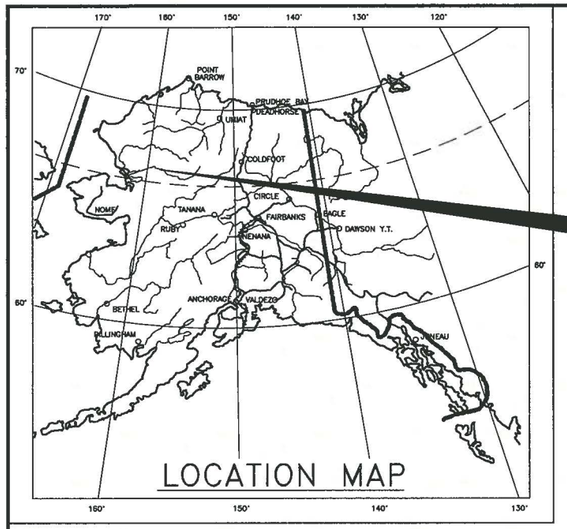
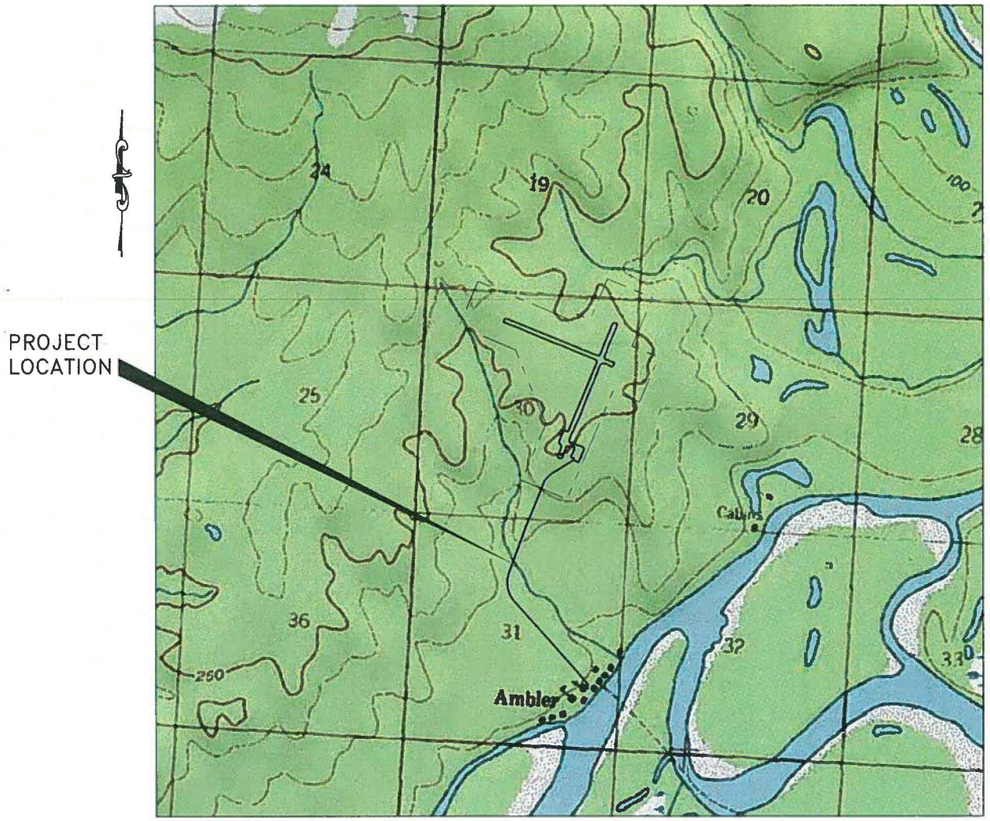
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	1	15
CDS ROUTE: 223052	MILEPOINT: 0.690 TO 0.762			



PROJECT LOCATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT
62251
AMBLER BRIDGE #1552 REPLACEMENT
(AKA Grizzlies Bridge)



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATE OF QUANTITIES
3	SURVEY CONTROL
4	THALWEG PROFILE SURVEY DETAILS
5	CULVERT TYPICAL
6	ROAD TYPICALS
7	DEADMAN DETAILS
8	CULVERT ANCHOR AND DRAINAGE SWALE DETAILS
9	PLAN VIEW
10	PLAN AND PROFILE VIEW
11	SIGN DETAILS
12	JBOX DETAILS
13	TRAFFIC CONTROL PLAN
14	EROSION AND SEDIMENT CONTROL PLAN
15	CULVERT MARKER POSTS DETAIL

THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT:
D-01.02 S-05.01
D-04.21 S-01.00
D-13.10 S-30.03
S-00.11

PROJECT SUMMARY	
WIDTH OF PAVEMENT	N/A
LENGTH OF GRADING	500 FT
LENGTH OF PAVING	N/A
LENGTH OF PROJECT	500 FT

As Advertised
May 15, 2013
Northern Region

PLANS DEVELOPED BY:
Scott Maybrier
UNDER THE SUPERVISION OF:

STATE OF ALASKA
49 TH
Ryan F. Anderson
CE 10803
REGISTERED PROFESSIONAL ENGINEER
4-22-2013

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED BY: Longin Krol DATE 4/23/13
LONGIN KROL, P.E.
Preconstruction Engineer, Northern Region

ACCEPTED FOR CONSTRUCTION
Steve Titus DATE 4/23/13
Steve Titus, P.E.
Regional Director, Northern Region

T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\planset\FINAL\TITLE SHEET-Title Mon, Apr/22/13 08:41am

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	2	15

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
201 (4B)	HAND CLEARING	LUMP SUM	ALL REQUIRED
202 (1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQUIRED
203 (110)-A	BORROW, NON-NOA	LUMP SUM	ALL REQUIRED
203(110)-B	BORROW, NOA	LUMP SUM	ALL REQUIRED
204(1)	STRUCTURE EXCAVATION	CUBIC YARD	80
301(101)	AGGREGATE SURFACE COURSE, GRADING E-1	LUMP SUM	ALL REQUIRED
305(2)	STOCKPILED MATERIAL, SECTION 301, GRADING E-1	TON	25
305(101)	STOCKPILE - BRIDGE MATERIAL	LUMP SUM	ALL REQUIRED
602 (1)	STRUCTURAL PLATE PIPE, 72" DIAMETER, 10 GAGE	LINEAR FT	129.5
602(5)	DEADMAN	EACH	1
602(106)	CULVERT END RESTRAINT SOIL ANCHOR ASSEMBLIES	EACH	1
610(1)	DITCH LINING	CUBIC YARD	30
611 (1)	RIPRAP, CLASS I	CUBIC YARD	245
613 (2)	CULVERT MARKER POST	EACH	4
615 (1)	STANDARD SIGN	SQUARE FT	16
615(5)	DELINEATOR, FLEXIBLE	EACH	12
616 (3)	THAW WIRE INSTALLATION	LINEAR FT	150
618 (2)	SEEDING	POUND	20
630 (2)	GEOTEXTILE, STABILIZATION	SQUARE YD	4689
631 (2)	GEOTEXTILE, EROSION CONTROL, CLASS 1	SQUARE YD	400
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 (2)	TEMPORARY EROSION AND POLLUTION CONTROL	CONTINGENT SUM	ALL REQUIRED
641 (3)	TEMPORARY EROSION AND POLLUTION CONTROL	LUMP SUM	ALL REQUIRED
641 (6)	WITHHOLDING	CONTINGENT SUM	ALL REQUIRED
642 (1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
643 (2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
643 (23)	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
644 (1)	FIELD OFFICE	LUMP SUM	ALL REQUIRED
644 (6)	VEHICLES	LUMP SUM	ALL REQUIRED
644 (15)	NUCLEAR TESTING EQUIPMENT STORAGE SHED	EACH	ALL REQUIRED

GENERAL NOTES:

1. REMOVAL OF THE EXISTING TIMBER BRIDGE, INCLUDING ALL EXISTING BORROW MATERIAL ASSOCIATED WITH THE BRIDGE, AND EXISTING HALF CULVERT DITCH LININGS SHALL BE PAID FOR UNDER PAY ITEM 202(1) REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
2. SOILS AROUND AMBLER MAY CONTAIN NATURALLY OCCURRING ASBESTOS. SEE SECTION 203-3.01 OF THE SPECIFICATIONS.
3. ALL MATERIALS INCORPORATED IN THIS PROJECT ARE ANTICIPATED TO BE BARGED TO AMBLER, EXCEPT FOR MATERIAL MEETING THE NOA-BORROW SELECT MATERIAL B SPECIFICATION WHICH WILL BE INCORPORATED INTO THE PROJECT. EXCAVATED MATERIAL NOT MEETING THIS SPECIFICATION WILL BE DISPOSED OF BY THE CONTRACTOR IN A PERMITTED LOCATION OF THEIR CHOOSING.
4. INSTALL DELINEATORS TWO FEET FROM THE EDGE OF THE ROADWAY. REFLECTORS SHALL BE WHITE ON BOTH SIDES OF EACH DELINEATOR
5. DELIVER 5 SPARE DELINEATORS WITH ATTACHED REFLECTORS TO THE AMBLER AIRPORT MANAGER IN KOTZEBUE, ALASKA. SPARE DELINEATORS SHALL NOT BE MEASURED FOR PAYMENT AND ARE SUBSIDIARY TO PAY ITEM 614(5) DELINEATOR, FLEXIBLE.

UTILITY NOTES:

1. AN AVEC OVERHEAD POWER LINE RUNS ALONG THE NORTH SIDE OF THE ROAD. THE AVEC POINT OF CONTACT FOR THIS UTILITY IS BILL STAMM.
2. AN OTZ OVERHEAD TELEPHONE LINE RUNS ALONG THE SOUTH SIDE OF THE ROAD. OTZ PLANS TO RELOCATE THIS LINE TO THE AVEC POWER POLES IN AUGUST 2013. THE OTZ POINT OF CONTACT FOR THIS UTILITY IS BENJAMIN PHILLIPS.
3. A FUEL LINE RUNS ALONG THE SOUTH SIDE OF THE ROAD JUST OUTSIDE THE ROAD RIGHT OF WAY. THIS LINE IS BURIED IN THE VICINITY OF GRIZZLY CREEK. THE POINT OF CONTACT FOR THIS UTILITY IS WILBUR ESENITUK.

ABBREVIATIONS:

APPROX	APPROXIMATE
AVEC	ALASKA VILLAGE ELECTRIC COOPERATIVE
B.O.P.	BEGINNING OF PROJECT
C/L	CENTERLINE
CY	CUBIC YARD
D	DEGREE OF CURVATURE
E	EAST
ELV	ELEVATION
E.O.P.	END OF PROJECT
FT	FOOT, FEET
IN	INCHES
L	LENGTH OF CURVE
LT	LEFT
H	HORIZONTAL, HEIGHT
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH
NOA	NATURALLY OCCURRING ASBESTOS
NO.	NUMBER
P.C.	POINT OF CURVATURE
P.O.T.	POINT ON TANGENT
P.S.T.	PERFORATED STEEL TUBE
P.T.	POINT OF TANGENCY
P.V.C.	POINT OF VERTICAL CURVATURE
P.V.I.	POINT OF VERTICAL INTERSECTION
P.V.T.	POINT OF VERTICAL TANGENCY
REQ'D	REQUIRED
RT	RIGHT
R/W	RIGHT OF WAY
S	SOUTH
SQ	SQUARE
SPP	STRUCTURAL PLATE PIPE
T	TANGENT LENGTH
TYP	TYPICAL
W	WEST
V	VERTICAL
&	AND
'	FOOT, FEET
"	INCH, INCHES

TABLE OF ESTIMATING FACTORS

ITEM NO.	DESCRIPTION		FACTORS
203 (19)	NON-NOA BORROW		2 TON/CY
203(20)	NOA BORROW		2 TON/CY
301(3)	AGGREGATE BASE COURSE, GRADING E-1		2 TON/CY
611(1)	RIPRAP, CLASS I		1.75 TON/CY

TABLE OF LUMP SUM QUANTITIES

ITEM NO.	ITEM	QUANTITY
201(4B)	HAND CLEARING	0.5 ACRES
203 (19)	NON-NOA BORROW	700 CUBIC YARD
203(20)	NOA BORROW	1501 CUBIC YARD
301 (5)	AGGREGATE SURFACE COURSE, GRADING E-1	414 CUBIC YARD

PIPE SUMMARY

STATION	DIAMETER	LENGTH	SKEW
STA 21+90	72"	51.5'	0°
STA 22+30	72"	78'	24.9°

FLEXIBLE DELINEATOR SUMMARY

STATION	LEFT	RIGHT
STA 17+50		X
STA 19+50	X	
STA 20+50		X
STA 21+50	X	X
STA 22+00	X	X
STA 22+50	X	X
STA 23+50	X	
STA 24+50		X
STA 26+50	X	

STOCKPILE BRIDGE MATERIAL

QUANTITY	MEASUREMENT	DESCRIPTION
30	3"x12"X20'	DECK PLANKS/RAILS/MISC
200	5"	SS#12 SQUARE HEAD SCREWS
6	6"x10"X20'	DECK BEAMS
8	3"x4"x20'	TRANSVERSE BRACING
6	6"x6"'x10'	COLUMNS

STATE OF ALASKA
49TH
Ryan F. Anderson
CE 10803
REGISTERED PROFESSIONAL ENGINEER
5-9-2013

ESTIMATE OF QUANTITIES

T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\planset\FINAL\TITLE SHEET-EOQ Thu, May/09/13 09:30am

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	3	15

MONUMENT COORDINATE TABLE

STATION	OFFSET	PT#	NORTHING	EASTING	DESCRIPTION
−16+66.89	203.73	1013	4785162.40	1659260.14	BLM MONUMENT RECOVERED
−13+60.53	−93.46	10	4785559.26	1659103.03	REBAR/CAP RECOVERED
−0+22.52	894.66	1036	4786416.47	1660528.46	BLM MONUMENT RECOVERED
7+89.66	−599.63	1027	4787739.28	1659459.49	PRIMARY MONUMENT RECOVERED
7+90.03	599.90	1022	4787279.95	1660567.58	PRIMARY MONUMENT RECOVERED
9+00.00	0.00	1	4787611.41	1660055.62	PRIMARY C/L MONUMENT RECOVERED
18+61.19	888.22	1020	4788158.85	1661244.37	BLM MONUMENT RECOVERED
36+99.90	1299.81	1050	4789699.47	1662329.17	PRIMARY MONUMENT RECOVERED
37+00.03	599.82	1052	4789967.83	1661682.66	PRIMARY MONUMENT RECOVERED
42+99.99	0.00	1003	4790751.85	1661358.54	PRIMARY C/L MONUMENT RECOVERED
43+00.00	599.89	1001	4790521.97	1661912.64	PRIMARY C/L MONUMENT RECOVERED
43+00.30	−3222.43	1008	4791987.01	1658382.23	PRIMARY C/L MONUMENT RECOVERED
61+90.02	599.91	1056	4792267.70	1662636.94	PRIMARY MONUMENT RECOVERED
61+90.17	−600.07	1057	4792727.68	1661528.63	PRIMARY MONUMENT RECOVERED

TBM COORDINATE TABLE

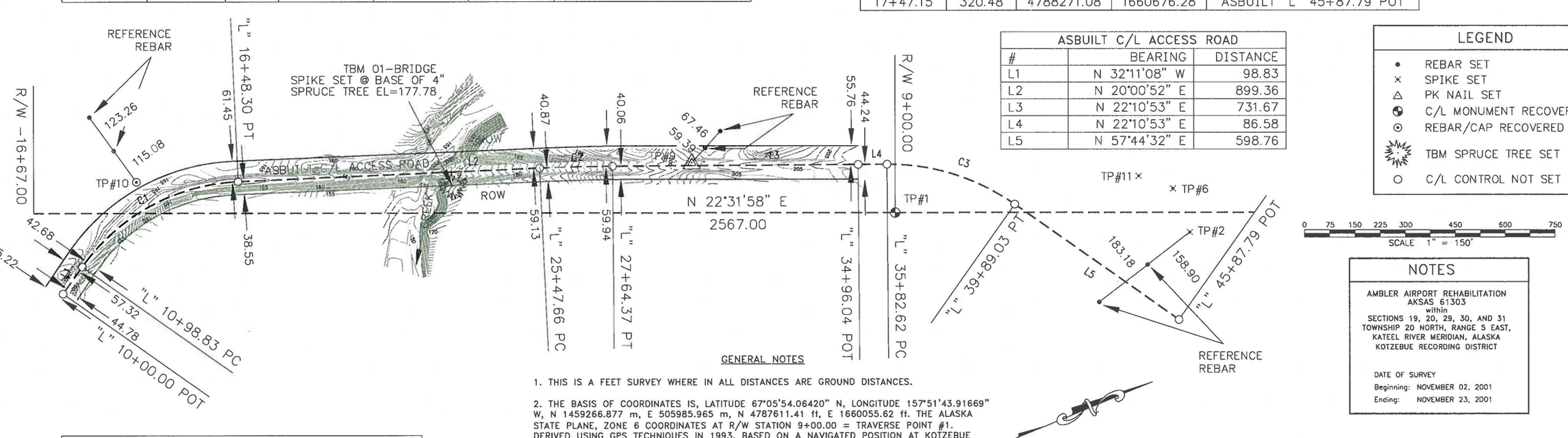
STATION	OFFSET	PT#	NORTHING	EASTING	ELEVATION	DESCRIPTION
−4+19.62	−68.66	6130	4786419.00	1659487.00	177.78	TBM 01−BRIDGE SET
9+00.00	0.00	1	4787611.41	1660055.62	205.93	C/L MONUMENT RECOVERED
22+98.56	253.17	3911	4788806.00	1660825.00	246.30	TBM SOUTH WINDSOCK SET
44+83.08	187.38	4633	4790849.00	1661602.00	269.46	TBM NORTH WINDSOCK SET
45+49.71	−2099.03	5825	4791787.00	1659515.00	297.44	TBM WEST WINDSOCK SET

TRAVERSE POINT COORDINATE TABLE

STATION	OFFSET	PT#	NORTHING	EASTING	DESCRIPTION
−13+60.53	−93.46	10	4785559.26	1659103.03	REBAR/CAP RECOVERED
2+94.91	−149.97	9	4787109.99	1659685.22	PK NAIL SET
9+00.00	0.00	1	4787611.41	1660055.62	C/L MONUMENT RECOVERED
16+27.03	−108.71	11	4788324.60	1660233.82	SPIKE SET
17+29.69	−71.23	6	4788405.06	1660307.78	SPIKE SET
17+79.94	59.21	2	4788401.49	1660447.51	SPIKE SET
40+49.17	−804.34	5	4790828.41	1660519.48	SPIKE SET
41+05.03	50.93	3	4790552.25	1661330.88	SPIKE SET
43+52.22	−950.75	4	4791164.43	1660500.39	SPIKE SET

ASBUILT C/L COORDINATE TABLE

STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
−15+79.89	240.29	4785228.76	1659327.24	ASBUILT "L" 10+00.00 POT
−15+22.81	159.62	4785312.39	1659274.60	ASBUILT "L" 10+98.83 PC
−10+56.97	−94.56	4785840.07	1659218.34	ASBUILT "L" 16+48.30 PT
−1+58.49	−134.08	4786685.11	1659526.15	ASBUILT "L" 25+47.66 PC
0+58.15	−139.51	4786887.29	1659604.16	ASBUILT "L" 27+64.37 PT
7+89.80	−143.99	4787564.81	1659880.39	ASBUILT "L" 34+96.04 POT
8+76.38	−144.53	4787644.98	1659913.08	ASBUILT "L" 35+82.62 PC
12+57.94	−24.74	4787951.51	1660169.94	ASBUILT "L" 39+89.03 PT
17+47.15	320.48	4788271.08	1660676.28	ASBUILT "L" 45+87.79 POT



ASBUILT C/L ACCESS ROAD

#	LENGTH	DELTA	RADIUS
C1	549.47	52°12'00"	603.11
C2	216.72	02°10'02"	5729.58
C3	406.41	35°33'39"	654.81

ASBUILT C/L ACCESS ROAD

#	BEARING	DISTANCE
L1	N 32°11'08" W	98.83
L2	N 20°00'52" E	899.36
L3	N 22°10'53" E	731.67
L4	N 22°10'53" E	86.58
L5	N 57°44'32" E	598.76

LEGEND

- REBAR SET
- SPIKE SET
- PK NAIL SET
- C/L MONUMENT RECOVERED
- REBAR/CAP RECOVERED
- TBM SPRUCE TREE SET
- C/L CONTROL NOT SET

0 75 150 225 300 450 600 750

SCALE 1" = 150'

NOTES

AMBLER AIRPORT REHABILITATION
AKSAS 61303
within
SECTIONS 19, 20, 29, 30, AND 31
TOWNSHIP 20 NORTH, RANGE 5 EAST,
KATEEL RIVER MERIDIAN, ALASKA
KOTZEBUE RECORDING DISTRICT

DATE OF SURVEY
Beginning: NOVEMBER 02, 2001
Ending: NOVEMBER 23, 2001

GENERAL NOTES

1. THIS IS A FEET SURVEY WHERE IN ALL DISTANCES ARE GROUND DISTANCES.

2. THE BASIS OF COORDINATES IS, LATITUDE 67°05'54.06420" N, LONGITUDE 157°51'43.91669" W, N 1459266.877 m, E 505985.965 m, N 4787611.41 ft, E 1660055.62 ft. THE ALASKA STATE PLANE, ZONE 6 COORDINATES AT R/W STATION 9+00.00 = TRAVERSE POINT #1. DERIVED USING GPS TECHNIQUES IN 1993, BASED ON A NAVIGATED POSITION AT KOTZEBUE AIRPORT

3. THE BASIS OF VERTICAL IS, 205.93 ft (ORTHOMETRIC), AT R/W STATION 9+00.00 = TRAVERSE POINT #1. APPLYING GEOID 99 TO THE 1993 DERIVED GPS ELLIPSOID HEIGHT.

4. THE BASIS OF BEARING IS, N 22°31'58 E BETWEEN R/W STATION 9+00.00 = TP#1 AND R/W STATION 42+99.99 (43+00.00 REC) = POINT #1003. OBTAINED FROM 1989 RECORD OF SURVEY, AMBLER AIRPORT.

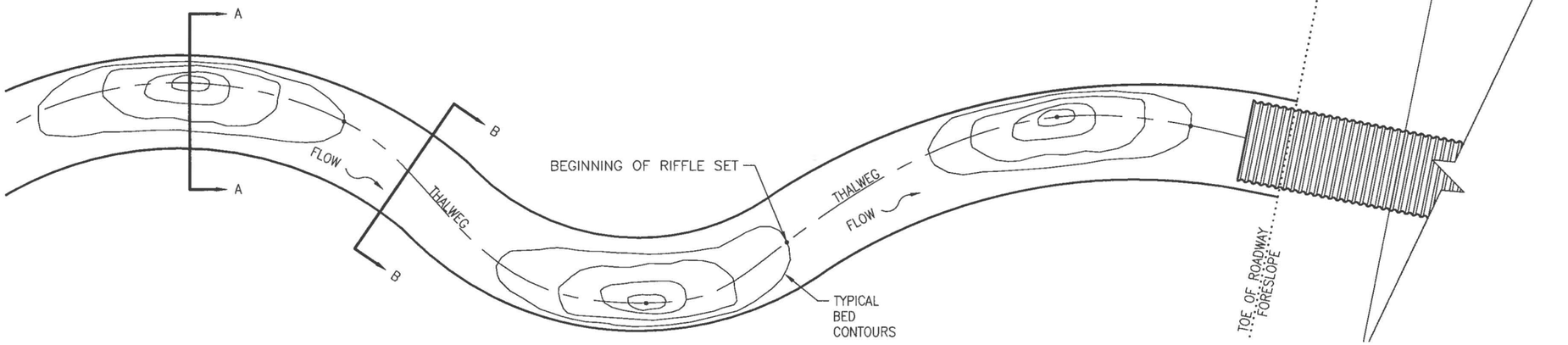
5. REFER TO AMBLER AIRPORT SURVEY CONTROL DIAGRAM, PREPARED BY USKH, INC. DATED APRIL 2013 FOR ADDITIONAL INFORMATION.

STATE OF ALASKA
49TH
Ryan F. Anderson
CE 10803
REGISTERED PROFESSIONAL ENGINEER
4-22-2013

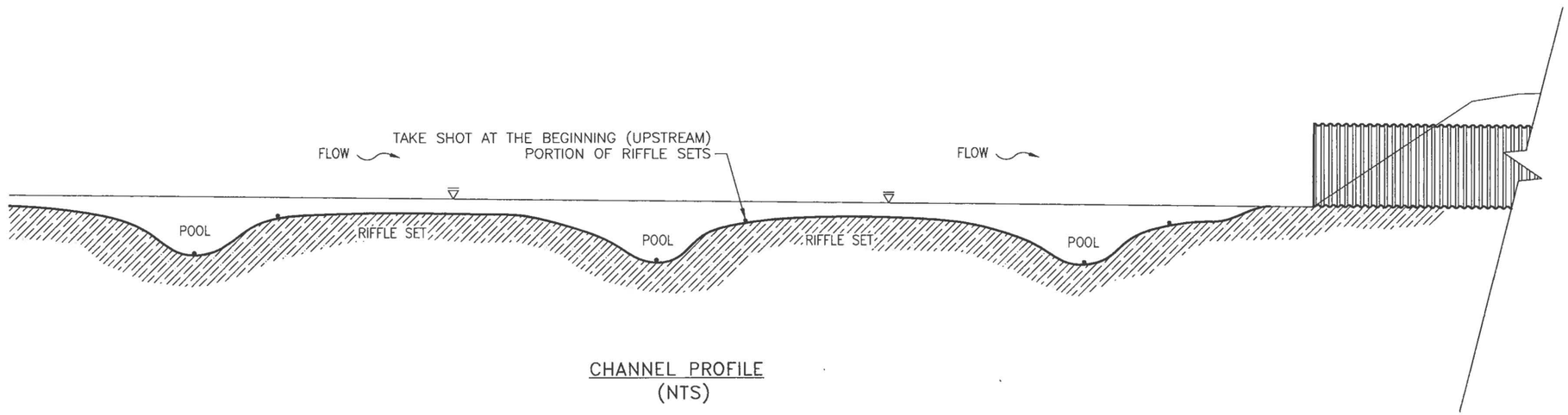
SURVEY CONTROL

T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\plonset\FINAL\62251 SURVEY-SURVEY CONTROL Mon, Apr/22/13 08:42am

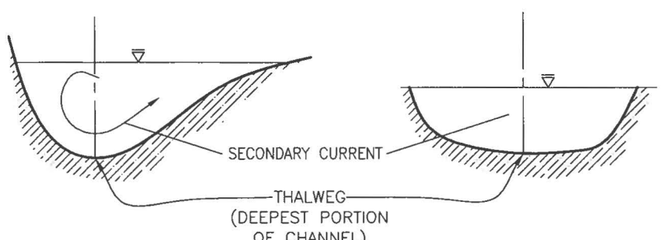
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	**62251**	**2013**	**4**	**15**



CHANNEL PLAN
(NTS)



CHANNEL PROFILE
(NTS)



SECTION A–A
(NTS)

SECTION B–B
(NTS)

THALWEG SURVEY:

SURVEY THE CHANNEL THALWEG PROFILE AND WATER SURFACE PROFILE ELEVATIONS FOR A MINIMUM OF 300 FEET UPSTREAM AND DOWNSTREAM OF THE PROPOSED CULVERT ENDS.

THE THALWEG IS DEFINED AS THE LINE OF DEEPEST CHANNEL (LOWEST POINT IN THE CHANNEL CROSS SECTION) ALONG A RIVER REACH. THE THALWEG MUST BE SURVEYED AT A MAXIMUM OF 20–FOOT INTERVALS. IF THERE ARE NO DISTINCT CHANNEL FORMS, MEASURE POINTS AT REGULAR INTERVALS (ABOUT TWO CHANNEL WIDTHS APART). IDENTIFY THE DEEPEST POINT OF THE CROSS SECTION AT THE BEGINNING (UPSTREAM) OF EACH SET OF RIFFLES (THE HIGH SECTIONS BETWEEN POOLS). THESE SHOTS WILL BE LOCATED AT THE POOL OUTLETS THAT WOULD BE EXPOSED IF THE CREEK STOPPED FLOWING. ALSO, SHOOT ANY BREAKS IN THE SLOPE, SUCH AS WATERFALLS AND PERCHED CULVERTS.

TO DETERMINE CHANNEL SLOPE PLOT THALWEG SURVEY ELEVATIONS AND DETERMINE THE SLOPE OF THE "BEST FIT" LINE OF RIFFLE SHOTS OVER THE ENTIRE THALWEG SURVEY. POOL SHOTS ARE USED TO ESTIMATE THE EXTENT OF POTENTIAL SCOUR.

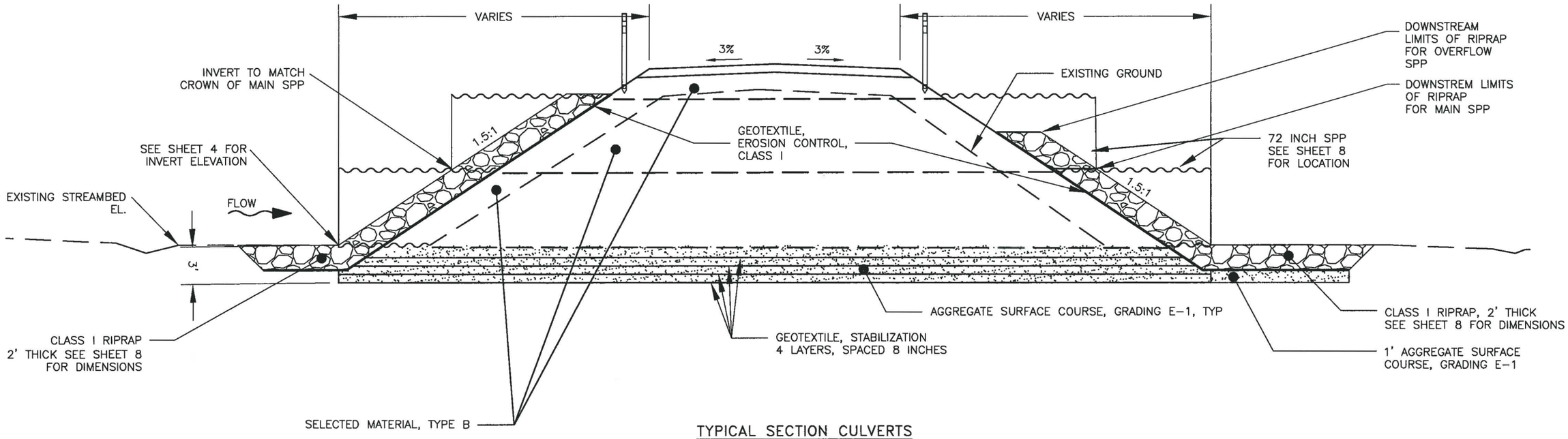
THE FINAL PLOT SHOULD INCLUDE BOTH UPSTREAM AND DOWNSTREAM SURVEY, IN ADDITION TO EXISTING EMBANKMENT AND CULVERT FEATURES.

STATE OF ALASKA
49 TH
Luke Joseph Boles
CE 11520
REGISTERED PROFESSIONAL ENGINEER

THALWEG PROFILE SURVEY DETAILS

T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\planset\FINAL\THALWEG-Thalweg Mon, Apr/22/13 08:42am

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	5	15



TYPICAL SECTION CULVERTS
NTS

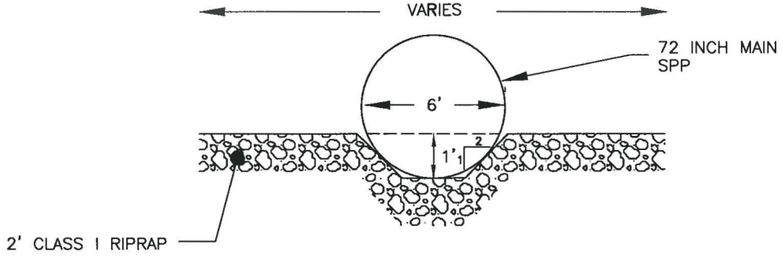
HYDRAULIC AND HYDROLOGIC SUMMARY:

AMBLER AIRPORT ACCESS ROAD, STATION 22+30, 72 INCH 10 GA. SPP

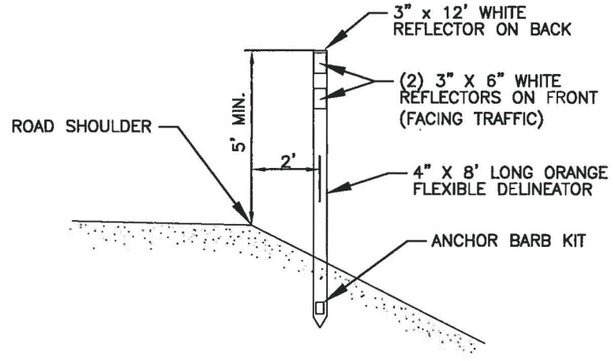
DRAINAGE ARA: 0.9 SQUARE MILES
EXCEEDENCE PROBABILITY: Q2 = 28 CFS Q5 = 48 CFS Q50 = 91 CFS Q100 = 104 CFS
DESIGN HIGH WATER ELEVATION AT Q50 = 1.6FT BELOW TOP OF MAIN CULVERT
ESTIMATED BACKWATER ELEVATION at Q100 = 1.3FT BELOW TOP OF MAIN CULVERT
HEADWATER/DEPTH RATIO (HW/D) AT Q50: 0.73
THE CAPACITY OF THIS CULVERT AT ROADWAY OVERTOPPING IS APPROXIMATELY 360 FT^3/S AT ELEVATION 8 FEET ABOVE CULVERT, WHICH HAS AN EXCEEDENCE PROBABILITY OF LESS THAN 0.2% (Q500 = 134 FT^3/S)
*THIS CULVERT IS OVERSIZED FOR ICING. ANALYSIS DOES NOT INCLUDE THE 6FT OVERFLOW CULVERT.

NOTES:

1. NO RIPRAP IS TO BE PLACED IN THE CULVERT INVERT.
2. MAIN SPP INLET TO BE RESTRAINED WITH DEADMAN, SEE SHEET 7.
3. INVERT ELEVATIONS ARE APPROXIMATE AND WILL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. SEE SHEET 9. OVERFLOW SPP TO BE RESTRAINED BY SOIL ANCHORS, SEE SHEET 8.
4. SEED ALL DISTURBED GROUND NOT COVERED BY DITCH LINING, RIPRAP, OR AGGREGATE SURFACE COURSE, GRADING A.
5. INSTALL THAW WIRES IN BOTH SPP BARRELS PER STANDARD DRAWING D13.10.
6. BED SPP'S WITH 12" OF SELECT B PASSING 3" SEIVE.



INLET/OUTLET CHANNEL DETAIL
NTS



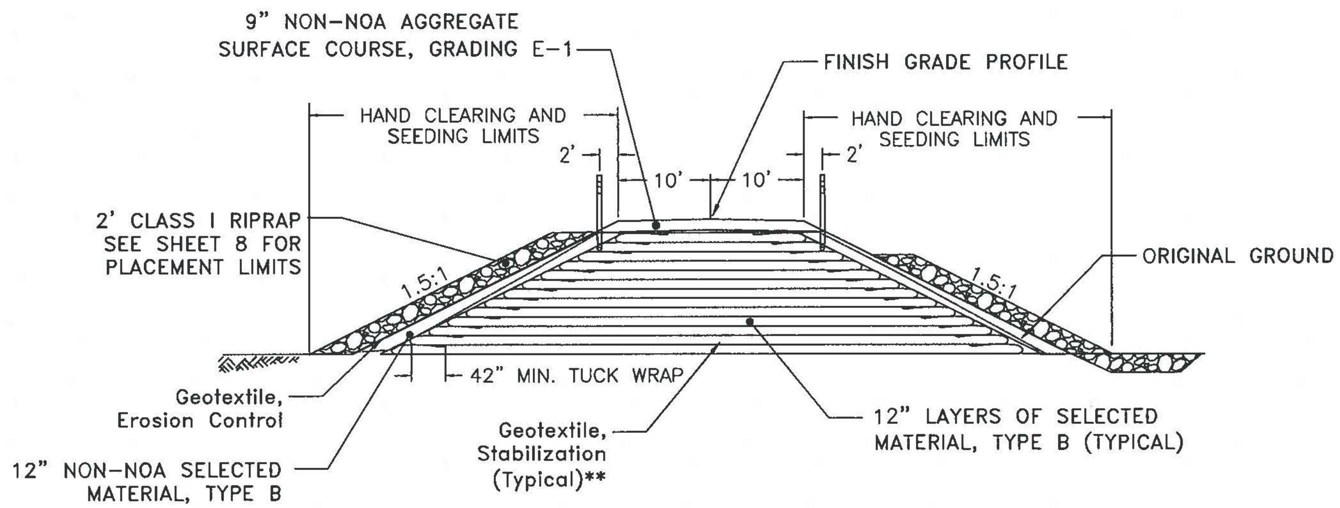
FLEXIBLE DELINEATOR
NTS

CULVERT TYPICAL

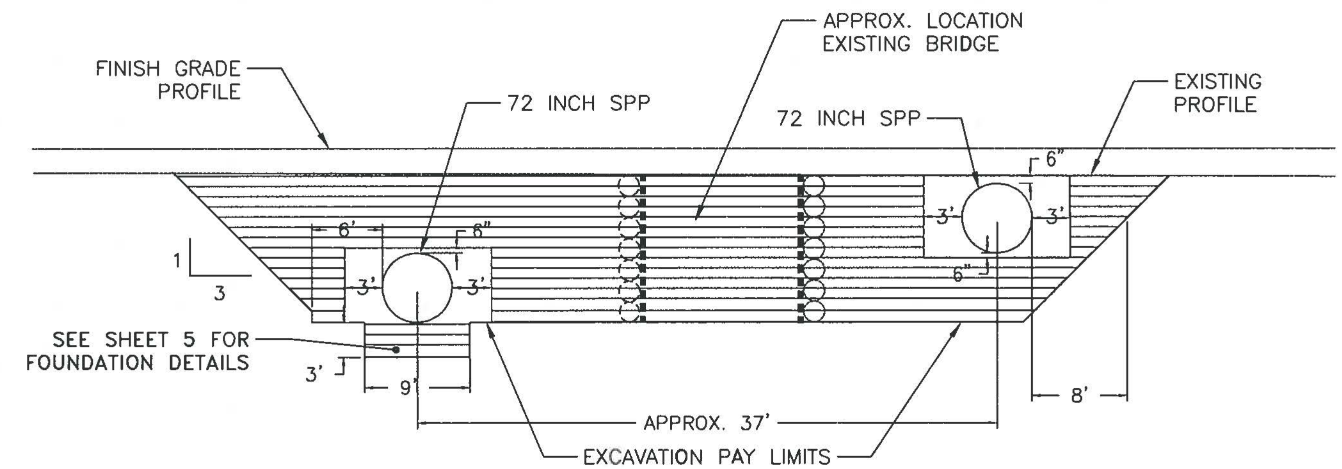
STATE OF ALASKA 49TH
Andrew Michael Schultz
CE 13338
REGISTERED PROFESSIONAL ENGINEER
4-22-2013

T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\plonset\FINAL\CULVERT TYPICAL-Culvert Typicals Mon, Apr/22/13 10:46am

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	6	15

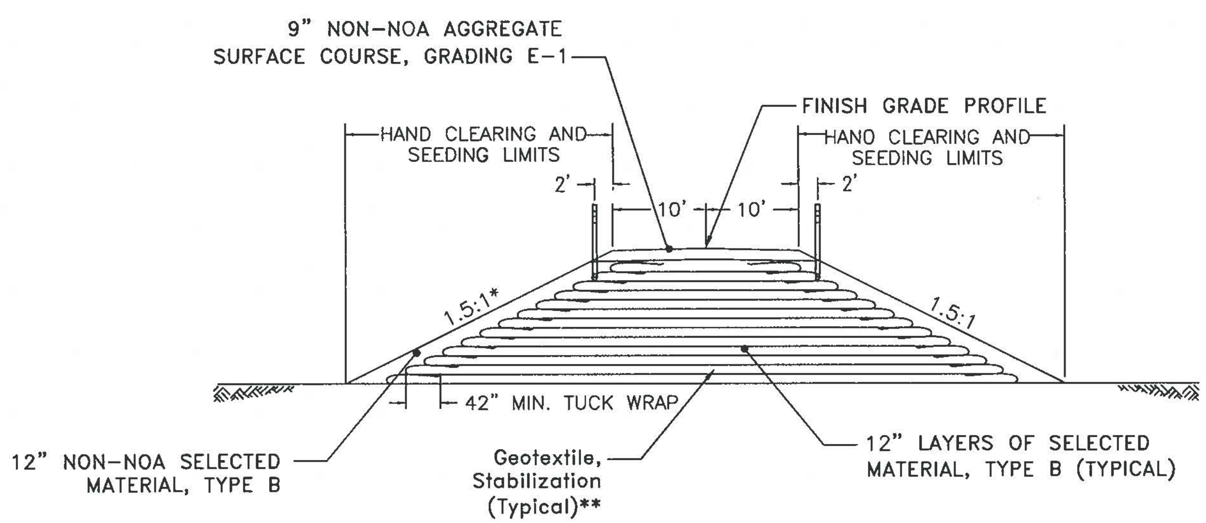


ROADWAY WITH RIPRAP TYPICAL SECTION



UPSTREAM ELEVATION VIEW AT ROADWAY CENTERLINE

TOP ELEVATION OF LOWER CULVERT EQUALS BOTTOM ELEVATION OF UPPER CULVERT



ROADWAY TYPICAL SECTION

STA 19+00 TO STA 21+81RT & LT
STA 22+56 LT TO STA 24+00 LT
STA 22+06 TO STA 24+00 RT

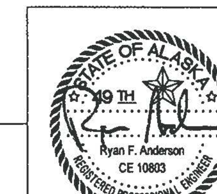
* USE 2:1 SIDESLOPES FROM STA. 19+50 TO STA. 21+45, STA. 22+65 TO STA. 24+00

** INSTALL GEOTEXTILE FROM STA. 21+30 TO STA. 22+90

NOTES:

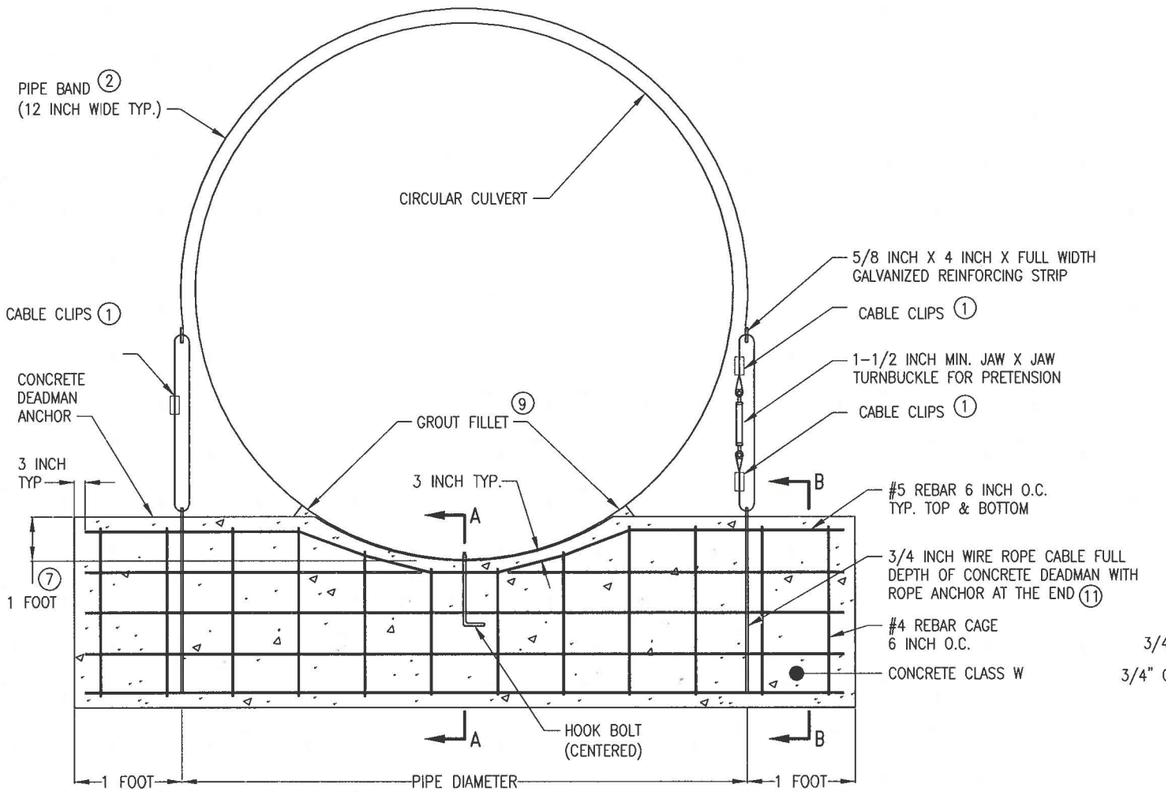
1. TRANSITION TYPICAL 9" SURFACE MATERIAL TO MATCH EXISTING ROADWAY OVER 25 FEET.

ROAD TYPICALS

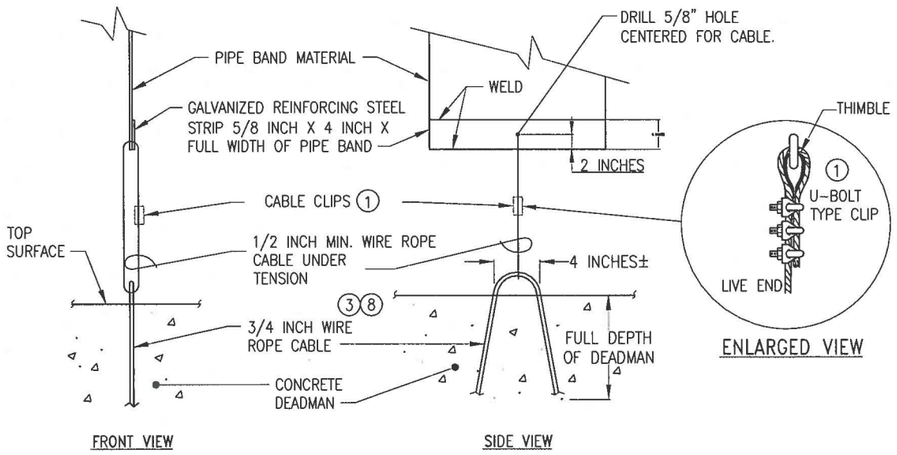


4-22-2013

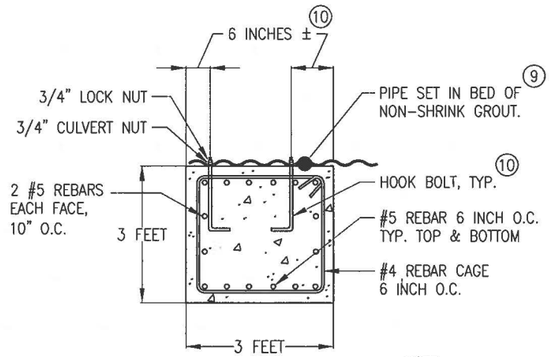
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	7	15



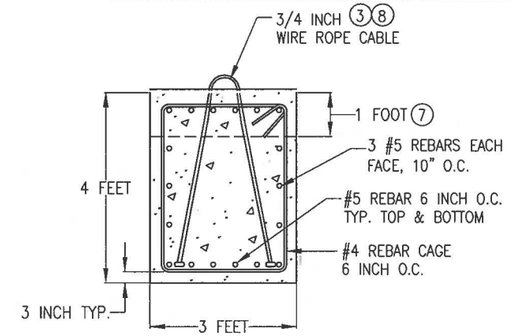
DEADMAN DETAIL



PIPE BAND DETAILS

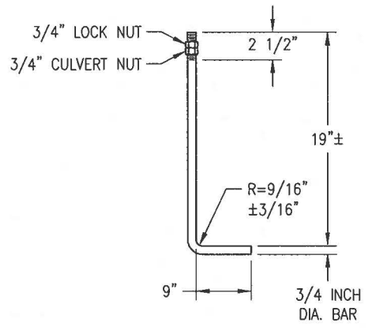


SECTION A-A

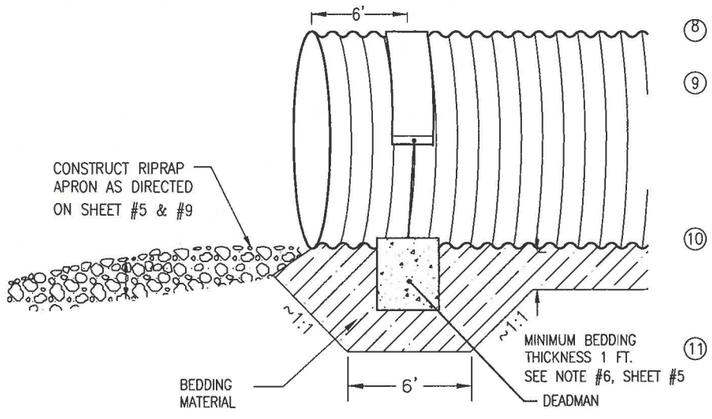


SECTION B-B

NOTE:
REBAR SIZES ARE MINIMUMS.



HOOK BOLT (4)



CONCRETE DEADMAN ANCHOR DETAILS

NOTES:

(1) IF DROP FORGED U-BOLT TYPE CLIPS ARE USED, THEY SHOULD BE INSTALLED USING THE FOLLOWING:

MIN. AMT. WIRE ROPE TO TURN BACK OR SPLICE (INCHES): 11 ½
TORQUE REQUIRED TO REACH HOLDING POWER (FT-LBS): 65
SPACING: DIAMETER OF THE ROPE (INCHES) TIMES 6. THE BASE OF THE CLAMPS AND NUTS MUST BE ON THE LIVE END OF THE WIRE

(2) THE LENGTH OF THE PIPE BANDS SHALL BE A MINIMUM OF HALF THE CIRCUMFERENCE OF THE ROUND CULVERT OR SHALL EXTEND TO WITHIN 6" OF THE SPRINGLINE ON PIPE ARCH CULVERT. THE PIPE BANDS SHALL BE A MINIMUM THICKNESS OF 1/16" GALVANIZED ASTM A1011 SS GRADE 36 OR MINIMUM THICKNESS 0.109" GALVANIZED AASHTO M218. THE REINFORCING STRIP SHALL BE GALVANIZED ASTM A36.

(3) WIRE ROPE SHALL BE 6X19 IWRC, EIPS & GALVANIZED AND MEET AASHTO M30 TYPE II REQUIREMENTS OR APPROVED EQUAL.

(4) ALL HARDWARE SHALL BE GALVANIZED TO MEET AASHTO M232

(5) CLASS W CONCRETE SHALL BE USED TO CONSTRUCT THE CONCRETE DEADMAN ANCHOR. REINFORCEMENT SHALL BE ASTM A615 GRADE 40.

(6) ALL WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION AND INSTALLATION OF THE DEADMAN SHALL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS.

(7) CONCRETE DEADMAN SHALL BE CAST TO CONFORM TO THE OUTER RADIUS OF THE CULVERT.

(8) USE A SPREADER BEAM/BAR WHEN LIFTING DEADMAN TO AVOID BENDING OF TIE-DOWN/LIFTING LOOP.

(9) THE PIPE SHALL BE SET IN A BED OF NON-SHRINK GROUT OF SUFFICIENT THICKNESS TO FULLY FILL THE CORRUGATIONS AFTER TENSIONING OF THE ANCHOR BOLTS AND TIE-DOWN BAND. THE DEADMAN SURFACE SHALL BE PROPERLY PREPARED FOR BEST BONDING WITH GROUT – CLEAN, DUST FREE, SATURATED SURFACE DRY (SSD) CONDITION. BOTTOM OF PIPE SHALL BE AS CLEAN AND DUST FREE AS PRACTICABLE. GROUT SHALL BE FILLETED/CROWNED ALONG SIDES OF PIPE AT THE DEADMAN/PIPE SEAM IN ORDER TO REDUCE WATER INFILTRATION INTO THE GROUTED AREA.

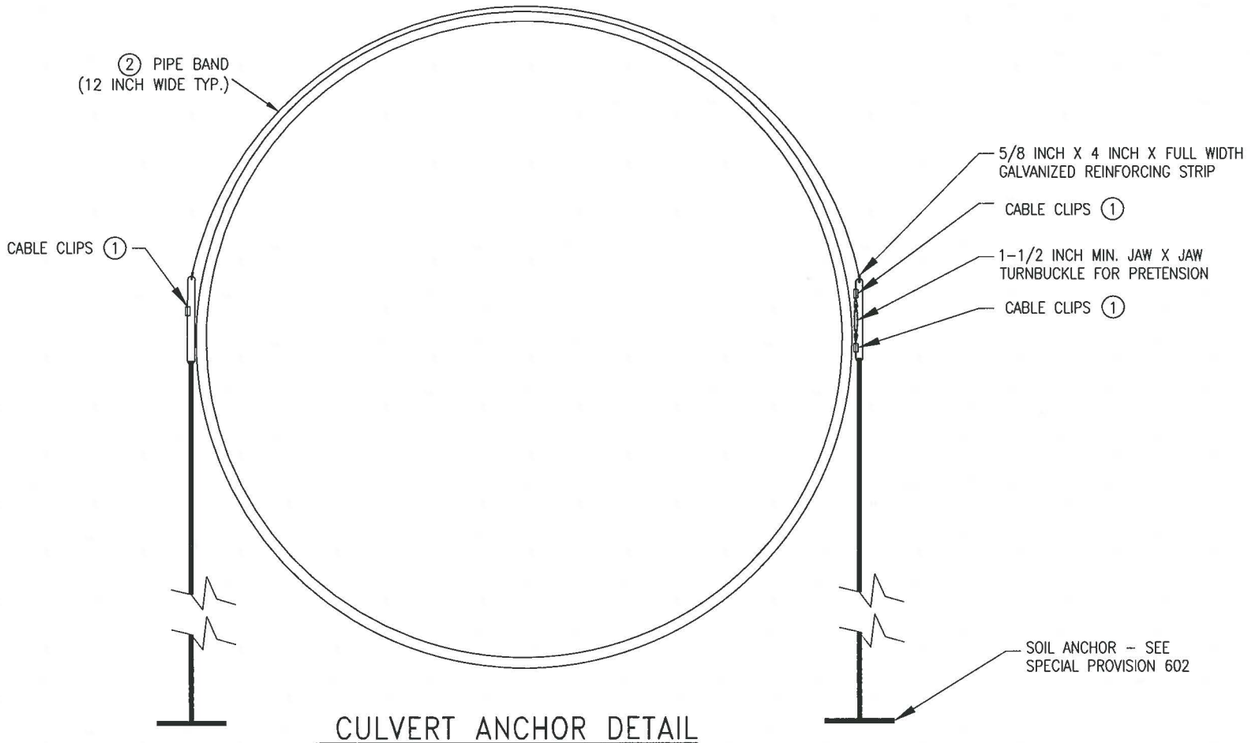
(10) PENETRATE CULVERT INVERT HOOK BOLTS IN A CORRUGATION VALLEY TO PROTECT NUT. ANCHOR BOLT HOLES SHALL BE DRILLED, NOT CUT WITH A TORCH, AND COATED WITH APPROPRIATE ZINC RICH PAINT PRIOR TO INSTALLATION. AFTER INSTLLATION AND ANCHOR BOLT NUTS HAVE BEEN TIGHTENED, COAT THE ANCHOR BOLT AND SURROUNDING AREA WITH ZINC RICH PAINT.

(11) SEE STANDARD DRAWING G-00.01 SHEET 4 FOR ROPE ANCHOR DETAILS.

STATE OF ALASKA
49TH
Andrew Michael Schultz
CE 13338
REGISTERED PROFESSIONAL ENGINEER
4-22-2013

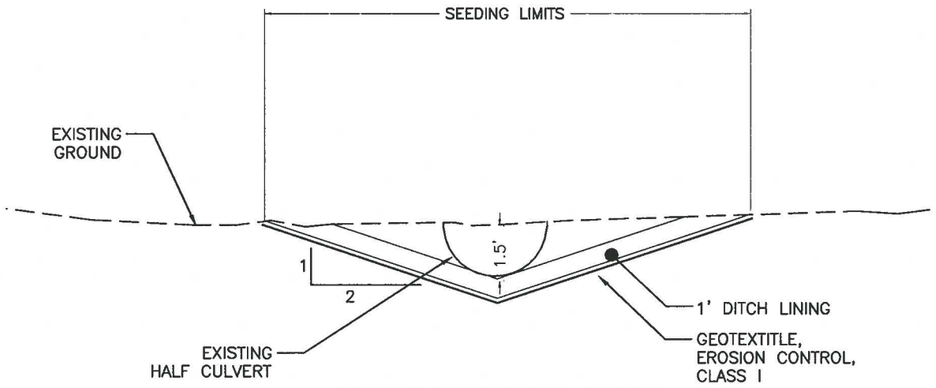
DEADMAN DETAILS

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	8	15



CULVERT ANCHOR DETAIL

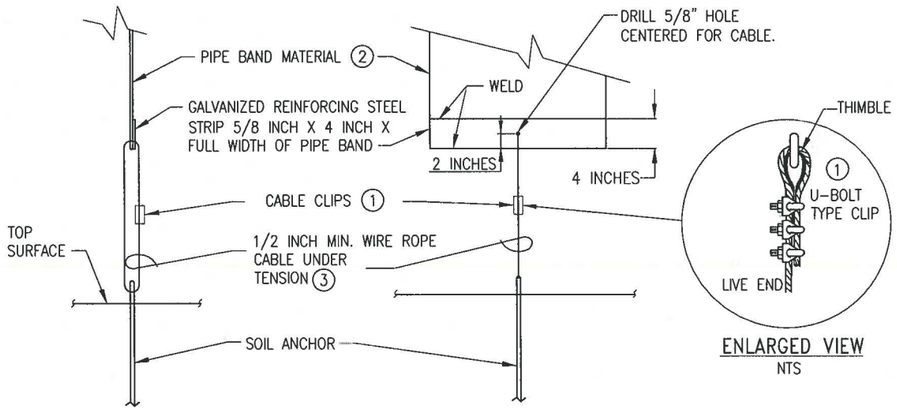
NTS



DRAINAGE SWALE TYPICAL SECTION

NOTES:

1. EXISTING HALF CULVERTS TO BE REMOVED PER 202(1).
2. CONSTRUCT SLOPES OF DRAINAGE SWALES TO MATCH EXISTING GROUND OR AS DIRECTED BY THE ENGINEER. TRANSITION SWALE INLETS AND OUTLETS WITH EXISTING DRAINAGES TO THE ENGINEER'S SATISFACTION. THERE WILL BE NO DIRECT PAYMENT FOR DRAINAGE SWALE EXCAVATION AND DISPOSAL OF UNUSABLE MATERIAL, AND IT SHALL BE CONSIDERED SUBSIDIARY TO 610(1).

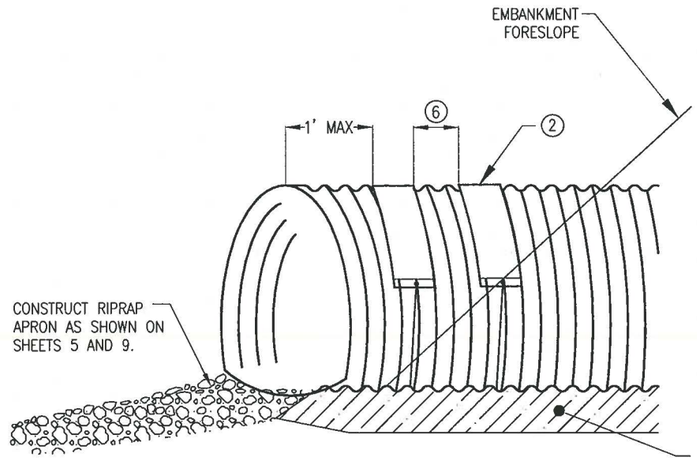


ENLARGED VIEW

NTS

PIPE BAND DETAILS

NTS



BAND AND SOIL ANCHOR PLACEMENT DETAIL

NTS

NOTES:

① IF DROP FORGED U-BOLT TYPE CLIPS ARE USED, THEY SHOULD BE INSTALLED USING THE FOLLOWING:

- AMT. WIRE ROPE TO TURN BACK OR SPLICE (INCHES): 11 ½
- TORQUE REQUIRED TO REACH HOLDING POWER (FT-LBS): 65
- SPACING: DIAMETER OF THE ROPE (INCHES) TIMES 6. THE BASE OF THE CLAMPS AND NUTS MUST BE ON THE LIVE END OF THE WIRE

② THE LENGTH OF THE PIPE BANDS SHALL BE A MINIMUM OF HALF THE CIRCUMFERENCE OF THE ROUND CULVERT OR SHALL EXTEND TO WITHIN 6" OF THE SPRINGLINE ON PIPE ARCH CULVERT. THE PIPE BANDS SHALL BE A MINIMUM THICKNESS OF 1/16" GALVANIZED ASTM A1011 SS GRADE 36 OR MINIMUM THICKNESS 0.109" GALVANIZED AASHTO M218. THE REINFORCING STRIP SHALL BE GALVANIZED ASTM A36.

③ WIRE ROPE SHALL BE 6X19 IWRC, EIPS & GAVANIZED AND MEET AASHTO M30 TYPE II REQUIREMENTS OR APPROVED EQUAL.

④ ALL HARDWARE SHALL BE GALVANIZED TO MEET AASHTO M232

⑤ ALL WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION AND INSTALLATION OF THE SOIL ANCHOR ASSEMBLIES SHALL BE PAID UNDER PAY ITEM 602(106).

⑥ MINIMUM DISTANCE BETWEEN BANDS SHALL BE TWICE THE MANUFACTURER'S RECOMMENDED INSTALLATION DEPTH OF SOIL ANCHOR.

⑦ INSTALL 2 ANCHOR ASSEMBLIES (2 BANDS + 4 SOIL ANCHORS) AT THE INLET AND OUTLET OF THE OVERFLOW CULVERT AND AT THE OUTLET OF THE MAIN CULVERT.

CULVERT ANCHOR AND DRAINAGE SWALE DETAILS

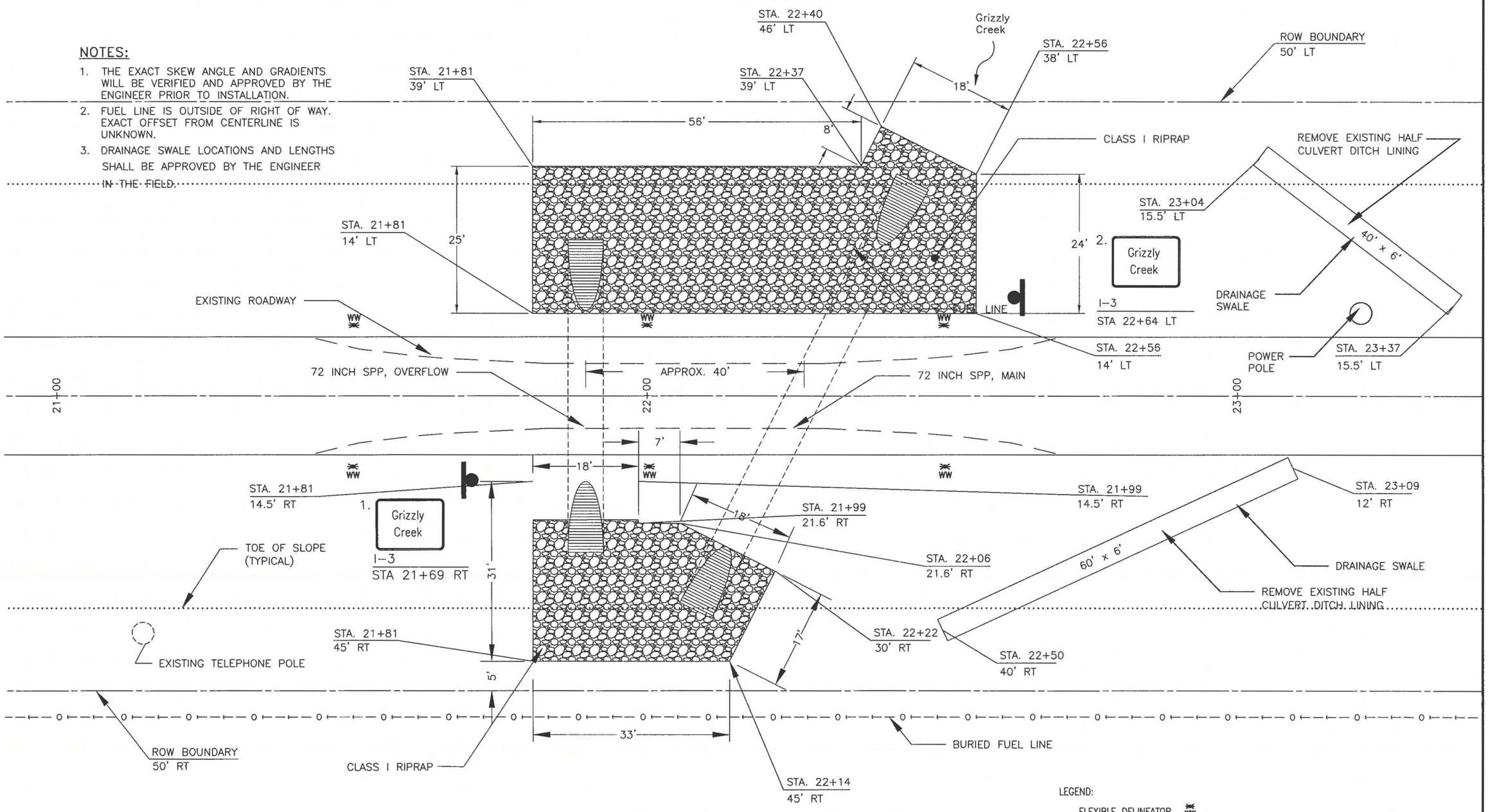
STATE OF ALASKA 49TH
Andrew Michael Schultz
CE 13338
REGISTERED PROFESSIONAL ENGINEER
4-22-2013

Mon, 22/Apr/13 08:43am T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\planset\CULVERT_ANCHOR-DEADMAN PIPE ARCH DETAILS

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	9	15

NOTES:

1. THE EXACT SKEW ANGLE AND GRADIENTS WILL BE VERIFIED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
2. FUEL LINE IS OUTSIDE OF RIGHT OF WAY. EXACT OFFSET FROM CENTERLINE IS UNKNOWN.
3. DRAINAGE SWALE LOCATIONS AND LENGTHS SHALL BE APPROVED BY THE ENGINEER IN THE FIELD.



LEGEND:

FLEXIBLE DELINEATOR

CULVERT LAYOUT PLAN

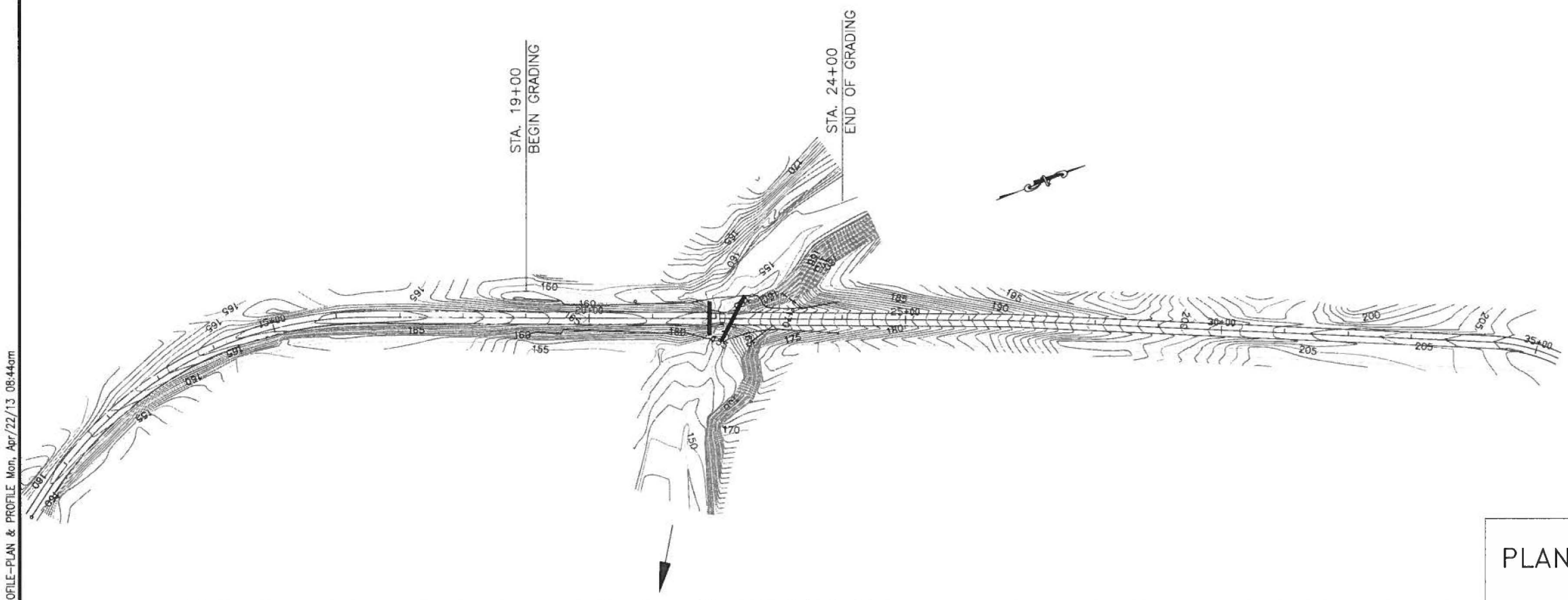
NTS

PLAN VIEW

STATE OF ALASKA
49TH
Ryan F. Anderson
CE 10803
REGISTERED PROFESSIONAL ENGINEER
4-22-2013

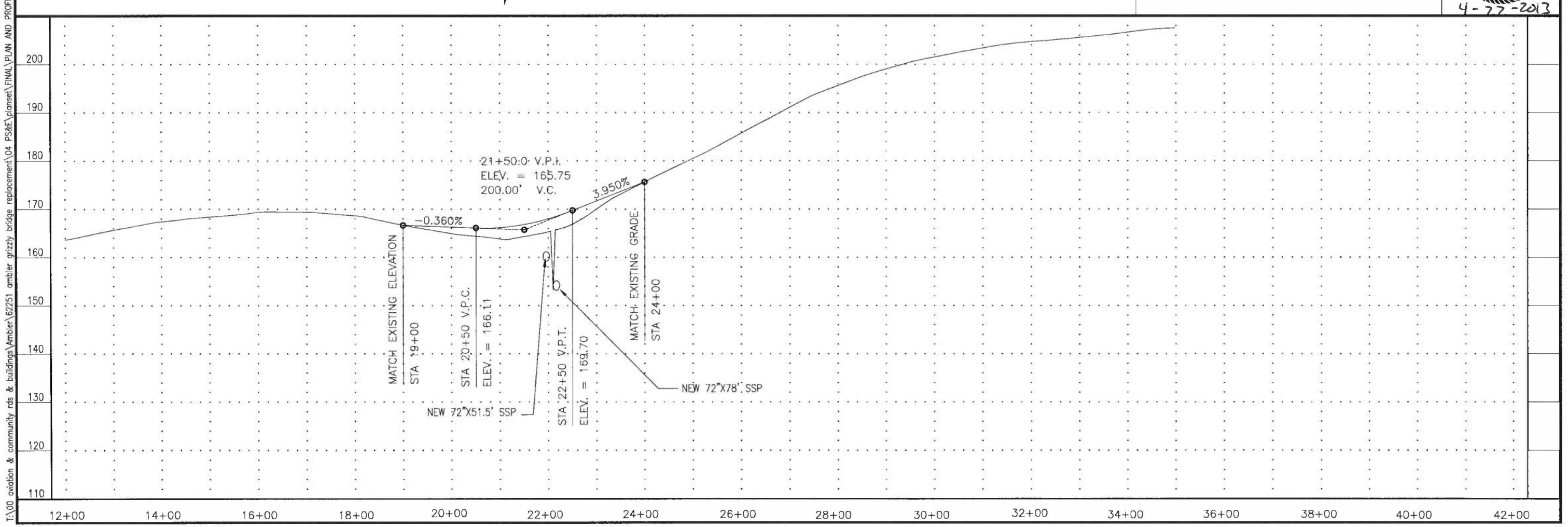
T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\planset\FINAL\BRIDGE PLAN_VIEW-PLAN VIEW Mon, Apr/22/13 10:12am

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	10	15



PLAN AND PROFILE VIEW

STATE OF ALASKA
49 TH
Ryan F. Anderson
CE 10803
REGISTERED PROFESSIONAL ENGINEER
4-22-2013



T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\planset\FINAL\PLAN AND PROFILE-PLAN & PROFILE Mon, Apr/22/13 08:44am

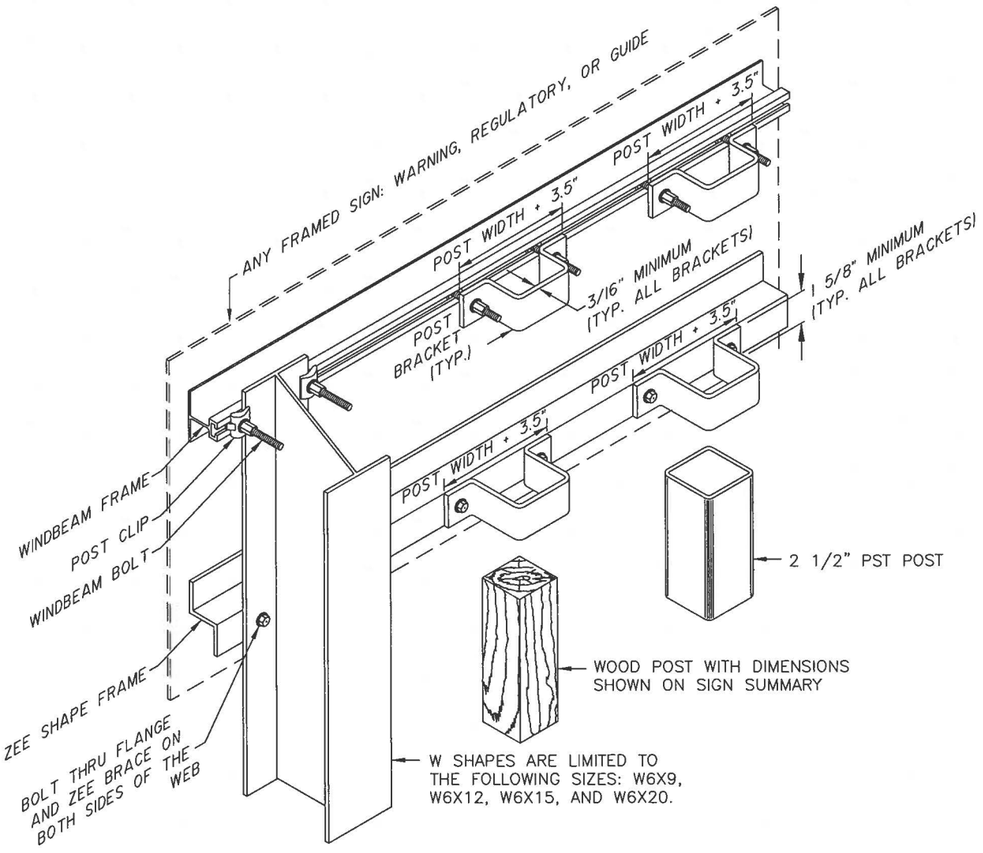
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	11	15

SIGN SUMMARY

LOCATION NUMBER	STATION	LOCATION LT.	LOCATION RT.	ASOS CODE	LEGEND	SIZE HxV (INCHES)	BRACING/FRAMING BRACED	BRACING/FRAMING FRAMED	AREA (SQ FT)	MOUNTING HEIGHT	DIRECTION	POSTS TYPE	POSTS SIZE (INCHES)	POSTS NO.	REMARKS
1	21+70		X	I-5	Grizzly Creek	48x24		X	8.00		SW	WOOD	6x6	1	
2	22+64	X		I-5	Grizzly Creek	48x24		X	8.00		NE	WOOD	6x6	1	
								TOTAL	16.00	SQ FT					

SIGNING NOTES:

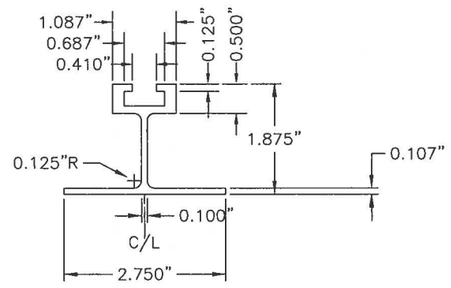
1. MOUNTING HEIGHTS ARE PER STANDARD DRAWING S-05.01 UNLESS OTHERWISE NOTED.
2. DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
3. ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" ON THIS SHEET.
4. ALL LETTERING THAT INCLUDES UPPER AND LOWER CASE LETTERS SHALL BE SERIES E-MODIFIED OR CLEARVIEW AS NOTED IN APPENDIX C OF THE ASDS, EXCEPT FOR D3-1 SIGNS WHICH ARE SERIES 2000 LETTERS.
5. 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, PRIOR TO INSTALLING SIGN POSTS. NOT ALL EXISTING UTILITIES MAY BE SHOWN ON THE PLANS.
6. ATTACH FRAMED SIGNS TO POSTS WHEREVER THE FRAMES CROSS THE POSTS. AT EACH CROSSING, ATTACH THE SIGN USING A BRACKET WITH SQUARE CORNERS ON WOOD POSTS
7. THE BRACKET DETAILS SHOWN INDICATE GENERAL DESIGNS ONLY. DESIGNS MAY VARY BY MANUFACTURER.



FRAMED SIGN ATTACHMENT BRACKETS

FASTENER SPECIFICATION TABLE

FASTENERS	STEEL	STAINLESS STEEL
BOLTS	ASTM A 307	ASTM F 593
NUTS	ASTM A 563	ASTM F 594
WASHERS	ASTM A 36	ASTM A 480



EXTRUDED ALUMINUM WINDBEAM

3/8" WINDBEAM BOLT AND LONG NUT

WINDBEAM NOTES:

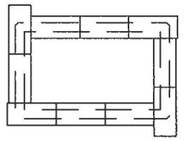
1. ALUMINUM ALLOY 6061-T6 SHALL BE USED FOR EXTRUDED WINDBEAM AND RIVETS.
2. ATTACH SIGN TO WINDBEAM AND HINGE WITH 3/16" RIVETS AT 4" STAGGERED SPACING.
3. A NYLON WASHER SHALL BE PLACED BETWEEN THE SIGN FACE AND ANY OTHER WASHER (EXCLUDING WIND WASHERS) REQUIRED ON SIGNS CONSTRUCTED OF ENCAPSULATED LENS SHEETING MATERIAL.

STATE OF ALASKA 49 TH
Ryan F. Anderson
CE 10803
REGISTERED PROFESSIONAL ENGINEER
4-22-2013

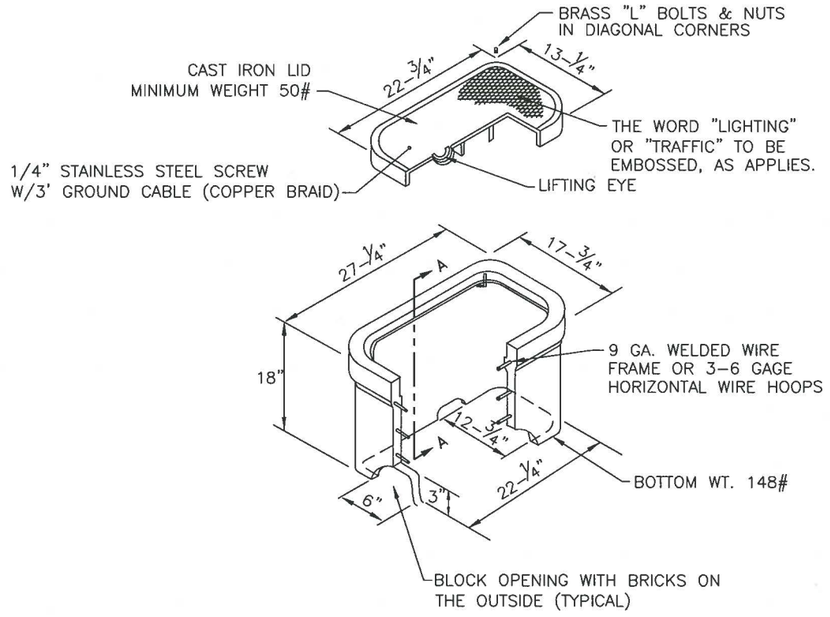
SIGN DETAILS

T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\planset\FINAL\SIGN DETAILS-SIGN DETAILS, Mon, 22/Apr/13 08:44am

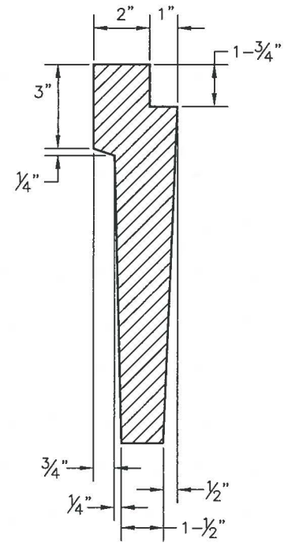
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	12	15



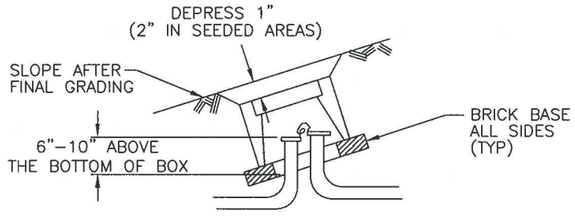
BRICK BASE
TYPE IA JUNCTION BOX
NTS



TYPE IA JUNCTION BOX DETAIL
NTS



SECTION A–A



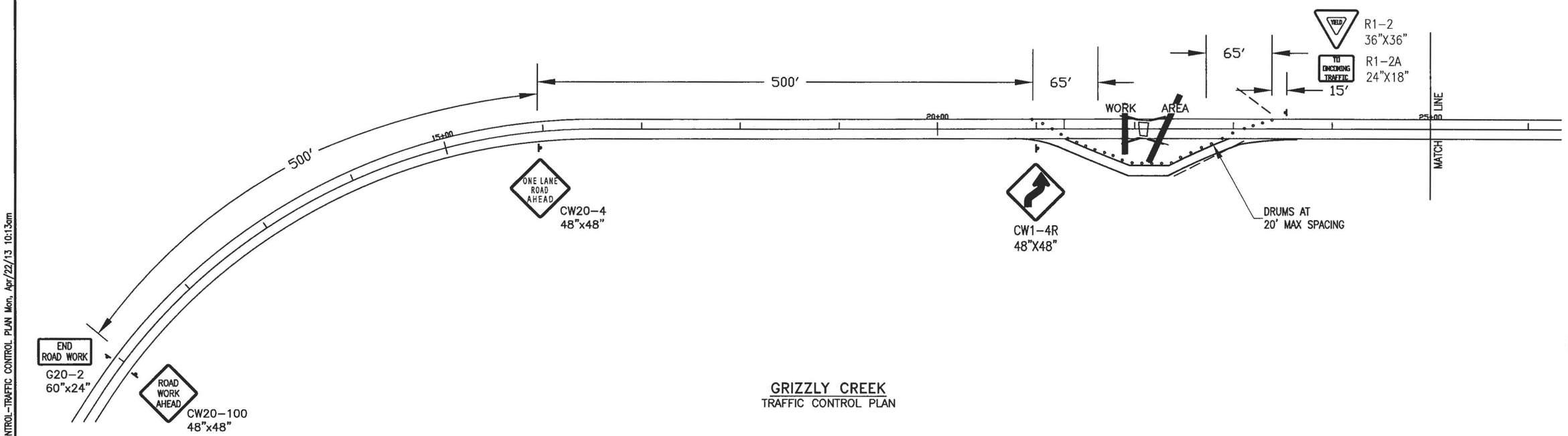
TYPE IA J-BOX INSTALLATION ON SLOPE
NTS

JBOX DETAILS

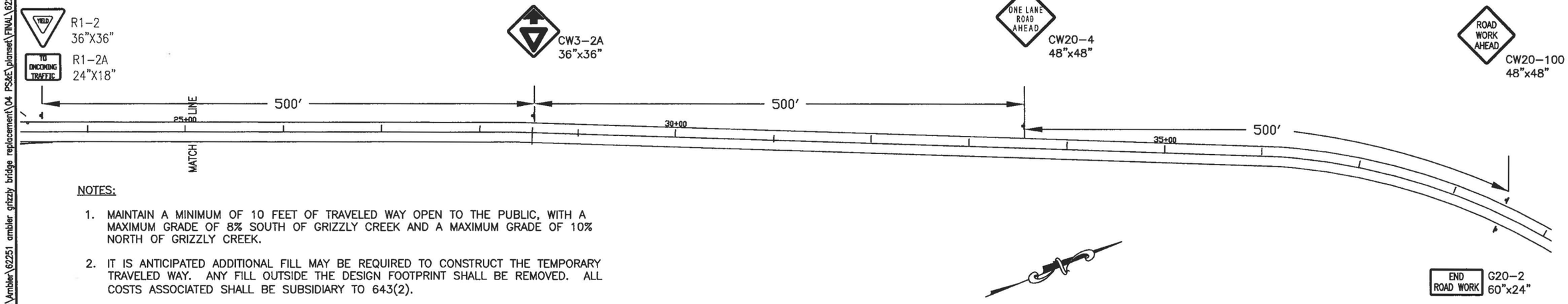
STATE OF ALASKA 49TH
Ryan F. Anderson
CE 10803
REGISTERED PROFESSIONAL ENGINEER
4-22-2013

Mon, 22/Apr/13 08:44am T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\planset\FINAL\JBOX DETAIL-JBOX DETAIL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	13	15



GRIZZLY CREEK
TRAFFIC CONTROL PLAN



NOTES:

1. MAINTAIN A MINIMUM OF 10 FEET OF TRAVELED WAY OPEN TO THE PUBLIC, WITH A MAXIMUM GRADE OF 8% SOUTH OF GRIZZLY CREEK AND A MAXIMUM GRADE OF 10% NORTH OF GRIZZLY CREEK.
2. IT IS ANTICIPATED ADDITIONAL FILL MAY BE REQUIRED TO CONSTRUCT THE TEMPORARY TRAVELED WAY. ANY FILL OUTSIDE THE DESIGN FOOTPRINT SHALL BE REMOVED. ALL COSTS ASSOCIATED SHALL BE SUBSIDIARY TO 643(2).
3. ALL TEMPORARY TRAFFIC CONTROL SIGNS SHALL HAVE HIGH LEVEL WARNING DEVICES.
4. MODIFY AND ADJUST DISTANCES SHOWN ACCORDING TO SITE CONDITIONS.
5. TRAFFIC CONTROL DEVICES SHOWN ARE A GRAPHICAL REPRESENTATION ONLY. ACTUAL QUANTITY OF DEVICES SHALL BE AS REQUIRED BY THE ALASKA TRAFFIC MANUAL.
6. THIS TRAFFIC CONTROL SETUP SHALL BE USED FOR ALL WORK ASSOCIATED AT GRIZZLY CREEK.
7. PLANS SHOWN ON THIS SHEET ARE GENERALIZED TO DEPICT TRAFFIC LAYOUT ONLY.

LEGEND:

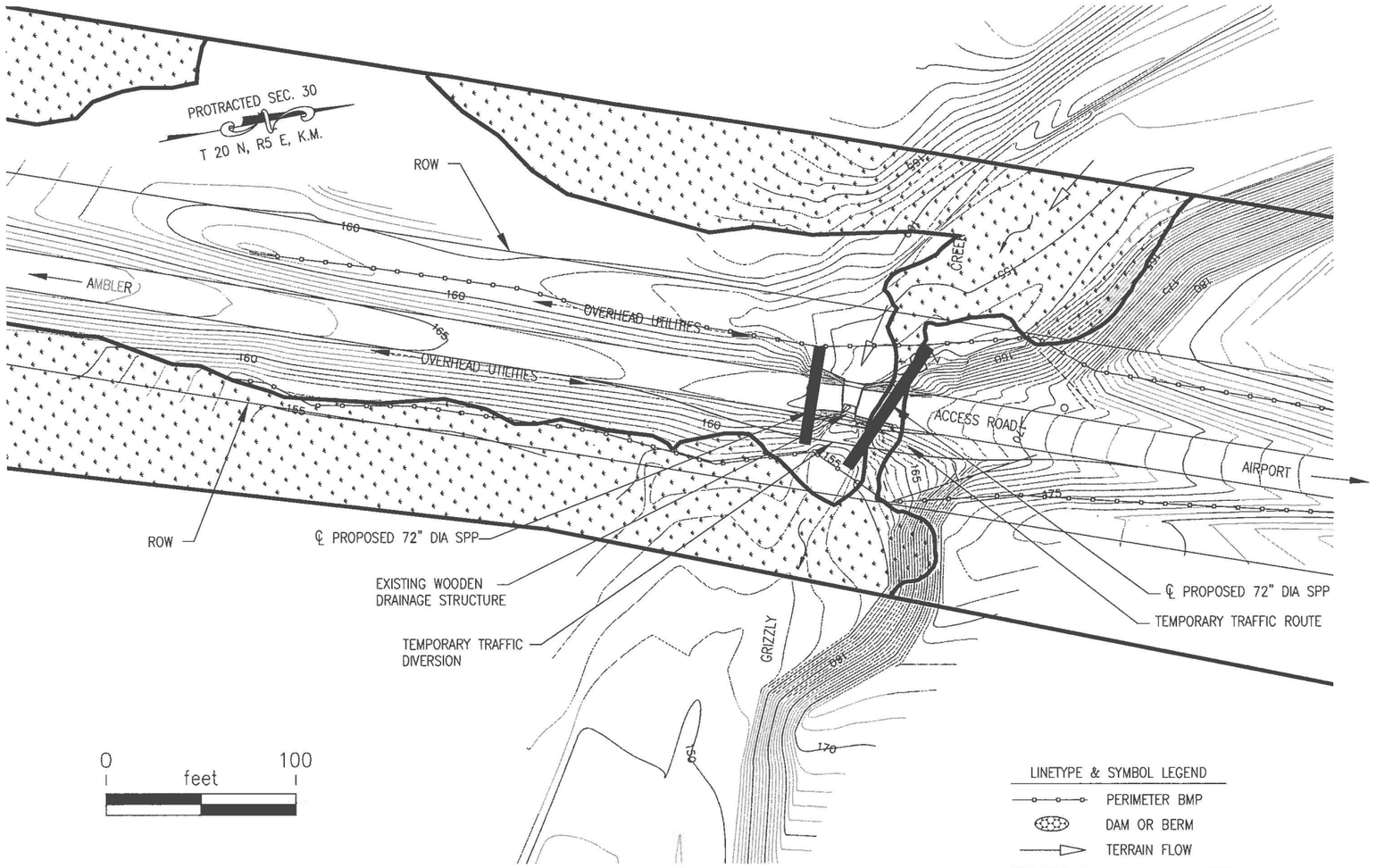
TYPE III BARRICADE I

TRAFFIC CONTROL PLAN

STATE OF ALASKA 49TH
Ryan F. Anderson
CE 10803
REGISTERED PROFESSIONAL ENGINEER
4-22-2013

T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\planset\FINAL\62251 TRAFFIC CONTROL-TRAFFIC CONTROL PLAN Mon, Apr/22/13 10:13am

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	14	15

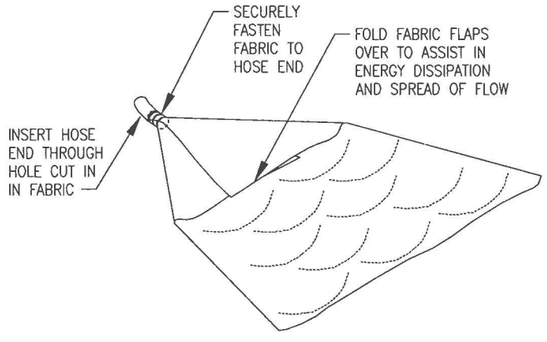


NOT TO SCALE

LINETYPE & SYMBOL LEGEND

- PERIMETER BMP
- DAM OR BERM
- TERRAIN FLOW
- ESTIMATED PERIMETER OF DISTURBED AREA
- WETLAND AREA

DISTURBED AREA: 0.6 ACRES
PROJECT AREA: 0.75 ACRES
IMPACTED WETLAND AREA: 0.06 ACRES



DETAIL – OPTIONAL METHOD FOR PUMP DISCHARGE ENERGY DISSIPATION

NO SCALE

PLAN NOTES:

1. INSPECT BENCHES OF EMBANKMENT USED AS SITE ACCESS FOR EROSION POTENTIAL, AND INSTALL PROPER BMP AS NECESSARY TO PREVENT EROSION, SUBSIDIARY TO 641 PAY ITEMS.
2. USE VELOCITY REDUCING INTAKE GUARD ON ALL PUMP INTAKE HOSES.
3. THE CONTRACTOR SHALL MARK THE BOUNDARIES OF THE AREA TO BE DISTURBED BOTH UPLANDS AND WETLANDS.

DISCHARGE ENERGY DISSIPATOR NOTES:

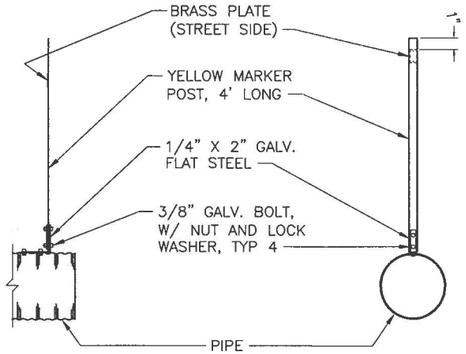
1. A VELOCITY DISSIPATER IS REQUIRED FOR ALL TEMPORARY DISCHARGE POINTS.
2. USE SUFFICIENT SIZE IMPERMEABLE FABRIC TO PRODUCE LAMINAR – SHEET OUTPUT FLOW.
3. FOLD FLAPS OVER TO FURTHER ASSIST IN SPREADING THE WATER ACROSS THE SHEET.
4. FASTEN SECURELY TO PUMP HOSE OUTLET.
5. RAISE SIDE EDGES AS NECESSARY TO DIRECT WATER TO END OF FABRIC.
6. DOWELS MAY BE PLACED UNDER FABRIC PERPENDICULAR TO FLOW DIRECTION TO PRODUCE DESIRED FLOW CHARACTERISTICS.
7. SURROUND OUTPUT WITH BMP, SUCH AS STRAW WATTLE, TO COLLECT SEDIMENT.

EROSION AND SEDIMENT CONTROL PLAN

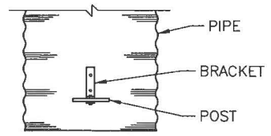
STATE OF ALASKA 49TH
Ryan F. Anderson
CE 10803
REGISTERED PROFESSIONAL ENGINEER
4-22-2013

T:\00 aviation & community rds & buildings\Ambler\62251 ambler grizzly bridge replacement\04 PS&E\planset\FINAL\ESCP AND CULVERT MARKERS-ESCP Mon, Apr/22/13 08:45am

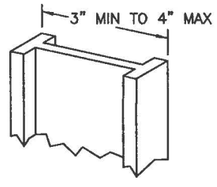
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	62251	2013	15	15



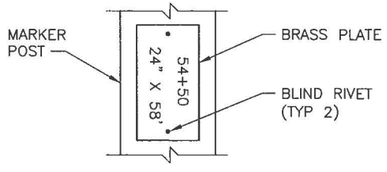
CROSS CULVERT MARKER POST DETAIL
N.T.S.



TOP VIEW
N.T.S.

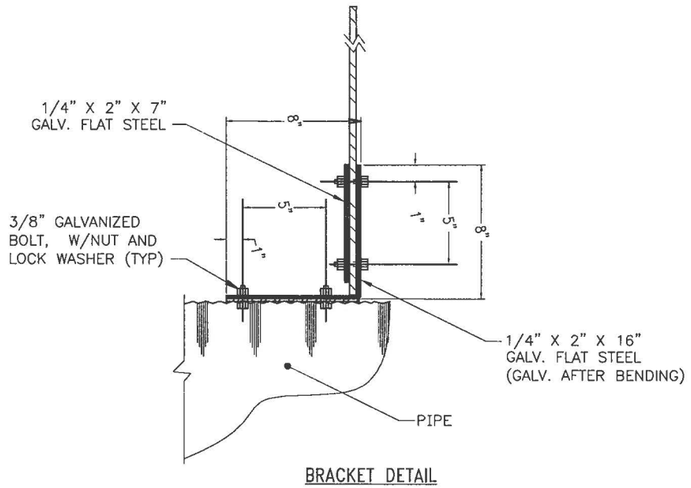


POST DETAIL



STAMP STATION AND PIPE SIZE, USING 3/8" HIGH MINIMUM LETTERS INTO A 2"x4"x0.064" THICK BRASS PLATE. FASTEN PLATE TO THE SIDE FACING THE ROADWAY WITH TWO 1/8" DIAMETER BLIND RIVETS.

BRASS PLATE DETAIL
N.T.S.



BRACKET DETAIL
N.T.S.

CULVERT MARKER POSTS NOTES:

1. MARKER POSTS ARE TO BE INSTALLED ON CROSS CULVERTS ONLY.
2. IF CULVERTS ARE CLOSELY SPACED, MARK ONLY THE FIRST AND LAST CULVERT IN SERIES AS APPROVED BY THE ENGINEER.
3. DRILL ALL BOLT HOLES. COAT HOLES WITH ZINC RICH PAINT. FLAME CUTTING SHALL NOT BE PERMITTED.
4. GASKET MATERIAL SHALL BE PLACED BETWEEN DISSIMILAR METALS. GASKET MATERIAL SHALL BE APPROVED PRIOR TO INSTALLATION.

STATE OF ALASKA
49 TH
Ryan F. Anderson
CE 10803
REGISTERED PROFESSIONAL ENGINEER
4-22-2013

CULVERT MARKER POSTS DETAIL