FIRM	DOWL	PHONE	(907) 780-3533	CERTIFICATE OF AUTH #:	AECL848
ADDRESS	9085 GLACIER HIGHWAY, JUNEAU, AK 99801	DESIGNED	HOBBS	CHECKED	CHRISTIE	DRAFTED	BERG
DATE	9/9/2022 11:08	LAYOUT	A1		
FILE	c:\dowl_pw\d0395244\SA-GN-CV-A1-63330.03.dwg				

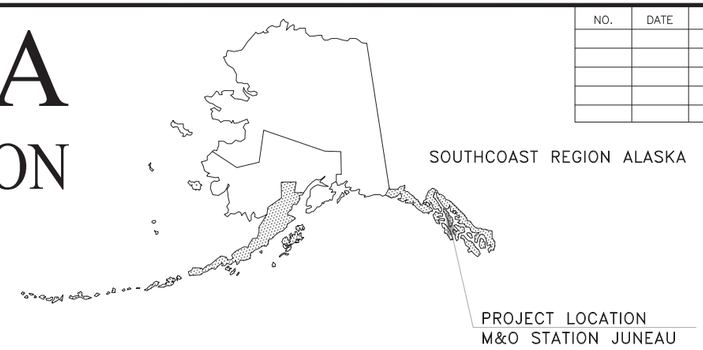
STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

JNU NORTH DOUGLAS - BONNIE BRAE - DEC 20 SE PR
PROJECT NO. 0093002/SFHWY00411

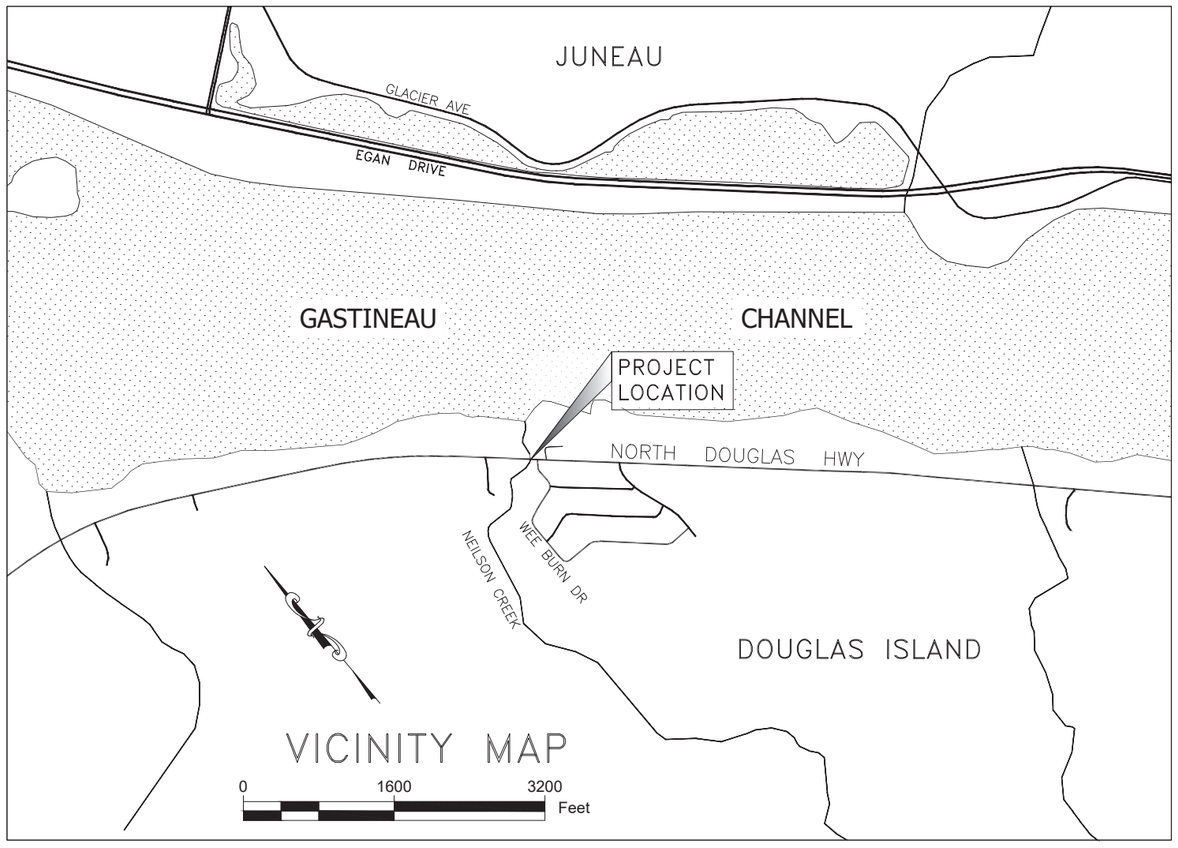
GRADING, DRAINAGE, PAVING, GUARDRAIL, STRIPING, AND SIDE SLOPE STABILIZATION



NO.	DATE	REVISIONS	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093002/SFHWY00411	2022	A1	14
			CDS ROUTE: 296150		MILEPOINT: 3.46		
			LATITUDE: 58.331428°N		LONGITUDE: −134.499444°W		

DESIGN DESIGNATIONS	
PROJECT TYPE	EMERGENCY REPAIR
FUNCTIONAL CLASS	MAJOR COLLECTOR
ADT (2022)	1,862
ADT (2045)	3,154
DHV (2022)	212
DHV (2045)	359
PERCENT TRUCKS (T)	1.98%
DIRECTIONAL SPLIT (D)	57%
DESIGN SPEED (V)	45 MPH

PROJECT SUMMARY	
	NORTH DOUGLAS HIGHWAY–BONNIE BRAE
WIDTH OF PAVEMENT	20'
LENGTH OF PAVING	230'
LENGTH OF PROJECT	230'



As-Builts
Contracor: SECON
Project Engineer: Dillon Tomaro
Start Date: 7/14/23
End Date: 9/6/23

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE *Dillon Tomaro* Date 10/25/23

USE THESE PLANS IN CONJUNCTION WITH THE STATE OF ALASKA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2020 EDITION AND THE PROJECT SPECIAL PROVISIONS.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
6860 GLACIER HIGHWAY, JUNEAU, AK 99801
(907) 465−1763

APPROVED: DocuSigned by: CFE1F1F341494BA... 11/9/2022
KIRK MILLER, P.E. DATE
REGIONAL PRECONSTRUCTION ENGINEER

CONCUR: DocuSigned by: F255012206784D8... 11/10/2022
D. LANCE MEARIG, P.E. DATE
DIRECTOR, SOUTHCOAST REGION

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093002/SFHWY00411	2022	A2	14

	RECOVERED	SET
BLM MONUMENT	✠	
GLO MONUMENT	✠	
USC&GS MONUMENT	▲	
PRIMARY MONUMENT	✠	✠
CENTERLINE MONUMENT IN CASING	⊕	⊕
PRIMARY R.O.W. MONUMENT	⊕	⊕
BEARING OBJECT	✳	
MISCELLANEOUS MONUMENT	⊗	
LINE OF SIGHT MONUMENT		◎
CONCRETE R.O.W. MONUMENT	■	
BENCHMARK		BM
REBAR AND CAP	⊙	⊙
REBAR	⊕	●
IRON PIPE	◉	
PK NAIL		▽
SPIKE		✳
HUB AND TACK		⊡
CONSTRUCTION CENTERLINE		5+00
MICELLANEOUS CENTERLINE		10+00
STATION EQUATION		"L"48+97.23 POT BK= "O"48+97.23 PC AHD
PROJECT RIGHT-OF-WAY LINE		R/W
EXISTING RIGHT-OF-WAY LINE		
EXISTING PROPERTY LINE		
CONTROLLED ACCESS LINE		C/A
EXISTING EASEMENT LINE		
PROPOSED EASEMENT LINE		
PROPOSED CUT SLOPE LIMIT		
PROPOSED FILL SLOPE LIMIT		
SECTION LINE		
1/4 SECTION LINE		
1/16 SECTION LINE		
TOWNSHIP & RANGE LINE		T. 2 N. / T. 1 N. — T. 1 E. / T. 2 E.
MEANDER LINE		M1 M2 M3

	EXISTING	PROPOSED
SANITARY SEWER (FLOW DIRECTION →)	SS	SS
FUEL LINE	O	O
GAS LINE	G	G
WATER LINE	W	W
METER, VALVE, FIRE HYDRANT	W	W
EXISTING STORM DRAIN (FLOW DIRECTION →)	SD	
PROPOSED STORM DRAIN		S-10, S-11, P-11, P-10, SD, MH
FIBER OPTIC LINE		
DIRECT BURIAL TELEPHONE CABLE	T	T
DIRECT BURIAL ELECTRIC CABLE	E	E
ELECTRIC LINE (OVERHEAD)		
POWER POLE LINE		
JOINT USE POWER & TELEPHONE		
TELEPHONE POLE LINE		
POLE ANCHOR		
STUB POLE (POWER OR TELEPHONE)		
TELEPHONE DUCT	T	T
TELEPHONE PEDESTAL		
BURIED CABLE MARKER		
PIPELINE MARKER OR VALVE		
CATCH BASIN OR DROP INLET		
MANHOLE	MH	MH
SANITARY SEWER CLEAN OUT		
RIPRAP		
SPECIAL DITCH CENTERLINE		
HIGH TIDE LINE	HTL	HTL

	EXISTING	PROPOSED
ROADWAY/PAVEMENT EDGE		
FENCE		
CURB AND GUTTER		
DETECTABLE WARNINGS		
GUARDRAIL		
CULVERT PIPE		
SIGN		
MAILBOX	MB	MB
RAILROAD TRACKS		
RAILROAD DEVICES	CROSS-BUCK, FLASHING LIGHT	CANTILEVER, SWITCH
TREE LINE		
WATER BOUNDARY		
ORDINARY HIGH WATER LINE		
FLOW CENTERLINE		
FLOW DIRECTION		
WETLANDS		
EXISTING BUILDINGS	H = HOUSE, G = GARAGE, M = MERCHANT/STORE, B = BARN, S = SHED, P = PRIVY, SS = SERVICE STATION, W = WAREHOUSE	
POST OR BOLLARD		
WELL OR MONITORING WELL	W	MW
SEPTIC PIPE	S	
FUEL TANK FILL PIPE/VENT	P	
SATELLITE DISH	SAT. DISH	
TEST HOLE	TH	
CONIFER TREE		
DECIDUOUS TREE		
GRAVE		
THERMOSIPHON		
PARKING METER		
VEHICLE PLUG-IN		
DELINEATOR/GUIDE MARKER		

	EXISTING	PROPOSED
JUNCTION BOX, TYPE IA		5
JUNCTION BOX, TYPE II		6
JUNCTION BOX, TYPE III		3
SIGNAL FACE, VEHICULAR	42	42
SIGNAL FACE, BACKPLATE	42	42
SIGNAL FACE, LEFT TURN, BACKPLATE	43	43
SIGNAL FACE, PEDESTRIAN		
LOOP DETECTOR	33	73
VIDEO DETECTOR	2	2
RADAR DETECTOR	4	4A
OPTICOM DETECTOR	1	1
PEDESTRIAN PUSH BUTTON	1	1
SIGNAL POST W/O MAST ARM		1
SIGNAL POLE W/MAST ARM		4
SIGNAL CONTROLLER		
LOAD CENTER		
LUMINAIRE		12
RIGID METAL CONDUIT		

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE *Dillon Tomaro* Date 10/25/23

STATE OF ALASKA 49TH — NAOMI R. HOBBS — CE 9959 — 09.06.22 — REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

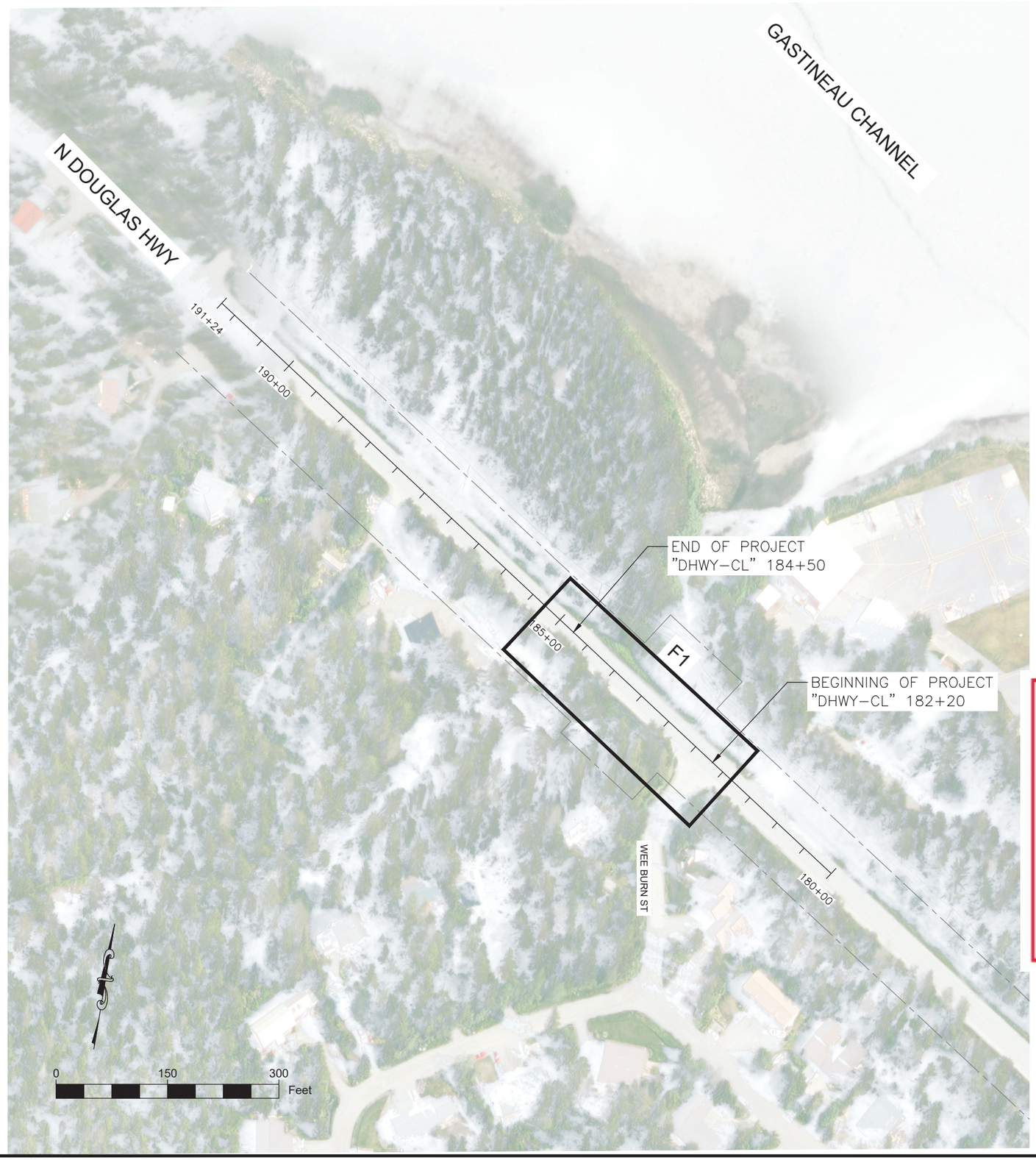
LEGEND AND SYMBOLS

FIRM DOWL | ADDRESS 9085 GLACIER HIGHWAY, JUNEAU, AK 99801 | PHONE (907) 780-3533 | DESIGNED HOBBS | CHECKED CHRISTIE | DRAFTED BERG | CERTIFICATE OF AUTH #: AECL848 | DATE | LAYOUT A2 | FILE c:\dowl_pw\d0395244\SA-GN-CV-A2-63330_03.dwg

Addendum #3 :Attachment #2

NO.	DATE	REVISION
1	12/2/2022	DOT STANDARD CORRECTION
3	12/9/2022	DOT STANDARD CORRECTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0093002/SFHWY00411	2022	A3	14



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2	LEGEND AND SYMBOLS
A3	PLAN SCHEMATIC AND INDEX
A4	SURVEY CONTROL
B1	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES
D1	SUMMARY TABLES
E1	DETAILS
F1	PLAN AND PROFILE
H1	STRIPING PLAN
Q1	EROSION SEDIMENT CONTROL PLAN
T1	TRAFFIC CONTROL PLAN
T2	PERMANTENT CONSTRUCTION SIGN LAYOUT
T3	CONSTRUCTION PHASING PLAN

3 THE FOLLOWING DOT STANDARD PLANS APPLY:
C-06.00, G-00.05, G-05.11S, G-09.05S, G-10.21, G-14.01, G-20.12, G-26.00, T-21.04, U-03.01 1

GENERAL NOTES:

1. MAKE ALL PAVEMENT CUTS CLEAN, VERTICAL, AND TRUE TO REMOVAL LIMITS SHOWN ON PLANS.
2. DO NOT MEASURE OFF OF THE PLANS.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Dillon Tomaro Date 10/25/23

STATE OF ALASKA 49TH
NAOMI R. HOBBS
CE 9959
09.19.22
REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

PLAN SCHEMATIC AND INDEX

FIRM DOWL | ADDRESS 9085 GLACIER HIGHWAY, JUNEAU, AK 99801 | PHONE (907) 780-3533 | CERTIFICATE OF AUTH #: AECL848
FILE C:\dowl_pw\d0395244\SA-GN-CV-A3-63330_03.dwg | LAYOUT A3 | DESIGNED HOBBS | CHECKED CHRISTIE | DRAFTED BERG | DATE

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093002/SFHWY00411	2022	A4	14

Project Specific Horizontal Control

100: 2.5" Alcap DOT&PF
Set 0.8' from EP. Out Bound Lane. In Line With CL of Bonnie Doon Dr.
57.4' From Stop Sign N24E, 40.1' From PP #10365 S50E
AKSPCS N 2373606.05 FT US , E 2526600.55 FT US

101: 2.5" Alcap DOT&PF
Set 0.9' from EP Sub Graded 0.2'. Out Bound Lane.In Line With CL Monument # 100
59' From 10" Spruce W/Tag N30E, 212' From Stop Sign S70E
AKSPCS N 2374039.10 FT US , E 2526135.40 FT US

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

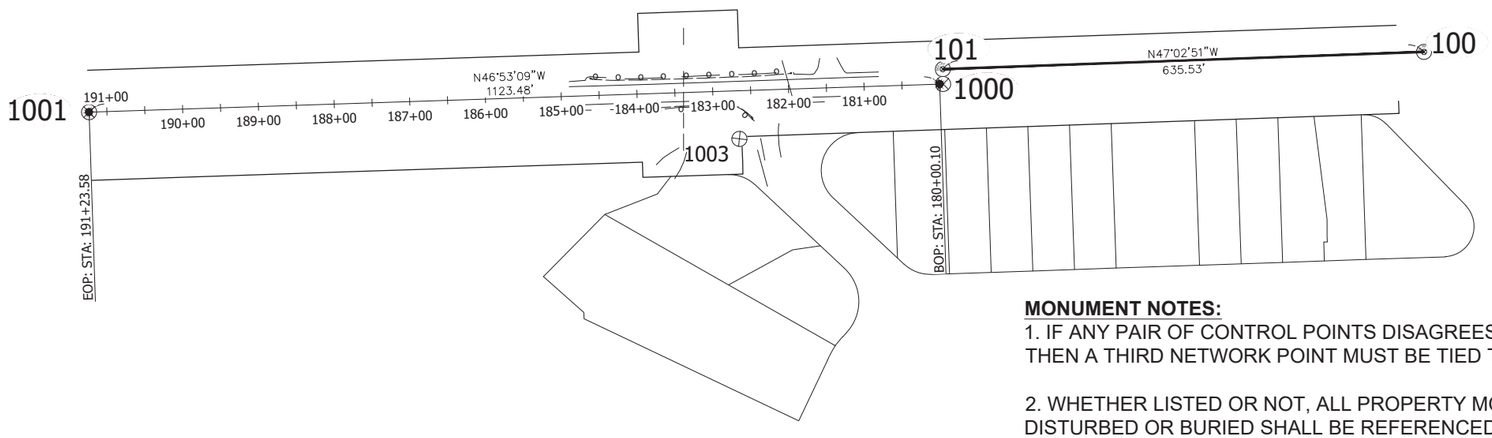
PE *Dillon Tomaro* Date 10/25/23

Survey Control Table						
Point #	Northing	Easting	Elevation	Description	Station	Offset
100	2373606.05	2526600.55	57.91	2.5"ALCAP_DOT&PF	N\A	N\A
101	2374039.10	2526135.40	60.50	2.5"ALCAP_DOT&PF	N\A	N\A

All **SURVEY CONTROL** monuments in this table are provided strictly for survey control. Should any of them be destroyed during construction they **shall not** be replaced.

Centerline Monuments					
Point #	Northing	Easting	Description	Station	Offset
1000	2374024.99	2526121.76	1"IP_CL_MON_POT 179+98.44	N\A	N\A
1001	2374795.81	2525298.45	2.5"BC_CL_MON_PC 191+55.44	191+23.58	0.00R
1002	2372901.39	2527327.50	2.5"BC_CL_MON_PC163+50.32	N\A	N\A

The existing CENTERLINE monuments in this table are not anticipated to be disturbed by construction. If any of these CENTERLINE monuments get disturbed by construction activities they **SHALL BE PRESERVED IN PLACE**.
All **CENTERLINE monuments** in this **existing CENTERLINE monument** table shall be **preserved** and **referenced** prior to disturbance and replaced at their original horizontal position . **A RECORD OF MONUMENT FORM IN ACCORDANCE WITH A.S.34.65.040 SHALL BE SUBMITTED TO DOT&PF PROJECT ENGINEER FOR REVIEW PRIOR TO RECORDING FOR EACH MONUMENT.**



Existing Property					
Point #	Northing	Easting	Description	Station	Offset
1003	2374163.88	2525880.45	ALCAP3.25"__COR 2/BONNIE BRAE ESTATES_3088-S	182+66.83	63.53L

All **PROPERTY monuments** in these **existing property** tables shall be **preserved** and **referenced** prior to disturbance and replaced at their original horizontal position. **A RECORD OF MONUMENT FORM IN ACCORDANCE WITH A.S.34.65.040 SHALL BE SUBMITTED TO DOT &PF PROJECT ENGINEER FOR REVIEW PRIOR TO RECORDING FOR EACH MONUMENT.**

MONUMENT NOTES:

1. IF ANY PAIR OF CONTROL POINTS DISAGREES FROM PUBLISHED VALUE BY MORE THAN 1:10,000 HORIZONTALLY OR VERTICALLY THEN A THIRD NETWORK POINT MUST BE TIED TO ASCERTAIN WHICH POINT IS IN ERROR OR HAS BEEN DISTURBED.

2. WHETHER LISTED OR NOT, ALL PROPERTY MONUMENTS, PROPERTY MARKERS, CORNERS OR ACCESSORIES WHICH WILL BE DISTURBED OR BURIED SHALL BE REFERENCED PRIOR TO BEING DISTURBED, AND RE-ESTABLISHED IN THEIR ORIGINAL HORIZONTAL POSITION AND A RECORD OF MONUMENT FORM IN ACCORDANCE WITH (A.S.34.65.040) AND (A.S.19.10.260) SHALL BE SUBMITTED TO THE CONSTRUCTION ENGINEER FOR REVIEW PRIOR TO RECORDING. COORDINATE VALUES LISTED ARE FOR INFORMATIONAL PURPOSES AND SHOULD BE USED TO RESET MONUMENTS ONLY AS A LAST RESORT.

3.WHEN POSSIBLE ALL ORIGINAL PRIMARY MONUMENTS SHALL BE SAVED AND RESET IN THEIR ORIGINAL HORIZONTAL POSITION AND A RECORD OF MONUMENT FORM IN ACCORDANCE WITH (A.S.34.65.040) AND (A.S.19.10.260) SHALL BE SUBMITTED TO THE CONSTRUCTION ENGINEER FOR REVIEW PRIOR TO RECORDING.

4. RIGHT OF WAY LOCATION IS SHOWN FOR GRAPHICAL ORIENTATION PURPOSES ONLY. REFER TO ALASKA DOT&PF RIGHT OF WAY MAPS FOR RIGHT OF WAY INFORMATION.

5. HORIZONTAL AND VERTICAL CONTROL MUST BE FIELD VERIFIED BY THE CONTRACTOR. DISCREPANCIES WILL BE REPORTED TO DOT&PF CONSTRUCTION PROJECT ENGINEER.

0 200 400 Feet

STATE OF ALASKA 49th H. Erik Pedersen 08/23/22 No. 14828 REGISTERED PROFESSIONAL LAND SURVEYOR

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

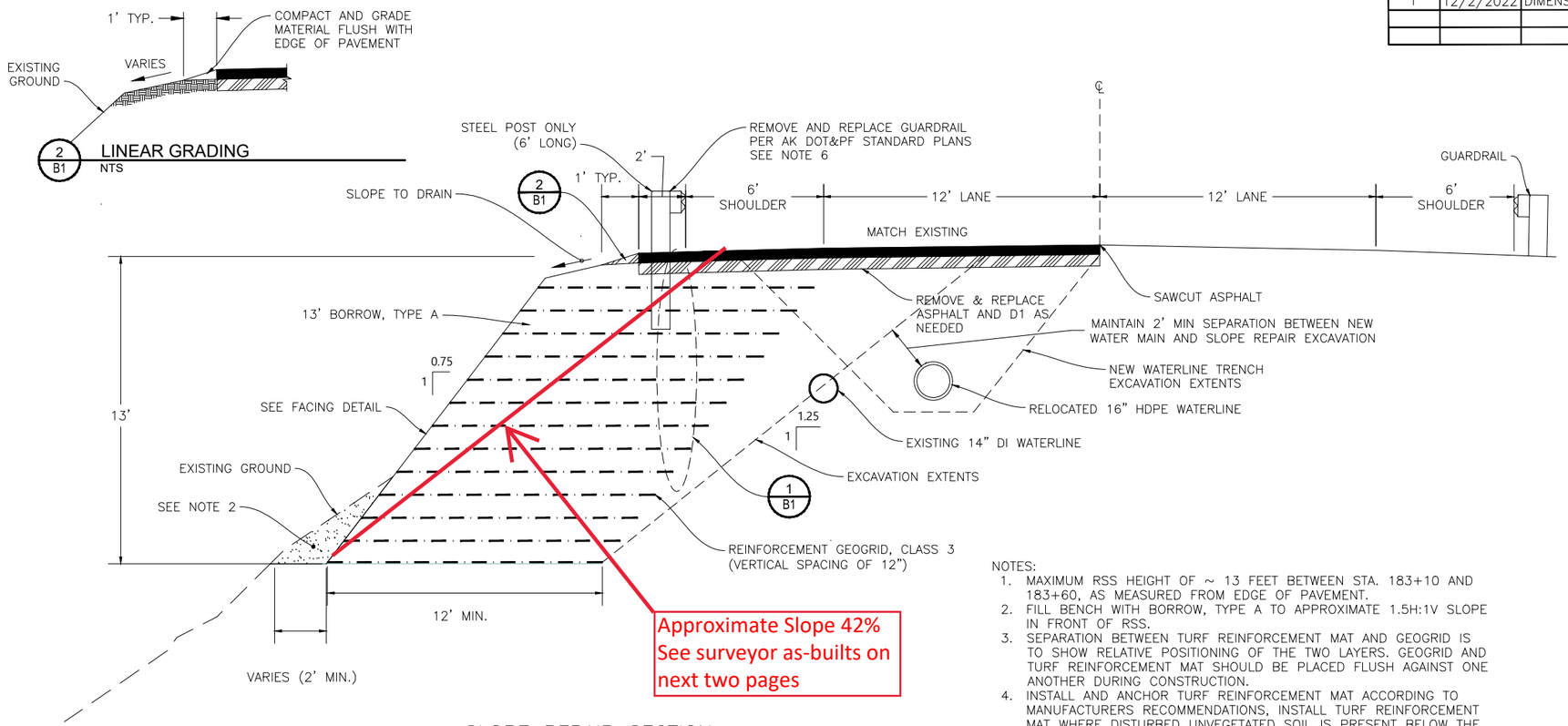
SURVEY CONTROL

DESIGNED J.PAPOI | DRAFTED J.PAPOI | CHECKED E.PEDERSEN | LAYOUT A2 | DATE 8/23/2022 13:44 | FILE Q:\jnu\SDRER00322\SV\SOURCE DWGS\BASEMAP\N_Douglas_SCS_022422.dwg

Addendum #1 :Attachment #5

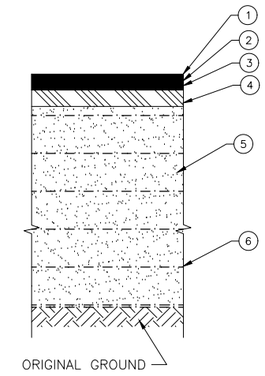
NO.	DATE	REVISION
1	12/2/2022	DIMENSION CORRECTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0093002/SFHWY00411	2022	B1	14



2 B1 LINEAR GRADING
NTS

SLOPE REPAIR SECTION

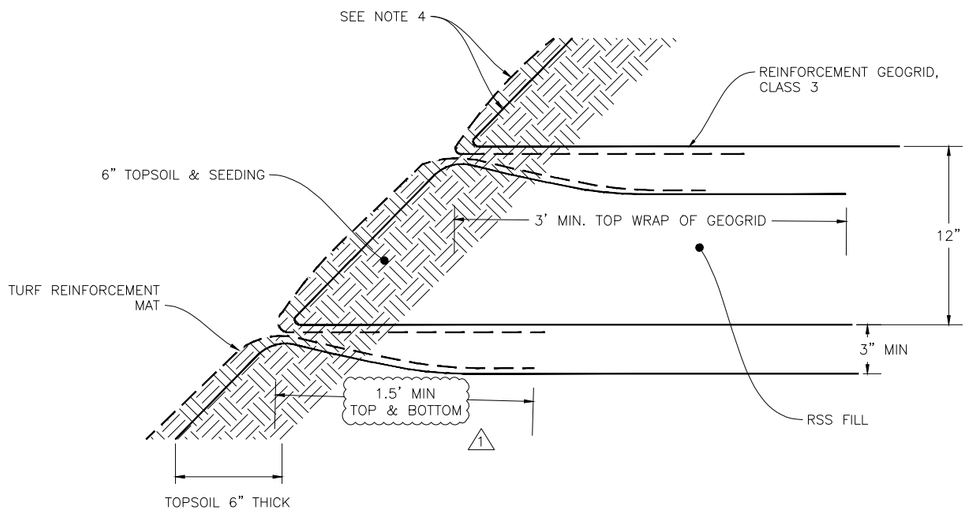


1 B1 PAVEMENT STRUCTURAL SECTION
NTS

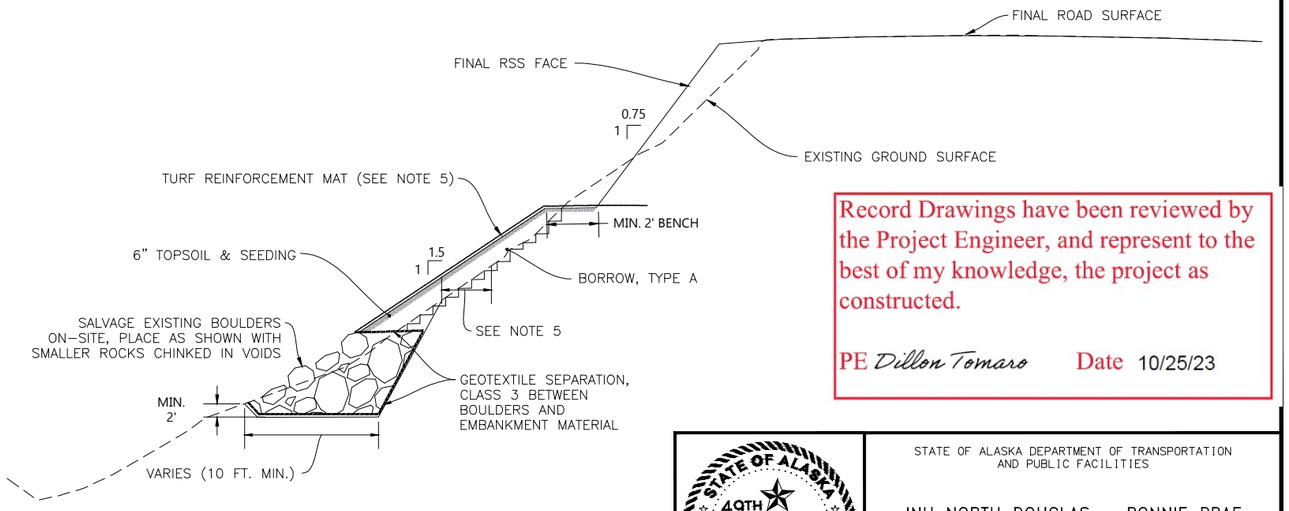
NOTES:
1. MAXIMUM RSS HEIGHT OF ~ 13 FEET BETWEEN STA. 183+10 AND 183+60, AS MEASURED FROM EDGE OF PAVEMENT.
2. FILL BENCH WITH BORROW, TYPE A TO APPROXIMATE 1.5H:1V SLOPE IN FRONT OF RSS.
3. SEPARATION BETWEEN TURF REINFORCEMENT MAT AND GEOGRID IS TO SHOW RELATIVE POSITIONING OF THE TWO LAYERS. GEOGRID AND TURF REINFORCEMENT MAT SHOULD BE PLACED FLUSH AGAINST ONE ANOTHER DURING CONSTRUCTION.
4. INSTALL AND ANCHOR TURF REINFORCEMENT MAT ACCORDING TO MANUFACTURERS RECOMMENDATIONS, INSTALL TURF REINFORCEMENT MAT WHERE DISTURBED UNVEGETATED SOIL IS PRESENT BELOW THE RSS (APPROX. STA. 183+10 TO 183+40) OR AS DIRECTED BY THE ENGINEER.
5. PLACE BORROW, TYPE A WITH A MINIMUM WIDTH OF 3 FEET TO TIE FILL INTO EXISTING SLOPE. BENCH EXISTING SLOPE TO KEY IN FILL WITH A MINIMUM BENCH WIDTH OF 12 INCHES.
6. DRIVE STEEL GUARDRAIL POSTS. NO AUGERING OR OTHER METHODS ARE PERMITTED FOR INSTALLATION.

LEGEND

1. 2" HOT MIX ASPHALT, TYPE II, CLASS B
2. STE-1 TACK COAT
3. 3" HOT MIX ASPHALT, TYPE II, CLASS B
4. 6" AGGREGATE BASE COURSE, GRADING D-1
5. 13' BORROW, TYPE A
6. REINFORCEMENT GEOGRID, CLASS 3 (SPACED EVERY 12" FROM BOTTOM OF EXCAVATION



FACING DETAIL



LOWER SLOPE REPAIR SECTION

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE *Dillon Tomaro* Date 10/25/23

STATE OF ALASKA 49TH NAOMI R. HOBBS CE 9959 09.19.22 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

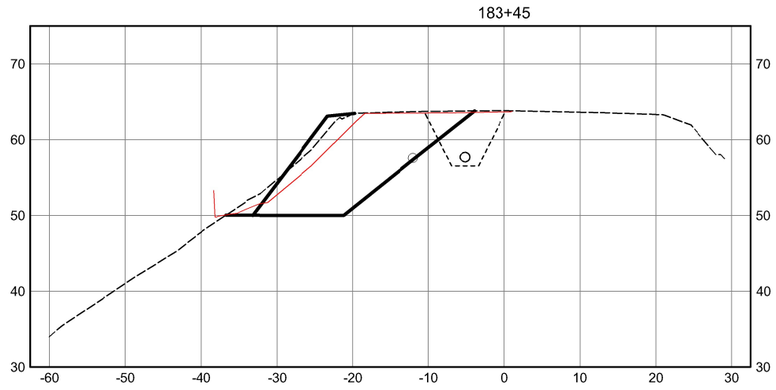
JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

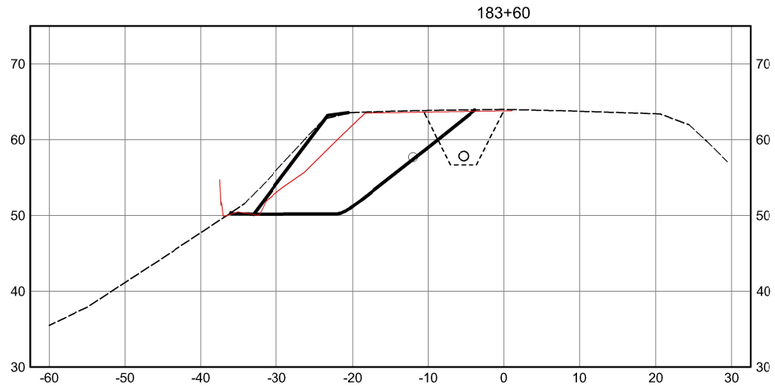
TYPICAL SECTIONS

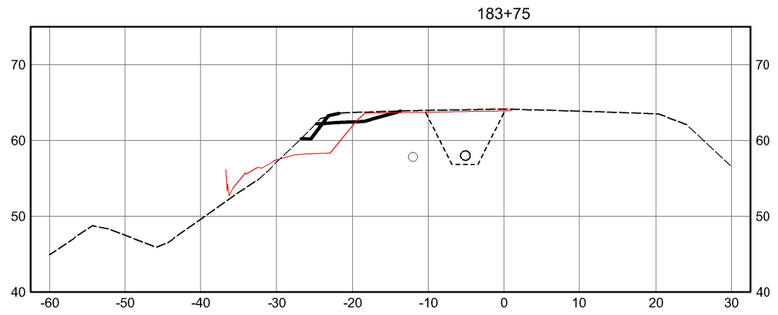
FIRM DOWL | ADDRESS 9085 GLACIER HIGHWAY, JUNEAU, AK 99801 | PHONE (907) 780-3533 | DESIGNED HOBBS | CHECKED CHRISTIE | DRAFTED BERG | CERTIFICATE OF AUTH #: AECL848 | DATE | FILE C:\dowl_pw\d0395244\SA-CT-DT-B-63330.03.dwg | LAYOUT B1

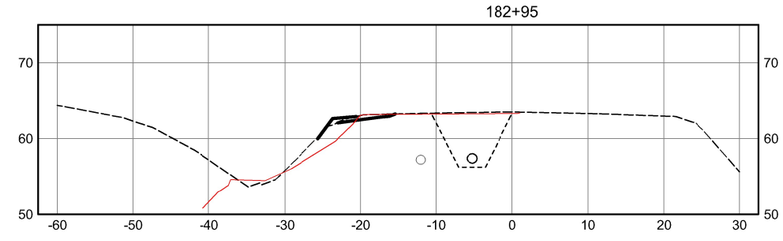
Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

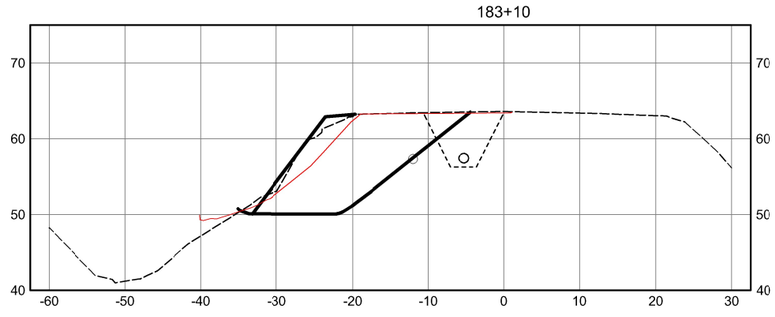
PE *Dillon Tomaro* Date 10/25/23

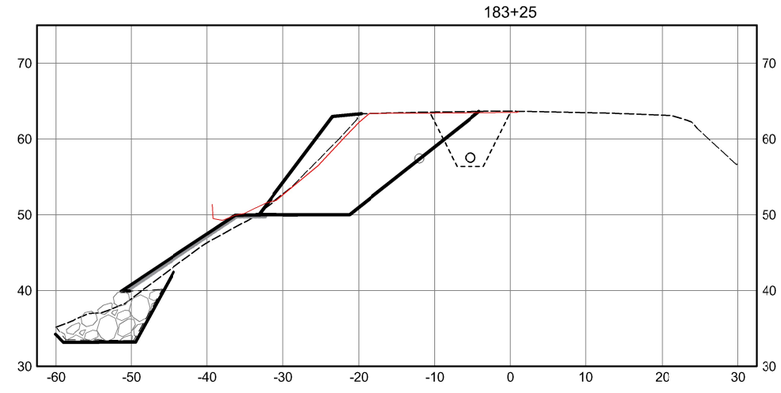












*RSS plotted in red

LINE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
	0093002/SFHWY00411	1	1

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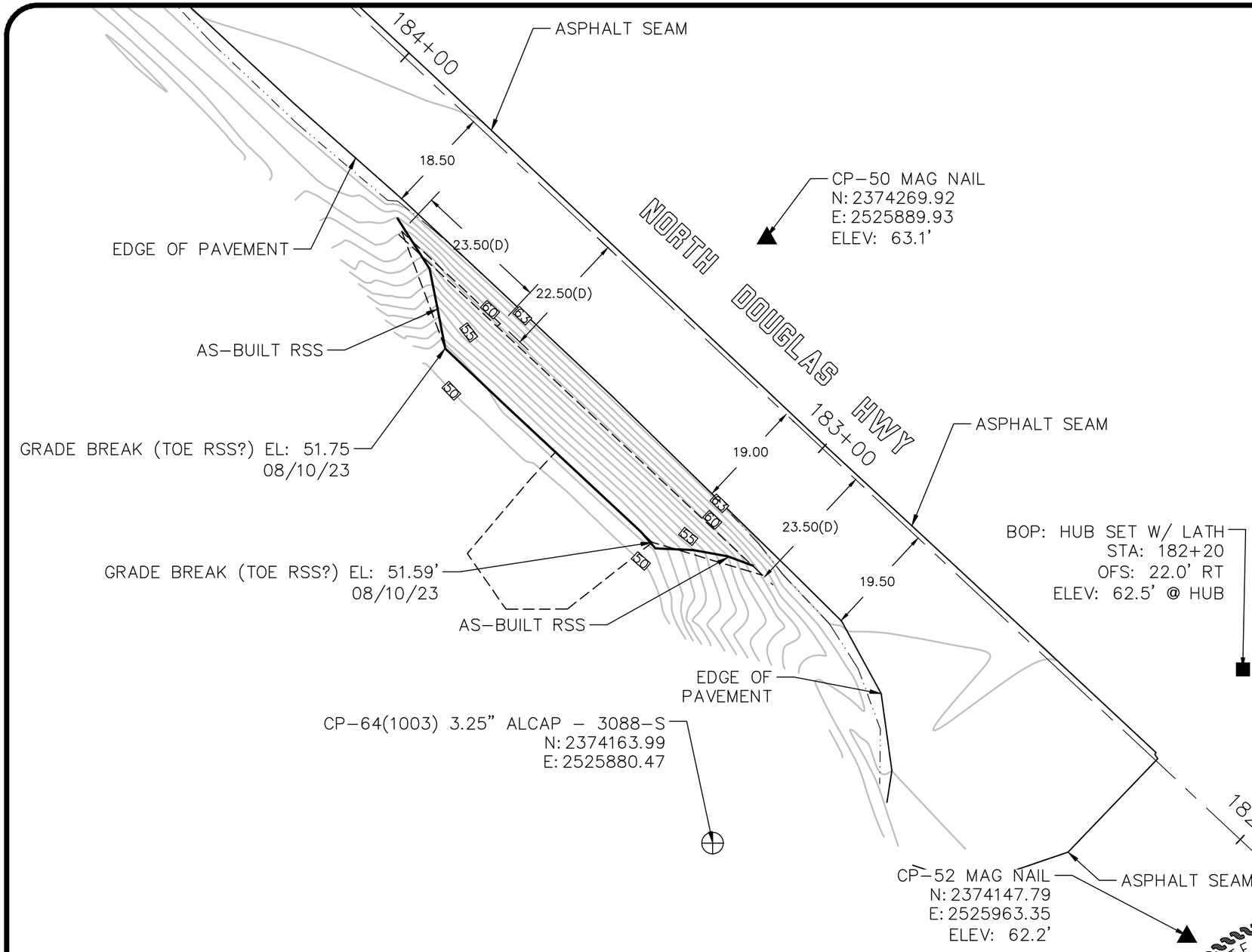


Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE *Dillon Tomaro* Date 10/25/23

NORTH 57
LAND SURVEYING LLC
(907) 747-6700 215-C SMITH STREET, SITKA, AK
8800 GLACIER HWY., STE 224 1/2, JUNEAU, AK
MAILING ADDRESS - 2007 CASCADE CREEK ROAD, SITKA, AK 99835
EMAIL: north57landsurveying@yahoo.com

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I HAVE SURVEYED THE PROPERTY DESCRIBED ON THIS PLAT. I DECLARE THAT IMPROVEMENTS AND VISIBLE ENCROACHMENTS HAVE BEEN ESTABLISHED TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF. THIS SURVEY IS FOR THE USE OF LENDING INSTITUTIONS SPECIFICALLY TO SHOW ANY CONFLICTS BETWEEN EXISTING STRUCTURES AND PLATTED LOT LINES OR EASEMENTS. UNDER NO CIRCUMSTANCES SHOULD THE DATA HEREON BE USED FOR POSITIONING ADDITIONAL STRUCTURES, BUILDING FENCES, OR LOCATING BOUNDARY LINES. IT IS THE RESPONSIBILITY OF THE OWNER TO VERIFY THAT IMPROVEMENTS SITUATED ON THIS PARCEL MEET ALL SUBDIVISION COVENANTS AND ZONING ORDINANCES. 0 CORS. SET.

KELLY J. O'NEILL LS 13321

DATE

STATE OF ALASKA 49TH
KELLY J. O'NEILL #LS 13321
REGISTERED PROFESSIONAL LAND SURVEYOR

AS- BUILT SURVEY

BONNIE BRAE - RSS WALL
NORTH DOUGLAS HIGHWAY

DRAWN BY: KD/SD/ACAD	DATE SURVEYED: AUG. 2023
CHECKED BY: KD	SCALE: 1" = 20'

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
2	12/6/2022	QUANTITY CORRECTION	ALASKA	0093002/SFHWY00411	2022	C1	14

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE *Dillon Tomaro* Date 10/25/23

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	PAY UNIT	QUANTITY
201.0009.0000	CLEARING AND GRUBBING	LUMP SUM	ALL REQUIRED
201.2001.0000	INVASIVE PLANT SPECIES CONTROL, REMOVAL, AND DISPOSAL	SQUARE YARD	188
202.0002.0000	REMOVAL OF PAVEMENT	SQUARE YARD	573
203.0003.0000	UNCLASSIFIED EXCAVATION	CUBIC YARD	881
203.0006.000A	BORROW, TYPE A	TON	1408
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	205
303.2001.0000	LINEAR GRADING	LF	220
401.0001.002B	HMA, TYPE II; CLASS B	TON	179
401.0004.6428	ASPHALT BINDER, GRADE PG 64-28	TON	10
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	TON	0.2
606.0001.0000	W-BEAM GUARDRAIL	LINEAR FOOT	100
606.0006.0000	REMOVING AND DISPOSING OF GUARDRAIL	LINEAR FOOT	147
606.0009.0000	SHORT RADIUS GUARDRAIL	EACH	1
606.0013.0000	PARALLEL GUARDRAIL TERMINAL	EACH	1
606.2014.0000	GUARDRAIL PAVING	LF	220
611.2005.0000	SALVAGE AND REUSE RIPRAP	LUMP SUM	ALL REQUIRED
618.0002.0000	SEEDING	POUND	2
619.2002.0000	TURF REINFORCEMENT MAT	SQUARE YARD	322
620.0001.0000	TOPSOIL	SQUARE YARD	188
627.2020.0000	WATER MAIN RELOCATION	EACH	1
630.0001.0003	GEOTEXTILE, SEPARATION, CLASS 3	SY	68
634.0002.0000	GEOGRID, REINFORCEMENT, CLASS 3	SQUARE YARD	1777
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
642.0001.0000	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
643.0002.0000	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
643.0025.0000	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQUIRED
643.0032.0000	FLAGGING	CONTINGENT SUM	ALL REQUIRED
658.0001.0000	EROSION, SEDIMENT, AND POLLUTION CONTROL WITHOUT CGP COVERAGE	LUMP SUM	ALL REQUIRED
658.0002.0000	ESCP CHANGES BY DIRECTIVE	CONTINGENT SUM	ALL REQUIRED
670.0001.0000	PAINTED TRAFFIC MARKINGS	LUMP SUM	ALL REQUIRED

BASIS OF ESTIMATE

ITEM NO.	ITEM DESCRIPTION	ESTIMATING FACTOR
203.0006.000A	BORROW, TYPE A	1.94 TON/CY
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	1.94 TON/CY
401.0001.002B	HMA, TYPE II; CLASS B	2.0385 TON/CY
401.0004.6428	ASPHALT BINDER, GRADE PG 64-28	5.3% OF ITEM 401.0001.002B
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	0.000334 TON/SY
618.0002.0000	SEEDING	1.5 LB/MSF
--	BONDED FIBER MATRIX (BFM)	4,000 LB/ACRE

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	PAY UNIT	QUANTITY
201.0009.0000	CLEARING AND GRUBBING	LUMP SUM	$5,000.00
201.2001.0000	INVASIVE PLANT SPECIES CONTROL, REMOVAL, AND DISPOSAL	SY	0.000
202.0002.0000	REMOVAL OF PAVEMENT	SY	572.900
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	896.900
203.0006.000A	BORROW, TYPE A	TON	713.900
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	242.200
303.2001.0000	LINEAR GRADING	LF	120.000
401.0001.002B	HMA, TYPE II; CLASS B	TON	163.960
401.0004.6428	ASPHALT BINDER, GRADE PG 64-28	TON	9.779
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	TON	0.510
606.0001.0000	W-BEAM GUARDRAIL	LF	100.000
606.0006.0000	REMOVING AND DISPOSING OF GUARDRAIL	LF	147.000
606.0009.0000	SHORT RADIUS GUARDRAIL	EACH	1.000
606.0013.0000	PARALLEL GUARDRAIL TERMINAL	EACH	1.000
606.2014.0000	GUARDRAIL PAVING	LF	220.000
611.2005.0000	SALVAGE AND REUSE RIPRAP	LUMP SUM	$3,100.00
618.0002.0000	SEEDING	POUND	2.000
619.2002.0000	TURF REINFORCEMENT MAT	SY	375.000
620.0001.0000	TOPSOIL	SY	93.700
627.0010.0000	Adjustment of Valve Box	EACH	3.000
627.2020.0000	WATER MAIN RELOCATION	EACH	1.000
627.2033.0000	WATER SYSTEM COMPLETE	LUMP SUM	$2,781.81
630.0001.0003	GEOTEXTILE, SEPARATION, CLASS 3	SY	90.000
634.0002.0000	GEOGRID, REINFORCEMENT, CLASS 3	SY	1,499.000
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	$41,000.00
642.0001.0000	CONSTRUCTION SURVEYING	LUMP SUM	$14,000.00
643.0002.0000	TRAFFIC MAINTENANCE	LUMP SUM	$50,000.00
643.0025.0000	TRAFFIC CONTROL	CONTINGENT SUM	$6,882.70
643.0032.0000	FLAGGING	CONTINGENT SUM	$33,052.50
658.0001.0000	EROSION, SEDIMENT, AND POLLUTION CONTROL WITHOUT CGP COVERAGE	LUMP SUM	$11,000.00
658.0002.0000	ESCP CHANGES BY DIRECTIVE	CONTINGENT SUM	$0.00
670.0001.0000	PAINTED TRAFFIC MARKINGS	LUMP SUM	$6,500.00
698.2000.0000	NEGOTIATED PRICE ADJUSTMENT	LUMP SUM	-$60,000.00

STATE OF ALASKA 49TH NAOMI R. HOBBS CE 9959 09.19.22 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

ESTIMATE OF QUANTITIES

ADDRESS 9085 GLACIER HIGHWAY, JUNEAU, AK 99801 | PHONE (907) 780-3533 | CERTIFICATE OF AUTH #: AECL848
DATE | DESIGNED HOBBS | CHECKED CHRISTIE | DRAFTED BERG
LAYOUT C1
FIRM DOWL
FILE C:\dowl_pw\d0395244\SA-CT-DT-C-63330_03.dwg

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093002/SFHWY00411	2022	D1	14

202.0002.0000 REMOVAL OF PAVEMENT

SHEET	START STATION	END STATION	AREA (SY)	REMARKS
F1	182+20	184+50	576	

203.0003.0000 UNCASSIFIED EXCAVATION

SHEET	START STATION	END STATION	VOLUME (CY)	UNSUITABLE MATERIAL VOLUME (CY)	REMARKS
F1	182+20	184+50	576	881	

303.2001.0000 LINEAR GRADING

SHEET	START		END		LENGTH (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
F1	182+48	40' LT	183+08	20' LT	120	
	184+08	20' LT	184+68	20' LT		

202.0002.0000 REMOVAL OF PAVEMENT

SHEET	START STATION	END STATION	AREA (SY)	REMARKS
F1	182+20	184+50	576	

203.0003.0000 UNCLASSIFIED EXCAVATION

SHEET	START STATION	END STATION	VOLUME (CY)	UNSUITABLE MATERIAL VOLUME (CY)	REMARKS
F1	182+90	183+80	881	881	

303.2001.0000 LINEAR GRADING

SHEET	START		END		LENGTH (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
F1	182+48	40'LT	184+68	20'LT	220	

606.0001.0000 W-BEAM GUARDRAIL

SHEET	START		END		LENGTH (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
F1	182+77	18'LT	183+45	20'LT	68	

606.0006.0000 REMOVING AND DISPOSING OF GUARDRAIL

SHEET	START STATION	END STATION	OFFSET	LENGTH (LF)	REMARKS
F1	182+48	183+95	LT	147	

606.0009.0000 SHORT RADIUS GUARDRAIL

SHEET	START STATION	OFFSET	END STATION	OFFSET	LENGTH (LF)	QUANTITY (EA)	REMARKS
F1	182+40	74' LT	182+77	18'LT	97	1	CURVE RADIUS 36'

606.0013.0000 PARALLEL GUARDRAIL TERMINAL

SHEET	START STATION	END STATION	LENGTH (LF)	OFFSET	QUANTITY (EA)	REMARKS
F1	183+45	183+95	50	LT	1	

606.2014.0000 GUARDRAIL PAVING

SHEET	START		END		LENGTH (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
F1	182+48	40'LT	184+68	20'LT	220	

627.2020.0000 WATER MAIN RELOCATION

SHEET	FROM STATION	OFFSET	TO STATION	OFFSET	LENGTH (FT)	REMARKS
F1	182+33	19' LT	184+38	24' LT	220	

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Dillon Tomaro Date 10/25/23

NAOMI R. HOBBS
CE 9959
09.06.22

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

JNU NORTH DOUGLAS – BONNIE BRAE
– DEC 20 SE PR

SUMMARY TABLES

CERTIFICATE OF AUTH #: AECL848
PHONE (907) 780-3533
ADDRESS 9085 GLACIER HIGHWAY, JUNEAU, AK 99801
FIRM DOWL
DRAFTED BERG
CHECKED CHRISTIE
DESIGNED HOBBS
LAYOUT D1
DATE
FILE c:\dowl_pw\d0395244\SA-CT-DT-D-63330.03.dwg

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
6	4/14/2023	WATERMAIN CONNECTION DETAILS					
			ALASKA	0093002/SFHWY00411	2022	E1	14

CORROSION PROTECTION SPECIFICATIONS AND NOTES:

ANODES

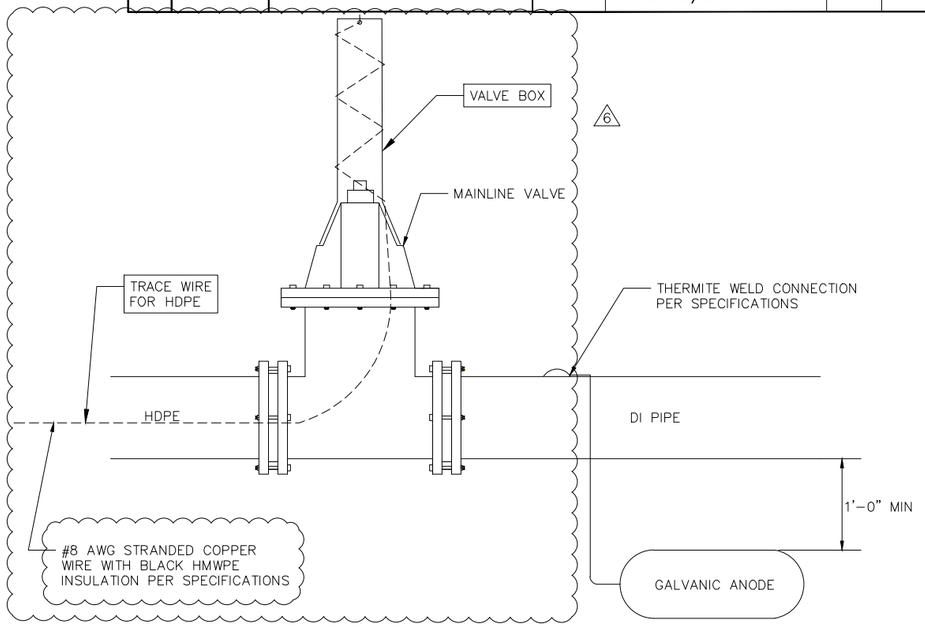
1. ANODES SHALL BE 18–LBS BARE WEIGHT ZINC WITH PREPACKAGED ANODE BACKFILL.
2. ACCEPTABLE ANODE MODELS ARE:
   a. MODEL NO. ZUR–18 FROM FARWEST INDUSTRIES
   b. MODEL S18 FROM MESA PRODUCTS
   c. APPROVED EQUAL
3. INSTALL TYPE, SIZE, AND NUMBER OF ANODES SPECIFIED.
4. INSTALL 2 ANODES TO ALL CONNECTIONS TO EXISTING C.I. OR D.I. PIPE 12–INCH DIAMETER AND LARGER.
5. CONDUCTOR WIRE SHALL BE A MINIMUM OF 10–FEET IN LENGTH, SIZE #8 OR LARGER, AND INSULATED WITH HIGH MOLECULAR WEIGHT POLYETHYLENE (HMWPE).
6. PREPACKAGED ANODE SHALL BE SATURATED WITH WATER PRIOR TO BACKFILL.
7. ANODES SHALL BE PLACED IN NATIVE EARTH BACKFILL. DO NOT PLACE IN PIPE BEDDING MATERIAL.

THERMITE (EXOTERMIC) WELDING

1. THERMITE WELD MATERIALS SHALL BE DESIGNED FOR CONNECTION OF COPPER TO DUCTILE IRON AND CAST IRON SURFACES AND SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.
2. ACCEPTABLE MANUFACTURES OF THERMITE WELD PRODUCTS ARE:
   a. CADWELD BY ERICO PRODUCTS INC.
   b. THERMOWELD BY CONTINENTAL INDUSTRIES INC.
   c. APPROVED EQUAL
3. A 2–INCH SQUARE AREA IN THE PIPE SURFACE SHALL BE GROUND CLEAN PER MANUFACTURERS RECOMMENDATIONS PRIOR TO THERMITE WELDING.
4. WIRE ENDS SHALL HAVE PROPER ADAPTER SLEEVES TO ENSURE PROPER BOND. #8 AWG SHALL HAVE ADAPTER SLEEVES SPECIFIED BY THERMITE WELD MANUFACTURER. FIELD INSTALLED SLEEVES SHALL HAVE WIRE CONDUCTOR EXTEND ¼–INCH BEYOND ENDS OF SLEEVE.
5. WIRE CONNECTION SHALL BE TESTED FOR INTEGRITY PRIOR TO COATING.
6. CONTINUITY STRAPS SHALL BE #2 AWG COPPER STRANDED WIRE WITH THW INSULATION AND SHALL BE ATTACHED TO THE PIPE BY THERMITE WELDING AND COATED AND SEALED AS DESCRIBED BELOW.

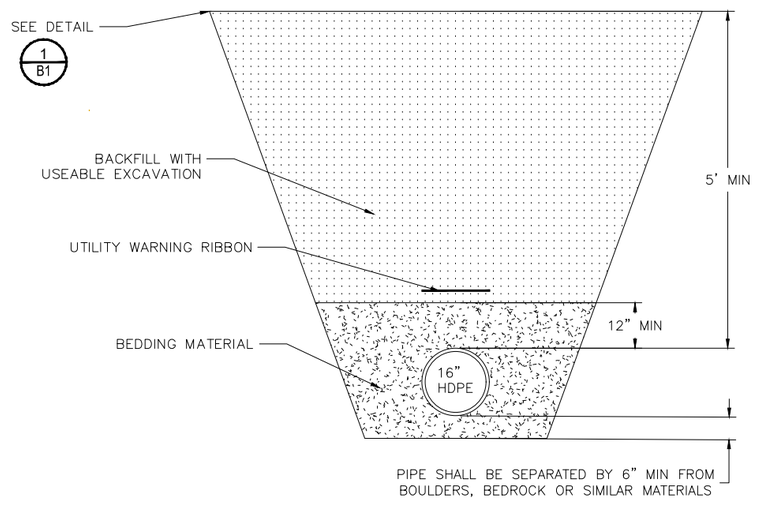
COATING AND SEALING

1. ALL THERMITE WELDS SHALL BE PROTECTED AND SEALED BY:
   a. PREFABRICATED THERMITE WELD CAPS, SIZED ACCORDING TO WIRE SIZE, MINIMUM DIMENSIONS OF 4–INCH BY 4–INCH FILLED WITH ELASTOMERIC MASTIC COATING OR,
   b. HEAT SHRINK SLEEVE PIPE ENCASEMENT AFTER COATING THERMITE WELD WITH ELASTOMERIC MASTIC COATING – HEAT SHRINK SLEEVE SHALL BE CANUSA AQUA SEAL OR APPROVED EQUAL.
2. ALL PIPE SURFACE COATING DAMAGED BEYOND THE WELD CAPS OR HEAT SHRINK SHALL BE COATED WITH PROTAL 7125 FROM DENSO NORTH AMERICA OR APPROVED EQUAL.



GALVANIC ANODE INSTALLATION AT MAINLINE WATER VALVES

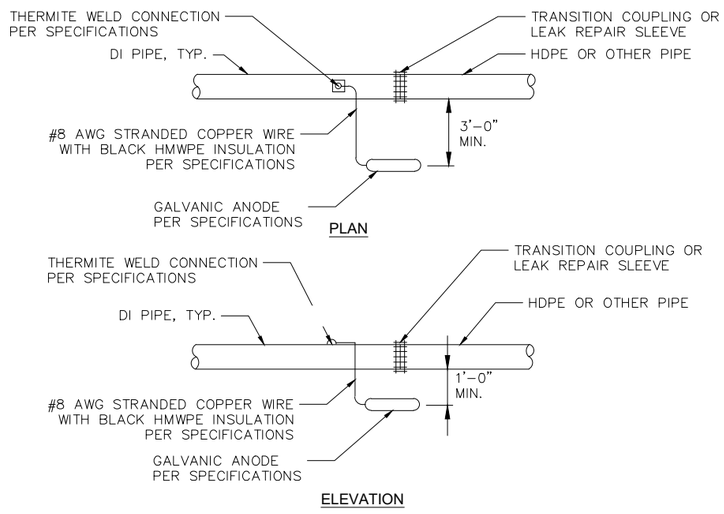
NTS



WATER MAIN TRENCH DETAIL

NTS

NOTES:
1. BEDDING & BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.
2. SLOPE TRENCH WALLS ACCORDING TO SOIL CONDITIONS AND O.S.H.S. SAFETY STANDARDS AND TO STAY WITHIN HIGHWAY LANE AS SHOWN ON PLANS.



GALVANIC ANODE INSTALLATION FOR EXISTING METALLIC PIPE CONNECTIONS OR LEAK REPAIR LOCATIONS DETAIL

NTS

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Dillon Tomaro Date 10/25/23

STATE OF ALASKA 49TH NAOMI R. HOBBS CE 9959 04.18.23 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

WATER MAIN DETAILS

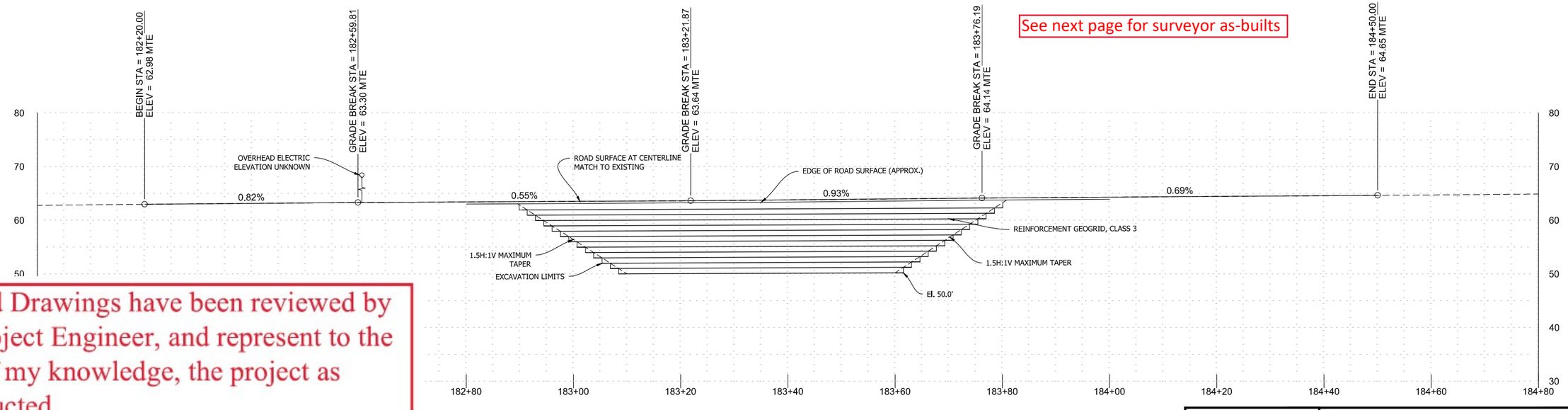
FIRM DOWL | ADDRESS 9085 GLACIER HIGHWAY, JUNEAU, AK 99801 | PHONE (907) 780-3533 | CERTIFICATE OF AUTH #: AECL848
DESIGNED HOBBS | CHECKED CHRISTIE | DRAFTED BERG
LAYOUT E1 | DATE
FILE C:\dowl_pw\d0395244\SA-CT-DT-E-63330.03.dwg

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0093002/SFHWY00411	2022	F1	14

0 20 40 Feet

ROW
ROW
WEE BURN DR
BEGIN INSTALL NEW GUARDRAIL STA 182+40, ~~72.7' L~~ 72.2' LT DT 8/28/23
CORNER OF SAWCUT STA 182+48.4, 40.54' L
BEGIN REMOVE GUARDRAIL STA 182+48, 37.5' L
34' RADIUS BACK OF PAVEMENT
PC STA 182+77.15, 20.28' L
CONNECT TO EXISTING VALVE STA 182+32.8, 18.6' L
SHORT RADIUS GUARDRAIL (36' R)
CORNER OF SAWCUT STA 182+20, 19.42' L
SAWCUT
182+00
BEGINNING OF PROJECT N DOUGLAS HWY CL 182+20
PC STA 182+78.74, ~~19.00'L~~ 18.5' LT 8/28/23 DT
BEGIN SLOPE REPAIR EXCAVATION STA 182+92, 5' L
183+00
N46°53'08.80"W 1123.48'
SLIDE AREA EXTENTS
APPROXIMATE LOWER SLOPE REPAIR
11' CULVERT
SLOPE REPAIR AREA
EXISTING 14" DI WATER MAIN
Linear Grading
END SLOPE REPAIR EXCAVATION STA 183+79.6, 5' L
184+00
END REMOVE GUARDRAIL STA 183+95, 20' L
CAUTION: STRADDLE WATER MAIN WITH GUARDRAIL POSTS
CONNECT TO EXISTING 14" DIP STA 184+38.2, 24' L
END INSTALL NEW GUARDRAIL STA 184+30, 20.0' L
SAWCUT
RELOCATED 16" HDPE WATER MAIN
END OF PROJECT N DOUGLAS HWY CL 184+50
N DOUGLAS HWY
END INSTALL NEW GUARDRAIL 18.5' LT DT 8/28/23
STA 184+55, ~~19.0'L~~
OHE
SD



See next page for surveyor as-builts

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Dillon Tomaro Date 10/25/23

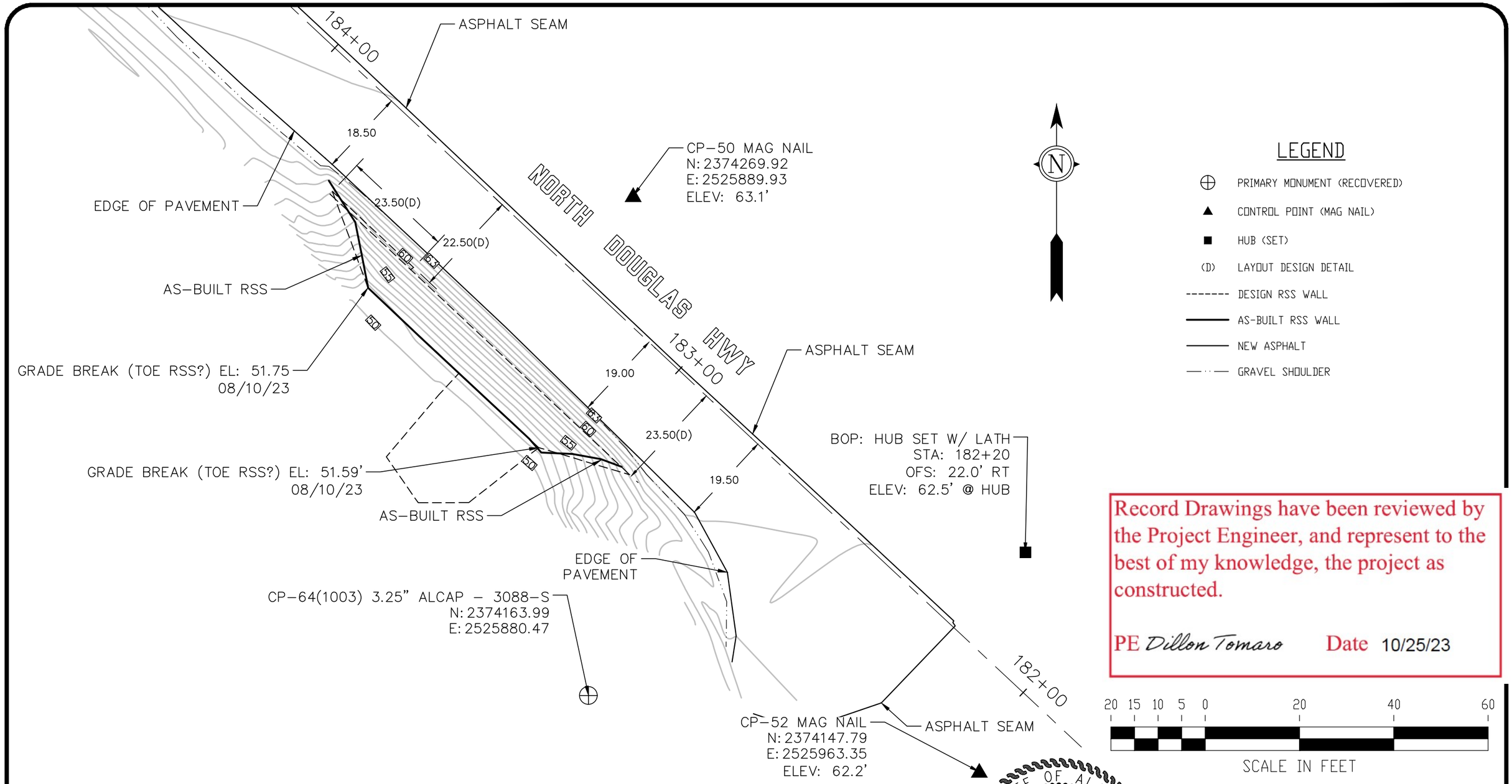
STATE OF ALASKA 49TH
NAOMI R. HOBBS
CE 9959
09.19.22
REGISTERED PROFESSIONAL ENGINEER
8.21.2023

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

PLAN AND PROFILE

FIRM	DOWL	PHONE	(907) 780-3533	CERTIFICATE OF AUTH #: AECL848					
ADDRESS	9085 GLACIER HIGHWAY, JUNEAU, AK 99801	DESIGNED	HOBBS	CHECKED	CHRISTIE	DRAFTED	BERG		
DATE	1/20/2022	LAYOUT	F1						
FILE	C:\dowl_pw\d0395244\SC-CT-RD-F-63330.03_1.dwg								



Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE *Dillon Tomaro* Date 10/25/23

NORTH 57
LAND SURVEYING LLC
(907) 747-6700 215-C SMITH STREET, SITKA, AK
8800 GLACIER HWY., STE 224 1/2, JUNEAU, AK
MAILING ADDRESS - 2007 CASCADE CREEK ROAD, SITKA, AK 99835
EMAIL: north57landsurveying@yahoo.com

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I HAVE SURVEYED THE PROPERTY DESCRIBED ON THIS PLAT. I DECLARE THAT IMPROVEMENTS AND VISIBLE ENCROACHMENTS HAVE BEEN ESTABLISHED TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF. THIS SURVEY IS FOR THE USE OF LENDING INSTITUTIONS SPECIFICALLY TO SHOW ANY CONFLICTS BETWEEN EXISTING STRUCTURES AND PLATTED LOT LINES OR EASEMENTS. UNDER NO CIRCUMSTANCES SHOULD THE DATA HEREON BE USED FOR POSITIONING ADDITIONAL STRUCTURES, BUILDING FENCES, OR LOCATING BOUNDARY LINES. IT IS THE RESPONSIBILITY OF THE OWNER TO VERIFY THAT IMPROVEMENTS SITUATED ON THIS PARCEL MEET ALL SUBDIVISION COVENANTS AND ZONING ORDINANCES. 0 CORS. SET.

KELLY J. O'NEILL LS 13321

DATE

STATE OF ALASKA 49TH
KELLY J. O'NEILL #LS 13321
REGISTERED PROFESSIONAL LAND SURVEYOR

AS- BUILT SURVEY

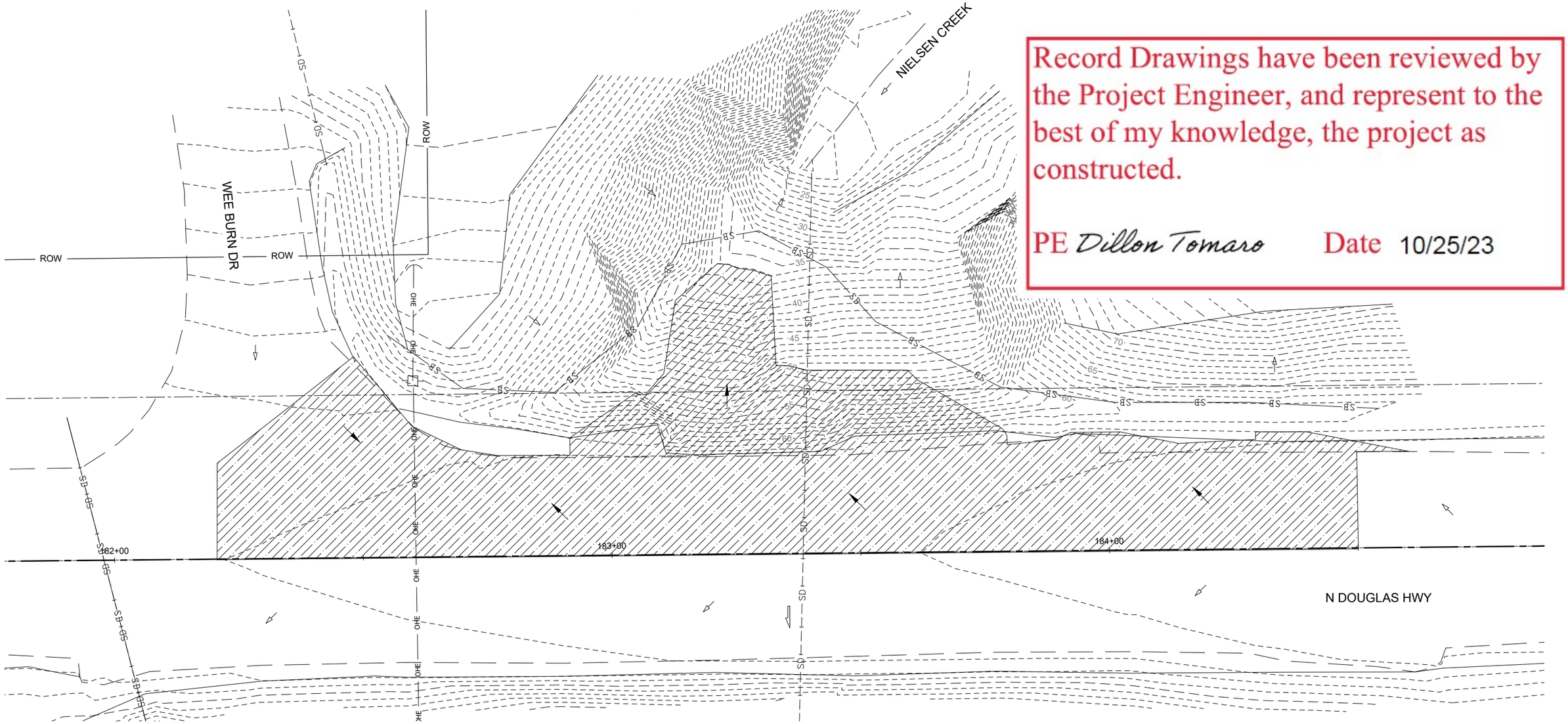
BONNIE BRAE - RSS WALL
NORTH DOUGLAS HIGHWAY

DRAWN BY: KD/SD/ACAD	DATE SURVEYED: AUG. 2023
CHECKED BY: KD	SCALE: 1" = 20'

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093002/SFHWY00411	2022	Q1	14

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE *Dillon Tomaro* Date 10/25/23



ESCP NOTES:

1. REFER TO ESCP IN APPENDIX C OF THE SPECIAL PROVISIONS.
2. INSTALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO EARTH DISTURBING ACTIVITIES.
3. THE LOCATIONS OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE RECOMMENDATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL AND MAINTAIN ACCORDING TO CONTRACT SPECIFICATION SECTION 658 AND THE ESCP.

ESCP LEGEND

—SB— TEMPORARY SEDIMENT BARRIER	CULVERT STORMWATER FLOW
CUT LIMITS	PROFILE STORMWATER FLOW
FILL LIMITS	SURFACE STORMWATER FLOW
—ROW— RIGHT-OF-WAY	DISTURBED AREA

0 20 40 Feet

ESCP NOT SEALED IN ACCORDANCE WITH ALASKA HIGHWAY PRECONSTRUCTION MANUAL SECTION 1120.7.3 DATED NOVEMBER 15, 2013

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

EROSION SEDIMENT CONTROL PLAN

DESIGNED	HOBBS,JC	CHECKED	CHRISTIE	DRAFTED	BERGJAN
LAYOUT	Q1				

PHONE (907) 780-3533 | CERTIFICATE OF AUTH #: AECL848

ADDRESS 9085 GLACIER HIGHWAY, JUNEAU, AK 99801

DATE

FIRM DOWL

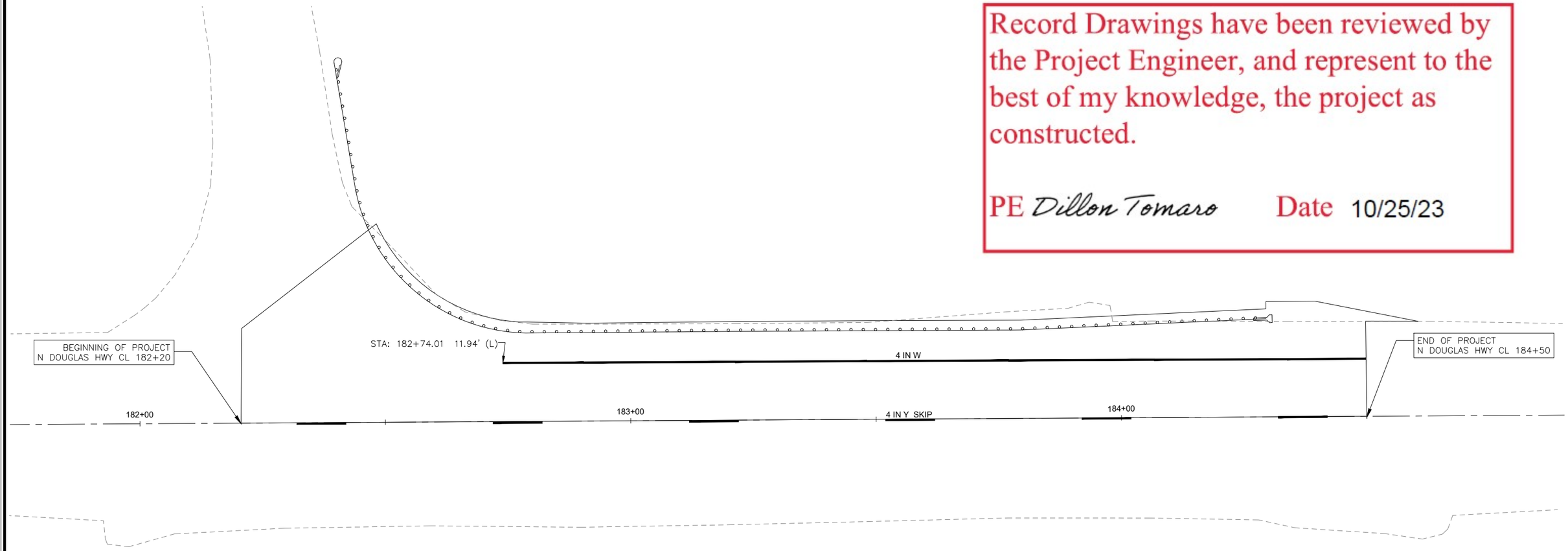
FILE c:\dowl_pw\d0395244\SC-CT-EC-Q-63330.03.dwg

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0093002/SFHWY00411	2022	H1	14

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE *Dillon Tomaro* Date 10/25/23



NOTE: MATCH EXISTING PAVEMENT MARKINGS AT EACH END OF PROJECT.

STRIPING LEGEND			
SYMBOL	DESCRIPTION	WIDTH	PATTERN
4 IN W	SOLID WHITE	4"	———
4 IN Y SKIP	YELLOW SKIP	4"	— — —

STATE OF ALASKA 49TH
NAOMI R. HOBBS
CE 9959
09.06.22
REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

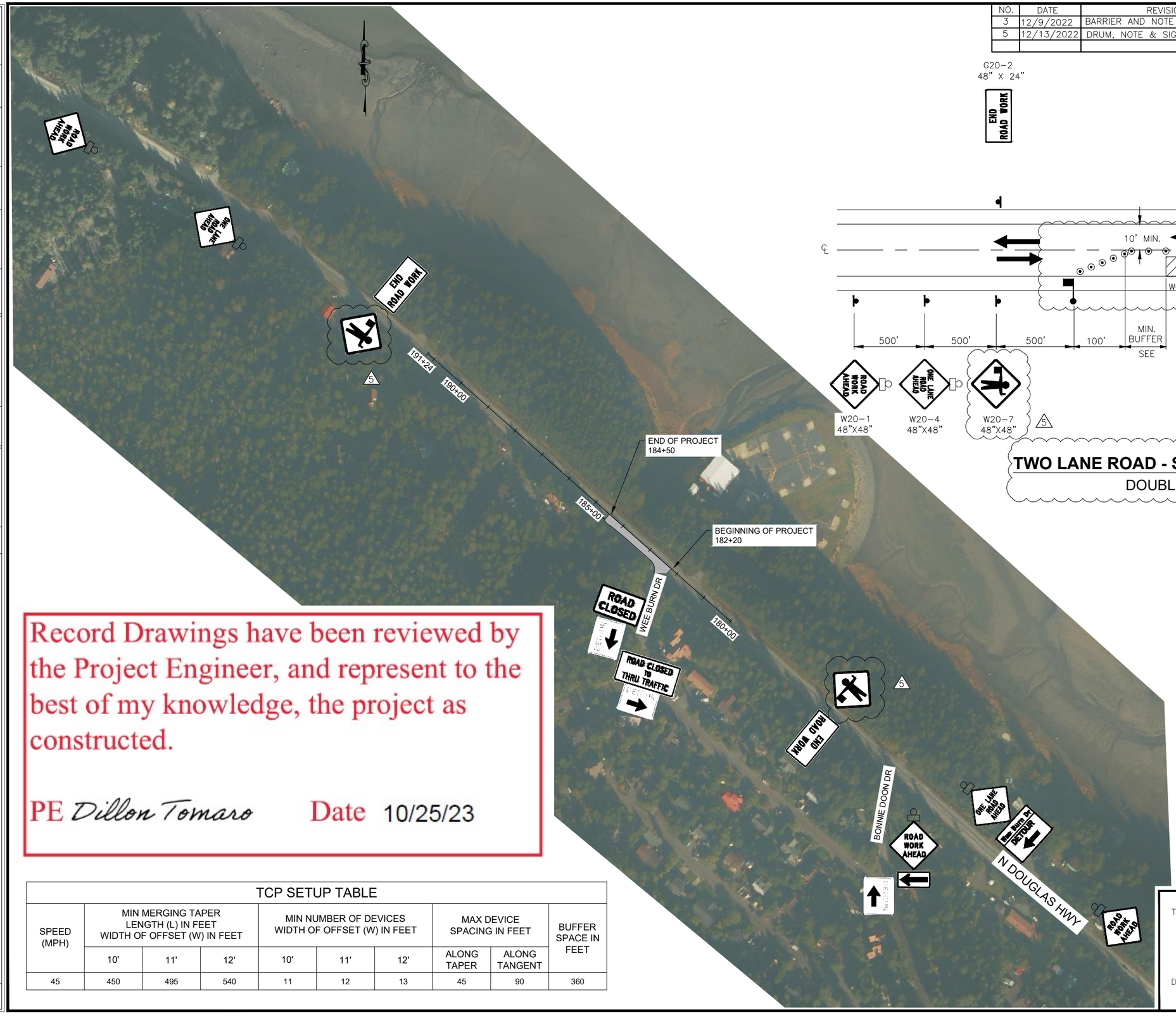
STRIPING PLAN

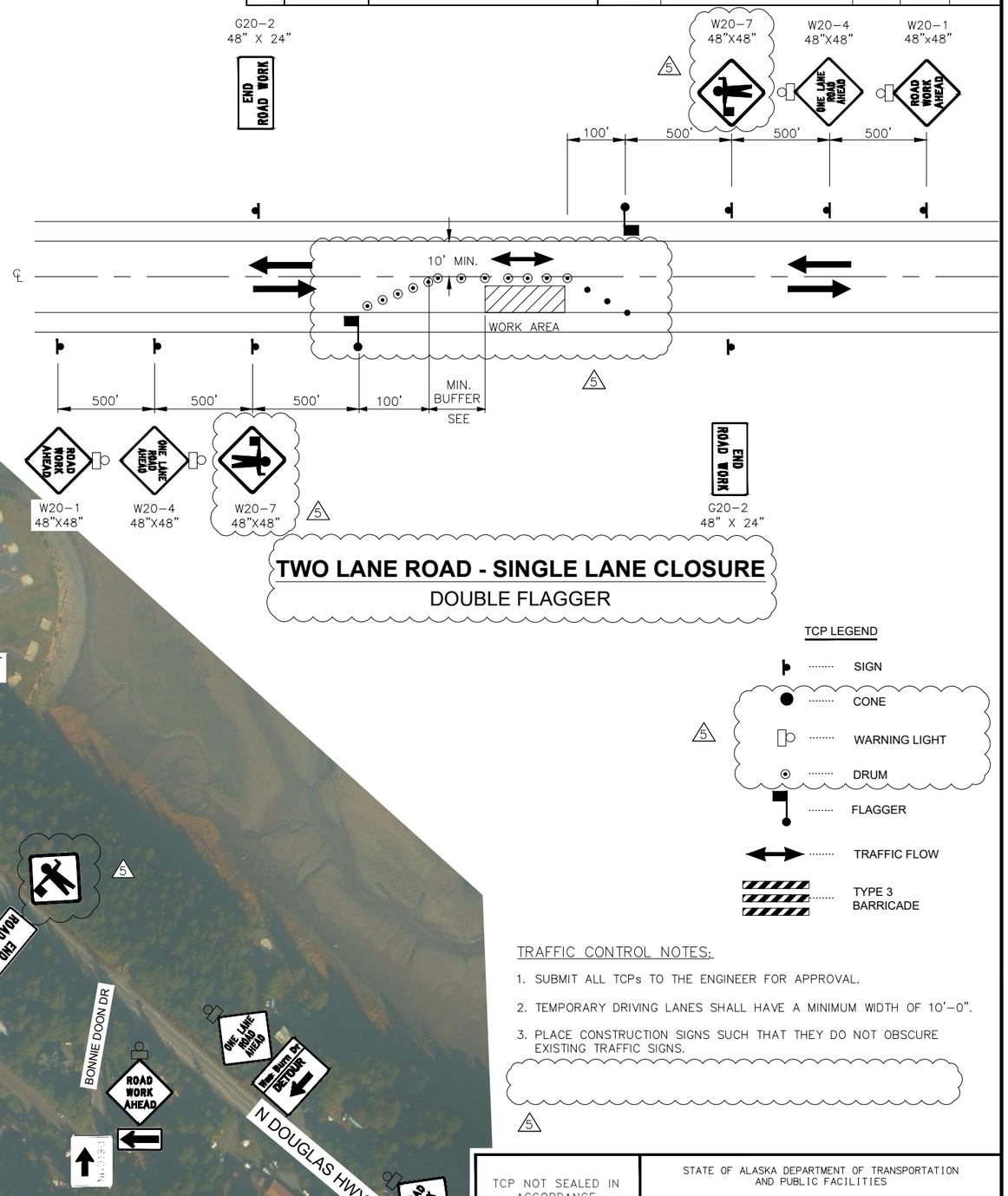
FIRM	DOWL	PHONE	(907) 780-3533	CERTIFICATE OF AUTH #:	AECL848		
ADDRESS	9085 GLACIER HIGHWAY, JUNEAU, AK 99801	DESIGNED	HOBBS	CHECKED	CHRISTIE	DRAFTED	BERG
DATE		LAYOUT	H1				
FILE	c:\dowl_pw\d0395244\SC-CT-SG-H-63303-03.dwg						

Addendum #5 :Attachment #5

NO.	DATE	REVISION
3	12/9/2022	BARRIER AND NOTE REVISIONS
5	12/13/2022	DRUM, NOTE & SIGN REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0093002/SFHWY00411	2022	T1	14





TWO LANE ROAD - SINGLE LANE CLOSURE

DOUBLE FLAGGER

TCP LEGEND

- SIGN
- CONE
- WARNING LIGHT
- DRUM
- FLAGGER
- TRAFFIC FLOW
- TYPE 3 BARRICADE

TRAFFIC CONTROL NOTES:

1. SUBMIT ALL TCPs TO THE ENGINEER FOR APPROVAL.
2. TEMPORARY DRIVING LANES SHALL HAVE A MINIMUM WIDTH OF 10'-0".
3. PLACE CONSTRUCTION SIGNS SUCH THAT THEY DO NOT OBSCURE EXISTING TRAFFIC SIGNS.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Dillon Tomaro Date 10/25/23

TCP SETUP TABLE

SPEED (MPH)	MIN MERGING TAPER LENGTH (L) IN FEET WIDTH OF OFFSET (W) IN FEET			MIN NUMBER OF DEVICES WIDTH OF OFFSET (W) IN FEET			MAX DEVICE SPACING IN FEET		BUFFER SPACE IN FEET
	10'	11'	12'	10'	11'	12'	ALONG TAPER	ALONG TANGENT	
45	450	495	540	11	12	13	45	90	360

TCP NOT SEALED IN ACCORDANCE WITH ALASKA HIGHWAY RECONSTRUCTION MANUAL SECTION 1400.3.5 DATED JANUARY 20, 2012

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

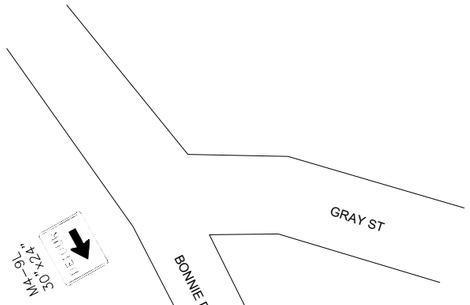
JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

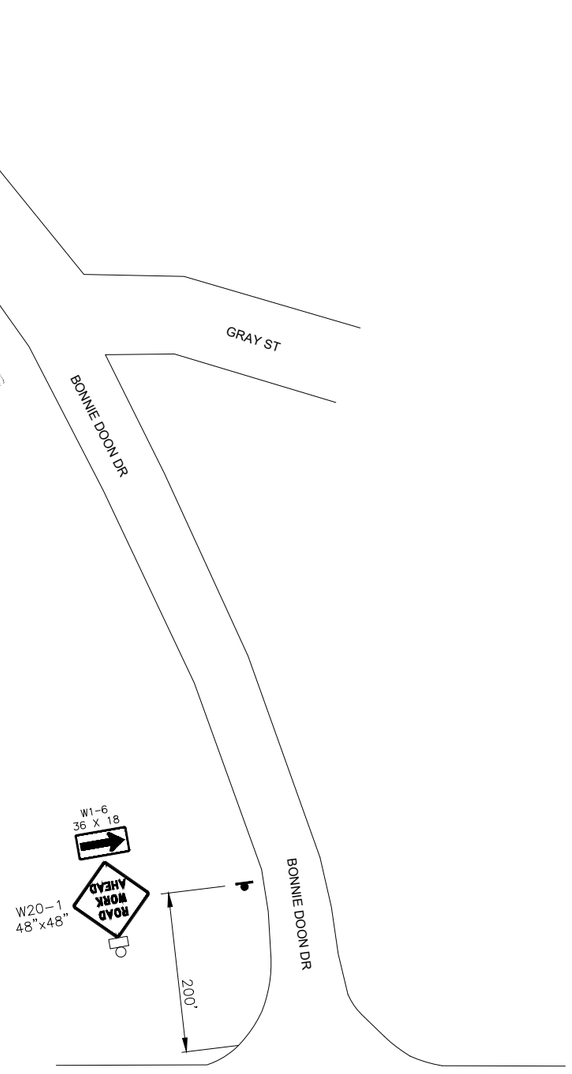
TRAFFIC CONTROL PLAN

FIRM	DOWL	PHONE	(907) 780-3533	CERTIFICATE OF AUTH #:	AECL848		
ADDRESS	9085 GLACIER HIGHWAY, JUNEAU, AK 99801	DESIGNED	HOBBS	CHECKED	CHRISTIE	DRAFTED	BERG
DATE		LAYOUT	T1				
FILE	C:\dowl_pw\d0395244\SC-CT-TC-T-63330.03.dwg						

NO.	DATE	REVISION

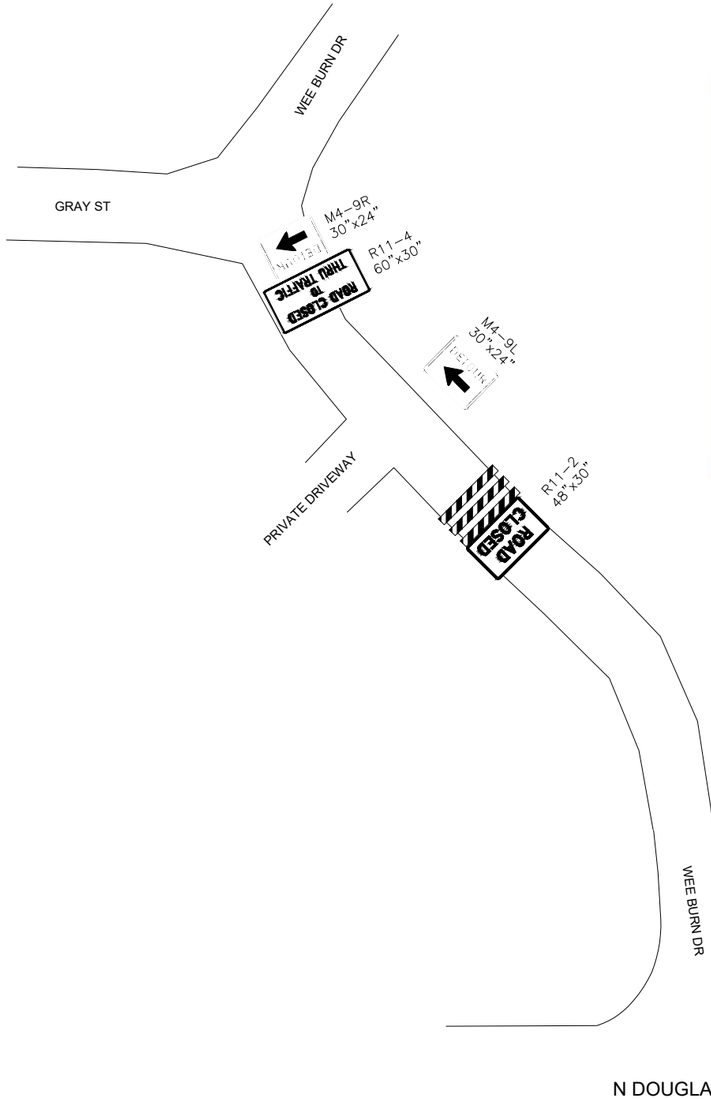
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0093002/SFHWY00411	2022	T2	14





PERMANENT CONSTRUCTION SIGNING

BONNIE DOON DR



PERMANENT CONSTRUCTION SIGNING

WEE BURN DRIVE

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE *Dillon Tomaro* Date 10/25/23

TCP NOT SEALED IN ACCORDANCE WITH ALASKA HIGHWAY RECONSTRUCTION MANUAL SECTION 1400.3.5 DATED JANUARY 20, 2012

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

PERMANENET CONSTRUCTION SIGNS LAYOUT

FIRM	DOWL			PHONE	(907) 780-3533	CERTIFICATE OF AUTH #:	AECL848		
ADDRESS	9085 GLACIER HIGHWAY, JUNEAU, AK 99801			DESIGNED	HOBBS	CHECKED	CHRISTIE	DRAFTED	BERG
DATE			LAYOUT	T2					
FILE	c:\dowl_pw\d0395244\Sc-CT-TC-T-63330.03.dwg								

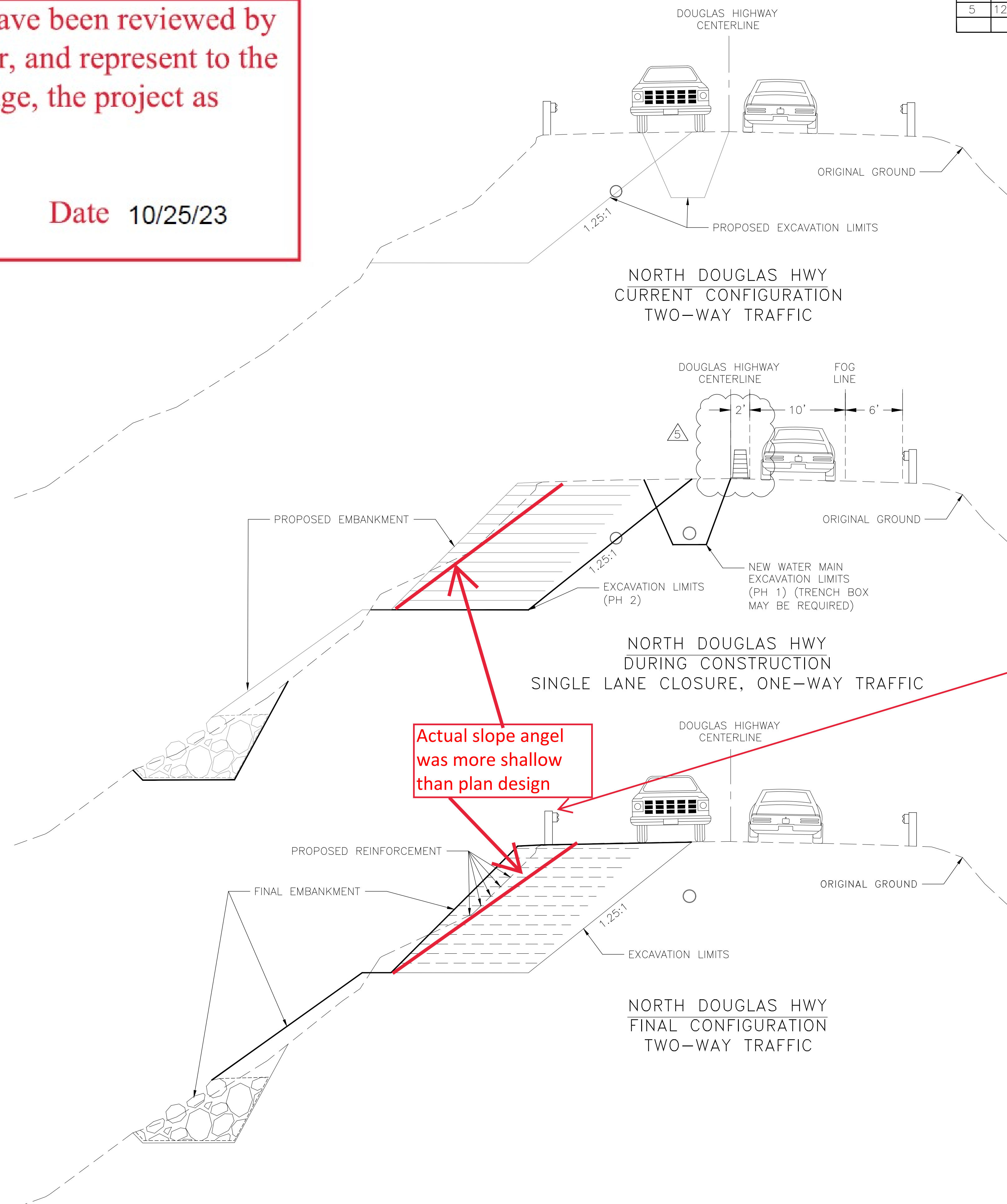
Addendum #5 :Attachment #6

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Dillon Tomaro Date 10/25/23

NO.	DATE	REVISION
3	12/9/2022	BARRIER AND LANE REVISION
5	12/13/2022	DRUM REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0093002/SFHWY00411	2022	T3	14



Guardrail posts with a face of guardrail and slope distance of 2' to 3.5' were driven with 8' posts in accordance standard plans sheet G-10.21 Case 2.

SUGGESTED CONSTRUCTION PHASING:

1. REMOVE PAVEMENT FROM BEGINNING OF PROJECT TO END OF PROJECT IN SOUTHEAST BOUND LANE. MAINTAIN A SINGLE LANE OF TRAFFIC ON THE NORTHWEST BOUND LANE. UTILIZE MODIFIED MUTCD TYPICAL APPLICATION 10 FOR TRAFFIC CONTROL SETUP.
2. EXCAVATE THE SOUTHEAST BOUND ROAD EMBANKMENT AS NEEDED TO INSTALL NEW WATER MAIN AS SHOWN IN PLANS. KEEP WORK WITHIN SOUTHEAST BOUND LANE AND EXCAVATE AS NEEDED TO REACH DESIRED DEPTH, TRENCH BOX MAY BE REQUIRED. MAINTAIN SOUTHEAST BOUND SINGLE LANE CLOSURE.
3. EXCAVATE THE SOUTHEAST BOUND LANE TO THE DATUM OF PAVEMENT STRUCTURAL SECTION NO. 1 AS SHOWN IN THE TYPICAL SECTION. MAINTAIN SOUTHEAST BOUND SINGLE LANE CLOSURE.
4. CONSTRUCT EMBANKMENT ON THE SOUTHEAST BOUND LANE AS SHOWN IN TYPICAL SECTION UNTIL THE GRADE IS BROUGHT EVEN WITH THE PAVEMENT STRUCTURAL SECTION NO. 1 DATUM GRADE. MAINTAIN SOUTHEAST BOUND SINGLE LANE CLOSURE .
5. PAVE THE ROAD AS SHOWN IN THE TYPICAL SECTIONS. MAINTAIN SOUTHEAST BOUND SINGLE LANE CLOSURE.
6. CONSTRUCTION PHASING SHOWN ON THIS SHEET ARE FOR CONCEPTUAL VIEW ONLY. NO WORK SHALL COMMENCE ON SITE UNTIL THE CONSTRUCTION PHASING PLAN (SECTION 643) HAS BEEN APPROVED BY THE ENGINEER. (3)

TCP NOT SEALED IN ACCORDANCE WITH ALASKA HIGHWAY RECONSTRUCTION MANUAL SECTION 1400.3.5 DATED JANUARY 20, 2012

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

JNU NORTH DOUGLAS – BONNIE BRAE – DEC 20 SE PR

CONSTRUCTION PHASING PLAN

FIRM DOWL | ADDRESS 9085 GLACIER HIGHWAY, JUNEAU, AK 99801 | PHONE (907) 780-3533 | CERTIFICATE OF AUTH #: AECL848

FILE C:\dowl_pw\d0395244\SC-CT-TC-T-63330.03.dwg | DATE | LAYOUT T3 | DESIGNED HOBBS/JC | CHECKED CHRISTIE | DRAFTED BERGMAN

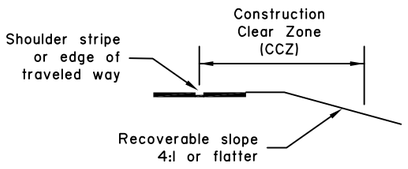


FIGURE 1

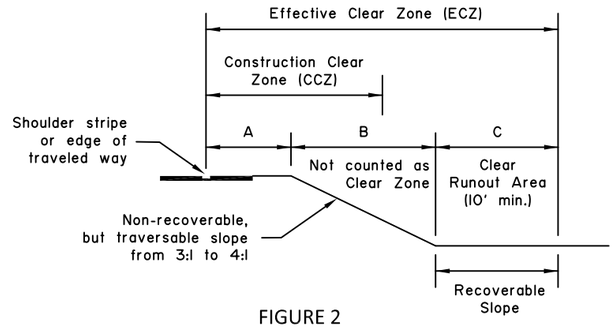


FIGURE 2

Table 1 - Width of Construction Clear Zone (feet)

Hazard	AADT	Posted Speed Limit (MPH)							
		<=30 MPH		35 to 40 MPH		45 to 55 MPH		>=60 MPH	
		6:1 or flatter	5:1 to 4:1	6:1 or flatter	5:1 to 4:1	6:1 or flatter	5:1 to 4:1	6:1 or flatter	5:1 to 4:1
Fill (Fore) & Cut (Back) Slopes	Under 750	5'	5'	6'	8'	8'	12'	12'	16'
	750 - 6,000	6'	10'	8'	12'	14'	18'	20'	26'
	Over 6,000	10'	10'	12'	14'	16'	20'	22'	28'
Fixed Objects	All	15'		30'					

Table 2 - Treatment for Hazards Within Construction Clear Zone

Roadside Condition to be Treated	Category	Treatment
Fill (Fore) Slopes, including trenches	Steeper than 3:1 or water 3 ft. or deeper	Use Table 5 to select from the following two options: 1. Install rigid barrier or guardrail if the condition warrants barrier, or 2. Use drums or Type II barricades if the condition does not warrant barrier.
	3 : 1 to 4 : 1	1. Use drums or Type II barricades if 10 ft. of runout at the bottom of the slope is not clear of obstructions. 2. No traffic control devices are required if 10 ft. of runout at the bottom of the slope is clear of obstructions. 3. If water 3 ft. or deeper is at bottom of slope, use Table 5.
	Flatter than 4 : 1	No traffic control devices are required, except when water 3 ft. or deeper is in construction clear zone use Table 5.
Fixed Objects	All	Install rigid barrier or guardrail if called for by the plans or specifications. Otherwise use SSHC Section 643-3.04.3 - Fixed Objects.

GENERAL NOTES:

1. The "Construction Clear Zone" (CCZ) may be called "Work Zone Clear Zone" or "Clear Zone in Work Zones" in other publications.
2. In the case of conflicts, this Standard Plan has lesser precedence than Section 643 (Traffic Maintenance) of the Standard Specifications for Highway Construction (SSHC).
3. During seasonal shutdown or if construction activiy is scheduled for suspension for 45 days or more, treat hazards within a 30 foot CCZ width or within the permanent design clear zone (CZ) width.
4. These guidelines are not comprehensive and are not intended to limit the use of safety measures.
5. During pilot car operations, keep fixed objects and other hazards, 2 feet or farther, away from the edge of traveled way and delineate with channelizing devices as required by the Engineer.

INSTRUCTIONS FOR USING TABLES 1 THROUGH 5:

Use The following tables to determine how to treat roadside fixed object or slopes (including trenches, berms and moterial stockpiles) in construction clear zones.

TABLE 1: Use to determine whether the hazard in withing the CCZ

TABLE 2: Use to determine the appropriate treatment for hazards within the CCZ. No treatment is required for fixed objects or slopes outside the CCZ.

TABLES 3a and 3b: Use to determine appropriate treatment for pavement edge dropoffs.

TABLE 4: Use to determine barrier flare rates.

TABLE 5: Use to determine whether drums or Type II barricades, or temporary barrier or guardrail, are required on fill slopes or for water hazards.

TABLE 1 NOTES:

1. Measure CCZ from the shoulder stripe. If there is no shoulder stripe, measure from the edge of the traveled way. See Figure 1.
2. If CCZ include or ends on a slope of 3:1 to 4:1, use the Effective Clear Zone (ECZ) that extends beyond the bottom of the slope to proved a clear runout area of 10 foot minimum width. The ECZ width must equal or greater than the CCZ width from Table 1. See Figure 2 and verify that A+C ≥ CCA and C ≥ 10 feet.
3. If a CCZ includes or ends on a slope steeper than 3:1, the top of slope must be delineated by channelizing devices or protected by barrier.
4. The term "fixed objects" is defined in Section 643-1.02 of the SSHC.
5. AADT stands for Average Annual Daily Traffic. Use the higher of the as listed in the plans or the average of June/July/August ADT's, unless otherwise specified by the Engineer.

TABLE 2 NOTES:

1. Eliminate non-traversable slopes (those steeper than 3:1) and fixed objects (as defined in Section 643-1.02 of the SSHC) within the CCZ when practicable. They should only be left in place and treated as treated as shown in this table when elimination is not practicable.
2. Maintain a 2-foot minimum wide lateral buffer space between the edge of traveled way and work areas. This provides an area to install barriers or other delineation by channelizing devices.
3. If necessary to treat multiple hazards on the same road segment (slopes and fixed objects), choose treatments from Table 2 that satisfy the requirements for the most significant of the multiple hazards.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

ROADSIDE SAFETY TREATMENT FOR WORK ZONES

Adopted as an Alaska Standard Plan by: Carolyn H Morehouse

Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

Last Code and Stds. Review
By: LRG Date: 09/15/2022

Next Code and Standards Review date: 09/15/2032

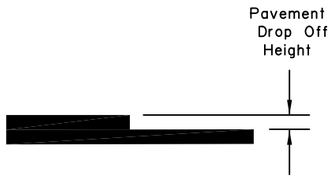


FIGURE 3
Pavement Drop-off Detail

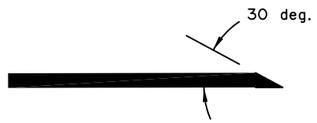


FIGURE 4
Safety Edge Detail

Table 3a - Treatment for Pavement Edge Drop-offs for Posted Speeds > 30 MPH

Nominal Lift Thickness / Height of Pavement Edge Drop-off	Between Active Lanes of traffic moving in same direction	Between Active Lanes of traffic moving in opposing directions	Outside Pavement Edge (if within 3' of traveled way)	Outside Pavement Edge if more than 3' from traveled way and within the CCZ	Across Active Lane, and Entrance and Exit Ramps
0 to 1.0"	No Edge Treatment or Signage Required				
More than 1.0" to 2.0"	**UNEVEN LANE** Signs		**LOW SHOULDER** Signs		Taper Drop-off at slope of 15H:1V or flatter Use BUMP Sign
More than 2.0" to 3.0"	**UNEVEN LANES** Signs - Use Channelizing Devices or Safety Edge	**UNEVEN LANES** Signs - Use Channelizing Devices	**LOW SHOULDER** Signs - Use Channelizing Devices - Consider Safety Edge	**LOW SHOULDER** Signs	
More than 3.0" to 6.0"	**UNEVEN LANES** Signs - Use Channelizing Devices and Use Safety Edge	**UNEVEN LANES** Signs - Use Channelizing Devices	**SHOULDER DROP OFF** Signs - Use Channelizing Devices and Safety Edge; or Use Barrier	**SHOULDER DROP OFF** Signs - Use Channelizing Devices or Barrier	
More than 6"	**Prohibited**		**Barrier** - Installed on traffic side of drop-off	**Channelizing Devices** or **Barrier** according to Table 5	

Table 3b - Sign Numbers

Legend	Number	ATM * Ref.
UNEVEN LANES	W8-11	6F.45
LOW SHOULDER	W8-9	6F.44
SHOULDER DROP OFF (Symbol)	W8-17	6F.44
SHOULDER DROP OFF (Plaque)	W8-17P	6F.44
BUMP	W8-1	2C.28

* ATM = Alaska Traffic Manual

Table 4 - Barrier Flare Rates

Speed (mph)	Flare Rate	
	Rigid	Semi-Rigid
70	20:1	15:1
60	18:1	14:1
55	16:1	12:1
50	14:1	11:1
45	12:1	10:1
40	10:1	8:1
30	8:1	7:1

TABLE 3 NOTES:

1. This table applies to pavement edge drop-offs that are adjacent to traffic and left after the pavement shift ends and for posted speeds > 30 mph. Use engineering judgment for edge treatment for posted speeds ≤30 mph.
2. Use interim pavement markings and signs as required according to Standard Plan C-05 (for all conditions).
3. A Safety Edge is a formed pavement edge taper sloped at approximately 30°, but not more than 35° from horizontal.
4. Use a Safety Edge for longitudinal or diagonal pavement edge drop-offs more than 2 inches within a traveled lane. See Figure 3. Use a Safety Edge on longitudinal joints between lanes as required by Table 3a.
5. The "Across Active Lane, and Entrance and Exit Ramps" column applies to any location where motorists will cross pavement drop-offs (includes transverse construction joints) at an acute angle (45° or more). Taper may be reduced to 6:1 at posted speeds of 30 mph or less.
6. Signage applies to all posted speed for edge drop-offs as shown in Table 3a. For information on signs and locations, see SSHC Section 643-3.04 and the Alaska Traffic Manual (ATM). Signs should be place at the beginning and end points of each paved segment, and in locations between as specified. Also, see Table 3b.
7. "Channelizing Devices" means drums with steady-burn lights, candle, or cones.
8. Treatment for pavement edge drop-offs are in addition to Treatment for Hazards within Construction Clear Zones (CCZs) (i.e. fixed obstacle or slope protection may also be required).

BARRIER TERMINATION AND TABLE 4 NOTES:

1. Terminate portable rigid barrier (concrete or metal) with one of the following methods:
   a) An NCHRP 350 or MASH TL-3 approved end treatment or crash cushion.
   b) An NCHRP 350 or MASH TL-3 approved buried-in-backslope treatment
   c) A Thrie-Beam transition according to Std. Plan G-32 (except attached to a rigid barrier instead of a bridge rail) and terminated with a MASH TL-3 end treatment.
   d) Terminate outside the CCZ by flaring barriers away from the roadway at the rate shown in Table 4 for rigid barriers (maximum 10:1 cross slope in front of the barrier).
   e) Sloped ends may be used to terminate barriers within the CZ when the regulatory (black on white sign) speed limit is 30 mph or below. For speeds more than 30 mph, the Engineer may approve sloped ends if they determine NCHRP 350 or MASH compliant end treatments are impracticable. See Std. Plan G-46 for concrete barrier sloped ends.
2. Terminate temporary W-Beam guardrail with one of the following methods:
   a. With a MASH TL-3 approved end treatment
   b. By burying it in a backslope according to Std. Plan G-16
   c. By flaring the guardrail away from the road at the rate shown in Table 4 for semi-rigid barriers (maximum 10:1 cross slope in from of the guardrail).
   d. Terminate outside the CZ.

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Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

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By: LRG Date: 09/15/2022

Next Code and Standards Review date: 09/15/2032

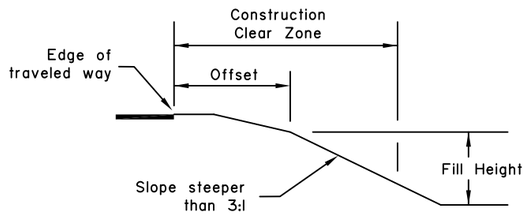

FIGURE 5

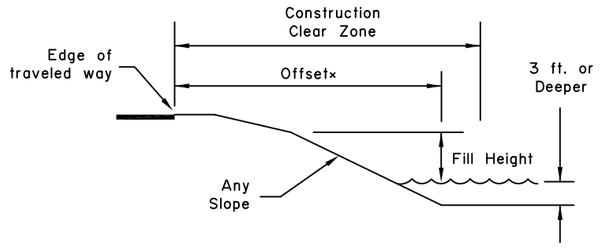

FIGURE 6

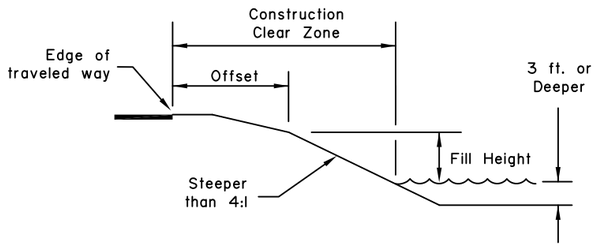

FIGURE 7

Table 5 - Minimum Fill Height at which Temporary Barrier Is Waranted

Seasonal Traffic Volume - ADT

Posted WZ Speed Limit	Duration (# days)	Offset (ft)	0-750	751-1500			1501-6000				6001-15000				15001+			
			All Slopes/ Water Condition	slope		Water	slope			Water	slope			Water	slope			Water
				2.9:1 to 1.1:1	1:1 to Vert.		2.9:1 to 2.1:1	2:1-1.1:1	1:1-Vert.		2.9:1 to 2.1:1	2:1-1.1:1	1:1-Vert.		2.9:1 to 2.1:1	2:1-1.1:1	1:1-Vert.	
30 MPH and lower	4-30	5-10															11'	11'
		3-5											11'	11'				
		0-3																
	31-100	5-10																
		3-5							11'	11'			11'	11'		35'	11'	11'
		0-3										35'				31'		
	101+	5-10														35'	11'	11'
		3-5							11'	11'		35'	11'	11'		29'		
		0-3			11'	11'						31'				17'	8'	8'
35 to 45 MPH	4-30	6-12															10'	10'
		3-6											10'	10'				
		0-3														29'		
	31-100	6-12														29'	10'	10'
		3-6							10'	10'		29'	10'	10'				
		0-3														19'	9'	9'
	101+	6-12										29'	10'	10'		27'	10'	10'
		3-6			10'	10'			10'	10'		28'				12'	7'	7'
		0-3						29'				18'	9'	9'		7'	6'	6'
45 to 55 MPH	4-30	9-18															8'	8'
		3-9											8'	8'		13'		
		0-3																
	31-100	9-18														13'	8'	8'
		3-9							8'	8'		13'	8'	8'			7'	7'
		0-3						13'								7'	6'	6'
	101+	9-18										13'	8'	8'		13'	7'	7'
		3-9			8'	8'			8'	8'		12'	7'	7'	37'	6'	5'	5'
		0-3						13'				7'	6'	6'	23'	5'	3'	3'
60 MPH and above	4-30	13-26															6'	6'
		3-13											6'	6'		10'		
		0-3										10'						
	31-100	13-26														10'	6'	6'
		3-13							6'	6'		10'	6'	6'				
		0-3						10'							40'	6'	5'	5'
	101+	13-26														10'	6'	6'
		3-13			6'	6'		10'	6'	6'		10'	6'	6'	30'	6'	4'	4'
		0-3									34'	6'	5'	5'	10'	3'	1'	1'

TABLE 5 NOTES:

1. Use this table for fill slopes steeper than 3:1 or water hazards that start within the Construction Clear Zone (CCZ). See Figures 5, 6, and 7.
2. Near Lane AADT, as used in this table, means the higher of the AADT listed in the plans or the seasonal Average Daily Traffic (ADT) for June, July, and August in the lane nearest the slope or water hazard during the planned construction period. Assume an even distribution of traffic across lanes - i.e. if there is 6000 one-way AADT on three lanes, use 2000 AADT in each lane.
3. Duration is the estimated number of days traffic will be exposed to the fill (fore) slope or water hazard.
4. To use Table 5, fine the cell that corresponds to the speed limit, duration, offset, traffic volume, and the presence of a slope or water hazard.
   a. If the cell is unshaded, a Temporary Barrier is required when the fill height equals or exceeds the height (in feet) shown in the cell.
   b. If the cell is shaded or fill height is less than the height shown in the cell, use drums or Type II barricades.
5. A water hazard is defined as:
   a. Water 3 feet or deeper within the CCZ, or
   b. Where a slope steeper than 4:1 starts within the CCZ and leads to water 3 feet or deeper.
6. Consider water depth to be the highest level anticipated during the duration period.
7. If both a water hazard and a slope steeper than 3:1 are present, install Temporary Barrier if warranted for either condition.
8. Temporary Barrier is rigid barrier (concrete or metal) or guardrail meeting NCHRP or MASH TL-3, or higher.

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ALASKA STANDARD PLAN

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Adopted as an Alaska Standard Plan by: Carolyn H Morehouse

Carolyn Morehouse, P.E.
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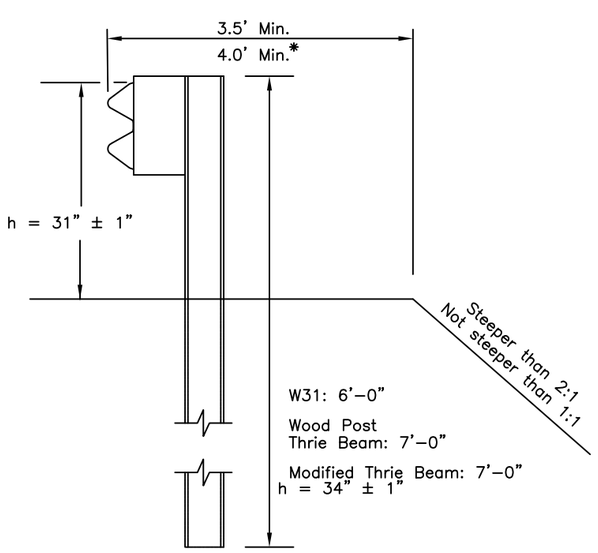
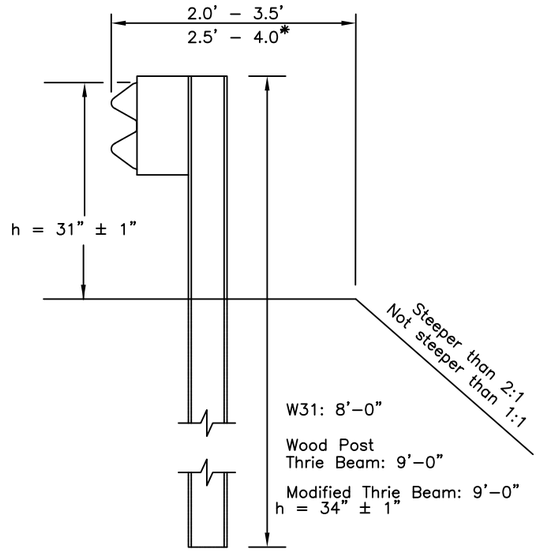


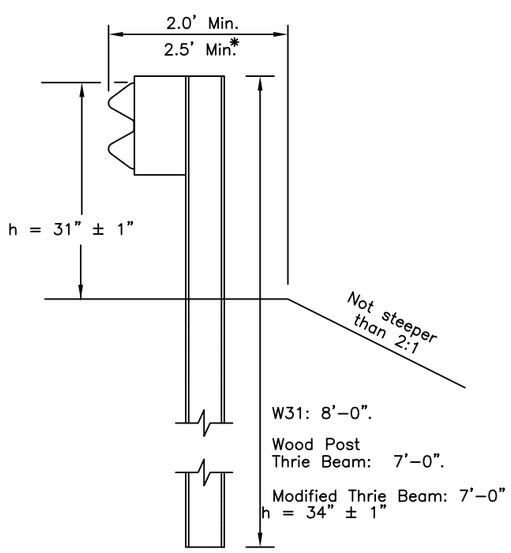
* with Modified Thrie Beam

CASE 1



* with Modified Thrie Beam

CASE 2



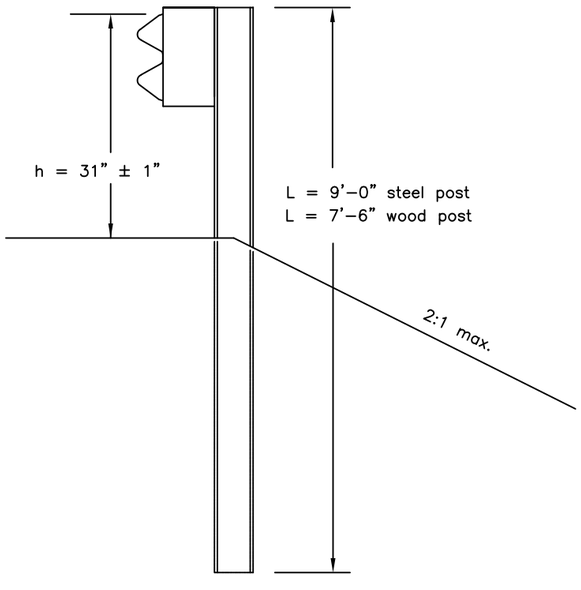
CASE 3

CONSTRUCTION NOTES:

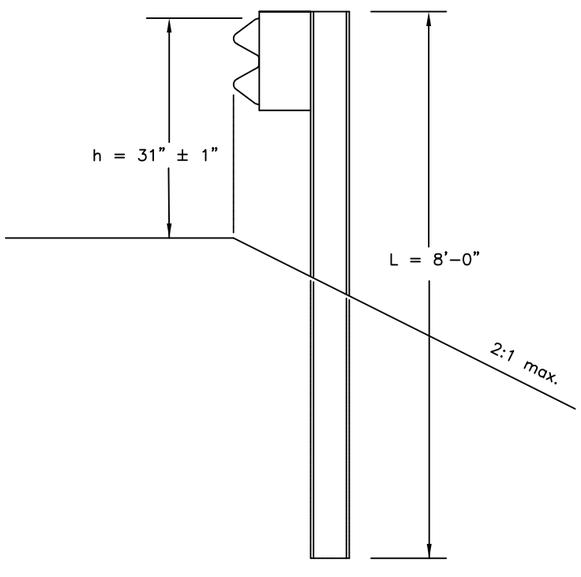
1. This drawings is to be used for post length determination only. See Plans for slopes and behind–post embankment widths.
2. To determine post length, identify the case that matches site conditions and read the length corresponding to the pertinent guardrail type.
3. These dimensions apply to both curbed and uncurbed section.
4. Case 1, 2 and 3 are shown with steel posts. Wood posts may be substituted when allowed by specifications. Wood Post Thrie Beam installations must use wood posts only.
5. Case 4 and 5 apply to W31 guardrail only.

DESIGN NOTES:

1. No fixed objects allowed within 48" of the back of post for Cases 1, 2, 3, 4, and 5.



CASE 4
(See Note 5)



CASE 5
(See Note 5)

State of Alaska DOT&PF
ALASKA STANDARD PLAN

GUARDRAIL POST INSTALLATION

Adopted as an Alaska Standard Plan by: Carolyn H Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

Last Code and Stds. Review
By: LRG Date: 09/15/2022

Next Code and Standards Review date:09/15/2032