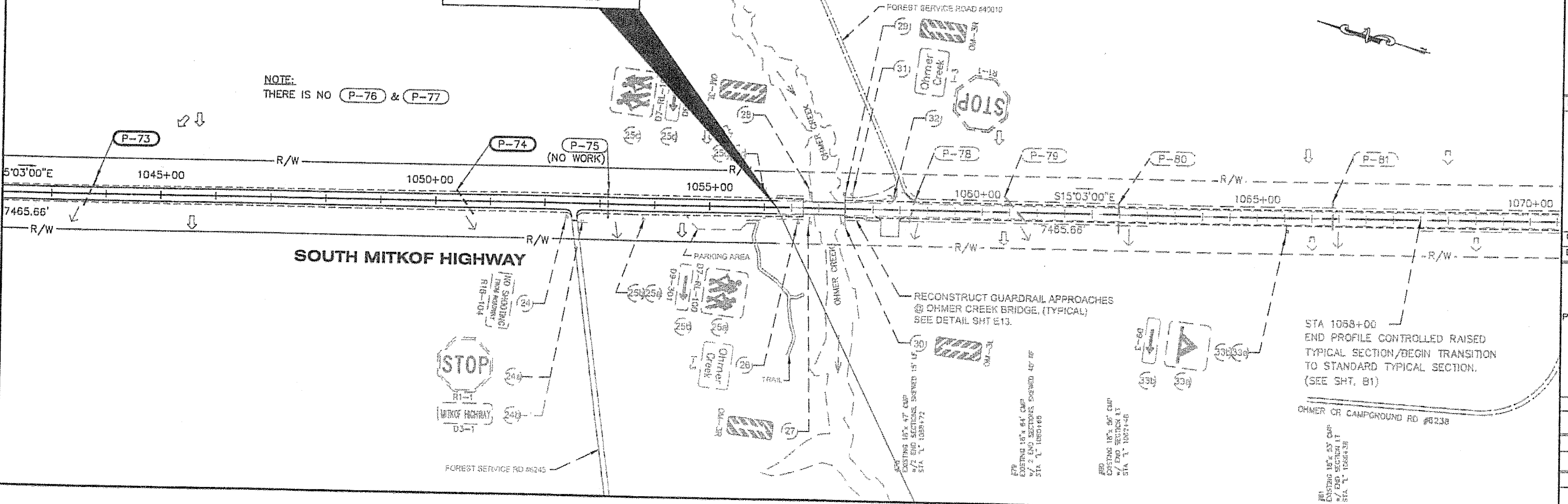
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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



NOTE:
EOP STA. 1056+23 IS LOCATED 11' ALONG CENTERLINE BACK FROM BEGINNING OF NEW OHMER CREEK BRIDGE APPROACH SLAB (STA. 1056+34) OR 29' BACK ALONG CENTERLINE FROM BEGINNING BRIDGE STA. 1056+52.

END OF PROJECT
STA. "L" 1056+23



DESIGNED BY: B. HOLBROOK

CHECKED BY: J. HEUMANN
DRAWN BY: DR DODGE/R. GRANTHAM

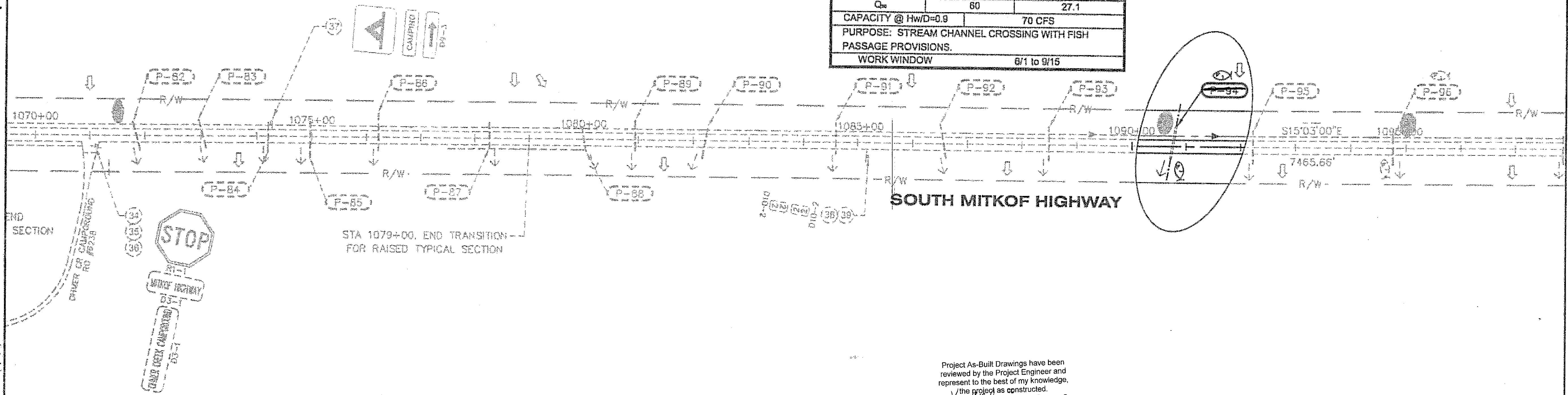
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION - SE REGION
PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
PROJECT NO. 69225
CRYSTAL LAKE HATCHERY ROAD TO OHMER CREEK BRIDGE

LAYOUT PLAN VIEWS

PROJECT DESIGNATION NUMBERS
MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
F4	26

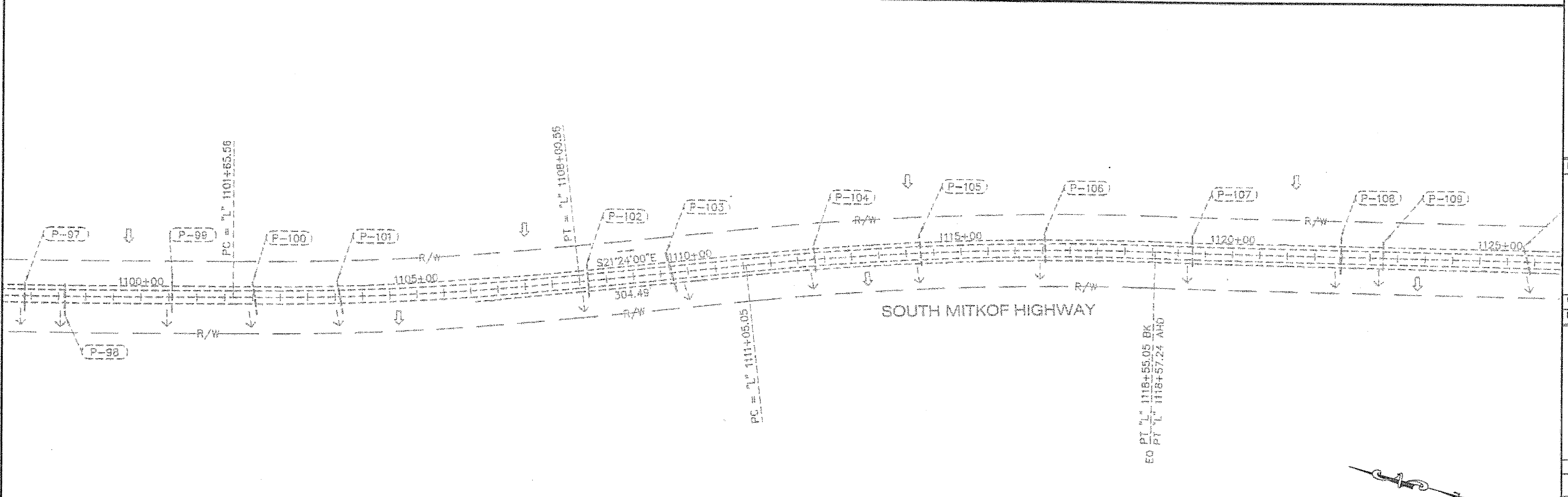
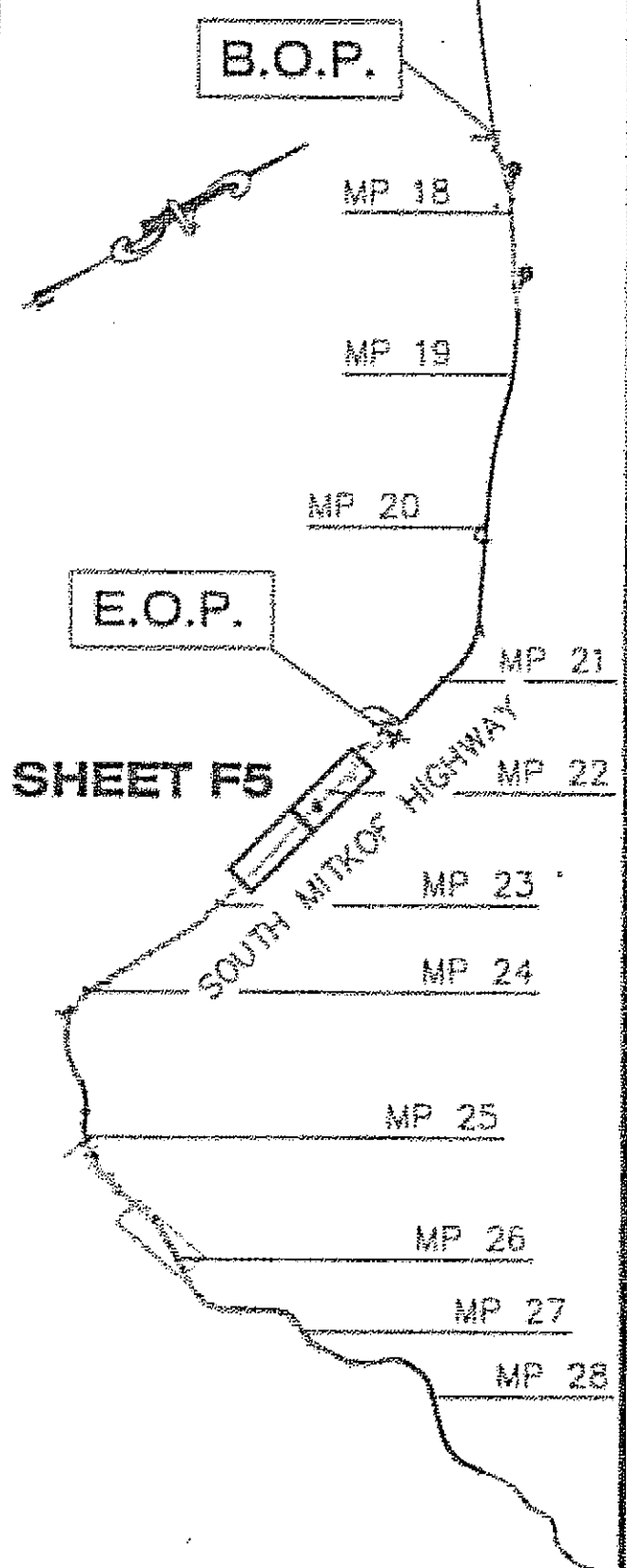
HYDRAULIC SUMMARY P-94		
CULVERT SIZE 48" CAP (16 GA. MIN. THICKNESS)		
WITH 1' IMBEDDED DEPTH		
ANNULAR CORRUGATIONS (3" x 1")		
DRAINAGE AREA =		0.08 SQ. MI.
LENGTH		60.0
INVERT ELEVATIONS		17.7' (INLET) 14.8' (OUTLET)
DESIGN FREQUENCY	DESIGN FLOWS (CFS)	DESIGN HIGHWATER ELEVATION (FT.)
Q ₂	60	27.1
CAPACITY @ Hw/D=0.9		70 CFS
PURPOSE: STREAM CHANNEL CROSSING WITH FISH PASSAGE PROVISIONS.		
WORK WINDOW 8/1 to 9/15		



Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE *Yusef A. Nabeen* Date 2-12-08

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ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



DESIGNED BY: B. HOLBROOK

B-31-06

CHECKED BY: J. HEUMANN
 DRAWN BY: DR DODGE/R. GRANTHAM

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY (PHASE 1)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD TO OHMER CREEK BRIDGE

LAYOUT PLAN VIEWS

PROJECT DESIGNATION NUMBERS
 MGS-0937(33) ~ 69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
F5	27

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

TRAFFIC CONTROL NOTES:

- IT IS THE INTENT OF THIS TRAFFIC CONTROL PLAN (TCP) TO ILLUSTRATE SOME BUT NOT ALL OF THE TRAFFIC CONTROL CONFIGURATIONS THAT WILL BE REQUIRED BY THIS PROJECT. TRAFFIC CONTROL PLANS FOR CONFIGURATIONS NOT COVERED BY THIS TCP SHALL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL PRIOR TO USE.
- A MINIMUM OF ONE LANE SHALL BE MAINTAINED AT ALL TIMES, THROUGH ALL WORK AREAS.
- TWO LANES SHALL BE MAINTAINED AT ALL TIMES IN NON-WORK AREAS AND DURING NON-WORKING HOURS. WRITTEN APPROVAL IS REQUIRED FOR ANY DEVIATION.
- TRAFFIC LANES SHALL BE A MINIMUM OF 10' WIDE.
- CONSTRUCTION SIGNING SHALL BE IN PLACE ONLY WHEN THE CONDITIONS EXIST FOR WHICH THE SIGNS ARE INTENDED.
- CHANNELIZATION DEVICES WILL BE LIT IN ACCORDANCE WITH THE ALASKA TRAFFIC MANUAL IF USED AT NIGHT.
- KEEP THE PUBLIC INFORMED OF CONSTRUCTION ACTIVITIES THROUGH THE USE OF THE LOCAL NEWS MEDIA. NEWS RELEASES SHALL BE APPROVED PRIOR TO THEIR RELEASE. NEWS RELEASES WILL BE REQUIRED BUT NOT LIMITED TO, THE ONSET OF WORK AND CHANGES IN THE LANE CONFIGURATIONS.
- IF VEHICLE STOP TIME EXCEEDS FIVE MINUTES, WORK ZONE OR WORK HOURS WILL HAVE TO BE ADJUSTED.
- FLAGGERS SHALL BE IN RADIO CONTACT WITH ONE ANOTHER.

LEGEND

- SIGN
- CONE
- DRUM
- TYPE III BARRICADE
- FLAGGING STATION

WHERE

- L = LENGTH OF TAPER
- W = WIDTH OF OFFSET
- S = SPEED (mph)
- L = WS for 45 mph or Greater
- L = $\frac{WS^2}{60}$ for 40 mph or Less

TCP TABLE SETUP		
SPEED (MILES PER HOUR)	BUFFER/LENGTH (FT.)	CONE/DRUM SPACING (FT.)
20	115	20
25	155	25
30	200	30
35	250	35
40	305	40
45	360	45
50	425	50
55	495	55
60	570	60
65	645	65

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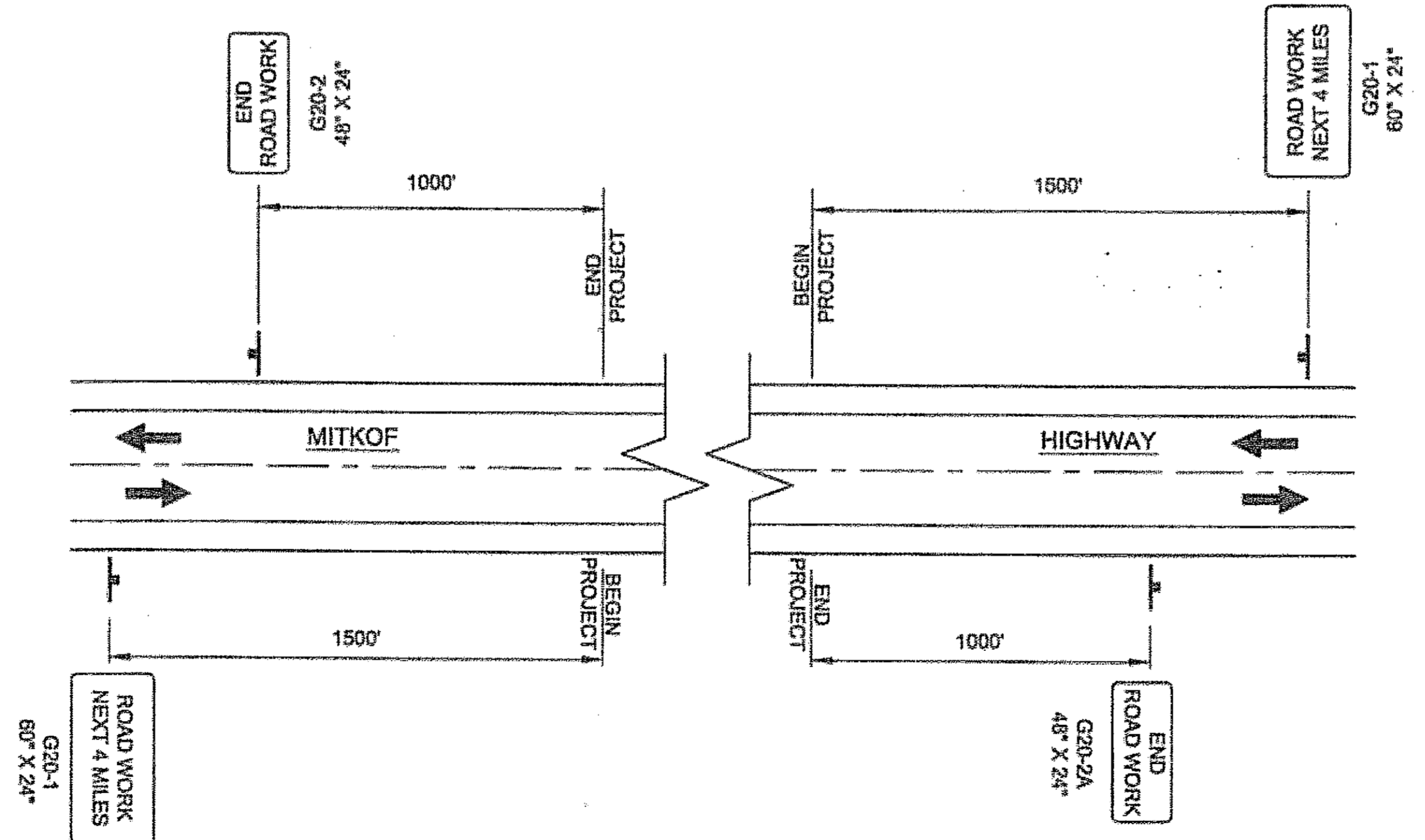
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ADDENDUM NUMBER
ATTACHMENT NUMBER

RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
PROJECT NO. 69225
CRYSTAL LAKE HATCHERY ROAD
TO OHMER CREEK BRIDGE

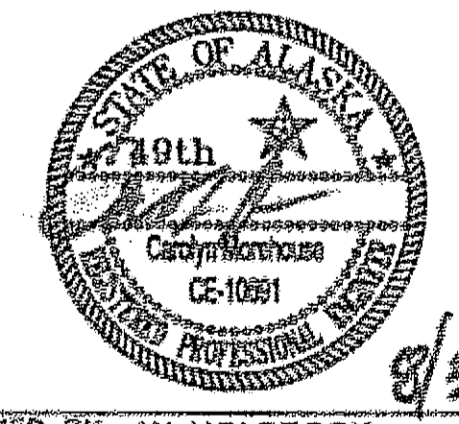
TRAFFIC CONTROL PLAN

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
PE *Henry J. Walker* Date 2-12-08



PERMANENT CONSTRUCTION SIGNING

DESIGNED BY: C. MOREHOUSE



CHECKED BY: W. HOLBROOK
DRAWN BY: DR DODGE, R. GRANTHAM

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES
DIVISION - SE REGION
PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
PROJECT NO. 69225
CRYSTAL LAKE HATCHERY ROAD TO OHMER CREEK BRIDGE

TRAFFIC CONTROL PLAN

PROJECT DESIGNATION NUMBERS
MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
H1	26

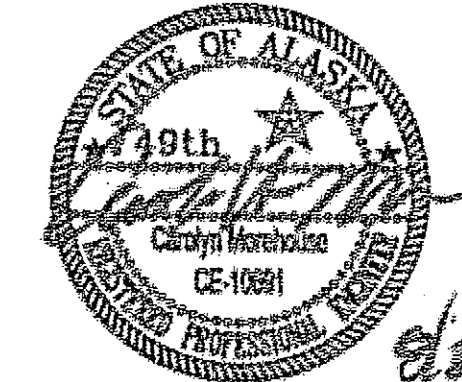
NOTE: DO NOT SCALE FROM THESE PLANS-USE DIMENSIONS

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
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No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
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 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE

TRAFFIC CONTROL PLAN

DESIGNED BY: C. MOREHOUSE



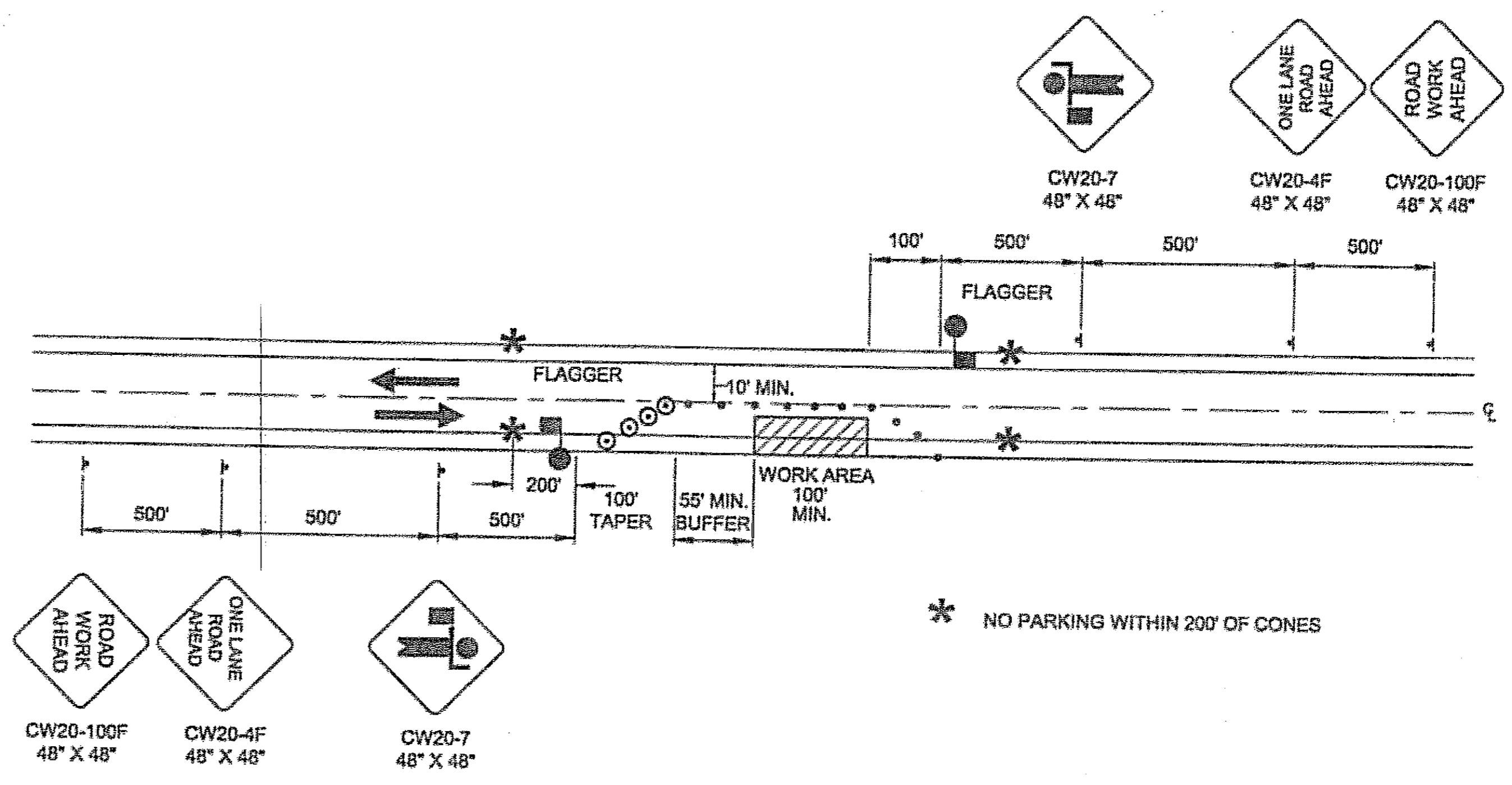
CHECKED BY: W. HOLBROOK
 DRAWN BY: DR DODGE, R. GRANTHAM

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
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TRAFFIC CONTROL PLAN

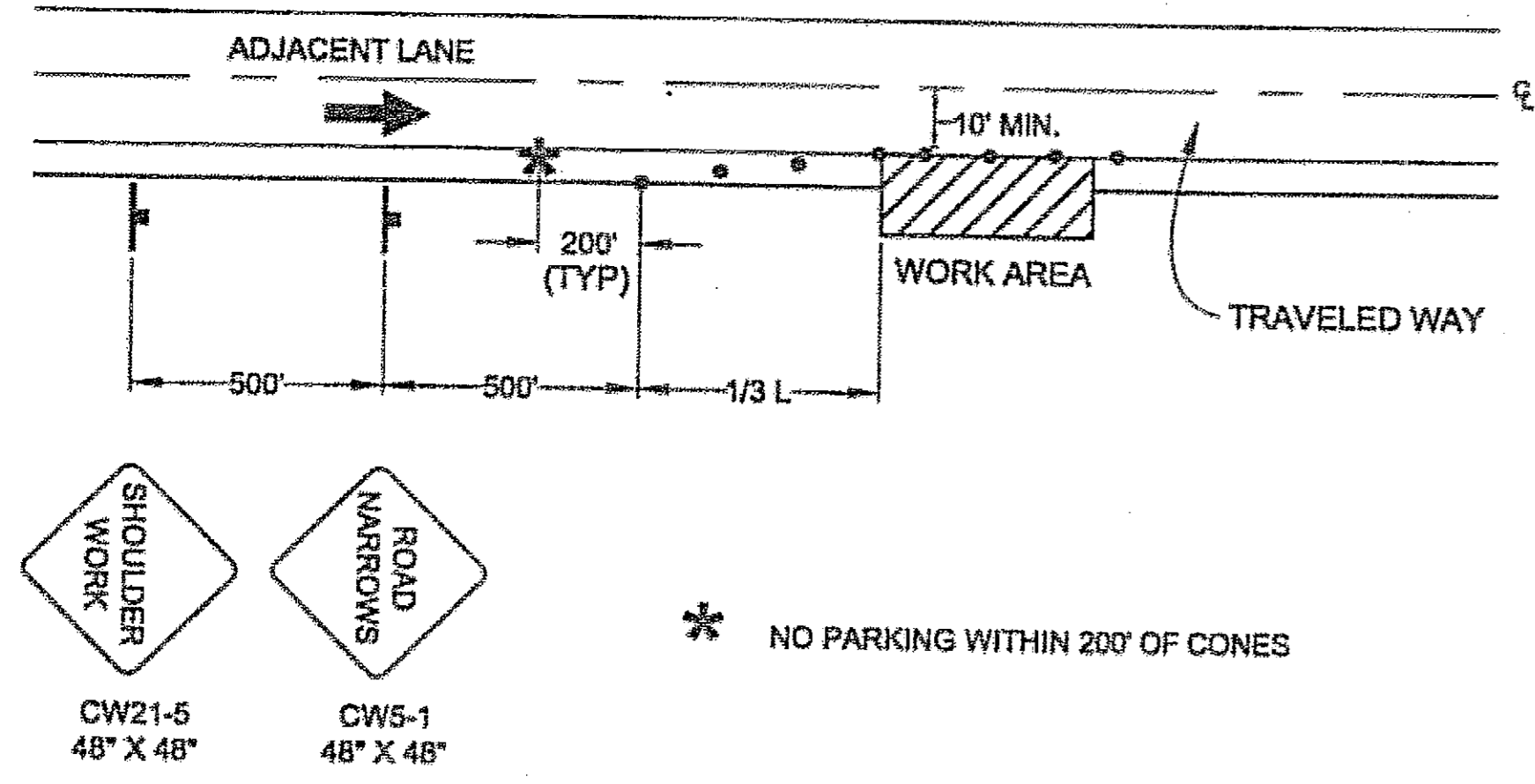
PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
H2	26

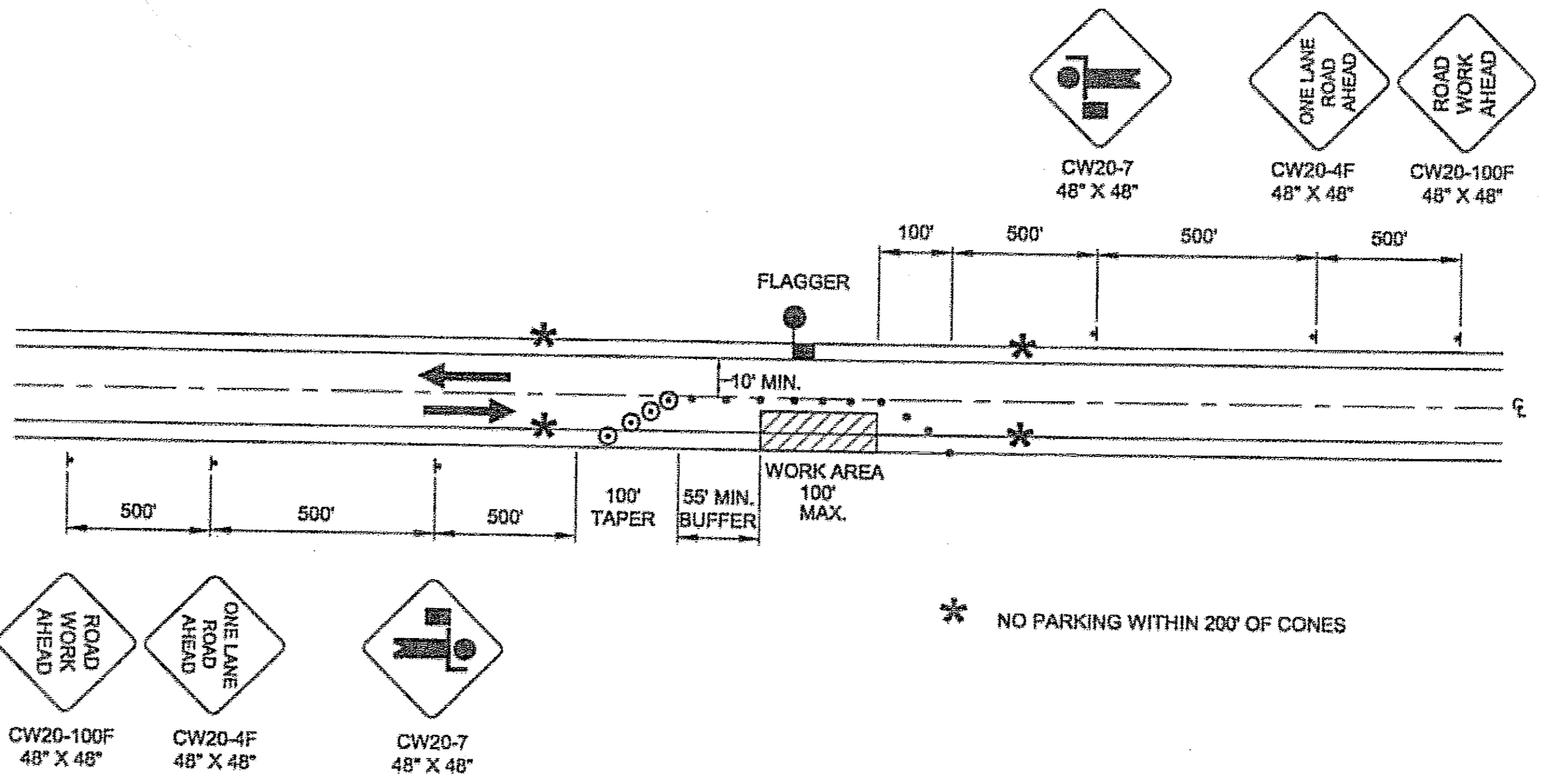


**TWO LANE ROAD - SINGLE LANE CLOSURE
 DOUBLE FLAGGER**

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE *Kevin J. VanDer* Date 2-12-08

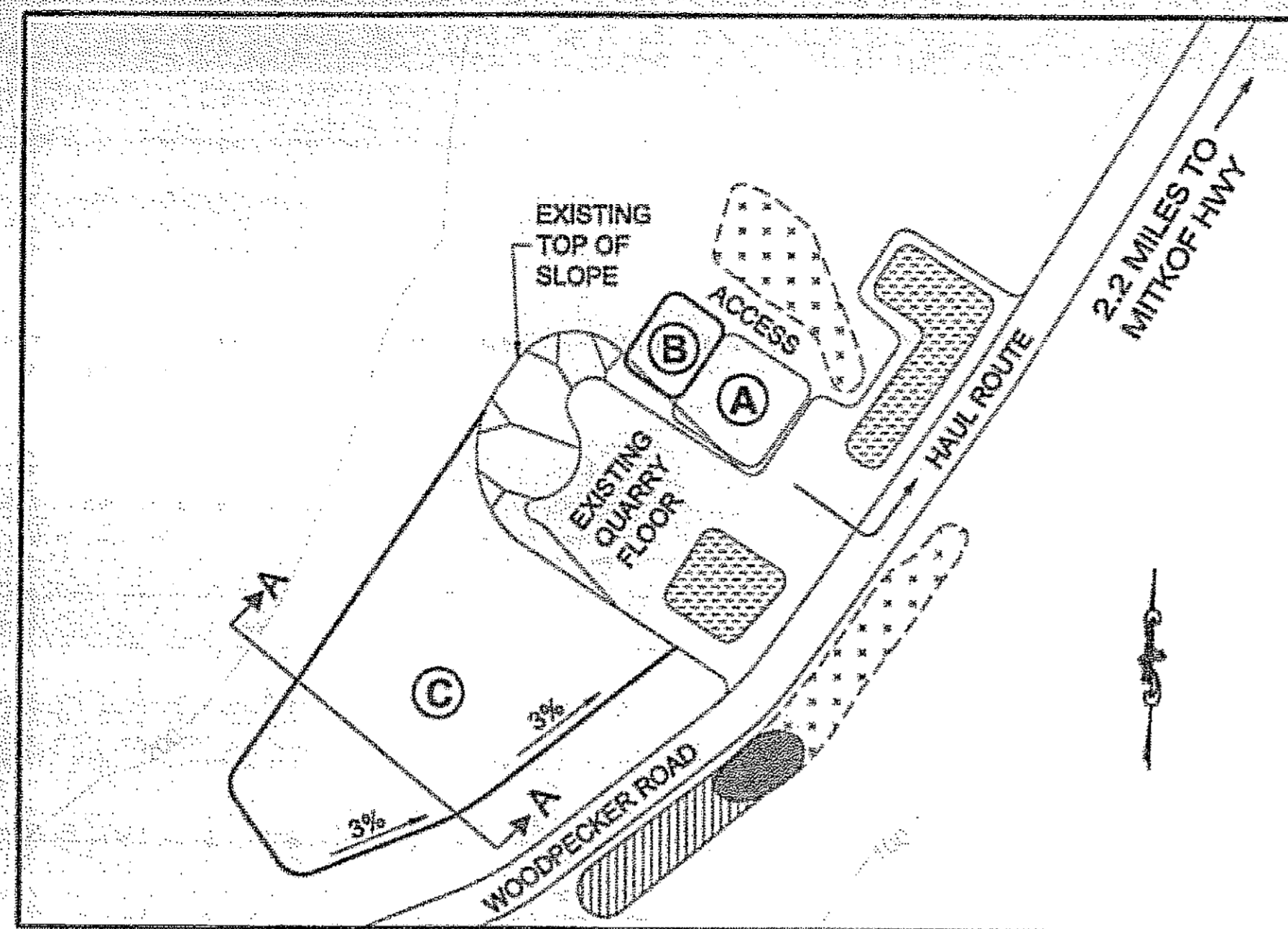


SHOULDER WORK

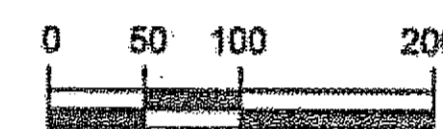


**TWO LANE ROAD - SINGLE LANE CLOSURE
 SINGLE FLAGGER**

NOTE: DO NOT SCALE FROM THESE PLANS-USE DIMENSIONS

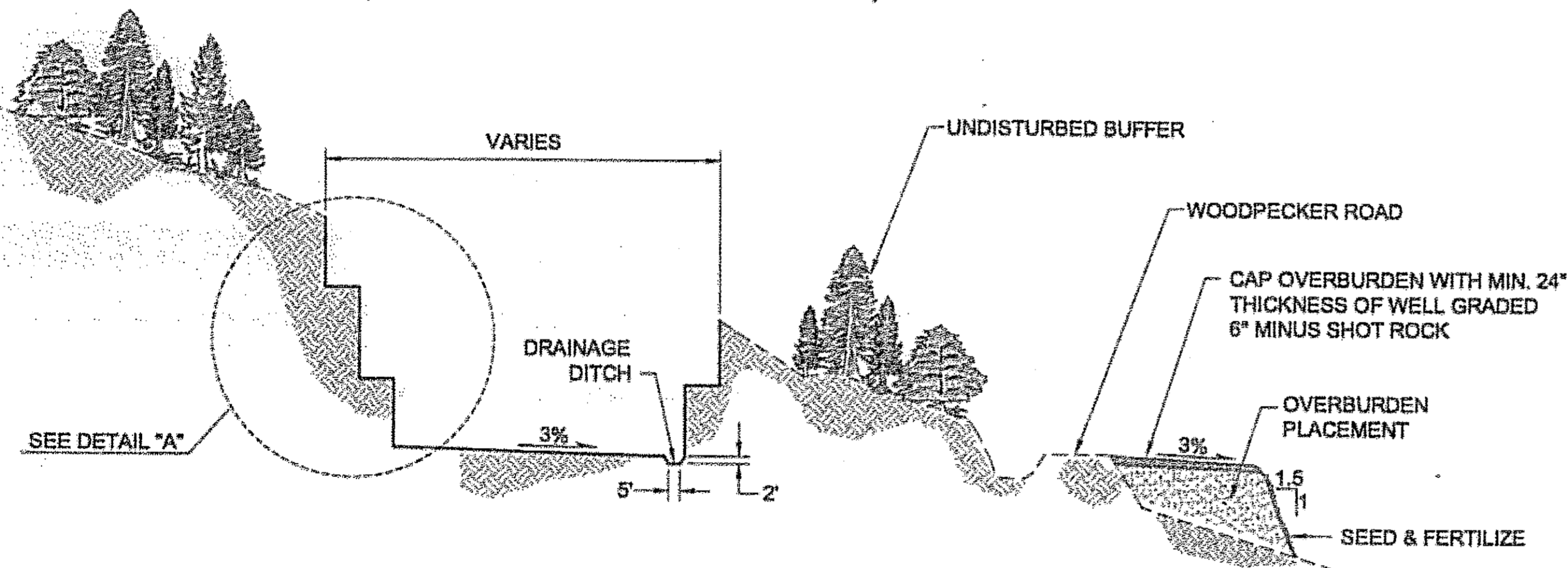


QUARRY PLAN

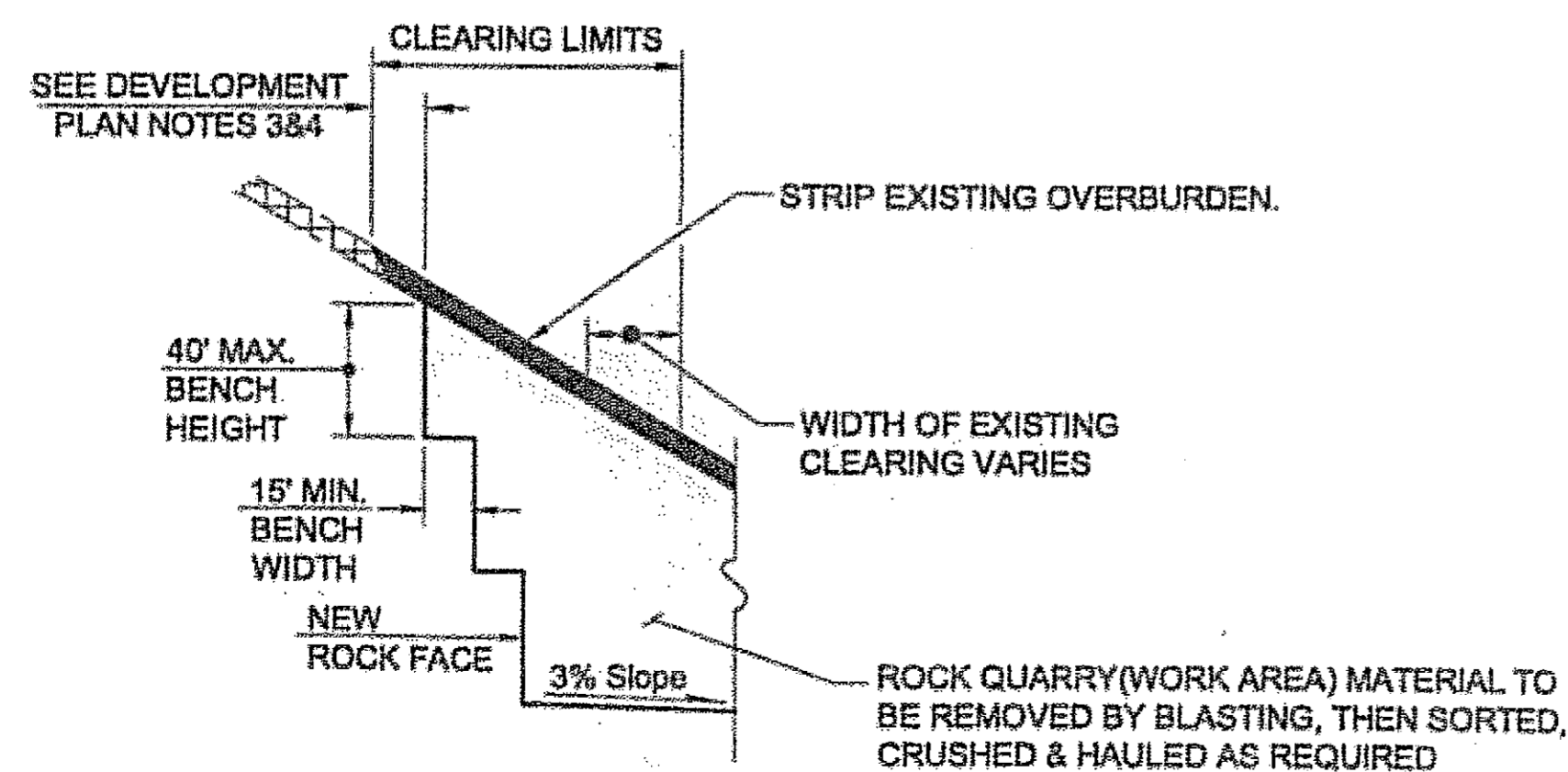


QUARRY DEVELOPMENT PLAN:

QUARRY IS LOCATED NORTH SIDE OF WOODPECKER ROAD (NO. 8245) 2.2 MILES FROM MITKOF HWY. ESTIMATE OF VOLUME REQ'D = 74,000 cu.yd. (THIS PROJECT AND FUTURE PROJECT BY OTHERS.)



TYPICAL SECTION A-A



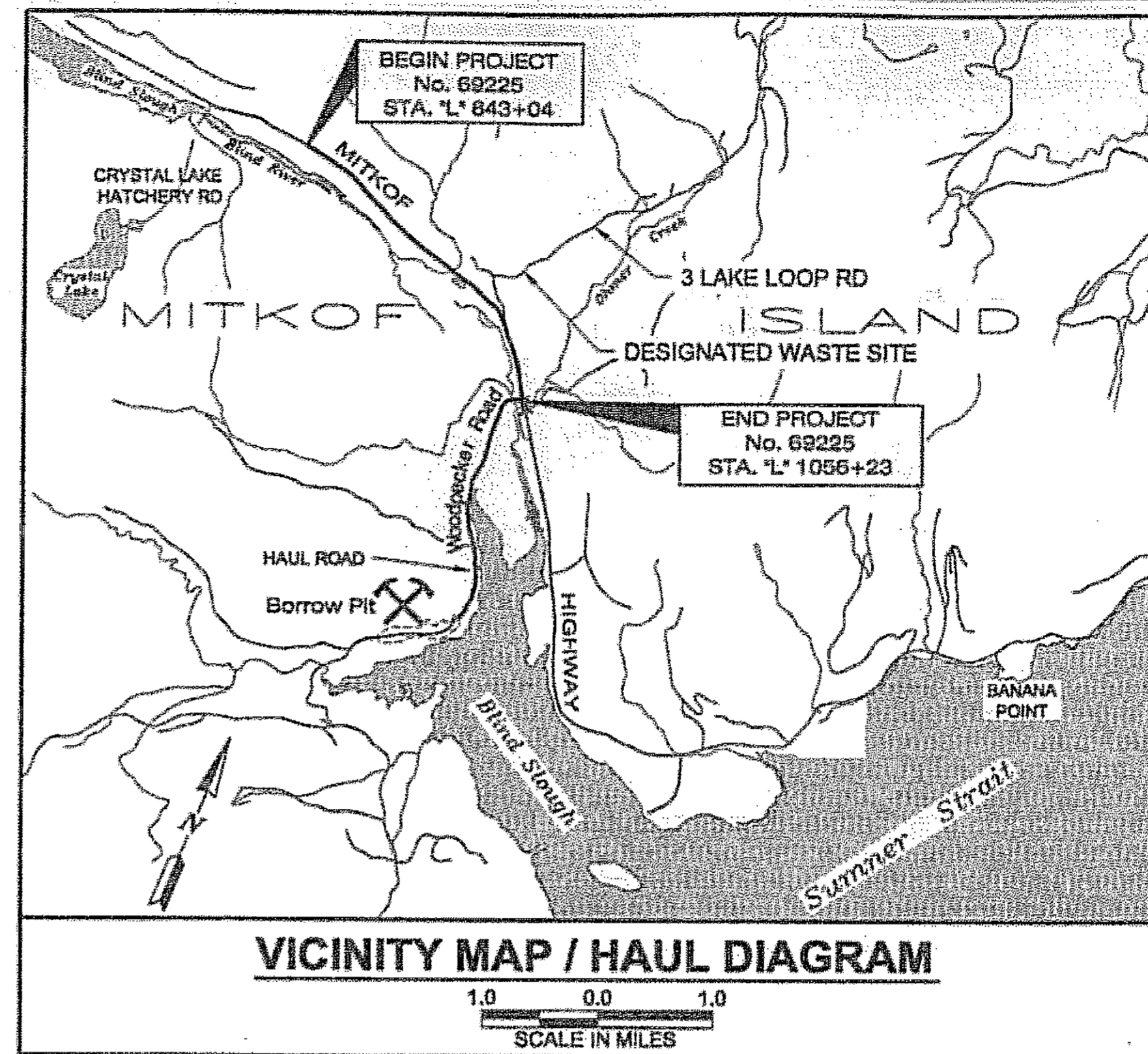
ROCK EXCAVATION DETAIL 'A'

NO SCALE

LEGEND:

- EXISTING TURNOUT
- OVERBURDEN AREA FOR THIS PROJECT
- EXISTING USFS AGGREGATE STOCKPILE
- 20' X 50' X 10' HIGH EXISTING KNOB TO BE LEVELED AND INCORPORATED INTO A CONTINUOUS TURNOUT
- (A) MINING AREA PREVIOUSLY PERMITTED BY OTHERS
- (B) PERMITTED 65' x 50', 6,000 CU.YD. MINING AREA FOR ALASKA DOT&PF PROJECT 68896
- (C) PROPOSED 135' x 100', 25,000 CU.YD. MINING AREA FOR THIS PROJECT

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
 PE: *[Signature]* Date: 2-12-08



VICINITY MAP / HAUL DIAGRAM



DEVELOPMENT PLAN:

1. ALL MERCHANT ABLE TIMBER WILL BE REMOVED FROM ROCK PRODUCTION AREAS LIMBED AND STOCK PILED AT APPROVED LOCATIONS WITHIN THE QUARRY SITE AND ROAD ACCESSIBLE. SEE SECTION 106 FOR ADDITIONAL REQUIREMENTS.
2. PROTECT EXISTING PROCESSED ROCK STOCKPILES LOCATED WITHIN THE QUARRY FROM CONTAMINATION.
3. REMOVE ALL OVERBURDEN TO SOLID ROCK FOR A MINIMUM DISTANCE OF 10' FROM THE WORKING FACE. NO OVERBURDEN SHALL BE PLACED IN ACTIVE STREAMS. RETAIN 50' UNDISTURBED BUFFER BETWEEN ROAD AND AREA C.
4. SLOPE THE CUT BANK OF THE OVERBURDEN TO THE NATURAL ANGLE OF REPOSE BUT IN NO CASE STEEPER THAN 1:1.
5. WITHIN THE CLEARING LIMITS:
 - * MAXIMUM STUMP HEIGHT SHALL BE 18".
 - * STABLE TREES UP TO 6" dbh NEED NOT BE CUT IF THEY WILL NOT INTERFERE WITH BACK SLOPE STABILITY.
 - * STUMPS AND BRUSH MAY BE LEFT IN PLACE, EXCEPT THAT ALL STUMPS THAT PROTRUDE FROM EXCAVATED BANKS OR THAT HAVE THE POTENTIAL TO BECOME DISLODGED AT ANY LATER DATE SHALL BE REMOVED.
6. DISPOSE OF OR STOCKPILE FOR LATER USE ALL OVERBURDEN, CLEARING, MERCHANT ABLE TIMBER AND GRUBBING DEBRIS AS SHOWN ON THE QUARRY DEVELOPMENT PLAN. SORT AND STOCKPILE ANY USABLE TOPSOIL. CAP OVERBURDEN AREA AS SHOWN.
7. FELL ALL DEAD TREES AND SNAGS WHICH ARE SUFFICIENTLY TALL TO REACH THE WORK AREA.
8. LEAVE THE QUARRY IN A NEAT, ORDERLY AND WELL-DRAINED CONDITION. REMOVE ALL OVERHANGS AND LOOSE ROCK.
9. ACCESS RAMPS TO THE UPPER LEVELS SHALL BE CONSTRUCTED AND SHALL BE LOCATED AS APPROVED. SAID RAMPS SHALL REMAIN AS FIXED FEATURES PROVIDING PERMANENT ACCESS TO THE UPPER LEVELS UNLESS RELOCATION IS AUTHORIZED.
10. NO MORE THAN 5% OF THE EXCAVATED MATERIAL, BY VOLUME OF OVERSIZED MATERIAL SHALL BE LEFT IN THE QUARRY. BREAK DOWN ANY MATERIAL OVER THIS VOLUME AND USE AS SPECIFIED IN SECTION 611.
11. PROVISIONS FOR FUTURE QUARRY DEVELOPMENT ACCESS WILL BE PROVIDED.
12. HAULING MATERIAL FROM THIS SOURCE WILL NOT BE ALLOWED BEYOND DESIGNATED PROJECT LIMITS UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR AS APPROVED.

BLASTING PLAN:

1. SUBMIT A BLASTING PLAN FOR APPROVAL 2 WEEKS PRIOR TO ANTICIPATED USE.
2. A TEST SHOT OF 1300 TO 2800 CUBIC YARDS IS REQUIRED AT THE QUARRY SITE. RESULTS TO BE EVALUATED AND VERIFIED BY ENGINEER AND USFS PRIOR TO FINAL APPROVAL FOR PRODUCTION BLASTING.

REHABILITATION PLAN:

1. ACCESS TO THE PIT FOR FUTURE USE SHALL BE RETAINED BUT RESTRICTED BY PLACING 500 LB. (MINIMUM) BOULDERS ACROSS PIT ACCESS POINTS.
2. PLACE REMAINING OVERSIZED ROCKS PRODUCED AGAINST THE SIDES OF THE QUARRY NEXT TO THE BACK WALL BENCH.
3. ALL DISTURBED AREAS, SUCH AS OVERBURDEN CUT SLOPES AND SIDE SLOPES OF NEWLY CREATED OVERBURDEN PILES WILL BE SEEDED AND FERTILIZED IN ACCORDANCE WITH SECTION 618.
4. SEE USFS MATERIAL SALE CONTRACT, APPENDIX E, AND SECTION 106 OF THE SPECIAL PROVISIONS FOR PERMIT CONDITIONS TO BE MET FOR REHABILITATION AND CLEANUP OF PIT.
5. ALL COSTS INCURRED AS PART OF OPERATING THE QUARRY, INCLUDING ANY ROYALTIES PAID OR RECLAMATION OR MAINTENANCE WORK COSTS, SHALL BE CONSIDERED INCIDENTAL TO COST FOR RIGHT TO OBTAIN MATERIAL FROM THIS QUARRY PIT.

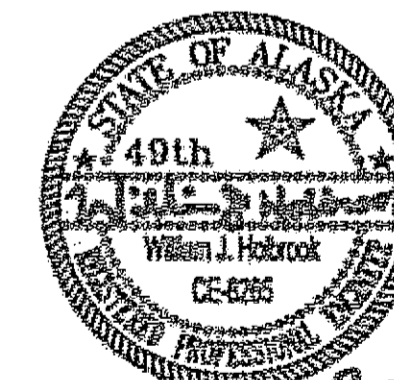
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ADDENDUM NUMBER
 ATTACHMENT NUMBER

RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD
 TO OHMER CREEK BRIDGE
USFS QUARRY DEVELOPMENT PLAN

DESIGNED BY: B. HOLBROOK



CHECKED BY: J. HEUMANN

DRAWN BY: W. HICKOK

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 DESIGN & ENGINEERING SERVICES
 DIVISION - SE REGION
 PSG-SOUTH MITKOF HIGHWAY UPGRADE (PHASE I)
 PROJECT NO. 69225
 CRYSTAL LAKE HATCHERY ROAD TO OHMER CREEK BRIDGE

USFS QUARRY DEVELOPMENT PLAN

PROJECT DESIGNATION NUMBERS
 MGS-0937(33)-69225

STATE	YEAR
ALASKA	2006
SHEET NUMBER	TOTAL SHEETS
R1	26