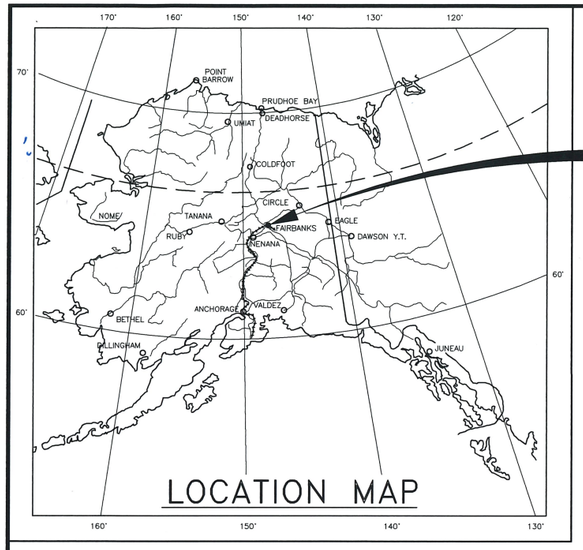


LOCATION MAP

PROJECT LOCATION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2018	A1	A8

CDS ROUTE:	175900	MILEPOINT:	4.573	TO	4.649
CDS ROUTE:	175800	MILEPOINT:	0.000	TO	0.172
CDS ROUTE:	177200	MILEPOINT:	0.000	TO	0.164

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

PENDING/NFHWY00270

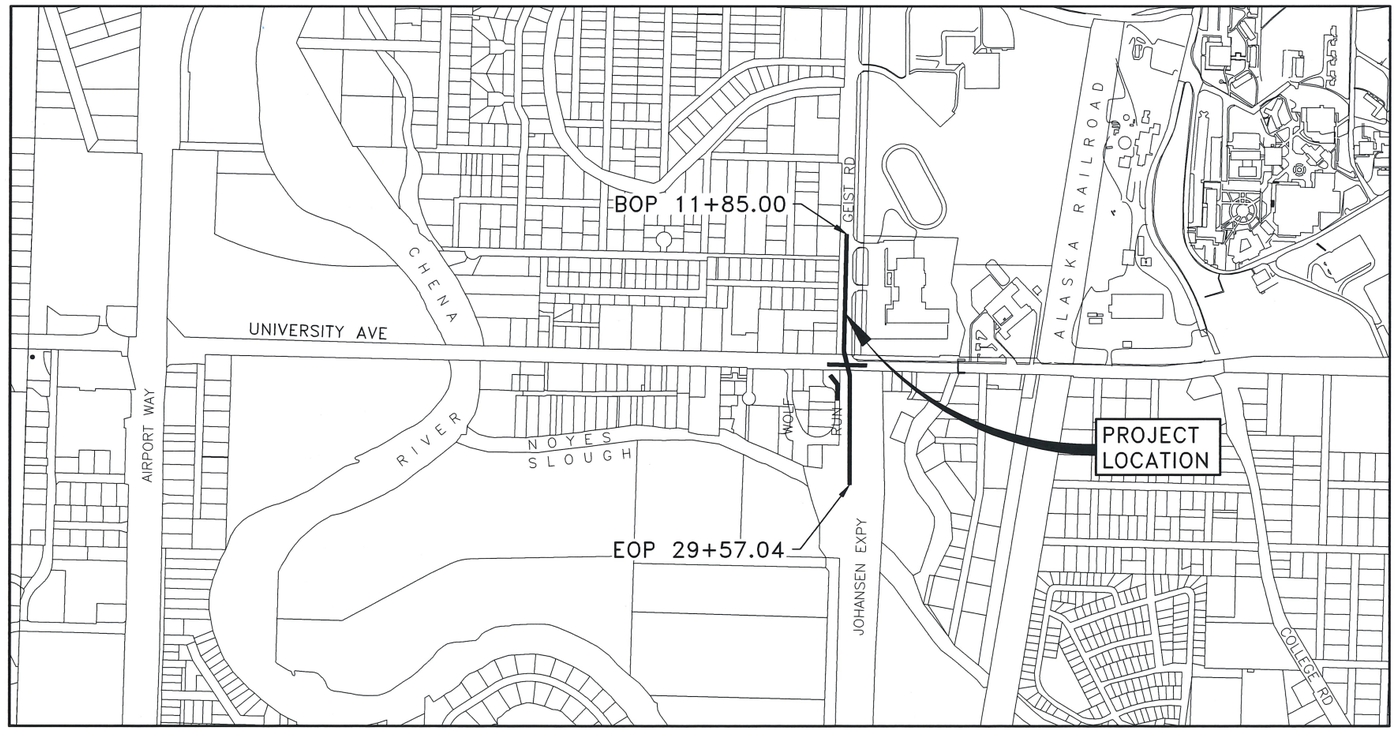
UNIVERSITY AVENUE REHAB – GEIST ROAD & JOHANSEN EXPRESSWAY

GRADING, DRAINAGE, PAVING, ILLUMINATION & SIGNALIZATION

INDEX OF SHEETS

THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT:

C–03.10, C–04.12, C–05.20
D–01.02, D–04.21, D–22.01, D–23.01, D–24.00, D–26.03, G–46.12
I–20.20, I–21.10, I–22.10, I–81.00
L03.10, L–30.10
M–13.01, M16.01, M–20.14, M–23.12
S–01.01, S–05.01, S–20.10, S–30.04, S–31.01
T–20.03, T–21.03, T–22.03, T–23.00, T–30.11, T–31.00, T–40.00, T–52.20, T–53.00, T–56.00, T–57.01
U–03.01



VICINITY MAP

DESIGN DESIGNATIONS

	UNIVERSITY AVE	GEIST RD	JOHANSEN EXPY
ADT (2018)	17,725	17,501	21,574
ADT (2040)	21,000	N/A	N/A
DHV (2030)	10%	N/A	N/A
PERCENT TRUCKS (T)	3%	N/A	N/A
DIRECTIONAL SPLIT (D)	45/55	N/A	N/A
DESIGN SPEED (V)	40 MPH	55 MPH	60 MPH
DESIGN EAL'S (2038)	740,000	N/A	N/A

PROJECT SUMMARY

	UNIVERSITY AVE	GEIST RD	JOHANSEN EXPY
WIDTH OF PAVEMENT	57 FT	79 FT	103 FT
LENGTH OF GRADING	0.06 MI	0.17 MI	0.16 MI
LENGTH OF PAVING	0.06 MI	0.17 MI	0.16 MI
LENGTH OF PROJECT	0.06 MI	0.17 MI	0.16 MI

LAUREN LITTLE, P.E., PROJECT MANAGER
HEATHER D. ESTABROOK, P.E., DESIGN ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED BY: _____ DATE 1/2/2018
Sarah E. Schacher, P.E.
Preconstruction Engineer, Northern Region

ACCEPTED FOR CONSTRUCTION: _____ DATE 1/2/18
Ryan F. Anderson, P.E.
Regional Director, Northern Region

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\c0001cnst11147.01fb-seg-1a-Title Fri, Dec/15/17 11:00am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	A2	A8

	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
SANITARY SEWER (FORCE MAIN)	FM	FM
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	FO	
DIRECT BURIAL TELEPHONE CABLE	T	T
DIRECT BURIAL ELECTRIC CABLE	E	E
ELECTRIC LINE (OVERHEAD)	BY OTHERS	
POWER POLE LINE		
JOINT USE POWER & TELEPHONE		
TELEPHONE POLE LINE		
POLE ANCHOR		
STUB POLE (POWER OR TELEPHONE)		
TELEPHONE DUCT	T	ACS T, GCI T
TELEPHONE PEDESTAL		
BURIED CABLE MARKER		
PIPELINE MARKER OR VALVE		
CATCH BASIN OR DROP INLET		
MANHOLE	MH	SEWER MH, STORM DRAIN MH, COMM MH
SANITARY SEWER CLEAN OUT		

	EXISTING	PROPOSED
ROADWAY/PAVEMENT EDGE		
FENCE		
CURB AND GUTTER		
DETECTABLE WARNINGS		
GUARDRAIL		
CULVERT PIPE		
SIGN		
MAILBOX	MB	MB
RAILROAD TRACKS		SWITCH
RAILROAD DEVICES	CROSS-BUCK, FLASHING LIGHT	CANTILEVER
TREE LINE		
WATER BOUNDARY		
ORDINARY HIGH WATER LINE		
FLOW CENTERLINE		
FLOW DIRECTION		
WETLANDS		
EXISTING BUILDINGS	H	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	F	
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
JUNCTION BOX, ABOVE GRADE		7
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
PAN, TILT, ZOOM CAMERA	1	1
PEDESTRIAN PUSH BUTTON	1	1
SIGNAL POST W/O MAST ARM		1
SIGNAL POLE W/MAST ARM		1
INTERCONNECT VAULT	I/C	I/C
INTERCONNECT MANHOLE		
SIGNAL CONTROLLER		
LOAD CENTER		
POST MOUNTED TRANSFORMER AND DISCONNECT SWITCH		E
LUMINAIRE		22
RIGID METAL CONDUIT		
TRAFFIC SIGNAL INTERCONNECT	I/C	I/C
BORING/ENCASED CONDUITS		

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C0002cnst11147.01FB-Seg-1A-A2 Sun, May/28/17 01:43pm

STATE OF ALASKA 49TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

LEGEND AND NOTES

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	A3	A8

GENERAL NOTES

1. APPROACH LOCATIONS; LENGTHS AND LOCATIONS OF CULVERTS, STORM DRAINS, AND DUCT BANKS SHOWN ON THESE PLANS ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER. ALL DISTANCES SHOWN IN THE PLAN VIEW ARE HORIZONTAL MEASUREMENTS.
2. CLEARING, GRUBBING AND SEEDING LIMITS SHALL BE AS SHOWN ON THE PLANS AND SHALL BE AS DIRECTED BY THE ENGINEER. RESTORE ALL DISTURBED AREAS DUE TO CONTRACTORS WORK OUTSIDE THE CLEARING AND GRUBBING LIMITS SHOWN ON THE PLANS. PAYMENT FOR THIS WORK SHALL BE SUBSIDIARY TO THE RESPECTIVE BID ITEM.
3. DEWATERING, IF REQUIRED, WILL NOT BE PAID FOR SEPARATELY BUT WILL BE CONSIDERED SUBSIDIARY TO THE RESPECTIVE BID ITEM FOR WHICH THE DEWATERING IS NECESSARY.
4. SAWCUT ALL MATCH LINES WHERE NEW CONSTRUCTION ABUTS EXISTING ASPHALT. APPLY STE–1 ASPHALT FOR TACK COAT ON THE VERTICAL FACE OF ALL SAWCUTS. SAWCUT EXISTING SIDEWALKS OR GO BACK TO NEAREST JOINT.
5. REFERENCE GRADING PLAN SHEETS FOR INTERSECTION TRANSITION LAYOUTS.

UTILITY NOTES

1. NUMEROUS UNDERGROUND UTILITIES EXIST WITHIN THE PROJECT CORRIDOR. CONTACT UTILITY OWNERS AND GET LOCATES PRIOR TO ANY EXCAVATION.
2. THE DEPTH OF EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON AVAILABLE INFORMATION FROM AS BUILT DRAWINGS AND ARE APPROXIMATE ONLY. DETERMINE ACTUAL DEPTH PRIOR TO INSTALLING NEW UTILITIES.
3. PROTECT, OR REMOVE AND REPLACE IN SAME LOCATION OR TO THE SIDE OF ROADWAY, EXISTING MARKER POSTS FOR UTILITIES THAT ARE DISTURBED DURING CONSTRUCTION. THIS IS SUBSIDIARY TO OTHER ITEMS OF WORK.
4. INSULATING PIPES, INLETS, MANHOLES, FITTINGS, APPURTENANCES AND CROSSING UTILITIES AS INDICATED ON THE PLANS WILL NOT BE MEASURED FOR PAYMENT. THIS WORK IS SUBSIDIARY TO ALL UTILITY AND STORM DRAIN INSTALLATIONS.
5. SEE INDIVIDUAL SHEETS FOR ADDITIONAL NOTES.

ABBREVIATIONS

ACS	ALASKA COMMUNICATION SYSTEMS
ADA	AMERICAN WITH DISABILITIES ACT
AVE	AVENUE
ATB	ASPHALT TREATED BASE
BLM	THE BUREAU OF LAND MANAGEMENT
BOP	BEGINNING OF PROJECT
BP	BEGIN POINT
BV	BUTTERFLY VALVE
℄, CL	CENTERLINE
C	CENTER
CB	CATCH BASIN
CGP	CONSTRUTION GENERAL PERMIT
CMP	CORRUGATED METAL PIPE
COM	COMMERCIAL
COMM	COMMUNICATIONS
CPM	CRITICAL PATH METHOD
CSP	CORRUGATED STEEL PIPE
DEMO	DEMOLITION
DIP	DUCTILE IRON PIPE
DOT	DEPARTMENT OF TRANSPORTATION
DNR	DEPARTMENT OF NATURAL RESOURCES
DRWY	DRIVEWAY
E	EASTING
EA	EACH
EG	EXISTING GROUND
ELEV, EL	ELEVATION
EOP	END OF PROJECT
EP	END POINT
EXPY, EXP	EXPRESSWAY
EXP	EXPANSION JOINT
EX	EXISTING
FG	FINISHED GRADE
FL	FLOW LINE
FM	FORCE MAIN
FNG	FAIRBANKS NATURAL GAS
FT	FEET
GALV	GALVANIZE
GB	GRADE BREAK
GCI	GENERAL COMMUNICATIONS INCORPORATED
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HMCP	HAZARDOUS MATERIAL CONTROL PLAN
INT	INTERSECTION
LHF	LEFT HAND FORWARD
LN	LANE
LT	LEFT
LVC	LENGTH VERTICAL CURVE
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MMA	METHYL METHACRYLATE
NO./#	NUMBER
N	NORTHING
NFL	NORMAL FLOW LINE
NTS	NOT TO SCALE
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
R	RADIUS
RES	RESIDENTIAL
REHAB	REHABILITATION
RHF	RIGHT HAND FORWARD
RD	ROAD
ROW, R/W, R.O.W.	RIGHT OF WAY
RP	RADIAL POINT
RT	RIGHT
SC	STRUCTURE CENTER
SD	STORM DRAIN
SDWK	SIDEWALK
SS	SANITARY SEWER
ST	STREET
STD	STANDARD
STA	STATION
SW	SIDEWALK
SWR	SEWER
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TBC	TOP OF BACK OF CURB
TCE	TEMPORARY CONSTRUCTION EASEMENT
TCP	TEMPORARY CONSTRUCTION PERMIT
THK	THICK
TOC	TOP OF CASTING
TYP	TYPICAL
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W/	WITH
W, WTR	WATER
WWM	WELDED WIRE MESH

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743–3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A–C\C0002cnst11147.01FB–Seg–1A–A3 Tue, May/30/17 10:07am

STATE OF ALASKA 49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

GENERAL NOTES

NO.	DATE	REVISION

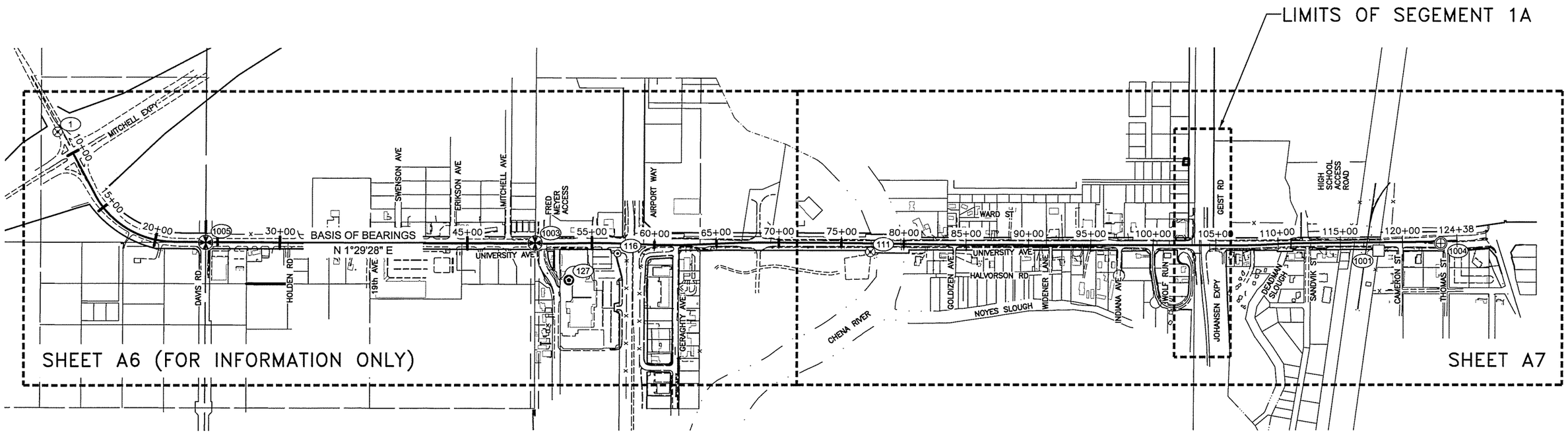
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	A4	A8

VICINITY MAP

STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C0003cnst111147.01FB-Seg-1A-A4 Sun, May/28/17 01:45pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/NFHWY00270	2017	A5	A8



NOTES:

1. FIELD WORK FOR THIS CONTROL SURVEY WAS CONDUCTED FROM AUGUST THROUGH NOVEMBER 2012.
2. THE BASIS OF HORIZONTAL COORDINATES IS PDC CONTROL POINT #1005, A 3 ½" ALUMINUM CAP STAMPED "RESET 2012 7621S" SET ON A 5/8" REBAR IN A CASING NEAR THE INTERSECTION OF UNIVERSITY AVENUE AND DAVIS ROAD. THIS MONUMENT MARKS THE POSITION OF THE ¼ CORNER COMMON TO SECTIONS 17 AND 18. IT IS ADOT POINT # 1 ON THE ADOT RECORD OF SURVEY "CONTROL DRAWING OF UNIVERSITY AVENUE 63213" STAMPED AND DATED 4/21/2010 AND RECORDED AS PLAT 2010–112 IN THE FAIRBANKS RECORDING DISTRICT. THE LOCAL PROJECT COORDINATES FOR POINT #1005 ARE 61,145.76 NORTH, 18,085.340 EAST, US FEET.
3. THE BASIS OF BEARING IS THE LINE BETWEEN THE BASIS OF COORDINATES (PDC POINT #1005) AND PDC POINT #1003, THE SECTION CORNER COMMON TO SECTIONS 7, 8, 17, AND 18, MARKED BY A 3 ½" ALUMINUM CAP ON A 5/8" REBAR STAMPED "RESET 2012, 7621S" IN A CASING NEAR THE INTERSECTION OF UNIVERSITY AVENUE AND REWAK DRIVE. THIS IS ADOT POINT #2 ON THE ADOT RECORD OF SURVEY "CONTROL DRAWING OF UNIVERSITY AVENUE 63213" STAMPED AND DATED 4/21/2010. THE LOCAL PROJECT BEARING IS N 1°29'28" E.
4. THIS PROJECT IS IN A LOCAL GROUND COORDINATE SYSTEM. UNITS ARE U.S. SURVEY FEET.
5. CONTROL MONUMENTS DEPICTED WITH POINT NUMBERS AND SHOWN IN THE CONTROL TABLES ARE LIMITED TO THOSE SURVEYED BY PDC, INC IN 2012. ALL OTHER MONUMENTS WERE SURVEYED BY R&M CONSULTANTS AND ADOT&PF AND ARE SHOWN GRAPHICALLY ON THESE SHEETS FOR INFORMATIONAL PURPOSES ONLY. CONTROL COORDINATES FOR R&M/ADOT&PF MONUMENTS ARE LISTED ON THE FOLLOWING DOCUMENTS: THE ADOT RECORD OF SURVEY "CONTROL DRAWING OF UNIVERSITY AVENUE 63213" STAMPED AND DATED 4/21/2010 AND RECORDED AS PLAT 2010–112 IN THE FAIRBANKS RECORDING DISTRICT, AND THE UNRECORDED RIGHT OF WAY MAP FOR THIS PROJECT, LAST REVISION DATE 8–9–2016, ON FILE AT THE ALASKA DEPARTMENT OF TRANSPORTATION.
6. THE BASIS OF ELEVATION IS ADOT BENCHMARK "NOYES", A 3 ¼" BRASS CAP MOUNTED ON THE TOP OF THE SOUTH WEST WING WALL IN THE NOYES SLOUGH BRIDGE NEAR THE JOHANSEN EXPRESSWAY. THE CAP IS STAMPED "SOA DOT/PF NOYES 1993 ELEV. 433.59 NAVD 1988".

LEGEND:

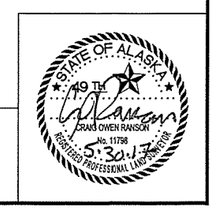
	RECOVERED	SET
BLM MONUMENT	✠	
GLO MONUMENT	✠	
USC&GS MONUMENT	⛬	
PRIMARY MONUMENT	✠	✠
CENTERLINE MONUMENT IN CASING	⊕	⊕
PRIMARY R.O.W. MONUMENT	⊕	◕
MISCELLANEOUS MONUMENT	⊗	
CONCRETE R.O.W. MONUMENT	□	
SURVEY PANEL POINT		
REBAR AND CAP	⊙	⊙
REBAR	⊕	●
IRON PIPE	●	
SPIKE		⊗

400 200 0 400 800 1200
SCALE IN FEET

CONTROL TABLE

POINT#	NORTHING	EASTING	STATION	OFFSET	DESCRIPTION
1	59979.81	17171.67	--	--	6" SPIKE SET THIS SURVEY
111	66468.05	18290.42	77+33.38	68.72'	6" SPIKE SET THIS SURVEY
116	64442.60	18254.44	57+08.26	81.64'	2" ALUMINUM CAP RECOVERED
127	64048.61	18458.69	53+10.32	294.26'	2" ALUMINUM CAP ON 5/8" REBAR SET THIS SURVEY
1001	70541.48	18377.83	118+06.37	67.21'	RECOVERED CONCRETE ROW MONUMENT
1003	63782.45	18153.97	50+43.20	-4.90'	3.25" ALUMINUM CAP IN CASING RECOVERED THIS SURVEY
1004	71042.43	18330.72	123+06.24	16.35'	2.5" BRASS CAP IN CASING RECOVERED THIS SURVEY
1005	61145.76	18085.34	24+05.56	3.95'	3.25" ALUMINUM CAP IN CASING RECOVERED THIS SURVEY

THE MONUMENTS IN THIS TABLE ARE LIMITED TO THOSE SURVEYED BY PDC, INC. ALL OTHER MONUMENTS DEPICTED ON THESE SHEETS WERE SURVEYED BY R&M CONSULTANTS AND ADOT&PF AND ARE SHOWN GRAPHICALLY FOR INFORMATIONAL PURPOSES ONLY. SEE NOTE 5.

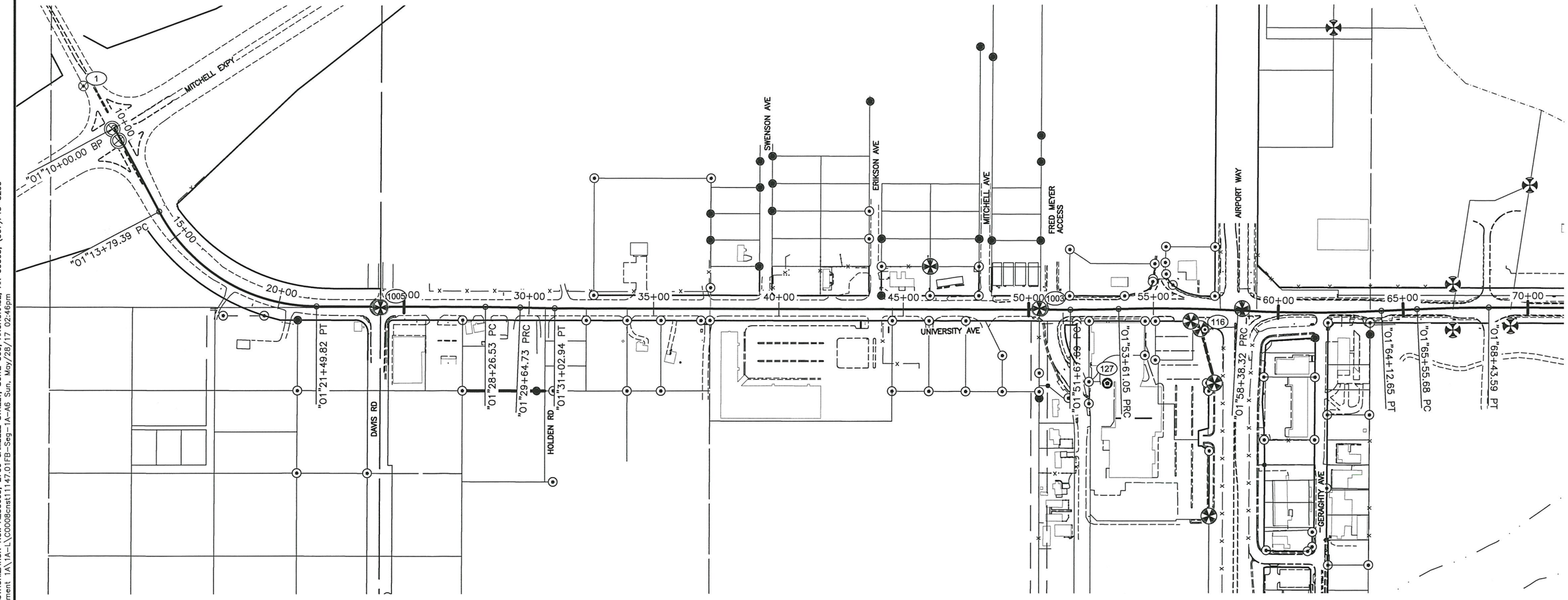


SURVEY CONTROL

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-L\C0008cnst11147.01FB-Seg-1A-A5 Sun, May/28/17 02:46pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	A6	A8



200 100 0 200 400 600
SCALE IN FEET

FOR INFORMATION ONLY,
SEE SHEET A7 FOR SEG 1A

SURVEY CONTROL
(1 OF 2)

STATE OF ALASKA
49 TH
CRAIG OWEN RANSOM
No. 11798
5-30-17
REGISTERED PROFESSIONAL LAND SURVEYOR

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-L\C0008cnst111147.01FB-Seg-1A-A6 Sun, May/28/17 02:46pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	A7	A8

LIMITS OF SEGEMENT 1A

DO NOT DISTURB

DO NOT DISTURB

DO NOT DISTURB DURING SEGMENT 1A

2 PRIMARY MONUMENTS LIKELY TO BE REPLACED DURING SEGMENT 1A.

DO NOT DISTURB

CHENA RIVER

WARD ST

GEIST RD

HIGH SCHOOL ACCESS ROAD

75+00 80+00 85+00 90+00 95+00 100+00 105+00 110+00 115+00 120+00 124+38

111

1001

1004

"01"74+74.68 PI

"01"84+40.83 PI

"01"107+40.99 PC

"01"109+68.35 PRC

"01"111+62.80 PT

"01"121+97.49 PI

"01"124+37.81 EP

GOLDIZEN AVE

HALVORSON RD

NOYES SLOUGH

WIDENER LANE

INDIANA AVE

WOLF RUN

DEADMAN SLOUGH

SANDVIK ST

CAMERON ST

THOMAS ST

JOHANSEN EXPY

200 100 0 200 400 600

SCALE IN FEET

SURVEY CONTROL
(2 OF 2)

STATE OF ALASKA
49TH
CRAIG OWEN RANSON
No. 11798
REGISTERED PROFESSIONAL LAND SURVEYOR
5.30.17

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
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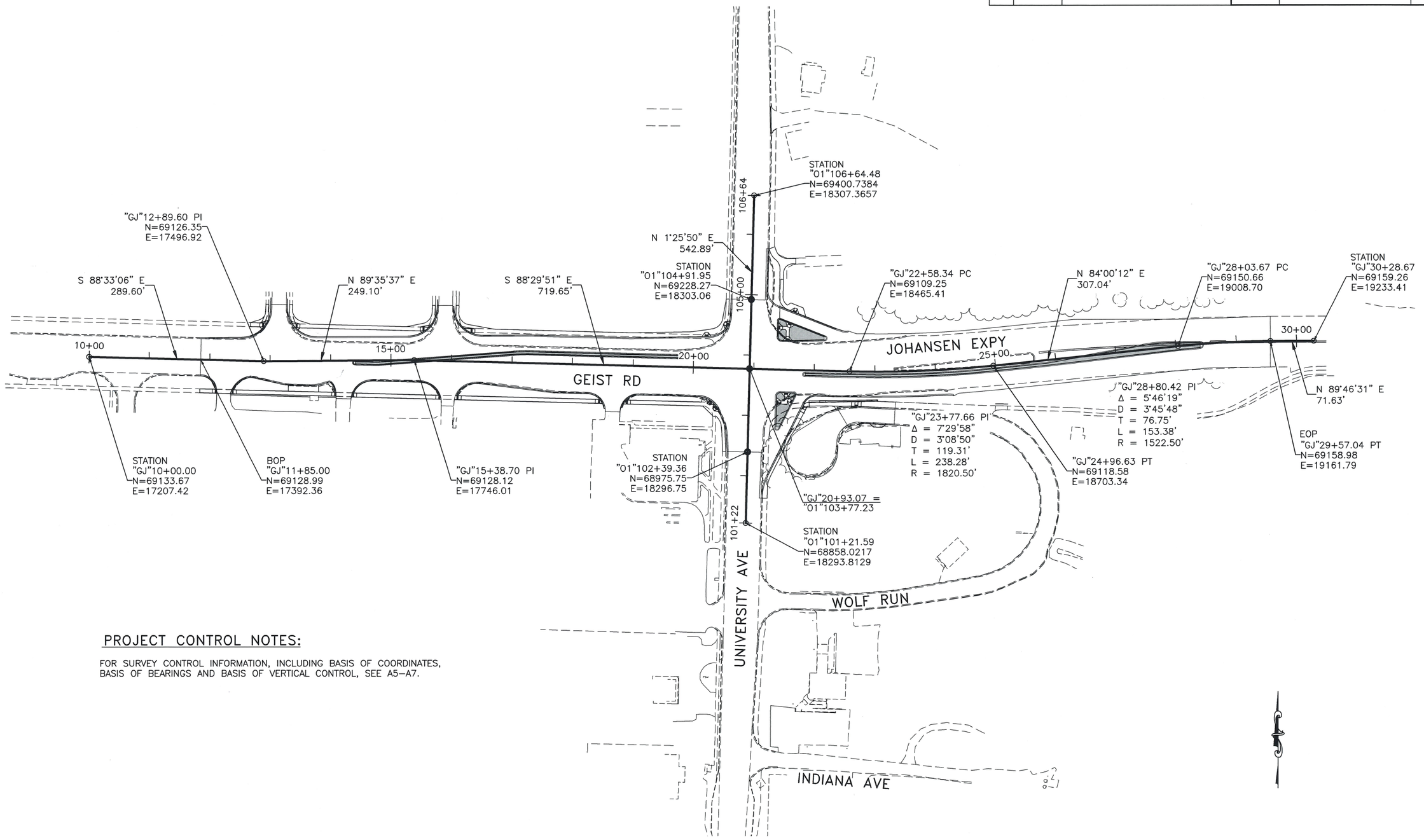
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2018	A8	A8



PROJECT CONTROL NOTES:

FOR SURVEY CONTROL INFORMATION, INCLUDING BASIS OF COORDINATES, BASIS OF BEARINGS AND BASIS OF VERTICAL CONTROL, SEE A5–A7.

ALIGNMENT DESIGNATION

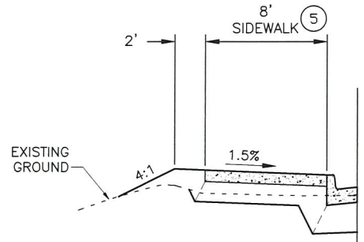
"01"	UNIVERSITY AVENUE
"GJ"	GEIST ROAD / JOHANSEN EXPY

ALIGNMENT CONTROL PLAN

STATE OF ALASKA
49 TH
Heather D. Estabrook
12-15-17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

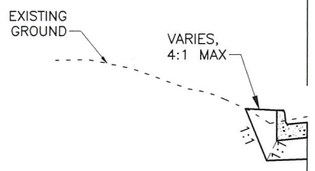
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	B1	B3



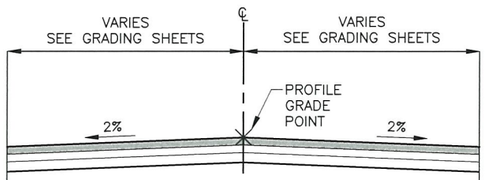
SIDEWALK

"GJ" 16+20 TO "GJ" 20+12



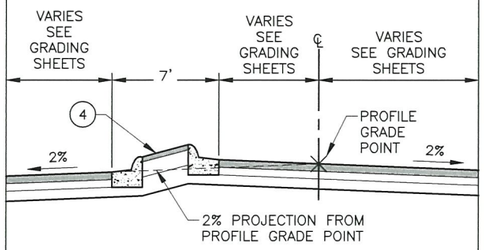
NO SIDEWALK TYPICAL

"GJ" 11+85 TO "GJ" 12+75



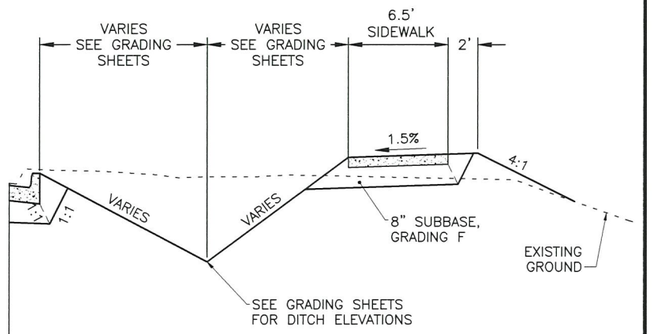
NO RAISED MEDIAN

"GJ" 11+85 TO "GJ" 14+37



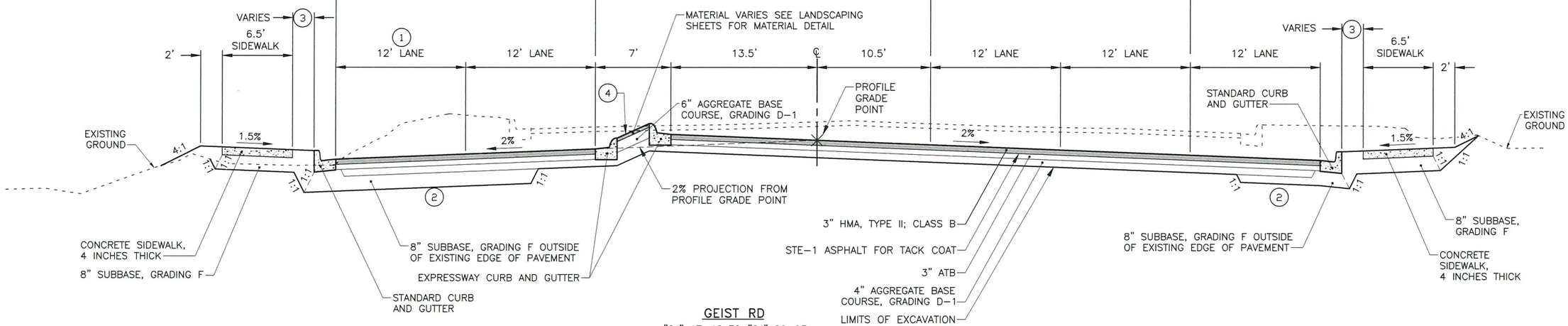
TRANSITION MEDIAN

"GJ" 14+37 TO "GJ" 17+18



DITCH

"GJ" 11+85 TO "GJ" 17+73



SIDEWALK TYPICAL

"GJ" 12+75 TO "GJ" 19+98

GEIST RD

"GJ" 17+18 TO "GJ" 20+93

RIGHT TURN LANE

"GJ" 17+73 TO "GJ" 20+09

(1) WIDTH VARIES BETWEEN 18+97 AND 19+98, SEE GRADING SHEETS.

(2) IF SILT IS ENCOUNTERED, OVEREXCAVATE AND PLACE GEOTEXTILE, STABILIZATION AT THE BOTTOM OF THE EXCAVATION AS DIRECTED BY THE ENGINEER. MAXIMUM DEPTH FOR OVEREXCAVATION SHOULD BE 30".

(3) SEE GRADING SHEETS G1, G2, AND G3 FOR LAYOUT INFORMATION.

(4) MEDIAN SLOPE VARIES. CONTROLLED BY MEDIAN WIDTH AND HORIZONTAL LOCATION OF MEDIAN WITH RESPECT TO CL

(5) SIDEWALK WIDTH VARIES BETWEEN 16+31 AND 17+29, SEE GRADING SHEETS.

6 ALL DISTURBED GROUND NOT TO BE COVERED IN ASPHALT, CONCRETE OR LANDSCAPING MATERIAL SHALL BE SEEDED.

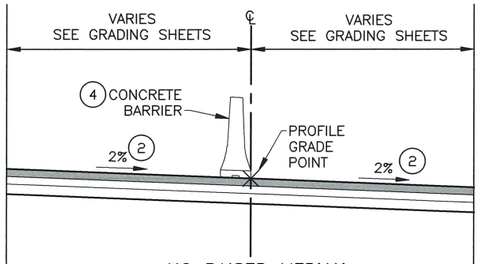
7 PROOFROLL AND COMPACT BELOW SUBBASE, GRADING F MATERIAL. SEE SPEC SECTION 203-3.06.

8 BETWEEN 19+98 TO 22+58 FOLLOW LAYOUT AND CONTROL SHOWN ON SHEETS F3-F4 / G3-G4. SAME PAVEMENT SECTION APPLIES THROUGH THE INTERSECTION.

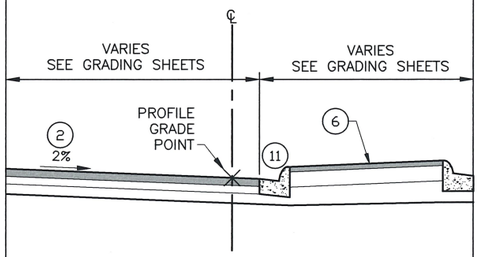
TYPICAL SECTIONS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C0004cnst11147.01FB-Seg-1A-B1 Tue, May/30/17 12:12pm

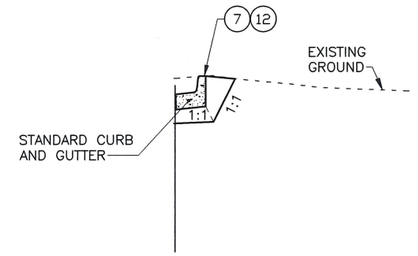
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/NFHWY00270	2018	B2	B3



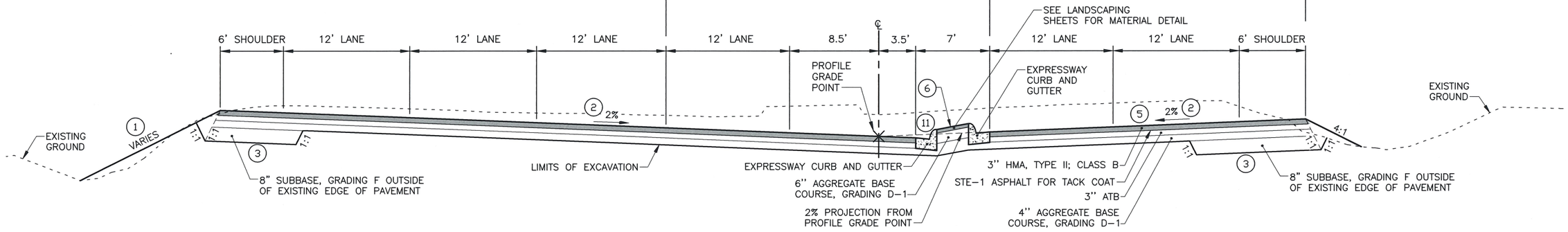
NO RAISED MEDIAN
"GJ" 28+50 TO "GJ" 29+57



MEDIAN WIDENING
"GJ" 25+85 TO "GJ" 28+50



CURB RT
"GJ" 22+20 TO "GJ" 24+18



JOHANSEN EXPY
"GJ" 20+93 TO "GJ" 25+85

NO CURBING
"GJ" 24+18 TO "GJ" 29+57

(1) SLOPE TO MATCH INTO BOTTOM OF EXISTING DITCH, 2:1 MAX. SEE GRADING PLAN FOR DITCH CONTROL.

(2) SEE SHEET G4 FOR SUPERELEVATION INFORMATION.

(3) IF SILT IS ENCOUNTERED, OVEREXCAVATE AND PLACE GEOTEXTILE, STABILIZATION AT THE BOTTOM OF THE EXCAVATION AS DIRECTED BY THE ENGINEER. MAXIMUM DEPTH FOR OVEREXCAVATION SHOULD BE 30".

(4) THE CONCRETE BARRIER LOCATION VARIES IN DISTANCE TO THE CENTERLINE. SEE GRADING SHEET G5 FOR LAYOUT INFORMATION.

(5) SEE GRADING SHEETS FOR CONTROL INFORMATION TO WARP TO MATCHING EXISTING CROSS SLOPE BETWEEN STA 28+40 AND EOP.

(6) MEDIAN SLOPE VARIES. CONTROLLED BY MEDIAN WIDTH AND HORIZONTAL LOCATION OF MEDIAN WITH RESPECT TO CL.

(7) SEE SHEET B3 WOLF RUN TYPICAL SECTION DEPICTING PROPOSED SIDEWALK.

8. ALL DISTURBED GROUND NOT TO BE COVERED IN ASPHALT, CONCRETE OR LANDSCAPING MATERIAL SHALL BE SEEDED.

9. PROOFROLL AND COMPACT BELOW SUBBASE, GRADING F MATERIAL. SEE SPEC SECTION 203-3.06.

10. AT UNIVERSITY AND JOHANSEN INTERSECTION SEE PLAN SHEETS AND GRADING SHEETS FOR RIGHT TURN LANE AND ISLAND LAYOUT.

(11) THE WESTBOUND LANE MEDIAN IS SPILL CURB AND GUTTER AND WILL ADJUST TO CATCH CURB AND GUTTER DURING THE SUPERELEVATION TRANSITION AS SHOWN ON SHEET G4 IN THE SUPERELEVATION TABLE. THE WESTBOUND LANE MEDIAN CURB AND GUTTER WILL REMAIN AS CATCH CURB AND GUTTER UNTIL THE END OF THE MEDIAN AS SHOWN ON THESE TYPICALS AND THE PLANS. WHEN THE WESTBOUND ROAD CROSS GRADE TRANSITIONS BETWEEN -0.5% TO 0.5% THE MEDIAN SHALL HAVE A CATCH CURB AND GUTTER TO ENSURE FLOW IS DIRECTED TO THE STORM DRAIN CATCH BASIN WITHIN THE MEDIAN.

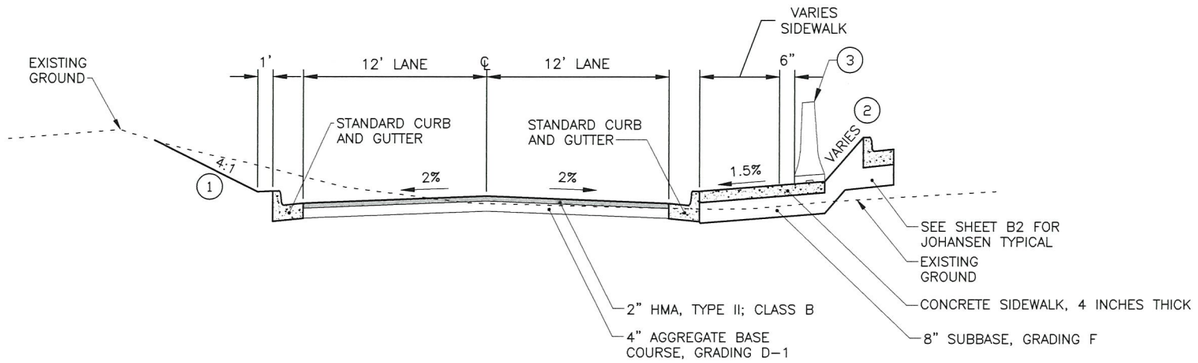
(12) THE CURB RIGHT IS A CATCH CURB AND GUTTER AND WILL REMAIN AS SUCH THROUGHOUT SUPERELEVATION TRANSITION UNTIL THE ROADWAY CROSS GRADE IS GREATER THAN 0.5%. IT WILL THEN TRANSITION TO A SPILL CURB AND GUTTER UNTIL THE END STATION SHOWN ON TYPICALS. FOR SUPERELEVATION TRANSITION INFORMATION SEE THE SUPERELEVATION TABLE ON GRADING SHEET G4.

TYPICAL SECTIONS

STATE OF ALASKA
49 TH
Heather D. Estabrook
12-15-17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C0004cnst111147.01FB-Seg-1A-B2 Fri, Dec/15/17 11:01am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/NFHWY00270	2017	B3	B3



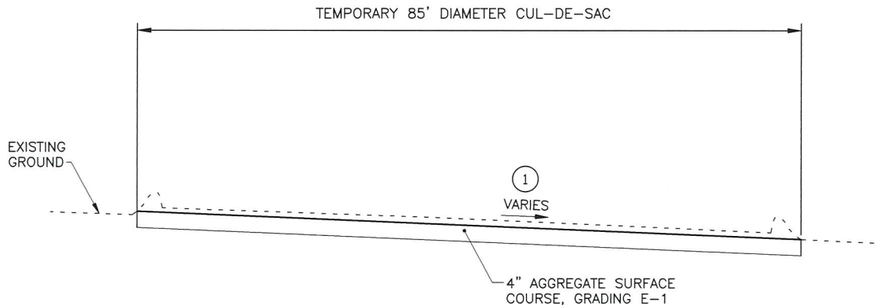
WOLF RUN

CONTROL POINT 410/411 TO CONTROL POINT 356

(1) MAINTAIN CUT/FILL SLOPES WITHIN THE ROW.

(2) GRADE VARIES WARP SLOPE BETWEEN BACK OF BARRIER AND TOP BACK OF CURB.

(3) FOR CONCRETE BARRIER LAYOUT INFORMATION, SEE GRADING SHEETS G3 – G4.



TEMPORARY WOLF RUN CUL-DE-SAC

CONTROL POINT 356 TO THE END OF THE CUL-DE-SAC

(1) SEE GRADING SHEETS G3 AND G4 FOR LAYOUT AND MORE INFORMATION.

SHEET NOTES

1. FOR CONTROL POINT INFORMATION SEE GRADING SHEETS G3 AND G4.
2. ALL DISTURBED GROUND NOT TO BE CONVERED IN ASPHALT, CONCRETE, AGGREGATE SURFACE COURSE OR LANDSCAPING MATERIAL SHALL BE SEEDED.
3. PROOFROLL AND COMPACT BELOW SUBBASE, GRADING F MATERIAL. SEE SPEC SECTION 203-3.06.

TYPICAL SECTIONS

STATE OF ALASKA 49 TH Heather D. Estabrook 5/30/17 CE-11130 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C0004cnst11147.01FB-Seg-1A-B3 Tue, May/30/17 12:27pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2018	C1	C2

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	PAY UNIT	QUANTITY
201(1B)	CLEARING	LUMP SUM	ALL REQUIRED
201(2A)	GRUBBING	ACRE	1.50
202(1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQUIRED
202(10)	SINGLE MAILBOX INSTALLATION	EACH	1
202(103)	REMOVAL OF PAVEMENT	LUMP SUM	ALL REQUIRED
202(104)	REMOVAL OF SIDEWALK	LUMP SUM	ALL REQUIRED
202(106)	REMOVAL OF CURB AND GUTTER	LUMP SUM	ALL REQUIRED
203(100)	UNCLASSIFIED EXCAVATION	LUMP SUM	ALL REQUIRED
203(111)	ADDITIONAL EXCAVATION	CUBIC YARD	8,100
301(1)	AGGREGATE BASE COURSE, GRADING D-1	TON	4,000
301(3)	AGGREGATE SURFACE COURSE, GRADING E-1	TON	181
304(1)	SUBBASE, GRADING F	TON	3,700
306(1)	ATB	TON	2,950
306(102)	ASPHALT BINDER, GRADE PG 52-28	TON	133
401(1)	HMA, TYPE II; CLASS B	TON	3,100
401(4)	ASPHALT BINDER, GRADE PG 52-40	TON	171
401(8)	HMA PRICE ADJUSTMENT, TYPE II; CLASS B	CONTINGENT SUM	ALL REQUIRED
401(15)	ASPHALT MATERIAL PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
402(1)	STE-1 ASPHALT FOR TACK COAT	TON	5.80
603(1)-18	18 INCH CSP	LINEAR FOOT	215
603(1)-24	24 INCH CSP	LINEAR FOOT	98
603(20)-18	END SECTION FOR 18 INCH PIPE	EACH	8
603(20)-24	END SECTION FOR 24 INCH PIPE	EACH	4
603(21)-12	12 INCH CORRUGATED POLYETHYLENE PIPE	LINEAR FOOT	102
603(21)-18	18 INCH CORRUGATED POLYETHYLENE PIPE	LINEAR FOOT	194
603(21)-24	24 INCH CORRUGATED POLYETHYLENE PIPE	LINEAR FOOT	198
604(3)	RECONSTRUCT EXISTING MANHOLE	EACH	3
604(4)	ADJUST EXISTING MANHOLE	EACH	2
604(5)	INLET, TYPE A	EACH	7
606(108)	CRASH CUSHION	EACH	1
606(199)	FURNISH CRASH CUSHION	CONTINGENT SUM	ALL REQUIRED
607(4)	RECONSTRUCTED FENCE	LINEAR FOOT	20
608(2)	ASPHALT SIDEWALK	TON	20
608(6)	CURB RAMP	EACH	25
608(101)	COLORED TEXTURED CONCRETE, 4 INCHES THICK	SQUARE YARD	588
608(111)	CONCRETE SIDEWALK, 4 INCHES THICK	LUMP SUM	ALL REQUIRED
608(112)	CONCRETE SIDEWALK, 6 INCHES THICK	LUMP SUM	ALL REQUIRED
609(101)	CURB DRAIN	EACH	9
609(102)	CURB AND GUTTER, TYPE 1	LUMP SUM	ALL REQUIRED
609(103)	ASPHALT CURB	LUMP SUM	ALL REQUIRED
611(102)	RIPRAP, CLASS I	LUMP SUM	ALL REQUIRED
614(1)	CONCRETE BARRIER	LINEAR FOOT	170.5
615(1)	STANDARD SIGN	SQUARE FOOT	459
615(6)	SALVAGE SIGN	EACH	39

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	PAY UNIT	QUANTITY
618(2)	SEEDING	POUND	162
627(1)-14	14-INCH DUCTILE IRON WATER CONDUIT, CLASS 350	LINEAR FOOT	322
627(1)-16	16-INCH DUCTILE IRON WATER CONDUIT, CLASS 350	LINEAR FOOT	30
627(5)	FIRE HYDRANT INSTALLATION	EACH	1
627(7)	FIRE HYDRANT REMOVAL	EACH	1
627(8)	WATER SERVICE CONNECTION	EACH	1
627(109)	CASING EXTENSION, CMP 24 INCH	LINEAR FOOT	16
627(110)	INSTALL BUTTERFLY VALVE 14-INCH	EACH	1
627(199)	FURNISH WATER LINE MATERIALS	CONTINGENT SUM	ALL REQUIRED
630(2)	GEOTEXTILE, STABILIZATION	SQUARE YARD	1,150
631(2)	GEOTEXTILE, EROSION CONTROL, CLASS 1	SQUARE YARD	5
639(101)	APPROACH	EACH	9
640(1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
641(1)	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED
641(3)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LUMP SUM	ALL REQUIRED
641(4)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL ADDITIVES	CONTINGENT SUM	ALL REQUIRED
641(6)	WITHHOLDING	CONTINGENT SUM	ALL REQUIRED
641(7)	SWPPP MANAGER	LUMP SUM	ALL REQUIRED
642(1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
642(3)	THREE PERSON SURVEY PARTY	HOUR	26
642(4)	SET PRIMARY MONUMENT	EACH	2
642(10)	MONUMENT CASE	EACH	2
643(2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
643(3)	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQUIRED
643(23)	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
643(25)	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQUIRED
643(102)	ROAD CLOSURE	LUMP SUM	ALL REQUIRED
643(117)	PUBLIC INFORMATION	LUMP SUM	ALL REQUIRED
644(1)	FIELD OFFICE	LUMP SUM	ALL REQUIRED
644(6)	VEHICLES	LUMP SUM	ALL REQUIRED
646(1)	CPM SCHEDULING	LUMP SUM	ALL REQUIRED

ESTIMATE OF QUANTITIES

PLANS DEVELOPED BY: PDC INC. ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C0005cnst11147.01FB-Seg-1A-C1 Fri, Jan/12/18 08:33am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/NFHWY00270	2018	C2	C2

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	PAY UNIT	QUANTITY
660(1)	TRAFFIC SIGNAL SYSTEM COMPLETE	LUMP SUM	ALL REQUIRED
660(3)	HIGHWAY LIGHTING SYSTEM COMPLETE	LUMP SUM	ALL REQUIRED
660(7)	TEMPORARY SIGNAL SYSTEM COMPLETE, UNIVERSITY/GEIST/JOHANSEN	LUMP SUM	ALL REQUIRED
660(199)	FURNISH TRAFFIC SIGNAL AND HIGHWAY LIGHTING COMPONENTS	CONTINGENT SUM	ALL REQUIRED
661(1)	LOAD CENTER, TYPE 1	EACH	2
661(199)	FURNISH LOAD CENTER, TYPE 1	CONTINGENT SUM	ALL REQUIRED
662(109)	FIBER OPTIC INTERCONNECT, NEW CONDUIT	LINEAR FOOT	1,025
662(110)	FIBER OPTIC VAULT, TYPE 1	EACH	1
662(112)	FIBER OPTIC MANHOLE	EACH	3
665(101)	TELECOMMUNICATIONS UTILITY RELOCATION, ACS	LUMP SUM	ALL REQUIRED
665(102)	TELECOMMUNICATIONS VAULT, DUCT BANK AND CONDUIT SYSTEM	LUMP SUM	ALL REQUIRED
670(1)	PAINTED TRAFFIC MARKINGS	LUMP SUM	ALL REQURIED

ESTIMATING FACTORS

ITEM NUMBER	ITEM	FACTOR
301(1)	AGGREGATE BASE COURSE, GRADING D-1	1.96 TONS/CUBIC YARD
301(3)	AGGREGATE SURFACE COURSE, GRADING E-1	1.96 TONS/CUBIC YARD
304(1)	SUBBASE, GRADING F	2 TONS/CUBIC YARD
306(1)	ATB	1.96 TONS/CUBIC YARD
306(102)	ASPHALT BINDER, GRADE PG 52-28	4.5%/TON
401(1)	HMA, TYPE II; CLASS B	1.96 TONS/CUBIC YARD
401(4)	ASPHALT BINDER, GRADE PG 52-40	5.5%/TON
402(1)	STE-1 ASPHALT FOR TACK COAT	0.0003 TONS/SQUARE YARD
608(2)	ASPHALT SIDEWALK	1.96 TONS/CUBIC YARD
618(2)	SEEDING	4.0 LBS/1,000 SQUARE FEET

NOTES

1. SEE SIGNING AND STRIPING SHEETS H1-H11 FOR SIGNING AND STRIPING SUMMARY SHEETS.

ESTIMATED LUMP SUM QUANTITIES

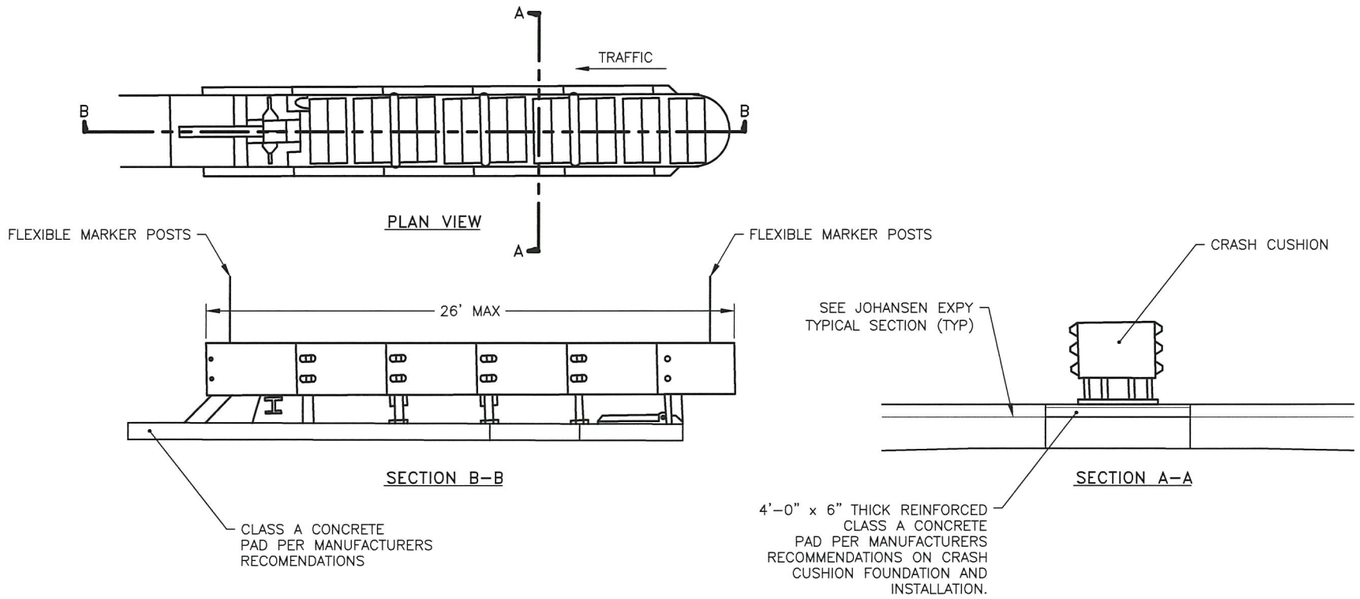
ITEM NUMBER	ITEM	QUANTITY
201(1B)	CLEARING	0.10 ACRES
202(1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	
	LIGHT POLE	13 EACH
	LIGHTING CONDUIT	2,420 LINEAR FOOT
	SD PIPE	485 LINEAR FOOT
	SD STRUCTURE	6 EACH
	WATER VALVE	1 EACH
	WATER PIPE	424 LINEAR FOOT
	CONCRETE BARRIER	455 LINEAR FOOT
	CRASH CUSHION	1 EACH
	FENCE	20 LINEAR FOOT
	CULVERT PIPE	277 LINEAR FOOT
	MAILBOX	1 EACH
	TRAFFIC SIGNAL	4 EACH
	TRAFFIC SIGNAL STRUCTURE	9 EACH
	LOAD CENTER	2 EACH
202(103)	REMOVAL OF PAVEMENT	20,410 SQUARE YARD
202(104)	REMOVAL OF SIDEWALK	1,085 SQUARE YARD
202(106)	REMOVAL OF CURB AND GUTTER	3,185 LINEAR FOOT
203(100)	UNCLASSIFIED EXCAVATION	8,000 CUBIC YARD
608(111)	CONCRETE SIDEWALK, 4 INCHES THICK	1,435 SQUARE YARD
608(112)	CONCRETE SIDEWALK, 6 INCHES THICK	450 SQUARE YARD
609(102)	CURB AND GUTTER, TYPE 1	5,130 LINEAR FOOT
609(103)	ASPHALT CURB	415 LINEAR FOOT
611(102)	RIPRAP, CLASS 1	3 CUBIC YARD

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C0005cnst11147.01FB-Seg-1A-C2 Fri, Jan/12/18 08:47am

STATE OF ALASKA 49TH Heather D. Estabrook 1-19-18 CE-11130 REGISTERED PROFESSIONAL ENGINEER

ESTIMATE OF QUANTITIES

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/NFHWY00270	2017	E1	E7



CRASH CUSHION DETAIL

NOTES:

1. FOR CRASH CUSHION INFORMATION SEE SPEC SECTION 606 IN ADDITION TO THE MANUFACTURERS RECOMMENDATIONS AND FINAL APPROVAL BY THE PROJECT ENGINEER.
2. TAPERED END SECTIONS ARE SUBSIDIARY TO PAY ITEM 614(1) CONCRETE BARRIER AND ARE INCLUDED IN THE CONRETE BARRIER LENGTH.
3. INSTALL FLEXIBLE MARKER POSTS ON EACH END OF THE CRASH CUSHION AND REFER TO SPEC SECTION 606 FOR MATERIAL AND INSTALLATION INSTRUCTIONS.

202(10) SINGLE MAIL BOX INSTALLATION

ALIGNMENT	STATION	OFFSET (FT)	QUANTITY (EACH)	REMARKS
"GJ"	22+80.20	87.08 RT	1	WOLF RUN
PAY ITEM TOTALS			1	

606(108) CRASH CUSHION

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (EACH)	REMARKS
"GJ"	28+56.21	28+83.18	CENTER	1	ATTACHED TO CONCRETE BARRIER
PAY ITEM TOTALS				1	

614(1) CONCRETE BARRIER

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (LINEAR FOOT)	TAPERED END SECTION (EACH)	REMARKS
"GJ"	22+10.25	23+04.45	50' RT	95.50	2	RT SIDE OF JOHANSEN EXPY
"GJ"	28+82.10	29+57.04	CENTER	75.00	0	CENTER OF JOHANSEN EXPY
PAY ITEM TOTALS				170.50	4	

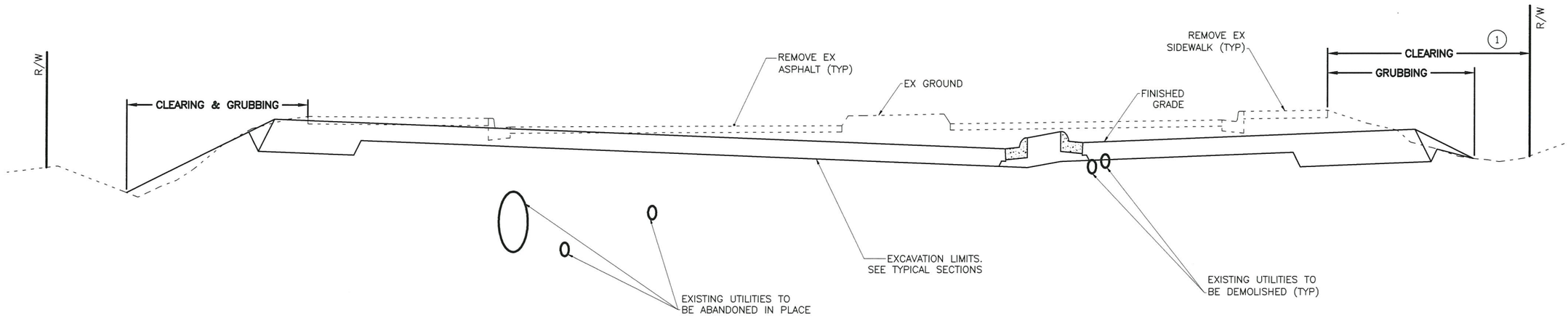
STATE OF ALASKA
49 TH
Heather D Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1001cnst11147.01FB-Seg-1A-E1 Sun, May/28/17 07:08pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	E2	E7



ROADWAY DEMOLITION TYPICAL

DEMOLITION INDEX: FOR SHEETS E3–E7.

HAND CLEARING

CLEARING

GRUBBING

REMOVAL OF PAVEMENT, CONCRETE, CURB & GUTTER

SANITARY SEWER DEMO

WATER DEMO

STORM DRAIN DEMO

TELECOMMUNICATIONS DEMO

LIGHTING DEMO

FORCE MAIN DEMO

CULVERT DEMO

STRUCTURE DEMO

FENCE DEMO

GUARDRAIL DEMO

BUS SHELTER DEMO

GUY ANCHOR DEMO

SIGN DEMO

MAILBOX DEMO

GENERAL DEMOLITION NOTES:

1. GRUBBING EXTENDS FROM EDGE OF EXISTING SIDEWALK TO CUT/FILL LIMIT. CLEARING TO OCCUR IN AREAS WHERE TREES/SHRUBBERY ARE WITHIN THE CUT/FILL LIMITS. CLEAR TO THE ROW WHERE DEPICTED ON THE DEMO PLANS. DO NOT CLEAR BEYOND THE ROW.
2. ALL UTILITIES MUST BE TEMPORARILY OR PERMANENTLY RELOCATED PRIOR TO DEMOLITION. SEE SPECIFICATIONS FOR ALLOWABLE OUTAGES AND OTHER REQUIREMENTS.
3. SUPPORT AND PROTECT OTHER UNDERGROUND UTILITIES, CONDUITS, AND STRUCTURES WHICH ARE NOT SCHEDULED FOR DEMOLITION OR ABANDONMENT.
4. ABANDON IN PLACE EXISTING UNDERGROUND UTILITIES WHICH ARE NOT BEING INCORPORATED INTO NEW SYSTEMS UNLESS THEY ARE IN CONFLICT WITH THE INSTALLATION OF A NEW UNDERGROUND UTILITY SYSTEM. CRUSH OR CAP PIPE ENDS OF UTILITIES TO BE ABANDONED WITHIN THE STRUCTURAL SECTIONS WITH 12" NON SHRINK GROUT TO PREVENT UNDERMINING OF THE ROADWAY STRUCTURE.
5. REMOVE PORTIONS OF ABANDONED UNDERGROUND UTILITIES THAT ARE IN CONFLICT WITH THE INSTALLATION OF NEW UNDERGROUND UTILITY SYSTEMS WITHIN 4' OF CROSSING OR WITHIN THE EXCAVATION LIMITS SHOWN FOR STRUCTURAL SECTION OF THE ROADWAY (DEFINED AS THE ROADWAY TYPICAL SECTION).

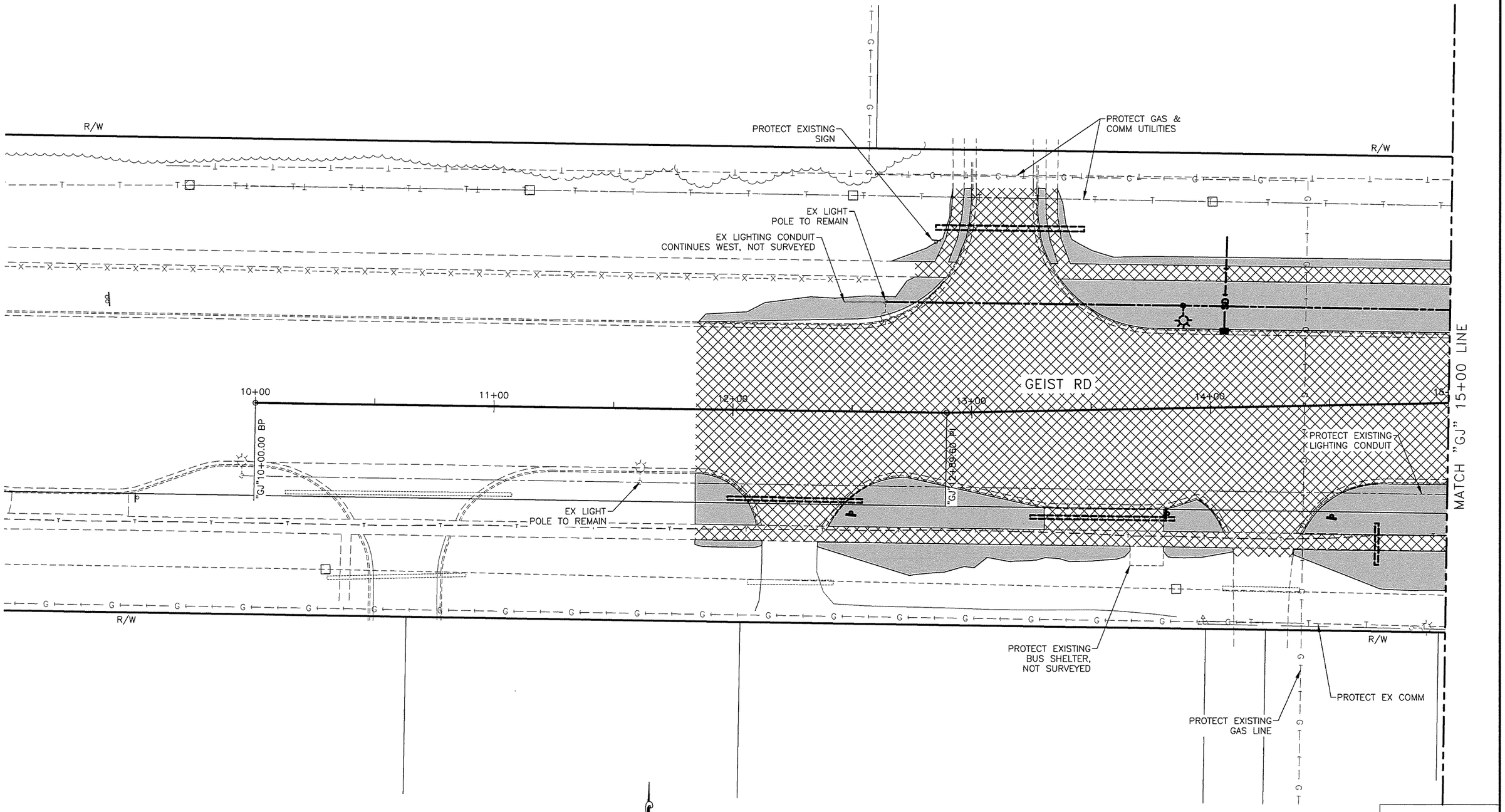
STATE OF ALASKA 49TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

DEMOLITION PLAN

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC; CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2017\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1001cnst11147.01FB-Seg-1A-E2 Tue, May/30/17 08:40am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	E3	E7



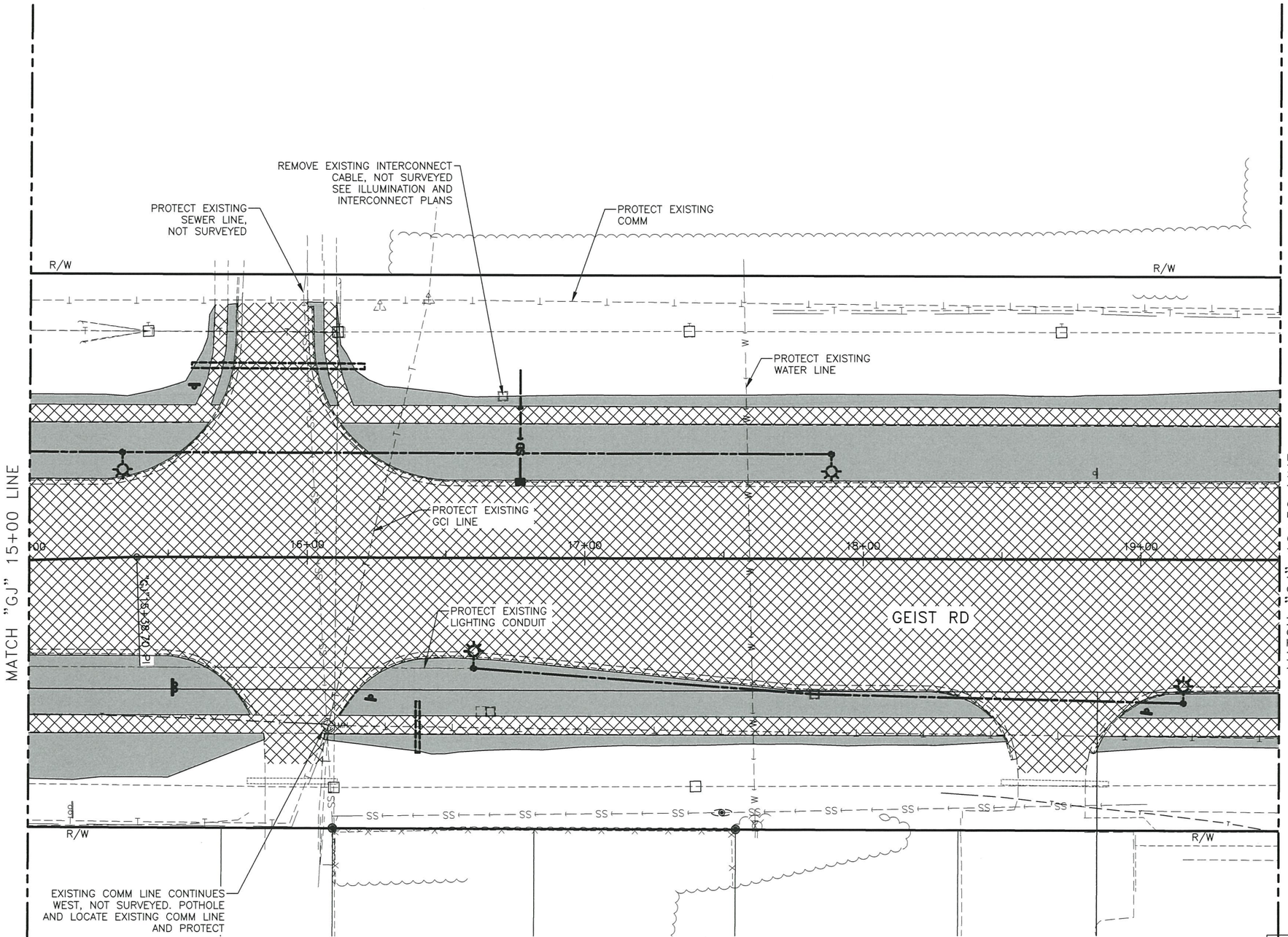
GEIST RD DEMOLITION PLAN (1 OF 5)

STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1001cnst11147.01FB-Seg-1A-E3 Sun, May/28/17 07:08pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	E4	E7



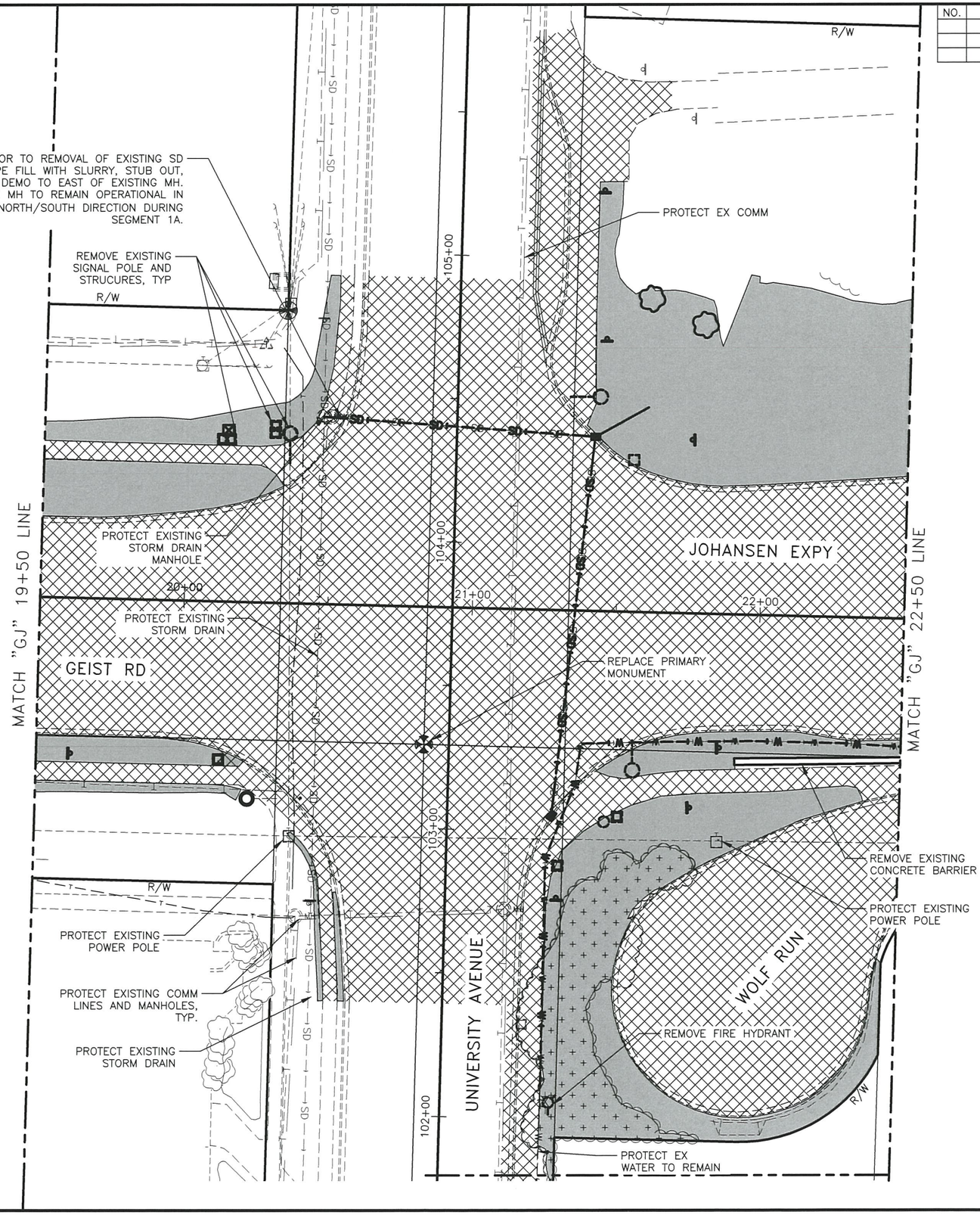
GEIST RD DEMOLITION PLAN (2 OF 5)

STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1001cnst111147.01FB-Seg-1A-E4 Sun, May/28/17 07:08pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	E5	E7



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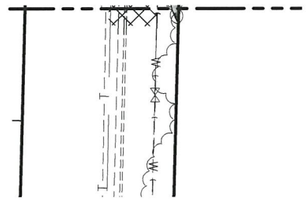
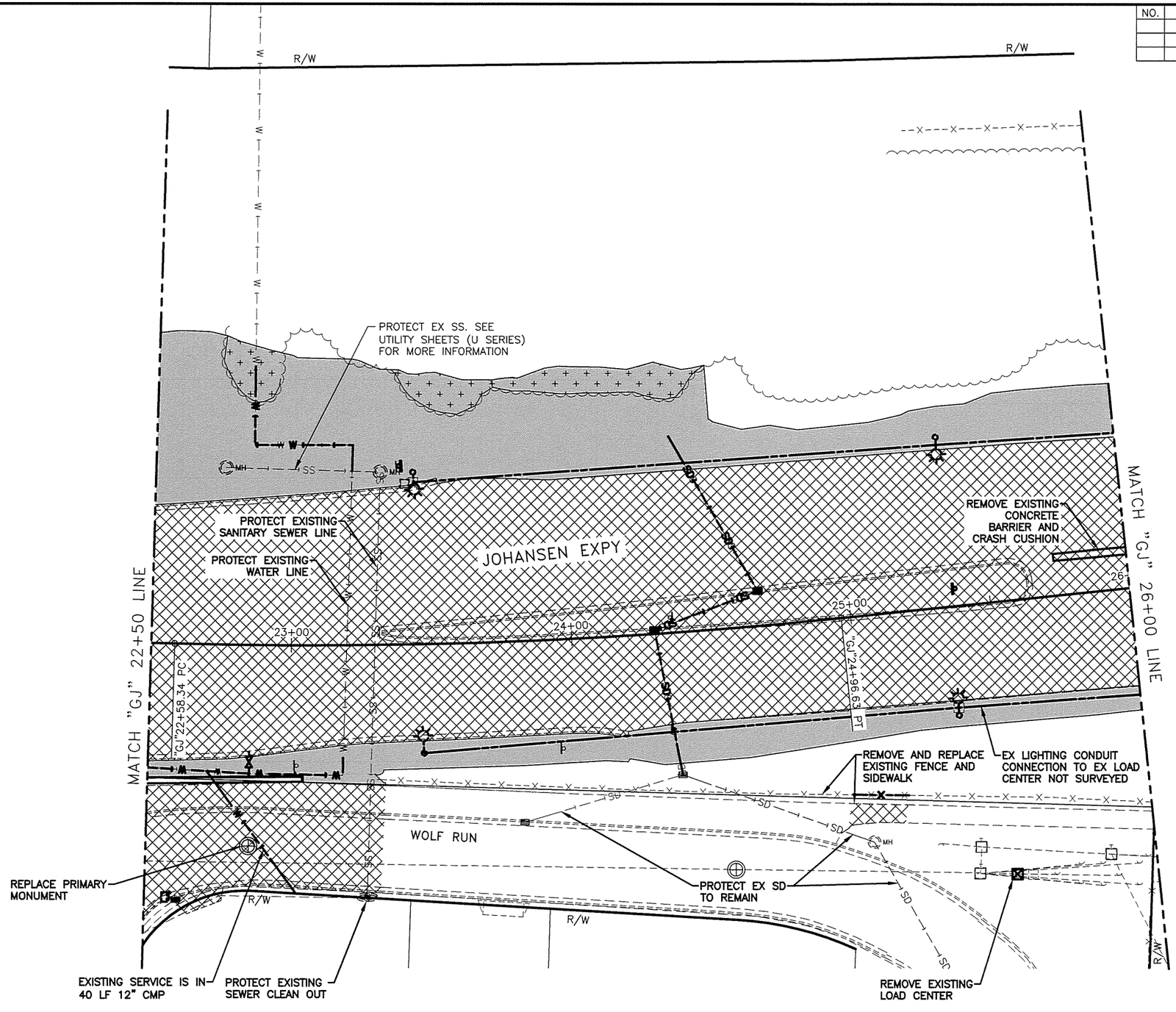


GEIST RD & JOHANSEN EXPY DEMOLITION PLAN (3 OF 5)

STATE OF ALASKA 49TH
Heather D Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1001cnst11147.01FB-Seg-1A-E5 Sun, May/28/17 07:08pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/NFHWY00270	2017	E6	E7



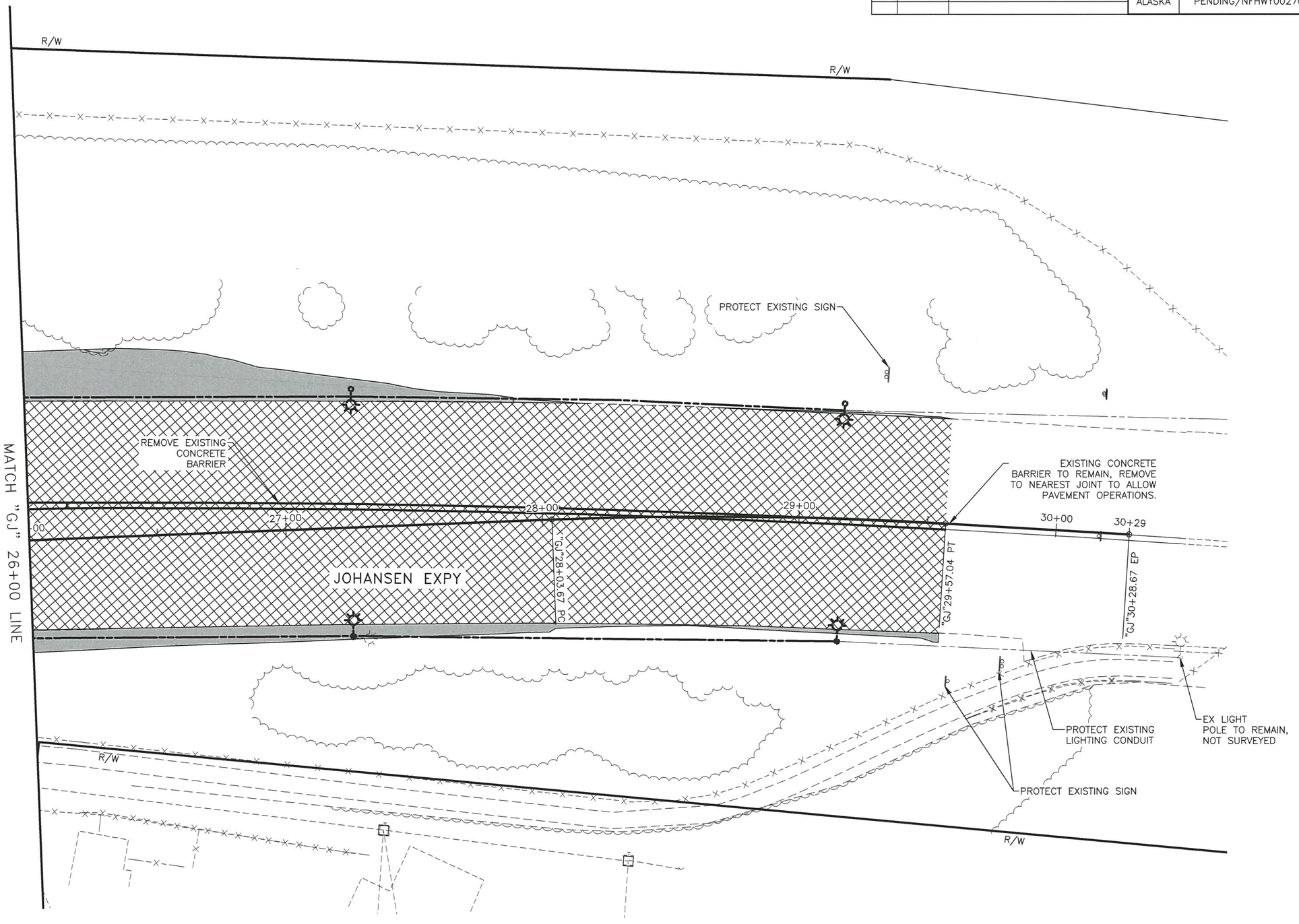
JOHANSEN EXPY
DEMOLITION PLAN (4 OF 5)

STATE OF ALASKA
49TH
Heather D. Ecteabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1001cnst111147.01FB-Seg-1A-E6 Tue, May/30/17 03:53pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	E7	E7



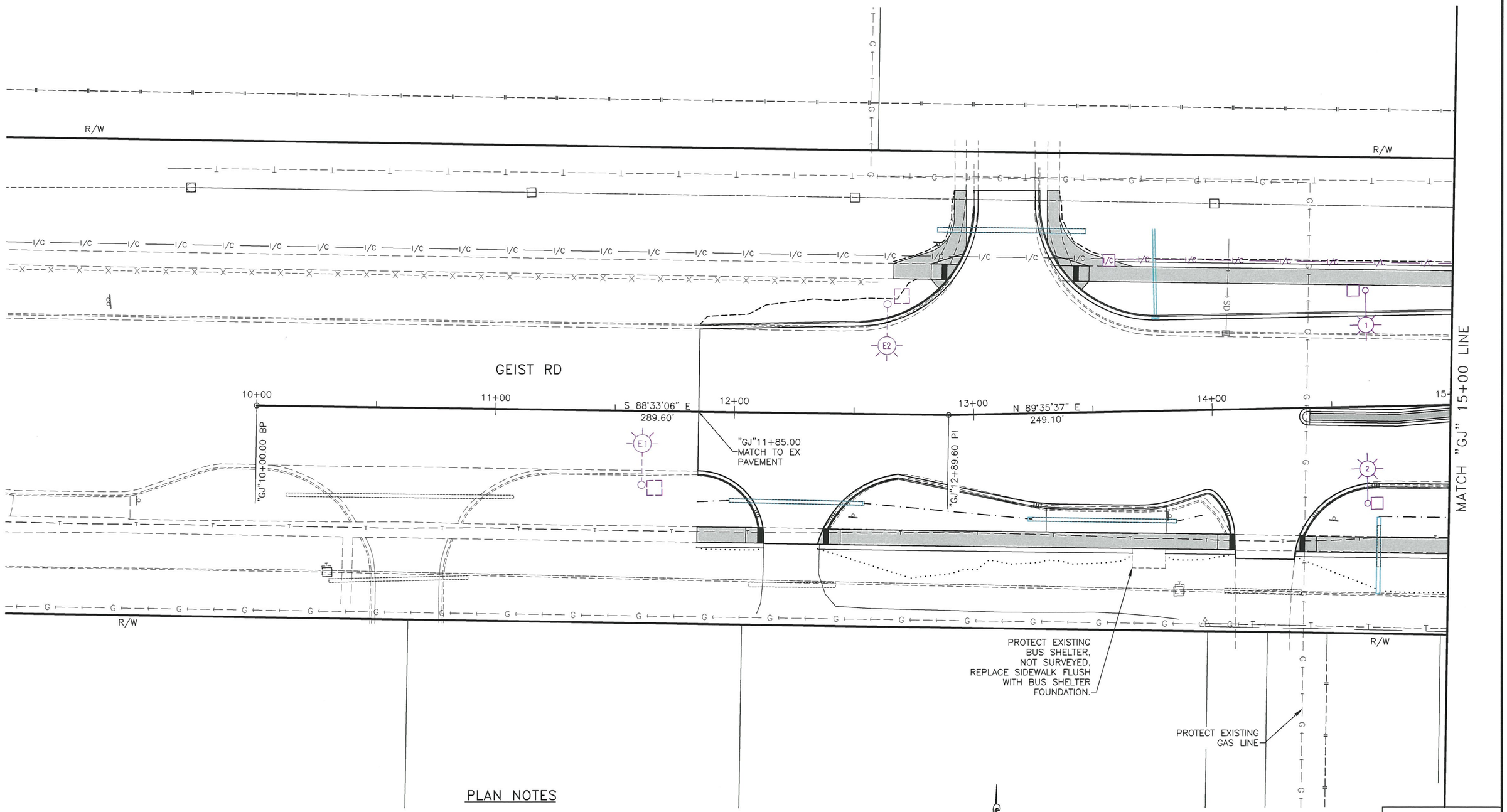
JOHANSEN EXPY
DEMOLITION PLAN (5 OF 5)

STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1001cnst111147.01FB-Seg-1A-E7 Sun, May/28/17 07:09pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	F1	F8



PLAN NOTES

1. SEE U1 – U2 FOR STORM DRAIN RELOCATION.
2. SEE U3 – U4 FOR WATER AND SEWER RELOCATION.
3. SEE U5 FOR ACS DUCT BANK RELOCATION.
4. SEE G1 – G7 FOR GRADING PLAN.
5. SEE L1 – L4 FOR LANDSCAPING PLAN

GEIST RD PLAN (1 OF 5)

STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
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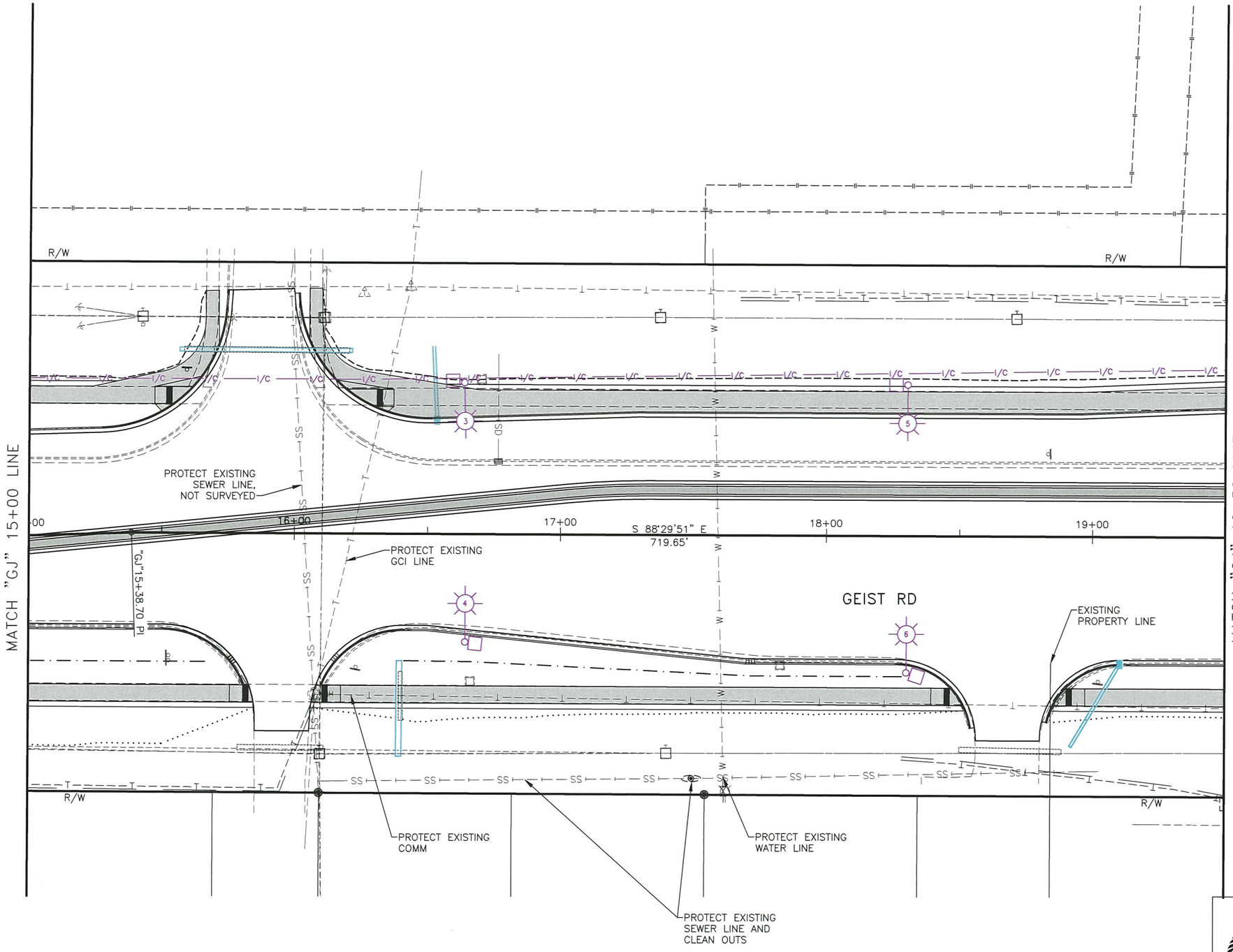
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	F2	F8



GEIST RD PLAN (2 OF 5)

STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	F3	F8

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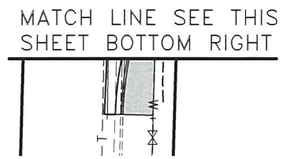

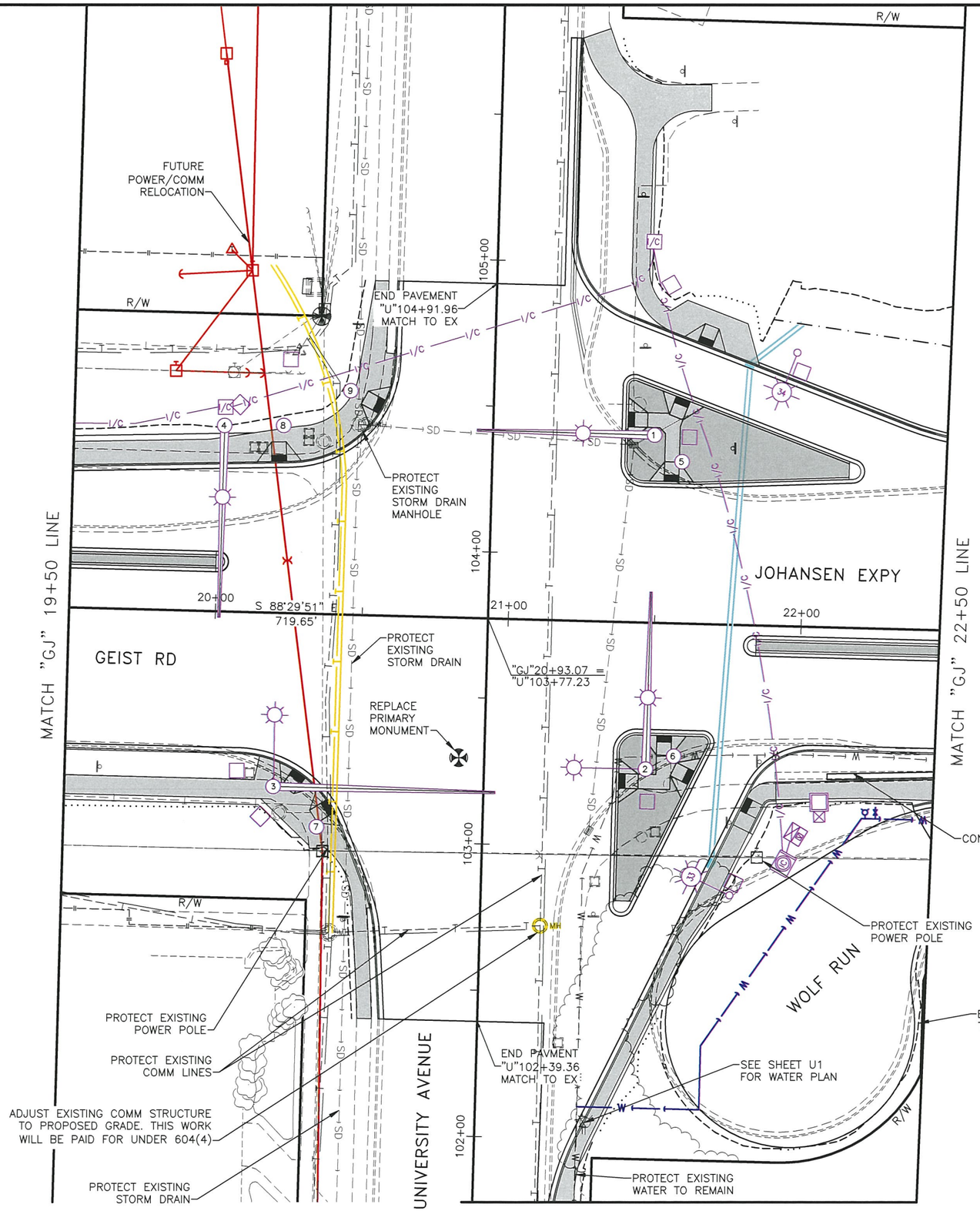

GEIST RD & JOHANSEN EXPY PLAN (3 OF 5)

STATE OF ALASKA 49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
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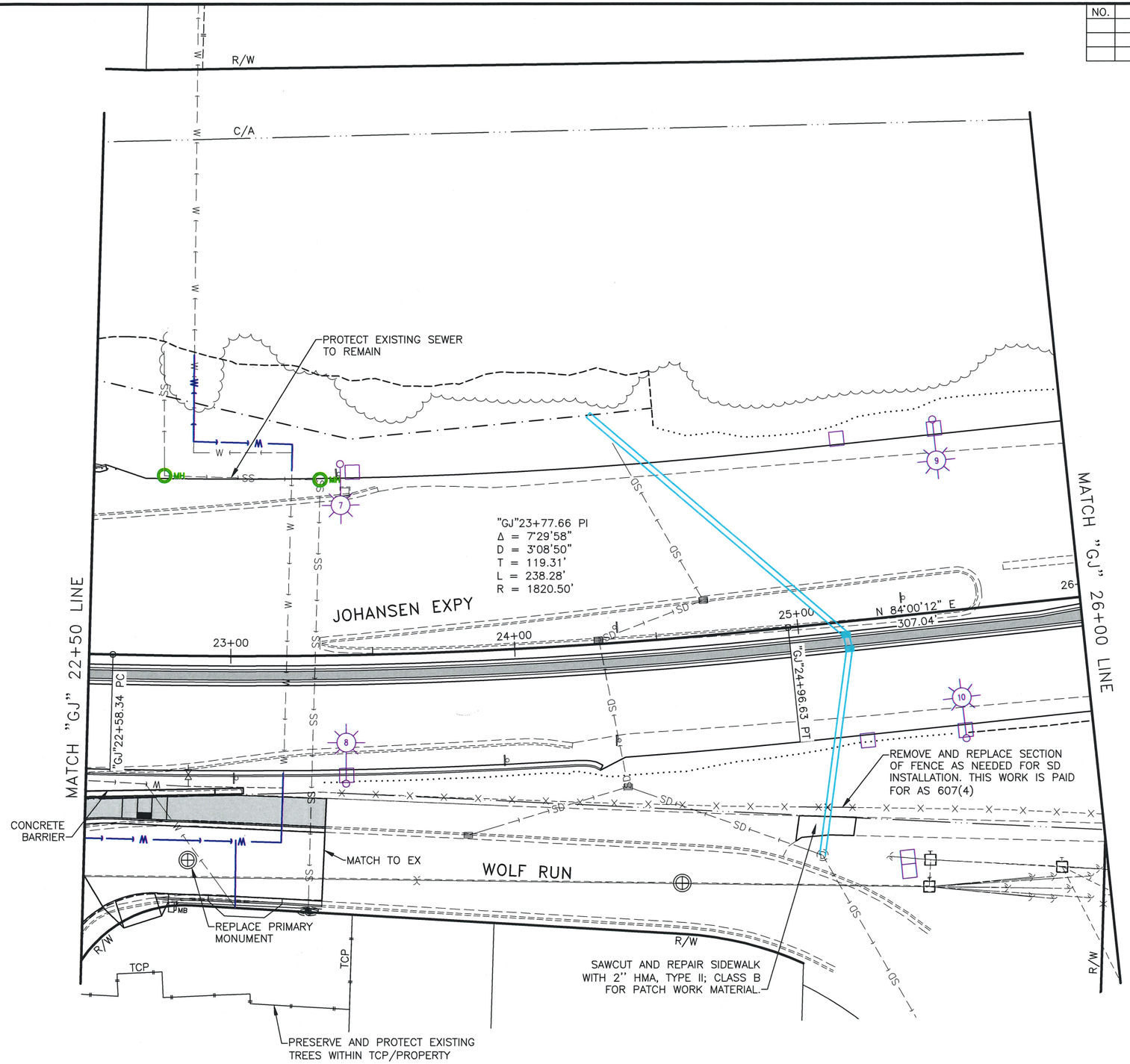
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2018	F4	F8

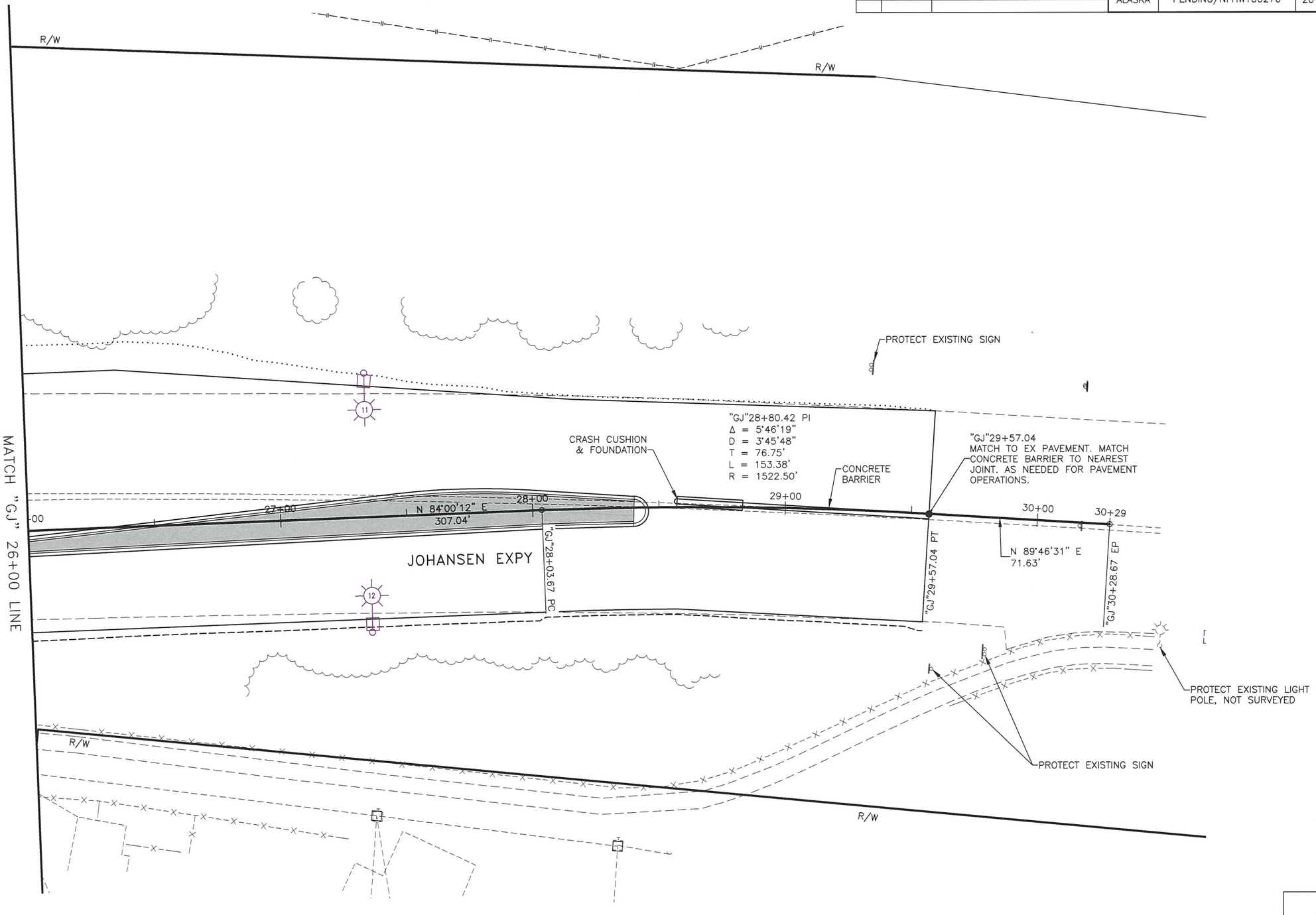


JOHANSEN EXPY PLAN (4 OF 5)

STATE OF ALASKA 49TH
Heather D. Eshbrook
12-15-17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	F5	F8



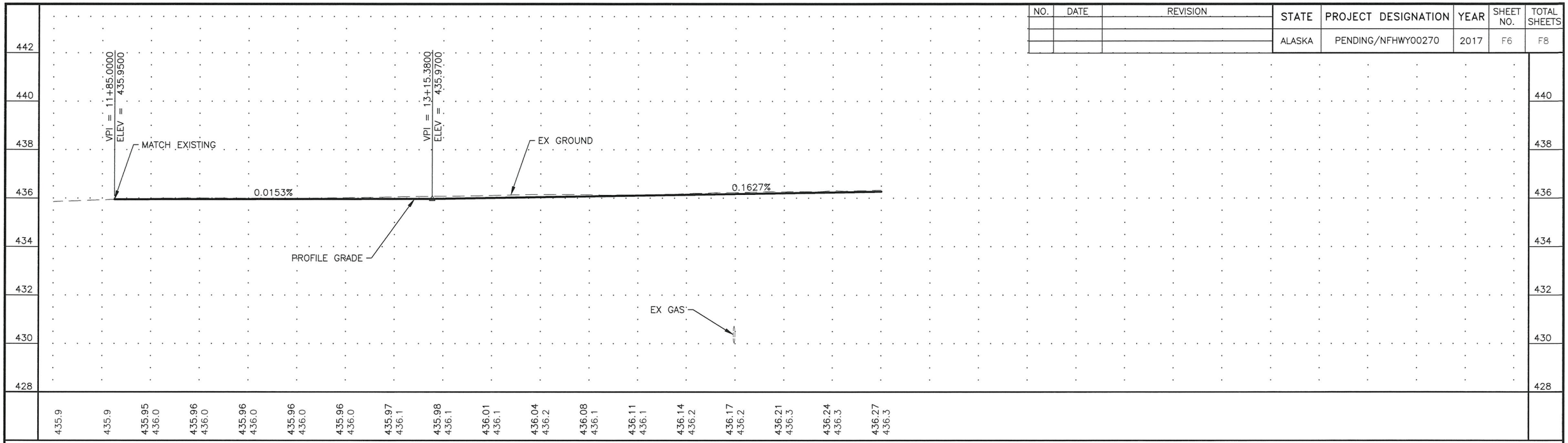
JOHANSEN EXPY PLAN
(5 OF 5)

STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

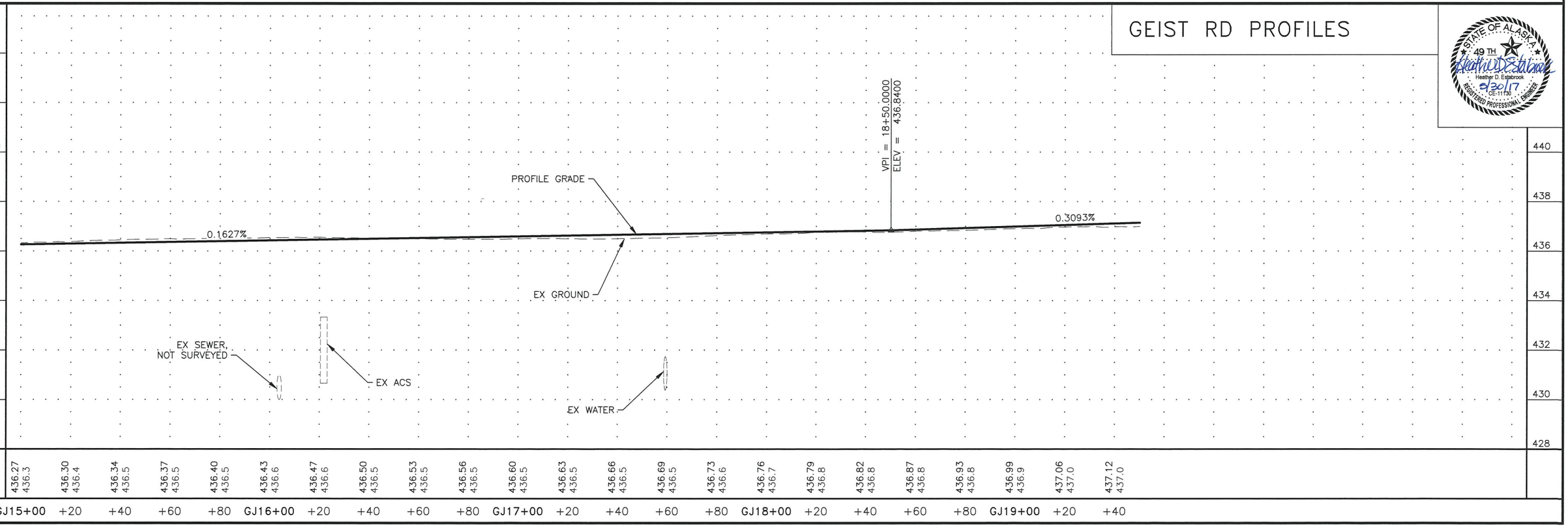
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1002cnst111147.01FB-Seg-1A-F5 Sun, May/28/17 06:05pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	F6	F8



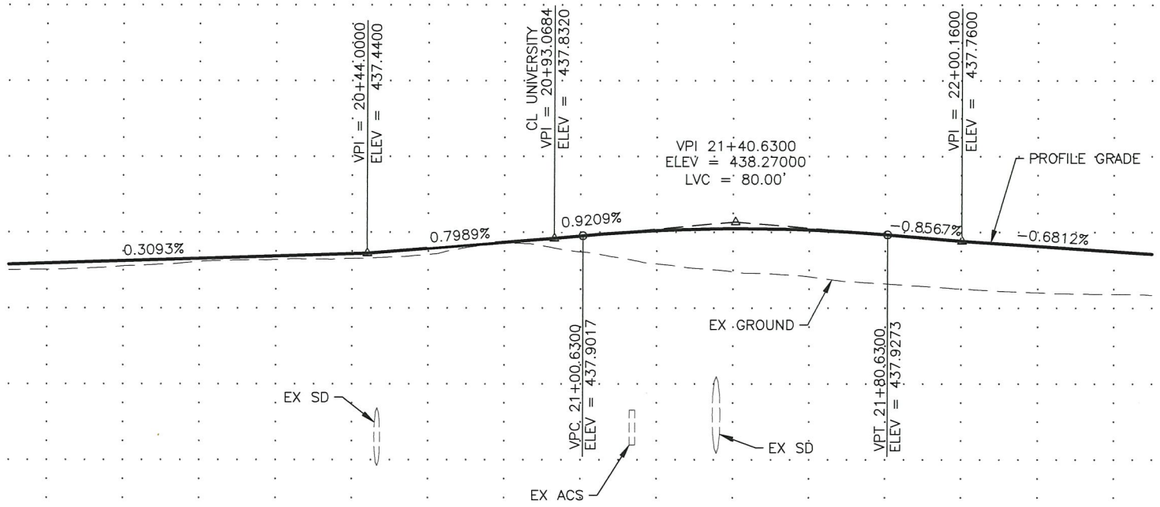
GEIST RD PROFILES



STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11730
REGISTERED PROFESSIONAL ENGINEER

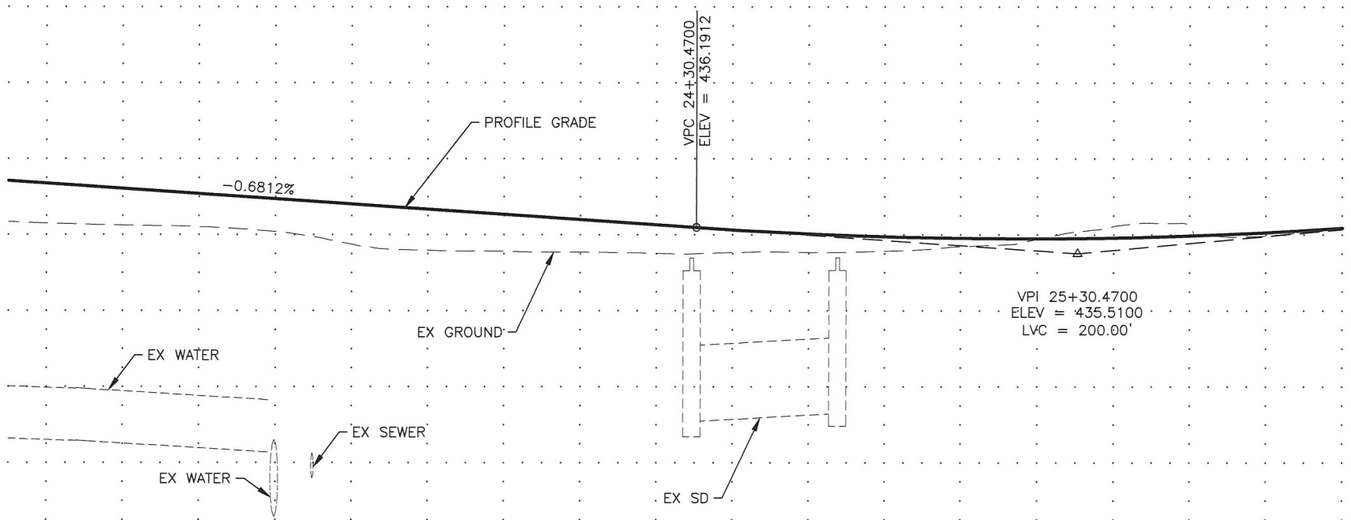
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/NFHWY00270	2017	F7	F8

GEIST RD & JOHANSEN EXPY INTERSECTION PROFILE



437.15 437.0	437.18 437.0	437.24 437.1	437.30 437.2	437.37 437.3	437.43 437.3	437.57 437.4	437.73 437.7	437.90 437.5	438.04 437.2	438.09 437.0	438.06 436.8	437.93 436.6	437.76 436.5	437.62 436.4	437.49 436.4	
19+50	60	+80	GJ20+00	+20	+40	+60	+80	GJ21+00	+20	+40	+60	+80	GJ22+00	+20	+40	

JOHANSEN EXPY PROFILE



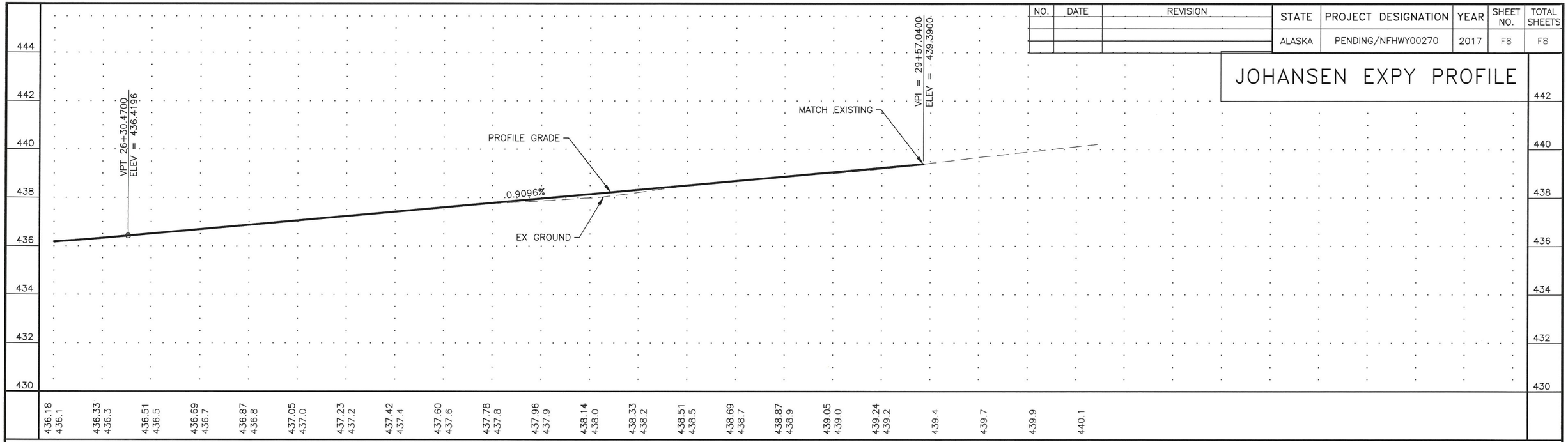
437.44 436.3	437.35 436.3	437.22 436.3	437.08 436.2	436.94 436.1	436.81 435.8	436.67 435.6	436.53 435.6	436.40 435.5	436.26 435.5	436.13 435.5	436.02 435.5	435.95 435.6	435.91 435.7	435.90 435.9	435.92 436.2	435.98 436.2	436.06 436.0	436.18 436.1
2+50	60	+80	GJ23+00	+20	+40	+60	+80	GJ24+00	+20	+40	+60	+80	GJ25+00	+20	+40	+60	+80	GJ26+00

STATE OF ALASKA 49TH Heather D. Estabrook 5/30/17 CE-11130 REGISTERED PROFESSIONAL ENGINEER

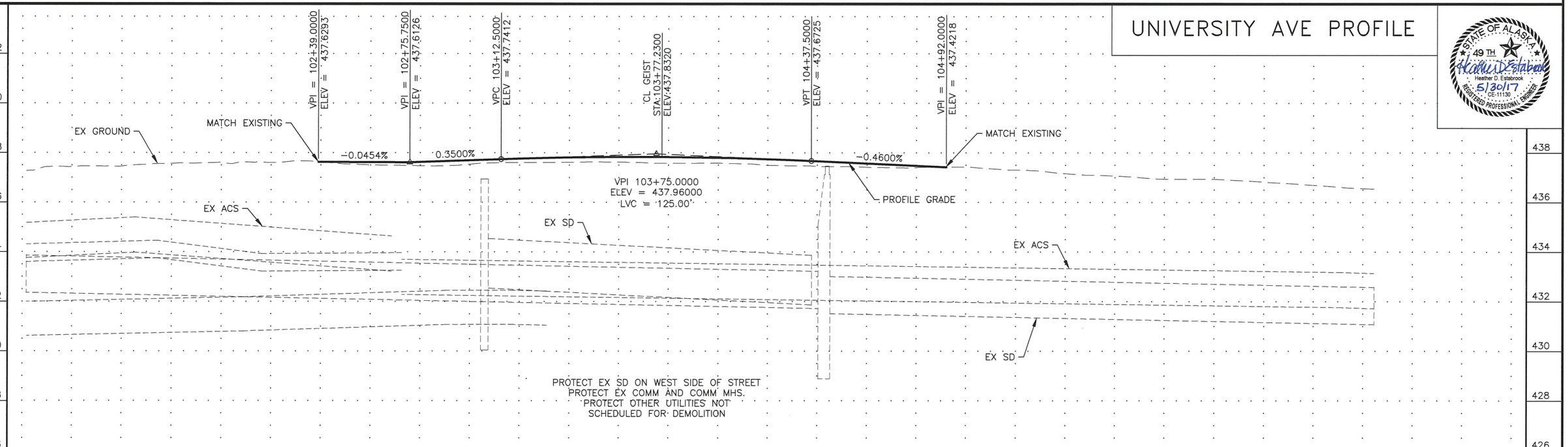
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	F8	F8

JOHANSEN EXPY PROFILE



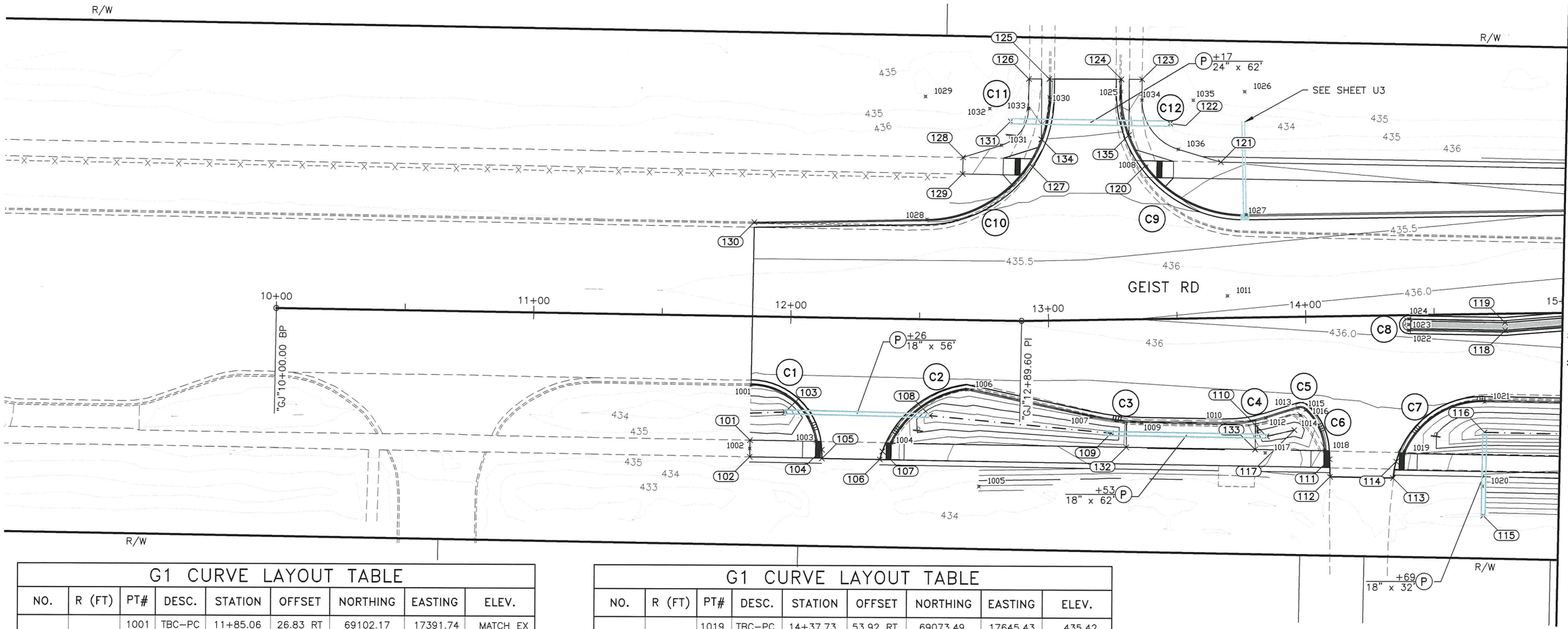
UNIVERSITY AVE PROFILE



STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	G1	G14



G1 CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C1	26	1001	TBC–PC	11+85.06	26.83 RT	69102.17	17391.74	MATCH EX
		1002	TBC–RP	11+85.00	51.58 RT	69077.43	17391.05	--
		1003	TBC–PT	12+10.67	48.33 LT	69080.03	17416.80	435.26
C2	38	1004	TBC–PC	12+39.99	48.58 RT	69079.04	17446.10	435.43
		1005	TBC–RP	12+74.40	64.83 RT	69061.92	17480.09	--
		1006	TBC–PT	12+68.94	27.22 RT	69099.66	17475.58	435.85
C3	100	1007	TBC–PC	13+16.10	37.77 RT	69088.77	17523.69	435.64
		1008	TBC–RP	13+38.87	59.60 LT	69186.30	17545.77	--
		1009	TBC–PT	13+35.63	40.34 RT	69086.33	17543.24	435.63
C4	50	1010	TBC–PC	13+68.12	41.40 RT	69085.51	17575.74	435.66
		1011	TBC–RP	13+69.74	8.58 LT	69135.50	17577.00	--
		1012	TBC–PT	13+84.01	39.34 RT	69087.68	17591.61	435.72
C5	3	1013	TBC–PT	13+96.58	35.60 RT	69091.51	17604.15	435.82
		1014	TBC–RP	13+97.44	38.48 RT	69088.64	17605.03	--
		1015	TBC–PC	13+99.51	36.31 RT	69090.82	17607.09	435.81
C6	23	1016	TBC–PC	13+99.51	36.31 RT	69090.82	17607.09	435.81
		1017	TBC–RP	13+83.58	52.90 RT	69074.11	17591.28	--
		1018	TBC–PT	14+06.58	52.40 RT	69074.78	17614.27	435.40

G1 CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C7	33	1019	TBC–PC	14+37.73	53.92 RT	69073.49	17645.43	435.42
		1020	TBC–RP	14+67.94	67.18 RT	69060.44	17675.74	--
		1021	TBC–PT	14+69.25	34.21 RT	69093.42	17676.81	436.00
C8	2.25	1022	TBC–PC	14+39.93	5.96 RT	69121.45	17647.29	436.09
		1023	TBC–RP	14+40.00	3.71 RT	69123.70	17647.35	--
		1024	TBC–PT	14+40.07	1.47 RT	69125.95	17647.40	436.26
C9	48	1025	TBC–PC	13+29.40	88.93 LT	69215.56	17536.09	436.57
		1026	TBC–RP	13+77.40	88.13 LT	69215.10	17584.09	--
		1027	TBC–PT	13+77.40	40.13 LT	69167.11	17584.43	435.70
C10	48	1028	TBC–PC	12+52.11	38.94 LT	69166.23	17460.43	435.61
		1029	TBC–RP	12+50.56	86.92 LT	69214.22	17460.09	--
		1030	TBC–PT	13+01.39	87.26 LT	69213.69	17508.09	436.61
C11	15	1031	TBC–PC	12+80.44	68.40 LT	69194.96	17489.49	436.44
		1032	TBC–RP	12+75.69	82.63 LT	69209.30	17485.11	--
		1033	TBC–PT	12+93.37	82.75 LT	69209.13	17500.11	436.47
C12	20	1034	TBC–PC	13+37.44	85.48 LT	69212.17	17544.16	436.45
		1035	TBC–RP	13+57.44	85.11 LT	69211.94	17564.15	--
		1036	TBC–PT	13+51.34	66.06 LT	69192.85	17558.19	436.42

NOTES

1. SEE SHEET G6 FOR CONTROL POINT TABLES.

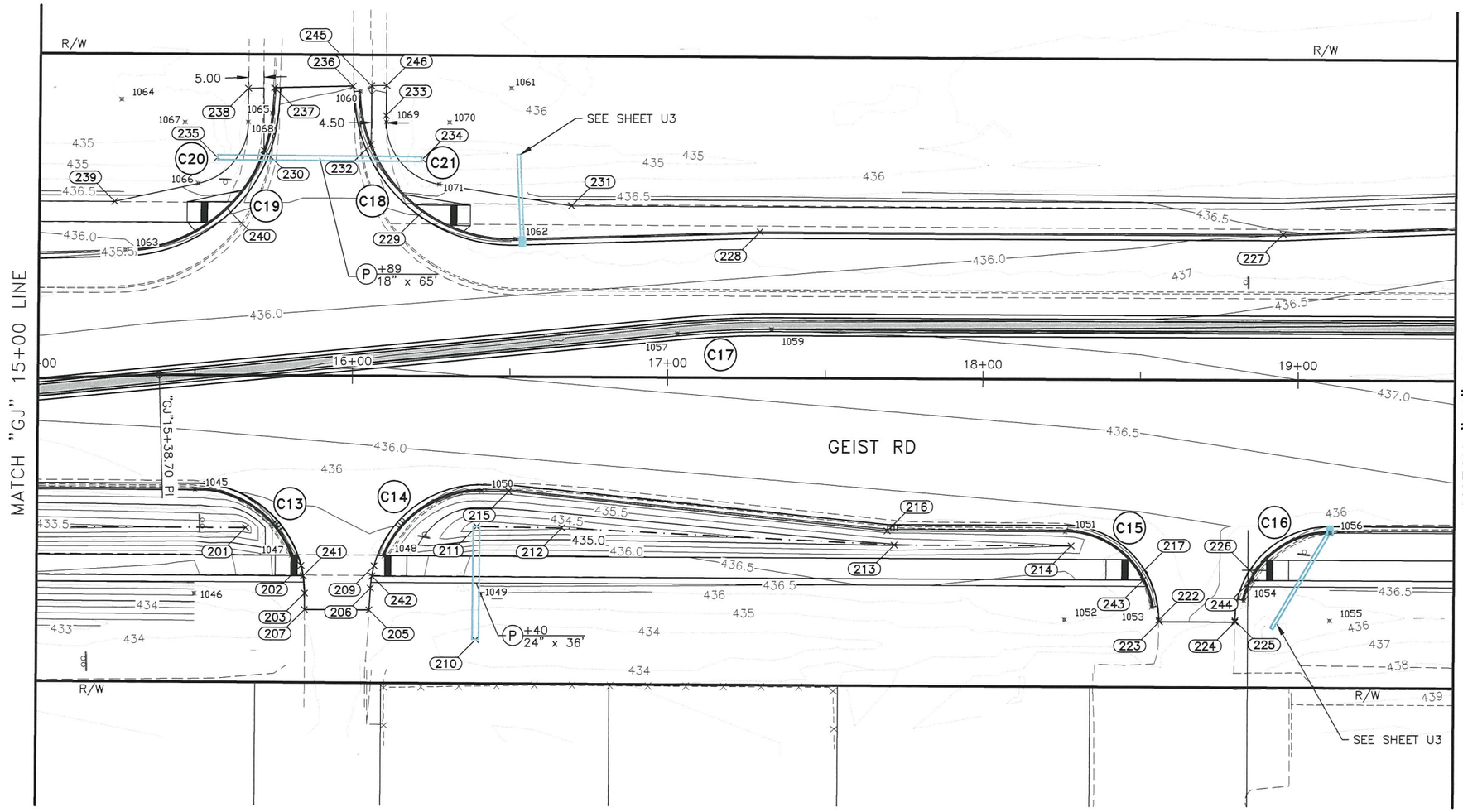
STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

GEIST RD GRADING PLAN (1 OF 5)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\G\Segment Improvement Packages\Segment 1A\1A-G\C1004cnst11147.01FB-Seg-1A-G1 Sun, May/28/17 04:46pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	G2	G14



G2 CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C13	33	1045	TBC–PC	15+50.29	36.50 RT	69091.33	17756.64	436.06
		1046	TBC–RP	15+50.29	69.50 RT	69058.34	17755.78	--
		1047	TBC–PT	15+80.93	57.25 RT	69069.78	17786.73	435.24
C14	33	1048	TBC–PC	16+10.49	57.25 RT	69069.00	17816.28	435.47
		1049	TBC–RP	16+41.14	69.50 RT	69055.96	17846.59	--
		1050	TBC–PT	16+41.14	36.50 RT	69088.94	17847.46	436.21
C15	28	1051	TBC–PC	18+26.36	48.50 RT	69072.09	18032.31	436.27
		1052	TBC–RP	18+26.36	76.50 RT	69044.10	18031.57	--
		1053	TBC–PT	18+54.05	72.33 RT	69047.54	18059.36	436.26
C16	28	1054	TBC–PC	18+83.25	70.15 RT	69048.95	18088.61	436.52
		1055	TBC–RP	19+10.52	76.50 RT	69041.89	18115.70	--
		1056	TBC–PT	19+10.52	48.50 RT	69069.88	18116.44	436.49
C17	302	1057	TBC–PC	17+02.91	14.00 LT	69137.81	17910.54	437.44
		1058	TBC–RP	17+32.96	286.50 RT	68836.62	17932.70	--
		1059	TBC–PT	17+32.96	15.50 LT	69138.52	17940.62	437.52

G2 CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C18	48	1060	TBC–PC	16+01.76	90.63 LT	69217.06	17811.43	436.88
		1061	TBC–RP	16+49.74	91.88 LT	69217.06	17859.43	--
		1062	TBC–PT	16+51.34	43.91 LT	69169.06	17859.77	436.08
C19	48	1063	TBC–PC	15+28.90	40.13 LT	69168.18	17735.93	435.95
		1064	TBC–RP	15+28.90	88.13 LT	69216.18	17735.59	--
		1065	TBC–PT	15+73.79	83.58 LT	69210.75	17783.28	436.86
C20	20	1066	TBC–PC	15+50.52	61.05 LT	69188.83	17759.44	436.58
		1067	TBC–RP	15+46.18	80.57 LT	69208.46	17755.61	--
		1068	TBC–PT	15+66.18	80.67 LT	69208.04	17775.61	436.63
C21	20	1069	TBC–PC	16+10.10	80.89 LT	69207.11	17819.52	436.60
		1070	TBC–RP	16+30.10	80.90 LT	69206.59	17839.51	--
		1071	TBC–PT	16+26.98	61.15 LT	69186.93	17835.87	436.58

NOTES

1. SEE SHEET G6 FOR CONTROL POINT TABLES.

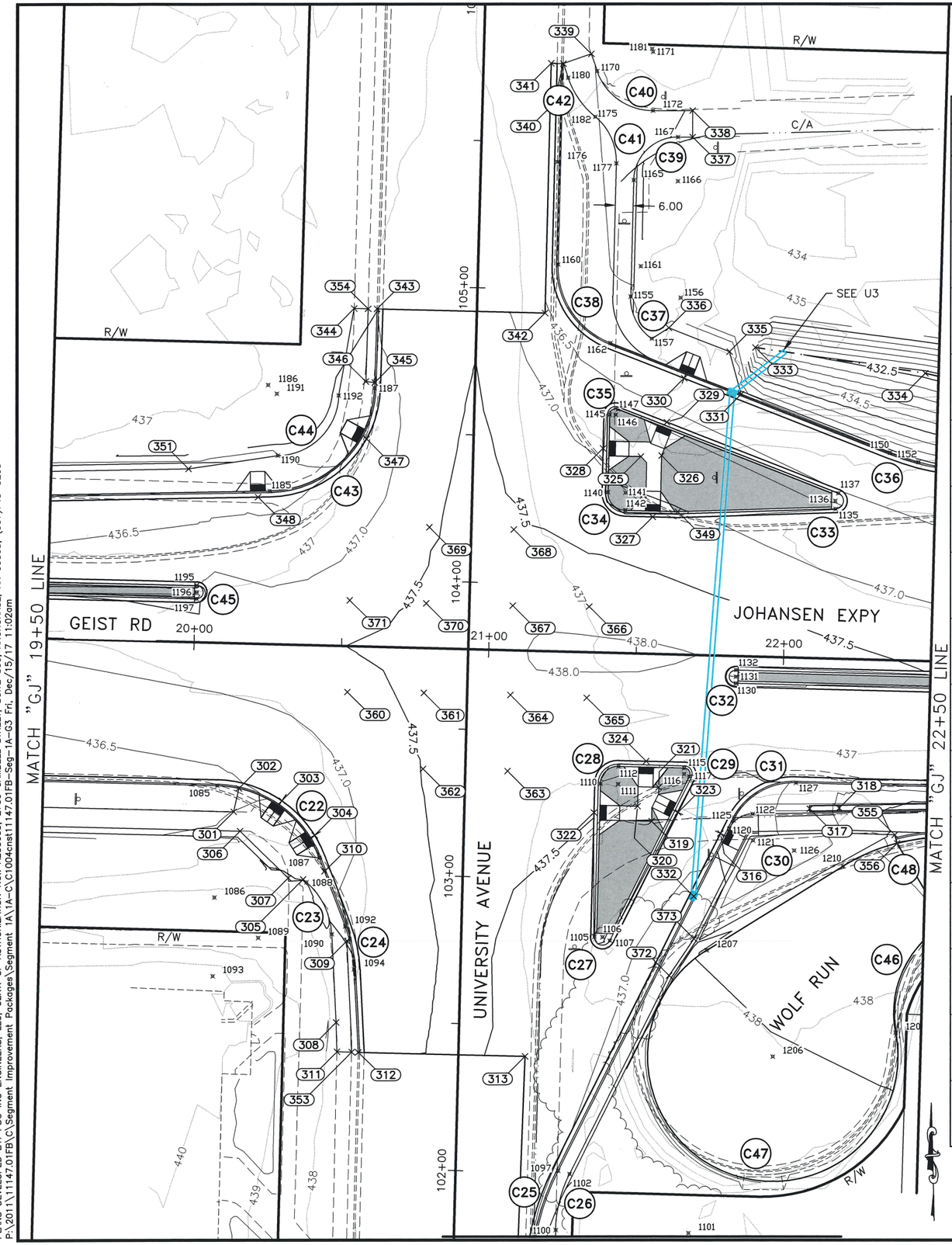
GEIST RD GRADING PLAN (2 OF 5)

STATE OF ALASKA 49TH Heather D. Estabrook 5/30/17 CE-11130 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1004cnst111147.01FB-Seg-1A-G2 Sun, May/28/17 05:35pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2018	G3	G14



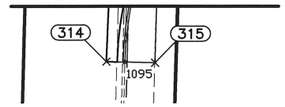
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1004cnst111147.01FB-Seg-1A-G3 Fri, Dec/15/17 11:02am

G3 CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C22	38	1085	TBC–PC	20+09.18	48.50 RT	69067.30	18215.06	436.80
		1086	TBC–RP	20+09.18	86.50 RT	69029.31	18214.06	––
		1087	TBC–PT	20+44.37	72.16 RT	69042.72	18249.62	437.31
C23	25	1088	SDWK–PT	20+40.22	80.55 RT	69034.45	18245.26	437.47
		1089	SDWK–RP	20+24.33	99.85 RT	69015.57	18228.87	––
		1090	SDWK–PC	20+49.27	98.00 RT	69016.76	18253.84	437.53
C24	48	1092	TBC–PC	20+53.74	95.15 RT	69019.50	18258.38	437.45
		1093	TBC–RP	20+09.28	113.26 RT	69002.55	18213.47	––
		1094	TBC–PT	20+57.15	109.71 RT	69004.85	18261.41	437.52
C25	98	1095	TBC–PC	21+20.01	213.79 RT	68899.16	18321.52	435.49
		1096	TBC–RP	22+08.01	213.62 RT	68897.02	18409.49	––
		1097	TBC–PT	21+28.25	176.43 RT	68936.29	18330.74	437.41
C26	90	1100	TBC–PC	21+27.97	196.56 RT	68916.18	18329.93	437.53
		1101	TBC–RP	21+72.97	196.47 RT	68915.08	18374.92	––
		1102	TBC–PT	21+32.19	177.45 RT	68935.16	18334.65	437.47
C27	2.75	1105	TBC–PC	21+38.44	96.63 RT	69015.79	18343.02	437.56
		1106	TBC–RP	21+41.19	96.63 RT	69015.72	18345.77	––
		1107	TBC–PT	21+43.68	97.79 RT	69014.49	18348.23	437.48
C28	6	1110	TBC–PC	21+39.12	44.51 RT	69067.88	18345.07	437.99
		1111	TBC–RP	21+45.12	44.50 RT	69067.73	18351.07	––
		1112	TBC–PT	21+45.12	38.50 RT	69073.73	18351.22	438.05
C29	2	1115	TBC–PC	21+67.36	38.50 RT	69073.15	18373.46	437.97
		1116	TBC–RP	21+67.36	40.50 RT	69071.15	18373.40	––
		1117	TBC–PT	21+69.18	41.35 RT	69070.25	18375.19	437.89
C30	2.5	1120	TBC–PC	21+83.17	58.67 RT	69052.57	18388.72	437.62
		1121	TBC–RP	21+91.32	62.47 RT	69048.55	18396.78	––
		1122	TBC–PT	21+90.93	53.48 RT	69057.55	18396.62	437.81
C31	28	1125	TBC–PC	21+84.51	55.78 RT	69055.42	18390.15	437.66
		1126	TBC–RP	22+05.36	65.50 RT	69045.16	18410.73	––
		1127	TBC–PT	22+05.36	42.50 RT	69068.15	18411.33	438.03
C32	2.25	1130	TBC–PC	21+84.00	9.25 RT	69101.95	18390.85	438.24
		1131	TBC–RP	21+84.00	7.00 RT	69104.20	18390.91	––
		1132	TBC–PT	21+84.00	4.75 RT	69106.45	18390.97	438.54
C33	2.75	1135	TBC–PC	22+16.36	50.82 LT	69161.15	18424.77	437.05
		1136	TBC–RP	22+16.20	53.56 LT	69163.90	18424.69	––
		1137	TBC–PT	22+17.14	56.15 LT	69166.46	18425.69	436.89
C34	6	1140	TBC–PC	21+39.00	54.49 LT	69166.85	18347.54	437.58
		1141	TBC–RP	21+45.00	54.50 LT	69166.70	18353.54	––
		1142	TBC–PT	21+45.00	48.50 LT	69160.70	18353.38	437.64
C35	2	1145	TBC–PC	21+38.97	80.84 LT	69193.19	18348.20	437.14
		1146	TBC–RP	21+40.97	80.84 LT	69193.14	18350.20	––
		1147	TBC–PT	21+41.65	82.72 LT	69195.00	18350.93	437.01
C36	98	1150	TBC–PC	22+34.32	70.39 LT	69180.25	18443.25	436.53
		1151	TBC–RP	22+68.65	162.50 LT	69271.47	18479.06	––
		1152	TBC–PT	22+44.00	67.44 LT	69177.04	18452.84	436.51

SEE SHEET G4 FOR CONTINUATION OF CURVE TABLE.

MATCH LINE SEE THIS SHEET BOTTOM RIGHT



NOTES

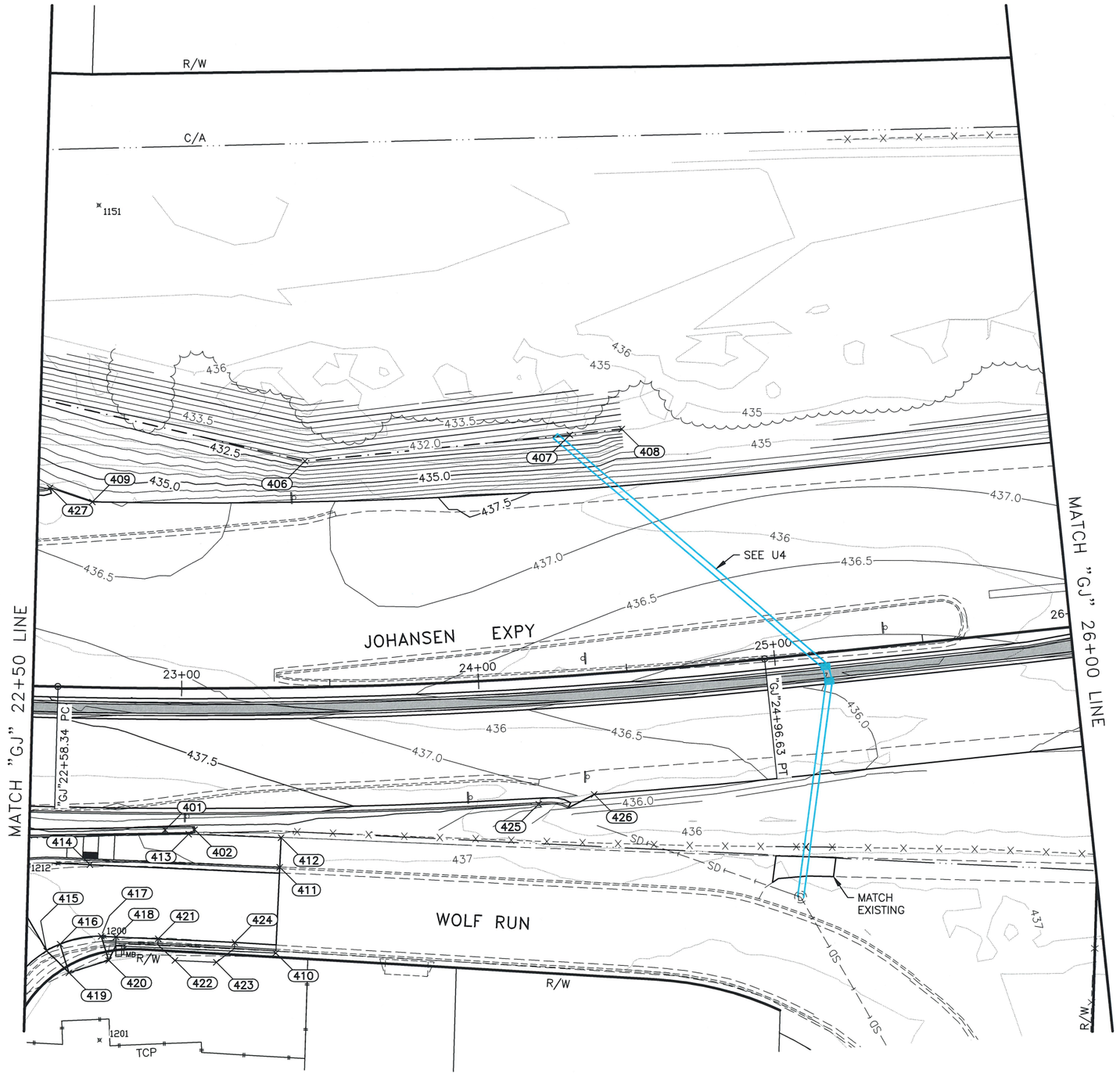
1. SEE SHEET G7 FOR CONTROL POINT TABLES.
2. ISLAND MEDIANS TO BE CONSTRUCTED WITH CATCH EXPRESSWAY CURB AND GUTTER AND TRANSITION TO CATCH CURB RAMP CURB AND GUTTER WHEN CURB RAMPS ARE PRESENT AS SHOWN ON THE PLANS AND SUMMARY TABLES.

STATE OF ALASKA
49 TH
Heather D. Estabrook
12-15-17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

GEIST RD & JOHANSEN EXPY GRADING PLAN (3 OF 5)

SUPERELEVATION TABLE

ALIGNMENT	SUPERELEVATION RATE (%)	RADIUS OF CURVE (FT)	BEGIN TRANSITION	BEGIN FULL SUPERELEVATION	END FULL SUPERELEVATION	END TRANSITION	REMARKS
"GJ"	2.0	1820.5	21+55.01	22+79.01	24+75.96	25+99.96	EASTBOUND LANES
"GJ"	2.0	1820.5	23+26.00	24+50.00	--	--	WESTBOUND LANES
"GJ"	2.0	1522.5	25+99.97	28+24.34	SEE NOTE 2.	SEE NOTE 2.	EASTBOUND LANES



NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2018	G4	G14

G3 CURVE LAYOUT TABLE (CONTINUED)

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C37	22	1155	TBC-PC	21+44.92	121.09 LT	69233.27	18355.20	436.94
		1156	TBC-RP	21+61.92	121.11 LT	69232.84	18372.19	--
		1157	TBC-PT	21+52.45	106.99 LT	69218.97	18362.36	436.76
C38	28	1160	TBC-PC	21+20.06	131.35 LT	69244.18	18330.63	436.74
		1161	TBC-RP	21+48.06	131.45 LT	69243.54	18358.62	--
		1162	TBC-PT	21+38.52	105.13 LT	69217.48	18348.39	436.68
C39	15	1165	TBC-PC	21+44.87	160.64 LT	69272.81	18356.19	437.15
		1166	TBC-RP	21+59.87	160.66 LT	69272.43	18371.18	--
		1167	TBC-PT	21+59.47	175.65 LT	69287.43	18371.18	437.54
C40	20	1170	TBC-PC	21+31.46	197.37 LT	69309.88	18343.75	437.01
		1171	TBC-RP	21+50.18	204.42 LT	69316.43	18362.65	--
		1172	TBC-PT	21+50.71	184.43 LT	69296.43	18362.65	437.30
C41	20	1175	TBC-PC	21+31.24	181.85 LT	69294.36	18343.12	436.98
		1176	TBC-RP	21+18.86	166.14 LT	69278.99	18330.33	--
		1177	TBC-PT	21+38.86	166.16 LT	69278.49	18350.33	437.07
C42	30	1180	TBC-PC	21+21.73	194.84 LT	69307.60	18333.96	436.86
		1181	TBC-RP	21+49.81	205.41 LT	69317.43	18362.30	--
		1182	TBC-PT	21+31.24	181.85 LT	69294.36	18343.12	436.98
C43	36	1185	TBC-PC	20+24.36	51.97 LT	69167.33	18232.87	436.78
		1186	TBC-RP	20+22.84	87.94 LT	69203.33	18232.30	--
		1187	TBC-PT	20+58.84	87.81 LT	69202.26	18268.28	437.27
C44	21	1190	TBC-PC	20+26.72	64.08 LT	69179.38	18235.55	436.99
		1191	TBC-RP	20+25.83	85.06 LT	69200.38	18235.21	--
		1192	TBC-PT	20+46.83	84.99 LT	69199.75	18256.20	437.41
C45	2.25	1195	TBC-PC	20+00.50	19.25 LT	69135.25	18208.16	436.96
		1196	TBC-RP	20+00.50	17.00 LT	69133.00	18208.10	--
		1197	TBC-PT	20+00.50	14.75 LT	69130.75	18208.04	437.64
C46	35	1200	EP-PC	22+75.46	83.93 RT	69024.96	18481.12	436.82
		1201	EP-RP	22+74.52	118.92 RT	68990.00	18479.52	--
		1202	EP-PT	22+41.42	126.46 RT	68983.27	18445.18	437.40
C47	42.5	1205	EP-PC	22+41.42	126.46 RT	68983.27	18445.18	437.40
		1206	EP-RP	21+99.94	135.72 RT	68975.10	18403.47	--
		1207	EP-PT	21+76.67	100.16 RT	69011.27	18381.14	437.38
C48	67	1210	EP-PC	22+22.07	70.45 RT	69039.77	18427.31	437.07
		1211	EP-RP	22+58.73	126.52 RT	68982.76	18462.51	--
		1212	EP-PT	22+59.99	59.53 RT	69049.69	18465.55	436.84

NOTES

1. SEE SHEET G7 FOR CONTROL POINT TABLES.
2. TRANSITIONS TO NORMAL CROWN. SEE GRADING SHEET G5 FOR CONTROL POINTS.

JOHANSEN EXPY GRADING PLAN (4 OF 5)

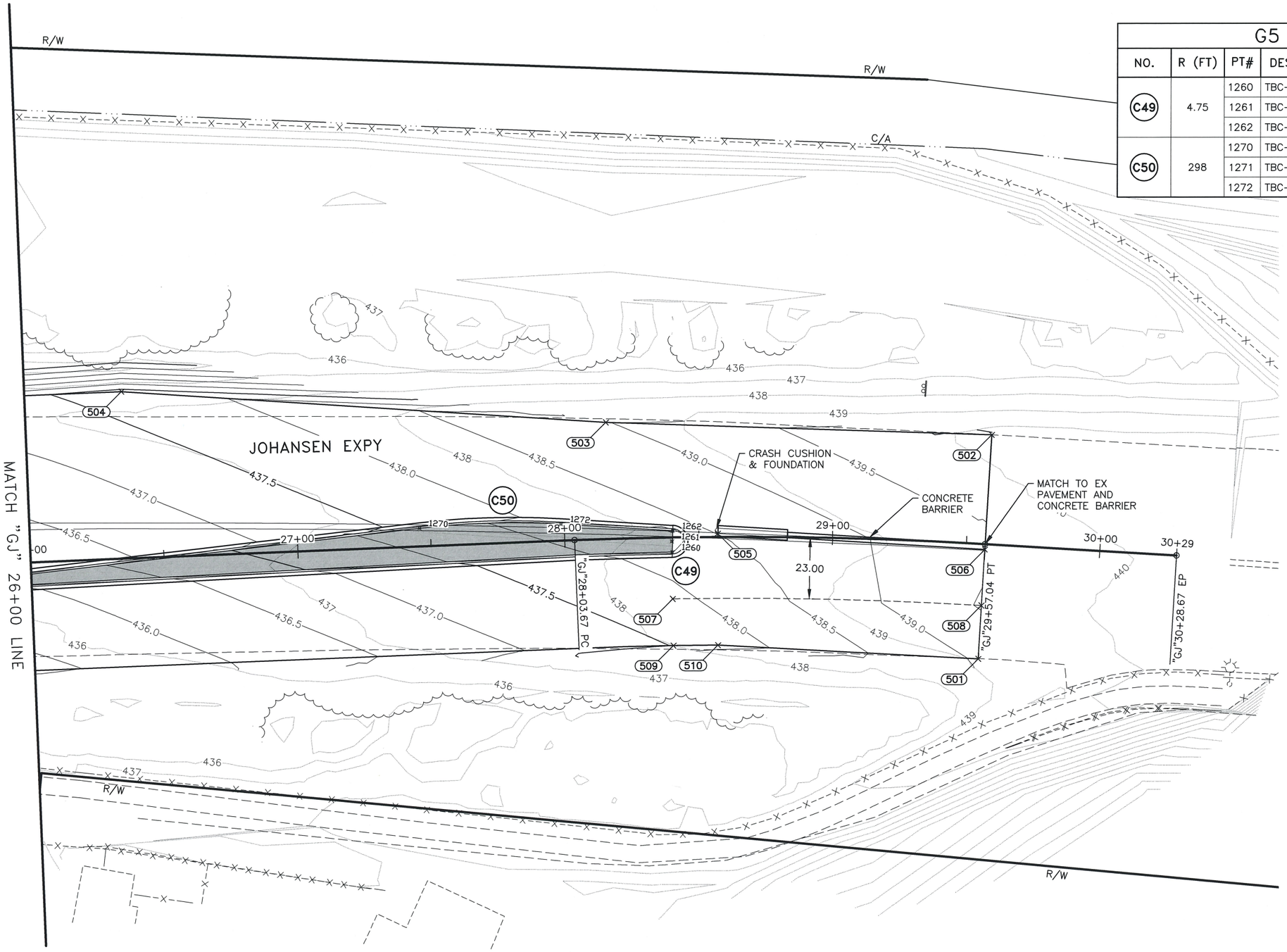
STATE OF ALASKA 49TH
Heather D. Estabrook
12-15-17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2018	G5	G14

G5 CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C49	4.75	1260	TBC–PC	28+39.90	5.50 RT	69148.53	19045.22	438.78
		1261	TBC–RP	28+39.90	1.50 RT	69152.52	19044.90	––
		1262	TBC–PT	28+40.21	2.49 LT	69156.52	19044.88	438.81
C50	298	1270	TBC–PC	27+45.95	6.88 LT	69151.47	18950.59	438.04
		1271	TBC–RP	27+68.81	290.25 RT	68858.36	19004.36	––
		1272	TBC–PT	27+98.78	6.24 LT	69156.36	19003.19	438.51



NOTES

1. SEE SHEET G7 FOR CONTROL POINT TABLES.

JOHANSEN EXPY GRADING PLAN (5 OF 5)

STATE OF ALASKA 49TH
Heather D. Estabrook
12-15-17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC; CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1004cnst111147.01FB-Seg-1A-05 Fri, Dec/15/17 11:02am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	G6	G14

SHEET G1 CONTROL POINT TABLE

POINT #	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	11+85.00	48.33 RT	69080.68	17391.13	MATCH EX	SDWK
102	11+85.00	54.83 RT	69074.18	17390.97	MATCH EX	SDWK
103	11+98.46	37.12 RT	69091.55	17404.88	433.87	CULVERT IE
104	12+13.04	51.58 RT	69076.72	17419.08	435.23	RAMP
105	12+13.07	55.00 RT	69073.31	17419.02	MATCH EX	EP
106	12+35.57	55.00 RT	69072.74	17441.52	MATCH EX	EP
107	12+36.51	51.83 RT	69075.87	17442.54	435.33	RAMP
108	12+54.81	37.58 RT	69089.66	17461.20	434.08	CULVERT IE
109	13+23.77	44.35 RT	69082.25	17531.40	434.32	CULVERT IE
110	13+84.20	46.48 RT	69080.54	17591.85	434.47	CULVERT IE
111	14+08.60	55.71 RT	69071.48	17616.32	435.25	RAMP
112	14+08.66	62.59 RT	69064.60	17616.42	MATCH EX	EP
113	14+33.14	63.46 RT	69063.91	17640.91	MATCH EX	EP
114	14+34.44	57.06 RT	69070.32	17642.16	435.34	RAMP
115	14+68.10	78.59 RT	69049.02	17675.98	435.49	CULVERT IE
116	14+69.07	46.18 RT	69081.45	17676.71	433.14	CULVERT IE
117	13+95.00	44.16 RT	69082.94	17602.63	434.50	FL
118	14+77.65	6.47 RT	69121.21	17685.02	436.67	TBC
119	14+77.60	3.47 RT	69124.22	17684.94	436.85	TBC
120	13+37.08	58.57 LT	69185.25	17543.98	435.82	RAMP
121	13+67.74	60.81 LT	69187.71	17574.63	436.07	SDWK
122	13+48.30	76.12 LT	69202.88	17555.08	435.49	CULVERT IE
123	13+37.59	93.59 LT	69220.28	17544.25	MATCH EX	SDWK
124	13+29.49	93.73 LT	69220.36	17536.15	MATCH EX	TBC
125	13+01.50	94.26 LT	69220.69	17508.15	MATCH EX	TBC
126	12+93.59	94.41 LT	69220.79	17500.24	MATCH EX	SDWK
127	12+94.72	59.99 LT	69186.38	17501.62	435.84	RAMP
128	12+65.69	63.48 LT	69190.41	17474.63	436.64	SDWK
129	12+65.67	56.98 LT	69183.92	17474.44	436.57	SDWK
130	11+85.00	36.77 LT	69165.75	17393.29	MATCH EX	TBC
131	12+83.80	77.84 LT	69204.31	17493.10	435.49	CULVERT IE
132	13+29.56	49.90 RT	69076.73	17537.23	435.78	SDWK
133	13+79.64	51.53 RT	69075.46	17587.33	435.87	SDWK
134	12+98.15	70.78 LT	69197.19	17504.97	436.38	SDWK
135	13+32.19	72.01 LT	69198.66	17539.00	436.37	SDWK

SHEET G2 CONTROL POINT TABLE

POINT #	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
201	15+66.40	48.51 RT	69078.90	17772.44	433.62	DITCH
202	15+84.11	60.50 RT	69066.45	17789.83	435.12	RAMP
203	15+85.29	69.30 RT	69057.62	17790.77	435.01	EP
205	16+05.78	74.51 RT	69051.87	17811.12	MATCH EX	EP
206	16+06.19	67.59 RT	69058.78	17811.71	MATCH EX	EP
207	15+85.28	74.50 RT	69052.42	17790.63	435.49	CULVERT IE
209	16+07.31	60.50 RT	69065.84	17813.02	435.36	RAMP
210	16+39.63	83.80 RT	69041.70	17844.72	435.49	CULVERT IE
211	16+39.79	47.80 RT	69077.68	17845.82	433.64	CULVERT IE
212	16+66.80	48.11 RT	69076.67	17872.81	433.89	DITCH
213	17+72.19	52.98 RT	69069.04	17978.03	434.94	DITCH
214	18+28.34	52.98 RT	69067.56	18034.17	435.50	DITCH
215	16+49.90	36.50 RT	69088.71	17856.22	436.22	TBC
216	17+69.90	48.50 RT	69073.57	17975.87	436.17	TBC
217	18+51.74	60.50 RT	69059.43	18057.36	435.72	RAMP
222	18+56.36	76.43 RT	69043.38	18061.56	435.73	EP
223	18+56.50	77.02 RT	69042.80	18061.69	435.76	EP
224	18+80.50	76.99 RT	69042.19	18085.68	435.49	EP
225	18+80.52	76.57 RT	69042.61	18085.71	436.13	EP
226	18+85.14	60.50 RT	69058.55	18090.75	436.12	RAMP
227	18+94.96	46.50 LT	69165.26	18103.37	436.48	TBC
228	17+29.01	46.50 LT	69169.61	17937.48	436.15	TBC
229	16+20.61	51.25 LT	69177.20	17829.24	MATCH EX	RAMP
230	15+71.23	71.76 LT	69199.00	17780.41	MATCH EX	SDWK
231	16+69.07	54.50 LT	69179.18	17877.77	436.24	SDWK
232	16+05.31	73.73 LT	69200.07	17814.53	436.70	TBC
233	16+09.95	82.99 LT	69209.21	17819.42	436.69	SDWK
234	16+21.55	69.06 LT	69194.99	17830.65	435.49	CULVERT IE
235	15+56.54	69.32 LT	69196.95	17765.67	435.49	CULVERT IE
236	15+99.43	92.29 LT	69218.79	17809.14	436.50	EP
237	15+74.44	91.68 LT	69218.82	17784.14	436.96	TBC
238	15+66.13	91.42 LT	69218.79	17775.84	436.96	SDWK
239	15+25.85	55.61 LT	69183.64	17732.78	436.18	SDWK
240	15+60.83	51.92 LT	69179.44	17769.50	436.02	RAMP
241	15+84.81	63.75 RT	69063.18	17790.44	435.08	SDWK
242	16+06.61	63.75 RT	69062.61	17812.23	MATCH EX	SDWK
243	18+51.29	63.75 RT	69056.19	18056.83	MATCH EX	SDWK
244	18+85.59	63.75 RT	69055.29	18091.12	MATCH EX	SDWK
245	16+05.30	92.45 LT	69218.79	17815.02	437.05	SDWK
246	16+10.10	92.57 LT	69218.79	17819.82	437.10	SDWK

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1004cnst11147.01FB-Seg-1A-G6 Tue, May/30/17 11:01am

GRADING CONTROL POINT TABLES (1 OF 2)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2018	G7	G14

SHEET G3 CONTROL POINT TABLE

POINT #	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
301	20+14.89	57.25 RT	69058.40	18220.54	437.01	SDWK
302	20+16.46	49.20 RT	69066.40	18222.32	436.88	SDWK
303	20+31.13	53.06 RT	69062.16	18236.88	436.65	RAMP
304	20+42.59	64.51 RT	69050.42	18248.04	436.83	RAMP
305	20+39.07	79.60 RT	69035.42	18244.13	437.48	SDWK
306	20+17.21	63.75 RT	69051.84	18222.69	MATCH EX	SDWK
307	20+33.98	79.22 RT	69035.93	18239.05	MATCH EX	SDWK
308	20+51.48	127.92 RT	68986.79	18255.27	437.71	SDWK
309	20+54.44	100.14 RT	69014.49	18258.95	437.49	SDWK
310	20+46.22	76.69 RT	69038.14	18251.35	437.36	TBC–GB
311	20+52.02	137.92 RT	68976.78	18255.54	MATCH EX	SDWK
312	20+59.25	137.91 RT	68976.61	18262.77	MATCH EX	TBC
313	21+16.00	137.84 RT	68975.19	18319.50	MATCH EX	EP
314	21+15.16	213.80 RT	68899.27	18316.67	MATCH EX	EP
315	21+28.01	213.78 RT	68898.96	18329.52	MATCH EX	SDWK
316	21+80.18	60.34 RT	69050.97	18385.69	437.19	RAMP
317	22+10.25	51.14 RT	69059.38	18415.99	--	CONC BARRIER
318	22+20.24	50.71 RT	69059.56	18425.99	--	CONC BARRIER
319	21+56.72	56.85 RT	69055.09	18362.34	437.84	SDWK
320	21+51.86	51.85 RT	69060.21	18357.60	437.97	SDWK
321	21+58.83	45.22 RT	69066.65	18364.75	438.00	SDWK
322	21+37.14	54.37 RT	69058.07	18342.82	437.52	RAMP
323	21+65.68	53.58 RT	69058.11	18371.37	437.41	RAMP
324	21+54.36	36.50 RT	69075.49	18360.50	437.62	RAMP
325	21+49.86	66.87 LT	69178.94	18358.72	437.19	SDWK
326	21+56.86	67.41 LT	69179.30	18365.73	437.13	SDWK
327	21+54.36	46.50 LT	69158.46	18362.68	437.19	RAMP
328	21+36.98	69.36 LT	69181.77	18345.91	436.93	RAMP
329	21+58.33	78.80 LT	69190.64	18367.50	436.59	RAMP
330	21+63.78	93.84 LT	69205.54	18373.34	436.24	RAMP
331	21+83.23	88.92 LT	69200.10	18392.66	436.61	SDWK
332	21+71.76	81.94 RT	69029.61	18376.71	437.28	TBC–LP
333	21+87.65	104.90 LT	69215.96	18397.49	435.49	DITCH
334	22+45.49	97.69 LT	69207.24	18455.12	432.29	DITCH
335	21+78.93	103.24 LT	69214.54	18388.73	436.80	SDWK
336	21+58.18	110.77 LT	69222.60	18368.19	436.84	SDWK
337	21+64.46	175.78 LT	69287.43	18376.17	MATCH EX	SDWK
338	21+64.23	184.78 LT	69296.43	18376.17	MATCH EX	SDWK
339	21+29.29	203.16 LT	69315.72	18341.73	MATCH EX	SDWK
340	21+19.93	199.64 LT	69312.44	18332.28	MATCH EX	TBC
341	21+15.83	199.63 LT	69312.55	18328.18	MATCH EX	EP
342	21+16.12	114.72 LT	69227.66	18326.25	MATCH EX	EP
343	20+58.94	114.72 LT	69229.16	18269.08	MATCH EX	TBC
344	20+51.31	114.63 LT	69229.26	18261.46	MATCH EX	SDWK
345	20+58.85	89.72 LT	69204.17	18268.34	437.29	TBC
346	20+55.85	89.96 LT	69204.48	18265.35	437.34	SDWK
347	20+56.61	70.51 LT	69185.02	18265.59	436.72	RAMP
348	20+20.37	49.80 LT	69165.27	18228.83	436.37	RAMP
349	21+62.84	48.50 LT	69160.23	18371.21	437.53	TBC–PT
351	19+96.57	58.80 LT	69174.89	18205.27	436.83	SDWK

SHEET G3 CONTROL POINT TABLE CONT.

POINT #	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
353	20+57.03	137.91 RT	68976.66	18260.55	437.69	SDWK
354	20+55.94	114.67 LT	69229.19	18266.08	437.55	SDWK
355	22+39.39	59.25 RT	69050.52	18444.91	437.41	SDWK
356	22+40.22	62.13 RT	69047.61	18445.66	436.97	EP
360	20+52.45	15.59 RT	69099.06	18259.18	437.31	FG
361	20+78.33	15.20 RT	69098.78	18285.06	437.66	FG
362	20+78.73	41.07 RT	69072.90	18284.78	--	FG
363	21+07.51	41.04 RT	69072.18	18313.56	--	FG
364	21+07.84	15.16 RT	69098.04	18314.57	--	FG
365	21+33.72	15.49 RT	69097.03	18340.43	437.87	FG
366	21+33.72	15.49 LT	69128.00	18341.24	437.82	FG
367	21+07.84	15.16 LT	69128.35	18315.36	437.91	FG
368	21+07.51	41.04 LT	69154.23	18315.71	437.56	FG
369	20+78.73	41.07 LT	69155.02	18286.94	437.41	FG
370	20+78.33	15.20 LT	69129.16	18285.86	437.60	FG
371	20+52.45	15.59 LT	69130.23	18260.00	437.26	FG
372	21+64.06	109.10 RT	69002.66	18368.30	437.37	SDWK
373	21+72.21	96.36 RT	69015.18	18376.78	437.38	SDWK

SHEET G4 CONTROL POINT TABLE

POINT #	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
401	22+94.71	47.80 RT	69060.86	18501.48	437.23	CONC BARRIER
402	23+04.45	47.59 RT	69061.03	18511.48	437.19	CONC BARRIER
406	23+43.14	76.24 LT	69185.22	18548.65	431.80	DITCH
407	24+36.49	80.96 LT	69194.04	18637.65	431.36	DITCH
408	24+54.90	81.63 LT	69196.06	18655.13	431.27	DITCH
409	22+68.65	62.50 LT	69171.49	18477.00	436.04	EP
410	23+30.70	89.47 RT	69019.32	18538.97	435.49	TBC
411	23+32.35	60.52 RT	69048.29	18540.29	436.93	TBC
412	23+32.94	50.54 RT	69058.28	18540.75	436.81	SDWK
413	23+02.48	49.13 RT	69059.50	18509.45	436.87	SDWK
414	22+70.37	59.78 RT	69049.21	18476.27	436.81	RAMP
415	22+56.97	89.19 RT	69020.12	18461.70	437.00	EP
416	22+61.25	86.85 RT	69022.35	18466.17	436.96	EP
417	22+74.42	83.92 RT	69024.99	18480.02	436.83	EP
418	22+79.19	84.05 RT	69024.78	18485.02	436.81	EP
419	22+64.35	96.41 RT	69012.72	18469.21	435.49	DRIVEWAY
420	22+76.97	91.94 RT	69016.93	18482.56	435.49	DRIVEWAY
421	22+92.71	84.53 RT	69024.14	18499.15	436.76	EP
422	22+98.16	91.77 RT	69016.87	18504.83	435.49	DRIVEWAY
423	23+11.47	92.39 RT	69016.24	18518.81	435.49	DRIVEWAY
424	23+17.52	85.79 RT	69022.87	18525.12	435.49	EP
425	24+17.72	42.50 RT	69069.62	18627.32	437.69	TBC
426	24+36.21	40.50 RT	69072.87	18646.06	436.96	EP
427	22+53.93	66.96 LT	69176.30	18462.75	436.12	TBC

SHEET G5 CONTROL POINT TABLE

POINT #	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
501	29+57.04	43.00 RT	69115.98	19161.96	MATCH EX	EP
502	29+57.04	41.00 LT	69199.98	19161.63	MATCH EX	EP
503	28+16.56	43.64 LT	69195.39	19017.34	438.98	EP
504	26+36.60	62.50 LT	69195.36	18836.02	437.73	EP
(1) 505	28+57.14	1.28 LT	69156.59	19061.88	--	CONC BARRIER
(1) 506	29+57.04	2.00 RT	69156.98	19161.80	--	CONC BARRIER
507	28+39.82	23.00 RT	69131.08	19046.56	437.86	FG/GB
508	29+57.00	23.00 RT	69135.98	19161.84	439.54	FG/GB
509	28+39.82	40.50 RT	69113.64	19047.98	437.51	EP–GB
510	28+57.00	40.50 RT	69114.90	19064.65	437.74	EP

NOTE

(1) THESE MUST BE FIELD VERIFIED BASED ON EXISTING CONCRETE BARRIER LAYOUT PRIOR TO PLACING CRASH CUSHION FOUNDATION.

STATE OF ALASKA
49 TH
Heather D Estabrook
12-15-17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

GRADING CONTROL POINT TABLES (2 OF 2)

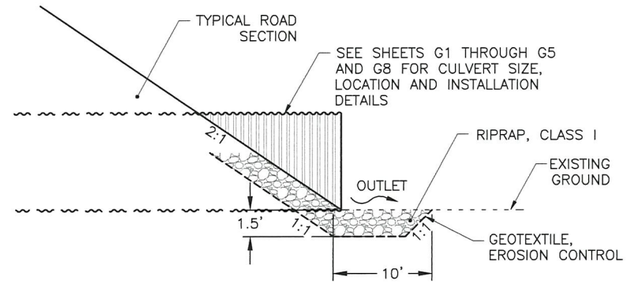
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1004cnst11147.01FB-Seg-1A-G7 Fri, Dec/15/17 11:02am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	G8	G14

CULVERT SUMMARY

STATION	LT/C/RT	603(1)–18	603(1)–24	INVERT		SKEW ANGLE	END SECTION		REMARKS
		18"	24"	IN	OUT		603(20)–18 (EA)	603(20)–24 (EA)	
"GJ" 12+26	RT	56		433.80	432.70		2		APPROACH RT
"GJ" 13+17	LT		62	432.90	432.80			2	APPROACH LT
"GJ" 13+53	RT	62		433.80	433.40		2		APPROACH RT
"GJ" 14+69	RT	32		433.90	433.30		2		APPROACH RT
"GJ" 15+89	LT	65		433.70	433.60		2		APPROACH LT
"GJ" 16+40	RT		36	433.70	433.40			2	APPROACH RT
	TOTAL:	215	98				8	4	



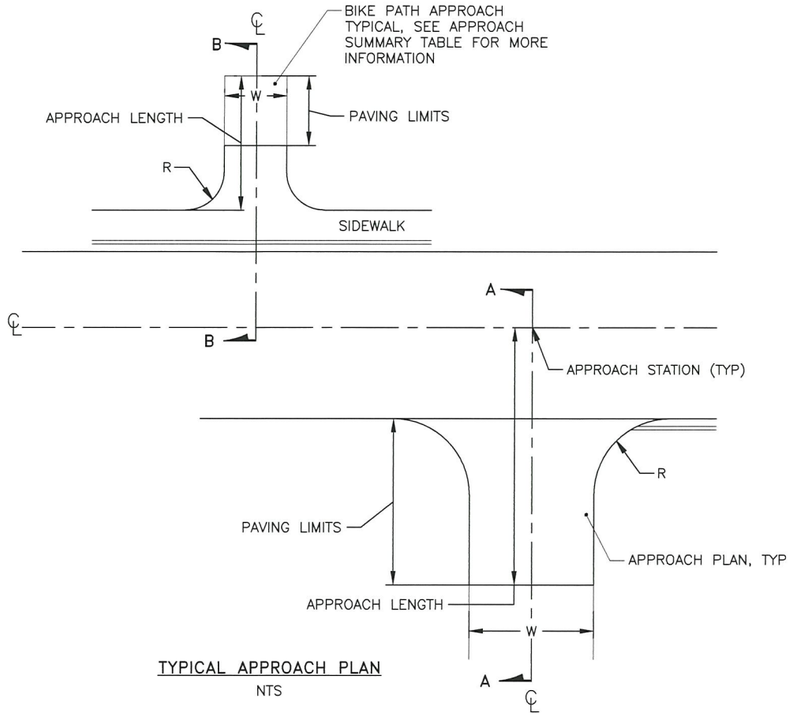
RIPRAP OUTLET AT STORM DRAIN OUTLET

1. INSTALL RIPRAP TO A WIDTH OF THREE TIMES CULVERT DIAMETER.
2. INSTALL RIPRAP UP FILL SLOPE TO CULVERT SPRING LINE.
3. SEE SHEET U3, PIPE NUMBER P–(53).

CULVERT DETAILS

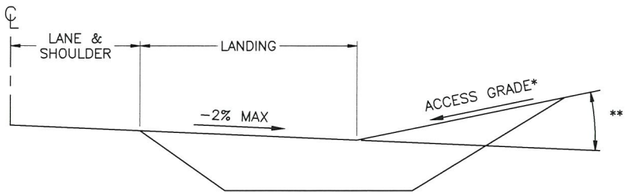
STATE OF ALASKA 49TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/NFHWY00270	2017	G9	G14

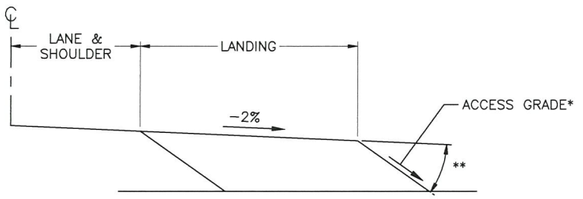


TYPICAL APPROACH PLAN

NTS



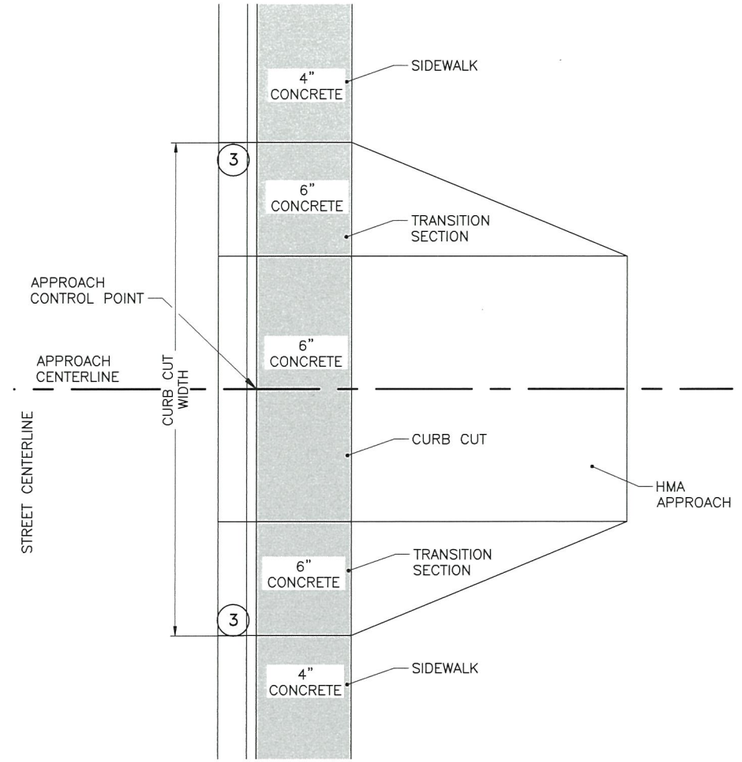
IN CUT



IN FILL

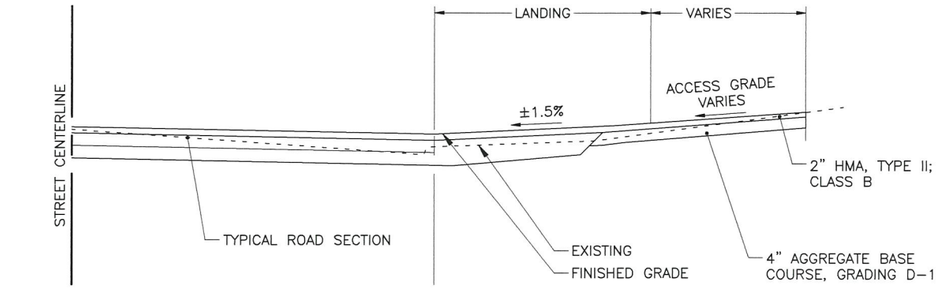
* MAX RESIDENTIAL ACCESS GRADE IS 15%.

** MAX ALGEBRAIC DIFFERENCE FOR COMMERCIAL ACCESS GRADE: 8% RESIDENTIAL: NONE



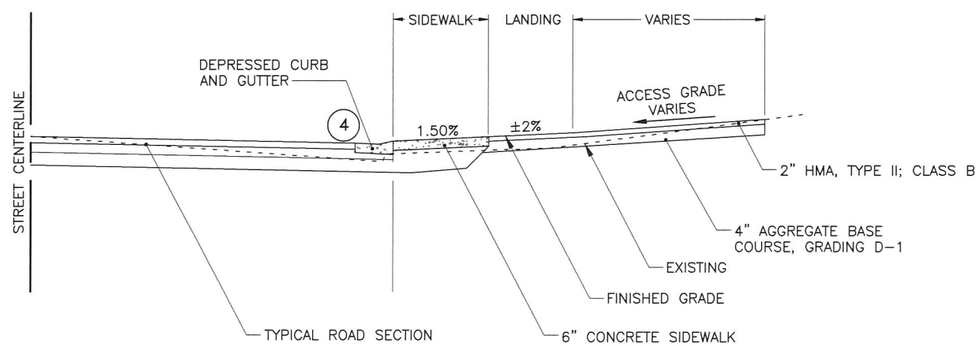
CURB CUT PLAN DETAIL

NTS



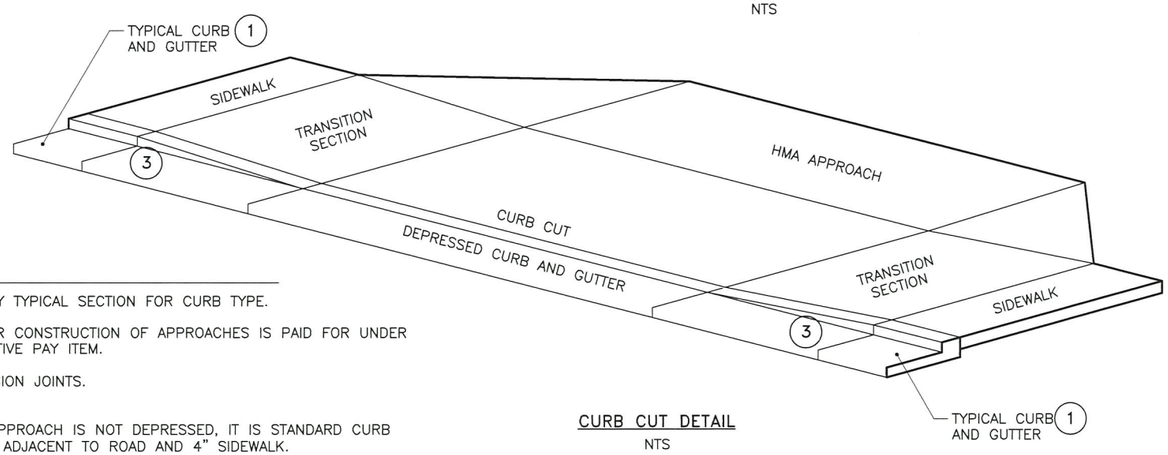
TYPICAL APPROACH SECTION A-A

NTS



CURB CUT SECTION & SECTION B-B DETAIL

NTS



CURB CUT DETAIL

NTS

NOTES:

1. SEE ROADWAY TYPICAL SECTION FOR CURB TYPE.
2. MATERIAL FOR CONSTRUCTION OF APPROACHES IS PAID FOR UNDER THE RESPECTIVE PAY ITEM.
3. 1/2" EXPANSION JOINTS.
4. BIKE PATH APPROACH IS NOT DEPRESSED, IT IS STANDARD CURB AND GUTTER ADJACENT TO ROAD AND 4" SIDEWALK.
5. WWM STEEL REINFORCEMENT FOR PEDESTRIAN RAMPS AND CURB CUTS SHALL BE 6"x6"-W2.9 WWM. FOR NORMAL SIDEWALK REINFORCEMENT SHALL BE 6"x6"-W1.4XW1.4. ALL STEEL SHALL BE SET ON SPACERS AND PULLED UP AS REQUIRED TO POSITION STEEL 1 1/2" UP FROM BOTTOM OF SIDEWALK.
6. FOR SIDEWALK REINFORCEMENT, POSITION STEEL 1 1/2" UP FROM BOTTOM OF SIDEWALK.

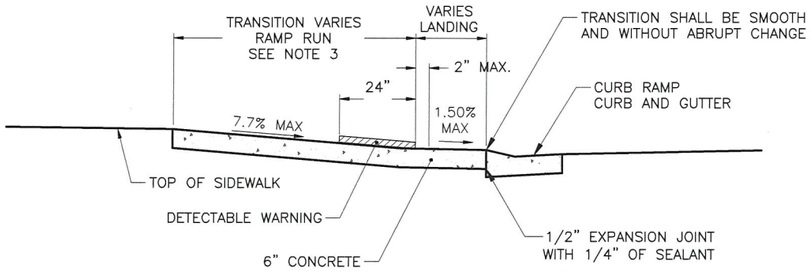
STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

APPROACHES

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1005cnst111147.01FB-Seg-1A-G9 Sun, May/28/17 06:38pm

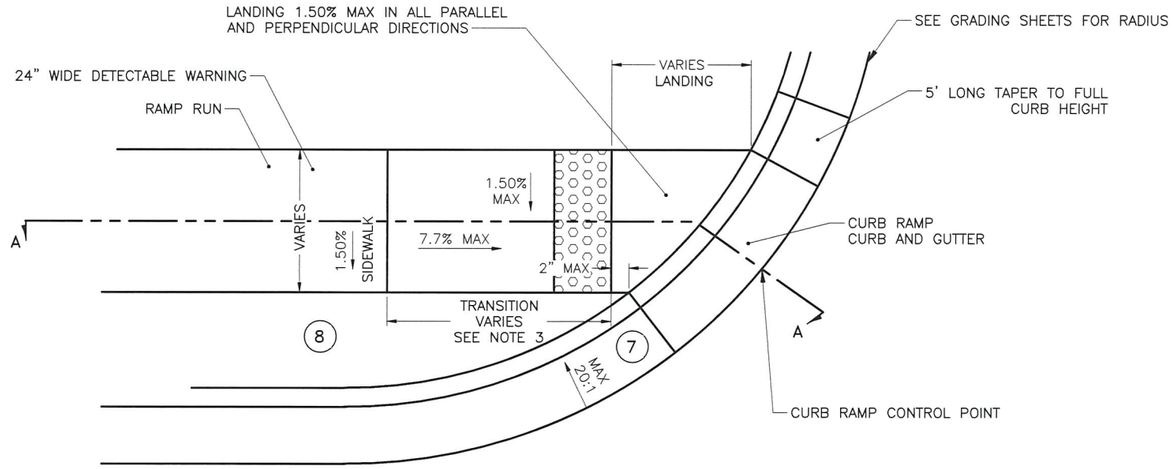
NO.	DATE	REVISION

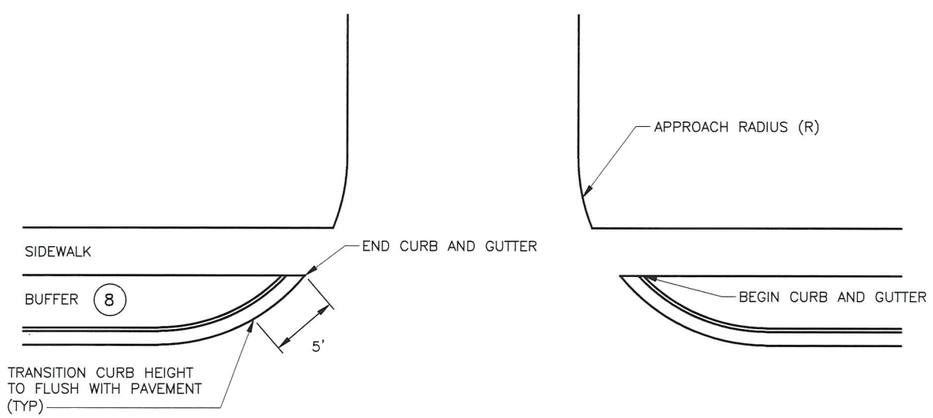
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	G10	G14



SECTION A–A
NTS

UNIDIRECTIONAL CURB RAMP





TRANSITION CURB AND GUTTER OFFSET DETAIL
NTS

UNIDIRECTIONAL CURB RAMP NOTES:

1. CONSTRUCT 6 INCH THICK RAMP AND LANDING OF CONCRETE.
2. CONCRETE SHALL RECEIVE A COARSE BROOMED FINISH RUNNING PERPENDICULAR TO THE CURB ON RAMP RUNS AND UPPER LANDINGS AND PARALLEL TO THE DIRECTION OF TRAVEL ON LOWER LANDINGS.
3. TRANSITION FROM STANDARD CURB AND GUTTER WHERE SIDEWALK SLOPE MAKES IT NECESSARY TO LENGTHEN A RAMP RUN TO AVOID EXCEEDING THE ALLOWABLE RAMP SLOPE. IT SHOULD NOT BE MADE LONGER THAN 15 FEET FOR A 6" CURB HEIGHT, OR IN GENERAL, 30 TIMES THE CURB HEIGHT. THE SLOPES RESULTING FROM THOSE RUN LENGTHS MUST BE ACCEPTED BY THE ENGINEER.
4. INSTALL FEDERAL YELLOW CAST IRON DETECTABLE WARNINGS IN THE LANDING.
5. SEE CURB RAMP SUMMARY FOR INSTALLATION LOCATIONS.
6. CONSTRUCT RAMP SLOPES AT A NOMINAL 7.7% GRADE, OR FLATTER. RAMP SLOPES MAY BE INCREASED TO A MAXIMUM OF 8.3% WHEN SITE CONDITIONS WARRANT IT. RAMP LENGTHS SHOULD BE INCREASED TO KEEP GRADES UNDER THE 8.3% MAXIMUM, BUT ARE NOT REQUIRED TO EXCEED 15.0 FEET.
7. FOR LOCATIONS WHERE CURB AND GUTTER TERMINATE, FOLLOW THE TRANSITION CURB AND GUTTER OFFSET DETAIL.
8. BUFFER VARIES IN WIDTH SEE TYPICALS AND GRADING SHEETS FOR MORE INFORMATION.
9. WWM STEEL REINFORCEMENT FOR PEDESTRIAN RAMPS AND CURB CUTS SHALL BE 6"x6"–W2.9 WWM. FOR NORMAL SIDEWALK REINFORCEMENT SHALL BE 6"x6"–W1.4XW1.4. ALL STEEL SHALL BE SET ON SPACERS AND PULLED UP AS REQUIRED TO POSITION STEEL 1 1/2" UP FROM BOTTOM OF SIDEWALK.
10. FOR SIDEWALK REINFORCEMENT, POSITION STEEL 1 1/2" UP FROM BOTTOM OF SIDEWALK.
11. ALL CURB RAMP LAYOUTS AND DIMENSIONS IN THIS PLAN SET ARE APPROXIMATE AND NEED TO BE FIELD FIT AND SHALL MEET 2006 ADA STANDARDS FOR MAXIMUM SLOPES. FINAL LAYOUT TO BE APPROVED BY THE ENGINEER PRIOR TO CONCRETE POUT.

STATE OF ALASKA
49 TH
Heather D. Estabrook
3/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

UNIDIRECTIONAL CURB RAMP & CURB AND GUTTER DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743–3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A–C\C1005cnst111147.01FB–Seg–1A–G10 Sun, May/28/17 06:38pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	G11	G14

639(101) APPROACH							
STATION	OFFSET	SKEW ANGLE (90° TYP.)	WIDTH (FT)	LENGTH (FT)	RADIUS (FT)	LANDING LENGTH (FT)	REMARKS
"01" 105+58.61	RT	90°	9	71.5	15RT, 20LT	10	BIKE PATH NORTH OF GEIST/JOHANSEN EXPY
"GJ" 12+25.36	RT	90°	22.5	55	28RT, 40LT	30	UPS STORE ACCESS
"GJ" 13+15.65	LT	90°	24	94	50	30	HUTCHISON INSTITUTE OF TECHNOLOGY
"GJ" 14+20.77	RT	90°	24.5	63	25RT, 35LT	30	WILCOX AVENUE
"GJ" 15+87.99	LT	90°	23	92	50	30	HUTCHISON INSTITUTE OF TECHNOLOGY
"GJ" 15+94.84	RT	90°	20	74.5	35	30	GINKO ROAD
"GJ" 18+68.27	RT	90°	24	77	30	30	WELLS FARGO
"GJ" 22+63.34	RT	–	14	10	–	10(2)	WOLF RUN RESTAURANT BACK ENTRANCE
"GJ" 23+05.64	RT	–	14	5	–	5(1)	WOLF RUN RESTAURANT SECOND BACK ENTRANCE

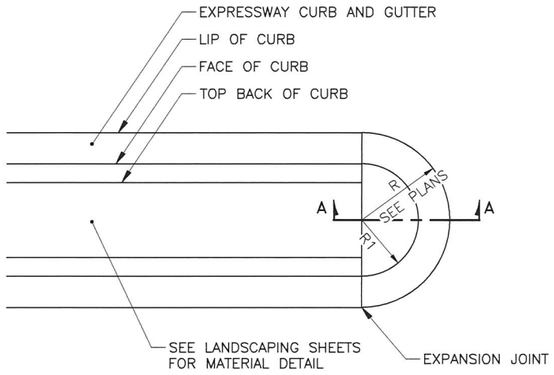
APPROACH NOTES:

(1) APPROACH LENGTH TIES INTO EXISTING CONDITIONS PRIOR TO FULL LANDING LENGTH.

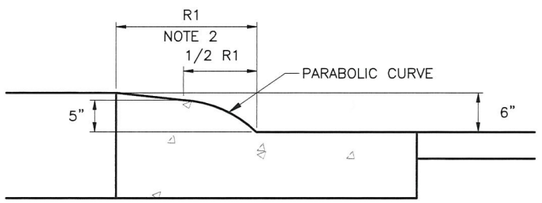
(2) 4" OF AGGREGATE BASE COURSE, GRADING D–1 BENEATH 4" OF AGGREGATE SURFACE COURSE, GRADING E–1. DO NOT PAVE THIS DRIVEWAY. THIS DRIVEWAY WILL BE RECONSTRUCTED AND PAVED DURING SEGMENT 1 CONSTRUCTION.

RAMPED MEDIAN NOSE NOTES:

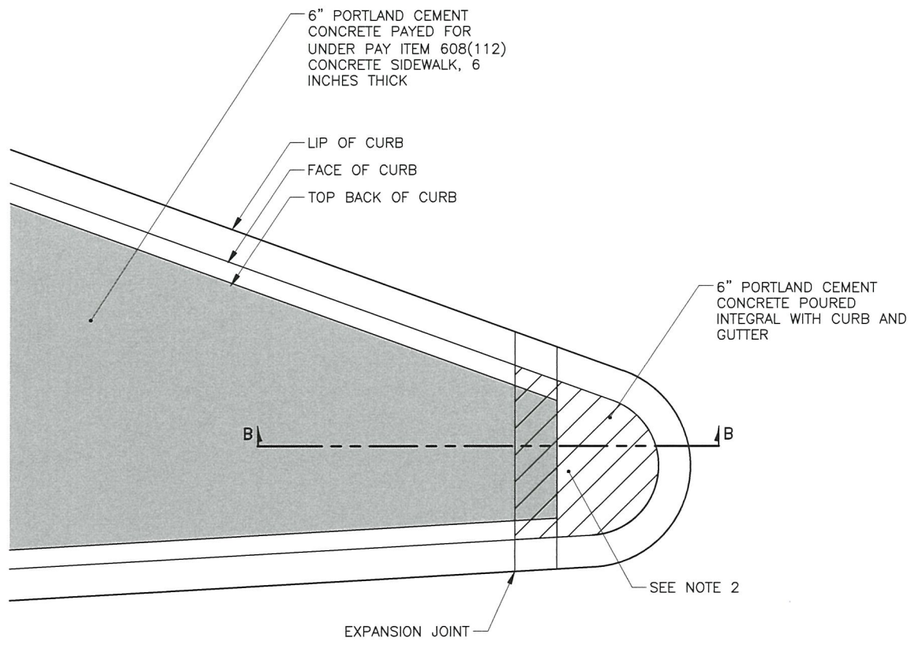
1. CONSTRUCT RAMPED MEDIAN NOSE TO RADIUS POINT "R1" OR 3' WHICHEVER IS GREATER.
2. RAMPED MEDIAN NOSE SHALL BE 6" PORTLAND CEMENT CONCRETE POURED INTEGRAL WITH CURB AND GUTTER AND IS SUBSIDIARY TO PAY ITEM 609(102) CURB AND GUTTER, TYPE 1.
3. RAMPED MEDIAN NOSE PAINTING IS SUBSIDIARY TO RESPECTIVE STRIPING PAY ITEMS, FOR MORE DETAILS AND INFORMATION ON PAINTING REFER TO THE SIGNING AND STRIPING PLAN SHEETS AND SPECS.



RAMPED MEDIAN NOSE DETAIL
NTS



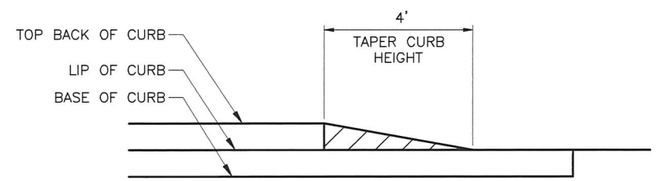
SECTION A–A
NTS



ISLAND – RAMPED MEDIAN NOSE DETAIL
NTS

ISLAND–RAMPED MEDIAN NOSE NOTES:

1. CONSTRUCTION OF ISLAND RAMPED MEDIAN NOSE IS SUBSIDIARY TO PAY ITEM 609(102) CURB AND GUTTER, TYPE 1.
2. ISLAND RAMPED MEDIAN NOSE PAINTING IS SUBSIDIARY TO RESPECTIVE STRIPING PAY ITEMS, FOR MORE DETAILS AND INFORMATION ON PAINTING REFER TO THE SIGNING AND STRIPING SHEETS AND SPECS.
3. FOR CLARIFICATION ON LOCATION SEE TABLE BELOW. LOCATION IS AT RADIUS MIDPOINT ALONG LIP OF CURB. THESE STATIONS AND OFFSETS ARE FOR CLARIFICATION PURPOSES, NOT FOR CONSTRUCTION PLACEMENT.



SECTION B–B
NTS

ISLAND – RAMPED MEDIAN NOSE LOCATIONS		
STATION	OFFSET	REMARKS
"GJ" 21+40	100' RT	ALONG UNIVERSITY AVENUE
"GJ" 22+20	53' LT	ALONG JOHANSEN EXPY

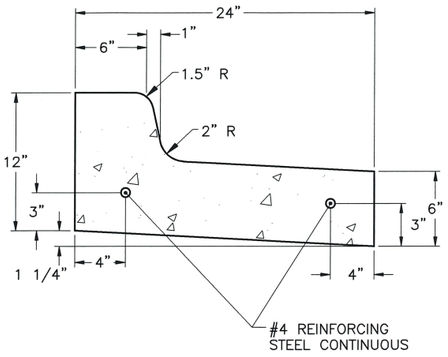
APPROACHES & RAMPED MEDIAN NOSE DETAILS

STATE OF ALASKA 49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

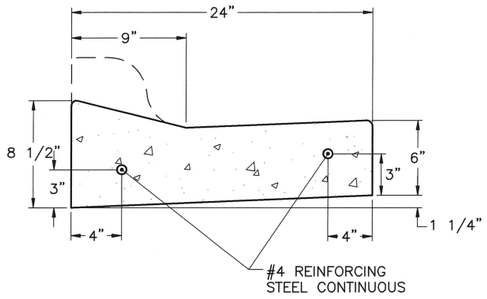
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1005cnst111147.01FB-Seg-1A-G11 Sun, May/28/17 06:38pm

NO.	DATE	REVISION

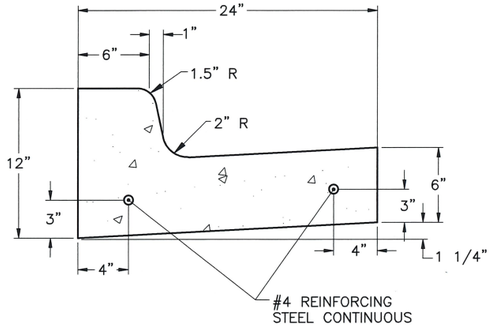
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2018	G12	G14



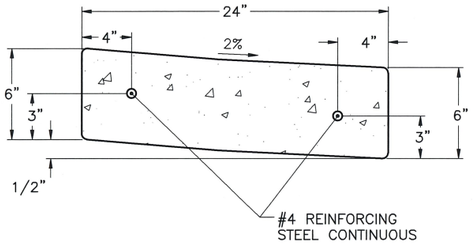
STANDARD CURB AND GUTTER
SPILL



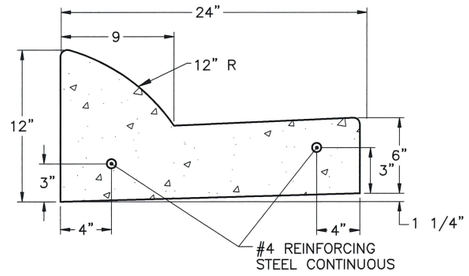
DEPRESSED CURB AND GUTTER



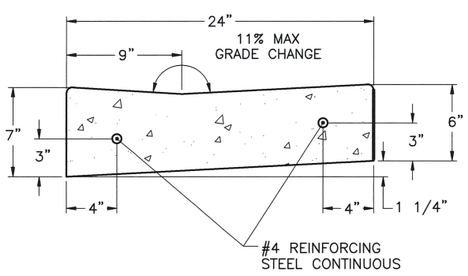
STANDARD CURB AND GUTTER
CATCH



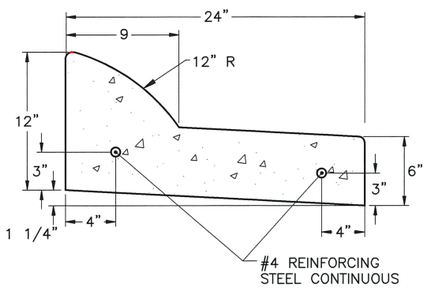
CURB RAMP CURB AND GUTTER
SPILL



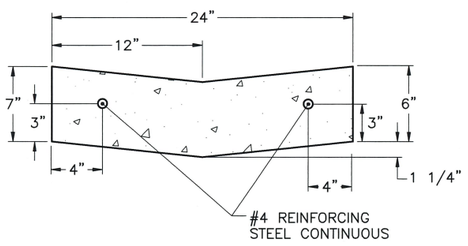
EXPRESSWAY CURB AND GUTTER
CATCH



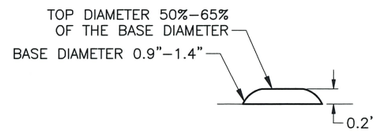
CURB RAMP CURB AND GUTTER
CATCH

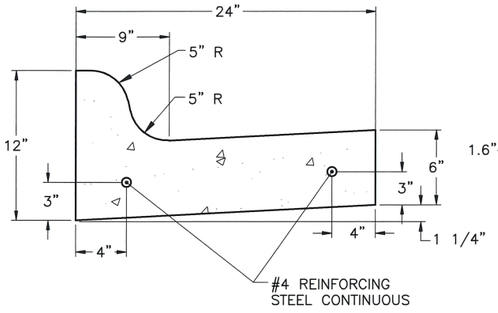


EXPRESSWAY CURB AND GUTTER
SPILL

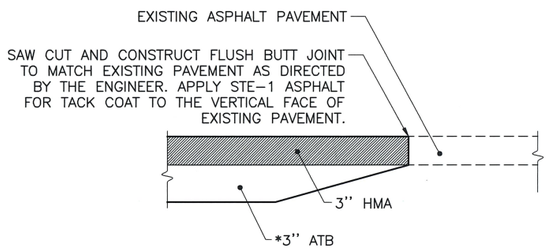


GUTTER



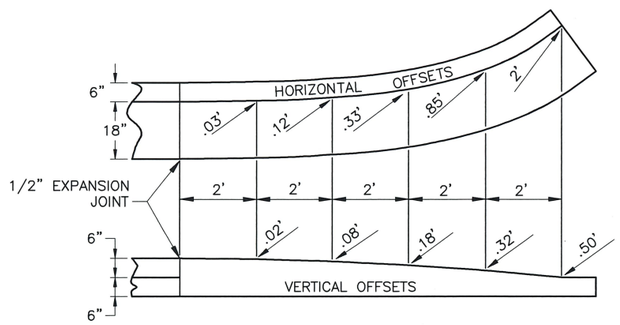


MOUNTABLE CURB AND GUTTER

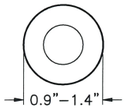


MATCH EXISTING PAVEMENT DETAIL

BOP, EOP, UNIVERSITY AVENUE, WOLF RUN, AND APPROACHES

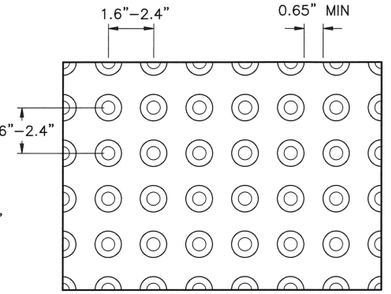


CURB AND GUTTER
TERMINATION TRANSITIONS



= TRUNCATED DOME SURFACE
(SEE GENERAL NOTE 7)

TRUNCATED DOME DETAILS



TRUNCATED PATTERN DETAIL

GENERAL NOTES:

1. USE THE TYPE OF CURB AND GUTTER SPECIFIED ON THE PLANS.
2. CONSTRUCT RAMP RUNS AND LANDINGS OF CONCRETE REGARDLESS OF WHETHER THE SIDEWALK IS ASPHALT OR CONCRETE.
3. CONSTRUCT RAMP SLOPES AT A 7.7% NOMINAL GRADE, OR FLATTER. RAMP SLOPES MAY BE INCREASED TO A MAXIMUM OF 8.3% WHEN SITE CONDITIONS WARRANT IT. RAMP LENGTHS SHOULD BE INCREASED TO KEEP GRADES UNDER THE 8.3% MAXIMUM, BUT ARE NOT REQUIRED TO EXCEED 15.0 FEET. THE RESULTING RAMP GRADE AT A 15.0 FOOT RAMP LENGTH IS ACCEPTABLE EVEN IF IT EXCEEDS 8.3%.
4. CONSTRUCT FLARE SLOPES AT 8.3% (MEASURED PARALLEL TO THE CURB LINE) OR FLATTER, SIDEWALK CROSS SLOPES AT 1.5% NOMINAL (1.0% MIN. AND 2.0% MAX) AND CURB RAMP CURB AND GUTTER PAN SLOPES AT 4.7% NOMINAL. CONSTRUCT GRADE BREAKS PERPENDICULAR TO RAMP RUNS.
5. DO NOT CONSTRUCT FLARE SLOPES STEEPER THAN 10.0%, SIDEWALK CROSS SLOPES STEEPER THAN 2.0% AND CURB RAMP CURB CURB AND GUTTER GUTTER PAN SLOPES STEEPER THAN 5.0%. THESE ARE THE STEEPEST SLOPES ALLOWED UNDER THE 2006 ADA STANDARDS FOR TRANSPORTATION FACILITIES.
6. PROVIDE A COARSE BROOMED FINISH ON RAMP RUNS PERPENDICULAR TO THE RAMP SLOPE.
7. INSTALL 24" WIDE DETECTABLE WARNING TILES FOR THE FULL WIDTH OF THE RAMP. PROVIDE TILES WITH TRUNCATED DOMES MEETING SECTION 705.1 OF THE 2006 ADA STANDARDS FOR TRANSPORTATION FACILITIES. ALIGN TRUNCATED DOME PATTERN IN THE PREDOMINANT DIRECTION OF WHEELCHAIR TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
8. STANDARD CURB AND GUTTER, EXPRESSWAY CURB AND GUTTER, DEPRESSED CURB AND GUTTER, GUTTER, CURB RAMP CURB AND GUTTER, AND CURB AND GUTTER TERMINATION TRANSITIONS, AND TRANSITION CURB AND GUTTER OFFSETS SHALL ALL BE MEASURED AND PAID FOR UNDER ITEM 609(102).
9. CURB AND GUTTER REINFORCING BARS TO BE SPLICED SHALL BE LAPPED AT LEAST 20 BAR DIAMETERS AND DOUBLE TIED. THE INNER AND OUTER BAR SPLICES SHALL BE OFFSET FROM EACH OTHER BY AT LEAST SIX INCHES.
10. ALL DETECTABLE WARNINGS TO BE FEDERAL YELLOW AND CAST IRON. PROJECT ENGINEER TO APPROVE COLOR PRIOR TO PLACEMENT.
11. ALL CURB RAMP LAYOUTS AND DIMENSIONS IN THIS PLAN SET ARE APPROXIMATE AND NEED TO BE FIELD FIT AND SHALL MEET 2006 ADA STANDARDS FOR MAXIMUM SLOPES. FINAL LAYOUT TO BE APPROVED BY THE ENGINEER PRIOR TO CONCRETE POUR.

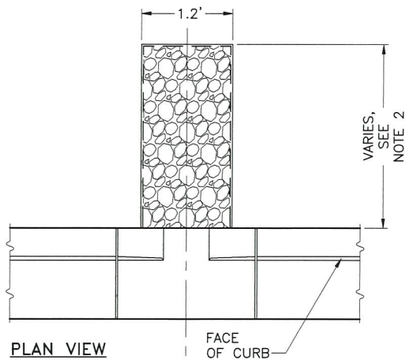
CURB AND GUTTER DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1005cnst11147.01FB-Seg-1A-G12 Fri, Dec/15/17 11:02am

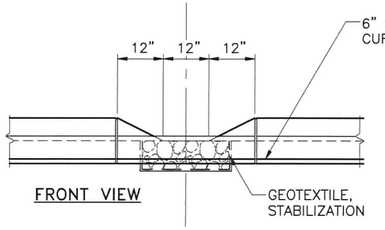
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/NFHWY00270	2017	G13	G14

DETAIL NOTES:

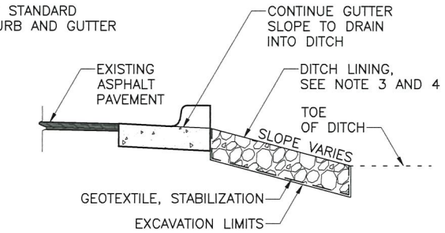
1. CURB DRAINS SHALL BE ADJUSTED AS NEEDED BY THE ENGINEER.
2. DITCH LINING SHALL EXTEND FROM BACK OF CURB TO THE TOE OF DITCH AS APPROVED BY THE ENGINEER.
3. DITCH LINING SHALL CONSIST OF STONES THAT ARE SOUND, DURABLE, AND SIZED 3" TO 6" IN DIAMETER AS APPROVED BY THE ENGINEER.
4. DITCH LINING SHALL NOT BE PLACED MORE THAN 1" ABOVE CONCRETE GUTTER EDGE.
5. CONCRETE CURB DRAIN AND DITCH LINING GEOMETRY MAY VARY BASED ON ACTUAL FIELD CONDITIONS AND MAY BE ADJUSTED AS APPROVED BY THE ENGINEER.
6. SIGNS SHALL NOT BE PLACED WITHIN DITCH LINING MATERIAL.



PLAN VIEW



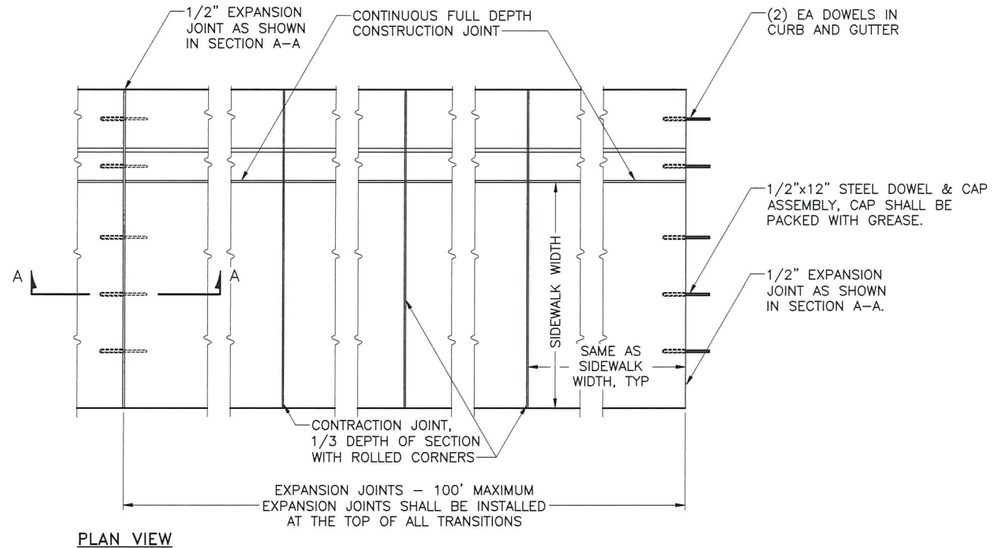
FRONT VIEW



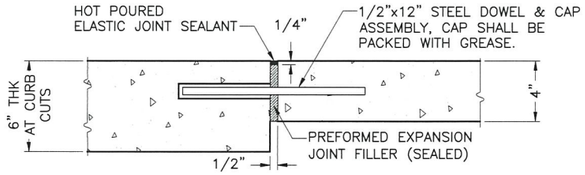
PROFILE VIEW

CURB DRAIN DETAIL

609(101) CURB DRAIN				
ALIGNMENT	STATION	OFFSET	QUANTITY (EACH)	REMARKS
"GJ"	12+10.92	RT	1	
"GJ"	12+40.90	RT	1	
"GJ"	13+26.27	RT	1	
"GJ"	14+06.47	RT	1	
"GJ"	14+41.73	RT	1	
"GJ"	14+67.71	RT	1	
"GJ"	15+77.30	RT	1	
"GJ"	16+15.00	RT	1	
"GJ"	17+71.60	RT	1	
PAY ITEM TOTALS			9	



PLAN VIEW



PARTIAL SECTION VIEW A–A

EXPANSION SIDEWALK & CURB AND GUTTER JOINT DETAIL

NOTES:

1. INSTALL CONTINUOUS FULL DEPTH 1/8" CONSTRUCTION JOINT AT ALL LOCATIONS WHERE SIDEWALK AND CURB (ANY TYPE) MEET.
2. PROTECT CONCRETE DURING CURE.
3. SEAL ALL EXPANSION JOINTS WITH HOT POURED ELASTIC TYPE JOINT SEAL CONFORMING TO AASHTO DESIGNATION M173–60.
4. FOR SIDEWALKS LARGER OR DIFFERENTLY CONFIGURED THAN SHOWN, PLACE EXPANSION AND CONTRACTION JOINTS AS ENGINEER DIRECTS.
5. EXPANSION AND CONTRACTION JOINTS IN THE SIDEWALK SHALL LINE UP WITH EXPANSION AND CONTRACTION JOINTS IN THE CURB.

CURB DRAIN, SIDEWALK & CURB AND GUTTER EXPANSION JOINT DETAILS

STATE OF ALASKA 49TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1005csnst11147.01FB-Seg-1A-G13 Sun, May/28/17 06:39pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	G14	G14

608(111) CONCRETE SIDEWALK, 4 INCHES THICK

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (SQUARE YARD)	REMARKS
"GJ"	11+85.00	12+05.53	RT	14.83	
"GJ"	12+44.97	14+01.41	RT	114.16	
"GJ"	12+64.64	12+98.59	LT	38.81	
"GJ"	13+29.88	13+80.00	RT	54.94	BUS STOP LOADING
"GJ"	13+32.59	15+71.13	LT	212.83	
"GJ"	14+42.76	15+75.89	RT	94.81	
"GJ"	16+17.68	18+39.46	RT	160.18	
"GJ"	16+05.30	19+98.55	LT	376.86	
"GJ"	18+97.42	20+44.41	RT	121.98	
"GJ"	21+66.77	21+84.09	RT	18.73	
"GJ"	21+83.05	22+62.91	RT	50.36	
"GJ"	22+78.09	23+32.94	RT	59.23	
"GJ"	21+38.85	21+83.23	LT	113.88	
"GJ"					
"GJ"					
PAY ITEM TOTALS				1431.60	

608(2) ASPHALT SIDEWALK

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	VOLUME (TONS)	REMARKS
"GJ"	19+98.58	20+58.85	LT	7.56	
"GJ"	20+33.98	20+55.43	RT	3.19	
"GJ"	21+19.93	21+38.86	LT	2.30	
"GJ"	21+19.51	21+72.21	RT	5.48	
PAY ITEM TOTALS				18.53	

608(6) CURB RAMP

ALIGNMENT	STATION	OFFSET	QUANTITY (EACH)	REMARKS
"GJ"	12+13.04	RT	1	UNIDIRECTIONAL
"GJ"	12+36.51	RT	1	UNIDIRECTIONAL
"GJ"	12+92.34	LT	1	PERPENDICULAR
"GJ"	13+39.65	LT	1	PERPENDICULAR
"GJ"	14+08.60	RT	1	UNIDIRECTIONAL
"GJ"	14+34.44	RT	1	UNIDIRECTIONAL
"GJ"	15+57.90	LT	1	PERPENDICULAR
"GJ"	15+84.11	RT	1	UNIDIRECTIONAL
"GJ"	16+07.31	RT	1	UNIDIRECTIONAL
"GJ"	16+24.19	LT	1	PERPENDICULAR
"GJ"	18+49.34	RT	1	UNIDIRECTIONAL
"GJ"	18+87.54	RT	1	UNIDIRECTIONAL
"GJ"	20+20.28	LT	1	PERPENDICULAR
"GJ"	20+30.03	RT	1	PERPENDICULAR
"GJ"	20+40.92	RT	1	PERPENDICULAR
"GJ"	20+54.83	LT	1	PERPENDICULAR
"GJ"	21+38.98	LT	1	PERPENDICULAR
"GJ"	21+39.14	RT	1	PERPENDICULAR
"GJ"	21+54.36	LT	1	PERPENDICULAR
"GJ"	21+54.36	RT	1	PERPENDICULAR
"GJ"	21+57.65	LT	1	PERPENDICULAR
"GJ"	21+63.86	RT	1	PERPENDICULAR
"GJ"	21+64.46	LT	1	PERPENDICULAR
"GJ"	21+81.99	RT	1	PARALLEL
"GJ"	22+70.42	RT	1	PARALLEL
PAY ITEM TOTALS			25	

608(112) CONCRETE SIDEWALK, 6 INCHES THICK

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (SQUARE YARD)	REMARKS
"GJ"	12+05.53	12+12.70	RT	5.38	
"GJ"	12+37.79	12+44.97	RT	6.08	
"GJ"	12+81.29	12+96.81	LT	10.72	
"GJ"	13+34.74	13+49.47	LT	11.12	
"GJ"	14+01.41	14+08.58	RT	5.27	
"GJ"	14+35.58	14+42.76	RT	5.89	
"GJ"	15+47.10	15+64.41	LT	11.77	
"GJ"	15+75.89	15+83.07	RT	5.90	
"GJ"	16+08.35	16+17.68	RT	7.44	
"GJ"	16+15.91	16+37.01	LT	13.01	
"GJ"	18+39.46	18+46.69	RT	7.05	
"GJ"	18+90.19	18+97.42	RT	7.05	
"GJ"	20+12.79	20+27.76	LT	7.49	
"GJ"	20+23.39	20+35.85	RT	7.43	
"GJ"	20+36.21	20+44.37	RT	7.43	
"GJ"	20+50.72	20+57.55	LT	7.52	
"GJ"	21+39.00	22+18.95	LT	172.35	ISLAND MEDIAN
"GJ"	21+39.12	21+69.36	RT	114.54	ISLAND MEDIAN
"GJ"	21+57.41	21+71.52	LT	7.47	
"GJ"	21+78.65	21+92.79	RT	12.73	
"GJ"	22+62.76	22+78.09	RT	13.60	
PAY ITEM TOTALS				447.24	

609(102) CURB AND GUTTER, TYPE I

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (LINEAR FOOT)	SHAPE	REMARKS
"GJ"	11+85.00	12+11.18	RT	37.12	STANDARD	
"GJ"	11+85.00	13+02.00	LT	149.47	STANDARD	
"GJ"	12+39.32	14+07.08	RT	191.03	STANDARD	
"GJ"	13+28.99	15+74.93	LT	311.81	STANDARD	
"GJ"	14+37.19	15+81.47	RT	160.23	STANDARD	
"GJ"	14+37.75	20+02.75	LT/RT	1,137.12	EXPRESSWAY	MEDIAN
"GJ"	16+01.26	19+98.58	LT	423.89	STANDARD	
"GJ"	16+09.96	18+54.54	RT	266.41	STANDARD	
"GJ"	18+82.76	20+44.83	RT	182.49	STANDARD	
"GJ"	21+53.91	22+10.20	LT	105.92	STANDARD	
"GJ"	21+60.15	24+27.49	RT	309.66	STANDARD	
"GJ"	21+38.21	20+18.95	LT	201.22	EXPRESSWAY	ISLAND MEDIAN
"GJ"	21+38.37	21+70.11	RT	159.86	EXPRESSWAY	ISLAND MEDIAN
"GJ"	21+81.75	28+44.65	LT/RT	1,336.31	EXPRESSWAY	MEDIAN
"GJ"	22+39.80	23+32.33	RT	95.25	STANDARD	WOLF RUN
"GJ"	22+74.89	23+30.77	RT	58.61	STANDARD	WOLF RUN
PAY ITEM TOTALS				5,126.39		

609(103) ASPHALT CURB

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	VOLUME (LINEAR FOOT)	SHAPE	REMARKS
"GJ"	19+98.58	20+59.44	LT	108.40	STANDARD	
"GJ"	20+44.83	20+59.74	RT	68.31	STANDARD	
"GJ"	21+19.33	21+53.91	LT	119.59	STANDARD	
"GJ"	21+19.51	21+60.15	RT	115.34	STANDARD	
PAY ITEM TOTALS				411.64		

NOTES:

1. ALL STATIONS ARE APPROXIMATE FOR SIDEWALK AND CURB RAMPS. CURB RAMPS NEED TO BE FIELD FIT AND THEY SHALL MEET 2006 ADA STANDARDS FOR MAXIMUM SLOPES. FINAL LAYOUT TO BE APPROVED BY THE ENGINEER PRIOR TO CONCRETE POUR.

STATE OF ALASKA 49TH
Heather D Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

SUMMARY TABLE (1 OF1)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C1005cnst11147.01FB-Seg-1A-G14 Sun, May/28/17 06:39pm

ABBREVIATIONS

ABBREVIATIONS APPLY TO H SHEETS ONLY

AAWF	ACTIVE ADVANCE WARNING FLASHER
ADT	AVERAGE DAILY TRAFFIC
AH	AHEAD
ARRC	ALASKA RAILROAD CORPORATION
ASDS	ALASKA SIGN DESIGN SPECIFICATIONS
ATM	ALASKA TRAFFIC MANUAL
AVC	AUTOMATED VEHICLE COUNTER
BMP	BEST MANAGEMENT PRACTICE
C/A	CONTROLLED ACCESS
CF	CUBIC FOOT
CGP	CONSTRUCTION GENERAL PERMIT
CKT	ELECTRICAL CIRCUIT
CRT	CONTROLLED RELEASE TERMINAL
DIA	DIAMETER
DIR	DIRECTION
DOT&PF	DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
EA	EACH
EB	EASTBOUND
EGC	EQUIPMENT GROUND CONDUCTOR
H	HORIZONTAL
HDG	HOT DIPPED GALVANIZING
HGT	HEIGHT
GVEA	GOLDEN VALLEY ELECTRIC ASSOCIATION
I/C OR	INTERCONNECT
IN OR "	INCH
JBOX, J-BOX	JUNCTION BOX
LBS	POUNDS
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LF	LINEAR FOOT
L.O.C.	LIP OF CURB
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
MTG	MOUNTING
NB	NORTHBOUND
NE	NORTHEAST
NO.	NUMBER
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
NW	NORTHWEST
PTZ	PAN, TILT, ZOOM CAMERA
PHB	PEDESTRIAN HYBRID BEACON
PST	PERFORATED STEEL TUBING
RP	REFERENCE POINT
SB	SOUTHBOUND
SDB	SPEED DISPLAY BOARD
SE	SOUTHEAST
SQ	SQUARE
SF	SQUARE FOOT
SMFO	SINGLE MODE FIBER OPTIC
SW	SOUTHWEST
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
SY	SQUARE YARD
TS	SQUARE STRUCTURAL STEEL TUBING
USACE	UNITED STATES ARMY CORPS OF ENGINEERS
V	VERTICAL
WB	WESTBOUND
W/	WITH
W/O	WITHOUT

TRAFFIC LEGEND

LEGEND APPLIES TO H SHEETS ONLY

	EXISTING	PROPOSED
JUNCTION BOX, TYPE IA		5
JUNCTION BOX, TYPE II		6
JUNCTION BOX, TYPE III		3
JUNCTION BOX, ABOVE GRADE		7
SIGNAL FACE, VEHICULAR	42	42
SIGNAL FACE, BACKPLATE	42	42
SIGNAL FACE, LEFT TURN, BACKPLATE	43	43
SIGNAL FACE, PEDESTRIAN	68 41	68 41
LOOP DETECTOR	33	73
VIDEO DETECTOR	2	2
RADAR DETECTOR	4	4A
OPTICOM DETECTOR	1	1
PAN, TILT, ZOOM CAMERA	1	1
PEDESTRIAN PUSH BUTTON	1	1
SIGNAL POST W/O MAST ARM	1	1
SIGNAL POLE W/MAST ARM	1	1
INTERCONNECT VAULT	I/C	I/C
INTERCONNECT MANHOLE		
TRAFFIC CONTROLLER		M
LOAD CENTER		
POST MOUNTED TRANSFORMER AND DISCONNECT SWITCH		E
LUMINAIRE		
RIGID METAL CONDUIT		
TRAFFIC SIGNAL INTERCONNECT	I/C	I/C
BORING/ENCASED CONDUITS		

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H1	H47

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
H1	TRAFFIC LEGEND, NOTES, AND SHEET INDEX
H2-H5	SIGNING AND STRIPING PLANS
H6-H7	SIGNING SUMMARIES AND SIGN SALVAGE SUMMARY
H8-H11	SIGN DETAILS
H12-H16	ILLUMINATION AND INTERCONNECT PLANS
H17-H18	ELECTROLIER SUMMARIES
H19	LIGHTING JUNCTION BOX AND INTERCONNECT VAULT SUMMARIES
H20	ELECTROLIER DEMOLITION SUMMARY
H21-H25	UNIVERSITY AVE AND GEIST RD SIGNAL PLAN, WIRING DIAGRAM, SCHEDULES AND POLE ELEVATIONS
H26	LOAD CENTER SUMMARY
H27-H28	LOAD CENTER DETAILS
H29-H42	ILLUMINATION, SIGNAL AND INTERCONNECT DETAILS
H43-H47	UNIVERSITY AVE AND GEIST RD TEMPORARY SIGNAL PLAN, AND DETAILS

PAINTED TRAFFIC MARKINGS SUMMARY

DESCRIPTION	QUANTITY	REMARKS
4"W	2,645 LF	
4"WS	2,838 LF	INCLUDES SKIPS
4"WD-1	849 LF	INCLUDES SKIPS
4"Y	822 LF	
4"YS	280 LF	INCLUDES SKIPS
4"DY	327 LF	
8"W	1,891 LF	
8"WD-1	325 LF	INCLUDES SKIPS
24"W	1,612 SF	INCLUDES CROSSWALKS AND STOP BARS
WHITE CHEVRONS	546 SF	
YELLOW DIAGONALS	76 SF	
THRU/TURN ARROW SYMBOLS	1 EA	
TURN ARROW SYMBOLS	23 EA	

MMA TRAFFIC MARKINGS SUMMARY

DESCRIPTION	QUANTITY	REMARKS
YELLOW RAMPED MEDIAN NOSES	6 EA	
YELLOW CURB AND GUTTER	22 LF	MEASURED ALONG THE FACE OF CURB

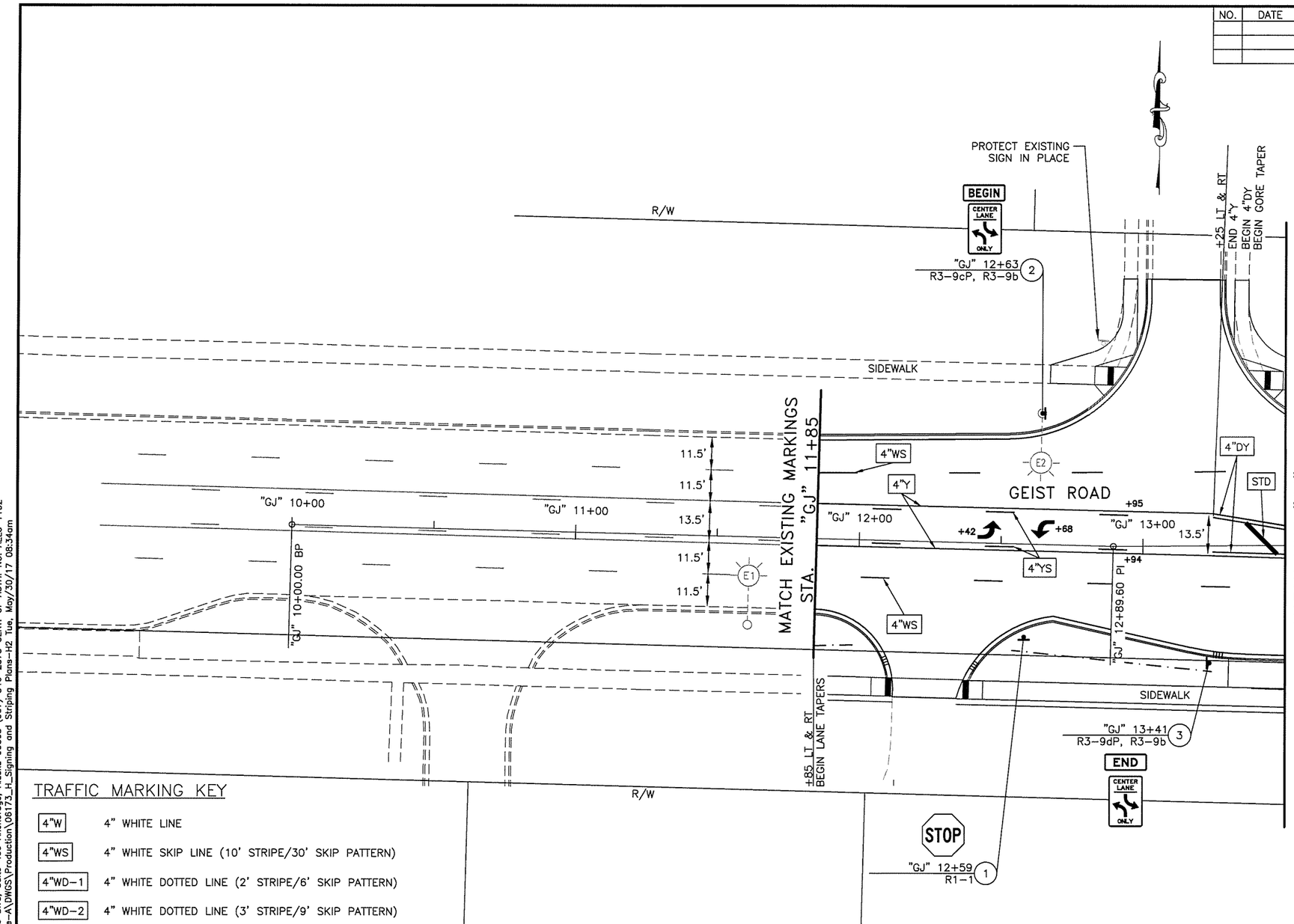
TRAFFIC LEGEND, NOTES AND SHEET INDEX

STATE OF ALASKA
49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\Production\06173_H1_LEGEND-H1 Tue, May/30/17 08:31am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H2	H47



TRAFFIC MARKING KEY

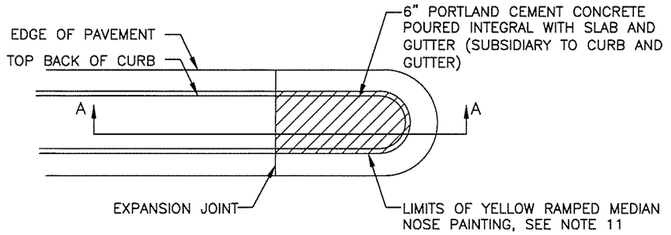
4"W	4" WHITE LINE
4"WS	4" WHITE SKIP LINE (10' STRIPE/30' SKIP PATTERN)
4"WD-1	4" WHITE DOTTED LINE (2' STRIPE/6' SKIP PATTERN)
4"WD-2	4" WHITE DOTTED LINE (3' STRIPE/9' SKIP PATTERN)
4"Y	4" YELLOW LINE
4"YS	4" YELLOW SKIP LINE (10' STRIPE/30' SKIP PATTERN)
4"DY	4" DOUBLE YELLOW LINE
8"W	8" WHITE LINE
8"WD-1	8" WHITE WIDE DOTTED LINE (2' STRIPE/4' SKIP PATTERN)
8"WD-2	8" WHITE WIDE DOTTED LINE (3' STRIPE/9' SKIP PATTERN)
24"W	24" WHITE LINE
STD	SEE STANDARD DRAWING
DTL	SEE DETAIL

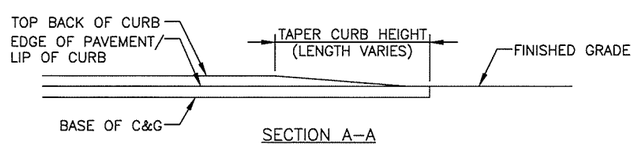
SIGNING KEY

(#) STATION
SIGN CODE(S)
SIGN LOCATION #

TRAFFIC MARKING NOTES:

1. ALL PROPOSED PAVEMENT MARKINGS SHALL BE SURFACE APPLIED PAINT UNLESS OTHERWISE NOTED IN THE PLANS.
2. BEGIN PAVEMENT MARKINGS BY INSTALLING THE INTERSECTION CROSSWALKS FIRST. LAYOUT THE CROSSWALKS IN ACCORDANCE WITH STD. DWG. T-23.00. FOR SKEWED INTERSECTIONS AND WHERE CURB RAMPS ARE LOCATED IN NON-STANDARD LOCATIONS AND INSTALLATION IS NOT CALLED OUT IN PLANS, CENTER THE CROSSWALK STRIPING ON THE CURB RAMP.
3. TRANSITION NEW PAVEMENT MARKINGS TO MATCH EXISTING MARKINGS AT A 100:1 TAPER.
4. REMOVE ALL EXISTING PAVEMENT MARKINGS NOT COINCIDING WITH THE NEW MARKINGS. THIS WORK IS SUBSIDIARY TO 670 PAY ITEMS.
5. DIMENSIONS REFER TO THE CENTER OF STRIPE, STRIPE GROUP, EDGE OF PAVEMENT OR FACE OF CURB WHEN PRESENT. THE FACE OF CURB IS DEFINED AS 6 INCHES FROM BACK OF CURB FOR STANDARD, MOUNTABLE, AND DEPRESSED TYPE CURB & GUTTER; AND 9 INCHES FROM BACK OF CURB FOR EXPRESSWAY TYPE (MEDIANS OR ISLANDS) CURB & GUTTER.
6. ALL LANES ARE 12' WIDE UNLESS OTHERWISE NOTED.
7. AT MINOR SIDE STREETS, BREAK FOG LINE AT APPROACH RADII. DO NOT BREAK STRIPING AT DRIVEWAYS.
8. BREAK CENTERLINE STRIPING FOR DEDICATED LEFT TURN BAYS. CONTINUE CENTERLINE STRIPING FOR CENTER TWO-WAY LEFT TURN LANES AND WHEN THERE ARE NO LEFT TURN LANES.
9. INSTALL THE "APPROACH TO OBSTRUCTIONS" MARKINGS IN ACCORDANCE WITH STANDARD DRAWING T-20.03 OR AS SHOWN ON THESE PLANS.
10. INSTALL TURN ARROWS WHERE SHOWN AND ACCORDING TO STD. DWG. T-21.03. DO NOT INSTALL "ONLY" MARKINGS UNLESS SHOWN ON THE STRIPING PLAN.
11. PAINT THE TOP AND FACE OF ALL RAMPED MEDIAN NOSES AND THE CURB AND GUTTER ISLAND NOSES WITH 20 MILS OF SURFACE APPLIED YELLOW METHYL METHACRYLATE MARKINGS. THIS WORK IS SUBSIDIARY TO 670 PAY ITEMS.
12. STRIPING CONFIGURATIONS IN THIS PLAN SET ARE APPROXIMATE. THE CONTRACTOR SHALL PERFORM PRELIMINARY SPOTTING (RABBIT TRACKING) OF STRIPING AT LEAST 48 HOURS PRIOR TO APPLICATION OF MARKINGS. THE ENGINEER WILL THEN APPROVE THE LAYOUT OR MAKE MODIFICATIONS AS REQUIRED.





SECTION A-A

RAMPED MEDIAN NOSE DETAIL

N.T.S.

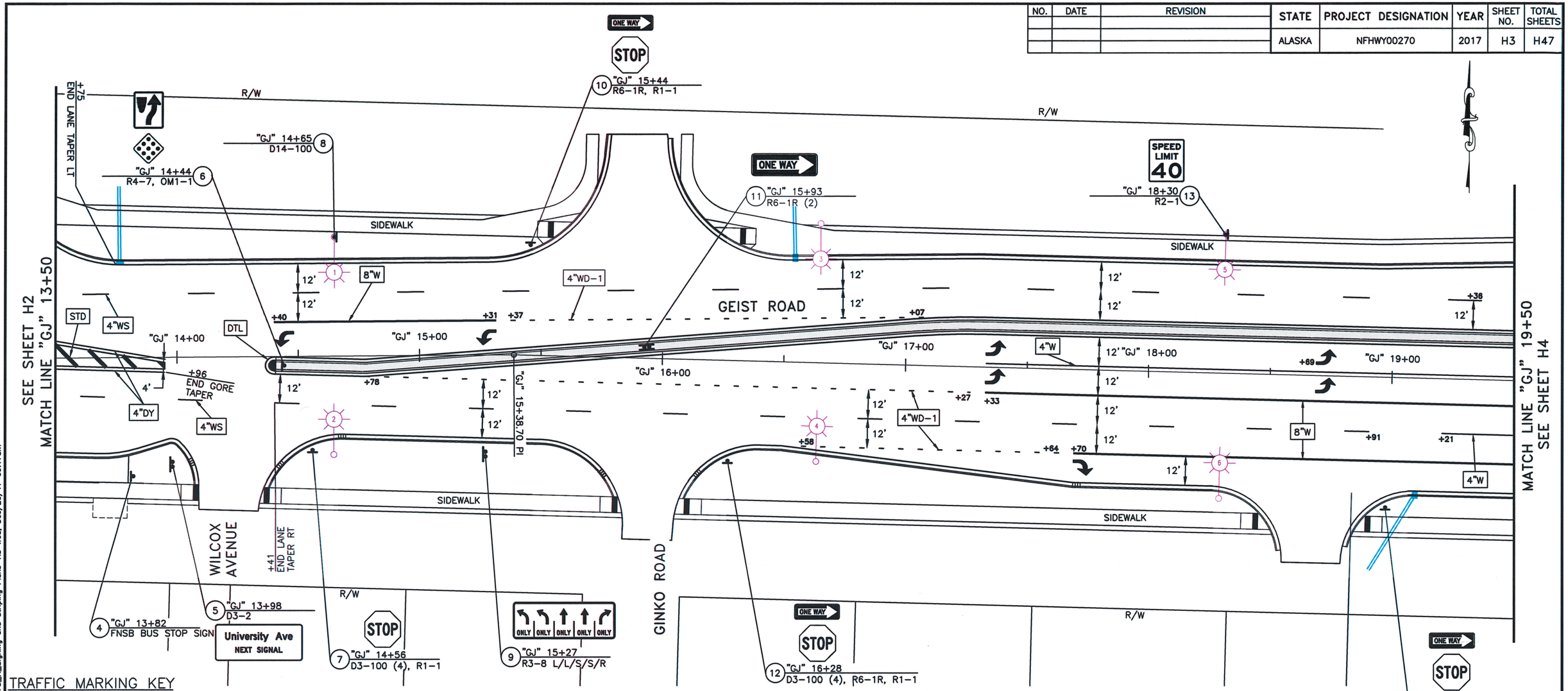
SIGNING AND STRIPING PLANS 1 OF 4

STATE OF ALASKA
49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\Production\06173_H_Signing and Striping Plans-H2 Tue, May/30/17 08:34am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H3	H47



TRAFFIC MARKING KEY

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8"WD-2	8" WHITE WIDE DOTTED LINE (3' STRIPE/9' SKIP PATTERN)
24"W	24" WHITE LINE
STD	SEE STANDARD DRAWING
DTL	SEE DETAIL

SIGNING KEY

(#) STATION
SIGN CODE(S)
SIGN LOCATION #

SIGNING AND STRIPING PLANS 2 OF 4

STATE OF ALASKA
49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
12/19/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
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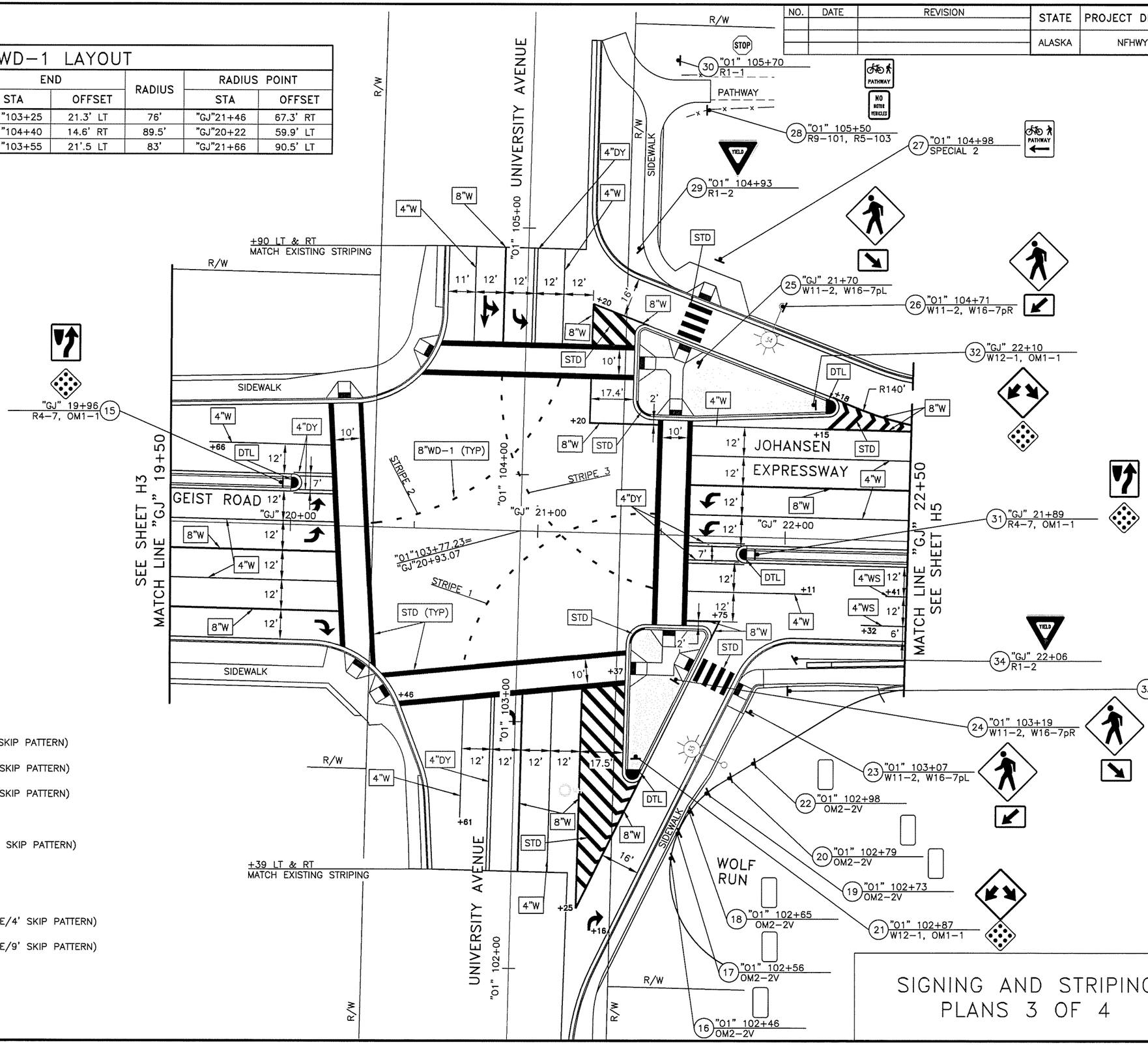
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H4	H47

8"WD-1 LAYOUT

STRIPE	BEGIN		END		RADIUS	RADIUS POINT	
	STA	OFFSET	STA	OFFSET		STA	OFFSET
1	"GJ"21+47	8.44' LT	"O1"103+25	21.3' LT	76'	"GJ"21+46	67.3' RT
2	"GJ"20+33	1.50 LT	"O1"104+40	14.6' RT	89.5'	"GJ"20+22	59.9' LT
3	"GJ"20+83	63.7' LT	"O1"103+55	21'.5 LT	83'	"GJ"21+66	90.5' LT



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24"W	24" WHITE LINE
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DTL	SEE DETAIL

SIGNING KEY

(#) STATION
SIGN CODE(S)
SIGN LOCATION #

SIGNING AND STRIPING PLANS 3 OF 4

STATE OF ALASKA
49TH
JAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
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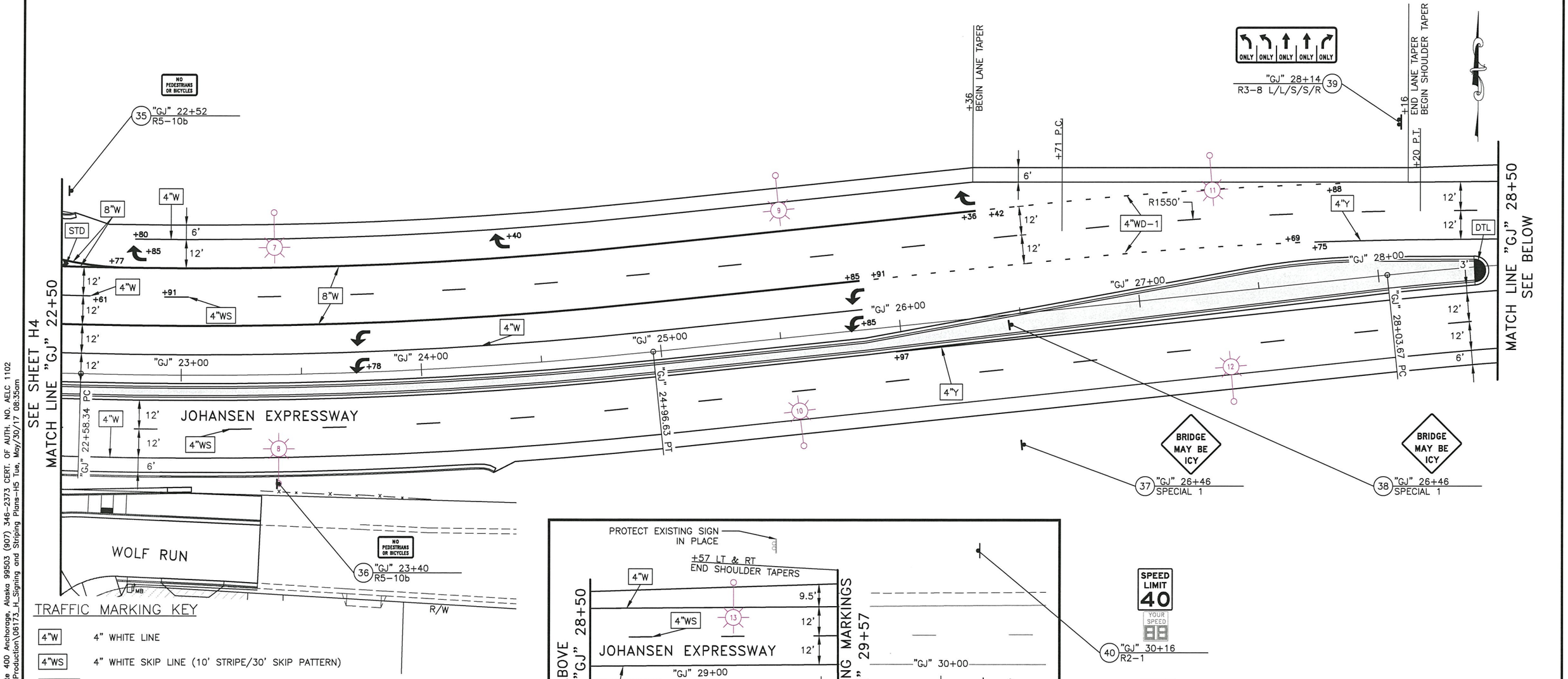
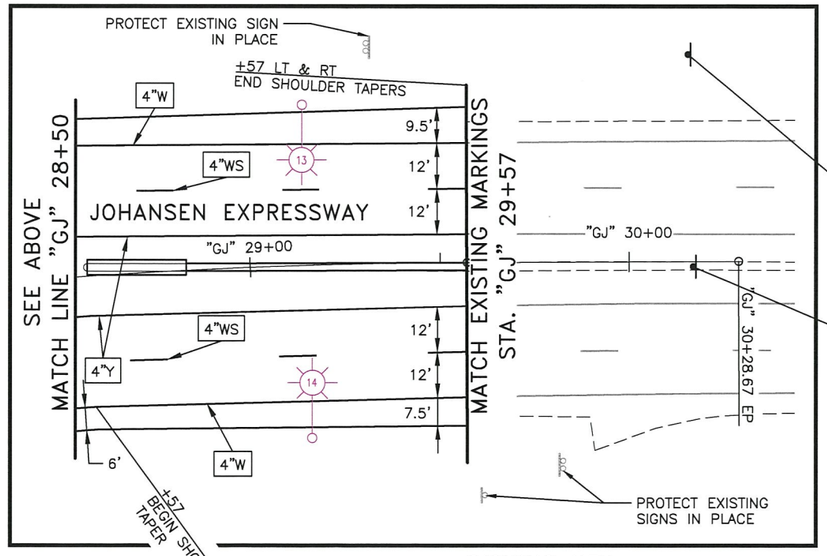
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H5	H47





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STD	SEE STANDARD DRAWING
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SIGNING KEY

(#) STATION
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SIGN LOCATION #

SIGNING AND STRIPING PLANS 4 OF 4

STATE OF ALASKA 49TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
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SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/ FRAMING BRACED	BRACING/ FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
1	"GJ"12+59		X	R1-1	STOP	30 X 30	X		6.25		S	PST	2.5	1	
2	"GJ"12+63	X		R3-9cP	BEGIN	30 X 12	X		2.50		E				MOUNT ON EXISTING LIGHT POLE
				R3-9b	CENTER TWO WAY TURN LANE	24 X 36			6.00		E				
3	"GJ"13+41		X	R3-9dP	END	30 X 12	X		2.50		W	PST	2.5	1	
				R3-9b	CENTER TWO WAY TURN LANE	24 X 36			6.00		W				
4	"GJ"13+82		X	FNSB	BUS STOP						W	PST	2.5	1	INSTALL EXISTING SIGN. SEE NOTE 22.
5	"GJ"13+98		X	D3-2	University Ave, NEXT SIGNAL	72 X 30		X	15.00		W	TS	3	2	SEE NOTE 20
6	"GJ"14+44		X	R4-7	KEEP RIGHT	24 X 30			5.00		W	PST	2.5	1	
				OM1-1	OBJECT MARKER	18 X 18			2.25		W				
7	"GJ"14+56		X	D3-100(2)	Geist Rd	24 X 8	X		2.67		N/S	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H9
				D3-100(2)	Wilcox Ave	42 X 12	X		7.00		E/W				
				R1-1	STOP	30 X 30	X		6.25		S				
8	"GJ"14+65	X		D14-100	ADOPT A HIGHWAY	30 X 24	X		5.00		E				MOUNT ON LIGHT POLE.
					SPONSOR NAME PLATE	30 X 12	X		2.50		E				
9	"GJ"15+27		X	R3-8 L/L/S/S/R	(LEFT) ARROW ONLY, (LEFT) ARROW ONLY, (THRU) ARROW ONLY, (THRU) ARROW ONLY, (RIGHT) ARROW ONLY	84 X 30		X	17.50		W	TS	3	2	SEE NOTE 20
10	"GJ"15+44	X		R6-1R	ONE WAY (RIGHT) ARROW	36 X 12	X		3.00		N	PST	2.5	1	
				R1-1	STOP	30 X 30	X		6.25		N				
11	"GJ"15+93	X		R6-1R(2)	ONE WAY (RIGHT) ARROW	54 X 18		X	13.50		N/S	TS	3.0	2	SEE NOTE 20
12	"GJ"16+28		X	D3-100(2)	Geist Rd	24 X 8	X		2.67		N/S	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H9
				D3-100(2)	Ginko Rd	36 X 12	X		6.00		E/W				
				R6-1R	ONE WAY (RIGHT) ARROW	36 X 12	X		3.00		S				
				R1-1	STOP	30 X 30	X		6.25		S				
13	"GJ"18+30	X		R2-1	40 MPH SPEED LIMIT	30 X 36	X		7.50		E				MOUNT ON LIGHT POLE
14	"GJ"18+98		X	R6-1R	ONE WAY (RIGHT) ARROW	36 X 12	X		3.00		S	PST	2.5	1	
				R1-1	STOP	30 X 30	X		6.25		S				
15	"GJ"19+96	X		R4-7	KEEP RIGHT	24 X 30			5.00		E	PST	2.5	1	
				OM1-1	OBJECT MARKER	18 X 18			2.25		E				
16	"01"102+46		X	OM2-2V	OBJECT MARKER	18 X 18			2.25		E	PST	2.5		
17	"01"102+56		X	OM2-2V	OBJECT MARKER	18 X 18	X		2.25		SE	PST	2.5	1	
18	"01"102+65	X		OM2-2V	OBJECT MARKER	18 X 18	X		2.25		SE	PST	2.5	1	
19	"01"102+73		X	OM2-2V	OBJECT MARKER	18 X 18			2.25		SW	PST	2.5	1	
20	"01"102+79		X	OM2-2V	OBJECT MARKER	18 X 18	X		2.25		SE	PST	2.5	1	
21	"01"102+87		X	W12-1	(DOWN LEFT/RIGHT ARROWS	36 X 36	X		9.00		S	PST	2.5	1	
				OM1-1	OBJECT MARKER	18 X 18			2.25		S				
22	"01"102+98	X		OM-4	OBJECT MARKER	18 X 18	X		2.25		E	PST	2.5	1	

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H6	H47

SIGNING NOTES:

1. REMOVE AND DISPOSE OF ALL EXISTING SIGNS AND SIGN POST FOUNDATIONS WITHIN THE PROJECT LIMITS, EXCEPT SIGNS DESIGNATED FOR REINSTALLATION, SALVAGE, OR OTHERWISE NOTED.
2. OFFSET DISTANCES FOR STOP SIGN ASSEMBLIES AND SIGNS MOUNTED ON LIGHT POLES OR POSTS IN THE MEDIAN ARE FROM DESIGN CENTERLINE TO CENTER OF POST. ALL OTHER OFFSET DISTANCES ARE FROM DESIGN CENTERLINE TO NEAR EDGE OF SIGN.
3. MOUNT SIGNS PER STANDARD DRAWING S-05.01. SIGNS THAT PROJECT OVER OR WITHIN 2 FEET OF THE SIDEWALK AND PATHWAYS SHALL BE MOUNTED TO A HEIGHT OF 8 FEET.
4. DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
5. INSTALL POSTS WITH SLEEVE TYPE CONCRETE FOUNDATIONS PER STANDARD DRAWING S-30.04. ATTACH THE SIGN POST USING GALVANIZED 3/8" DIA. BOLT, NUT, SPLIT LOCK WASHER AND TWO FLAT WASHERS.
6. PROVIDE "TUBE POST BRACING" AS SHOWN ON STANDARD DRAWING S-01.01 FOR ALL SIGNS MOUNTED ON A SINGLE POST AND HAVING A HORIZONTAL DIMENSION OF 30 INCHES OR GREATER, EXCEPT D3-100 SERIES SIGNS. INSTEAD OF 5/8" DIA. GALVANIZED BOLTS AND NYLON LOCKING NUTS SHOWN ON STANDARD DRAWING S-01.01, USE GALVANIZED 3/8" DIA. BOLTS, SPLIT LOCK WASHERS AND NUTS. 1/4" T X 1-1/2" W ALUMINUM ALLOY 6061-T6 BAR MAY ALSO BE USED TO FABRICATE SIGN BRACES.
7. ATTACH ALL SIGNS TO THEIR SUPPORTS WITH 3/8" DIA. BOLTS, EXCEPT ATTACH UNFRAMED SIGNS TO POSTS WITH ALUMINUM DRIVE RIVETS. WIND WASHERS ARE NOT REQUIRED WITH DRIVE RIVETS. INCLUDE SPLIT LOCK WASHERS WHEN BOLTS ARE USED.
8. ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" ON SHEET H9.
9. SIGNS INSTALLED ON LIGHT POLES MAY REQUIRE TEMPORARY INSTALLATION ON 2-1/2" PST POST UNTIL LIGHT POLES ARE IN PLACE. THIS WORK IS SUBSIDIARY TO PAY ITEM 615(1).
10. SEE TRAFFIC SIGNAL SHEETS H21-H25 FOR ADDITIONAL TRAFFIC SIGNS, MOUNTING LOCATIONS, AND MOUNTING DETAILS.
11. STOP (R1-1) AND YIELD (R1-2) SIGN LOCATIONS, ESPECIALLY THOSE LOCATED AT LARGE RADIUS INTERSECTIONS, MAY NEED ADJUSTMENT IN THE FIELD. THE ENGINEER WILL APPROVE FINAL LOCATIONS.
12. WHERE TWO DIFFERENT D3-100 SERIES SIGNS ARE TO BE LOCATED ON THE SAME POST, INSTALL THE CROSS-STREET PANEL IN THE LOWER POSITION. SEE SHEET H9 FOR DETAIL.
13. D3-100(2) INDICATES TWO SEPARATE SINGLE SIDED SIGN PANELS; AND D3-100 INDICATES ONE SINGLE SIDED SIGN PANEL. PROVIDE SIGN BRACING AS INDICATED ON SHEET H9 AND STANDARD DRAWING S-01.01.
14. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
15. ALL SIGNS NOTED FOR REMOVAL AND REINSTALLATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE IF THEY ARE DAMAGED DURING THE RELOCATION EFFORT.
16. USE SERIES C LETTERS FOR D3-100 SERIES SIGNS UNLESS OTHERWISE NOTED. USE 4.5-INCH FOR DIMENSION "E" FOR 12-INCH VERTICAL (V) D3-100 SIGNS. THE LETTERING INDICATING THE TYPE OF STREET (SUCH AS St, Ave, OR Rd) SHALL BE UPPER CASE AND LOWER CASE. THIS MODIFIES THE ASDS.
17. LOCATE AND PROTECT ALL NEW AND EXISTING UNDERGROUND UTILITIES PRIOR TO INSTALLING SIGN POSTS. UTILITIES MAY NOT BE SHOWN ON THE SIGNING AND STRIPING PLANS. SEE OTHER PROJECT PLAN SHEETS AND AS-BUILT DRAWINGS FOR UTILITY INFORMATION.
18. CLEARING OR TRIMMING OF VEGETATION AS DIRECTED BY THE ENGINEER MAY BE REQUIRED TO ENSURE ADEQUATE VISIBILITY OF SIGNS. THIS WORK IS SUBSIDIARY TO PAY ITEM 615(1).
19. PROVIDE WEATHER TIGHT CAPS ON ALL TUBE POSTS, EXCEPT PERFORATED STEEL TUBES.
20. PROVIDE FRANGIBLE COUPLING SYSTEMS IN ACCORDANCE WITH STANDARD DRAWING S-31.01.
21. HINGED JOINTS WITH FRANGIBLE FUSE PLATE ARE REQUIRED ON ALL MULTIPLE POST SIGNS WITH FRANGIBLE COUPLING SYSTEMS. THE HINGE LOCATION ON ALL POSTS SHALL BE THE SAME DISTANCE BELOW THE SIGNS, INSTEAD OF THE 6 INCH MINIMUM SHOWN ON STANDARD DRAWING S-31.01. SEE MANUFACTURER'S SPECIFICATION FOR HINGE LOCATION BELOW SIGN.
22. UNLESS OTHERWISE NOTED, RELOCATE EXISTING (SALVAGED) SIGNS TO LOCATIONS IDENTIFIED IN THE SIGNING SUMMARY USING NEW POSTS. FOUNDATIONS, BRACING/FRAMING, MOUNTING BRACKETS, AND FASTENERS. THIS WORK SHALL BE SUBSIDIARY TO PAY ITEM 615(1) STANDARD SIGN.

POST TYPE CODING:

TS = SQUARE STRUCTURAL STEEL TUBING
PST = PERFORATED STEEL TUBING

SIGNING SUMMARY
1 OF 2

STATE OF ALASKA
49 TH
JAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
12/19/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H7	H47

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/FRAMING BRACED	BRACING/FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
23	"01"103+07		X	W11-2	(DOWN LEFT/RIGHT) ARROWS	36 X 36	X		9.00		SW	PST	2.5	1	
				W16-7PL	OBJECT MARKER	18 X 18			2.25		SW				
24	"01"103+19		X	W11-2	PEDESTRIAN SYMBOL	36 X 36	X		9.00		SW	PST	2.5	1	
				W16-7pR	(RIGHT-DOWN) ARROW	24 X 12			2.00		SW				
25	"GJ"21+70		X	W11-2	PEDESTRIAN SYMBOL	36 X 36	X		9.00		SE	PST	2.5	1	
				W16-7pR	(RIGHT-DOWN) ARROW	24 X 12			2.00		SE				
26	"01"104+71		X	W11-2	PEDESTRIAN SYMBOL	36 X 36	X		9.00		SW	PST	2.5	1	
				W16-7pL	(LEFT-DOWN) ARROW	24 X 12			2.00		SW				
27	"01"104+90		X	SPECIAL 2	PATHWAY (LEFT) ARROW	24 X 30			5.00		SW	PST	2.5	1	SEE DETAIL ON SHEET H8
28	"01"105+50		X	R9-101	MULTI USE PATHWAY	24 X 24			4.00		W	PST	2.5	1	
				R5-103	NO MOTOR VEHICLES	18 X 24			3.00		W				
29	"01"104+93		X	R1-2	YIELD	36 X 36	X		9.00		SW	PST	2.5	1	
30	"01"105+70		X	R1-1	STOP	18 X 18			2.25		E	PST	2.51		
31	"GJ"21+89		X	R4-7	KEEP RIGHT	24 X 30			5.00		W	PST	2.5	1	
				OM1-1	OBJECT MARKER	18 X 18			2.25		W				
32	"GJ"22+10	X		W12-1	(DOWN LEFT/RIGHT) ARROWS	36 X 36	X		9.00		E	PST	2.5	1	
				OM1-1	OBJECT MARKER	18 X 18			2.25		E				
33	"GJ"22+04		X	R9-101	MULTI USE PATHWAY	24 X 24			4.00		SW	PST	2.5	1	
				R5-103	NO MOTOR VEHICLES	18 X 24			3.00		SW				
34	"GJ"22+06		X	R1-2	YIELD	36 X 36	X		9.00		SW	PST	2.5	1	
35	"GJ"22+52	X		R5-10b	NO PEDESTRIANS OR BICYCLES	30 X 18	X		3.75		W	PST	2.5	1	
36	"GJ"23+40		X	R5-10b	NO PEDESTRIANS OR BICYCLES	30 X 18	X		3.75		W				MOUNT ON LIGHT POLE
37	"GJ"26+46		X	SPECIAL 1	BRIDGE MAY BE ICY	36 X 36	X		9.00		W	PST	2.5	1	SEE DETAILS ON SHEET H11
38	"GJ"26+46		X	SPECIAL 1	BRIDGE MAY BE ICY	36 X 36	X		9.00		W	PST	2.5	1	SEE DETAILS ON SHEETS H11
39	"GJ"28+14	X		R3-8 L/L/S/S/R	(LEFT) ARROW ONLY, (LEFT) ARROW ONLY, (THRU) ARROW ONLY, (THRU) ARROW ONLY, (RIGHT) ARROW ONLY	84 X 30		X	17.50		E	TS	3	2	SEE NOTE 20
40	"GJ"30+16	X		R2-1	SPEED LIMIT 40	48 X 60		X	20.00		E	SEE DETAIL SHEET H8			MOUNT SIGN ABOVE SPEED DISPLAY BOARD PER DETAIL SHEET H8
41	"GJ"30+16		X	R2-1	SPEED LIMIT 40	48 X 60		X	20.00		E	TS	3	1	SEE NOTE 20
									SUBTOTAL = 361.00						
									SIGNAL SIGN SUBTOTAL = 97.50						
									TOTAL SIGN AREA = 458.50						

NOTE:
1. SEE SHEET H6 FOR SIGNING SUMMARY NOTES AND POST TYPE CODING.

SALVAGE SIGN SUMMARY

ALIGNMENT	STATION	CL REF	ASDS CODE	LEGEND	REMARKS
01	102+77	38.6' RT	D11-1	BIKE (SYMBOL) ROUTE	
			SPECIAL	NO LITTERING	
01	103+09	84.2' RT	D11-1	BIKE (SYMBOL) ROUTE	
			R5-3	NO MOTOR VEHICLES	
01	103+30	93.9' RT	R5-6	NO BIKE (SYMBOL)	
			R9-3A	NO PEDESTRIANS (SYMBOL)	
01	104+38	81.9' RT	R5-6	NO BIKE (SYMBOL)	
			R9-3A	NO PEDESTRIANS (SYMBOL)	
01	104+72	51.3' RT	D11-1	BIKE (SYMBOL) ROUTE	
			SPECIAL	NO LITTERING	
GJ	12+50	42.7' RT	R1-1	STOP	
GJ	13+81	44.3' LT	R107-7A	BUS STOP (SYMBOL)	STORE SIGN UNTIL IT CAN BE RELOCATED TO NEW LOCATION
GJ	13+89	43.1' LT	D14-100	ADOPT A HIGHWAY	
				KNIGHTS OF COLUMBUS COUNCIL 13566	
GJ	14+50	46.6' LT	D3-1	WILCOX AVE	
			R1-1	STOP	
GJ	15+35	38.0' LT	R3-9cP	BEGIN	MOUNTED ON LIGHT POLE
			R3-9b	CENTER TWO WAY LEFT TURN LANE	
GJ	15+53	47.2' RT	D3-2	UNIVERSITY AVE	
GJ	15+59	61.5' LT	R1-1	STOP	
			R7-1	NO PARKING	
GJ	16+23	50.3' RT	D3-1	GEIST RD	
			D3-1	GINKO RD	
			R1-1	STOP	
GJ	17+88	37.8' LT	S1-1	PEDESTRIANS (SYMBOL)	MOUNTED ON LIGHT POLE
			W16-9P	AHEAD	
GJ	18+83	31.2' LT	R2-1	40 MPH SPEED LIMIT	
GJ	19+02	54.6' RT	R1-1	STOP	
GJ	19+62	54.2' RT	SPECIAL	NO LITTERING	
GJ	19+15	51.9' RT	R3-9cP	END	MOUNTED ON LIGHT POLE
			R3-9b	CENTER TWO WAY LEFT TURN LANE	
GJ	23+02	43.1' RT	R107-7A	BUS STOP (SYMBOL)	STORE SIGN UNTIL IT CAN BE RELOCATED TO NEW LOCATION
GJ	23+39	64.0' LT	R5-1	DO NOT ENTER	
GJ	23+95	39.1' RT	R5-6	NO BIKE (SYMBOL)	
			R9-3A	NO PEDESTRIANS (SYMBOL)	
GJ	24+34	34.4' RT	SPECIAL	BRIDGE MAY BE ICY	FOLDABLE WARNING SIGN
GJ	24+36	5.5' LT	SPECIAL	BRIDGE MAY BE ICY	FOLDABLE WARNING SIGN
GJ	25+37	61.1' LT	R5-1A	WRONG WAY	MOUNTED ON LIGHT POLE
GJ	25+38	6.3' LT	R5-1A	WRONG WAY	

SIGN SALVAGE AND DISPOSAL NOTES:

1. DELIVER SALVAGED SIGN PANELS, NOT IDENTIFIED FOR REUSE IN THE SIGNING SUMMARY, TO THE DOT&PF FAIRBANKS MAINTENANCE YARD LOCATED AT 2301 PEGER ROAD. CONTACT DANIEL SCHACHER (907) 451-5276 TO ARRANGE FOR DELIVERY.
2. SALVAGED SIGNS WILL BE PAID PER EACH SIGN PANEL DELIVERED IN ACCEPTABLE CONDITION.

SIGNING SUMMARY AND SALVAGE SIGN SUMMARY
2 OF 2

STATE OF ALASKA 49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
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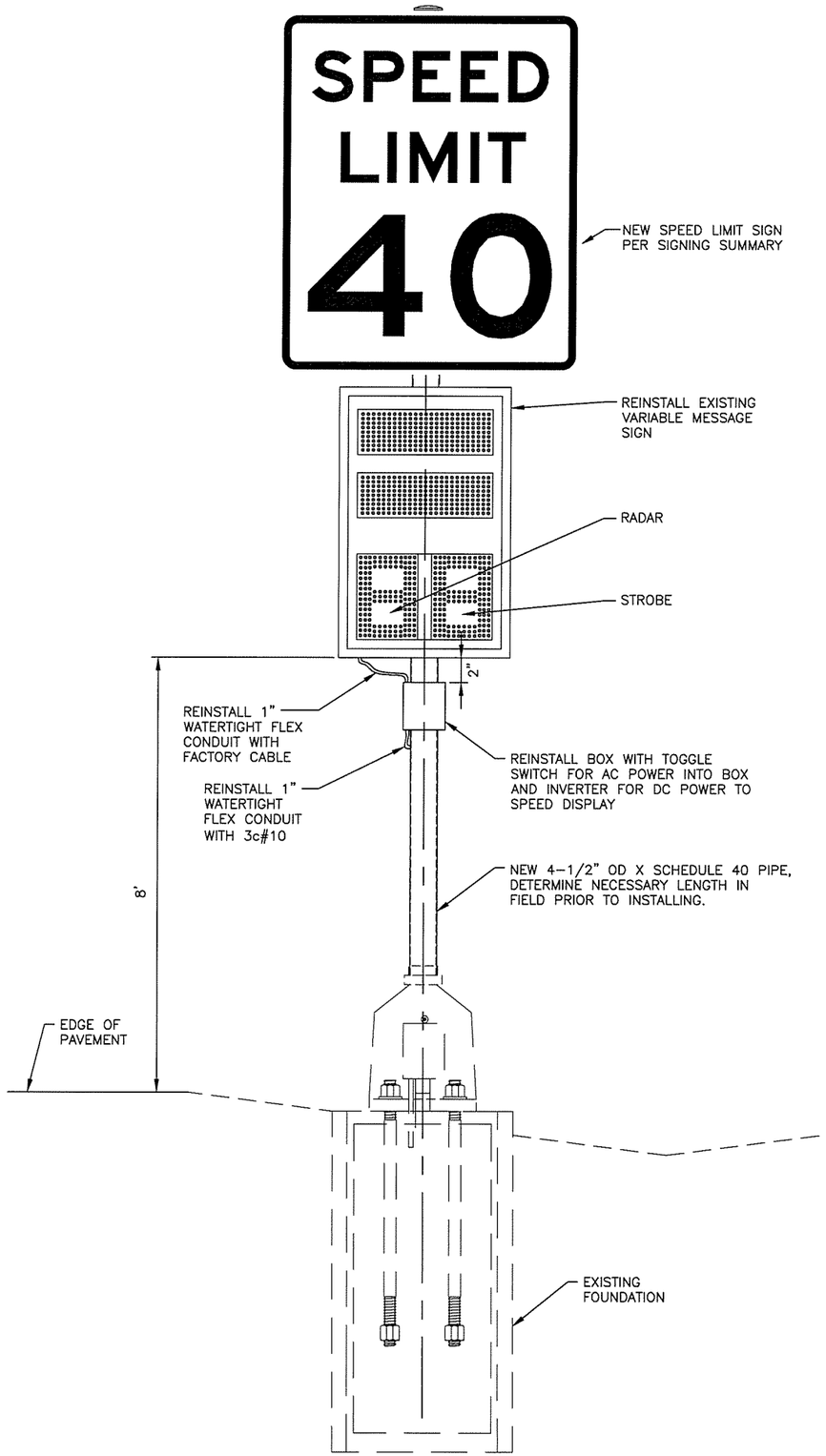
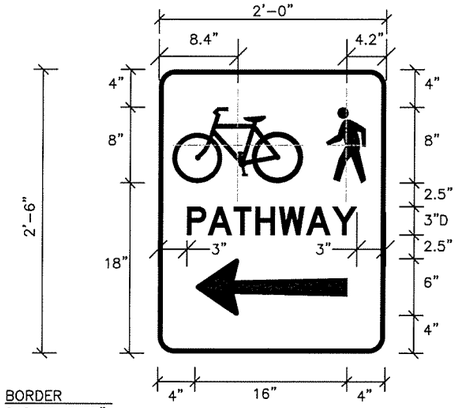
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H8	H47

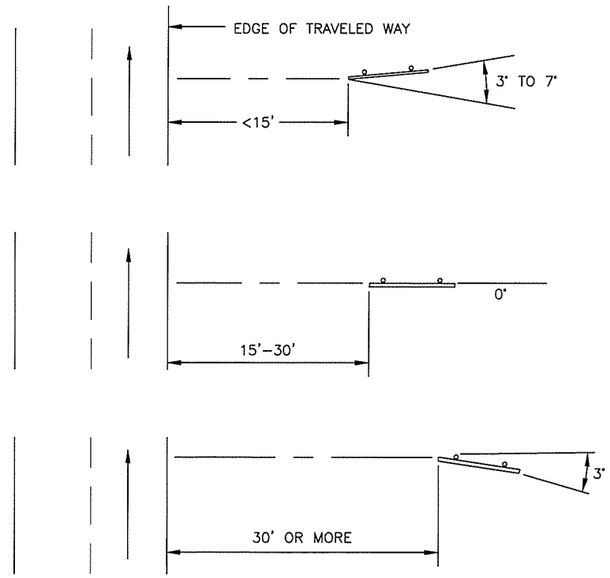


SPEED DISPLAY BOARD INSTALLATION DETAIL



BORDER
RADIUS=1.75"
WIDTH=0.5"
BORDER AND LEGEND: WHITE
BACKGROUND: GREEN

SPECIAL SIGN 2 DETAIL



SIGN INSTALLATION ANGLES

SIGN DETAILS
1 OF 4

STATE OF ALASKA 49 TH
JAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

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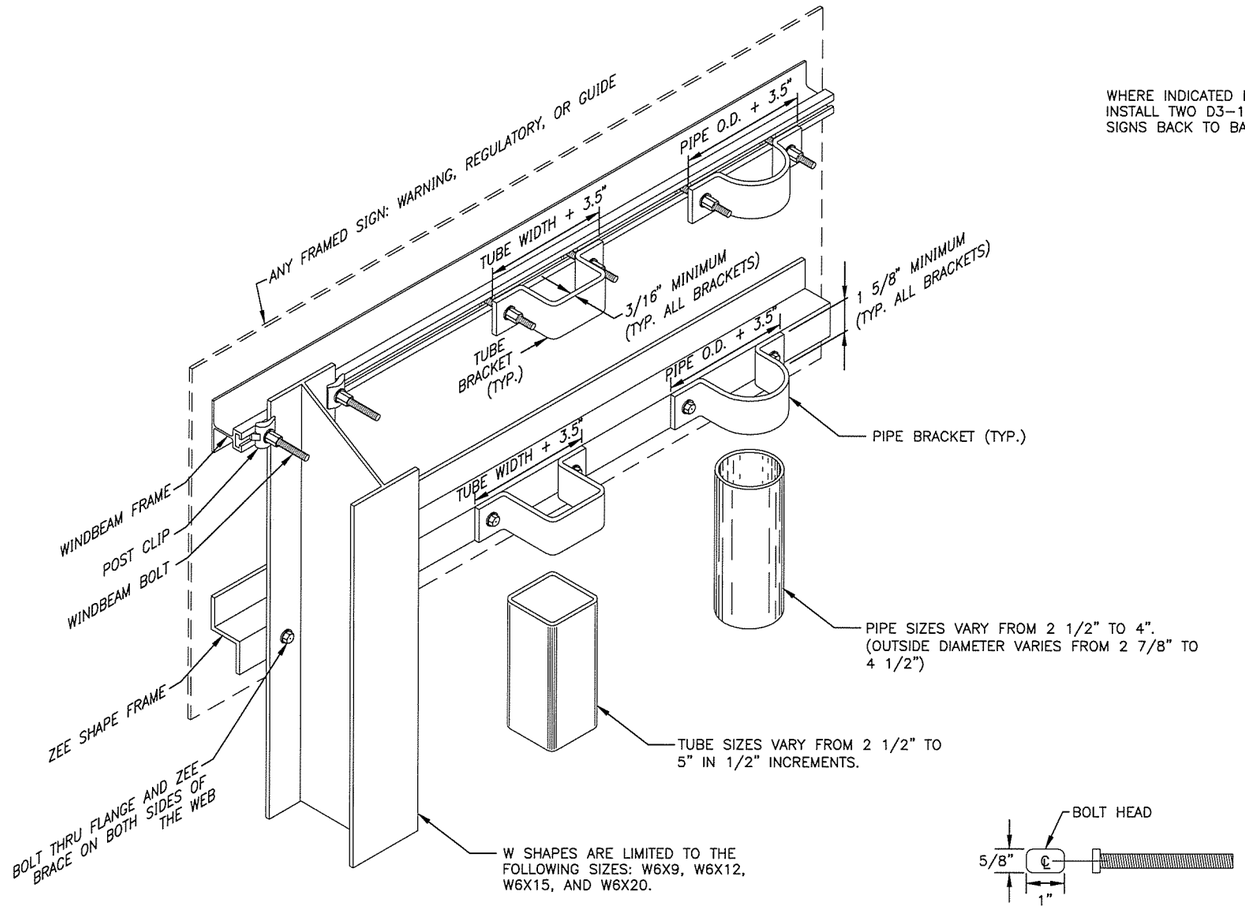
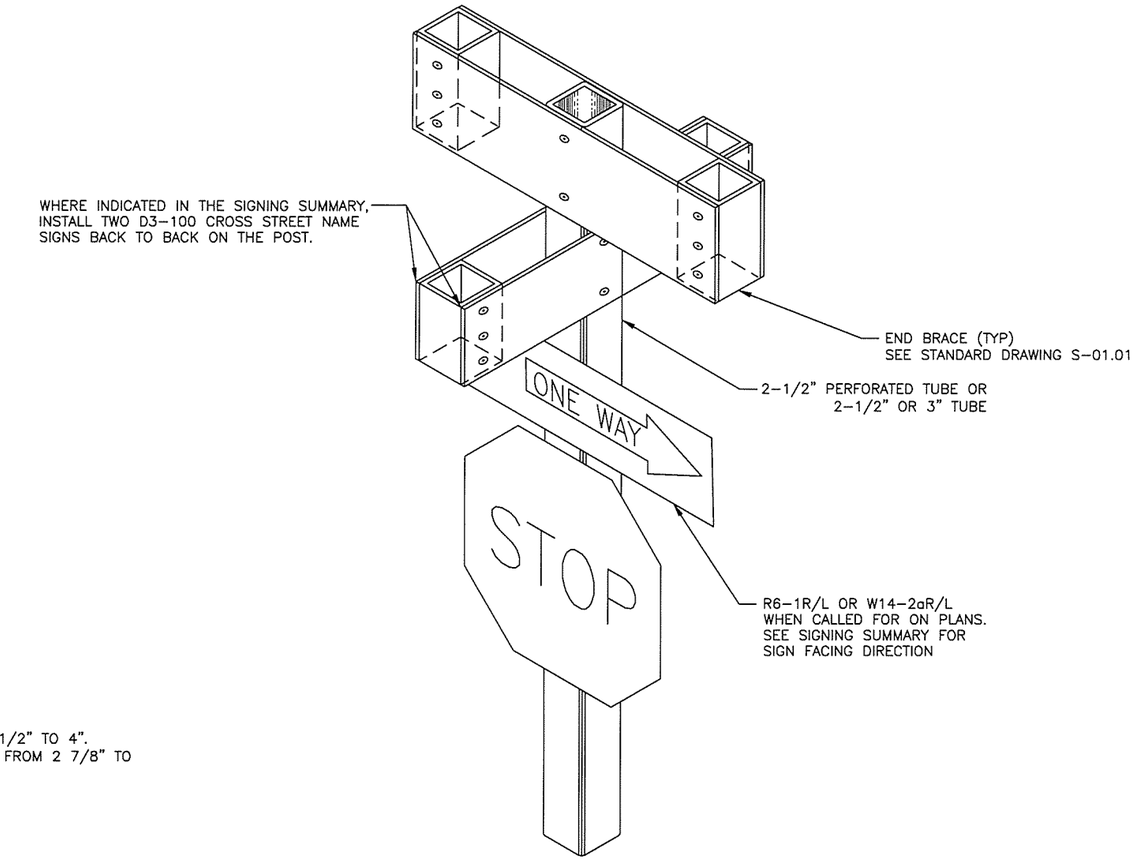
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H9	H47



FRAMED SIGN ATTACHMENT BRACKETS

3/8" WINDBEAM BOLT



STREET NAME SIGN NOTES:

1. VERTICALLY SEPARATE MULTIPLE SIGNS MOUNTED ON THE SAME POST BY 2-1/2 INCHES.
2. WHERE CALLED FOR INSTALL W14-2aL AND W14-2aR SIGN BACK TO BACK USING END BRACING PER STANDARD DRAWING S-01.01. MOUNT BELOW THE CROSS STREET NAME SIGNS.
3. WHERE A SINGLE SIGN THAT IS NOT MOUNTED BACK TO BACK IS CALLED FOR IN THE SIGNING SUMMARY, INSTALL USING FLAT GALVANIZED STEEL BRACE(S) IN ACCORDANCE WITH STANDARD DRAWING S-01.01.

STREET NAME SIGN

FASTENER SPECIFICATION TABLE		
FASTENERS	STEEL	STAINLESS STEEL
BOLTS	ASTM A 307	ASTM F 593
NUTS	ASTM A 563	ASTM F 594
WASHERS	ASTM F 844	ASTM A 480

THESE SPECIFICATIONS APPLY TO ALL SIGN FASTENER HARDWARE ON THE PROJECT.

NOTES:

1. ATTACH FRAMED SIGNS TO POSTS WHEREVER THE FRAMES CROSS THE POSTS. AT EACH CROSSING, ATTACH THE SIGN USING TWO POST CLIPS ON W-SHAPE POSTS, A U-SHAPED BRACKET ON PIPES OR A BRACKET WITH SQUARE CORNERS ON TUBES.
2. THE TUBE BRACKETS USED ON EVEN INCH SIZE TUBES MAY ALSO BE USED ON TUBES 1/2" SMALLER IN SIZE.
3. THE BRACKET DETAILS SHOWN INDICATE GENERAL DESIGNS ONLY. DESIGNS MAY VARY BY MANUFACTURER.
4. ALUMINUM ALLOY 6061-T6 SHALL BE USED FOR ZEE SHAPE FRAMING AND RIVETS.

SIGN DETAILS
2 OF 4

STATE OF ALASKA 49TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H10	H47

BANDING: 3/4" X 0.030" STAINLESS STEEL DOUBLE BANDING (TYPICAL)
BUCKLES: 3/4" STAINLESS STEEL (TYPICAL)

LIGHT/SIGNAL POLE

2 1/4" GALVANIZED P.S.T. (TYPICAL)
LENGTH OF P.S.T. = H−2"

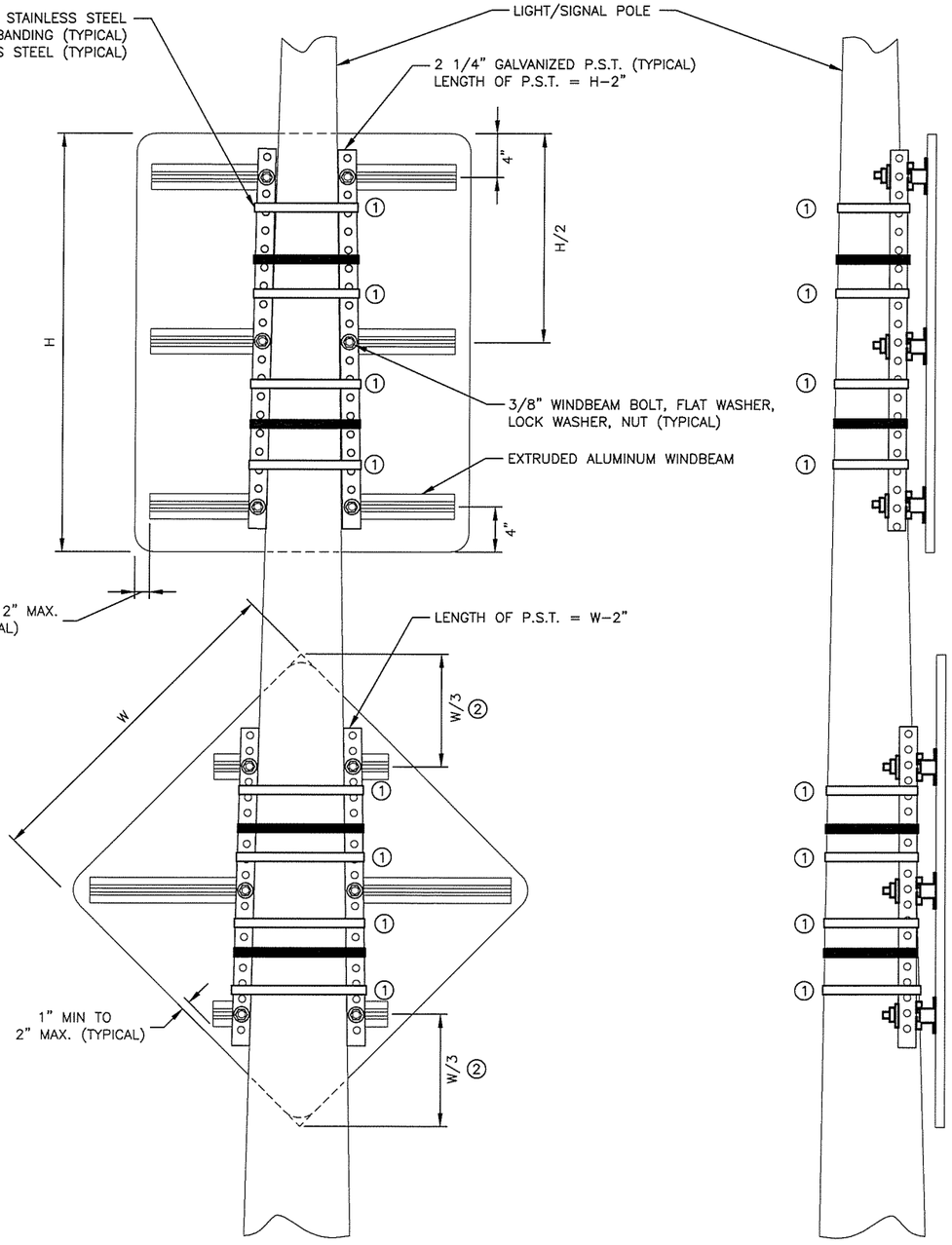
IF H > 48"
3 WINDBEAMS REQUIRED

IF 15" < H ≤ 48"
2 WINDBEAMS REQUIRED

IF H ≤ 15"
1 WINDBEAM REQUIRED

USE 2 BANDS H < 48"
USE 4 BANDS H ≥ 48"

① BAND LOCATIONS:
SPACE BANDS H/5
WHEN 4 ARE REQUIRED



IF W ≥ 36"
3 WINDBEAMS REQUIRED

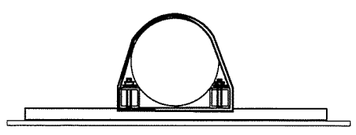
IF W < 36"
2 WINDBEAMS REQUIRED

USE 2 BANDS W < 48"
USE 4 BANDS W ≥ 48"

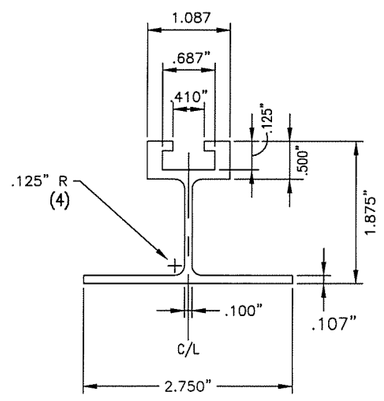
① BAND LOCATIONS:
SPACE BANDS W/5
WHEN 4 ARE REQUIRED

② WINDBEAM LOCATIONS:
SPACE WINDBEAMS TO MATCH 1" SPACING OF HOLES IN PERFORATED STEEL TUBES. ADJUST APPROXIMATE DIMENSIONS FROM TOP AND BOTTOM OF SIGN AS NECESSARY.

NOTE:
ATTACH SIGN TO WINDBEAMS WITH 3/16" RIVETS AT 4" STAGGERED SPACING.



LIGHT/SIGNAL POLE SHAFT SIGN FRAMING & MOUNTING DETAILS



NOTES:

1. ALUMINUM ALLOY 6061−T6 SHALL BE USED FOR EXTRUDED WINDBEAM AND RIVETS.
2. ATTACH SIGN TO WINDBEAM WITH 3/16" RIVETS AT 4" STAGGERED SPACING.

EXTRUDED ALUMINUM WINDBEAM

NOT TO SCALE

SIGN DETAILS
3 OF 4

STATE OF ALASKA
49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
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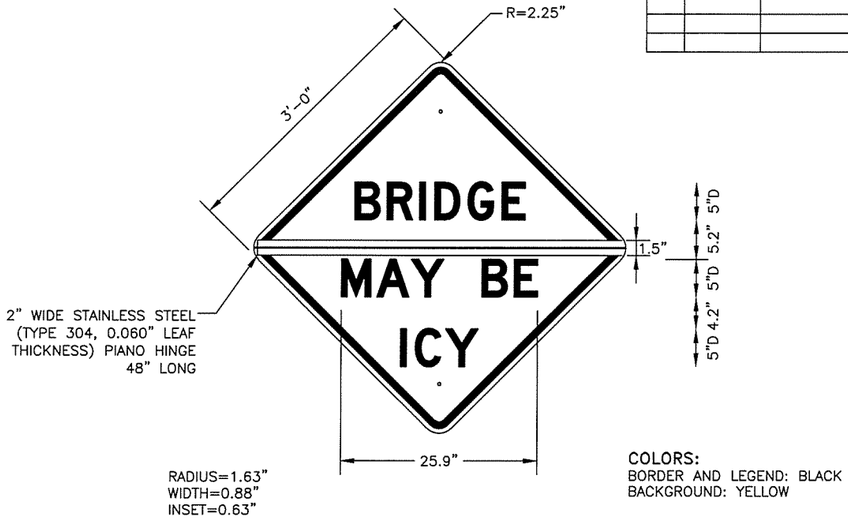
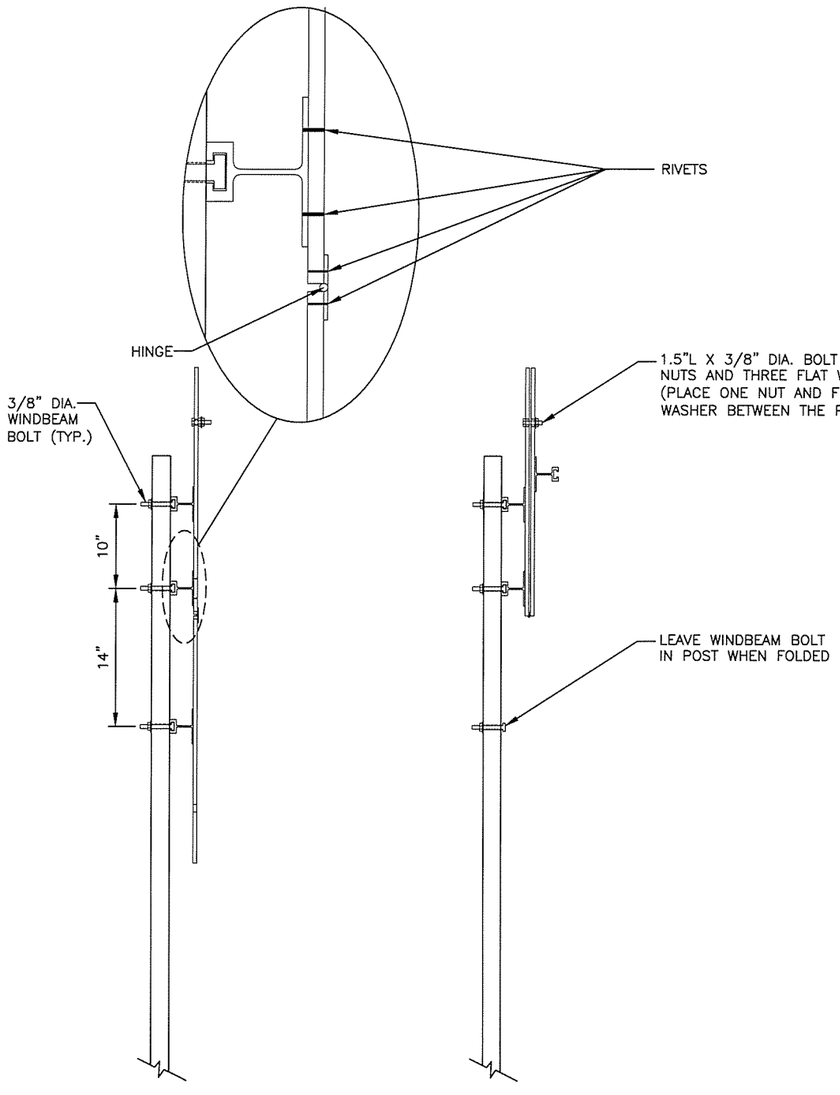
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H11	H47

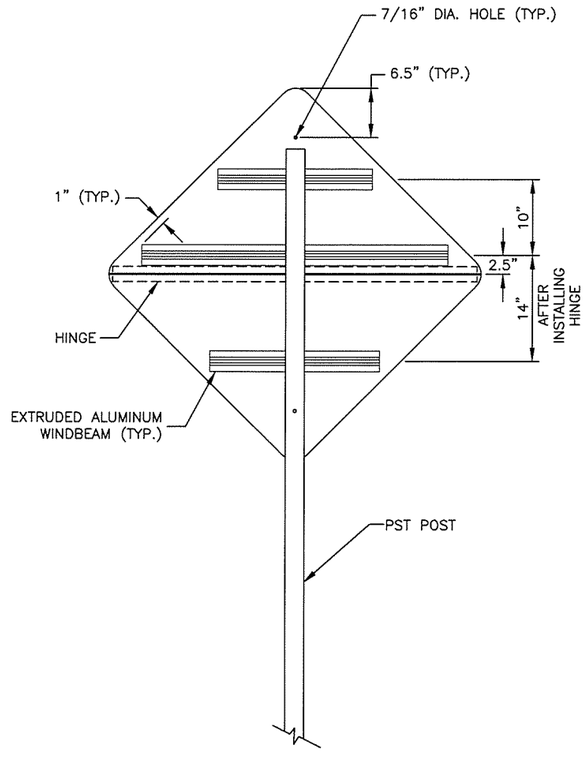


COLORS:
BORDER AND LEGEND: BLACK
BACKGROUND: YELLOW

SPECIAL SIGN 1 DETAIL



SIDE VIEW



FRAMING DETAIL

SIGN DETAILS
4 OF 4

STATE OF ALASKA
49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd. Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
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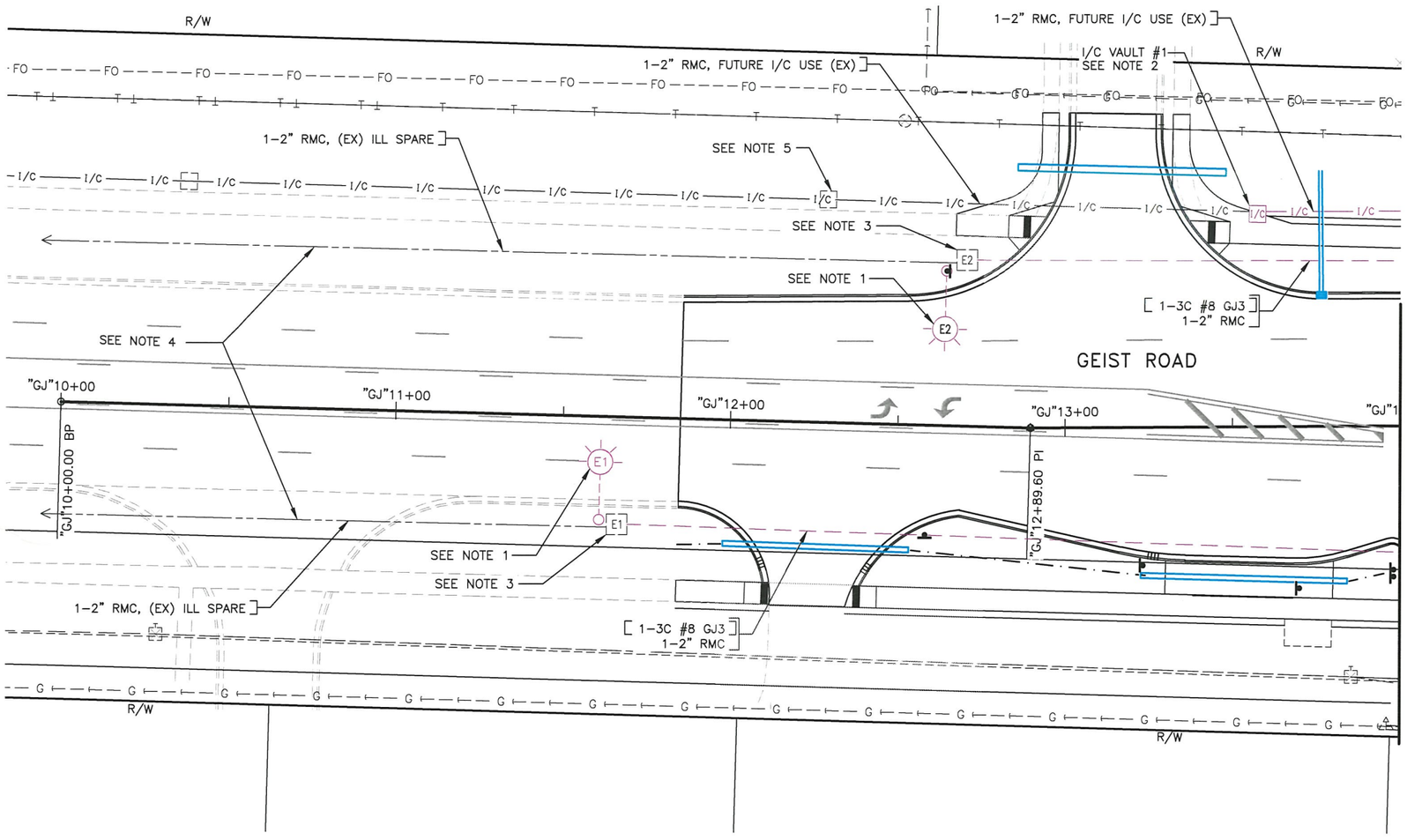
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H12	H47



GENERAL NOTES (APPLY TO ILLUMINATION & INTERCONNECT PLANS, SHEETS H12 TO H16):

1. EQUIPMENT GROUND CONDUCTORS (EGC) ARE NOT INDICATED ON PLANS FOR CLARITY; PROVIDE 1-#8 BARE COPPER EQUIPMENT GROUND CONDUCTOR IN ALL CONDUITS PER SPEC SECTION 660, WITH THE FOLLOWING EXCEPTIONS:
   - WHERE ANOTHER GROUND CONDUCTOR SIZE IS SPECIFIED.
   - NOT REQUIRED FOR SPARE CONDUITS.
   - NOT REQUIRED IN CONDUITS CONTAINING ONLY FIBER OPTIC CABLE.
2. REFER TO ELECTROLIER SUMMARY ON SHEETS H17 AND H18. ELECTROLIER FOUNDATIONS AND ASSOCIATED JUNCTION BOXES SHALL BE LOCATED PER DETAILS ON SHEET H37 UNLESS OTHERWISE NOTED.
3. IN ALL SPARE AND EMPTY LIGHTING AND INTERCONNECT CONDUITS, PROVIDE A PULL ROPE AND CAP CONDUIT ENDS IN ACCORDANCE WITH SECTION 660-3.03, CONDUIT.
4. SEE E SHEETS FOR DEMOLITION OF EXISTING LIGHTING AND INTERCONNECT COMPONENTS AND SHEET H20 FOR ELECTROLIER DEMOLITION SCHEDULE.

SHEET NOTE:

1. PROVIDE NEW LUMINAIRE ON EXISTING LIGHTING STANDARD PER SCHEDULE ON SHEET H17, H18 AND H19.
2. INTERCEPT EXISTING INTERCONNECT CONDUIT TO WEST AND TIE INTO NEW INTERCONNECT VAULT.
3. SWEEP NEW CONDUIT INTO EXISTING J-BOX. PROVIDE NEW CONDUCTORS THROUGH J-BOX INTO THE ELECTROLIER POLE BASE, AND RECONNECT TO EXISTING FUSED CONNECTOR.
4. REMOVE EXISTING LIGHTING CIRCUIT FROM LIGHT POLES E1 AND E2, BACK TO CLOSEST JUNCTION BOXES TO THE WEST. EXISTING CIRCUIT IS SUPPLIED FROM LOAD CENTER NEAR FAIRBANKS STREET. PROVIDE PULL ROPE AND CAP CONDUIT ENDS PER GENERAL NOTE 3.
5. PROVIDE PULL ROPE AND CAP CONDUIT ENDS PER GENERAL NOTE 3. REMOVE EXISTING TELEMETRY INTERCONNECT CABLE FROM UNIVERSITY AVENUE TO EXISTING JUNCTION BOX AT APPROXIMATELY 12+27. PROVIDE PULL ROPE AND CAP CONDUIT ENDS PER GENERAL NOTE 3.

ILLUMINATION AND INTERCONNECT PLANS
1 OF 5

STATE OF ALASKA 49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

STATE OF ALASKA 49 TH
WILLIAM A. STARN
EE-8223
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1152
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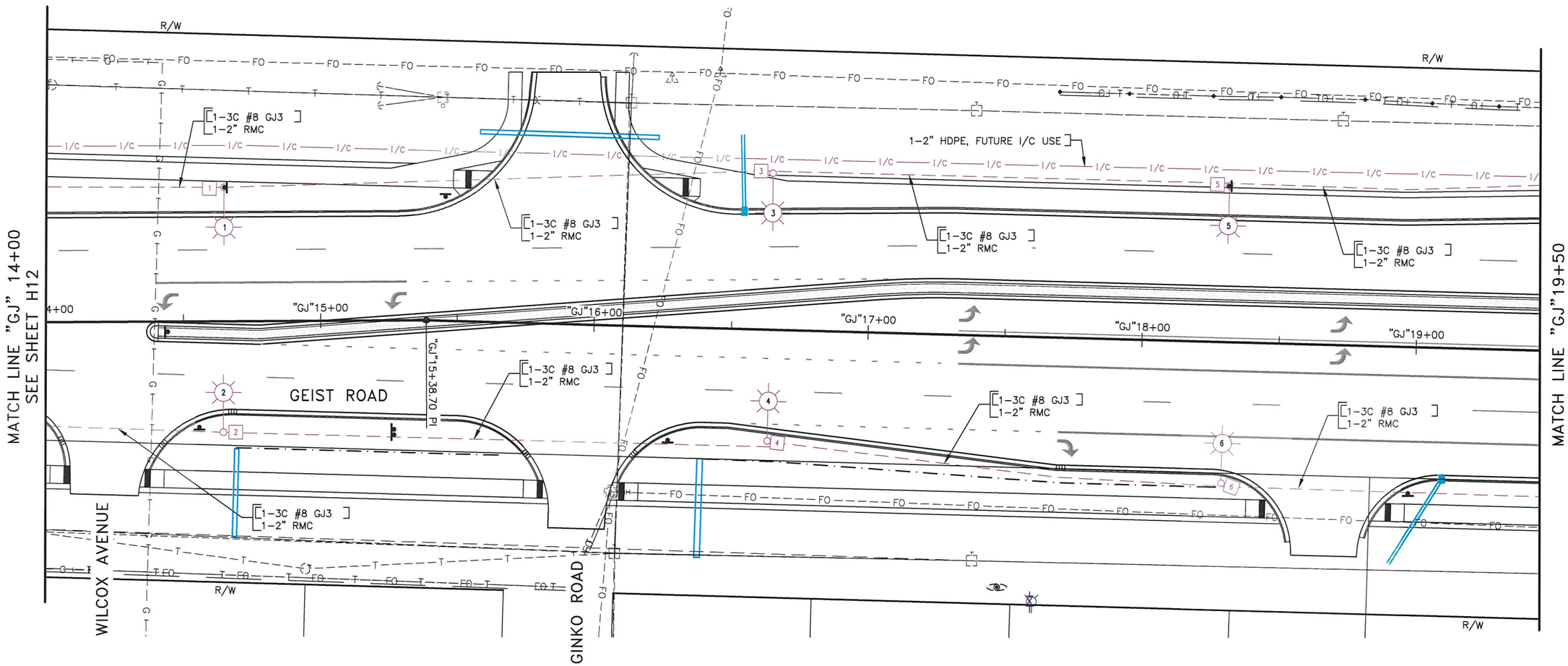
ALASKA	NFHWY00270	2017	H13	H47



ILLUMINATION AND INTERCONNECT PLANS 2 OF 5

STATE OF ALASKA 49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

STATE OF ALASKA 49 TH
WILLIAM A. STARN
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5/30/2017

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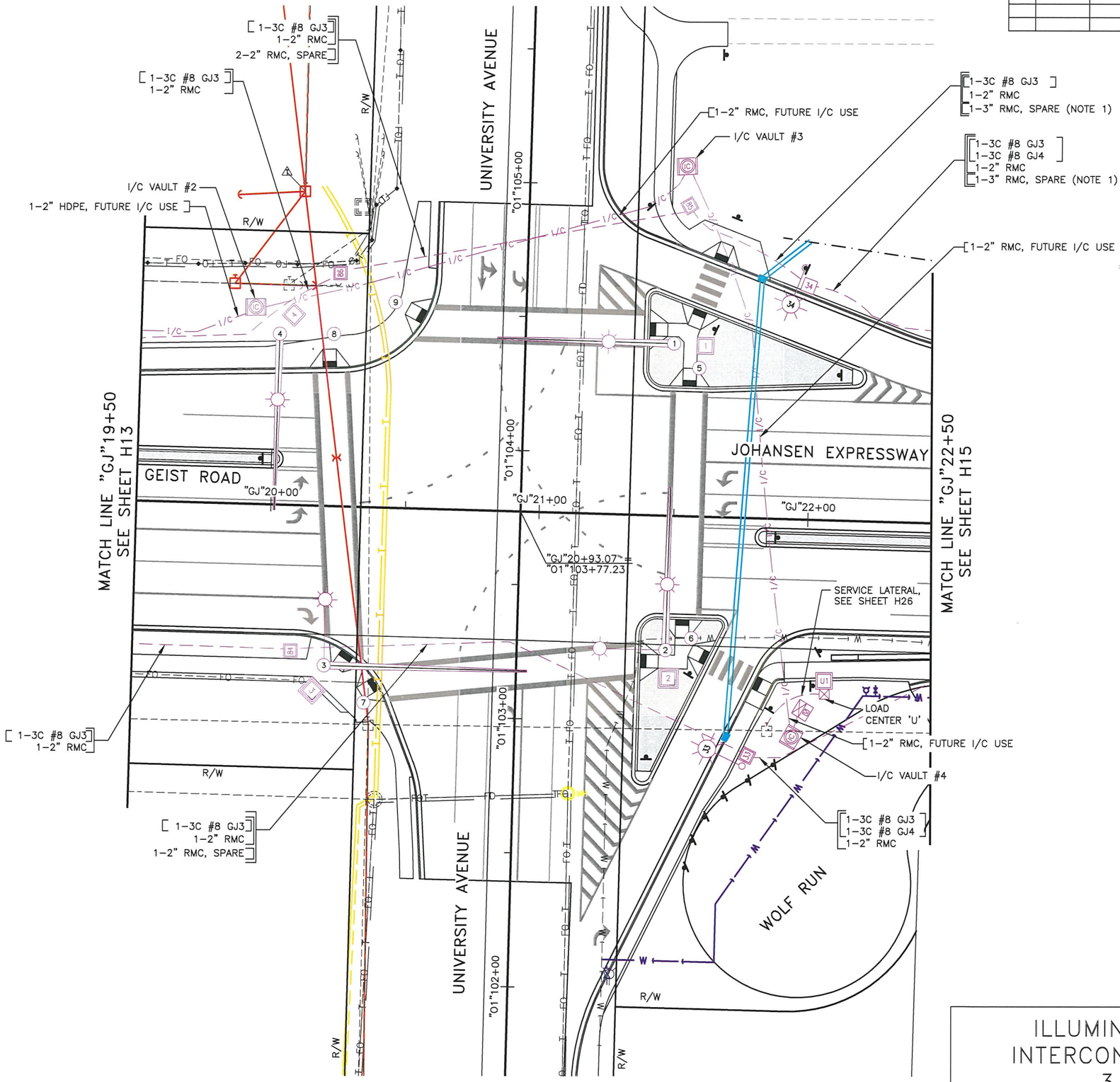
ALASKA	NFHWY00270	2017	H14	H47



NOTES:

1. SPARE CONDUIT RESERVED FOR PHASE B PROJECT.
2. SEE SHEETS H21–H25 FOR SIGNAL PLANS.

ILLUMINATION AND INTERCONNECT PLANS 3 OF 5

STATE OF ALASKA 49 TH
IAIN S. MCPHERSON
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REGISTERED PROFESSIONAL ENGINEER
5/30/2017

STATE OF ALASKA 49 TH
WILLIAM A. STARN
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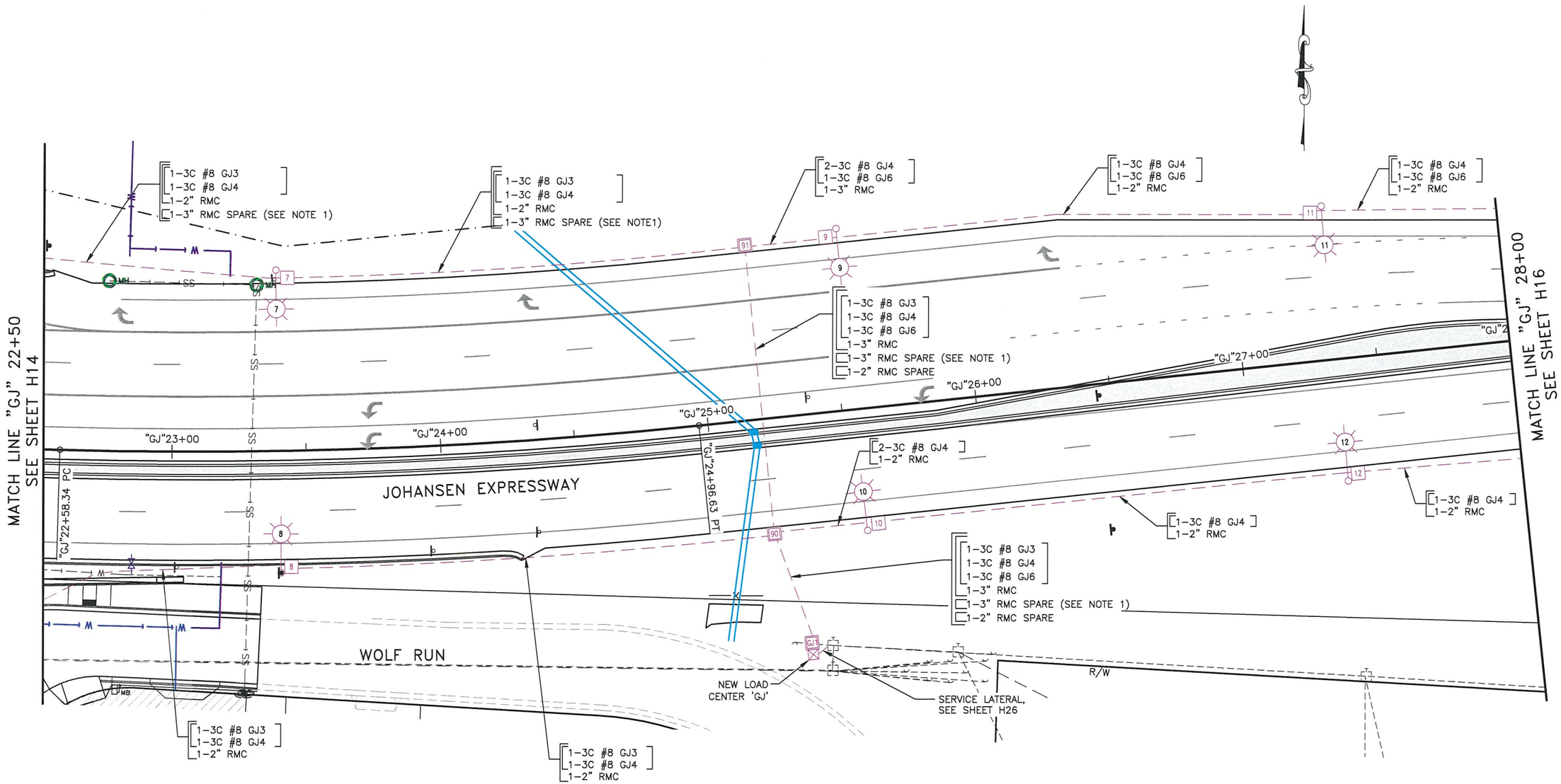
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H15	H47

NOTES:

1. SPARE CONDUIT RESERVED FOR PHASE B PROJECT.



ILLUMINATION AND INTERCONNECT PLANS
4 OF 5

STATE OF ALASKA 49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

STATE OF ALASKA 49 TH
WILLIAM A. STARN
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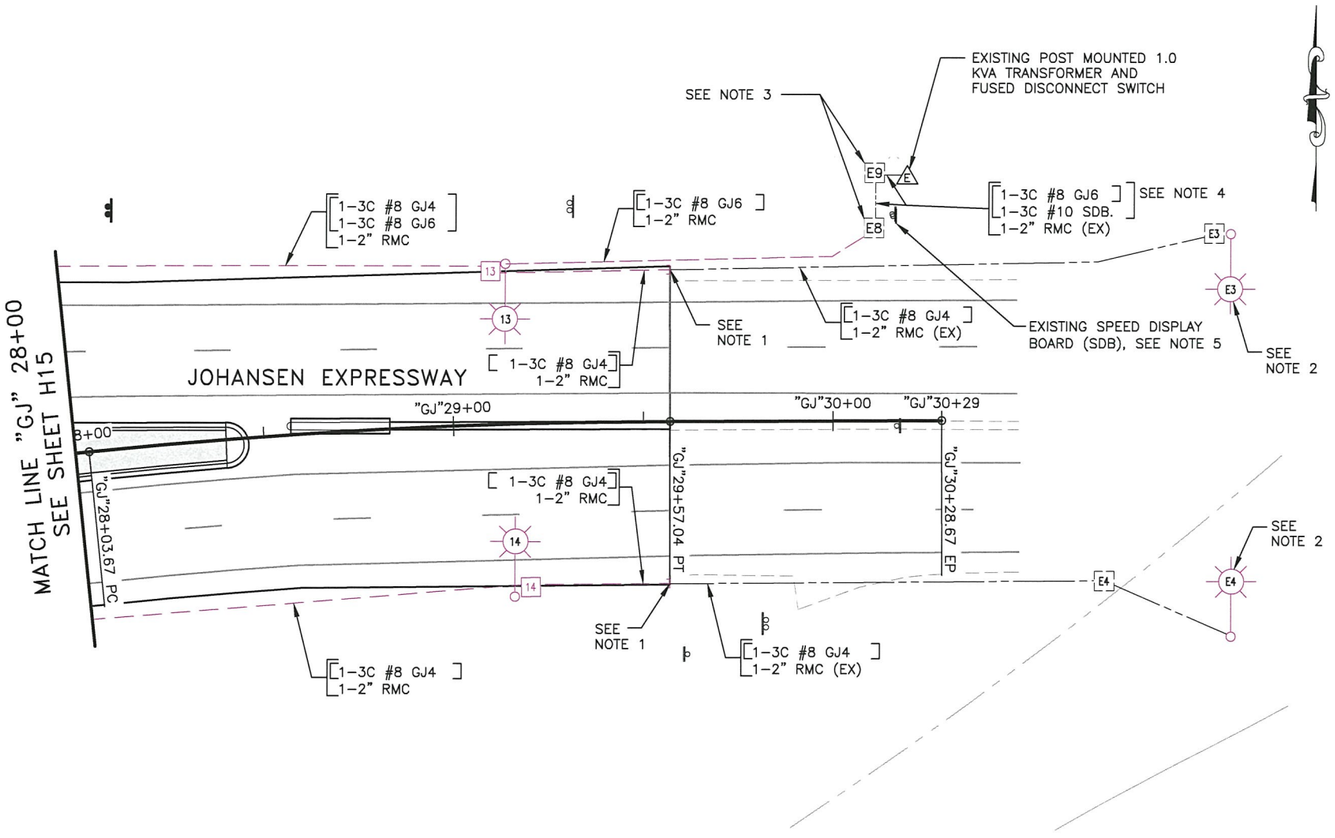
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H16	H47



NOTES:

1. INTERCEPT EXISTING 2" RMC AT CONVENIENT POINT AND PROVIDE NEW CONDUCTORS THROUGH EXISTING J–BOX AND INTO ELECTROLIER POLE BASE.
2. PROVIDE NEW LUMINAIRE ON EXISTING LIGHTING STANDARD PER SCHEDULE ON SHEET H17, H18 AND H19.
3. REUSE EXISTING TYPE 1A J–BOXES WITH CONDUIT CONNECTIONS TO POST–MOUNTED EQUIPMENT AND SPEED DISPLAY BOARD.
4. TERMINATE CIRCUIT GJ6 TO THE STEP–DOWN TRANSFORMER PRIMARY. PROVIDE TRANSFORMER SECONDARY GROUNDING PER NEC 250.30. PROVIDE CABLE SDB FROM TRANSFORMER SECONDARY TO SPEED DISPLAY BOARD POWER SUPPLY.
5. REMOVE AND REINSTALL EXISTING SPEED DISPLAY BOARD (SDB) ON NEW POST PER SIGNING AND STRIPING SHEET H5, SIGNING SUMMARY SHEET H7 AND SIGN DETAILS SHEET H8.

ILLUMINATION AND INTERCONNECT PLANS
5 OF 5

STATE OF ALASKA
49 TH
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49 TH
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H17	H47

ELECTROLIER SUMMARY

LUMINAIRE NO.	ALIGN.	STATION	OFFSET	POLE TYPE	FOUNDATION TYPE	LUMINAIRE				CIRCUIT	MOUNT HEIGHT	MAST ARM LENGTH	REMARKS
						TYPE	VOLTAGE	WATTAGE	ADJUSTABLE OUTPUT (NOTE 10)				
E1	"GJ"	11+62	31 RT	(EX)STP	(EX)	A	480V	296W	90%	GJ3	40'(EX)	(EX)6'	SEE NOTE 5
E2	"GJ"	12+63	43 LT	(EX)STP	(EX)	E	480V	216W	–	GJ3	40'(EX)	(EX)10'	SEE NOTE 5
1	"GJ"	14+65	48 LT	STP	CIDH	E	480V	216W	–	GJ3	40'	12'	
2	"GJ"	14+65	41 RT	STP	CIDH	E	480V	216W	90%	GJ3	40'	10'	
3	"GJ"	16+64	57 LT	STP	CIDH	E	480V	216W	90%	GJ3	40'	18'	
4	"GJ"	16+64	41 RT	STP	CIDH	E	480V	216W	90%	GJ3	40'	6'	
5	"GJ"	18+30	57 LT	STP	CIDH	E	480V	216W	–	GJ3	40'	16'	
6	"GJ"	18+30	52 RT	STP	CIDH	E	480V	216W	–	GJ3	40'	8'	
7	"GJ"	23+40	68 LT	STP	CIDH	A	480V	296W	80%	GJ4	40'	12'	USE WIDENING DETAIL "C"
8	"GJ"	23+40	45 RT	STP	CIDH	A	480V	296W	80%	GJ4	40'	12'	USE WIDENING DETAIL "C"
9	"GJ"	25+55	68 LT	STP	CIDH	A	480V	296W	80%	GJ4	40'	12'	USE WIDENING DETAIL "C"
10	"GJ"	25+55	46 RT	STP	CIDH	A	480V	296W	80%	GJ4	40'	12'	USE WIDENING DETAIL "C"
11	"GJ"	27+35	57 LT	STP	CIDH	E	480V	216W	90%	GJ4	40'	12'	USE WIDENING DETAIL "C"
12	"GJ"	27+35	46 RT	STP	CIDH	E	480V	216W	80%	GJ4	40'	12'	USE WIDENING DETAIL "C"
13	"GJ"	29+15	43 LT	STP	CIDH	E	480V	216W	80%	GJ4	40'	12'	USE WIDENING DETAIL "C"
14	"GJ"	29+15	46 RT	STP	CIDH	E	480V	216W	80%	GJ4	40'	12'	USE WIDENING DETAIL "C"
33	"01"	102+83	84 RT	STP	CIDH	A	480V	296W	80%	GJ4	35'	6'	SLIP–LANE CROSSWALK. SEE NOTES 11 AND 12.
34	"01"	104+71	103 RT	STP	CIDH	A	480V	296W	80%	GJ4	35'	6'	SLIP–LANE CROSSWALK, SEE NOTES 11 AND 12.
E3	"GJ"	31+05	49 LT	(EX)STP	(EX)	E	480V	216W	80%	GJ4	40'(EX)	(EX)18'	SEE NOTE 5
E4	"GJ"	31+05	57 RT	(EX)STP	(EX)	E	480V	216W	80%	GJ4	40'(EX)	(EX)18'	SEE NOTE 5

ELECTROLIER SUMMARY NOTES:

1. LUMINAIRES FOR CONTINUOUS STREET LIGHTING SHALL BE SUITABLE FOR 480V SUPPLY, AND COMPLY WITH SPECIAL PROVISIONS OF SECTION 740–2.18. LUMINAIRES SHALL PROVIDE THE AVERAGE INITIAL LUMINANCE, ILLUMINANCE, AND UNIFORMITIES SPECIFIED IN THE PERFORMANCE CRITERIA SCHEDULES. PROVIDE LIGHTING CALCULATIONS USING THE MANUFACTURER'S CURRENT PUBLISHED PHOTOMETRIC DATA IN ACCORDANCE WITH SPECIAL PROVISIONS OF SECTION 740–2.18 FOR LED ROADWAY LUMINAIRES.
2. PRIOR TO INSTALLATION, CONTRACTOR SHALL REQUEST LOCATES FOR EXISTING UNDERGROUND UTILITIES, AND RECEIVE WRITTEN CONFIRMATION THAT ALL FACILITIES HAVE BEEN IDENTIFIED.
3. POLE LOCATIONS SHALL BE STAKED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ADJUST POLE LOCATIONS AS DIRECTED BY THE ENGINEER. MINOR RELOCATIONS OF FOUNDATIONS, CONDUIT, AND JUNCTION BOXES SHALL BE CONSIDERED SUBSIDIARY TO THE SECTION 660(3) PAY ITEM.
4. JUNCTION BOXES AND CONDUIT RUNS SHOWN IN PLANS FOR THE LIGHTING SYSTEM ARE CONSIDERED SUBSIDIARY TO THE 660(3) HIGHWAY LIGHTING SYSTEM PAY ITEM.
5. PROVIDE NEW LUMINAIRES ON EXISTING LIGHTING STANDARDS WHERE INDICATED IN THE PLANS. RE–USE EXISTING CONDUCTORS WITHIN POLE UNLESS OTHERWISE NOTED.
6. DESIGN MOUNTING HEIGHT AS SCHEDULED SHALL BE MEASURED FROM THE FINISHED ROAD SURFACE TO THE LUMINAIRE. ALL LUMINAIRES SHALL BE CUTOFF TYPE MOUNTED HORIZONTAL WITH ZERO TILT UNLESS OTHERWISE NOTED.
7. PROVIDE LIGHTING STANDARDS AND CONCRETE POLE FOUNDATIONS IN ACCORDANCE WITH STANDARD DRAWINGS L–03.10 AND L–30.10. REFER TO DETAILS IN THESE PLANS WHERE DRIVEN PIPE PILE FOUNDATIONS ARE SCHEDULED.
8. ORIENT POLE WITH LUMINAIRE MAST ARMS AS INDICATED ON THE PLANS, TYPICALLY PERPENDICULAR TO THE ROADWAY CENTERLINE, UNLESS A SPECIFIC ORIENTATION IS OTHERWISE NOTED.
9. ALL LUMINAIRES SHALL BE FURNISHED WITH A 0–10V DIMMING BALLAST, 7–PIN NEMA TWIST–LOCK RECEPTACLE AND WIRELESS CONTROL NODE.
10. PROVIDE LUMINAIRES WITH FIELD ADJUSTABLE OUTPUT, SET FOR 100% INITIAL OUTPUT UNLESS OTHERWISE NOTED.
11. SCHEDULED ELECTROLIERS ARE NUMBERED IN SEQUENCE WITH FUTURE ELECTROLIERS USED IN THE PHASE B UNIVERSITY AVENUE REHABILITATION PROJECT.
12. ORIENT MAST ARM AND LUMINAIRE FOR PARALLEL ALIGNMENT WITH CROSSWALK CENTERLINE.
13. SEE TRAFFIC SIGNAL SHEETS FOR ADDITIONAL LUMINAIRES MOUNTED ON TRAFFIC SIGNAL POLE STRUCTURES.
14. UNLESS OTHERWISE NOTED, ALL LIGHT POLE SHALL BE MOUNTED USING FRANGIBLE COUPLINGS.

ABBREVIATIONS:

(EX) EXISTING
CIDH CAST IN DRILLED HOLE
DPP DRIVEN PIPE PILE
STP STEEL TAPERED POLE

ELECTROLIER SUMMARY
1 OF 2

STATE OF ALASKA
49 TH
WILLIAM A. STARN
EE-8223
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H18	H47

LIGHTING DESIGN CRITERIA

ROADWAY CHARACTERISTICS	
ROADWAY LIGHTING STANDARD:	IESNA RP-8-2014
CALCULATION ZONE:	ENTIRE ROADWAY
STREET CLASSIFICATION:	MAJOR
PEDESTRIAN CLASSIFICATION:	MEDIUM
PAVEMENT CLASSIFICATION:	R3
TRAFFIC FLOW:	2-WAY
LANE WIDTH:	12 FT.
NO. OF LANES, LEFT / RIGHT:	VARIES
MEDIAN:	VARIES
LUMINAIRE DEPRECIATION	
LED - TOTAL LIGHT LOSS FACTOR (LLF):	0.85
ROADWAY LUMINANCE CRITERIA	
AVERAGE MAINTAINED (Lavg):	0.9 CD/SQ M
MINIMUM MAINTAINED (Lmin):	0.3 CD/SQ M
Lavg/Lmin RATIO (MAXIMUM):	<= 3.0:1
Lmax/Lmin RATIO (MAXIMUM):	<= 5.0:1
Lvmax/Lavg VEILING LUMINANCE RATIO (MAXIMUM):	<= 0.3:1
INTERSECTION ILLUMINANCE CRITERIA	
UNIVERSITY AVE/GEIST RD-JOHANSEN EXPWY, ILLUMINANCE:	Eavg >= 2.6 FC Eavg/Emin <= 3.0
PEDESTRIAN CROSSWALK ILLUMINANCE CRITERIA	
CONFLICT AREA LIMITS:	CROSSWALKS / CURB RAMPS
CROSSWALKS AT SIGNALIZED INTERSECTIONS, MEDIUM PEDESTRIAN CONFLICT:	Emin,v >= 0.2 FC METERED AT 5FT HEIGHT AT 1.64 FT SPACING IN DIRECTION OF APPROACHING TRAFFIC, CENTERED IN CROSSWALK
CROSSWALKS AT NON-SIGNALIZED, UNCONTROLLED TRAFFIC FREE-RIGHT SLIP LANES:	Emin,v >= 2.0 FC METERED AT 5FT HEIGHT AT 1.64 FT SPACING IN DIRECTION OF APPROACHING TRAFFIC, CENTERED IN CROSSWALK

LUMINAIRE SCHEDULE

TYPE	MANUFACTURER & MODEL NO.	LIGHT SOURCE	IES TYPE OPTICS	INITIAL LUMENS	COLOR TEMP (CCT)	DRIVER CURRENT	VOLTAGE & VA / WATTS	POWER FACTOR	MOUNTING	REMARKS
A	CREE RSWX-A-HT-3ME-32L 30K7-UH-N-Q9	INDIRECT LED	TYPE III MED.	32000	3000K	FIELD ADJUSTABLE	480V 329VA / 296W	>0.9	HORIZ. TENON	
E	CREE RSWX-A-HT-3ME-24L 30K7-UH-N-Q9	INDIRECT LED	TYPE III MED.	24000	3000K	FIELD ADJUSTABLE	480V 240VA / 216W	>0.9	HORIZ. TENON	

NOTES:
1. ALL LUMINAIRES SHALL BE FURNISHED WITH 0-10V DIMMING BALLAST, 7-PIN NEMA PHOTOCELL RECEPTACLE, AND WIRELESS CONTROL NODE.
2. PROVIDE ALL LUMINAIRES WITH FIELD ADJUSTABLE OUTPUT, APPROXIMATELY IN 10% INCREMENTS.

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ELECTROLIER SUMMARY
2 OF 2

STATE OF ALASKA 49 TH
WILLIAM A. STARN
EE-8223
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H19	H47

LIGHTING JUNCTION BOX SUMMARY

JUNCTION BOX NO.	ALIGN.	STATION	OFFSET	TYPE	CIRCUIT	REMARKS
E1	"GJ"	11+67	RT	(EX)	GJ3	TO ELECTROLIER E3
E2	"GJ"	12+69	LT	(EX)	GJ3	TO ELECTROLIER E4
1	"GJ"	14+60	LT	IA	GJ3	
2	"GJ"	14+69	RT	IA	GJ3	
3	"GJ"	16+59	LT	IA	GJ3	
4	"GJ"	16+68	RT	IA	GJ3	
5	"GJ"	18+26	LT	IA	GJ3	
6	"GJ"	18+34	RT	IA	GJ3	
7	"GJ"	23+44	LT	IA	GJ3, GJ4	
8	"GJ"	23+40	RT	IA	GJ3, GJ4	
9	"GJ"	25+55	LT	IA	GJ4, GJ6	
10	"GJ"	25+55	RT	IA	GJ4	
11	"GJ"	27+35	LT	IA	GJ4, GJ6	
12	"GJ"	27+35	RT	IA	GJ4	
13	"GJ"	29+15	LT	IA	GJ4, GJ6	
14	"GJ"	29+15	RT	IA	GJ4	
E3	"GJ"	31+00	LT	(EX)	GJ4	TO ELECTROLIER E3
E4	"GJ"	30+70	RT	(EX)	GJ4	TO ELECTROLIER E4
E8	"GJ"	30+11	LT	(EX)	GJ6, SDB	SERVICING (EX) SPEED DISPLAY BOARD
E9	"GJ"	30+11	LT	(EX)	GJ6, SDB	SERVICING (EX) SPEED DISPLAY BOARD
33	"01"	102+87	RT	II	B2, JG3	
34	"01"	104+64	LT	IA	GJ1–GJ3	
84	"01"	103+23	LT	II	GJ3	
85	"01"	104+93	RT	II	GJ1–GJ3	
86	"01"	104+64	LT	II	GJ1, GJ3	
U1	"01"	103+15	RT	II	*	*LOAD CENTER U1– SEE SHEET H23
90	"GJ"	25+20	RT	II	GJ1–GJ4	
91	"GJ"	25+20	LT	II	GJ1–GJ4	
GJ1	"GJ"	26+15	RT	II	GJ3, GJ4, GJ6	LOAD CENTER GJ

FIBER–OPTIC INTERCONNECT VAULT SUMMARY

I/C VAULT NO.	LOCATION			NOTES
	ALIGNMENT	STATION	OFFSET	
VAULT 1	"GJ"	13+57.8	64.4' LT	VAULT TYPE 1
VAULT 2	"GJ"	19+92.4	73.3' LT	MANHOLE TYPE 1
VAULT 3	"01"	105+07.7	56.9' RT	MANHOLE TYPE 1
VAULT 4	"01"	102+95.9	103.0' RT	MANHOLE TYPE 1

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LIGHTING JUNCTION BOX AND INTERCONNECT VAULT SUMMARIES

STATE OF ALASKA 49 TH
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5/30/2017

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			ALASKA	NFHWY00270	2017	H20	H47

ELECTROLIER DEMOLITION SUMMARY

ALIGN.	STATION	OFFSET	REMARKS
"GJ"	11+62	RT	REMOVE LUMINAIRE ONLY; REPLACE IN NEW WORK. (E1)
"GJ"	12+63	LT	REMOVE LUMINAIRE ONLY; REPLACE IN NEW WORK. (E2)
"GJ"	13+89	LT	
"GJ"	15+35	LT	
"GJ"	16+60	RT	
"GJ"	17+88	LT	
"GJ"	19+15	RT	
"GJ"	23+44	LT	
"GJ"	23+47	RT	
"GJ"	25+35	RT	
"GJ"	25+37	LT	
"GJ"	27+25	RT	
"GJ"	27+27	LT	
"GJ"	29+16	LT	
"GJ"	29+16	RT	
"GJ"	31+05	49LT	REMOVE LUMINAIRE ONLY; REPLACE IN NEW WORK. (E3)
"GJ"	31+05	57RT	REMOVE LUMINAIRE ONLY; REPLACE IN NEW WORK. (E4)

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ELECTROLIER
DEMOLITION SUMMARY

STATE OF ALASKA
49 TH
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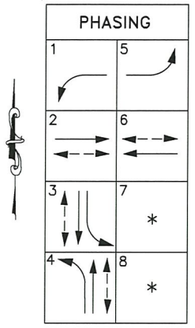
			ALASKA	NFHWY00270	2017	H21	H47

PHASE SEQUENCE



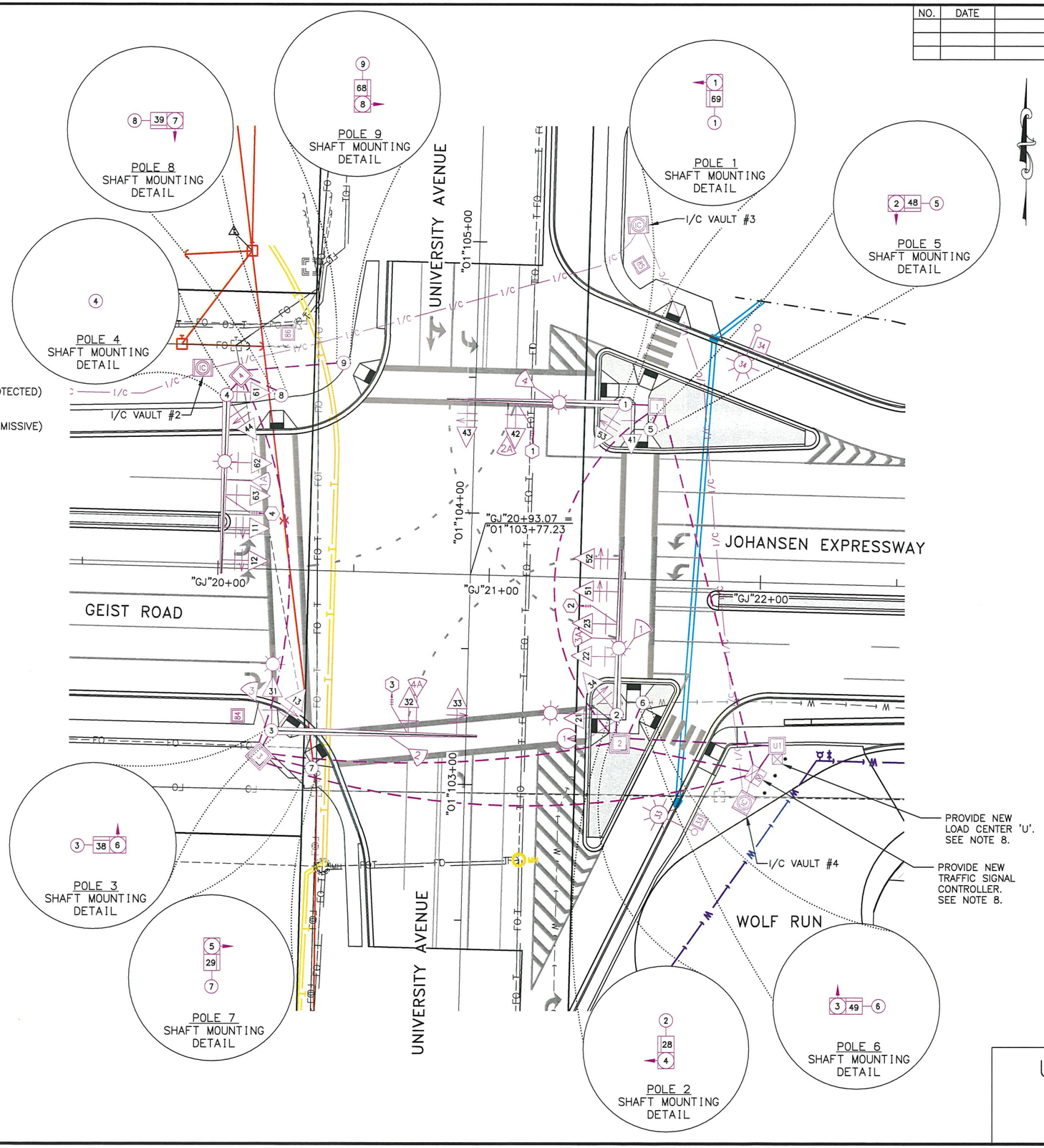
PED MOVEMENT

VEH. MOVEMENT

LEFT TURN MOVEMENT (PROTECTED)

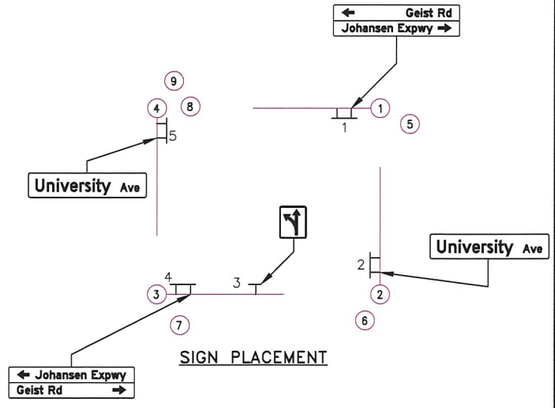
LEFT TURN MOVEMENT (PERMISSIVE)

* FUTURE MOVEMENT



NOTES:

1. EXISTING LINE WORK IS FROM A COMBINATION OF SURVEY, AS-BUILTS AND SITE VISITS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS BEFORE COMMENCING WORK. NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. SALVAGE EXISTING SIGNAL EQUIPMENT PER THE SPECIFICATIONS. REUSE OF EXISTING SIGNAL EQUIPMENT AND SIGNS IS PERMITTED, WITH APPROVAL OF ENGINEER, ON THE MAST ARMS OF POLES 1 & 3. EXISTING SIGNAL EQUIPMENT NOT REUSED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
3. EXISTING UNDERGROUND UTILITIES ARE NOT LOCATED. CONTRACTOR SHALL CONTACT 811 DIGLINE AND ARRANGE FOR FIELD LOCATES. SEE UTILITY NOTES ON SHEET A3 FOR ADDITIONAL REQUIREMENTS.
4. INSTALLATION OF NEW SIGNS ON TRAFFIC SIGNAL STRUCTURES WILL BE PAID FOR UNDER PAY ITEM 615(1).
5. FURNISH AND INSTALL GE LIGHTGRID OUTDOOR WIRELESS CONTROL SYSTEM GATEWAY WITH CELLULAR MODEM ON SIGNAL POLE #2. GATEWAY AND CONDUCTORS FEEDING IT SHALL BE PAID FOR UNDER 660(3) HIGHWAY LIGHTING SYSTEM COMPLETE.
6. SIGNAL POLE LUMINAIRES SHALL BE CREE #RSWX-A-HT-3ME-32L-30K7-UL-GY-N-Q9 OR APPROVED EQUAL, HIGH OUTPUT, LOW GLARE LED STREET LIGHT WITH TYPE 3M DISTRIBUTION, 3000K CCT, 32000 INITIAL LUMENS, 296W AT 120-277V, GRAY FINISH, FIELD ADJUSTABLE OUTPUT, AND 7-PIN NEMA PHOTOCELL SOCKET WITH WIRELESS CONTROL NODE. SEE SHEET H23 FOR REQUIRED MAST ARMS AND MOUNTING HEIGHTS. ADJUST LUMINAIRES FOR OUTPUT AS FOLLOWS:
   - POLE 1 AND 4: SET TO 90%
   - POLE 2: LUMINAIRE 1 70%, LUMINAIRE 2 80%
   - POLE 3: 70%
7. INSTALLATION OF JUNCTION BOXES 33, 34, 84, 85 & 86, AND THEIR RESPECTIVE ELECTROLIERS, SHALL BE PAID FOR UNDER PAY ITEM 660(3) HIGHWAY LIGHTING SYSTEM COMPLETE. SEE SHEET H15 FOR MORE INFORMATION.
8. PROTECT SIGNAL CONTROLLER AND LOAD CENTER WITH BOLLARDS AS SHOWN. SEE DETAIL ON SHEET H35 FOR MORE INFORMATION. INSTALLATION OF BOLLARDS IS INCIDENTAL TO PAY ITEM 660(1) TRAFFIC SIGNAL SYSTEM COMPLETE.



SIGN PLACEMENT

UNIVERSITY AVE AND GEIST RD SIGNAL PLAN 1 OF 5

STATE OF ALASKA
49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	H22	H47

1-2" HDPE, FUTURE I/C USE

TO I/C VAULT #1

I/C VAULT #2

1-2" RMC, FUTURE I/C USE

I/C VAULT #3

I/C VAULT #4

GEIST ROAD

JOHANSEN EXPRESSWAY

UNIVERSITY AVENUE

UNIVERSITY AVENUE

1-OPC
6-5c#14 SIG 11, 12, 44, 61, 62, 63
1-3" RMC

1-APT MATRIX 2
1-2" RMC, DET

1-3c#8 ILL
1-2" RMC

1-5c#14 PED
1-2c#14 PPB
1-3" RMC

1-OPC
4-5c#14 SIG 41, 42, 43, 53
1-5c#14 PED
1-2c#14 PPB
1-3" RMC

2-APT MATRIX 2
1-2" RMC, DET

2-3c#8 ILL
1-2" RMC

1-5c#14 PED
1-2c#14 PPB
1-3" RMC

1-OPC
6-5c#14 SIG 11, 12, 44, 61, 62, 63
2-5c#14 PED
2-2c#14 PPB
1-3" RMC, SIG

1-APT MATRIX 2
1-2" RMC, DET

1-3c#8 ILL
1-2" RMC

1-3" RMC, SPARE

2-3c#8 ILL
1-2" RMC

1-OPC
4-5c#14 SIG 13, 31, 32, 33
1-5c#14 PED
1-2c#14 PPB
1-3" RMC

3-APT MATRIX 2
1-2" RMC, DET

2-3c#8 ILL
1-2" RMC

1-OPC
6-5c#14 SIG 21, 22, 23, 34, 51, 52
1-5c#14 PED
1-2c#14 PPB
1-3" RMC

2-APT MATRIX 2
1-CAT-6A PTZ DATA
1-3" RMC, DET

2-3c#8 ILL
1-3c#8 GATEWAY PWR
1-2" RMC

1-3c#8 ILL
1-3c#8 GATEWAY PWR
1-2" RMC

1-5c#14 PED
1-2c#14 PPB
1-3" RMC

1-3c#8 ILL
1-2" RMC

1-OPC
4-5c#14 SIG 13, 31, 32, 33
2-5c#14 PED
2-2c#14 PPB
1-3" RMC

1-OPC
6-5c#14 SIG 11, 12, 44, 61, 62, 63
2-5c#14 PED
2-2c#14 PPB
1-3" RMC

4-APT MATRIX 2
1-2" RMC, DET

1-3" RMC, SPARE

1-OPC
6-5c#14 SIG 21, 22, 23, 34, 51, 52
2-5c#14 PED
2-2c#14 PPB
1-3" RMC

2-APT MATRIX 2
1-CAT-6A PTZ DATA
1-3" RMC, DET

1-3" RMC, SPARE

1-OPC
4-5c#14 SIG 41, 42, 43, 53
2-5c#14 PED
2-2c#14 PPB
1-3" RMC

2-APT MATRIX 2
1-2" RMC, DET

1-3" RMC, SPARE

1-2" RMC, FUTURE I/C USE

1-1c#6 GND
1-3c#6 PWR
1-2" RMC

1-2" RMC, FUTURE I/C USE

WIRING DIAGRAM CODING LEGEND

OPC = OPTICOM CABLE		5c#14	TRAFFIC SIGNALS
LL = LOOP LEAD-IN		7c#14	PROTECTED-PERMITTED SIGNALS
I/C = SMFO INTERCONNECT		5c#14	PEDESTRIAN SIGNALS
PWR = POWER CONDUCTORS FOR SIGNAL CONTROLLER		2c#14	PEDESTRIAN PUSH-BUTTON
T = TRANSFORMER		3pr#18	LOOP LEAD-IN CABLE & VDET
PTZ = PAN, TILT, ZOOM CAMERA		6pr#18	
GND = GROUND		9pr#18	
ILL = ILLUMINATION		15pr#18	
RMC = RIGID METAL CONDUIT		3c#8	ILLUMINATION
PVC = POLYVINYL CHLORIDE CONDUIT		3c#6	SIGNAL POWER
HDPE= HIGH DENSITY POLYETHYLENE		1c#8	BARE COPPER GROUND
PPB = PEDESTRIAN PUSH-BUTTON		18pr#19	PE-39 INTERCONNECT CABLE
SIG# = SIGNAL HEAD NUMBER		1c#6	BARE COPPER GROUND
PED = PEDESTRIAN SIGNAL		APT MATRIX 2	RDET HOME RUN CABLE
DET = DETECTION CONDUIT		CAT-6A	DATA CABLE
F = FUTURE USE		SMFO	SINGLE MODE FIBER OPTIC
RDET = RADAR DETECTION			
EX = EXISTING			
AAWF = ACTIVE ADVANCED WARNING FLASHER			

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS BEFORE COMMENCING WORK. NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. EXCEPT FOR CONDUITS WITH FIBER OPTIC CABLE, INSTALL 1-1c#8 BARE COPPER GROUND CONDUCTOR IN ALL CONDUITS UNLESS ANOTHER GROUND CONDUCTOR IS SPECIFIED.
3. FOR FUTURE INT CONDUIT, PROVIDE A PULL ROPE AND CAP CONDUIT ENDS.

WIRING LEGEND:

- I/C — INDICATES NEW INTERCONNECT CONDUIT RUN
- INDICATES EXISTING CONDUIT RUN
- INDICATES NEW RIGID METAL CONDUIT RUN(S)
- INDICATES THE CONNECTION BETWEEN EXISTING AND NEW CONDUIT

UNIVERSITY AVE AND GEIST RD WIRING DIAGRAM
2 OF 5

STATE OF ALASKA
49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\Production\06173_H_University_Geist Wiring Diagram-H22 Tue, May/30/17 08:48am

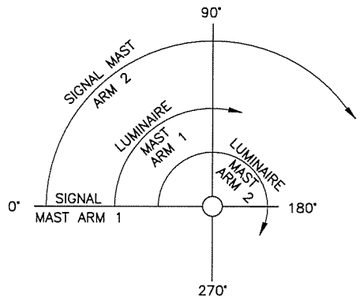
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H23	H47

POLE–POST DESIGN LOADING SCHEDULE

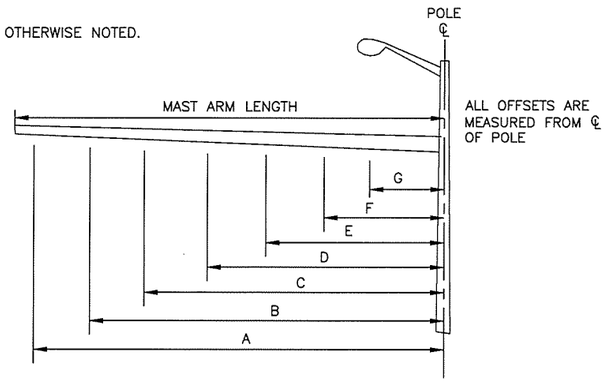
POLE NO.	CORNER	ILLUMINATION # ARM L. (FT.)	SIGNAL ARM L (FT.)		A	B	C	D	E	F	G	REMARKS
1	NE	22'	65'	SIG. OR SIGN	SIGNAL	RADAR	SIGNAL	RADAR	SIGN			LUMINAIRE ARM @ 0° MOUNTING HEIGHT @ 40'
				LOC. OFFSET	58.0	43.2	40.2	25.2	13.0			
				LxW OR S.F.	11.50	1.00	11.50	1.00	25.00			
FUTURE POLE NO. 1 MAST ARM LAYOUT (FOR POLE LOADING DESIGN)				SIG. OR SIGN	SIGNAL	SIGNAL	SIGNAL	RADAR	RADAR	SIGNAL	SIGN	LAYOUT FOR POLE DESIGN, EQUIPMENT WILL BE INSTALLED UNDER PHASE B
				LOC. OFFSET	57.2	45.2	33.2	32.4	27.2	21.2	13.0	
				LxW OR S.F.	11.50	11.50	11.50	1.00	1.00	11.50	25.00	
2	SE	LUMINAIRE ARM 1–22' LUMINAIRE ARM 2–22'	60'	SIG. OR SIGN	SIGNAL	SIGNAL	SIGNAL	RADAR	SIGNAL	RADAR	SIGN	LUMINAIRE ARM 1 @ 0° MOUNTING HEIGHT @ 40' LUMINAIRE ARM 2 @ 270° MOUNTING HEIGHT @ 40'
				LOC. OFFSET	57.2	45.2	33.2	27.2	21.2	19.7	12.3	
				LxW OR S.F.	11.50	11.50	11.50	1.00	1.00	11.50	20.00	
3	SW	22'	75'	SIG. OR SIGN	SIGNAL	SIGN	RADAR	SIGNAL	RADAR	SIGN		LUMINAIRE ARM @ 270° MOUNTING HEIGHT @ 34'
				LOC. OFFSET	68.2	56.2	53.2	50.2	42.1	22.2		
				LxW OR S.F.	11.50	7.50	1.00	11.50	1.00	25.00		
FUTURE POLE NO. 3 MAST ARM LAYOUT (FOR POLE LOADING DESIGN)				SIG. OR SIGN	SIGNAL	SIGNAL	SIGNAL	RADAR	SIGNAL	RADAR	SIGN	LAYOUT FOR POLE DESIGN, EQUIPMENT WILL BE INSTALLED UNDER PHASE B
				LOC. OFFSET	73.9	61.9	49.9	43.9	37.9	27.2	22.2	
				LxW OR S.F.	11.50	11.50	11.50	1.00	11.50	1.00	25.00	
4	NW	22'	65'	SIG. OR SIGN	SIGNAL	SIGNAL	SIGNAL	RADAR	SIGNAL	SIGN		LUMINAIRE ARM @ 0° MOUNTING HEIGHT @ 40'
				LOC. OFFSET	60.7	48.7	36.7	30.7	24.7	15.7		
				LxW OR S.F.	11.50	11.50	11.50	1.00	11.50	20.00		

POLE–POST DESIGN LOADING SCHEDULE NOTES:

1. BOTH SIGNAL AND ILLUMINATION MAST ARMS ARE ORIENTED IN THE SAME DIRECTION UNLESS OTHERWISE NOTED.
2. ORIENT SIGNAL MAST ARM(S) 90° TO THE ℄ OF THE ROADWAY UNLESS NOTED OTHERWISE.

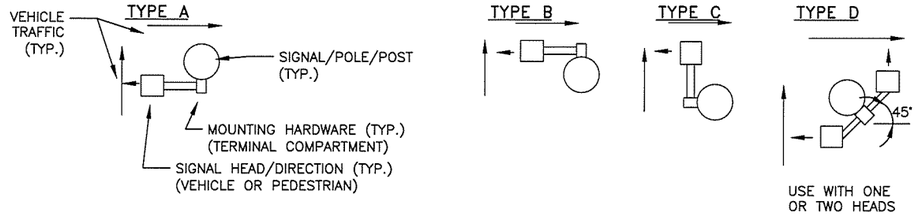


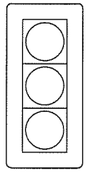
SIGNAL & LUMINAIRE ARM ORIENTATION

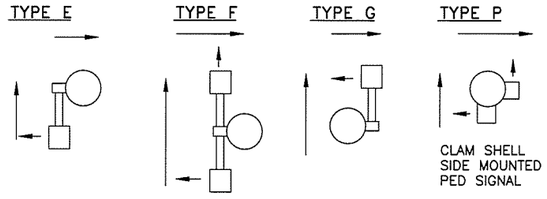


POLE/POST SIGNAL HEAD SIDE MOUNTING TYPES

NTS







SIGNAL HEAD CONFIGURATIONS

(AREAS ARE FOR WIND LOAD CALCULATIONS)
(ARROWS AND BALL INDICATIONS ARE INTERCHANGEABLE)

SIGNAL SIGN SCHEDULE

SIGN NO.	LOCATION		ASDS CODE	LEGEND	SIZE HxV (INCHES)	AREA (SQ FT)	BRACING/FRAMING		REMARKS
	POLE NO.	OFFSET					BRACED	FRAMED	
1	1	13.0	D3–102	<–– Geist Rd/ Johansen Expwy ––>	120x30	25.00			
2	2	12.3	D3–1	University Ave	120x24	20.00			
3	3	56.2	R3–6L	LEFT/THRU (ARROW)	30X36	7.50			
4	3	22.2	D3–102	<–– Johansen Expwy/ Geist Rd ––>	120x30	25.00			
5	4	15.7	D3–1	University Ave	120x24	20.00			
				SUBTOTAL SIGNAL SIGNS		97.50			

SIGNAL SIGN SCHEDULE NOTES:

1. LOCATION OFFSETS ARE FROM CENTER OF SIGN TO ℄ OF SIGNAL POLE.

SIGNAL HEAD SCHEDULE

POLE/POST NO.	FACE NO.	INDICATIONS										MOUNTING				REMARKS
		12" BALL			12" ARROW				8" BALL			MAST ARM		SIDE MTNG. TYPE	TOP OF POST	
		R	Y	G	R	Y	FYA	G	R	Y	G	LOC. OFFSET	ELEV. PLUMB			
1	41	X	X	X										D		
	53				L	L		L						D		
	42	X	X	X								40.2	X			REUSE OF EXISTING SIGNAL HEADS PERMITTED AS APPROVED BY ENGINEER
	43				L	L		L				58.0	X			
2	21	X	X	X										D		
	34				L	L		L						D		
	22	X	X	X								21.2	X			
	23	X	X	X								33.2	X			
	51				L	L		L				45.2	X			
	52				L	L		L				57.2	X			
3	31	X	X	X										D		
	13				L	L		L						D		
	32	X	X	X								50.2	X			REUSE OF EXISTING SIGNAL HEADS PERMITTED AS APPROVED BY ENGINEER
	33				L	L		L				68.2	X			
4	61	X	X	X										D		
	44				L	L		L						D		
	62	X	X	X								24.7	X			
	63	X	X	X								36.7	X			
	11				L	L		L				48.7	X			
	12				L	L		L				60.7	X			

SIGNAL HEAD SCHEDULE NOTES:

1. LOCATION OFFSETS ARE FROM CENTER OF SIGNAL HEAD TO ℄ OF SIGNAL POLE.
2. FYA = FLASHING YELLOW ARROW.

PED SIGNAL HEAD SCHEDULE

POLE/POST NO.	FACE NO.	MOUNTING TYPE	REMARKS
1	69	P	
2	28	P	
3	38	P	
5	48	P	
6	49	P	
7	29	P	
8	39	P	
9	68	P	

UNIVERSITY AVE GEIST RD
SIGNAL SCHEDULE 3 OF 5

STATE OF ALASKA 49TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H24	H47

BASE & JUNCTION BOX SCHEDULE

LOCATION		DESCRIPTION			BASE TYPE*			JUNCTION BOX TYPE				REMARKS
STATION	OFFSET	POLE NO.	JUNCTION BOX NO.	CONTROLLER	CIDH	P	A	IA	II	III	IV	
"01" 104+41.4	55.3' RT	1			X							
"01" 103+27.1	55.3' RT	2			X							
"01" 103+17.9	71.7' LT	3			X							
"01" 104+41.0	91.6' LT	4			X							
"01" 104+32.6	64.9' RT	5					X					
"01" 103+31.7	64.7' RT	6					X					
"01" 103+04.5	56.6' LT	7					X					
"01" 104+41.5	71.5' LT	8					X					SEE NOTE 3
"01" 104+54.0	49.0' LT	9					X					SEE NOTE 3
"01" 104+42.6	65.3' RT		1						X			SEE NOTE 2
"01" 103+18.9	57.7' RT		2							X		SEE NOTE 2
"01" 103+08.3	72.3' LT		3							X		SEE NOTE 2
"01" 104+48.4	84.1' LT		4						X			SEE NOTE 2
"01" 103+14.8	114.7' RT		U1						X			INSTALL ADJACENT TO LOAD CENTER 'U'
"01" 103+06.0	107.0' RT			X								

NOTES:

1. *BASE TYPE ABBREVIATIONS:
   P = PRECAST BASE (FOUNDATION)
   A = TYPE "A" SIGNAL BASE POST FOUNDATION. SEE STD. DWG, T-31.00
   CIDH = CAST IN DRILLED HOLE
2. MAINTAIN 5' MINIMUM DISTANCE FROM SIGNAL POLE FOUNDATION.
3. POLES ARE PERMITTED TO BE INSTALLED ON TEMPORARY STRUCTURES

OPTICOM DETECTOR SCHEDULE

LOCATION	DET. NO.	PHASE CALL	FACING DIR.	PREEMPTOR PRIORITY	REMARKS
ON TOP OF SIGNAL HEAD 42	1	4	SOUTH		
ON TOP OF SIGNAL HEAD 23	2	2, 5	WEST		
ON TOP OF SIGNAL HEAD 32	3	3	NORTH		
ON TOP OF SIGNAL HEAD 63	4	1, 6	EAST		

⊣⊢—(#) OPTICOM DETECTOR NUMBER

RADAR DETECTION SCHEDULE

DET. NO.	PHASE CALL	TYPE	FACING DIR.	POLE NO.	LOCATION	RADAR TYPE
1	1&6	STOP BAR	NORTHEAST	2	SIGNAL MAST ARM	SMARTSENSOR MATRIX
2	4	STOP BAR	SOUTHEAST	3	SIGNAL MAST ARM	SMARTSENSOR MATRIX
3	2&5	STOP BAR	NORTHWEST	3	SIGNAL SHAFT	SMARTSENSOR MATRIX
4	3	STOP BAR	NORTHWEST	1	SIGNAL MAST ARM	SMARTSENSOR MATRIX
1A	6	ADVANCE	EAST	4	SIGNAL MAST ARM	SMARTSENSOR ADVANCE EXTENDED RANGE
2A	4	ADVANCE	SOUTH	1	SIGNAL MAST ARM	SMARTSENSOR ADVANCE EXTENDED RANGE
3A	2	ADVANCE	WEST	2	SIGNAL MAST ARM	SMARTSENSOR ADVANCE EXTENDED RANGE
4A	3	ADVANCE	NORTH	3	SIGNAL MAST ARM	SMARTSENSOR ADVANCE EXTENDED RANGE

—(#) RADAR DETECTOR NUMBER

FLASH PROGRAM COLOR

PHASE	1	2	3	4	5	6	7	8
COLOR	R	R	R	R	R	R	N/A	N/A

PEDESTRIAN DETECTION SCHEDULE

POLE	PUSH BUTTON	PHASE	REMARKS
1	1	6	SEE NOTE 2
5	2	4	SEE NOTE 2
6	3	4	SEE NOTE 1
2	4	2	SEE NOTE 1
7	5	2	SEE NOTE 1
3	6	3	SEE NOTE 2
8	7	3	SEE NOTE 1
9	8	6	SEE NOTE 2

PEDESTRIAN DETECTION NOTES:

1. INSTALL A R10-3eL SIGN ABOVE PEDESTRIAN PUSH BUTTON. SIGN SHALL NOT BE MEASURED FOR PAYMENT AND IS SUBSIDIARY TO TRAFFIC SIGNAL PAY ITEMS.
2. INSTALL A R10-3eR SIGN ABOVE PEDESTRIAN PUSH BUTTON. SIGN SHALL NOT BE MEASURED FOR PAYMENT AND IS SUBSIDIARY TO TRAFFIC SIGNAL PAY ITEMS.

RADAR DETECTION EQUIPMENT

QTY	DESCRIPTION
4	SMARTSENSOR ADVANCE EXTENDED RANGE (WX-SS-200E)
4	SMARTSENSOR MATRIX (WX-SS-225)
8	PELCO MOUNT (WX-SS-611)
8	SMARTSENSOR 6-CONDUCTOR CABLE (WX-SS-704-XXX)
0	SMARTSENSOR ADVANCE (WX-SS-200V)

NEMA CLOSURE EQUIPMENT

QTY	DESCRIPTION
0	CLICK 710, SMARTSENSOR 6-CONDUCTOR CABLE JUNCTION BOX (WX-SS-710)

CABINET EQUIPMENT

QTY	DESCRIPTION
0	CLICK! 112 RACK CARDS (WX-CLK-112)
0	CLICK! 114 RACK CARDS (WX-CLK-114)
0	INTERSECTION PREASSEMBLED BACKPLATE - AC, FOUR SENSOR, (WX-SS-B01-0005)
	1 CLICK! 204 4 AMP POWER SUPPLY
	5 CLICK! 210-02 2 AMP CIRCUIT BREAKERS (WX-CLK-210)
	2 CLICK! 222, SMARTSENSOR SURGE PROTECTOR (WX-CLK-222)
	1 CLICK! 230, AC SURGE PROTECTOR (WX-CLK-230)
	1 T-BUS 5-SCREW TERMINAL BLOCKS (LEFT END)
	5 T-BUS CONNECTORS (POWER AND COMMUNICATION)
	1 T-BUS CONNECTOR (POWER ONLY)
	5 END BRACKETS WITH LABELS
	1 END BRACKET WITHOUT LABEL
	4 TERMINAL BLOCKS FOR AC LINE INPUT: SPRING CAGE TO PLUG SPRING
	CAGE 10 AWG (2 GROUNDED)
	28 TERMINAL BLOCKS FOR CABLE TERMINATION: INSULATION DISPLACEMENT
	TO PLUG INSULATION DISPLACEMENT (4 GROUNDED)
	MOUNTING PLATFORM: TRAFFIC CABINET BACKPLATE
	1 8-FT POWER CORD
	1 8-FT 14 AWG GROUND CABLE
	1 5-FT BLACK RJ-11 PATCH CABLE
	4 5-FT WHITE RJ-11 PATCH CABLES
2	CLICK! 650, CABINET INTERFACE (WX-CLK-650)
2	SLDC CABLES (310-0411)

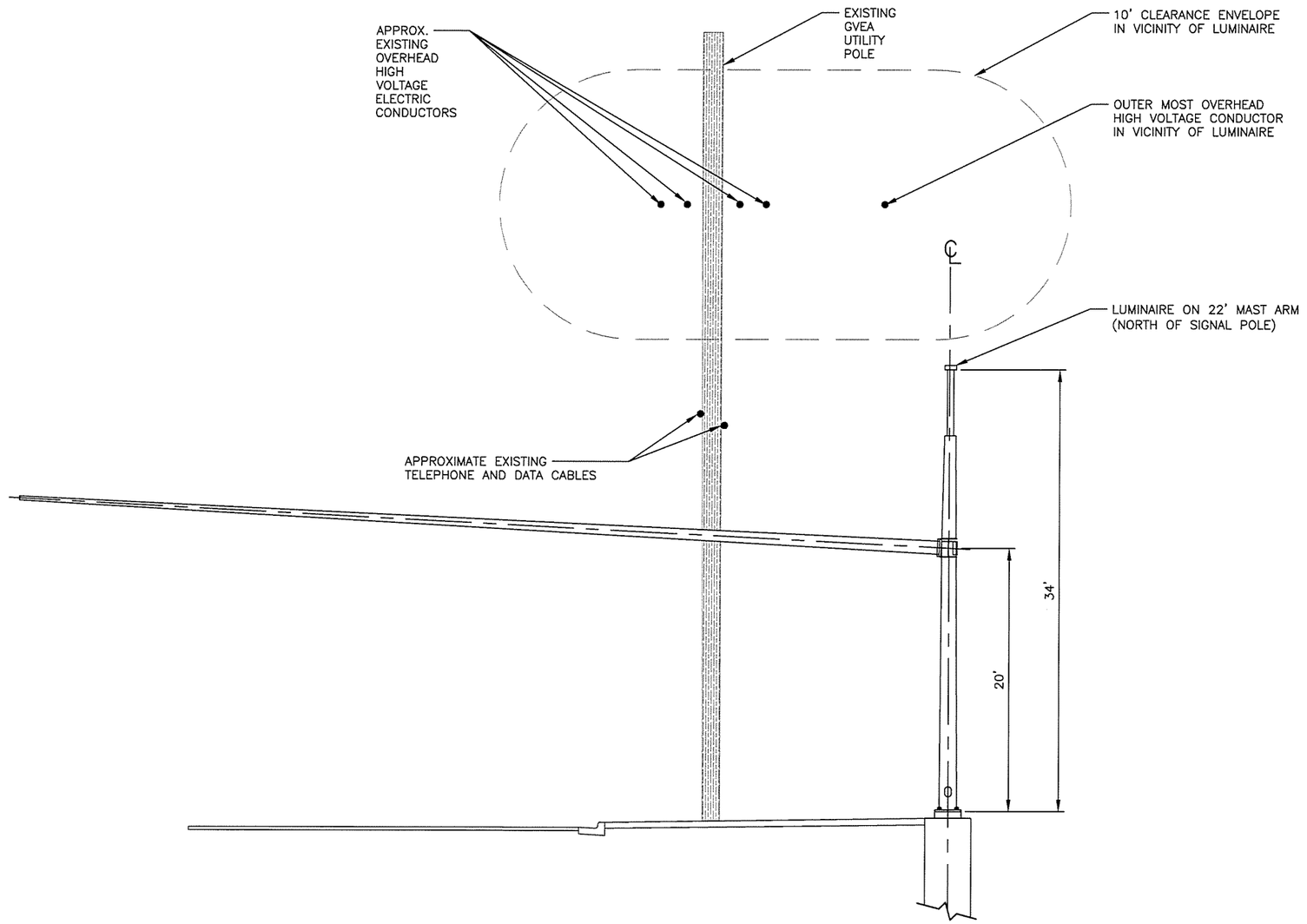
ADDITIONAL EQUIPMENT

QTY	DESCRIPTION
1	SMARTSENSOR MANAGER ADVANCE SOFTWARE (WX-550-0001)
1	SMARTSENSOR MANAGER MATRIX SOFTWARE (WX-550-0004)

UNIVERSITY AVE GEIST RD
SIGNAL SCHEDULE 4 OF 5

STATE OF ALASKA 49 TH
JAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H25	H47



SIGNAL POLE 3 – LOOKING SOUTH
NTS

NOTES:

1. SIGNAL HEADS, SIGNS, PEDESTRIAN HEADS, PUSH BUTTONS, RADAR DETECTORS, AND OPTICOM DETECTORS NOT SHOWN. SEE OTHER SIGNAL SHEETS FOR LAYOUT. INTENTION IS TO SHOW LUMINAIRE MOUNTING HEIGHT AND ELECTRIC CLEARANCE ENVELOPE.
2. GVEA POLE MOUNTED CROSS ARMS AND POLE TOP GUY CABLES NOT SHOWN.

UNIVERSITY AVE GEIST RD SIGNAL POLE ELEVATION 5 OF 5

STATE OF ALASKA 49 TH
IAIN S. MCPHERSON
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5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/Z632130000	2018	H26	H47

LOAD CENTER "U"

TYPE 1 LOAD CENTER, LOCATION: "GJ" STA. 22+08.02, 64.83' RT.
SERVICE LOCATION: "U" STA. 102+97, 94' RT. APPROX. DISTANCE: 26'
120/240V SINGLE PHASE SERVICE
100 AMP MAIN BREAKER, 10,000 AIC MIN.

CIRCUIT	BRANCH BREAKER	PURPOSE	CONTACTOR	LOAD
U1	50 AMP, 1P, 120V	TRAFFIC CONTROLLER	N/A	34.1 AMPS
U2	20 AMP, 2P, 240V	LIGHTING	30 AMP	6.9 AMPS
U3	20 AMP, 1P, 120V	LTG CONTROL GATEWAY	N/A	0.1 AMPS
U4	15 AMP, 2P, 240V	LIGHTING CONTACTOR	N/A	0.1 AMPS
U5	20 AMP, 2P, 240V	FUTURE LIGHTING	30 AMP	
U6	20 AMP, 2P, 240V	FUTURE LIGHTING	30 AMP	
TOTAL LOAD				24.1 AMPS
NEC TOTAL LOAD (125%)				30.1 AMPS
DEMAND				7.22 KVA

LOAD CENTER "GJ"

TYPE 1 LOAD CENTER, LOCATION: "GJ" STA. 25+29, 90' RT.
SERVICE LOCATION: "GJ" STA. 25+38, 87' RT. APPROX. DISTANCE: 10'
240/480V SINGLE PHASE SERVICE
100 AMP MAIN BREAKER, 10,000 AIC MIN.

CIRCUIT	BRANCH BREAKER	PURPOSE	CONTACTOR	LOAD
GJ1	20 AMP, 2P, 480V	FUTURE LIGHTING	30 AMP	
GJ2	20 AMP, 2P, 480V	FUTURE LIGHTING	30 AMP	
GJ3	20 AMP, 2P, 480V	LIGHTING	30 AMP	4.4 AMPS
GJ4	20 AMP, 2P, 480V	LIGHTING	30 AMP	7.1 AMPS
GJ5	XX AMP, 2P, 480V	FUTURE TRAFFIC CONTR.	N/A	
GJ6	15 AMP, 2P, 480V	SPD FEEDBACK SIGN	N/A	2.1 AMPS
GJ7	15 AMP, 1P, 240V	LIGHTING CONTACTOR	N/A	0.1 AMPS
GJ8	20 AMP, 2P, 480V	FUTURE LIGHTING	30 AMP	
GJ9	20 AMP, 2P, 480V	FUTURE LIGHTING	30 AMP	
TOTAL LOAD				13.7 AMPS
NEC TOTAL LOAD (125%)				17.1 AMPS
DEMAND				8.2 KVA
SEE NOTE 4				

NOTES:

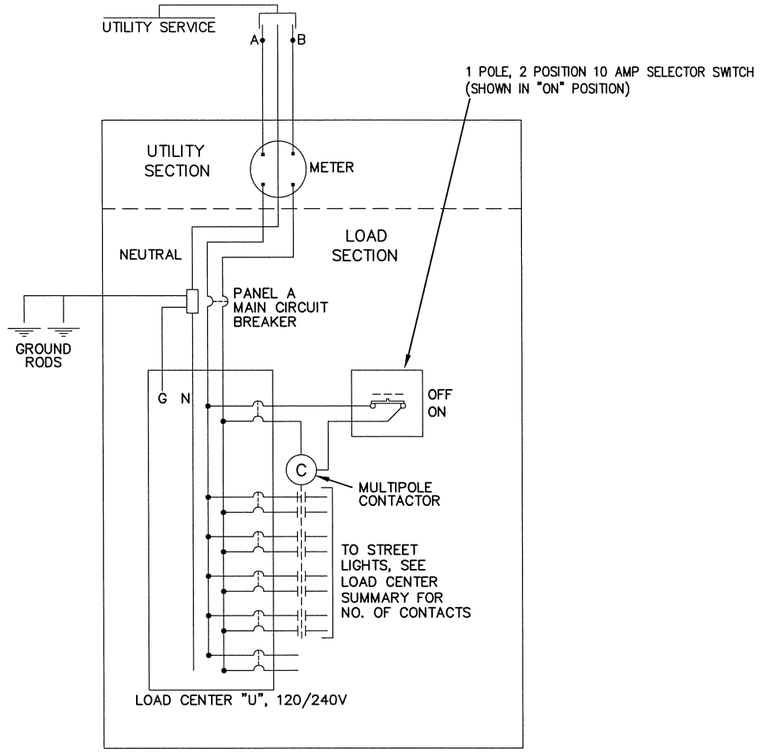
1. SERVING UTILITY IS GOLDEN VALLEY ELECTRIC ASSOCIATION LOCATED IN FAIRBANKS, ALASKA.
2. COORDINATE INSTALLATION OF SERVICE TO LOAD CENTERS WITH GVEA. CONTACT GVEA FOR SERVICE REQUIREMENTS AND SPECIFICATIONS.
3. SERVICE CONDUCTORS ARE TO BE COPPER, TYPE XHHW.
4. CIRCUITS GJ1, GJ2 AND GJ5 ARE RESERVED FOR ELECTRICAL LOADS ASSOCIATED WITH PHASE 1B OF THE UNIVERSITY AVE WIDENING PROJECT. CIRCUIT GJ5 TO BE PROVIDED UNDER PHASE 1B DESIGN.
5. PROVIDE INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH ALL FEEDERS AND BRANCH CIRCUITS. TERMINATE EACH END ON SUITABLE LUG, BUS OR BUSING. SIZE EQUIPMENT GROUNDING CONDUCTORS IN ACCORDANCE WITH NEC AND ADOT PROJECT SPECIFICATION SECTION 661, UNLESS OTHERWISE INDICATED, BUT NOT SMALLER THAN NO. 8 AWG.

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200

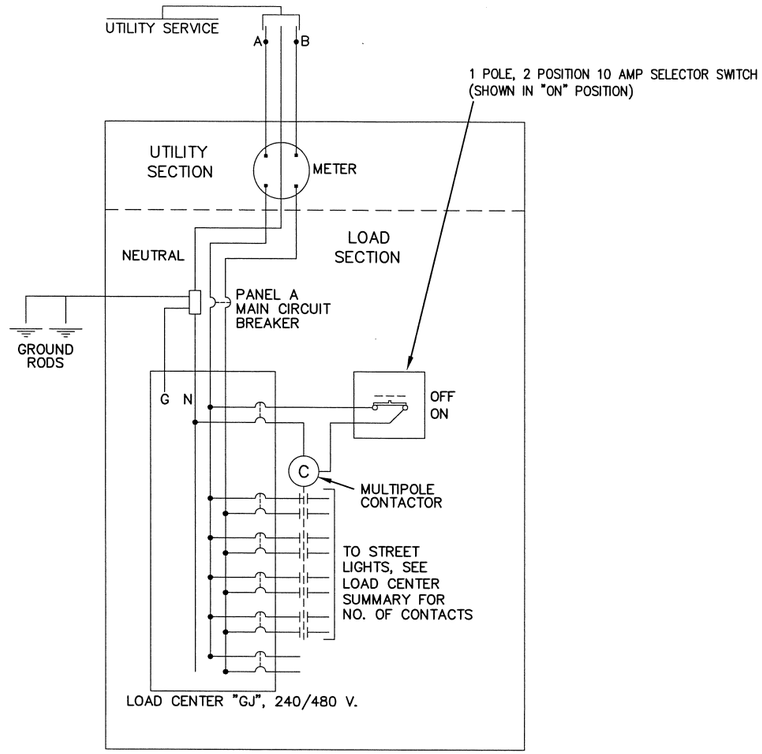
STATE OF ALASKA
49 TH
Michael S. Goulding
Feb 13, 2018
EE-9705
REGISTERED PROFESSIONAL ENGINEER

LOAD CENTER SUMMARY AND LIGHTING DETAILS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/Z632130000	2018	H27	H47



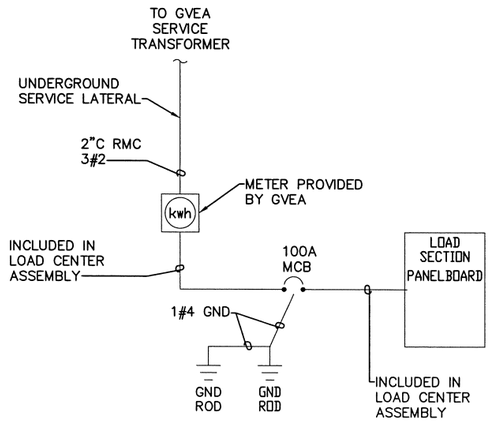
LOAD CENTER "U"
WIRING DIAGRAM AND
SELECTOR SWITCH WIRING



LOAD CENTER "GJ"
WIRING DIAGRAM AND
SELECTOR SWITCH WIRING

WIRING NOTES – FOR LOAD CENTERS "U", AND "GJ":

1. FURNISH ALL EQUIPMENT NOTED IN THE LOAD CENTER SUMMARY, PLUS TWO 20–AMP 2–POLE SPARE CIRCUIT BREAKERS, AND SPACE FOR A MINIMUM OF TWO ADDITIONAL 2–POLE CIRCUIT BREAKERS IN EACH LOAD PANEL. SEE THE LOAD CENTER SUMMARY FOR THE LOAD PANEL VOLTAGES, CURRENT RATING AND SHORT CIRCUIT INTERRUPTING RATING, AND THE NAME OF THE SERVING UTILITY.
2. SIZE THE LOAD CENTER CABINETS TO HOLD THE EQUIPMENT SHOWN IN THE WIRING DIAGRAM AND DETAILED IN EACH LOAD CENTER SUMMARY, ALLOWING SPACE FOR WIRING PER THE NATIONAL ELECTRICAL CODE. INSTALLING A METER BASE AND MAIN BREAKER IN A SEPARATE ENCLOSURE IS ALLOWABLE.
3. LABEL ALL CIRCUIT BREAKERS AS TO LOAD SUPPLIED. LABEL THE SELECTOR SWITCH "LIGHTING" AND ITS POSITIONS "ON–OFF".
4. STORE A SCHEMATIC DIAGRAM, A CIRCUIT DIRECTORY AND A MATERIALS LIST THAT INCLUDES THE MANUFACTURER'S NAME AND PART/CATALOG NUMBERS, ALL LAMINATED IN PLASTIC IN A METAL POCKET ATTACHED TO THE INSIDE OF THE LOAD CENTER. INSTALL THE POCKET ON THE LOAD CENTER DOOR, PROVIDING DRAIN HOLES TO PREVENT WATER ACCUMULATION.
5. THE LENGTH AND TYPE OF SERVICE CONDUIT INSTALLED BY THE CONTRACTOR VARIES BY UTILITY AND LOAD CENTER LOCATION.
6. SEE THE LOAD CENTER SUMMARIES AND PLANS FOR THE STATION AND OFFSET OF THE LOAD CENTER AND POWER SOURCE, AND THE APPROXIMATE DISTANCE BETWEEN THE LOAD CENTER AND THE POWER SOURCE.
7. SEE ILLUMINATION AND INTERCONNECT PLANS FOR ROUTING OF UNDERGROUND SERVICE LATERALS.



LOAD CENTERS "U" AND "GJ"
ONE–LINE DIAGRAM

LOAD CENTER DETAILS

STATE OF ALASKA
49 TH
Michael S. Goulding
Feb 13, 2018
EE-9705
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743–3200
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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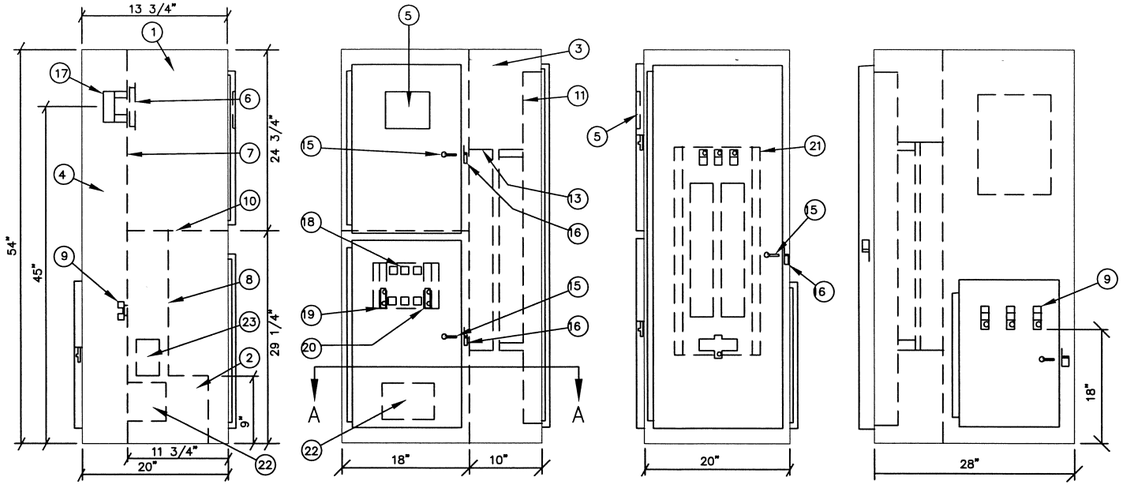
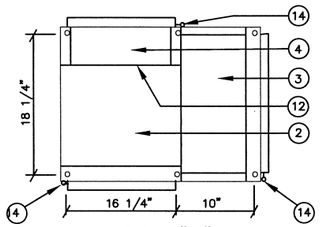


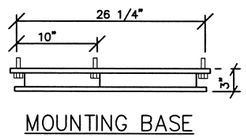
LEFT VIEW | RIGHT VIEW | REAR VIEW

EQUIPMENT LEGEND

1. METER SECTION
2. LOAD SECTION (MAIN)
3. LOAD SECTION (DISTRIBUTION)
4. SERVICE PULL SECTION
5. METER READING WINDOW
6. METER SOCKET COVER
7. TEST SECTION COVER
8. DEAD FRONT
9. UTILITY LANDING LUGS
10. METER SECTION BARRIER
11. PANEL BOARD DEADFRONT
12. EQUIPMENT CHASSIS
13. MOUNTING PAN
14. STAINLESS STEEL PIN HINGE
15. COIN LATCH
16. HASP FOR PADLOCK
17. METER SOCKET KIT ASS'Y.
18. MAIN BREAKER(S)
19. NEUTRAL BAR
20. GROUND BAR
21. PANEL BOARD INTERIOR
22. ALTERNATE CONTACTOR LOCATION
23. CABLE OPENING



SECTION "A"

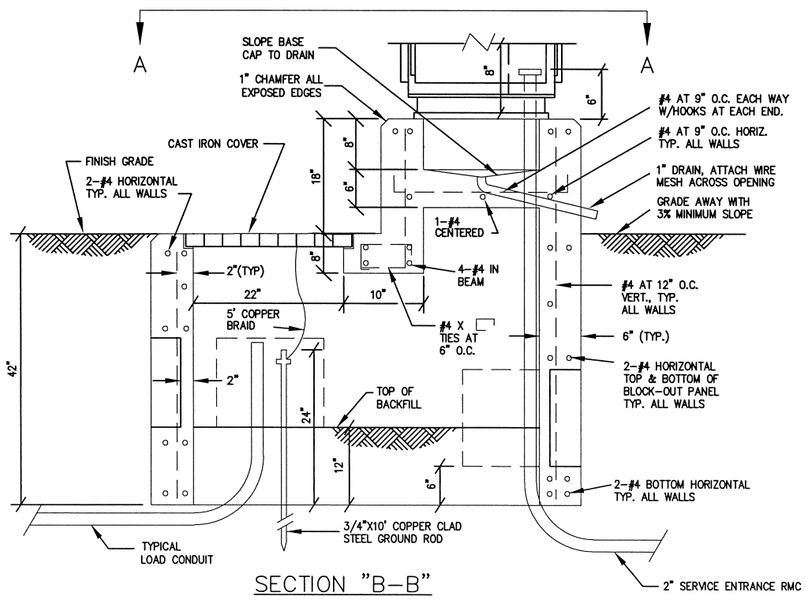


MOUNTING BASE

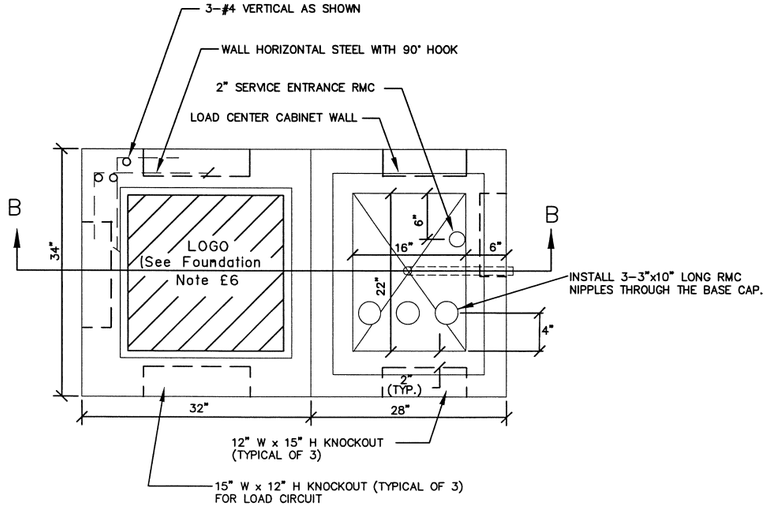
TYPE 1 LOAD CENTER CABINET SECTION / ELEVATION

FOUNDATION NOTES:

1. INSTALL THE SURFACE WITH CAST IRON COVER FLUSH WITH THE PAVEMENT, SIDEWALK, OR FINISHED GRADE. GRADE AWAY FROM THE BASE WITH A MINIMUM SLOPE OF 3%. USE A PRE-MOULDED BITUMINOUS JOINT BETWEEN THE BASE AND CONCRETE SIDEWALK OR PAVING.
2. WHEN INSTALLING THE BASE, EXCAVATE TO 60" BELOW FINISHED GRADE AND INSTALL A DRAIN CONSISTING OF 18" OF COARSE CONCRETE AGGREGATE APPROVED BY THE ENGINEER. BACKFILL AROUND THE BASE IN 6" LIFTS WITH SELECTED MATERIAL TYPE "A".
3. BACKFILL INSIDE THE FOUNDATION TO WITHIN 30" OF THE LID AFTER ALL CONDUITS ARE INSTALLED, USING COARSE AGGREGATE. TERMINATE THE ENDS OF ALL LOAD CONDUITS A MINIMUM OF 6" ABOVE THE COARSE CONCRETE AGGREGATE BACKFILL AND A MINIMUM OF 12" BELOW THE LID.
4. PROVIDE ANCHOR BOLTS OR EXPANSION ANCHORS IN THE BASE FOR MOUNTING THE CABINET PER THE MANUFACTURER'S SHOP DRAWINGS. ANCHOR BOLTS, NUTS, AND WASHERS SHALL CONFORM TO EITHER ASTM A307 OR A449 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.
5. USE GRADE 60 REINFORCING STEEL CONFORMING TO ASTM 615 AND CLASS "A" CONCRETE CONFORMING TO SECTION 501 OF THE SPECIFICATIONS WHEN CASTING THE BASE.
6. FINISH THE BASE ACCESS OPENING WITH A 24" SQUARE IRON FRAME AND COVER, WEIGHING APPROXIMATELY 280 LBS. PROVIDE COVERS INSCRIBED WITH THE LEGEND "LIGHTING" FOR THOSE LOAD CENTERS WITH STREET LIGHTING CIRCUITS ONLY, AND "TRAFFIC" FOR THOSE LOAD CENTERS WITH A TRAFFIC SIGNAL CIRCUIT.
7. IF THE BASE IS PRECAST, INSTALL TWO 3/4" FERRULE LOOP INSERTS IN TWO SIDES OPPOSITE ONE ANOTHER FOR LIFTING.



SECTION "B-B"



VIEW "A-A"
(PLAN VIEW)

TYPE 1 LOAD CENTER BASE

NOTE: STOP HORIZONTAL & VERTICAL STEEL AT BLOCK-OUT PANELS & OPTIONAL JOINT USING 90° HOOK. INSTALL 2 EXTRA #4 HORIZONTAL & VERTICAL BARS ON ALL SIDES OF EACH KNOCKOUT.

STATE OF ALASKA 49TH
Michael S. Goulding
Feb 13, 2018
EE-9705
REGISTERED PROFESSIONAL ENGINEER

LOAD CENTER FOUNDATION DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC; CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
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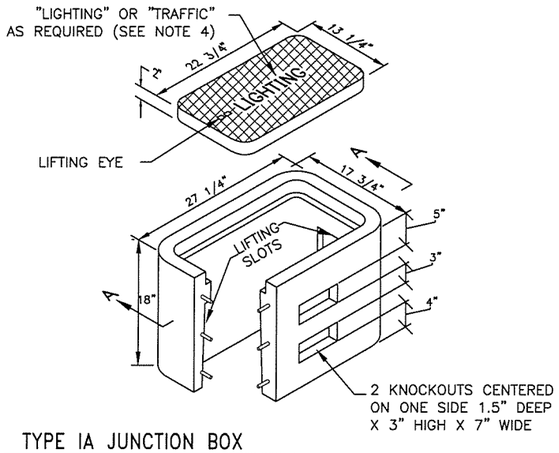
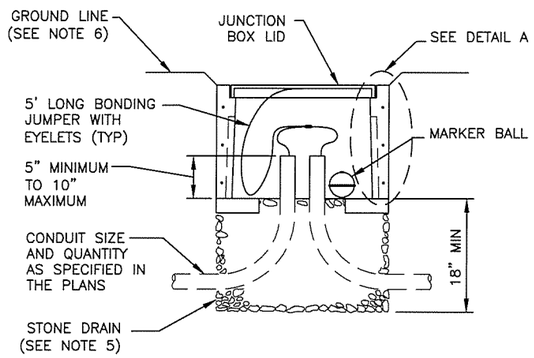
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H29	H47

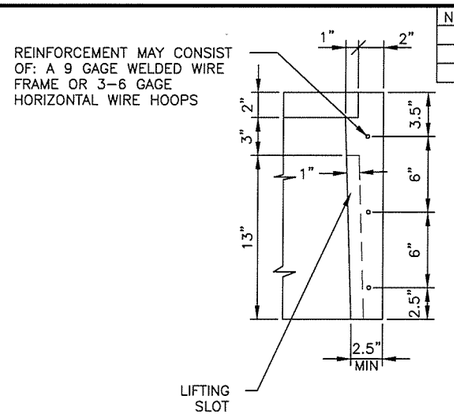


TYPE IA JUNCTION BOX

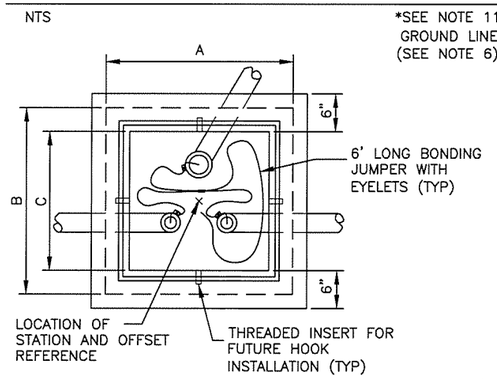
NTS



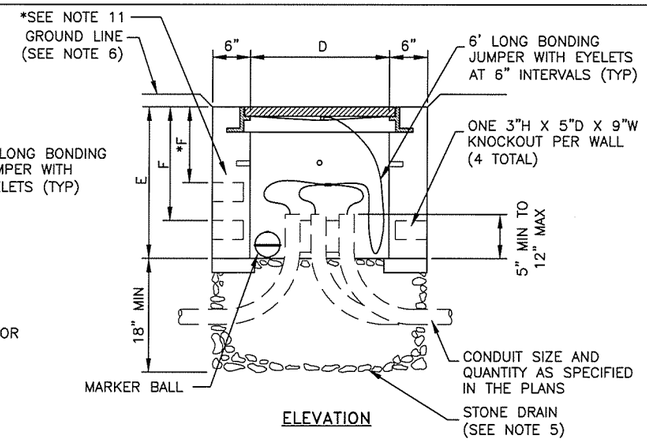
SECTION A–A



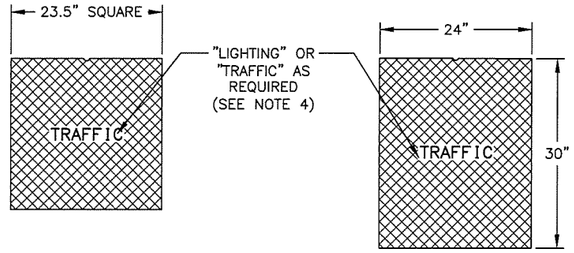
DETAIL A



PLAN



ELEVATION

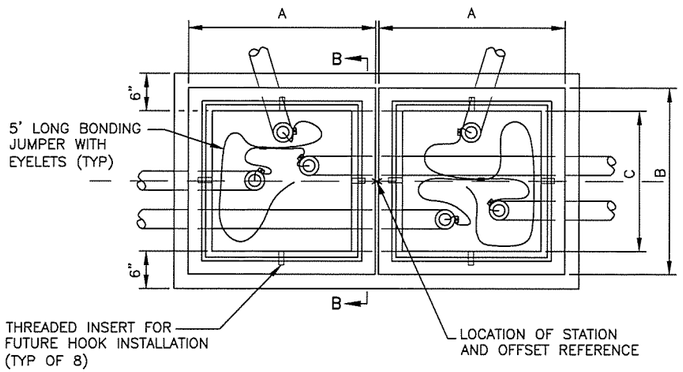


NOTES:

1. AVOID INSTALLING TYPE IA JUNCTION BOXES IN DRIVEWAYS OR IN LOCATIONS SUBJECT TO USE BY HEAVY TRUCKS. INSTALL JUNCTION BOXES ONLY AT THE LATERAL LOCATIONS ALLOWED IN SUBSECTION 660–3.04.
2. FURNISH TYPE II, III AND IV JUNCTION BOXES WITH CAST IRON FRAMES AND LIDS THAT WEIGH A MINIMUM OF 210 POUNDS AND ARE RATED FOR HEAVY TRAFFIC LOADS IN COMPLIANCE WITH AASHTO M306. FURNISH TYPE IA JUNCTION BOXES WITH CAST IRON LIDS THAT WEIGH A MINIMUM OF 50 POUNDS.
3. CONSTRUCT JUNCTION BOXES ACCORDING TO SECTION 501 USING CLASS A CONCRETE. REINFORCE TYPE IA JUNCTION BOXES AS SHOWN. SYNTHETIC STRUCTURAL FIBER–REINFORCED CONCRETE THAT MEETS ASTM C 1116 AND CONTAINS FIBER IN PROPORTIONS AS RECOMMENDED BY THE FIBER MANUFACTURER MAY BE ADDED FOR STRENGTH.
4. FOR JUNCTION BOXES THAT CONTAIN ILLUMINATION CONDUCTORS EXCLUSIVELY, FURNISH LIDS WITH THE WORD LIGHTING INSCRIBED INTO THEM. FOR OTHER JUNCTION BOXES, FURNISH LIDS WITH THE WORD TRAFFIC INSCRIBED INTO THEM.
5. UNDER JUNCTION BOXES, INSTALL STONE DRAINS THAT CONSIST OF POROUS BACKFILL MATERIAL CONFORMING TO SUBSECTION 703–2.10.
6. SET THE TOPS OF JUNCTION BOXES WITH THE FOLLOWING DIMENSIONS BELOW THE FINISHED SURROUNDING SURFACE:
   - 1" IN PAVED MEDIANS AND ADJACENT TO PEDESTRIAN FACILITIES
   - 3/16" IN PEDESTRIAN FACILITIES
   - 2" IN ALL OTHER AREAS
7. BOND JUNCTION BOX LIDS TO THE SYSTEM OF EQUIPMENT GROUNDING CONDUCTORS ACCORDING TO SUBSECTION 660–3.06. ATTACH BONDING JUMPERS TO THE JUNCTION BOX LIDS WITH STAINLESS STEEL HARDWARE.
8. INSTALL A 1/2" THICK PREFORMED BITUMINOUS JOINT MATERIAL AROUND JUNCTION BOXES INSTALLED IN PORTLAND CEMENT CONCRETE WALKWAYS.
9. INSTALL AN ELECTRONIC MARKER BALL IN ALL JUNCTION BOXES PER SUBSECTION 660–3.04.
10. PROVIDE CONDUIT GROUNDING BUSHINGS AND BOND TO 3/4"X10' COPPER CLAD GROUND ROD WITH #8 BARE COPPER BONDING WIRE (AS REQUIRED).
11. WHERE MODIFIED TYPE II JUNCTION BOXES ARE REQUIRED FOR DETECTOR LOOP TAIL INSTALLATIONS, ADD ONE(1) ADDITIONAL 5" DEEP X 3" HIGH X 18" WIDE KNOCKOUT 12" BELOW TOP OF JUNCTION BOX.

TYPE II/MODIFIED TYPE II JUNCTION BOX

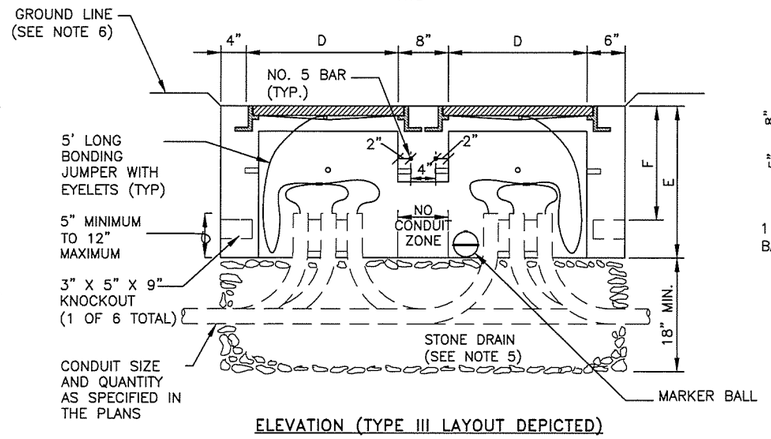
NTS *=APPLICABLE TO MODIFIED TYPE II JUNCTION BOX



PLAN

LID FOR TYPE II, MOD. TYPE II & TYPE III J-BOX

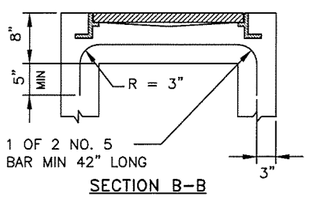
NTS



ELEVATION (TYPE III LAYOUT DEPICTED)

LID FOR TYPE IV J-BOX

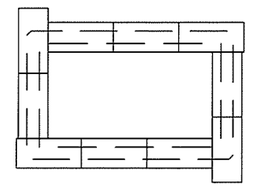
NTS



SECTION B–B

J–BOX TYPE	DIMENSIONS					
	A (MAX.)	B (MAX.)	C (MIN.)	D (MIN.)	E (MIN.)	F
II	29 1/2"	29 1/2"	22"	22"	24"	18"
MOD. II	29 1/2"	29 1/2"	22"	22"	24"	12"
III	29 1/2"	29 1/2"	22"	22"	24"	18"
IV	30"	36"	30"	24"	30"	18"

J–BOX DIMENSIONS



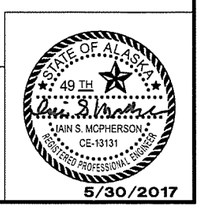
BRICK BASE TYPE IA AND TYPE II ONLY

NTS

TYPE III/IV JUNCTION BOX

NTS

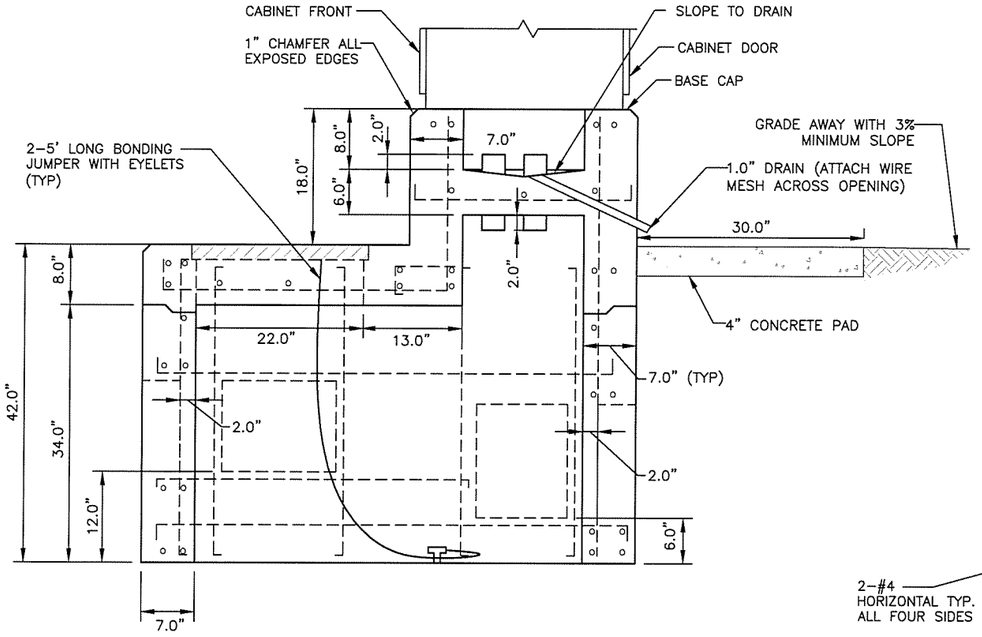
JUNCTION BOX DETAILS



5/30/2017

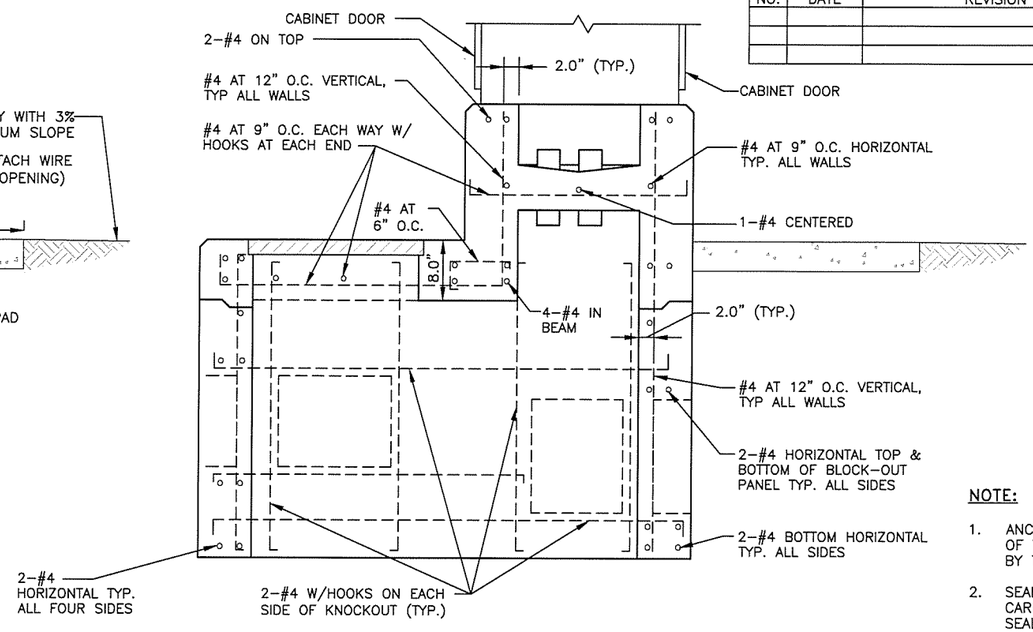
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design__Phase-A\DWGS\Production\06173_H_University J-Box Details-H29 Tue, May/30/17 08:52am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H30	H47



SECTION A–A

NOTE: SEE SECTION B–B FOR REBAR DETAILS

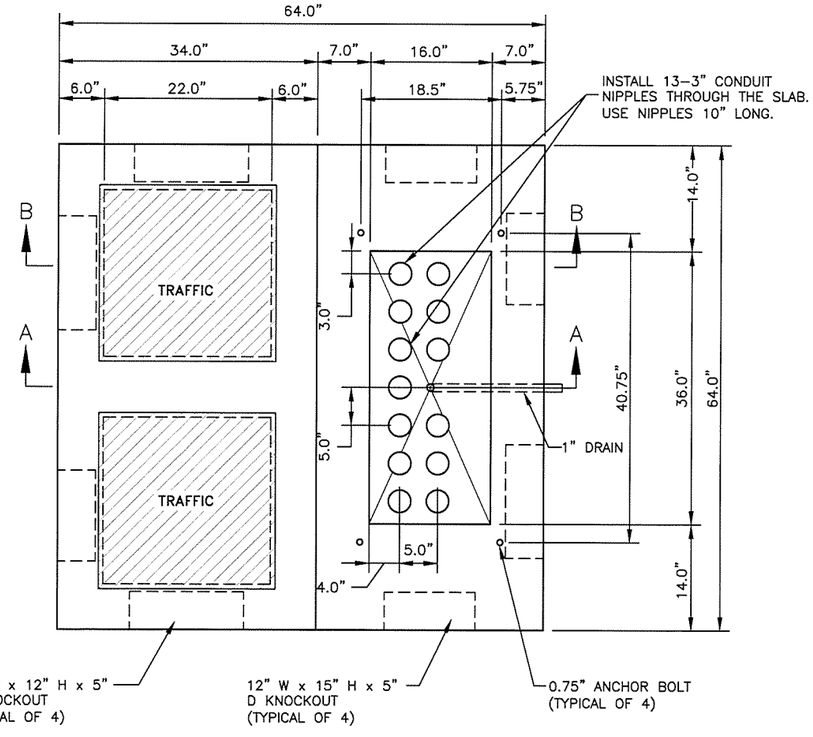


SECTION B–B

NOTE: SEE SECTION A–A FOR DIMENSIONAL DETAILS

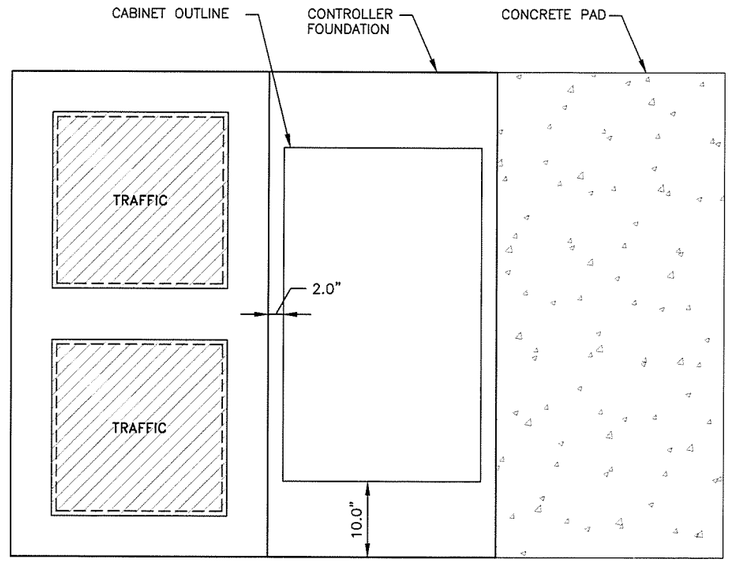
NOTE:

1. ANCHOR BOLTS SHALL NOT PROTRUDE MORE THAN 1.5" ABOVE THE TOP OF THE FOUNDATION. ANCHOR BOLT DIMENSIONS SHALL BE AS SPECIFIED BY THE CABINET MANUFACTURER.
2. SEAL UNUSED CONDUIT STUBS WITH WATERTIGHT CAPS. SEAL STUBS CARRYING CONDUCTORS WITH WATERTIGHT SEALING BUSHINGS DESIGNED TO SEAL AROUND CONDUCTORS AND AGAINST THE CONDUIT WALLS.
3. ROUTE THE FIVE FOOT COPPER GROUNDING JUMPER THROUGH THE 2" PIPE NIPPLE AND ATTACH IT TO THE GROUNDING BUSHING ON THE FEEDER CONDUIT.
4. STOP HORIZONTAL & VERTICAL STEEL AT THE BLOCK–OUT PANELS & THE JOINT USING 90 DEGREE HOOKS. USE 2 EXTRA #4 HORIZONTAL & VERTICAL BARS. ALL SIDES AS SHOWN.
5. INSTALL TRAFFIC CONTROLLER WITHIN 1–DEGREE OF PLUMB.
6. CONCRETE PAD SHALL BE SUBSIDIARY TO THE SIGNAL PAY ITEM.



SIZE 6 OR 7 CONTROLLER CABINET FOUNDATION

NOTE: BOLT SPACING DIMENSIONS SHOWN FOR TS2 CONTROLLER CABINETS.



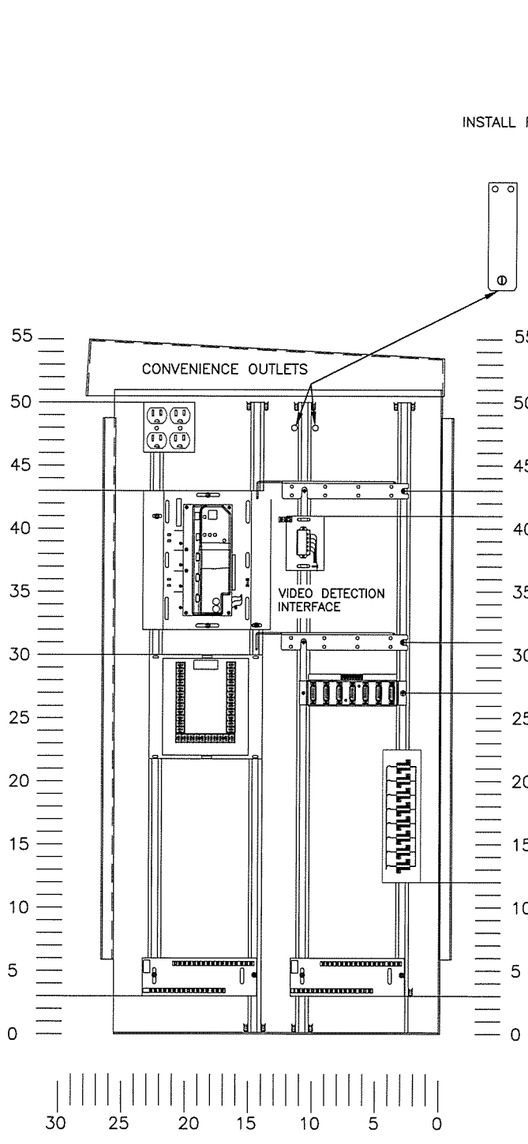
PLAN VIEW

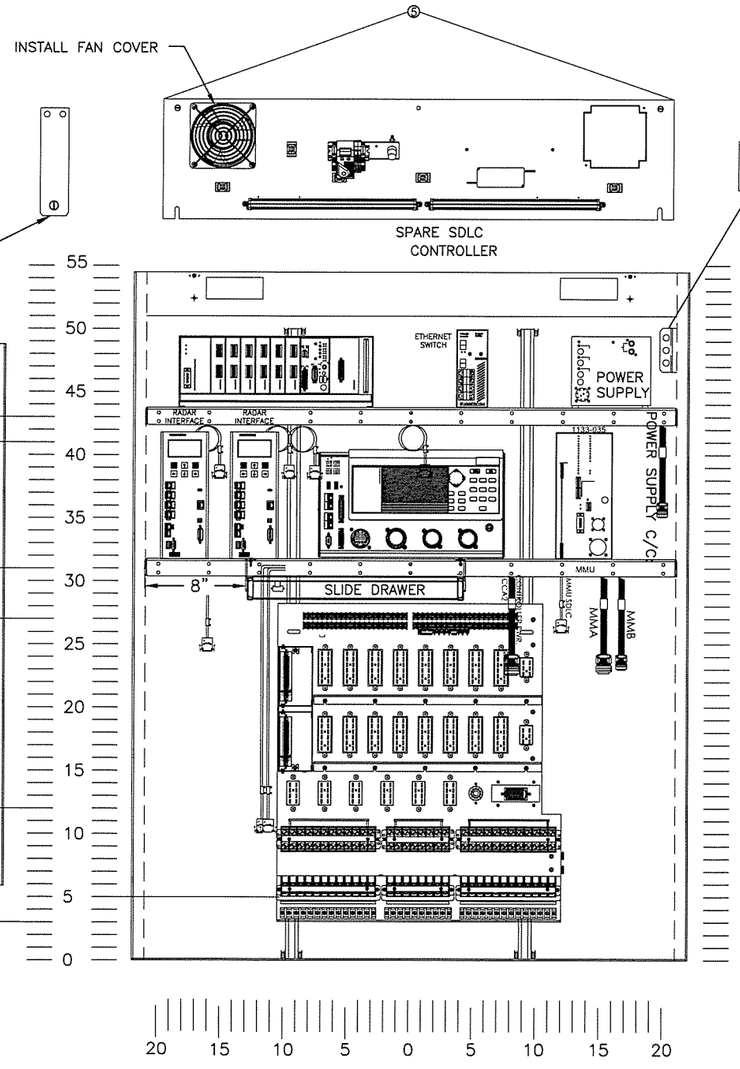
SIGNAL CONTROLLER FOUNDATION DETAIL

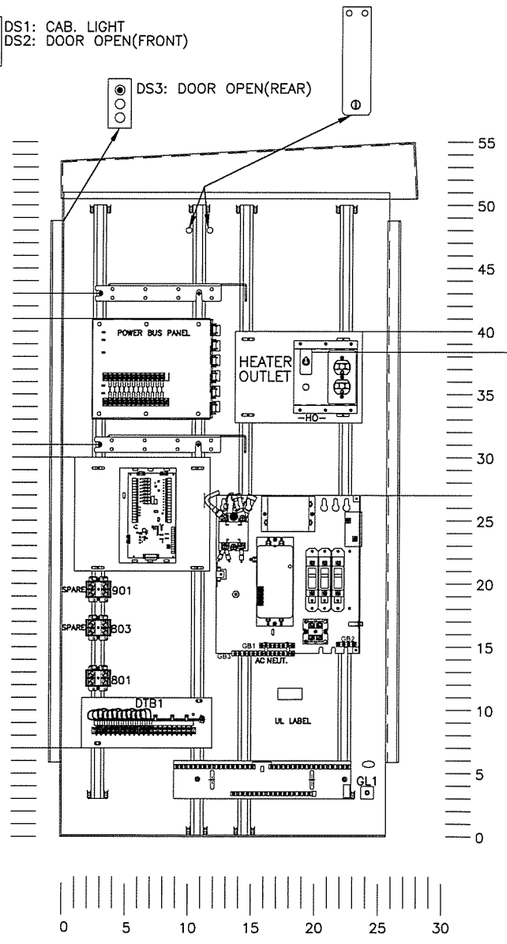
STATE OF ALASKA 49TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

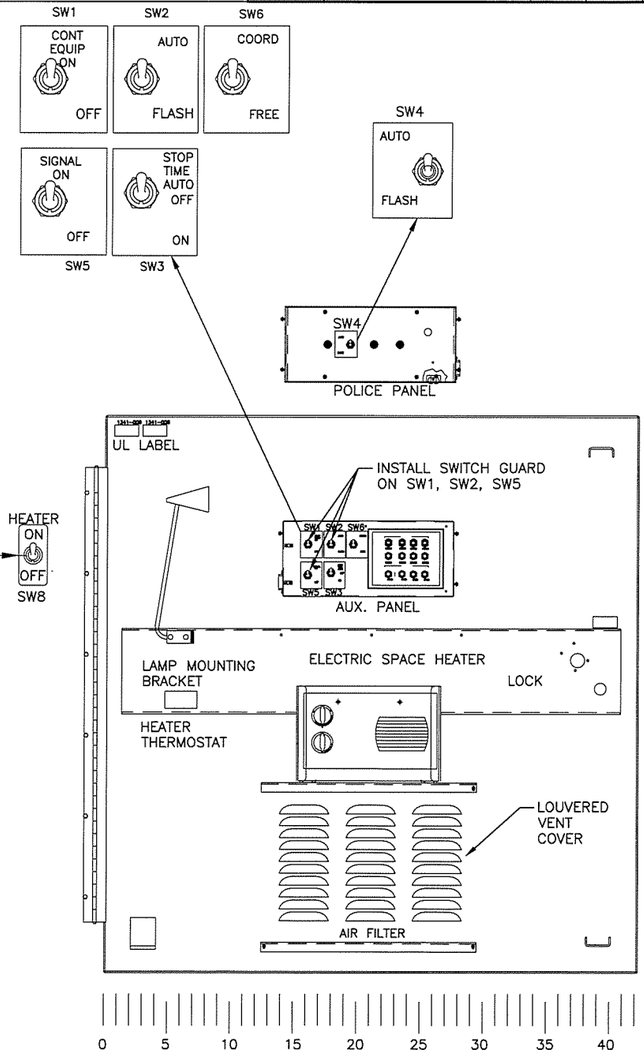
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346–2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase–A\DWGS\Production\06173_H_University_Signal Details–H30 Tue, May/30/17 08:53am

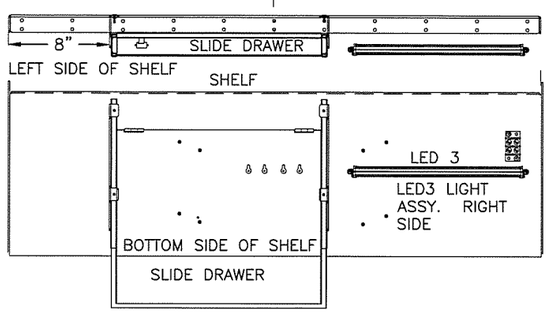
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H31	H47

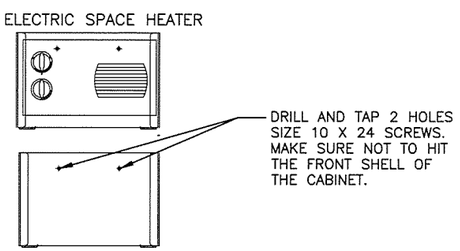








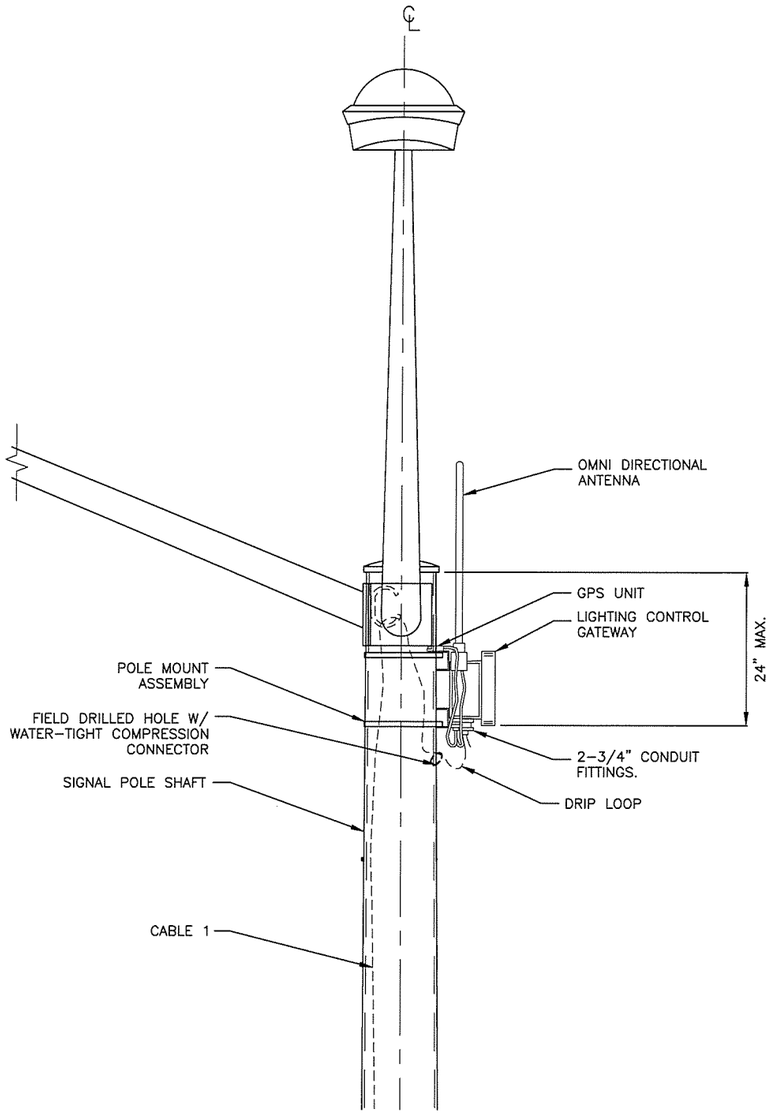




CONTROLLER CABINET LAYOUT

STATE OF ALASKA
49 TH
JAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H32	H47

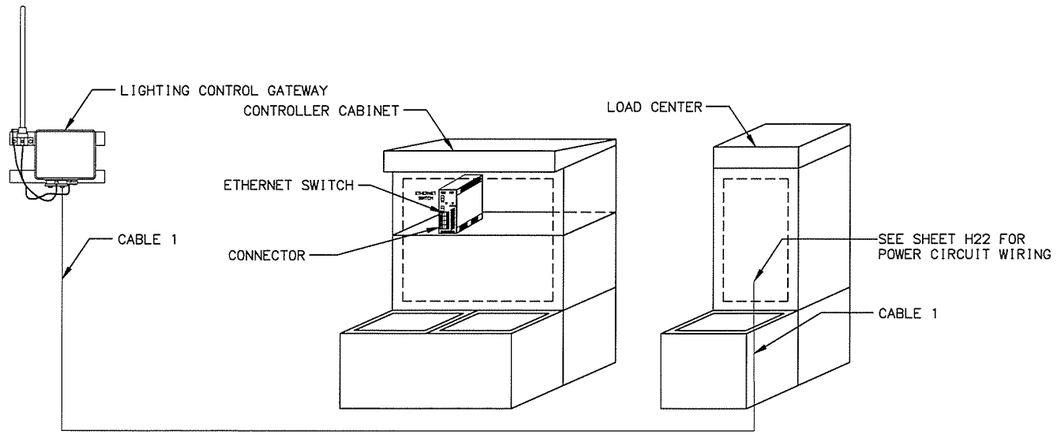


GATEWAY INSTALLATION DETAIL
NTS

MATERIAL REQUIREMENTS	
ALL ASSEMBLIES	
CABLE 1	3c#8
CONNECTOR	ENVIRONMENTALLY HARDENED RJ-45
STRAIN RELIEF	REMKE 2201-013 OR APPROVED EQUAL
LIGHTING CONTROL GATEWAY ASSEMBLY	
LIGHTING CONTROL GATEWAY AND ENCLOSURE AND POLE MOUNT ASSEMBLY	GE LIGHTGRID GATEWAY OUTDOOR WIRELESS CONTROLL SYSTEM.
OMNI DIRECTION ANTENNA	STANDARD 18 IN.
GPS UNIT	3M ACCURACY

LIGHTING CONTROL GATEWAY INSTALLATION NOTES:

1. PROTECT CABLE ENDS FROM MOISTURE AT ALL TIMES.
2. PULL CABLE IN ACCORDANCE WITH SECTION 660 OF THE SPECIAL PROVISIONS. PULL CABLE SO THAT THERE IS SUFFICIENT LENGTH TO REACH THE TOP OF THE CONTROLLER CABINET. CABLES ARE TO BE PULLED WITHOUT CONNECTORS ATTACHED. WHEN CABLE HAS BEEN PULLED TO FINAL LOCATIONS INSTALL AND MAKE FINAL CONNECTIONS.
3. CABLE RUNS ARE TO BE MADE CONTINUOUS WITHOUT SPLICES.
4. CABLE WITH DAMAGED INSULATION, OR THAT HAS BEEN CRIMPED OR BENT BEYOND THE MINIMUM BEND RADIUS MUST BE REPLACED AT CONTRACTORS EXPENSE.
5. THE MINIMUM BEND RADIUS SHALL NOT EXCEED MANUFACTURERS RECOMMENDATIONS.
6. ENSURE ADEQUATE LENGTH OF EACH CABLE TO ALLOW WORK ON THE ENDS OF THE CABLE IN THE CONTROLLER CABINET, AT THE POLE MOUNT ENCLOSURE AND RADAR MOUNTING LOCATION.
7. INSTALL WATERTIGHT RUBBER GROMMETS WHERE CABLE PASSES THROUGH THE POLE.
8. FURNISH ONLY NEW EQUIPMENT OF THE BRAND AND TYPE LISTED OR ITS APPROVED EQUAL. PROVIDE AT NO ADDITIONAL COST ALL NECESSARY DEVICES, WIRES, BRACKETS/HARDWARE ETC. TO PROVIDE A FULLY FUNCTIONING LIGHTING CONTROL GATEWAY SYSTEM WITH CELLULAR MODEM.



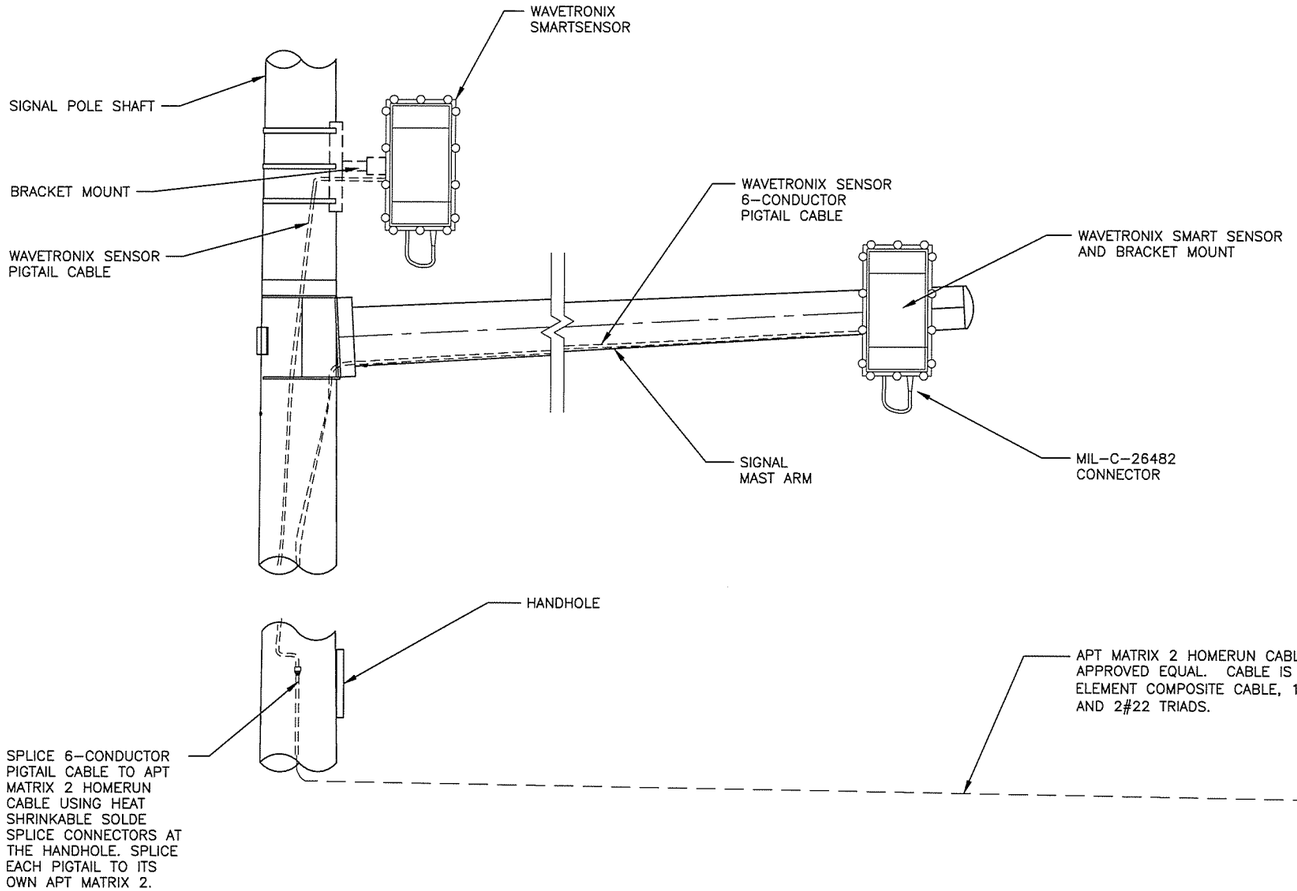
GATEWAY WIRING DIAGRAM
NTS

LIGHTING CONTROL GATEWAY DETAIL

STATE OF ALASKA 49TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\design\CTD\06173_University Ave Gateway Detail-H32 Tue, May/30/17 08:54am

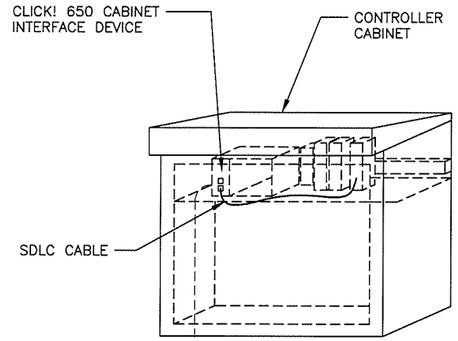
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H33	H47



RADAR INSTALLATION DETAIL
NTS

RADAR INSTALLATION NOTES:

1. PROTECT CABLE ENDS FROM MOISTURE AT ALL TIMES.
2. PULL CABLE IN ACCORDANCE WITH SECTION 660 OF THE SPECIAL PROVISIONS. PULL CABLE SO THAT THERE IS SUFFICIENT LENGTH TO REACH THE TOP OF THE CONTROLLER CABINET. CABLES ARE TO BE PULLED WITHOUT CONNECTORS ATTACHED. WHEN CABLE HAS BEEN PULLED TO FINAL LOCATIONS INSTALL AND MAKE FINAL CONNECTIONS.
3. CABLE RUNS ARE TO BE MADE CONTINUOUS WITHOUT SPLICES.
4. CABLE WITH DAMAGED INSULATION, OR THAT HAS BEEN CRIMPED OR BENT BEYOND THE MINIMUM BEND RADIUS MUST BE REPLACED AT CONTRACTORS EXPENSE.
5. THE MINIMUM BEND RADIUS SHALL NOT EXCEED MANUFACTURERS RECOMMENDATIONS.
6. ENSURE ADEQUATE LENGTH OF EACH CABLE TO ALLOW WORK ON THE ENDS OF THE CABLE IN THE CONTROLLER CABINET, AT THE POLE MOUNT ENCLOSURE AND RADAR MOUNTING LOCATION.
7. MOUNT THE RADAR AT THE LOCATION STATED IN THE PLANS. PLACEMENT MAY BE ADJUSTED BY THE ENGINEER TO ALLOW FOR BETTER AIMING OF THE RADAR OR TO AVOID OTHER HAZARDS.
8. INSTALL WATERTIGHT RUBBER GROMMETS WHERE CABLE PASSES THROUGH THE POLE.
9. FURNISH ONLY NEW EQUIPMENT OF THE BRAND AND TYPE LISTED OR ITS APPROVED EQUAL. PROVIDE AT NO ADDITIONAL COST ALL NECESSARY DEVICES, WIRES, BRACKETS/HARDWARE ETC. TO PROVIDE A FULLY FUNCTIONING RADAR DETECTION SYSTEM.



RADAR DETAIL

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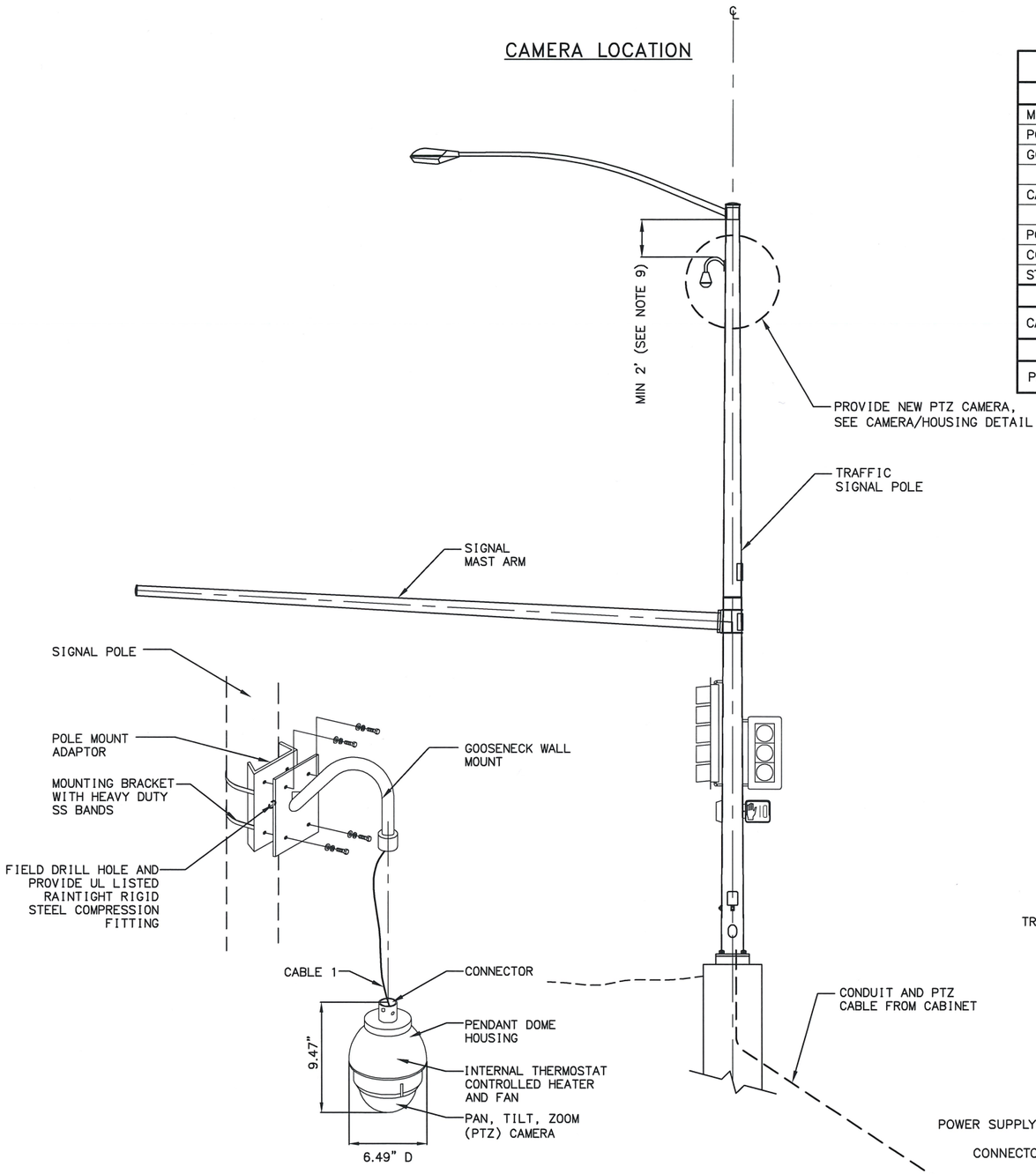
STATE OF ALASKA 49 TH
JAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H34	H47

CAMERA LOCATION



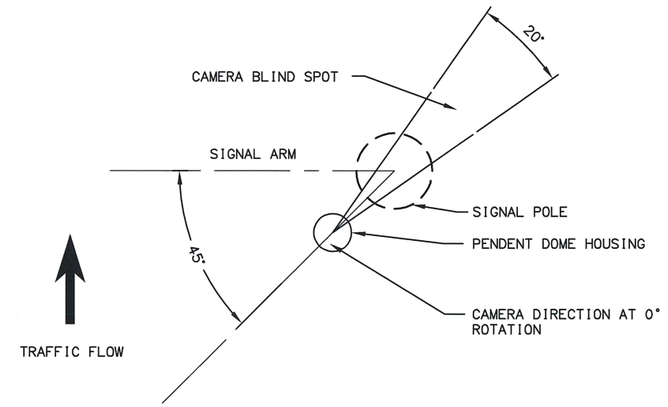
CAMERA/HOUSING DETAIL

MATERIAL REQUIREMENTS

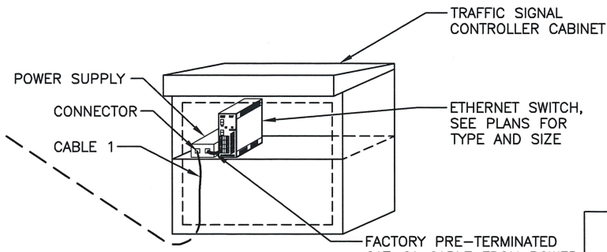
ALL ASSEMBLIES	
MOUNTING BRACKET	PELCO TRITON BRACKET OR APPROVED EQUAL
POLE MOUNT ADAPTOR	AXIS T91A57 OR APPROVED EQUAL
GOOSENECK WALL MOUNT	AXIS T91G61 OR APPROVED EQUAL
CABLE 1	CAT-6a, FOILED
POWER SUPPLY	AXIS T8134 60W OR APPROVED EQUAL
CONNECTOR	ENVIRONMENTALLY HARDENED RJ-45
STRAIN RELIEF	REMKE 2201-013 OR APPROVED EQUAL
CAMERA	
CAMERA	UNLESS OTHERWISE NOTED, PROVIDE AXIS Q6155-E OR APPROVED EQUAL
HOUSING	
PENDANT DOME HOUSING	OUTDOOR, INTEGRATED WITH CAMERA OR APPROVED EQUAL

NOTES:

1. PROTECT CABLE ENDS FROM MOISTURE AT ALL TIMES.
2. PULL CABLE IN ACCORDANCE WITH SECTION 660 OF THE SPECIAL PROVISIONS. PULL CABLE SO THAT THERE IS SUFFICIENT LENGTH TO REACH THE TOP OF THE CONTROLLER CABINET. CABLES ARE TO BE PULLED WITHOUT CONNECTORS ATTACHED. WHEN CABLE HAS BEEN PULLED TO FINAL LOCATIONS INSTALL AND MAKE FINAL CONNECTIONS.
3. CABLE RUNS ARE TO BE MADE CONTINUOUS WITHOUT SPLICES EXCEPT FOR IN LOCATION SHOWN IN SPICE DETAIL WITH SPECIFIED CONNECTOR.
4. CABLE WITH DAMAGED INSULATION, OR THAT HAS BEEN CRIMPED OR BENT BEYOND THE MINIMUM BEND RADIUS MUST BE REPLACED AT NO ADDITIONAL COST.
5. THE MINIMUM CABLE BEND RADIUS SHALL NOT EXCEED THE MANUFACTURERS RECOMMENDATIONS.
6. MOUNT THE PENDANT DOME HOUSING AT A 45° ANGLE AT THE REQUIRED HEIGHT. ANGLE AND HEIGHT MAY BE ADJUSTED BY THE ENGINEER TO AVOID WELDS, APPENDICES AND TO IMPROVE CAMERA VIEWS.
7. ADJUST CAMERA INSIDE THE PENDANT DOME HOUSING AS SHOWN. ENSURE THAT THE CAMERA IS MOUNTED AT A 0° TILT ANGLE.
8. AT CABLE END CONNECTOR LOCATION PROVIDE A SECURE CONNECTION USING CONNECTOR PARTS SPECIFIED. AFTER CONNECTION IS MADE COVER SPLICE WITH WATER PROOF HEAT SHRINK TUBING. PROVIDE A STRAIN RELIEF CABLE AS NECESSARY.
9. CAT6a TOTAL CABLE LENGTH SHALL NOT EXCEED 325 FEET FROM THE ETHERNET SWITCH TO THE PTZ CAMERA. WHEN MOUNTED ON THE SAME POLE AS A LIGHTING CONTROL GATEWAY MOUNT THE PTZ CAMERA BELOW THE GATEWAY WITH 2-FEET OF SEPARATION BETWEEN THE TOP OF THE PTZ WALL MOUNT AND THE BOTTOM OF THE GATEWAY, OR AT THE ENGINEER'S DIRECTION.



PLAN

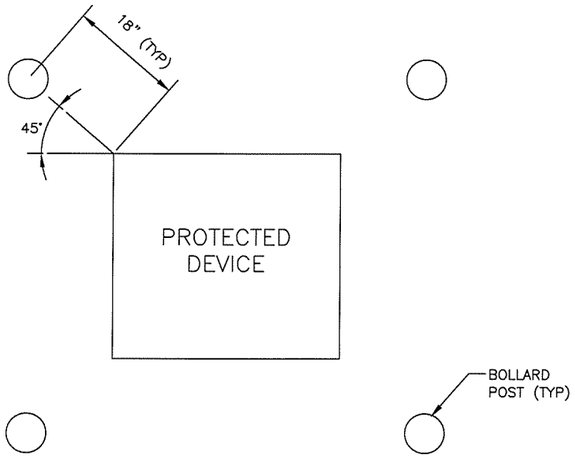


PAN, TILT, ZOOM CAMERA DETAILS

STATE OF ALASKA
49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
1/8/2018

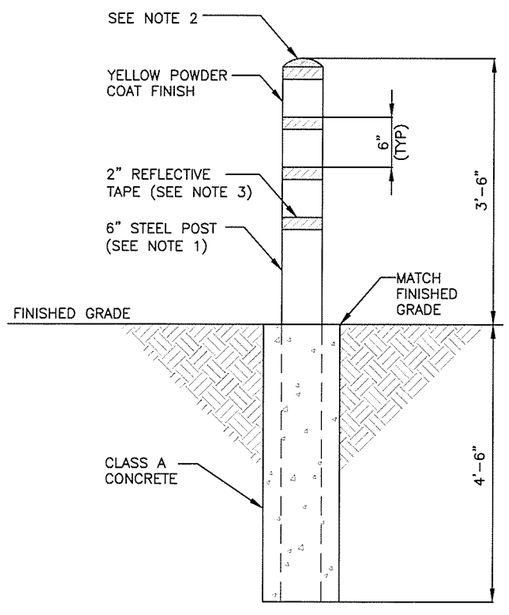
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\Production\06173_H_University_Signal Details-H34 Mon, Jan/08/18 03:17pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H35	H47



PLAN

LOCATE POSTS AS SHOWN PER PLAN



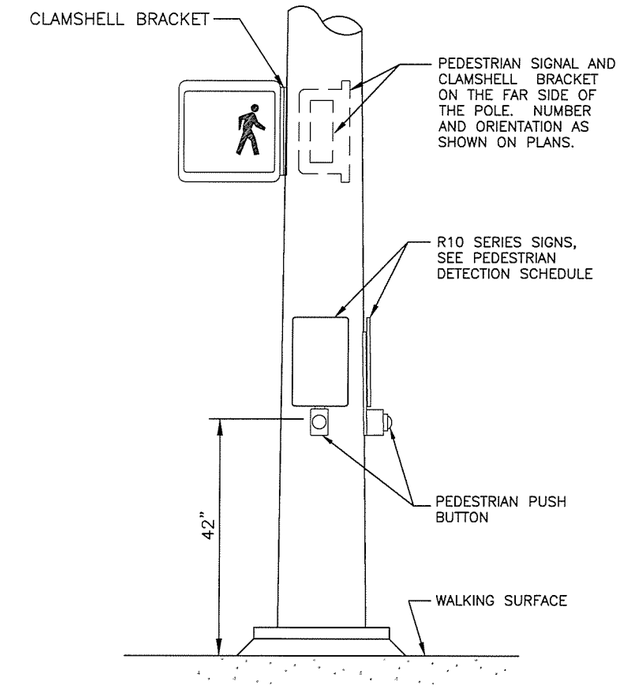
ELEVATION

BOLLARD POST DETAIL

NTS

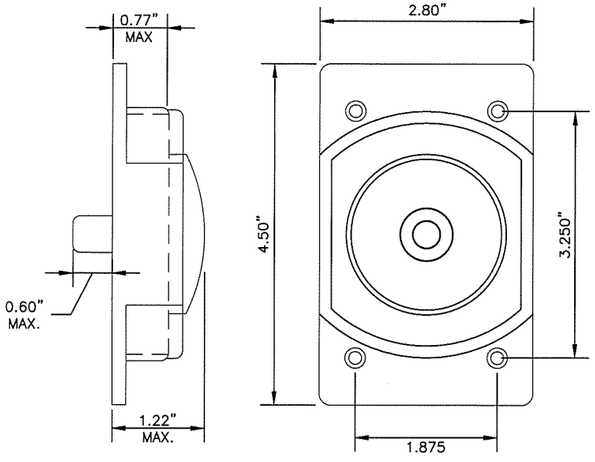
BOLLARD NOTES:

1. PROVIDE 6" DIA. GALVANIZED STEEL, SCHEDULE #40 PIPE, FILLED WITH CONCRETE.
2. ROUND CONCRETE AT TOP OF POST SMOOTH AND PAINT YELLOW. USE EXTERIOR ACRYLIC–EPOXY CONCRETE PAINT.
3. INSTALL 4–2" BANDS OF YELLOW REFLECTIVE TAPE AS SHOWN.
4. LOCATION AND QUANTITY OF POSTS AS INDICATED ON DRAWINGS.



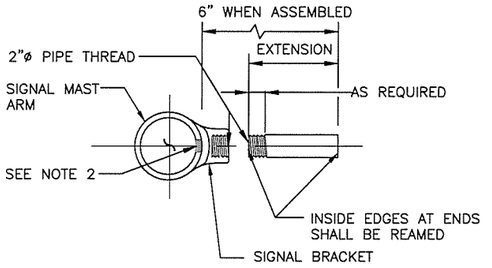
SIGNAL POLE MOUNTED PEDESTRIAN HARDWARE & SIGNAGE

NTS



PEDESTRIAN PUSH BUTTON DETAIL

NTS



NOTES

1 THESE DETAILS MODIFY STANDARD DRAWING T–30.11.

2 FIELD DRILL WIRING ACCESS HOLE AS REQUIRED. REAM INSIDE & OUTSIDE AND PAINT WITH COLD ZINC GALVANIZING COMPOUND CONFORMING TO DOD–P–21035A, MIL–P–26915A, OR TT–P–460.

3 ONE 2" GALVANIZED SCHEDULE 40 RIGID METAL CONDUIT EXTENSION SHALL BE FURNISHED WITH EACH SIGNAL BRACKET.

4 SIGNAL BRACKETS SHALL BE ASTRO–BRAC AB–3008AK OR APPROVED EQUAL AND SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER. THE ACTUAL LOCATION OF BRACKETS ON EACH ARM SHALL BE DETERMINED BY THE ENGINEER AFTER THE POLES AND ARMS HAVE BEEN INSTALLED.

PLUMBIZER SIGNAL MOUNTING DETAIL

(REQUIRED FOR ALL NEW OR RELOCATED PLUMBIZER [MAST ARM] MOUNTED SIGNALS)

MISCELLANEOUS SIGNAL DETAILS

5/30/2017

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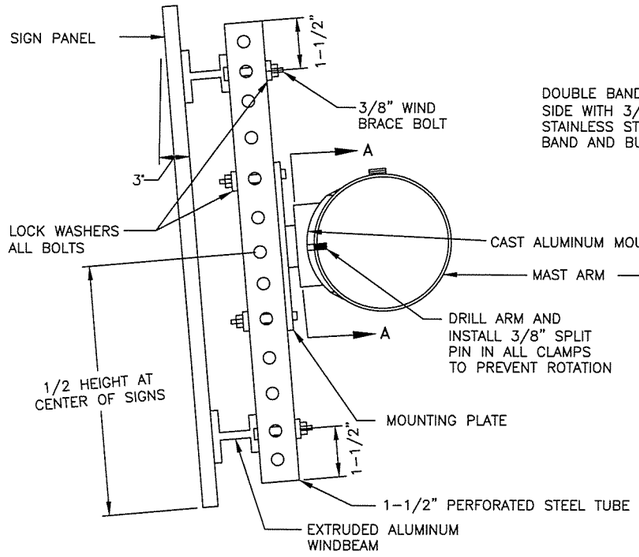
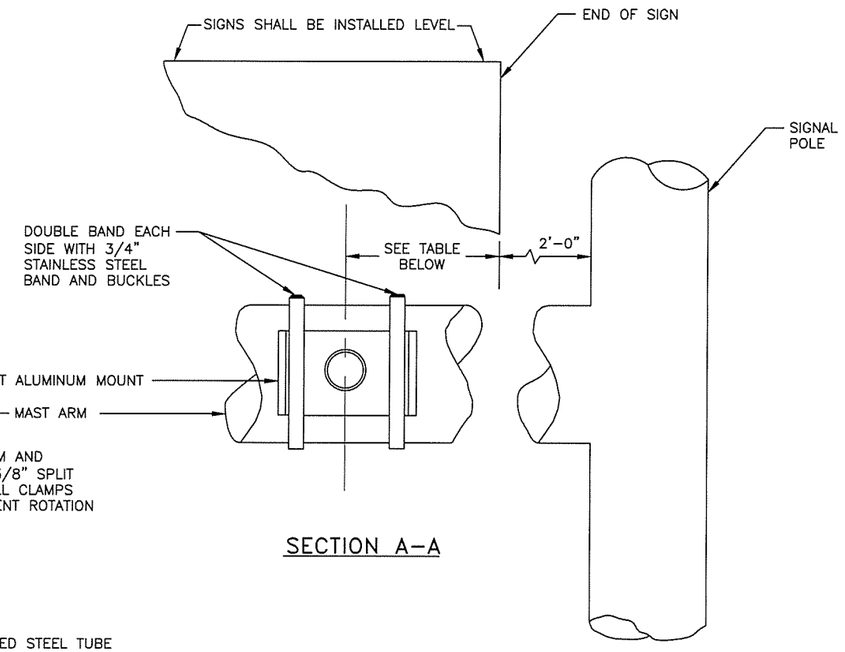
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\Production\06173_H_University_Signal Details-H35 Tue, May/30/17 08:56am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H36	H47





SECTION A–A

BANDING = STAINLESS STEEL 3/4"x0.030" TYPE 201 NO. C206

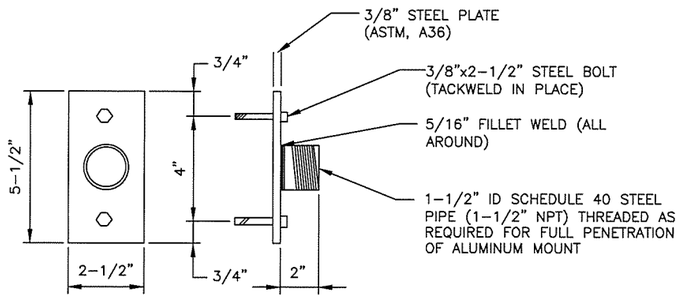
BUCKLES = STAINLESS STEEL 3/4" TYPE 201 NO. C256

ALUMINUM MOUNT (SIGNAL) = 1–1/2"NPT NO. D040

PIN = NO. D042

SIGNAL MAST ARM MOUNTED SIGNS (NOT FOR "R" SERIES SIGNS)

NTS



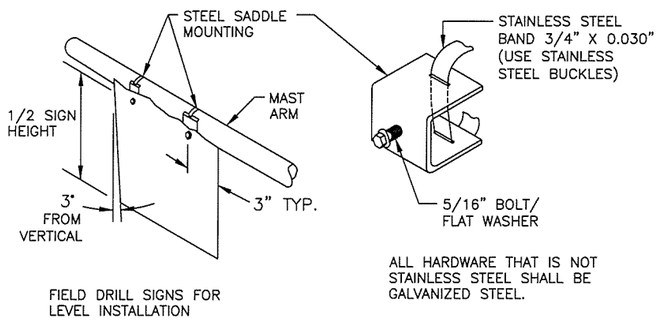
NOTES:

1. CAST ALUMINUM MOUNTS AND BANDING MATERIALS SHALL BE "BAND–IT" OR APPROVED EQUAL.
2. MOUNTING PLATE SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123.
3. ALL WELDING SHALL MEET AMERICAN WELDING SOCIETY SPECS.
4. BOLTS, NUTS AND WASHERS SHALL MEET THE REQUIREMENTS OF STANDARD DRAWING S–20.10

MOUNTING PLATE DETAIL

NTS

SIGN WIDTH(W)	NO. OF CLAMPS	CLAMP SPACING		
		OVERHANG	BETWEEN CLAMPS	OVERHANG
0–12 ½'	2	0.2W	1 SPACE AT 0.6W	0.2W
13' TO 21'	3	0.15W	2 SPACES AT 0.35W	0.15W

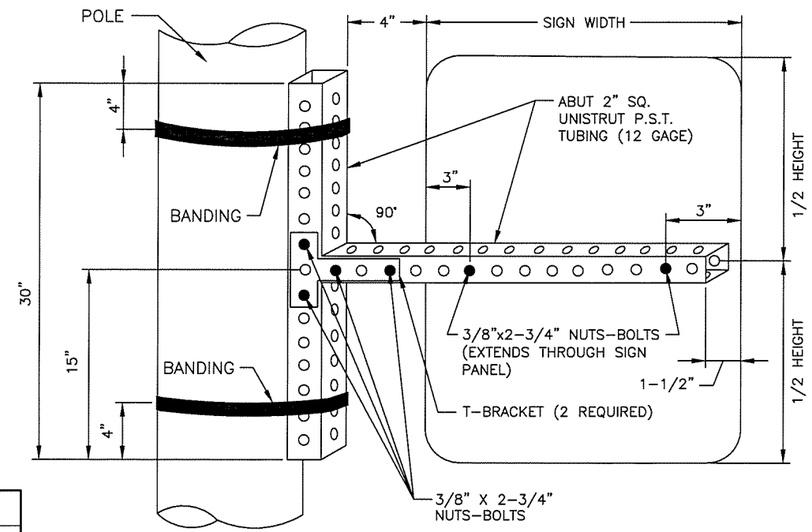


FIELD DRILL SIGNS FOR LEVEL INSTALLATION

ALL HARDWARE THAT IS NOT STAINLESS STEEL SHALL BE GALVANIZED STEEL.

MAST ARM MOUNTING FOR "R" SERIES SIGNS

NTS



ALL NUTS SHALL BE INSTALLED WITH LOCK WASHERS
BANDING = STAINLESS STEEL 3/4" X 0.030" (DOUBLE BANDING REQUIRED)
BUCKLES = STAINLESS STEEL 3/4"

POLE/POST SIDE MOUNTED SIGN BRACKET

NTS

SIGNAL MOUNTED SIGN DETAILS

5/30/2017

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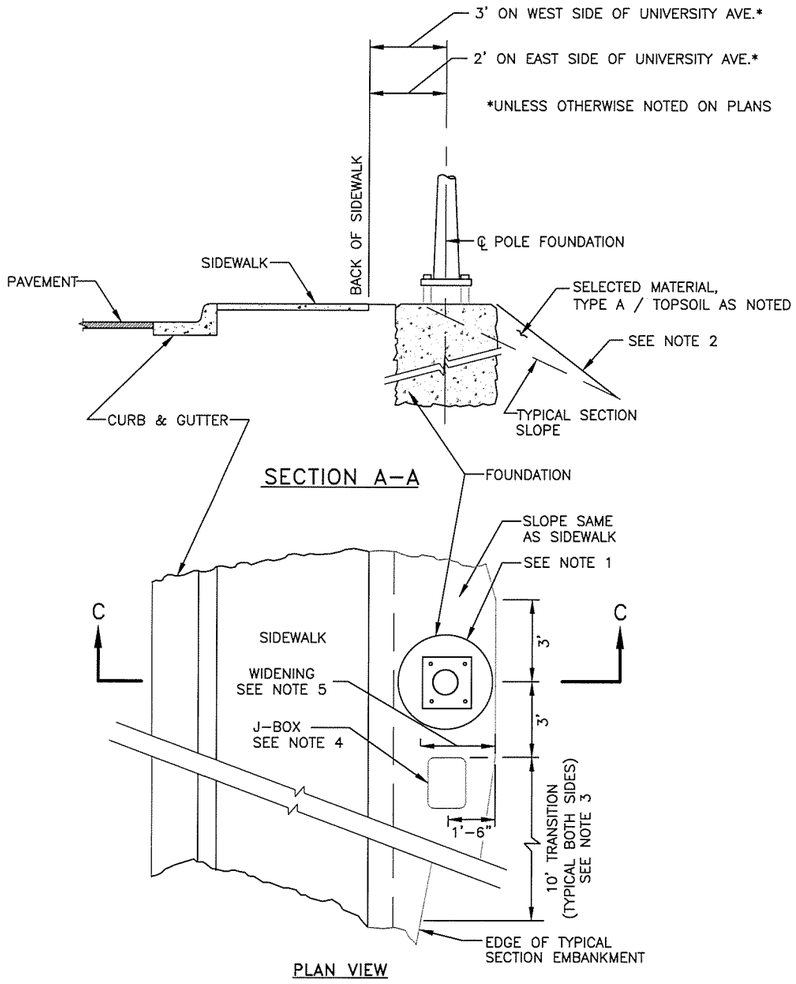
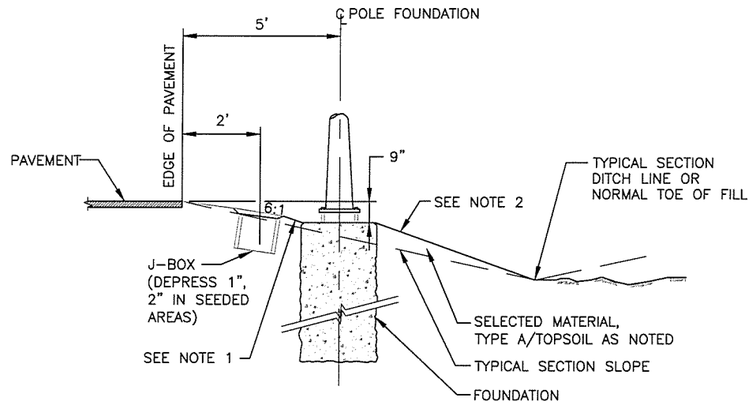
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\Production\06173_H_UNIVERSITY_SIGL MOUNTED SIGN DETL-H36 Tue, May/30/17 08:56am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H37	H47

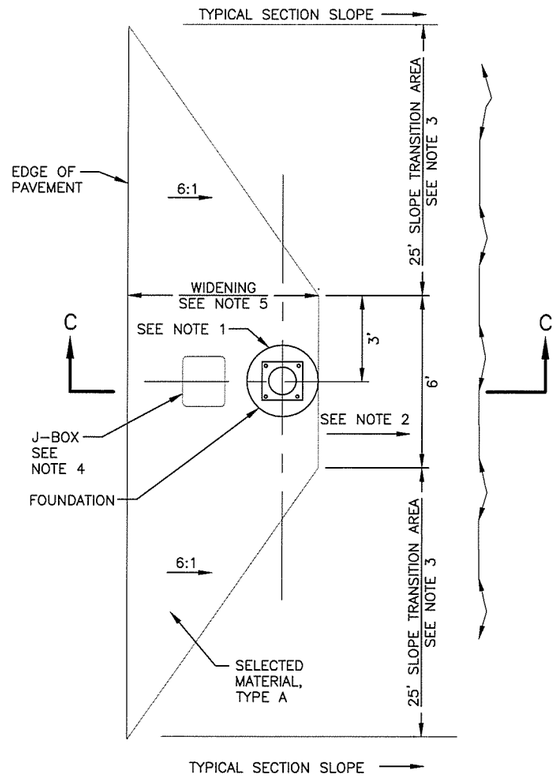


LIGHT POLE WIDENING DETAIL "A"

(USE WHEN POLE IS LOCATED OFF BACK OF SIDEWALK)

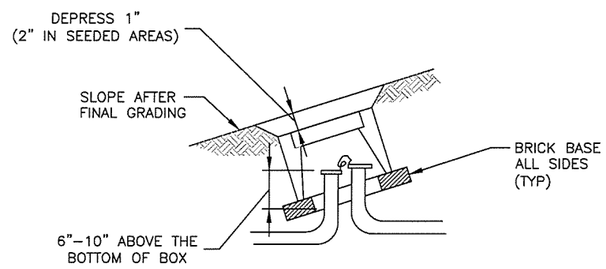


SECTION C–C



LIGHT POLE WIDENING DETAIL "C"

(USE WHEN POLE IS LOCATED OFF SHOULDER)



TYPE IA J–BOX INSTALLATION ON SLOPE

LIGHT POLE WIDENING NOTES:

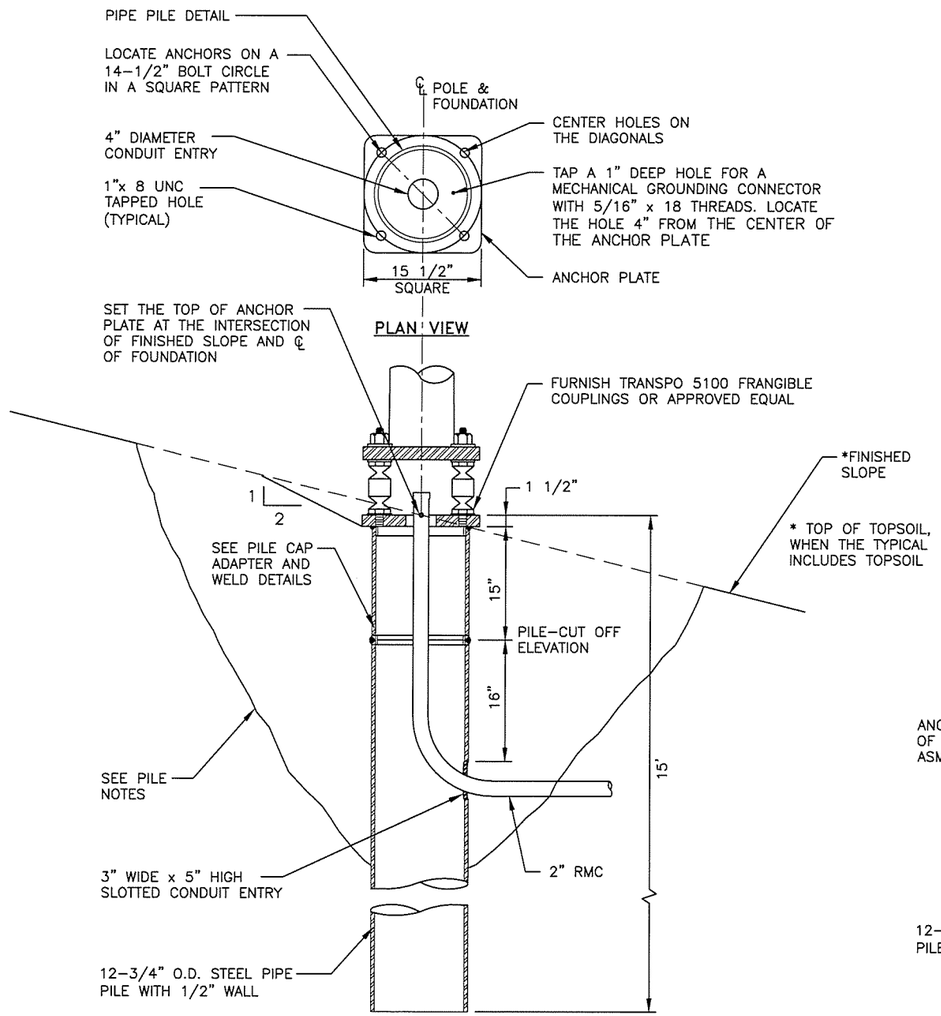
1. WARP SLOPE TO TOP CIRCUMFERENCE OF POLE FOUNDATION.
2. SLOPE FROM TOP EDGE OF POLE FOUNDATION TO TYPICAL SECTION DITCHLINE OR NORMAL TOE OF FILL. NO STEEPER THAN 2:1.
3. WHEN THE TYPICAL SECTION SLOPE IS STEEPER THAN 2:1 USE 35' FOR THE SLOPE TRANSITION AREA.
4. DEPRESS JUNCTION BOX 1" BELOW SURFACE. DEPRESS 2" IN SEEDED AREAS.
5. WIDENING SHALL BE CONSTRUCTED PRIOR TO POURING FOUNDATION.

LIGHTING AND JUNCTION BOX DETAILS

STATE OF ALASKA 49TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

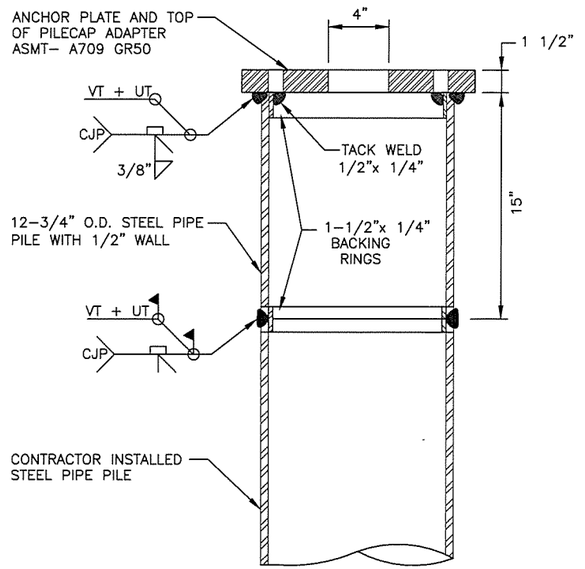
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\Production\D6173_H_University_Lighting Details-H37 Tue, May/30/17 08:57am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H38	H47



PIPE PILE FOUNDATION

(SHOWN WITH FRANGIBLE COUPLINGS)



PILECAP ADAPTER DETAIL

NOT TO SCALE

DESIGN NOTES:

1. DESIGN STANDARD: 2001 STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS WITH 2006 INTERIM.
2. DESIGN LOADS: 5–KIPS AXIAL, 7.5–KIPS SHEAR, 40–KIP–FT MOMENT.
3. GALVANIZATION OF PILE IS NOT REQUIRED UNLESS THE GROUND WATER TABLE IS FOUND TO BE ABOVE 5 FEET. THEN GALVANIZE THE PILE ACCORDING TO SECTION 505.
4. CHARPY TEST FOR ELECTROLIER POLE PILE FOUNDATIONS IS NOT REQUIRED.

MATERIAL REQUIREMENTS		
STRUCTURAL STEEL PLATE	ASTM A709 GRADE 50	Fy = 50 ksi
STEEL PIPE PILE	ASTM A709, GRADE 50 T3	Fy = 50 ksi
	API 5L GRADE X 42	Fy = 42 ksi

NOTES:

1. IN LIEU OF CONCRETE STREET LIGHT FOUNDATIONS SHOWN IN STANDARD DRAWING L–30.10, THE CONTRACTOR MAY PROVIDE STEEL PIPE PILE LIGHT POLE FOUNDATIONS IN ACCORDANCE WITH THIS DRAWING AND PROJECT SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE OF ALASKA.
2. FURNISH STEEL PIPE PILES THAT CONFORM TO THE MATERIAL REQUIREMENTS AND SECTION 660, 715 AND 740 OF THE SPECIFICATIONS. NO SPLICES ARE ALLOWED BELOW THE PILECAP ADAPTER.
3. DRIVE PILES OPEN ENDED. COMPLETE PILE WORK ACCORDING TO SECTIONS 505, 660 AND 715 OF THE SPECIFICATIONS. REMOVE AND REINSTALL PILES OUT OF PLUMB MORE THAN 1:40.
4. FRESH HEAD THE TOP OF PILES IN A LEVEL PLANE AND CUT THE CONDUIT ENTRANCE HOLE AFTER DRIVING THE PILE. NOTE; ONLY MECHANICAL OR PLASMA CUTTER MEANS ARE PERMITTED. OXY–FUEL CUTTING IS PROHIBITED.
5. FURNISH ONLY SHOP FABRICATED PILECAP ADAPTERS. INCLUDE STAMPED ENGINEERING CALCULATIONS, DRAWINGS, MILL CERTIFICATIONS AND WELDING PLANS FOR PILECAP ADAPTERS AND THE PILECAP ADAPTER TO PILE WELD. WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE AWS D1.1, STRUCTURAL WELDING CODE–STEEL AND THE SPECIFICATIONS.
6. WAIT AT LEAST 3 DAYS AFTER BACKFILLING THE WORK HOLE BEFORE ERECTING THE LUMINAIRE POLE.
7. TERMINATE CONDUIT(S) 3" ABOVE THE TOP OF THE ANCHOR PLATE. INSTALL A GROUNDING BUSHING ON THE END OF THE RIGID METAL CONDUIT AND ESTABLISH A BOND WITH THE ANCHOR PLATE.

PIPE PILE FOUNDATION DETAILS FOR LIGHT POLES

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5/30/2017

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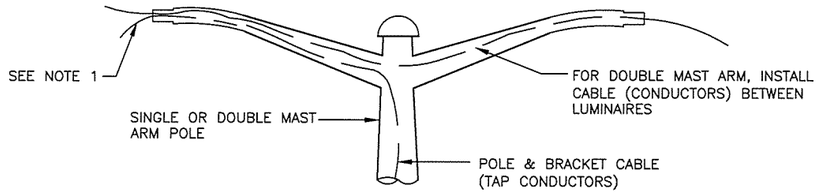
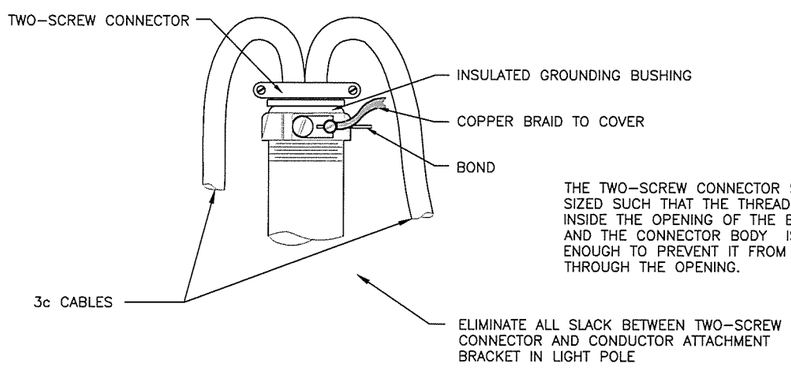


NOTE:

1. INSTALL 2"x1" REDUCING WASHER AND 1" CONNECTOR TO SECURE CONDUCTORS AT THE END OF THE MAST ARM.

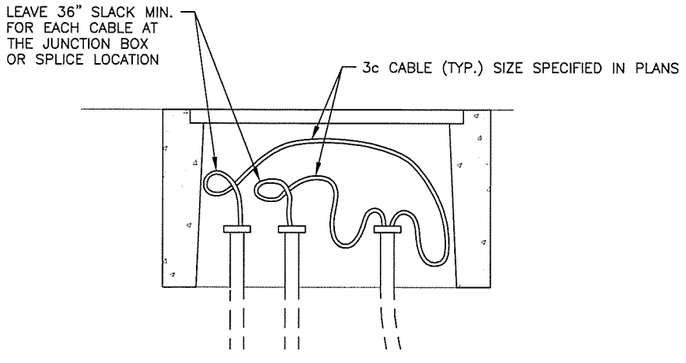
LIGHT STANDARD MAST ARM WIRING DETAIL

NTS

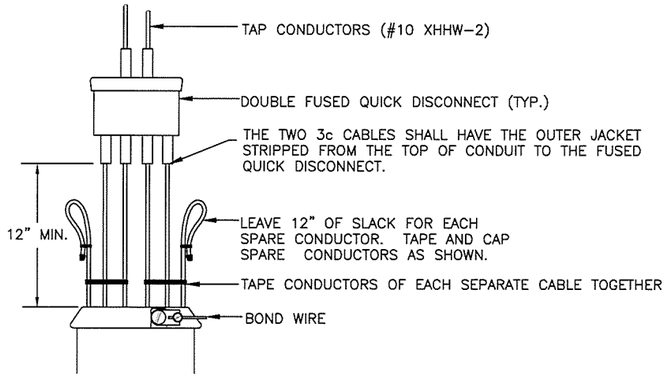


THE TWO-SCREW CONNECTOR SHALL BE SIZED SUCH THAT THE THREADS FIT INSIDE THE OPENING OF THE BUSHING AND THE CONNECTOR BODY IS LARGE ENOUGH TO PREVENT IT FROM SLIPPING THROUGH THE OPENING.

DETAIL A



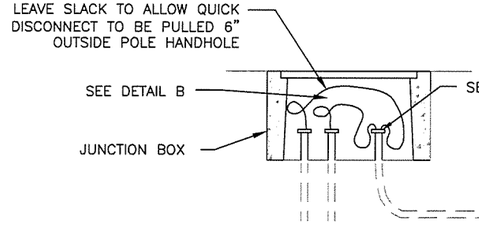
DETAIL B

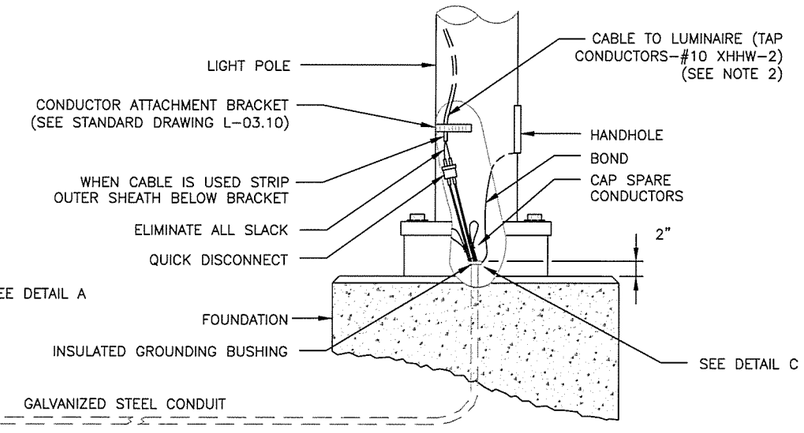


DETAIL C

LIGHTING SYSTEM POLE AND J-BOX WIRING DETAILS

NTS





NOTES:

1. LABEL ALL CABLES AND CONDUCTORS IN POLE BASE AND J-BOX.
2. LEAVE ENOUGH SLACK ABOVE THE CONDUCTOR ATTACHMENT BRACKET TO ALLOW THE QUICK DISCONNECT TO BE PULLED 6" OUTSIDE OF HANDHOLE.
3. NOT ALL GROUNDING CONDUCTORS, AS REQUIRED BY SECTION 660-3.06, ARE SHOWN IN THESE DETAILS.

LIGHT SYSTEM POLE AND JUNCTION BOX DETAILS

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5/30/2017

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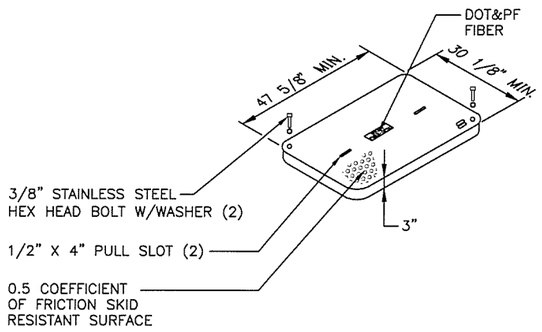
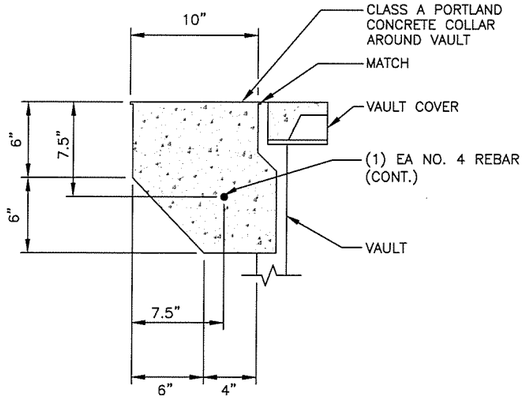
			ALASKA	NFHWY00270	2017	H40	H47



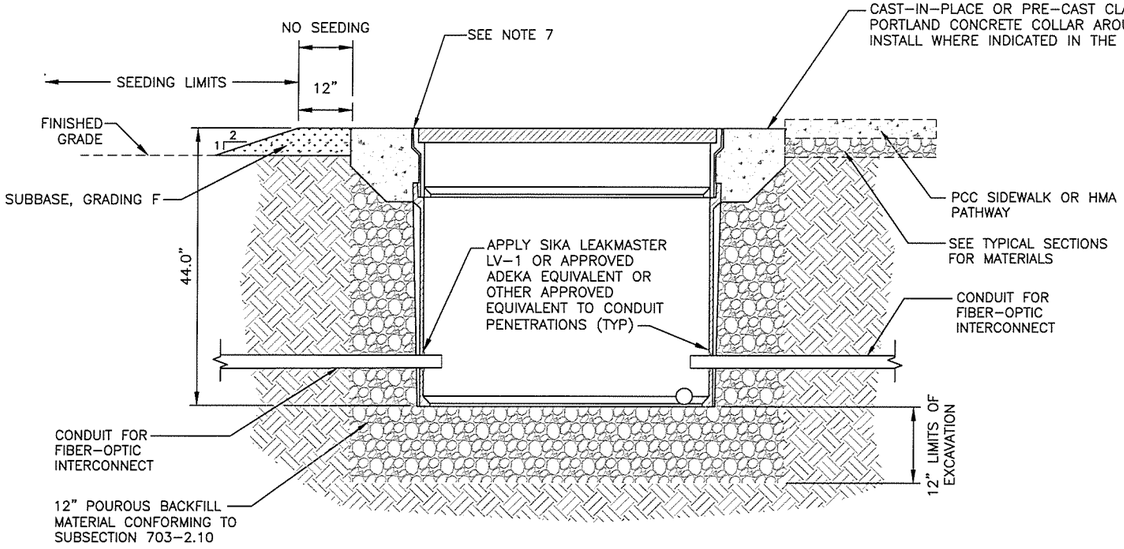
COVER

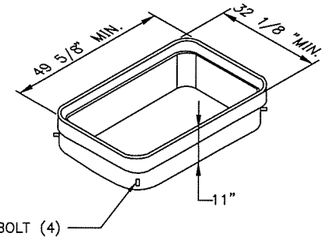
HUBBELL QUAZITE NO. PG3048HH00
OR APPROVED EQUIVALENT



CONCRETE COLLAR DETAIL

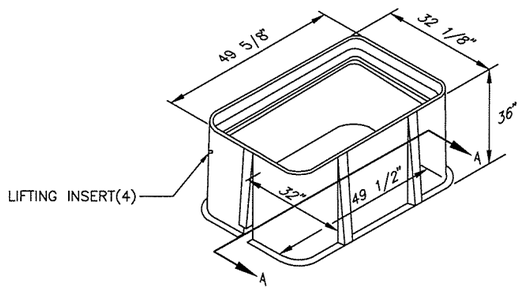
NTS





TOP EXTENSION

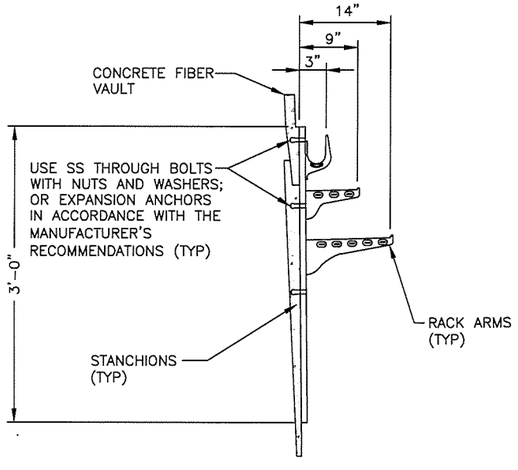
HUBBELL QUAZITE NO. PG3048EA11
OR APPROVED EQUIVALENT



BOTTOM

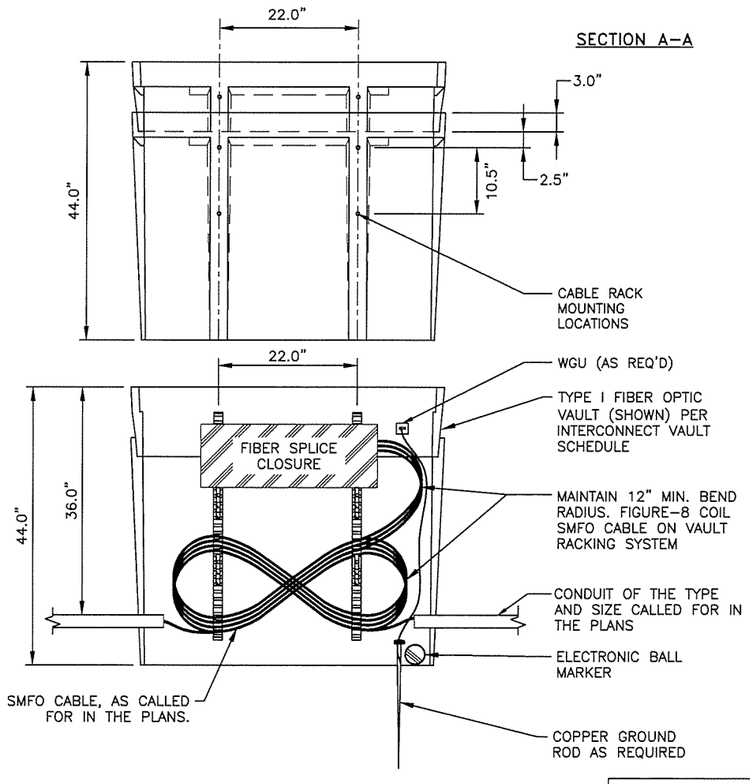
INTERCONNET VAULT, TYPE I

HUBBELL QUAZITE NO. PG3048BA36
OR APPROVED EQUIVALENT



TYPICAL CABLE RACK

NTS



VAULT EQUIPMENT LAYOUT

NTS

NOTES:

1. FIBER-OPTIC INTERCONNECT VAULTS SHALL BE PRECAST, POLYMER CONCRETE, OPEN BOTTOM, W/FLARED BASE UNLESS OTHERWISE NOTED IN THE PLANS AND CONTRACT SPECIFICATIONS.
2. THE STANDARD FIBER-OPTIC INTERCONNECT VAULT NOMINAL DIMENSIONS SHALL BE AS SHOWN.
3. THE DESIGN/TEST LOAD STRENGTH OF THE BOX SHALL BE MINIMUM OF 22,500/33,750 LBS.
4. THE STANDARD COVER (LID) SHALL HAVE NOMINAL DIMENSIONS OF 30 1/8 in. WIDE X 47 5/8 in. LONG X 3 in. DEEP.
5. THE DESIGN/TEST LOAD STRENGTH OF THE COVER SHALL BE A MINIMUM OF 22,500/33,750 LBS.
6. THE COVER SHALL BE CAPABLE OF BEING SECURED TO THE BOX WITH TWO BOLTS, AND EMBOSSED WITH: "DOT&PF FIBER".
7. UNLESS OTHERWISE NOTED, FIBER-OPTIC INTERCONNECT VAULTS SHALL BE INSTALLED FLUSH WITH ADJACENT SIDEWALK, DRIVEWAY, OR 1.5 INCHES ABOVE FINISHED SOD GRADE.
8. FIBER-OPTIC INTERCONNECT VAULTS SHALL NOT INCLUDE ELECTRICAL CONDUIT OR CONDUCTORS.
9. COMPLY WITH SECTIONS 501, 503, AND 662.

INTERCONNECT VAULT, TYPE I DETAIL

5/30/2017

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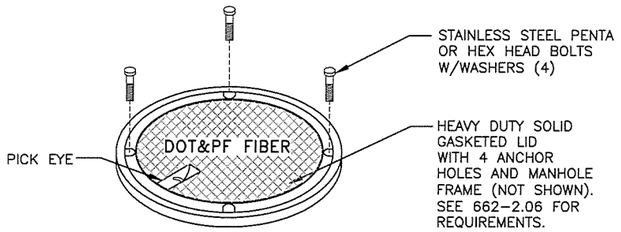
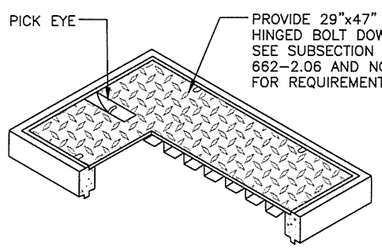
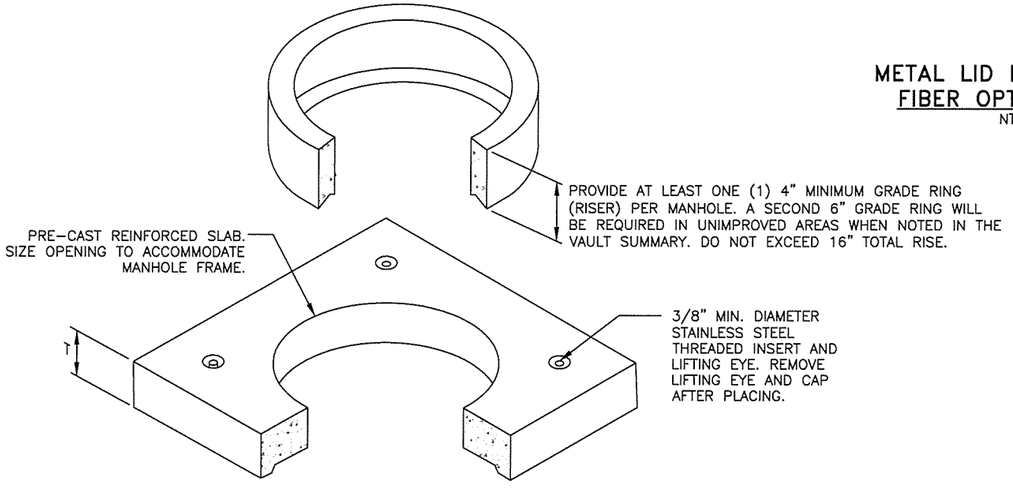
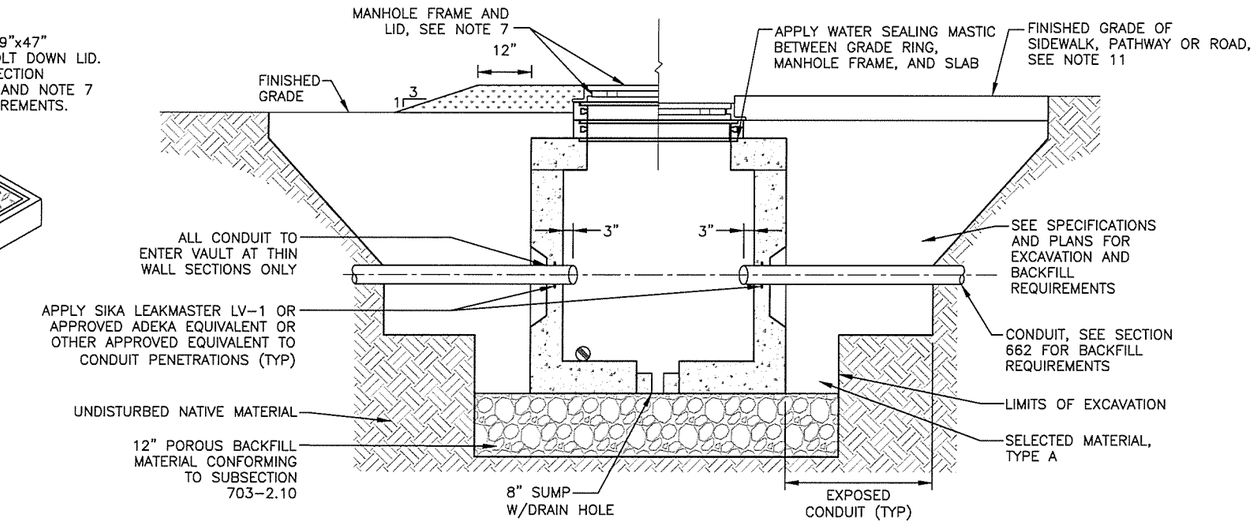
			ALASKA	NFHWY00270	2017	H41	H47





METAL LID FOR TYPE II FIBER OPTIC VAULT
NTS

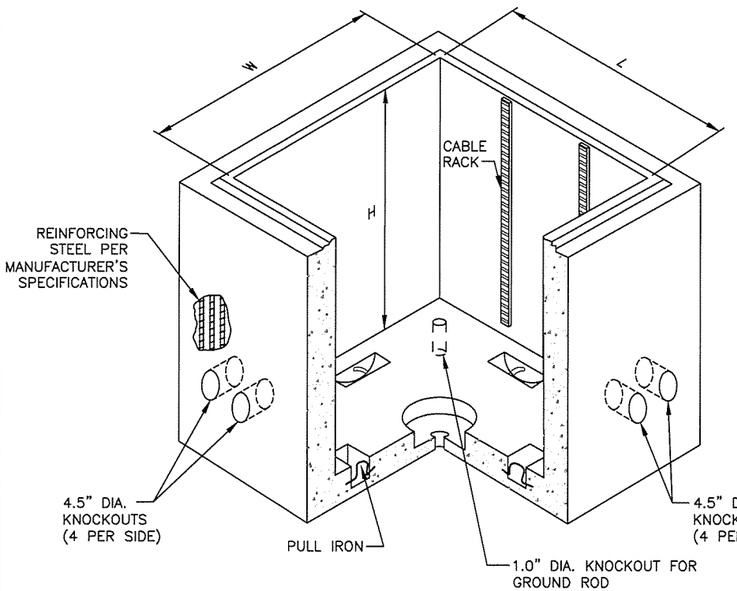




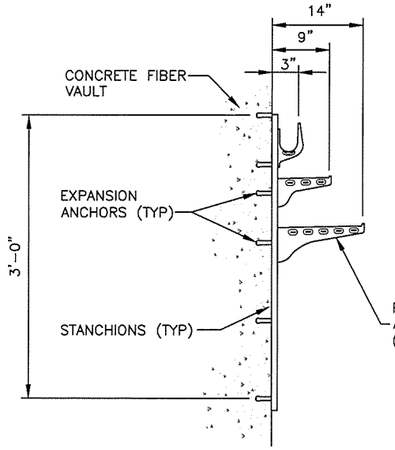
CONDUIT PENETRATION DETAIL
NTS

NOTES:

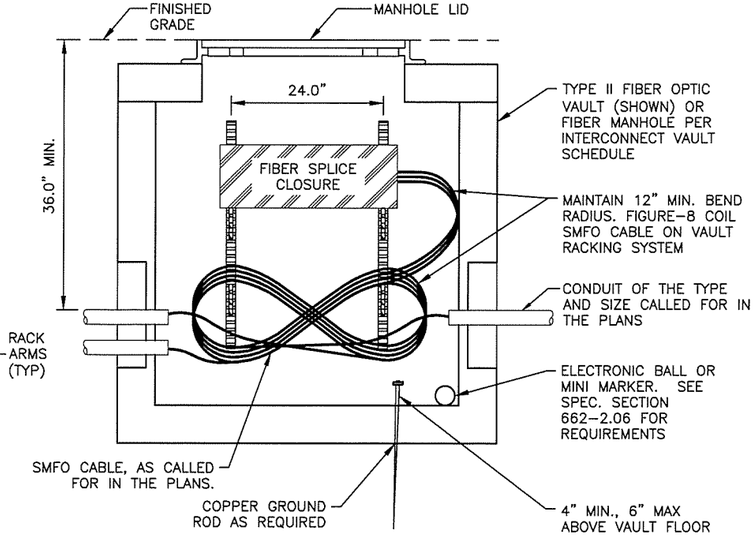
1. SUPPLY TYPE II FIBER OPTIC VAULTS WITH BOLT DOWN HINGED METAL LID. SUPPLY FIBER VAULTS, LIDS, AND COVERS RATED FOR AASHTO HS-20-44 LOADING.
2. SUPPLY ALL LIDS WITH WITH A HOLE OR SLOT FOR REMOVAL WITH A LEVER OR HOOK.
3. SUPPLY VAULTS AND MANHOLES WITH A PERMANENT INTERNAL LADDER. COMPLY WITH OSHA REQUIREMENTS.
4. PROVIDE FIBER VAULT AND MANHOLE LIDS MARKED, "DOT&PF FIBER".
5. PROVIDE FIBER MANHOLES AND VAULTS WITH A HEAVY-DUTY NON-METALLIC CABLE STORAGE RACK SYSTEM. PROVIDE RACK ARMS OR STANCHIONS CAPABLE OF SUPPORTING A MINIMUM OF 250 LBS. INCLUDE A MINIMUM OF 36 INCH RACK STANCHIONS AND 4 RACK ARMS.
6. ENTER CONDUITS INTO FIBER VAULT AT THINWALL SECTIONS ONLY. CORE DRILL IN THE THINWALL SECTION TO CONDUIT SIZE PLUS 1/4 INCH ALL AROUND. DO NOT "KNOCK OUT" THE THINWALL SECTION.
7. BOND AND GROUND ALL METALLIC COMPONENTS OF THE FIBER VAULT, INCLUDING RACK, FRAME AND LIDS PER STANDARD SPECIFICATION 660-3.06.
8. INSTALL CONDUIT PLUGS PER SECTIONS 660 AND 662.
9. EXTEND GROUND ROD A MINIMUM OF 4 INCHES AND A MAXIMUM OF 6 INCHES ABOVE BOTTOM OF FIBER VAULT.
10. USE A SPLIT BOLT CONNECTER TO ATTACH GROUND WIRES TO GROUND ROD. ATTACH NOT MORE THAN TWO WIRES PER BOLT.
11. UNLESS OTHERWISE NOTED, TOP OF FIBER OPTIC VAULT / MANHOLE LIDS SHALL BE INSTALLED 0"-3/16" BELOW FINISHED GRADE WHEN IN SIDEWALK OR PATHWAY; 3/8" BELOW FINISHED GRADE WHEN LOCATED IN PAVED PARKING LOT, MEDIAN, OR ROADWAY; AND 4"-8" ABOVE FINISHED GRADE IN UNIMPROVED AREAS, AWAY FROM HARDSCAPED SURFACES; OR AS DIRECTED BY THE ENGINEER. DO NOT PLACE IN BOTTOM OR DRAINAGE COLLECTION AREAS.



FIBER OPTIC MANHOLE WITH MANHOLE LID
NTS (TYPE II FIBER OPTIC VAULT SIMILAR)



TYPICAL CABLE RACK
NTS



VAULT EQUIPMENT LAYOUT
NTS

TYPE	"L" INCH	'W' INCH	"H" INCH	"T" INCH	LID
TYPE II FIBER OPTIC VAULT	30	48	48	6 MIN	HINGED METAL
MANHOLE	48	48	48	6 MIN	MANHOLE

INTERCONNECT VAULT, TYPE II AND MANHOLE DETAILS

STATE OF ALASKA 49TH
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5/30/2017

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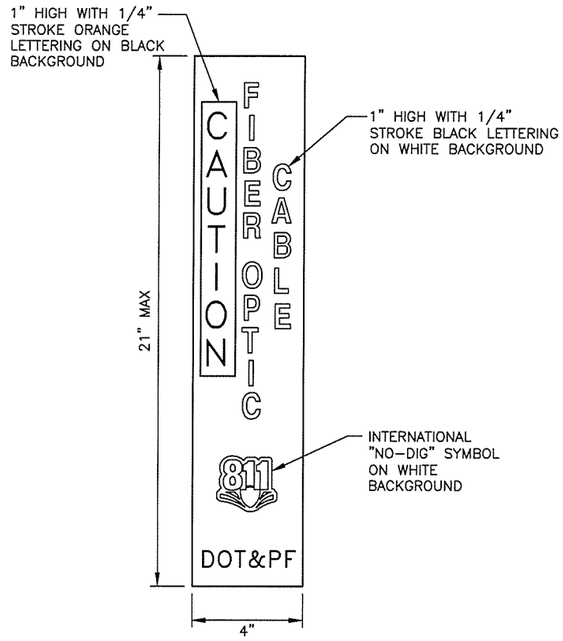
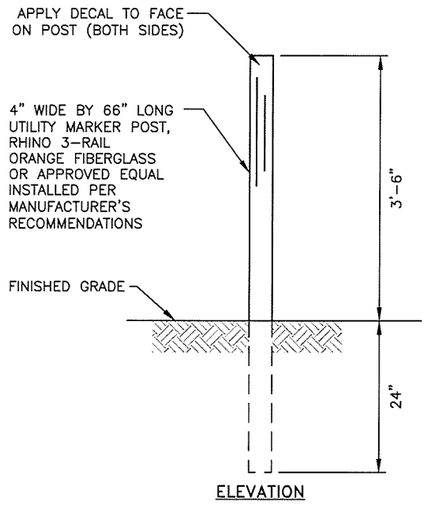
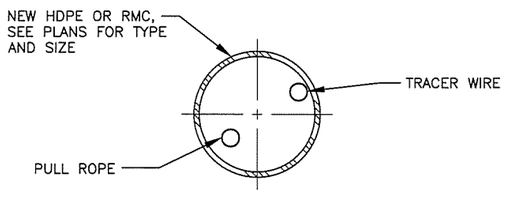


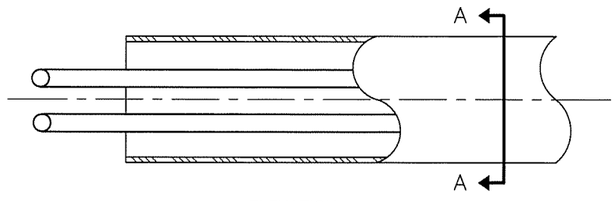
DECAL
NTS



FIBER OPTIC INTERCONNECT MARKER DETAIL
NTS

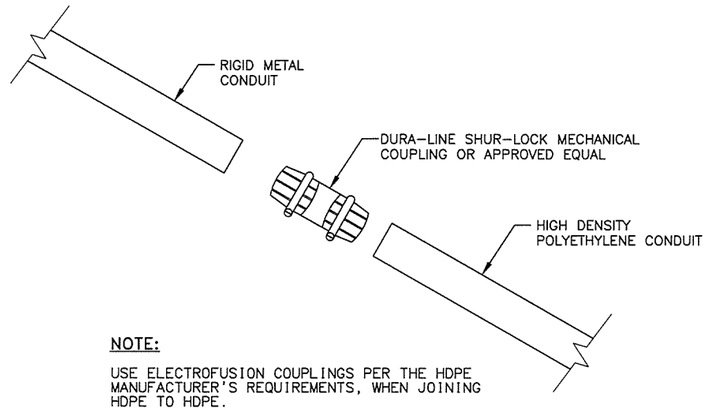


SECTION A-A



ELEVATION

INTERCONNECT
CONDUIT DETAIL
NTS



NOTE:

USE ELECTROFUSION COUPLINGS PER THE HDPE MANUFACTURER'S REQUIREMENTS, WHEN JOINING HDPE TO HDPE.

INTERCONNECT
RMC TO HDPE CONDUIT CONNECTION DETAIL
NTS

INTERCONNECT DETAILS

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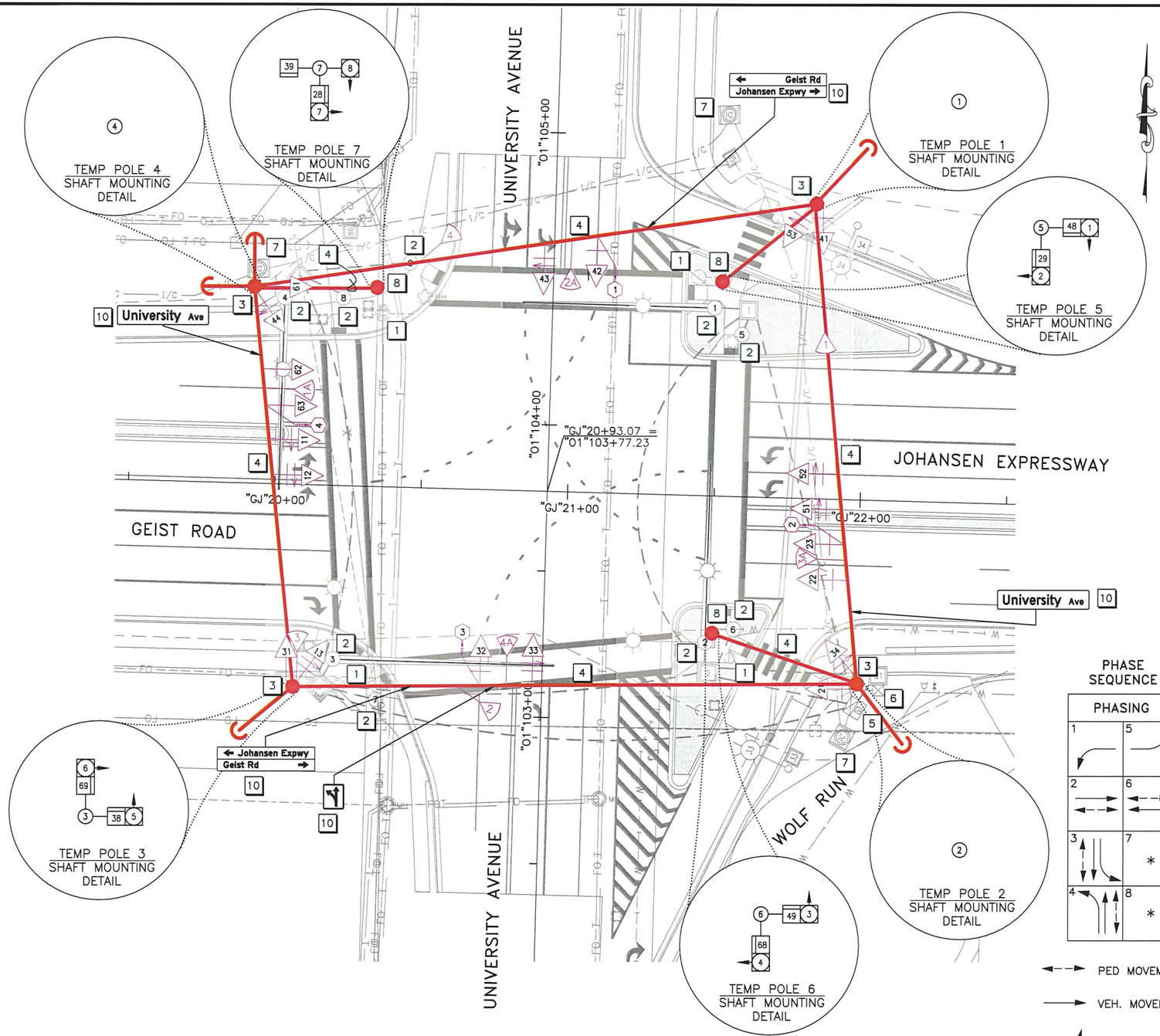

PHASE SEQUENCE

PHASING	
1	5
2	6
3	7 *
4	8 *

PED MOVEMENT

VEH. MOVEMENT

LEFT TURN MOVEMENT (PROTECTED)

LEFT TURN MOVEMENT (PERMISSIVE)

* FUTURE MOVEMENT

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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GENERAL SHEET NOTES:

1. THE TEMPORARY SIGNAL SYSTEM SHOWN IS IN THE FINAL LANE CONFIGURATION. MODIFICATIONS TO THE TEMPORARY TRAFFIC SIGNAL WILL BE REQUIRED DURING CONSTRUCTION TO ACCOMMODATE VARYING TRAFFIC LANE CONFIGURATIONS AND OPERATIONS.
2. SUBMIT A TEMPORARY TRAFFIC PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO IMPLEMENTING ALTERATIONS TO THE TEMPORARY TRAFFIC SIGNAL.
3. VEHICLE DETECTION WILL BE REQUIRED THROUGHOUT CONSTRUCTION. ADJUST AS NEEDED TO ACCOMMODATE CONSTRUCTION WORK. SEE SPECIFICATIONS FOR RADAR VEHICLE DETECTION REQUIREMENTS.
4. DURING CONSTRUCTION, CONTRACTOR SHALL RE-AIM AND/OR RE-POSITION VEHICLE SIGNAL HEADS, OPTICOM, AND RADAR DETECTION AS REQUIRED OR AS DIRECTED BY THE ENGINEER TO ACCOMMODATE THE IMPROVEMENTS OR MIS-ALIGNMENT.
5. PROVIDE AND MAINTAIN TEMPORARY SIGNING AND PAVEMENT MARKINGS AS REQUIRED BY THE ALASKA TRAFFIC MANUAL, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, PLANS, AND SPECIFICATIONS. REMOVE OR COVER CONFLICTING TRAFFIC SIGNS AND PAVEMENT MARKINGS.
6. MAINTAIN EXISTING PEDESTRIAN AND BICYCLE ACCESS THROUGH THE WORK ZONE AND IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT GUIDELINES, PLANS, AND SPECIFICATIONS.
7. ALL WORK SHALL BE CONTAINED WITHIN THE ROW.
8. OBTAIN THE ENGINEER'S APPROVAL TO DECOMMISSION AND SALVAGE THE TEMPORARY TRAFFIC SIGNAL SYSTEM ONCE THE PERMANENT TRAFFIC SIGNAL SYSTEM IS FUNCTIONAL AND ACCEPTED. SEE SPECIFICATIONS FOR DELIVERY REQUIREMENTS.
9. TEMPORARY TRAFFIC SIGNALIZATION WORK AT THIS INTERSECTION SHALL BE PAID FOR UNDER 660(7).

SHEET NOTES:

1. EXISTING TRAFFIC SIGNAL POLE TO BE DEMOLISHED.
2. PROPOSED PERMANENT TRAFFIC OR PEDESTRIAN SIGNAL POLE.
3. TEMPORARY WOOD TRAFFIC POLE. PLACED OUTSIDE OF PROPOSED ROADWAY AND WITHIN ROW OR TCE. POLE GUYS SHALL BE PLACED WITHIN ROW OR TCE.
4. MESSENGER, TETHER, SIGNAL, OPTICOM, LIGHT, AND RADAR DETECTION CABLES.
5. PROPOSED PERMANENT TRAFFIC CONTROLLER.
6. PROPOSED PERMANENT LOAD CENTER.
7. PROPOSED PERMANENT INTERCONNECT VAULT.
8. TEMPORARY PEDESTRIAN SIGNAL POLE.
9. PROVIDE SIDEWALK DOWN GUY. PROVIDE 12 FT. CLEARANCE OVER PATHWAY.
10. TEMPORARY SIGNING
11. USE VACTOR TRUCK AND/OR WATER KNIFE FOR NEW TEMP POLE EXCAVATION, DUE TO PROXIMITY TO UNDERGROUND UTILITIES.

UNIVERSITY AVE AND GEIST TEMPORARY SIGNAL PLAN

STATE OF ALASKA
49 TH
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5/30/2017

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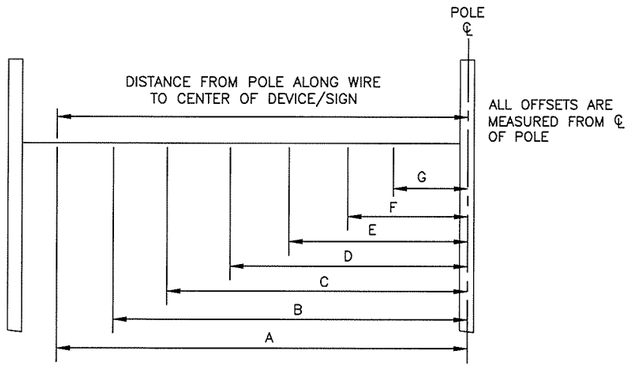
			ALASKA	NFHWY00270	2017	H44	H47

TEMPORARY POLE–POST DESIGN LOADING SCHEDULE

TEMP POLE NO.	CORNER		A	B	C	D	E	F	G	REMARKS
1	NE	SIG. OR SIGN	RADAR	SIGNAL	RADAR	SIGNAL	SIGN			
		LOC. OFFSET	137.4	93.8	84.5	75.6	58.6			
		LxW OR S.F.	1.0	11.5	1.0	11.5	25.0			
2	SE	SIG. OR SIGN	RADAR	SIGNAL	SIGNAL	SIGNAL	RADAR	SIGNAL	SIGN	
		LOC. OFFSET	130.6	71.9	59.8	47.7	42.4	35.5	24.8	
		LxW OR S.F.	1.0	11.5	11.5	11.5	1.0	11.5	20.0	
3	SW	SIG. OR SIGN	SIGNAL	RADAR	SIGN	SIGNAL	RADAR	SIGN		
		LOC. OFFSET	81.9	73.0	68.5	64.0	55.8	40.5		
		LxW OR S.F.	11.5	1.0	7.5	11.5	1.0	25.0		
4	NW	SIG. OR SIGN	SIGNAL	SIGNAL	SIGNAL	RADAR	SIGNAL	SIGN		
		LOC. OFFSET	64.6	52.5	40.8	35.0	28.5	22.0		
		LxW OR S.F.	11.5	11.5	11.5	1.0	11.5	20.0		

TEMPORARY POLE–POST DESIGN LOADING SCHEDULE NOTES:

1. LAYOUT AND OFFSET DISTANCES ARE FOR FINAL LANE CONFIGURATION. OFFSETS MAY BE ALTERED WITH APPROVAL OF ENGINNER. SIGNAL HEADS, RADAR DETECTION, AND SIGNS MAY BE OMITTED WITH APPROVAL OF ENGINEER.



PED SIGNAL HEAD SCHEDULE

POLE/POST NO.	FACE NO.	MOUNTING TYPE	REMARKS
3	38	P	REUSE OF EXISTING SIGNAL HEADS IS PERMITTED, AS APPROVED BY ENGINEER
	69	P	
5	29	P	
	48	P	
6	49	P	
	68	P	
7	28	P	
	39	P	

PEDESTRIAN DETECTION SCHEDULE

POLE	PUSH BUTTON	PHASE	REMARKS
5	1	4	SEE NOTE 1
	2	2	SEE NOTE 1
6	3	4	SEE NOTE 2
	4	6	SEE NOTE 1
3	5	3	SEE NOTE 2
	6	6	SEE NOTE 1
7	7	7	SEE NOTE 2
	8	2	SEE NOTE 1

PEDESTRIAN DETECTION NOTES:

1. INSTALL A R10–3eL SIGN ABOVE PEDESTRIAN PUSH BUTTON. SIGN SHALL NOT BE MEASURED FOR PAYMENT AND IS SUBSIDIARY TO PAY ITEM 660(7).
2. INSTALL A R10–3eR SIGN ABOVE PEDESTRIAN PUSH BUTTON. SIGN SHALL NOT BE MEASURED FOR PAYMENT AND IS SUBSIDIARY TO PAY ITEM 660(7).

TEMPORARY SIGNAL NOTES:

1. LOCATION OFFSETS ARE FROM CENTER OF OBJECT TO ℄ OF TEMPORARY POLE. OFFSETS MAY BE ALTERED AS APPROVED BY ENGINEER.
2. LAYOUT AND NUMBER OF DEVICES MAY BE ALTERED AS APPROVED BY ENGINEER.
3. SEE SHEET H23 FOR POLE/POST SIGNAL HEAD SIDE MOUNTING TYPES AND SIGNAL HEAD CONFIGURATIONS.
4. SEE SHEET H23 FOR SIGNAL SIGN SCHEDULE. REUSE OF EXISTING SIGNS FOR TEMPORARY TRAFFIC CONTROL IS PERMITTED, AS APPROVED BY ENGINEER.
5. SEE SHEET H24 FOR OPTICOM DETECTION SCHEDULE. LOCATION OF OPTICOM SENSORS MAY BE ALTERED WITH APPROVAL OF ENGINEER.
6. SEE SHEET H24 FOR FLASH PROGRAM SCHEDULE.

RADAR DETECTION SCHEDULE

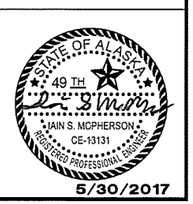
DET. NO.	PHASE CALL	TYPE	FACING DIR.	POLE NO.	LOCATION	RADAR TYPE
1	1&6	STOP BAR	SOUTH	2	TEMP CABLE	SMARTSENSOR MATRIX
2	4	STOP BAR	SOUTHEAST	3	TEMP CABLE	SMARTSENSOR MATRIX
3	2&5	STOP BAR	NORTH	3	TEMP POLE	SMARTSENSOR MATRIX
4	3	STOP BAR	NORTHWEST	1	TEMP CABLE	SMARTSENSOR MATRIX
1A	6	ADVANCE	EAST	4	TEMP CABLE	SMARTSENSOR ADVANCE EXTENDED RANGE
2A	4	ADVANCE	SOUTH	1	TEMP CABLE	SMARTSENSOR ADVANCE EXTENDED RANGE
3A	2	ADVANCE	WEST	2	TEMP CABLE	SMARTSENSOR ADVANCE EXTENDED RANGE
4A	3	ADVANCE	NORTH	3	TEMP CABLE	SMARTSENSOR ADVANCE EXTENDED RANGE

(#) RADAR DETECTOR NUMBER

SIGNAL HEAD SCHEDULE

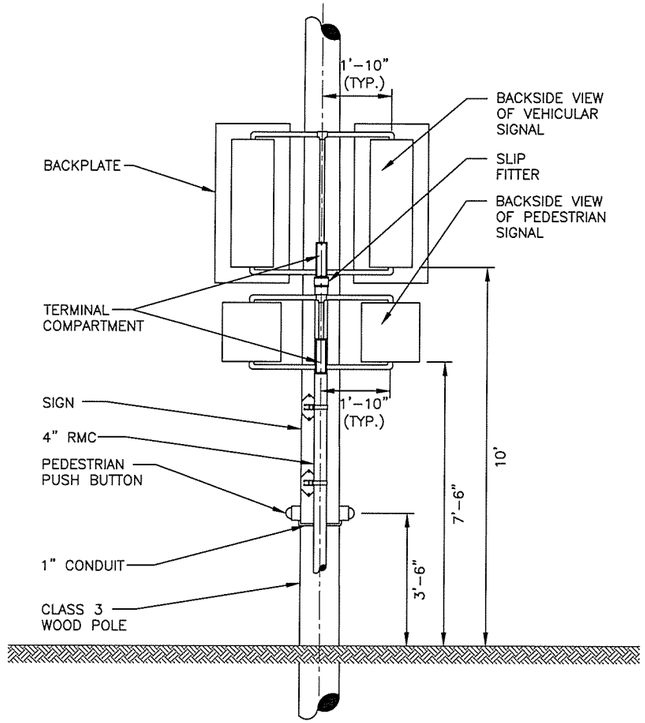
TEMP POLE/POST NO.	FACE NO.	INDICATIONS										MOUNTING				REMARKS
		12" BALL			12" ARROW				8" BALL			TEMP CABLE		SIDE MTNG. TYPE	TOP OF POST	
		R	Y	G	R	Y	FYA	G	R	Y	G	LOC. OFFSET	ELEV. PLUMB			
1	41	X	X	X										D		REUSE OF EXISTING SIGNAL HEADS IS PERMITTED, AS APPROVED BY ENGINEER
	53				L	L		L						D		
	42	X	X	X								75.6	X			
	43				L	L		L				93.8	X			
2	21	X	X	X										D		
	34				L	L		L						D		
	22	X	X	X								35.5	X			
	23	X	X	X								47.7	X			
	51				L	L		L				59.8	X			
	52				L	L		L				71.9	X			
3	31	X	X	X										D		
	13				L	L		L						D		
	32	X	X	X								64.0	X			
	33				L	L		L				81.9	X			
4	61	X	X	X										D		
	44				L	L		L						D		
	62	X	X	X								28.5	X			
	63	X	X	X								40.8	X			
	11				L	L		L				52.5	X			
	12				L	L		L				64.6	X			

UNIVERSITY GEIST TEMPORARY SIGNAL SCHEDULE



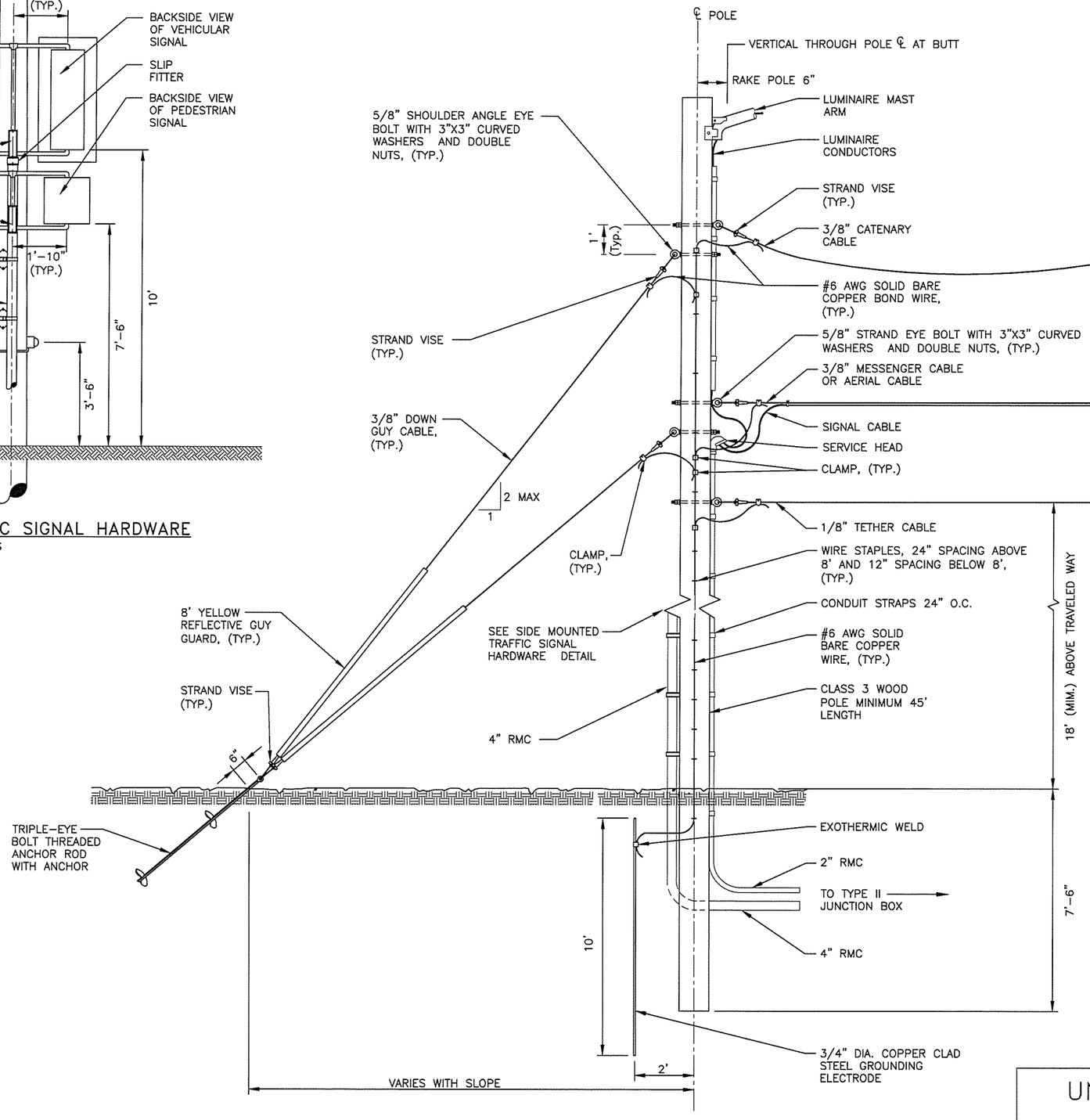
5/30/2017

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H45	H47



SIDE MOUNTED TRAFFIC SIGNAL HARDWARE

NTS



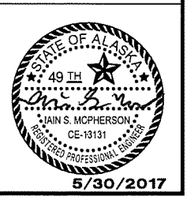
WOOD TRAFFIC POLE DETAIL

NTS
(SINGLE SPAN ATTACHMENT SHOWN)

GENERAL NOTES:

1. ATTACH A 4 INCH RIGID METAL CONDUIT TO THE WOOD POLE, USING UNISTRUT P9014 WITH P4101 CHANNEL, AND P1121 PIPE CLAMPS, OR APPROVED EQUAL.
2. INSTALL THE 4 INCH CONDUIT ON THE SIDE OF THE POLE AT A LOCATION WHERE A LINE PARALLEL TO THE LONG CORD (P.C. TO P.T.) OF THE RADIUS IS TANGENT TO THE POLE, AS SHOWN IN STANDARD DRAWING T-30.11 OR THE SIGNAL HARDWARE DETAIL SHEET IN PLANS FOR TERMINAL COMPARTMENT LOCATIONS.
3. USE POST TOP SIGNAL FRAMES WITH TERMINAL COMPARTMENTS TO INSTALL THE VEHICULAR SIGNAL HEADS ON TOP OF THE 4 INCH CONDUIT.
4. USE SIDE MOUNTED SIGNAL FRAMES WITH TERMINAL COMPARTMENTS TO INSTALL THE PEDESTRIAN SIGNAL HEADS ON THE 4 INCH CONDUIT.
5. THE VERTICAL CLEARANCES SHOWN ARE FROM THE WALKING SURFACE FOR THE PEDESTRIAN GEAR AND THE TRAVELED WAY FOR THE VEHICULAR SIGNALS.
6. TERMINATE POLES WITH NO LUMINAIRE A MINIMUM OF 2 FEET ABOVE THE CATENARY CABLE CONNECTION.
7. SEE STANDARD DRAWING T-30.11 OR THE SIGNAL HARDWARE DETAIL SHEET IN PLANS FOR ADDITIONAL TRAFFIC SIGNAL HARDWARE DETAILS.
8. ALL 3/8 INCH SPAN AND GUY CABLE SHALL BE HEAVY DUTY (HD) STEEL WITH MINIMUM 9,700 LB BREAKING STRENGTH. ALL OTHER CABLES SHALL ALSO BE HD RATED.
9. GUY ANCHOR SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS. SOIL CLASSIFICATION SHALL BE USED TO DETERMINE ANCHOR SIZE, FOLLOW MANUFACTURE GUIDELINES AND CONFIRM SOIL CLASSIFICATION WITH ENGINEER PRIOR TO ANCHOR SELECTION.

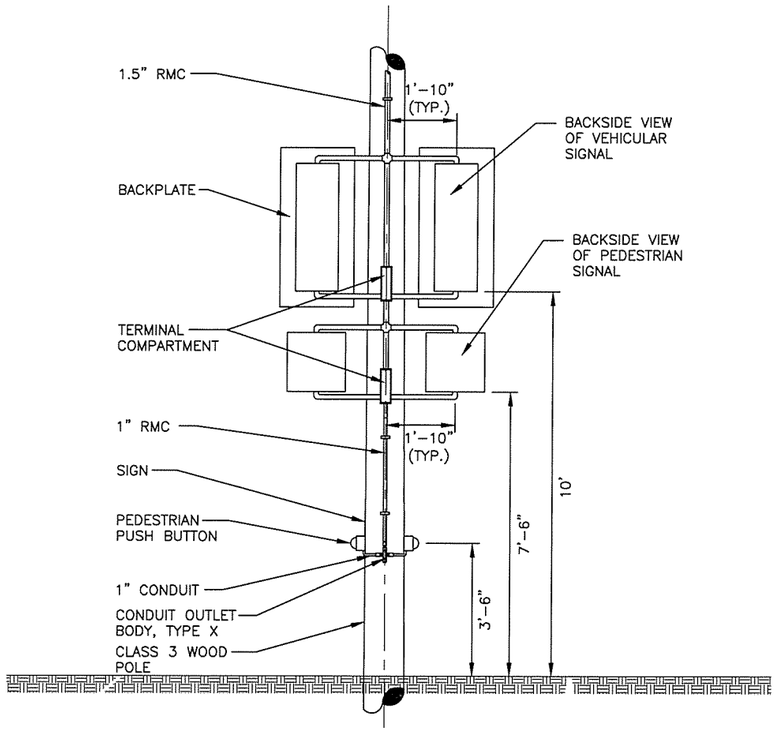
UNDERGROUND SERVICE TEMPORARY WOOD SIGNAL POLE DETAILS



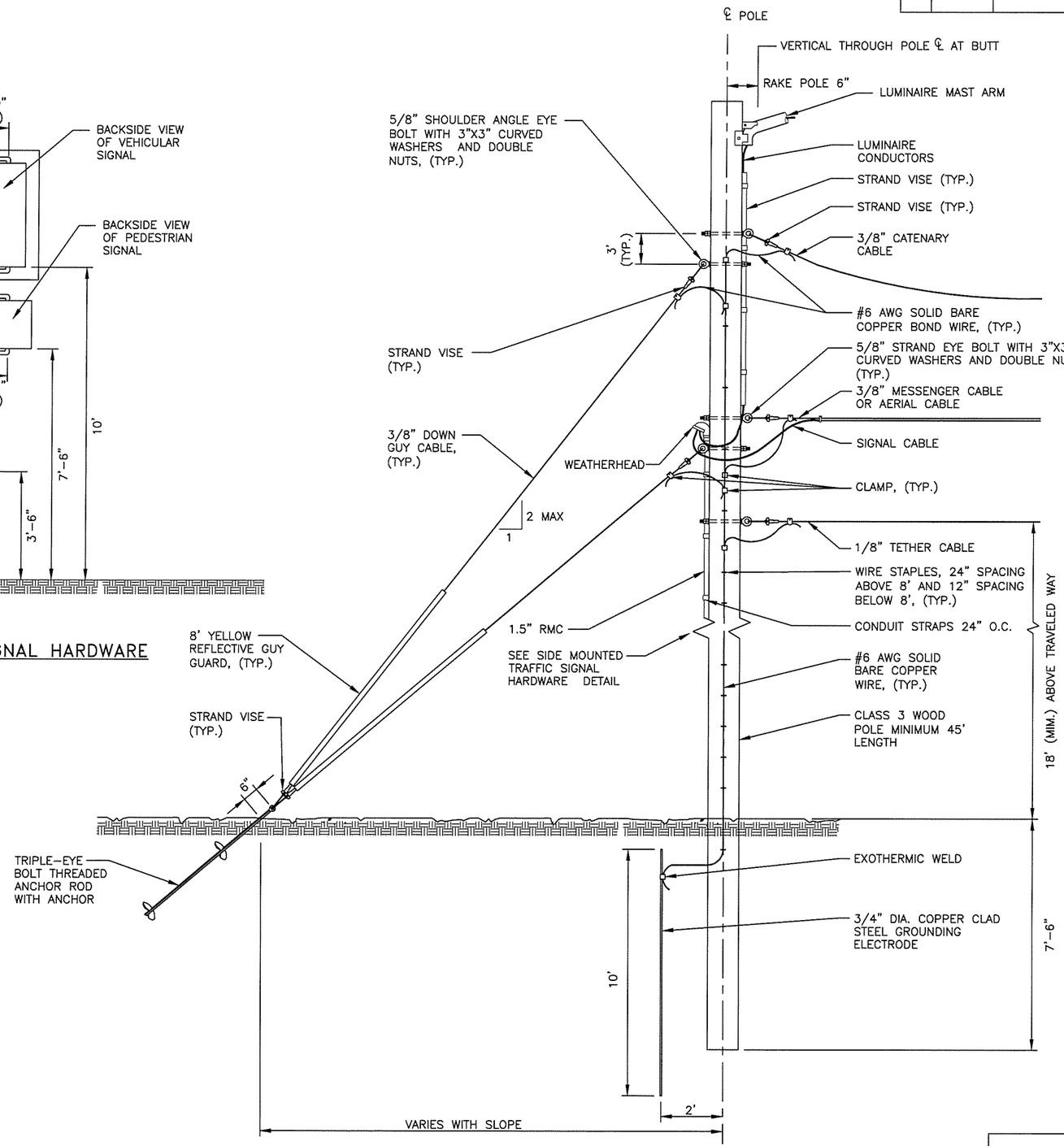
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\Production\06173_H47-49_University_Temp Signal Details-H45 Tue, May/30/17 09:04am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H46	H47



SIDE MOUNTED TRAFFIC SIGNAL HARDWARE
NTS



WOOD TRAFFIC POLE DETAIL
NTS
(SINGLE SPAN ATTACHMENT SHOWN)

GENERAL NOTES:

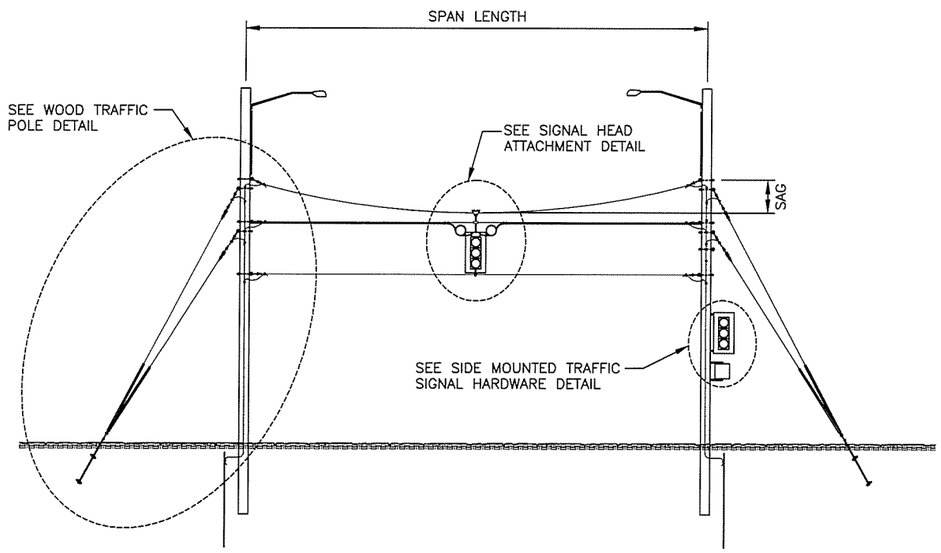
1. ATTACH A 4 INCH RIGID METAL CONDUIT TO THE WOOD POLE, USING UNISTRUT P9014 WITH P4101 CHANNEL, AND P1121 PIPE CLAMPS, OR APPROVED EQUAL.
2. INSTALL THE 4 INCH CONDUIT ON THE SIDE OF THE POLE AT A LOCATION WHERE A LINE PARALLEL TO THE LONG CORD (P.C. TO P.T.) OF THE RADIUS IS TANGENT TO THE POLE, AS SHOWN IN STANDARD DRAWING T-30.11 OR THE SIGNAL HARDWARE DETAIL SHEET IN PLANS FOR TERMINAL COMPARTMENT LOCATIONS.
3. USE POST TOP SIGNAL FRAMES WITH TERMINAL COMPARTMENTS TO INSTALL THE VEHICULAR SIGNAL HEADS ON TOP OF THE 4 INCH CONDUIT.
4. USE SIDE MOUNTED SIGNAL FRAMES WITH TERMINAL COMPARTMENTS TO INSTALL THE PEDESTRIAN SIGNAL HEADS ON THE 4 INCH CONDUIT.
5. THE VERTICAL CLEARANCES SHOWN ARE FROM THE WALKING SURFACE FOR THE PEDESTRIAN GEAR AND THE TRAVELED WAY FOR THE VEHICULAR SIGNALS.
6. TERMINATE POLES WITH NO LUMINAIRE A MINIMUM OF 2 FEET ABOVE THE CATENARY CABLE CONNECTION.
7. SEE STANDARD DRAWING T-30.11 OR THE SIGNAL HARDWARE DETAIL SHEET IN PLANS FOR ADDITIONAL TRAFFIC SIGNAL HARDWARE DETAILS.
8. ALL 3/8 INCH SPAN AND GUY CABLE SHALL BE HEAVY DUTY (HD) STEEL WITH MINIMUM 9,700 LB BREAKING STRENGTH. ALL OTHER CABLES SHALL ALSO BE HD RATED.
9. GUY ANCHOR SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS. SOIL CLASSIFICATION SHALL BE USED TO DETERMINE ANCHOR SIZE, FOLLOW MANUFACTURE GUIDELINES AND CONFIRM SOIL CLASSIFICATION WITH ENGINEER PRIOR TO ANCHOR SELECTION.

OVERHEAD SERVICE TEMPORARY WOOD SIGNAL POLE DETAILS

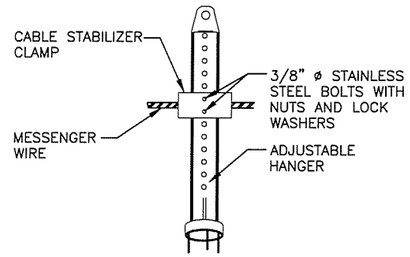
STATE OF ALASKA
49 TH
JAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\Production\D6173_H47-49_University_Temp Signal Details-H46 Tue, May/30/17 09:04am

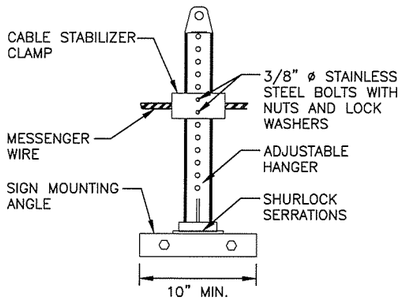
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00270	2017	H47	H47



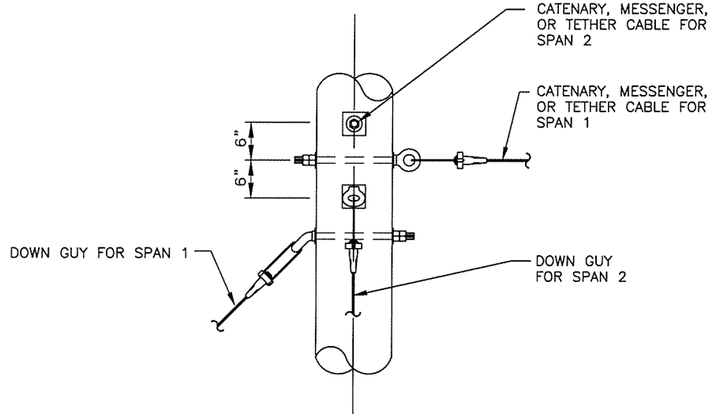
SPAN ELEVATION
NTS



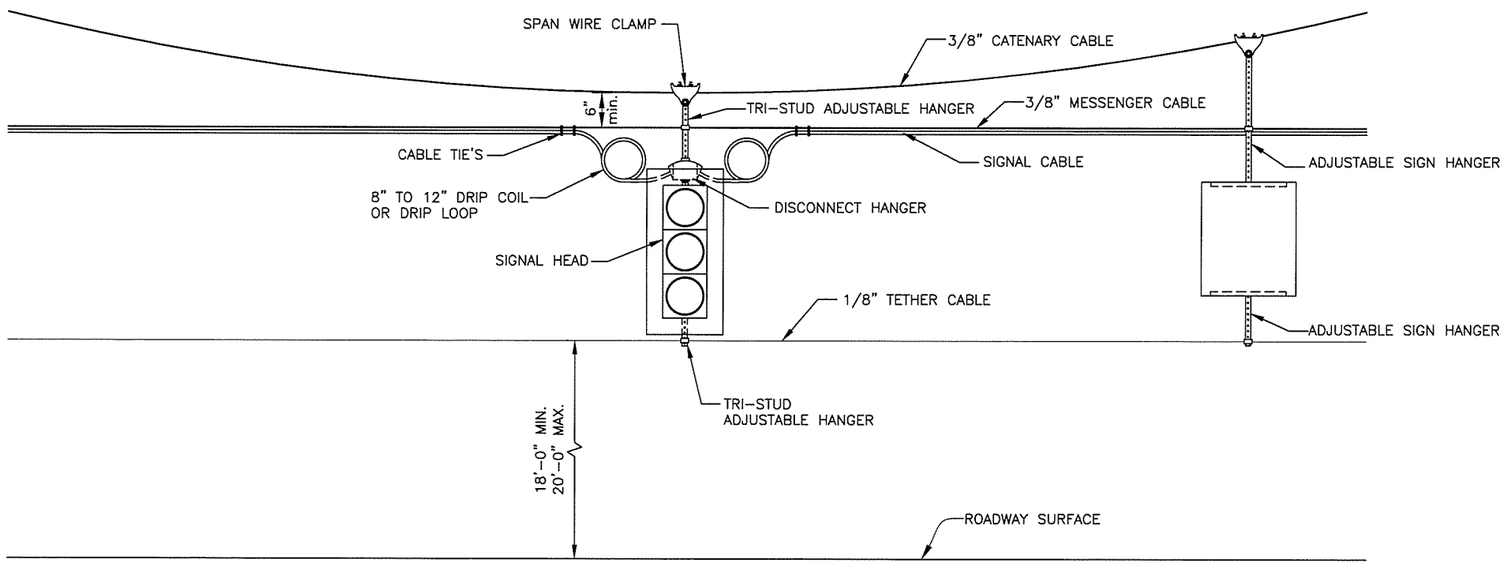
TRI–STUD ADJUSTABLE HANGER
NTS



ADJUSTABLE HANGER FOR SIGN MOUNTING
NTS



MULTIPLE SPAN ATTACHMENT DETAIL
NTC



SIGNAL HEAD AND SIGN ATTACHMENT DETAIL
NTS

GENERAL NOTES:

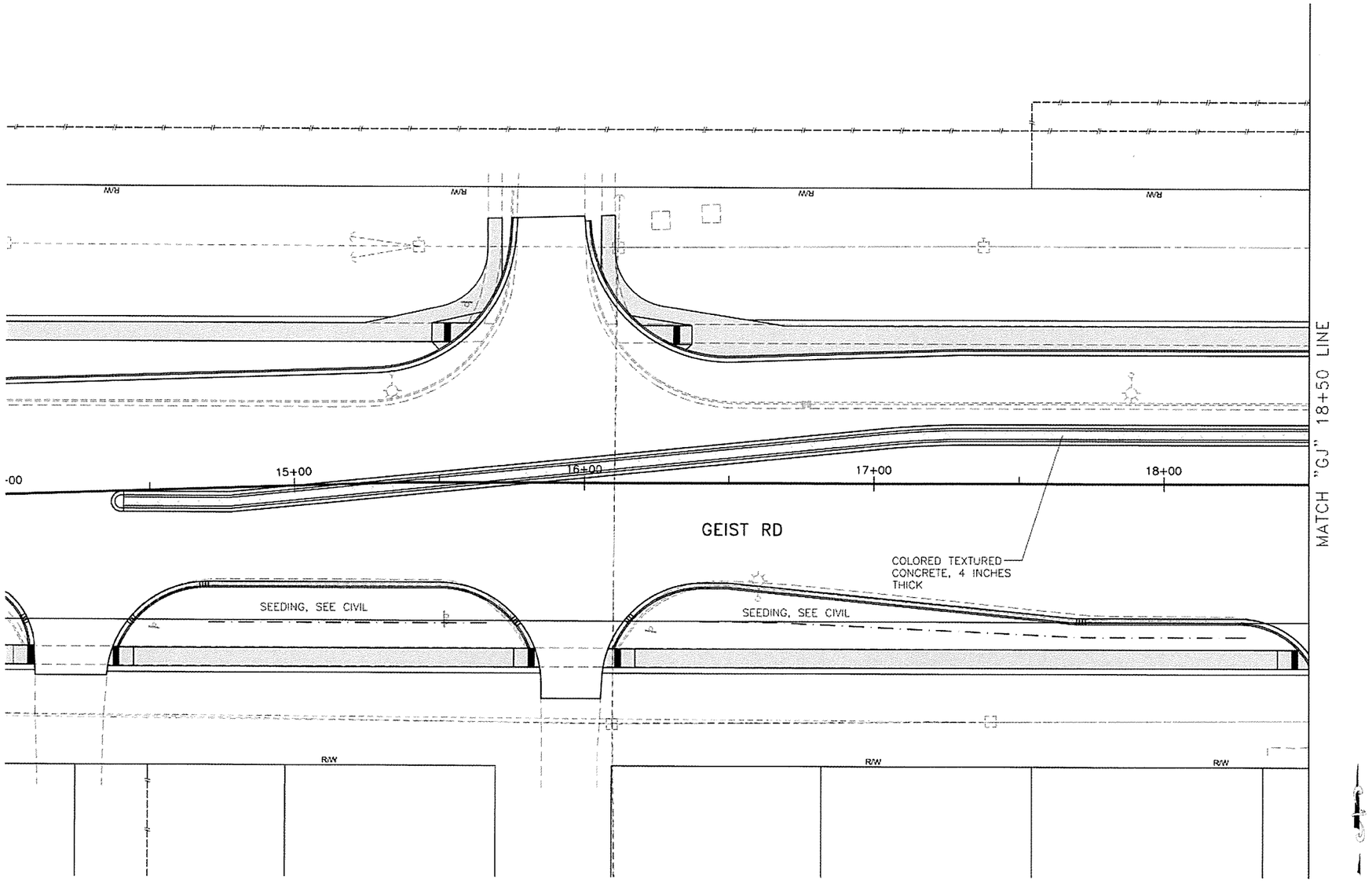
1. ATTACH ADJUSTABLE HANGERS TO THE MESSENGER AND TETHER CABLES WITH CABLE STABILIZER CLAMPS.
2. ATTACH SIGNAL CABLES TO MESSENGER CABLE EVERY 1' USING 3M HEAVY DUTY BLACK CABLE TIES OR APPROVED EQUAL. CABLE TIES SHALL BE WEATHER RESISTANT BLACK NYLON GREATER THAN 0.065" THICK, HAVE A TENSILE STRENGTH GREATER THAN 110LBS, AND HAVE A TEMPERATURE RANGE BETTER THAN –35°F TO 180°F. USE TWO TIES BEFORE/AFTER DRIP LOOPS. CABLE TIES SHALL BE ATTACHED "SNUG TIGHT", DO NOT OVER TIGHTEN.
3. INSTALL SIGNS SO THAT THE BOTTOM EDGES ARE AT APPROXIMATELY THE SAME ELEVATION.
4. SAG=4% TO 5% OF SPAN LENGTH.

TEMPORARY TRAFFIC SIGNAL SPAN WIRE DETAILS

STATE OF ALASKA
49 TH
IAIN S. MCPHERSON
CE-13131
REGISTERED PROFESSIONAL ENGINEER
5/30/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\Production\06173_H47-49_University_Temp Signal Details-H47 Tue, May/30/17 09:04am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	Pending/NFHWY00270	2017	L1	L4

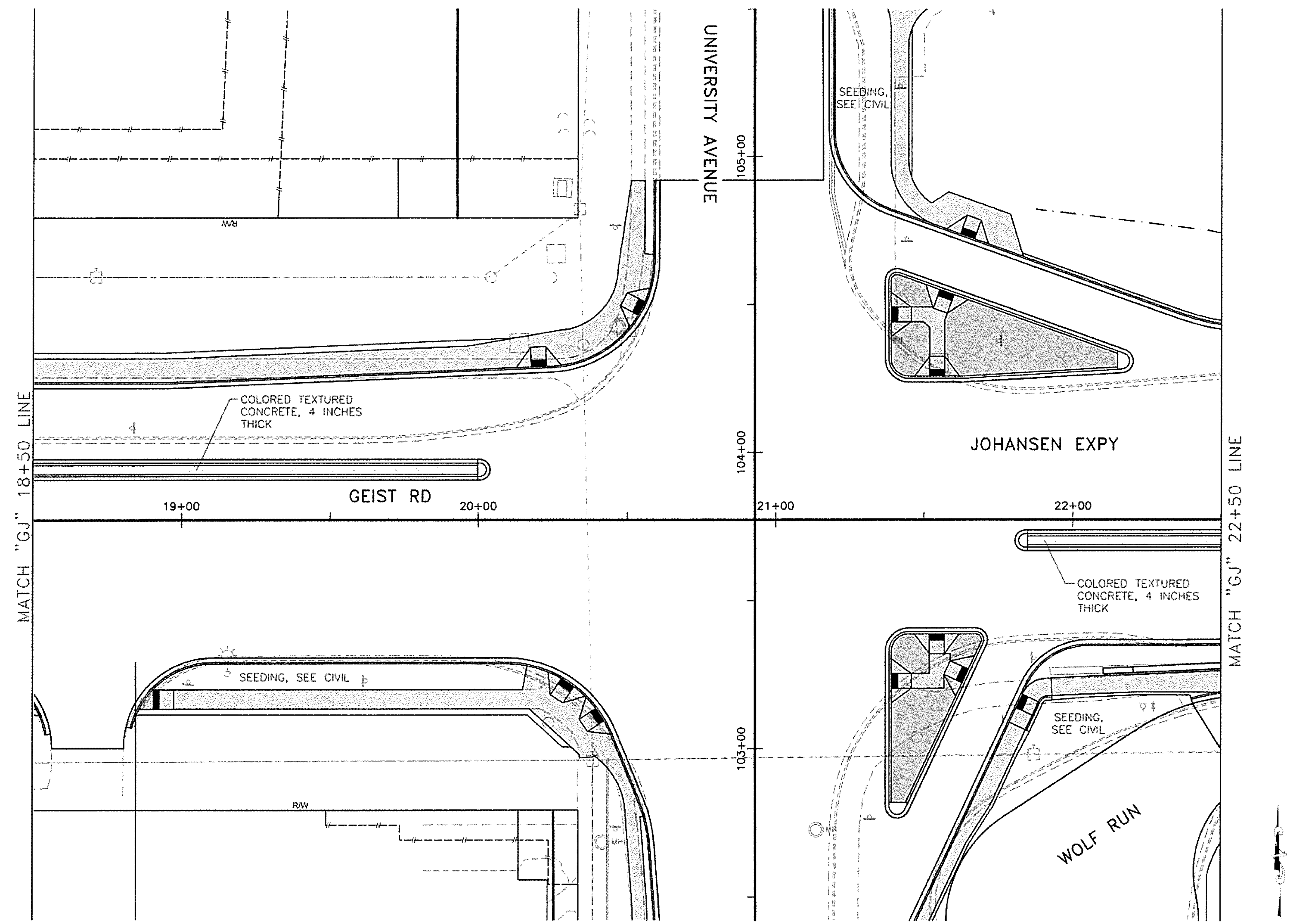


GEIST RD PLAN
(1 OF 1)

STATE OF ALASKA
49TH
Wm. Dwight Adams, Jr.
No. 10434
Date: 5-30-17
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT

PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL1007, 729 N ST., ANCHORAGE, AK 99501, (907) 279-2688
P:\University Avenue\95-University Ave\100_1-1-1 University Ave-Segment 1A-L1.dwg, May/30/17 09:30am

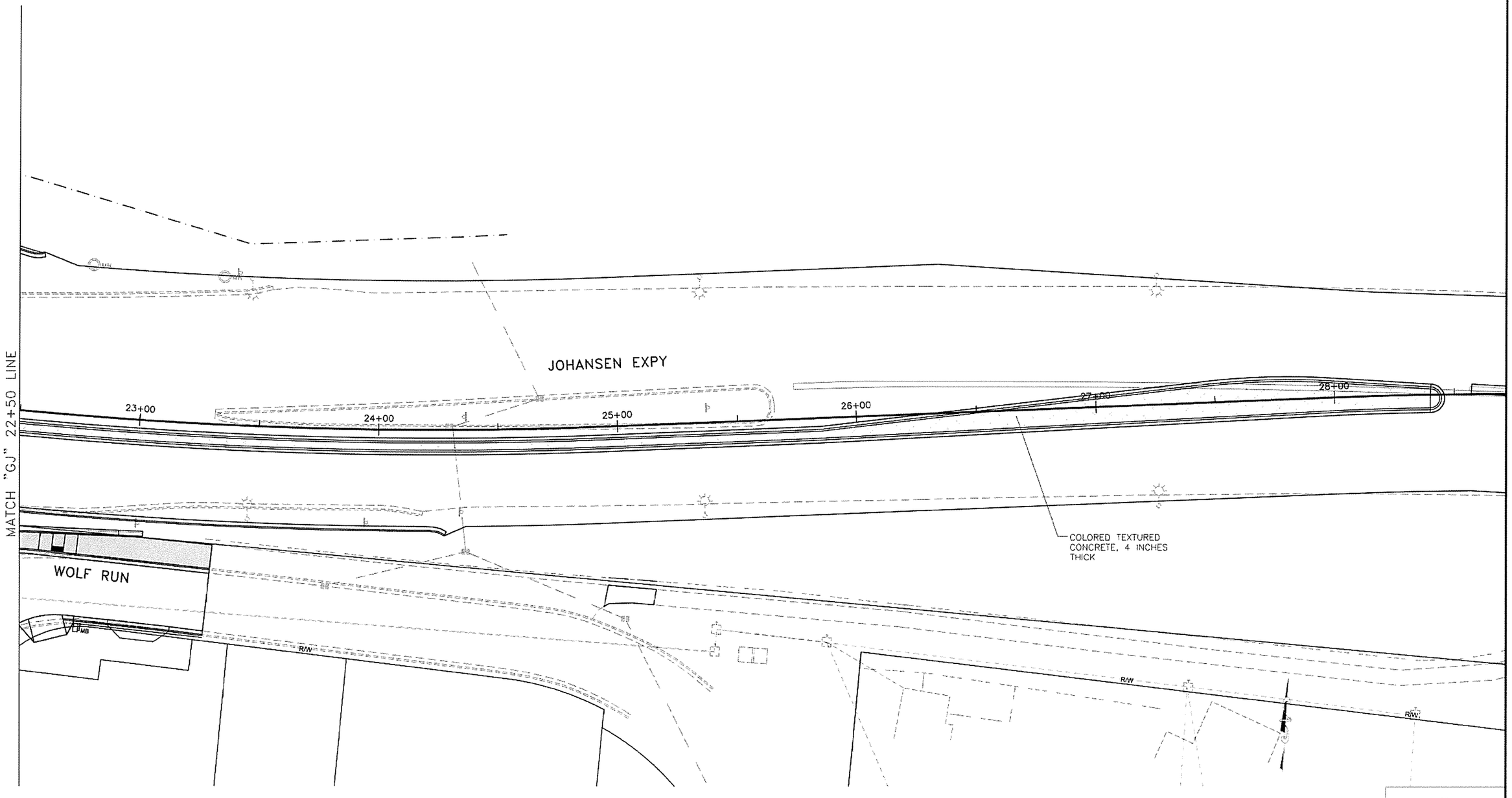
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	Pending/NFHWY00270	2017	L2	L4



PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL1007, 729 N ST., ANCHORAGE, AK 99501, (907) 279-2688

GEIST RD/JOHANSEN EXPY
(1 OF 1)

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	Pending/NFHWY00270	2017	L3	L4

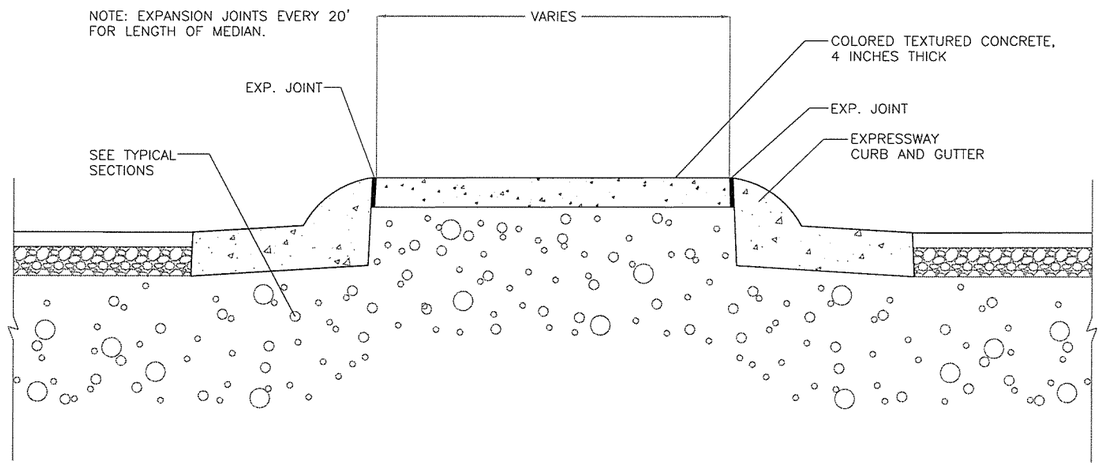


JOHANSEN EXPY PLAN
(1 OF 1)

STATE OF ALASKA
49TH
Wm. Dwayne Adams, Jr.
No. 10434
Date: 5-30-17
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT

PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL1007, 729 N ST., ANCHORAGE, AK 99501, (907) 279-2688
P:\University Avenue\95-University Ave-Segment 1a-L3 Tue, May/30/17 09:31am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	Pending/NFHWY00270	2017	L4	L4



1 MEDIAN TREATMENT–NARROW

LANDSCAPING
TYPICAL SECTIONS

STATE OF ALASKA
49TH
Wm. Dwayne Adams, Jr.
No. 10434
Date: 5-30-17
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT

PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL1007, 729 N ST., ANCHORAGE, AK 99501, (907) 279-2688
P:\University Avenue\95-University Ave\100.1-L-2 Univer Ave-Segment 1A-Layout1 Tue, May/30/17 09:32am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/NFHWY00270	2017	P1	P6

SITE INFORMATION

1. SITE FUNCTION: ROAD
2. 2–YEAR, 24–HOUR RAINFALL EVENT: 1.08 INCHES (SOURCE: http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_ak.html) FOR FAIRBANKS
3. AVERAGE ANNUAL PRECIPITATION: 10.53 INCHES (SOURCE: WESTERN REGIONAL CLIMATE CENTER) FOR FAIRBANKS WSO AIRPORT
4. STAGING AND STOCKPILE AREAS: LOCATIONS OF THESE ELEMENTS ARE TO BE DETERMINED BY THE CONTRACTOR AND MUST COMPLY WITH THE CGP, SWPPP, SECTION 641, AND ALL PERMITS.
5. PROJECT AREAS ARE LISTED BELOW (MATERIAL SITES NOT INCLUDED):

PROJECT INFORMATION TABLE	
PROJECT AREA (ACRE)	10.9
DISTURBED AREA (ACRE)	5.9
PRE–CONSTRUCTION IMPERVIOUS AREA (%)	50%
POST–CONSTRUCTION IMPERVIOUS AREA (%)	55%
PRE–CONSTRUCTION RUNOFF COEFFICIENT	.58
POST–CONSTRUCTION RUNOFF COEFFICIENT	.61

6. LANDSCAPE TOPOGRAPHY: RELATIVELY FLAT AND URBANIZED WITH RESIDENTIAL AND COMMERCIAL DEVELOPMENT ALONG THE PROJECT CORRIDOR.
7. DRAINAGE PATTERNS: SURFACE DRAINAGE VIA DITCHES AND STORM DRAINS FLOW TO CHENA RIVER, NOYES SLOUGH AND DEADMAN SLOUGH.
8. SOILS: ALLUVIAL SAND AND GRAVEL OVERLAIN BY SILT AND ORGANIC SILT.
9. EXISTING VEGETATION: PROJECT AREA IS A MIX OF RESIDENTIAL AND COMMERCIAL WITH LAWNS, SHRUBS AND TREES.
10. APPROXIMATE GROWING SEASON: MAY 3 THROUGH OCTOBER 3 (SOURCE: USACE WETLANDS DELINEATION MANUAL: ALASKA REGION (VERSION 2))
11. HISTORIC SITE CONTAMINATION: KNOWN SITES HAVE BEEN OR ARE BEING REMEDIATED. PROBABLITY OF ENCOUNTERING HAZARDOUS MATERIALS DURING CONSTRUCTION IS LOW. A DEC EXCAVATION DEWATERING PERMIT SHALL BE OBTAINED BY THE CONTRACTOR IF DEWATERING WITHIN 1500 FEET OF A DEC IDENTIFIED CONTAMINATED SITE.

ENVIRONMENTAL INFORMATION

1. RECEIVING WATERS: NOYES SLOUGH
2. IMPAIRED WATER BODIES: NOYES SLOUGH
3. TOTAL MAXIMUM DAILY LOAD (TMDL): NONE
4. STORM SEWER/DRAINAGE SYSTEMS: FAIRBANKS NORTH STAR BOROUGH MS4 CONSISTING OF PIPED AND SURFACE WATER DRAINAGE NETWORK. THIS PROJECT INCLUDES MODIFICATIONS TO THIS SYSTEM.
5. THREATENED AND ENDANGERED SPECIES: NONE
6. HISTORICAL & CULTURAL RESOURCE PRESENCE: NONE AFFECTED
7. FISH & WILDLIFE HABITAT PRESENCE: NONE.
8. WETLANDS: NO WETLANDS ARE LOCATED WITHIN THE PROJECT AREA.
9. CONTACT THE PROJECT ENGINEER WITH QUESTIONS/CONCERNS REGARDING ENVIRONMENTAL ISSUES OR PERMIT INFORMATION.

GENERAL NOTES

1. READ AND COMPLY WITH THE CONSTRUCTION GENERAL PERMIT (CGP) AND SECTION 641 OF THE PROJECT SPECIFICATIONS.
2. A SWPPP AND HMCP ARE REQUIRED FOR THIS PROJECT.
3. EROSION AND SEDIMENT CONTROL FEATURES MUST BE BASED ON THE DOT&PF MANUAL ALASKA STORM WATER POLLUTION PREVENTION PLAN GUIDE (OCTOBER 2016 OR LATEST VERSION) AND LATEST BMPs.
4. INITIATE EROSION AND SEDIMENT CONTROLS PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
5. DEVICES MAY NEED TO BE REMOVED AND REINSTALLED TO ALLOW CONSTRUCTION ACTIVITIES TO PROCEED. MAINTAIN ALL DEVICES DAILY INCLUDING, BUT NOT LIMITED TO REMOVAL AND DISPOSAL OF ACCUMULATED SOILS, CLEANING DEVICES AND REPLACEMENT OF DAMAGED DEVICES.
6. STOCKPILE AND STAGING LOCATIONS MUST BE RECLAIMED TO THEIR ORIGINAL CONDITION. STOCKPILES AND/OR STAGING AREAS ARE NOT ALLOWED IN WETLANDS.
7. ENSURE LOADS ARE STABLE OR COVERED SO THAT NO MATERIAL ESCAPES DURING HAULING ACTIVITIES.
8. PROVIDE CONCRETE WASHOUT FACILITIES.
9. PROVIDE VEHICLE CLEANING EQUIPMENT OR OTHER APPROVED CONTROLS TO PREVENT TRACKING OF DIRT AND GRAVEL ONTO PAVED SURFACES.
10. PROVIDE INLET PROTECTION AT ALL INLETS IN AND ADJACENT TO WORK AREAS (SEE BMP 25.00 – 29.00 DOT&PF SWPPP GUIDE).

ESCP LEGEND:

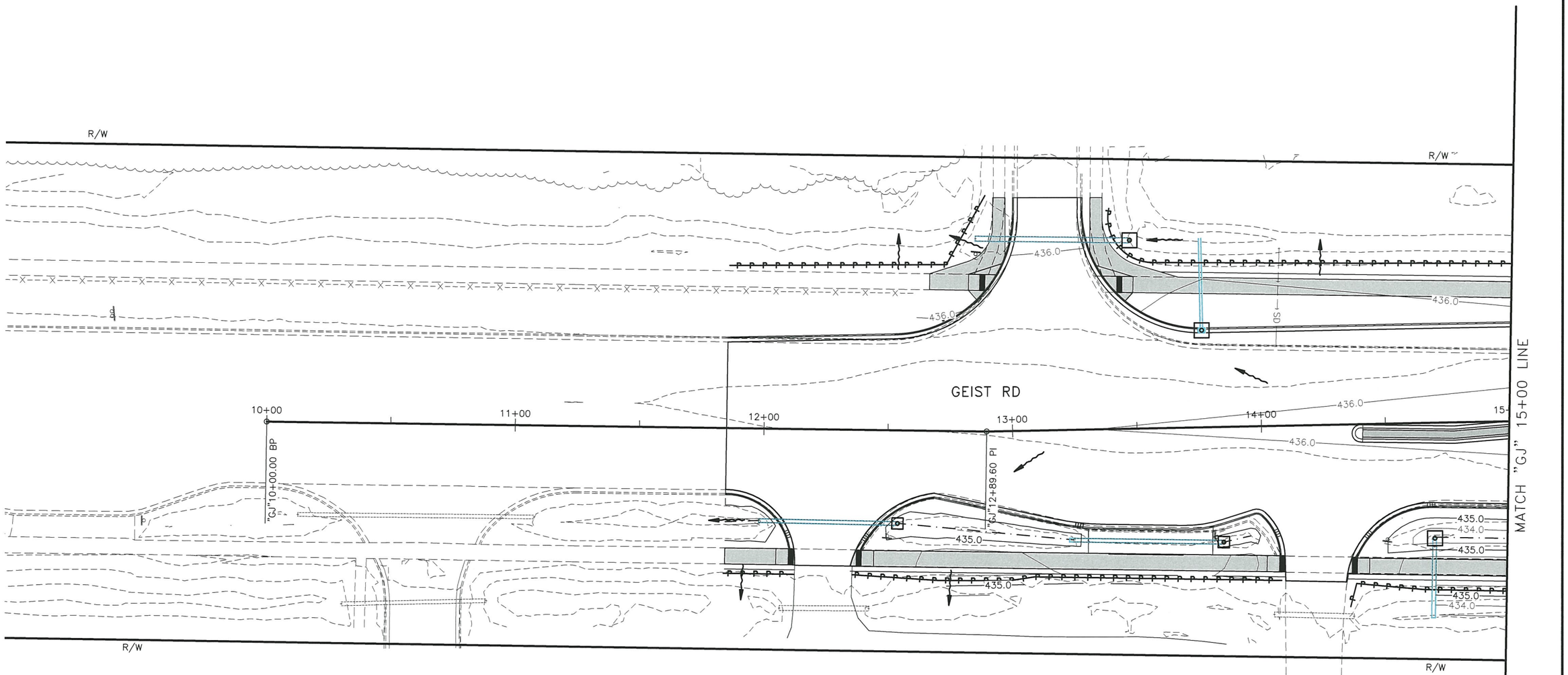
- R/W — RIGHT OF WAY
- SURFACE WATER FLOW DIRECTION
- P P P P — TEMPORARY PERIMETER CONTROL – VEGETATIVE BUFFER OR FIBER FILLED TUBE BERMS (SEE BMP–10.00 OR BMP–38.00, DOT&PF SWPPP GUIDE) OR FUNCTIONAL EQUIVALENT TO MANUFACTURER'S SPECIFICATIONS
- OUTLET PROTECTION (SEE RIPRAP OUTLETS AT CULVERT OUTLETS DETAIL SHEET G8).
- CULVERT INLET PROTECTION (SEE BMP 08.00 DOT&PF SWPPP GUIDE)
- VELOCITY DISSIPATOR (RIPRAP CLASS II OR FUNCTIONAL EQUIVALENT)
- VEHICLE TRACKING ENTRANCE/EXIT
- C O — CONCRETE CLEAN–OUT
- WETLANDS
- UPLANDS
- TEMPORARY CHECK DAM (SEE BMP 31.00–33.00 DOT&PF SWPPP GUIDE)
- SILT CURTAIN (SEE BMP 19.00 DOT&PF SWPPP GUIDE)
- VBS — VEGETATIVE BUFFER (SEE BMP 38.00 DOT&PF SWPPP GUIDE)
- PROPOSED TOP OF EMBANKMENT
- PROPOSED TOE OF EMBANKMENT
- DITCH LINE
- EXISTING EMBANKMENT CATCHLINE (CUT OR FILL)

EROSION CONTROL NOTES & DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743–3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A–C\C2001cnst11147.01FB–Seg–1A–P1 Tue, May/30/17 11:17am

NO.	DATE	REVISION

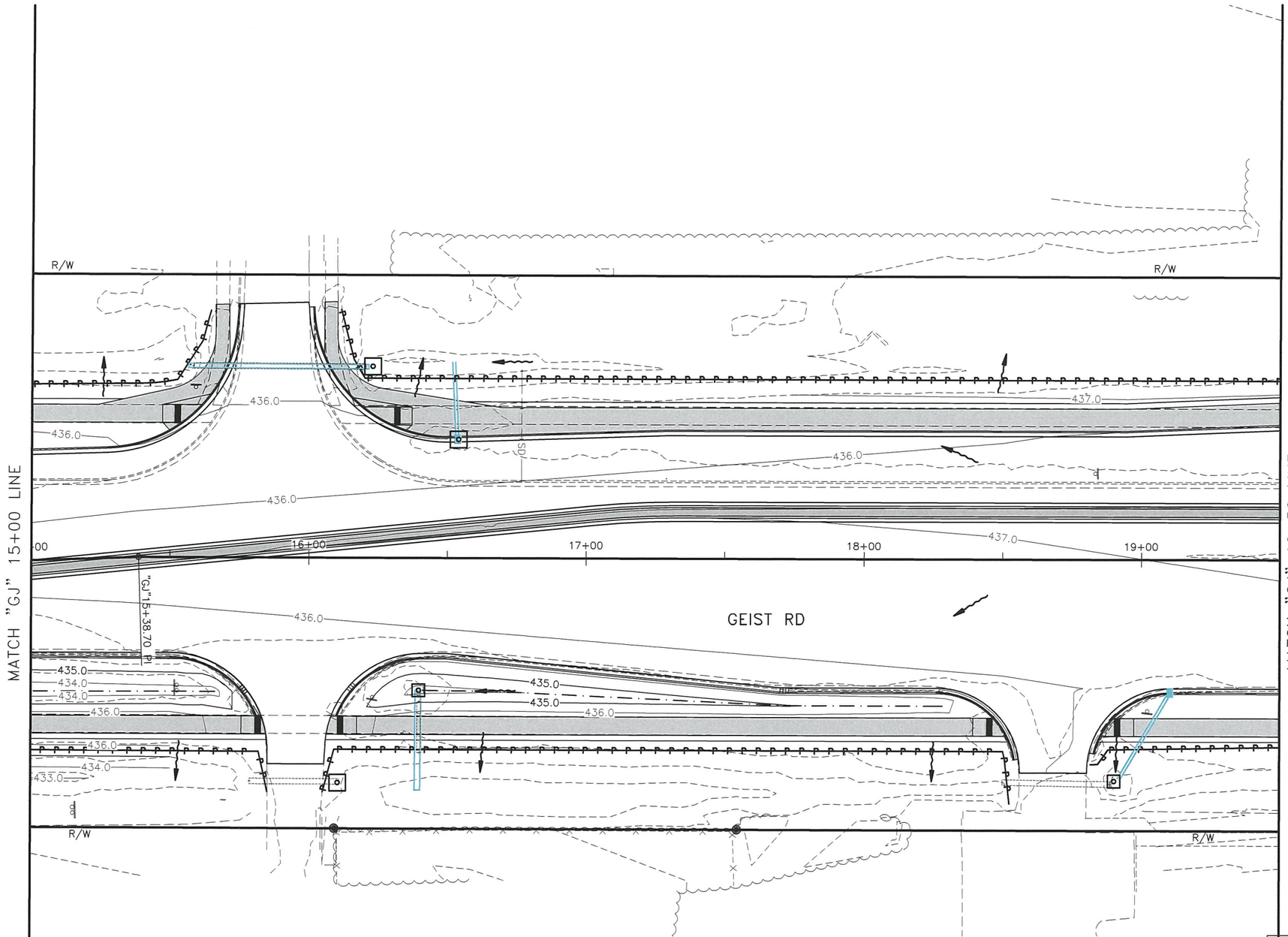
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	P2	P6



EROSION AND SEDIMENT CONTROL PLAN (1 OF 5)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	P3	P6

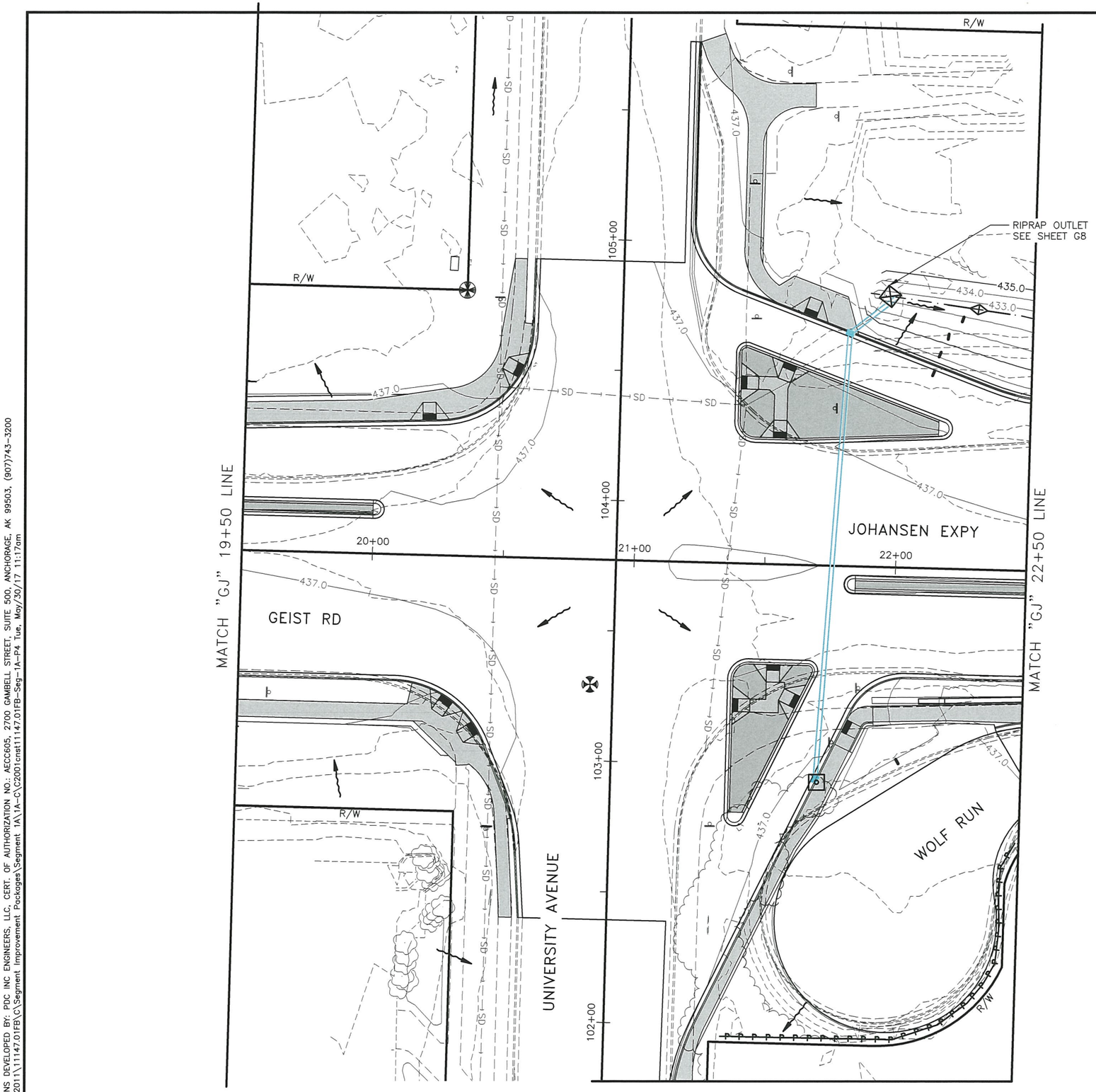


EROSION AND SEDIMENT CONTROL PLAN (2 OF 5)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	P4	P6

MATCH LINE SEE THIS SHEET BOTTOM RIGHT



PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\c\Segment Improvement Packages\Segment 1A\1A-C\C2001cnst11147.01FB-Seg-1A-P4 Tue, May/30/17 11:17am

EROSION AND SEDIMENT CONTROL PLAN (3 OF 5)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2018	P5	P6

R/W

C/A

MATCH "GJ" 22+50 LINE

MATCH "GJ" 26+00 LINE

JOHANSEN EXPY

"GJ"22+58.34 PC

"GJ"24+96.63 PT

23+00

24+00

25+00

437.0

436.0

435.0

434.0

432.0

433.0

438.0

WOLF RUN

SAW CUT AND REPAIR SIDEWALK

TCP

PRESERVE AND PROTECT EXISTING TREES WITHIN TCP/ PROPERTY

R/W

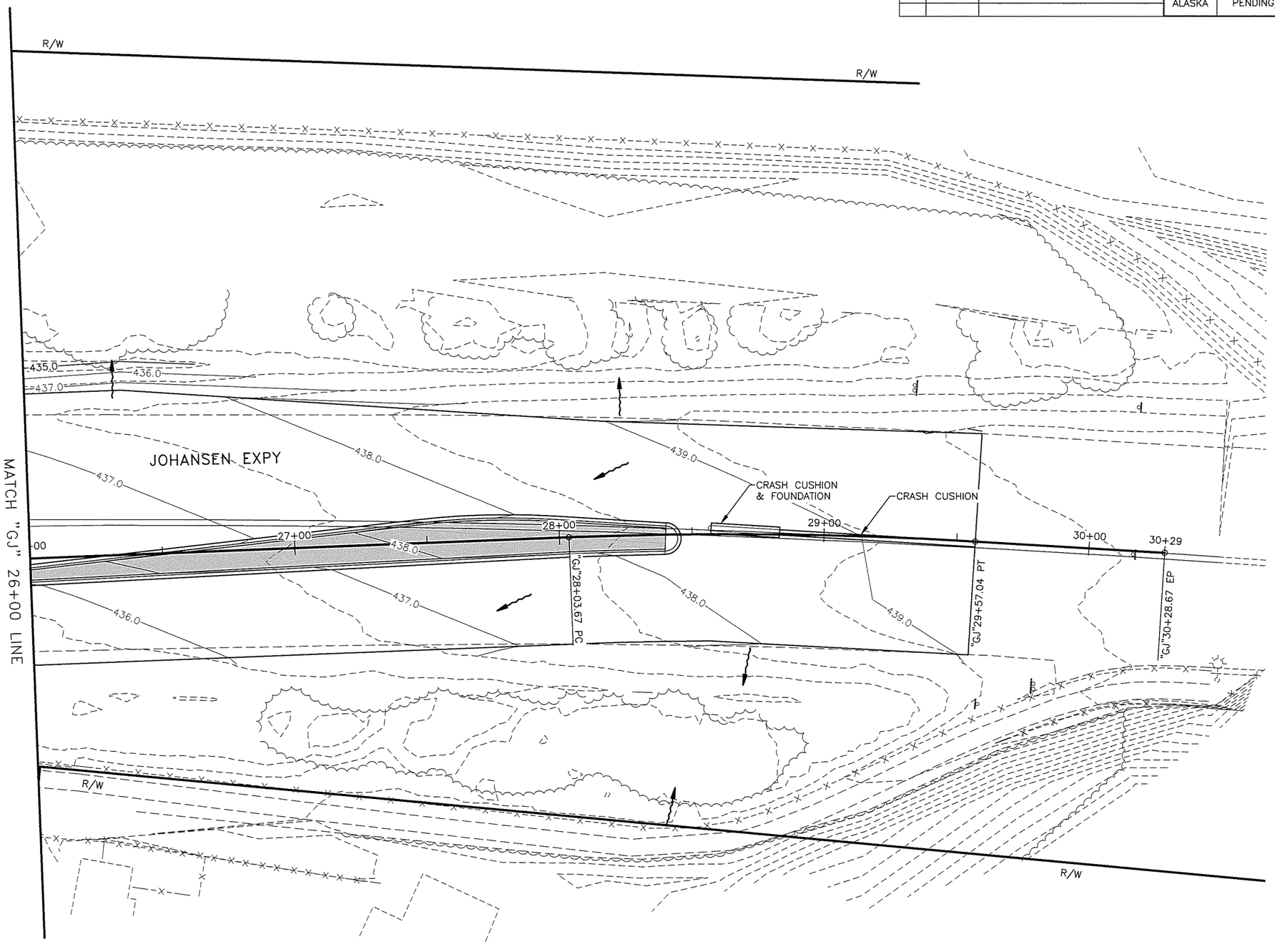
SD

EROSION AND SEDIMENT CONTROL PLAN (4 OF 5)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C2001cnst11147.01FB-Seg-1A-P5 Fri, Dec/15/17 11:02am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	P6	P6

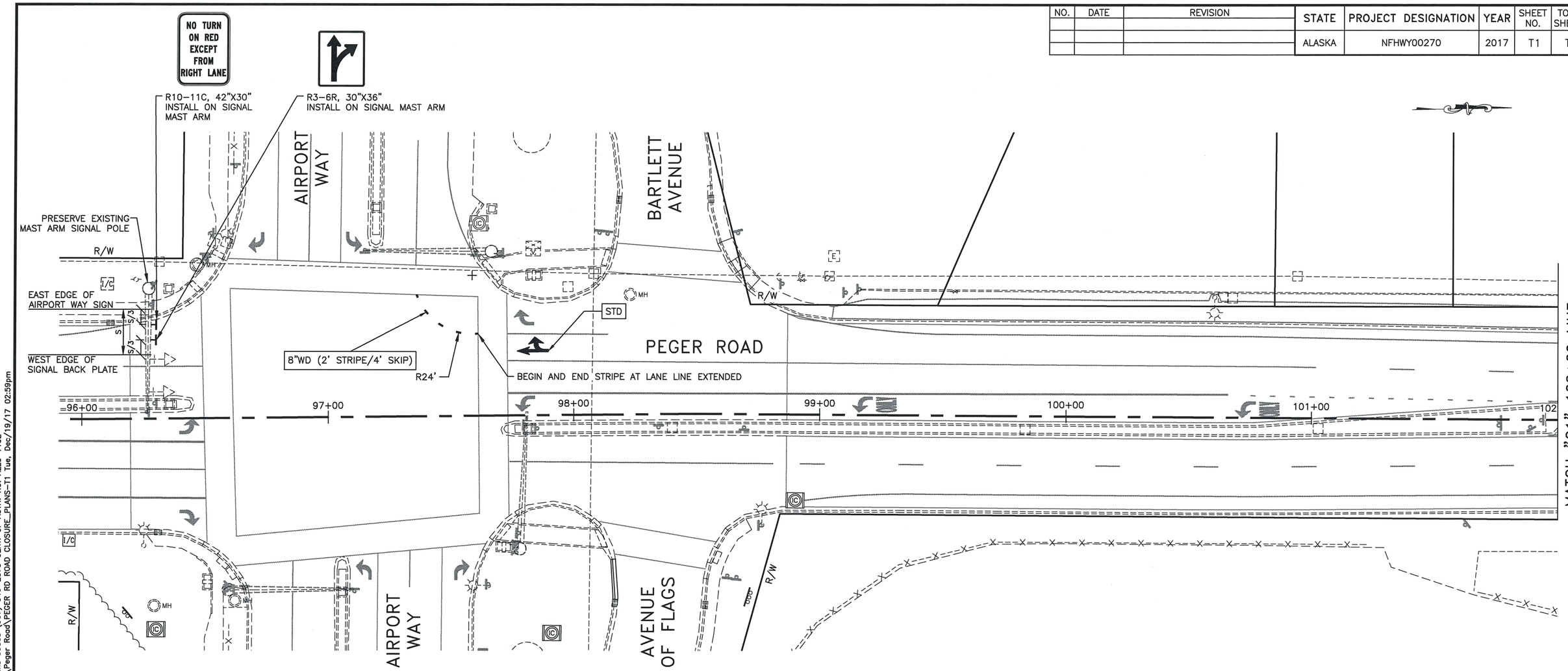


EROSION AND SEDIMENT CONTROL PLAN (5 OF 5)

PLANS DEVELOPED BY: PDC INC. ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C2001cnst11147.01FB-Seg-1A-P6 Tue, May/30/17 11:17am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	T1	T3



TRAFFIC MARKING KEY

4"W	4" WHITE LINE
4"WS	4" WHITE SKIP LINE (10' STRIPE/30' SKIP PATTERN)
4"WD-1	4" WHITE DOTTED LINE (2' STRIPE/6' SKIP PATTERN)
4"WD-2	4" WHITE DOTTED LINE (3' STRIPE/9' SKIP PATTERN)
4"Y	4" YELLOW LINE
4"YS	4" YELLOW SKIP LINE (10' STRIPE/30' SKIP PATTERN)
4"DY	4" DOUBLE YELLOW LINE
8"W	8" WHITE LINE
8"WD-1	8" WHITE WIDE DOTTED LINE (2' STRIPE/4' SKIP PATTERN)
8"WD-2	8" WHITE WIDE DOTTED LINE (3' STRIPE/9' SKIP PATTERN)
24"W	24" WHITE LINE
STD	SEE STANDARD DRAWING
DTL	SEE DETAIL

SIGNING AND STRIPING NOTES:

1. REFER TO THE H SHEETS FOR ADDITIONAL SIGNING AND STRIPING NOTES, DETAILS, AND STANDARD DRAWING REFERENCES.
2. ALL WORK ASSOCIATED WITH THE ROAD CLOSURE WILL BE PAID FOR UNDER ITEM 643(102) ROAD CLOSURE.
3. ALL NEW MARKINGS ARE TO BE APPLIED WITH TEMPORARY PAINT.
4. FOR NEW SIGN INSTALLATION ON SIGNAL MAST ARM, DO NOT DISTURB EXISTING RADAR DETECTOR. IF REQUIRED, ADJUST SIGN LOCATION AS DIRECTED BY THE ENGINEER.

GENERAL TRAFFIC CONTROL NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL PLANS MUST BE IN ACCORDANCE WITH THE CURRENT ALASKA TRAFFIC MANUAL (ATM), WHICH IS COMPRISED OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE ALASKA TRAFFIC MANUAL SUPPLEMENT. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.
2. ALL SIGNS AND BARRICADES SHALL MEET REQUIREMENTS OF THE CURRENT ATM AND WITH THE ALASKA SIGN DESIGN GUIDE (ASDS).

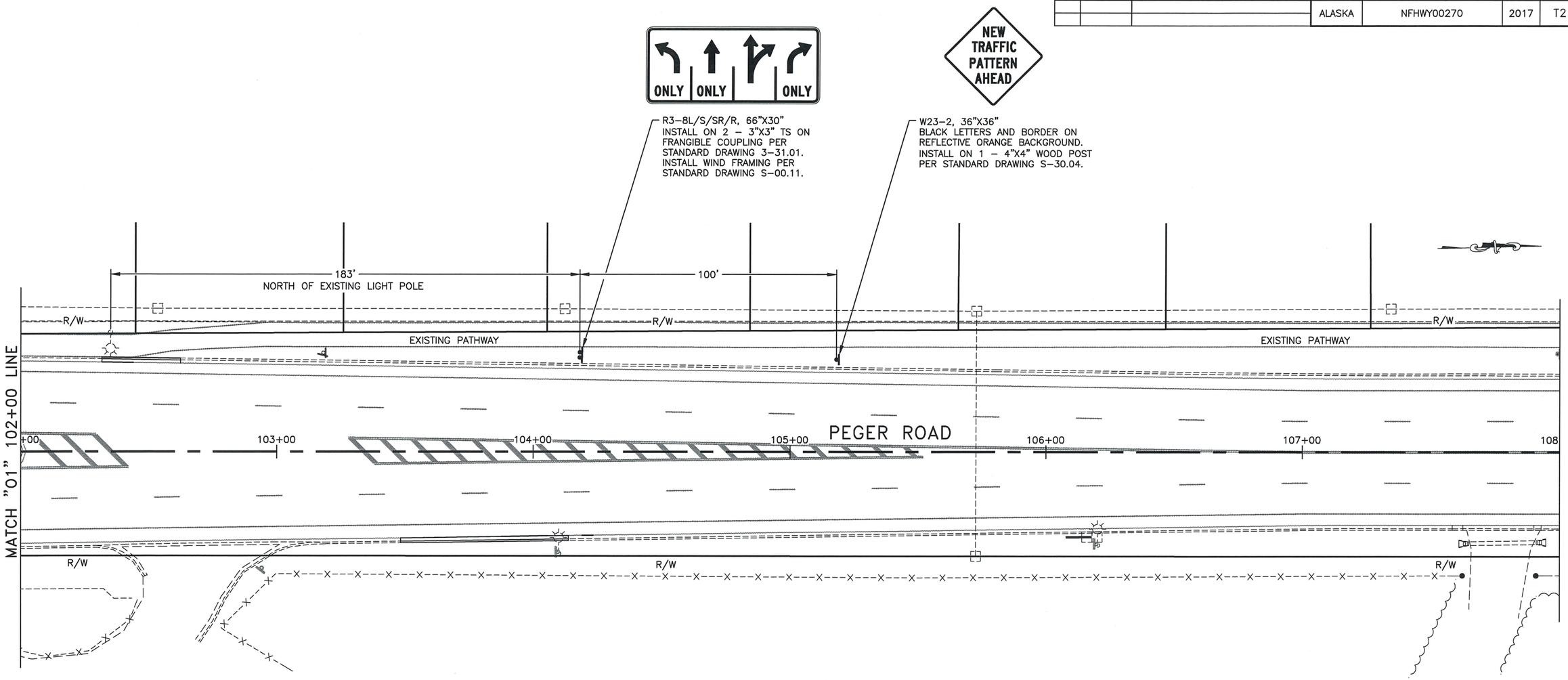
ROAD CLOSURE PLANS

STATE OF ALASKA 49 TH
Jessica Anne Miranda
CE# 11787
REGISTERED PROFESSIONAL ENGINEER

12/19/2017

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	T2	T3



ROAD CLOSURE PLANS

STATE OF ALASKA
49 TH
Jessica Anne Miranda
CE# 11787
REGISTERED PROFESSIONAL ENGINEER

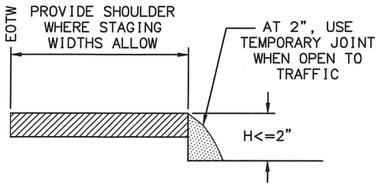
12/19/2017

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd. Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
\\192.168.0.10\KE-Files\PROJECTS\DOTPF\University Avenue Traffic Design_Phase-A\DWGS\Peger Road\PEGER RD CLOSURE_PLANS-T2 Tue, Dec/19/17 02:59pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00270	2017	T3	T3

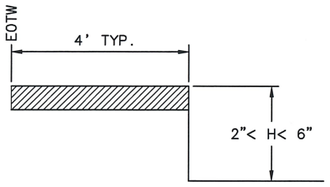
VERTICAL DROP-OFFS



CASE A

DROP-OFFS ≤2 INCHES
(PAVED SURFACES ONLY)

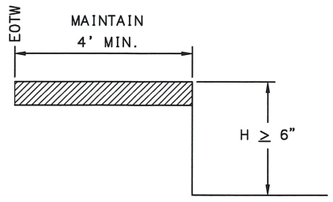
1. USE "UNEVEN LANES" (CW8-11) SIGNS FOR ALL DROP-OFFS IN BETWEEN TRAFFIC LANES.
2. LEAVE NO DROP-OFFS > 1.5" IN THE TRAFFIC LANE OR ACTIVE WHEEL TRACK.



CASE B

2"< DROP-OFFS < 6"
(ALL ROADWAY SURFACES)

1. PLACE CONES OR CANDLES FOR DROP-OFFS ≥ 4 FEET AND ≤ 30 FEET FROM THE EOTW.
2. USE DRUMS OR TYPE II BARRICADES FOR DROP-OFFS < 4 FEET FROM THE EOTW.



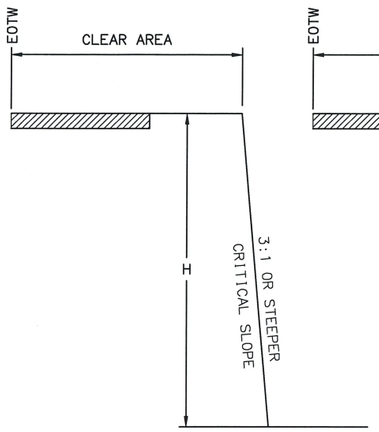
CASE C

DROP-OFFS ≥6"
(ALL ROADWAY SURFACES
AND ROADSIDE SLOPES)

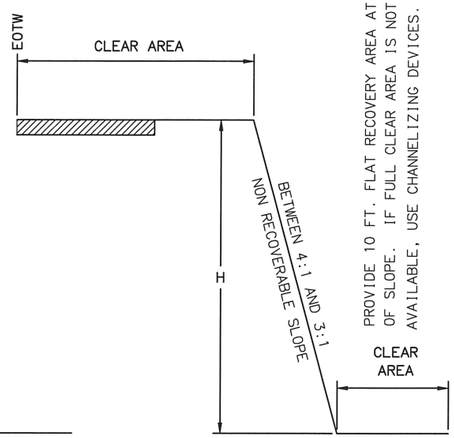
1. PLACE DRUMS OR TYPE II BARRICADES FOR DROP-OFFS ≤ 24" WITHIN THE CLEAR AREA.
2. PROVIDE PORTABLE CONCRETE BARRIER FOR DROP-OFFS >24" WITHIN 15 FEET OF THE EOTW. USE DRUMS OR TYPE II BARRICADES IF BEYOND 15 FEET.

FILL SLOPES

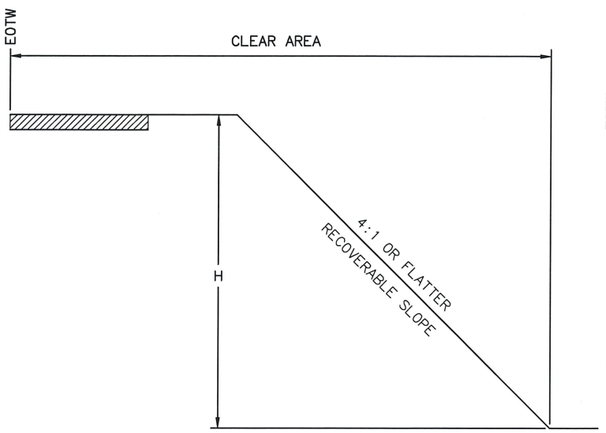
STEEPER THAN OR EQUAL TO 3:1



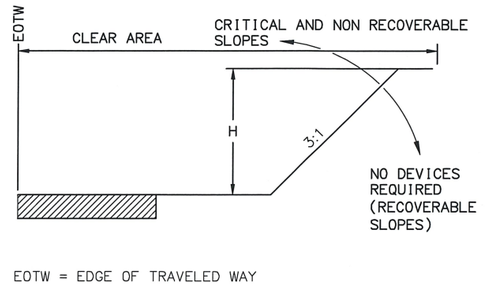
BETWEEN 4:1 AND 3:1



FLATTER THAN OR EQUAL TO 4:1



CUT SLOPES



EOTW = EDGE OF TRAVELED WAY

CLEAR AREA REQUIREMENTS

	LOW SPEED < = 35 MPH	INTERMEDIATE SPEED 40 MPH TO 45 MPH	HIGH SPEED ≥ = 50 MPH
RURAL	15'	24'	30'
URBAN	10' DITCH SECTIONS, OR 2' BEHIND CURB	15' DITCH CONDITIONS, OR 2' BEHIND CURB	15' DITCH CONDITIONS, OR 2' BEHIND CURB

CHANNELIZING DEVICE REQUIREMENTS FOR SLOPES 3:1 OR STEEPER WITHIN THE CLEAR AREA

	H <= 15'	H > 15'
< 2000 VPD LOW VOLUME	CANDLES OR CONES	TYPE II BARRICADES OR DRUMS
> 2000 VPD	TYPE II BARRICADE OR DRUMS	PORTABLE CONCRETE BARRIER OR TEMPORARY GUARDRAIL

TRAFFIC CONTROL NOTES:

1. USE THE EXISTING CROSS-SECTION (PRIOR TO CONSTRUCTION) AS A BASIS FOR DETERMINING WHEN CHANNELIZING DEVICES ARE NEEDED.
2. INSTALL CHANNELIZING DEVICES WHEN THE HORIZONTAL OR VERTICAL CURVATURE IS MADE MORE SEVERE.
3. INSTALL FLEXIBLE DELINEATORS WHEN ALL VEGETATION OVER 4 FEET HIGH IS CLEARED FROM FILL SLOPES THAT ARE 3:1 OR STEEPER IN THE CLEAR AREA.
4. USE PORTABLE CONCRETE BARRIER FOR WARRANTING CONDITIONS WHICH LAST LONGER THAN 3 DAYS. FOR CONDITIONS LASTING LESS THAN 3 DAYS, OTHER CHANNELIZING DEVICES MAY BE INSTALLED.
5. TERMINATE RUNS OF PORTABLE CONCRETE BARRIER USING THE FOLLOWING METHODS:
   A) CONNECT TO A PORTABLE CRASH CUSHION, OR
   B) PROVIDE A CONCRETE BARRIER WITH THRIE BEAM TRANSITION TO W-BEAM GUARDRAIL, TREATED WITH A PARALLEL TERMINAL (SEE SECTION 710).
   C) FLARE THE ENDS OF THE PORTABLE CONCRETE BARRIER AWAY FROM THE ROADWAY AT A RATE OF 7:1 ON A COMPACTED SLOPE OF 6:1 OR FLATTER, OUTSIDE OF THE CLEAR AREA. INSTALL A SLOPING PORTABLE CONCRETE BARRIER END TREATMENT, OR
   D) BURY IN THE BACKSLOPE.
6. TERMINATE THE RUNS OF TEMPORARY W-BEAM GUARDRAIL USING THE FOLLOWING METHODS:
   A) PROVIDE A PARALLEL TERMINAL (SEE SECTION 710)
   B) FLARE THE ENDS OF THE TEMPORARY GUARDRAIL AWAY FROM THE ROADWAY AT A RATE OF 6:1 ON A COMPACTED SLOPE OF 6:1 OR FLATTER OUTSIDE OF THE CLEAR AREA, TERMINATE WITH A STANDARD W-BEAM END SECTION, OR
   C) BURY IN THE BACKSLOPE.

EQUIPMENT NOTES:

1. WHEN THERE IS ACTIVE, NONMOBILE CONSTRUCTION EQUIPMENT WITHIN THE CLEAR AREA, DELINEATE THE ROADSIDE WITH TRAFFIC CONES.
2. SEPARATE PROCEDURES ARE REQUIRED FOR MOBILE WORK ZONE OPERATIONS AND SHORT DURATION WORK OF LESS THAN 12 HOURS.

WINTER SHUTDOWN NOTES:

1. WHEN REQUIRED, USE CHANNELIZING DEVICES WHICH CAN BE MAINTAINED OVER WINTER.
2. NO CHANNELIZING DEVICES ARE REQUIRED IF:
   A) CONSTRUCTION SLOPES ARE RECOVERABLE, AND
   B) SLOPES ARE SMOOTH AND COMPACTED, AND
   C) REQUIRED CLEAR AREA IS PROVIDED

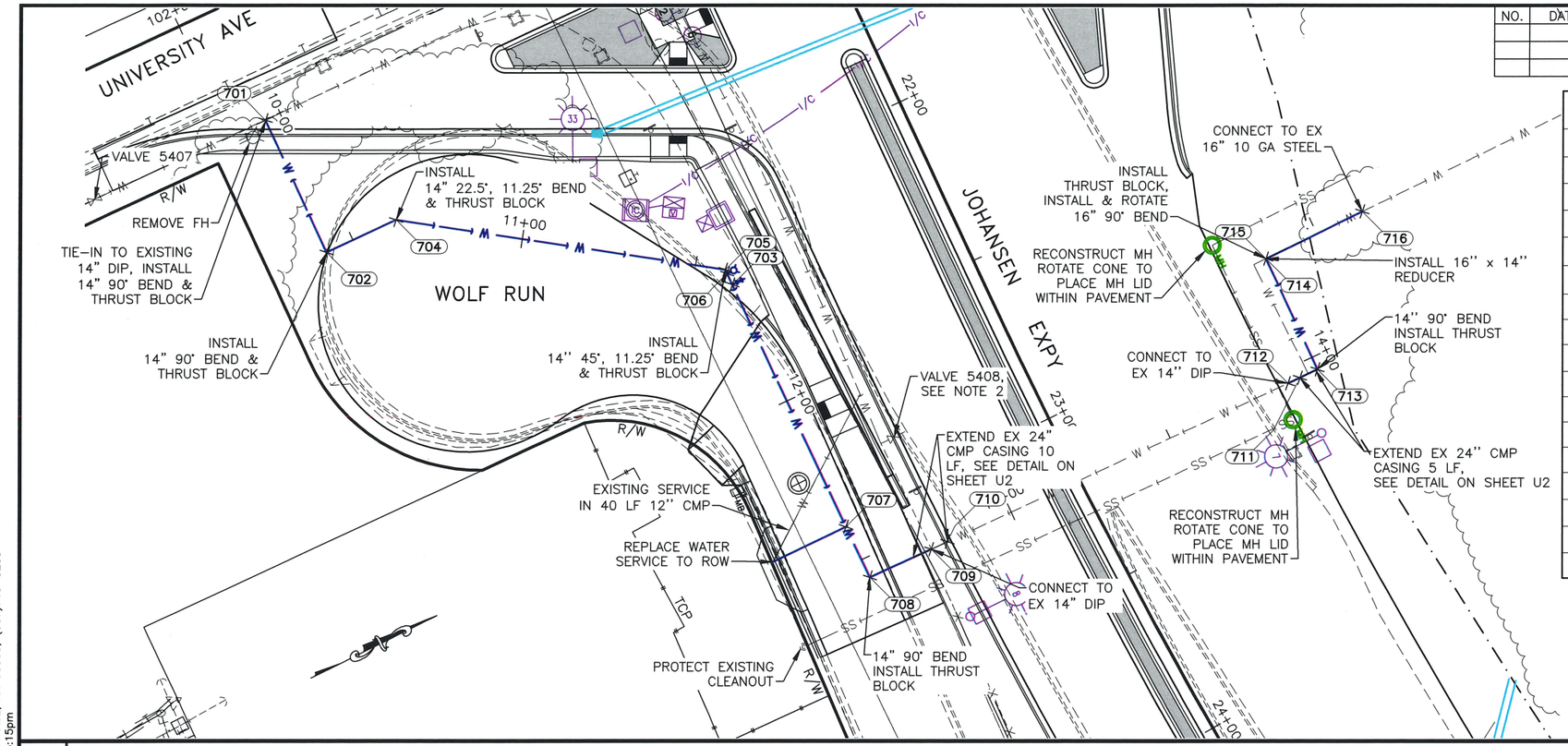
ROAD CLOSURE PLANS

STATE OF ALASKA 49 TH Jessica Anne Miranda CE# 11787 REGISTERED PROFESSIONAL ENGINEER

12/19/2017

NO.	DATE	REVISION

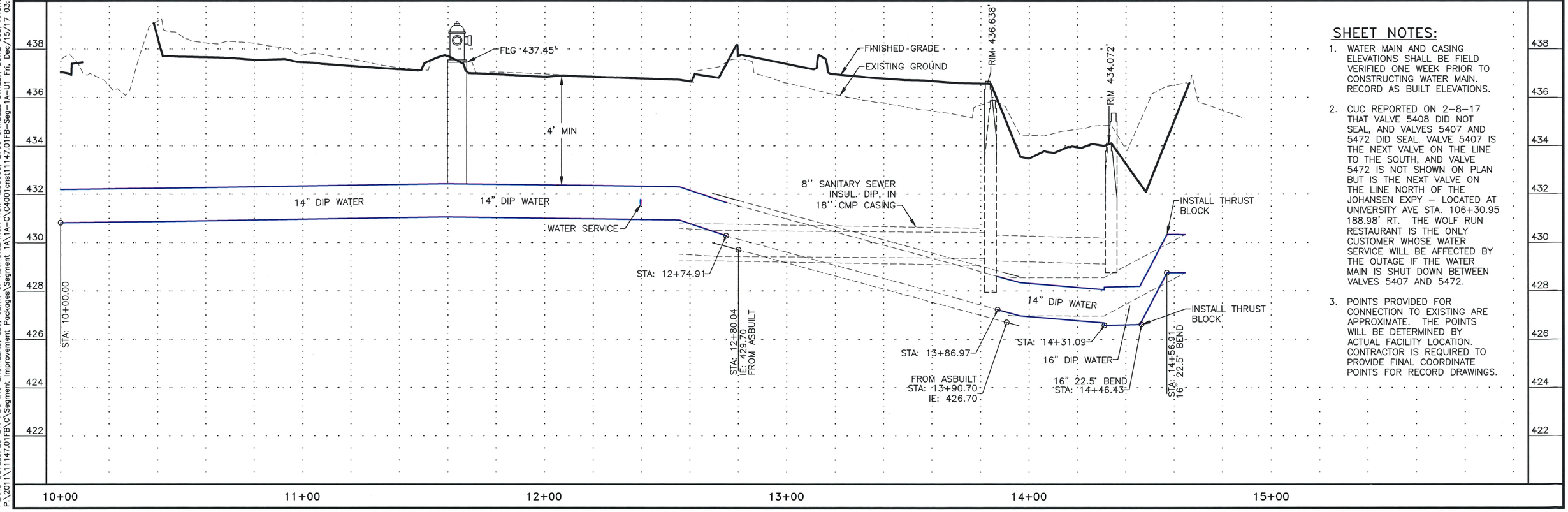
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2018	U1	U5



POINT TABLE

POINT #	DESCRIPTION	STATION	NORTHING	EASTING
701	14" 90° BEND	10+00.00	68946.68	18330.83
702	14" 90° BEND	10+41.71	68945.63	18372.53
703	14" BV	11+63.29	69045.11	18432.55
704	14" 22.5°, 11.25° BEND	10+63.55	68967.45	18373.07
705	14" 45°, 11.25° BEND	11+58.59	69045.14	18427.85
706	INSTALL FIRE HYDRANT ASSEMBLY	11+59.80	69045.11	18429.06
707	SERVICE	12+39.61	69043.11	18508.86
708	14" 90° BEND	12+55.63	69042.78	18524.86
709	CONNECT TO EX	12+74.91	69062.05	18525.48
710	CASING	12+80.04	69067.18	18525.62
711	CASING	13+90.70	69177.79	18528.68
712	CONNECT TO EX	13+86.97	69174.07	18528.58
713	14" 90° BEND	13+96.26	69183.36	18528.73
714	INSTALL 16" x 14" REDUCER	14+31.09	69184.29	18493.91
715	INSTALL & ROTATE 16" 90° BEND	14+31.12	69184.29	18493.91
716	CONNECT TO EX	14+64.21	69214.86	18494.15

WATER AND SEWER PLAN AND PROFILE



SHEET NOTES:

1. WATER MAIN AND CASING ELEVATIONS SHALL BE FIELD VERIFIED ONE WEEK PRIOR TO CONSTRUCTING WATER MAIN. RECORD AS BUILT ELEVATIONS.
2. CUC REPORTED ON 2-8-17 THAT VALVE 5408 DID NOT SEAL, AND VALVES 5407 AND 5472 DID SEAL. VALVE 5407 IS THE NEXT VALVE ON THE LINE TO THE SOUTH, AND VALVE 5472 IS NOT SHOWN ON PLAN BUT IS THE NEXT VALVE ON THE LINE NORTH OF THE JOHANSEN EXPY – LOCATED AT UNIVERSITY AVE STA. 106+30.95 188.98' RT. THE WOLF RUN RESTAURANT IS THE ONLY CUSTOMER WHOSE WATER SERVICE WILL BE AFFECTED BY THE OUTAGE IF THE WATER MAIN IS SHUT DOWN BETWEEN VALVES 5407 AND 5472.
3. POINTS PROVIDED FOR CONNECTION TO EXISTING ARE APPROXIMATE. THE POINTS WILL BE DETERMINED BY ACTUAL FACILITY LOCATION. CONTRACTOR IS REQUIRED TO PROVIDE FINAL COORDINATE POINTS FOR RECORD DRAWINGS.

STATE OF ALASKA 49TH
KAREN ANN BRADY
12/15/17
CE 11823
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
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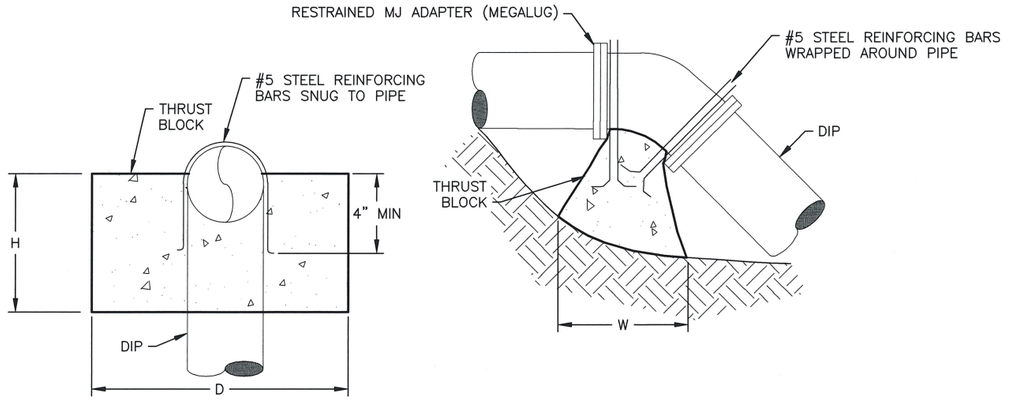
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/NFHWY00270	2018	U2	U5

WATER AND SEWER NOTES

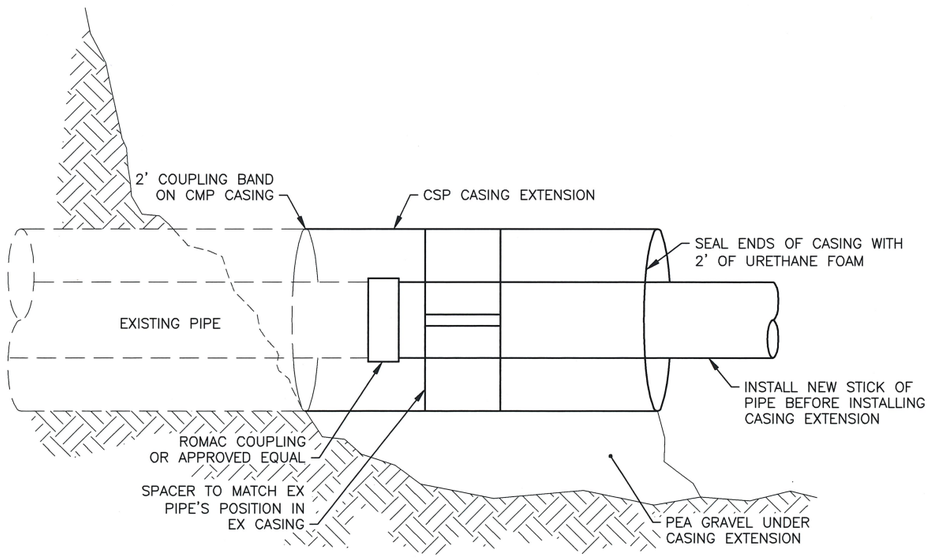
1. PROFILES SHOWN ARE BASED ON PIPE CENTERLINE.
2. ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF UTILITY SERVICES OF ALASKA (USA) STANDARDS OF DESIGN AND CONSTRUCTION AND SERVICE LINE STANDARDS. REFER TO STANDARD DETAIL SHEETS: WD1 – WATER SYSTEM DETAILS FIRE HYDRANTS INSTALLATION, WD2 – WATER SYSTEM DETAILS PIPE, JOINTS, AND THRUST RESTRAINT, WD3 – WATER SYSTEM DETAILS, VALVES, AND SERVICES, WD4 – WATER AND SEWER TRENCH AND CROSSING DETAILS, SS1 – SANITARY SEWER SYSTEM MANHOLES. IN THE EVENT THAT THE PROJECT PLANS AND SPECIFICATIONS CONFLICT WITH USA STANDARDS, THE MOST STRINGENT CRITERIA APPLY.
3. LOCATIONS OF EXISTING WATER AND SEWER UTILITIES ARE BASED ON SURVEYED LOCATES. ELEVATIONS FOR WATER MAIN ARE BASED ON EITHER AS–BUILT DRAWINGS OR STANDARD 4' BURIAL DEPTH. LOCATE ALL ADJACENT UTILITIES AND REPORT TO ENGINEER IF LOCATIONS VARY FROM PLANS.
4. WHERE WATER MAIN OR SERVICE LINES CROSS STORM DRAIN PIPE OR ARE WITHIN 7 FEET OF CATCH BASINS, PROVIDE ADDITIONAL 2'' OF INSULATION TO WATER MAIN OR SERVICE FOR 7 FEET EACH SIDE OF CROSSING. FIELD INSULATE ALL FITTINGS, VALVES, FIRE HYDRANTS, MANHOLES AND OTHER APPURTENANCES WITH A MIN OF 2'' OF ADDITIONAL INSULATION.
5. MANHOLE CONFIGURATIONS AND ORIENTATIONS ARE UNKNOWN. RECONSTRUCT MANHOLES AS NECESSARY TO DEPRESS MANHOLE LIDS 3/8'' BELOW PAVEMENT SURFACE, UNLESS MANHOLE IS IN UNIMPROVED AREA.
6. CONTRACTOR MUST SUBMIT WRITTEN SHUTDOWN AND COMMISSIONING PLAN TO COLLEGE UTILITY CORPORATION PRIOR TO BEGINNING WORK, SEE SPECIFICATION 627 FOR DETAILS.



GRAVITY THRUST BLOCK DETAIL

GRAVITY THRUST BLOCK NOTES

1. INSULATE PIPE AND TOP OF THRUST BLOCK
2. BEARING SURFACE TO BE PLACED AGAINST THE UNDISTURBED SOIL. IF THAT'S NOT POSSIBLE THEN FILL BETWEEN THE UNDISTURBED SOIL AND THE BEARING SURFACE SHALL BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY.
3. FORM THRUST BLOCKS SO THAT BOLTS ARE NOT COVERED WITH CONCRETE AND ARE READILY ACCESSIBLE.
4. WRAP PIPE IN 6 MIL POLYETHYLENE PRIOR TO POURING BLOCK.



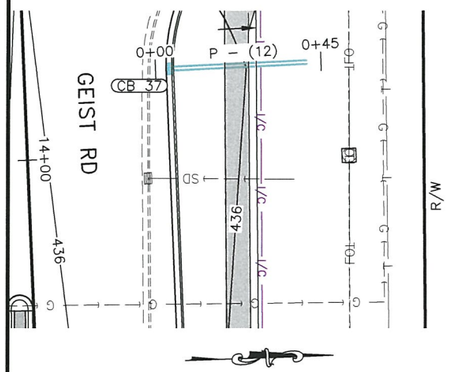
CASING EXTENSION

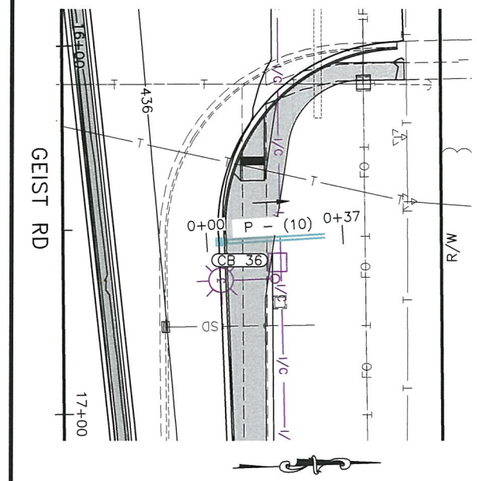
GRAVITY THRUST BLOCK DIMENSIONS				
PIPE DIAMETER	BEND ANGLE	W, WIDTH	D, DEPTH	H, HEIGHT
16"	22.5°	6.0'	6.4'	3.5'

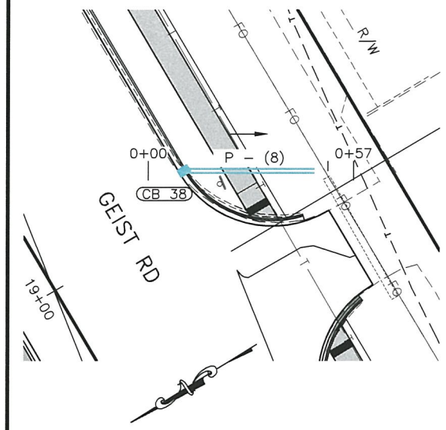
WATER AND SEWER DETAILS & NOTES

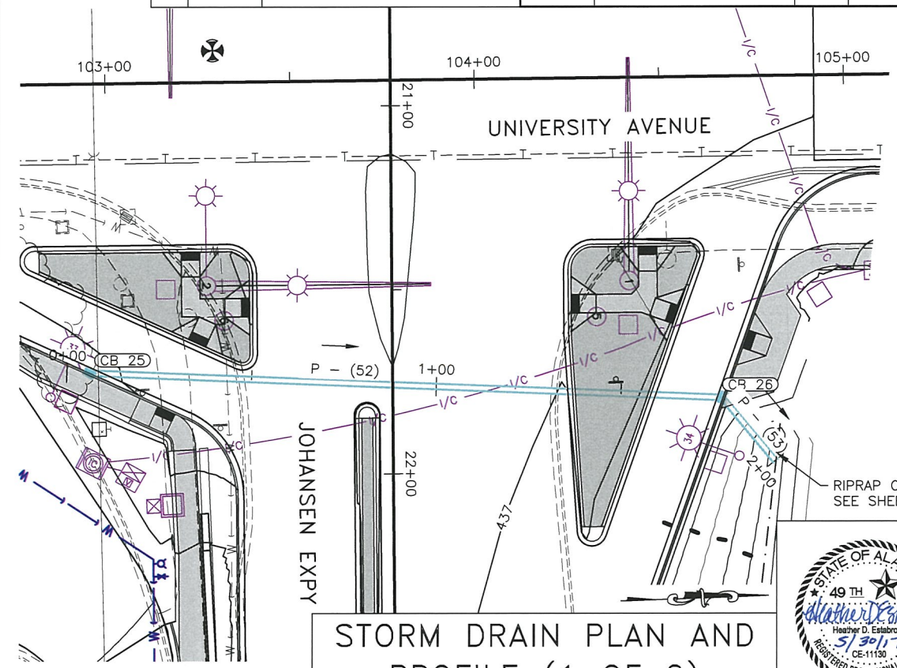
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	U3	U5



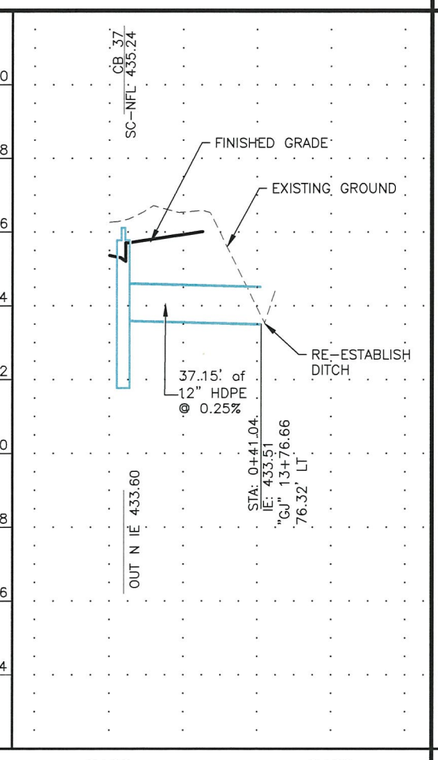


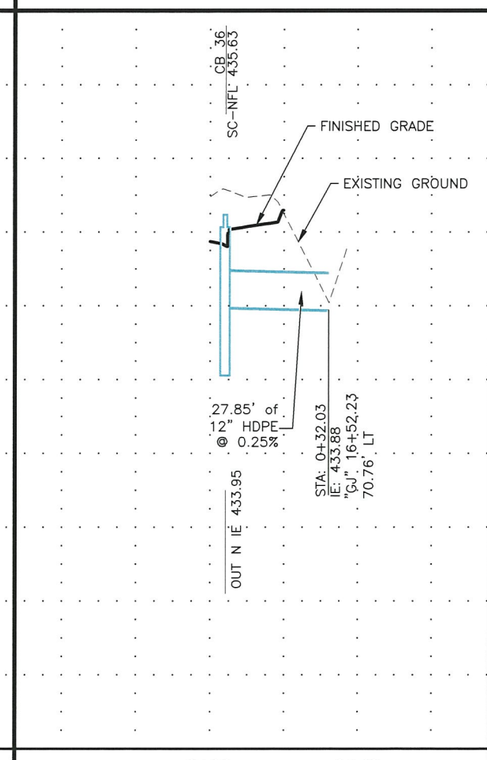


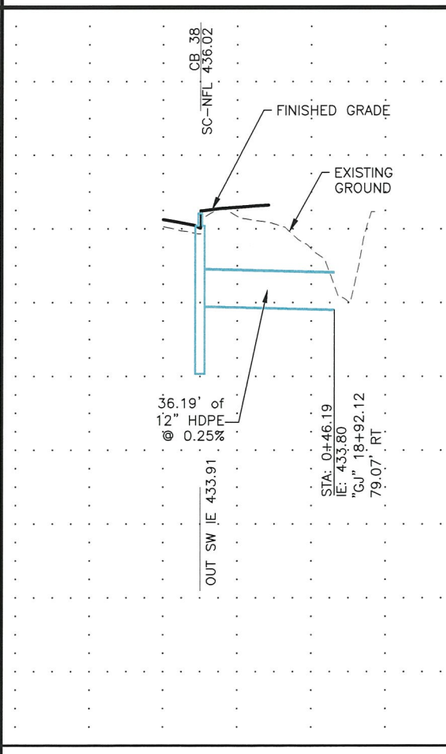


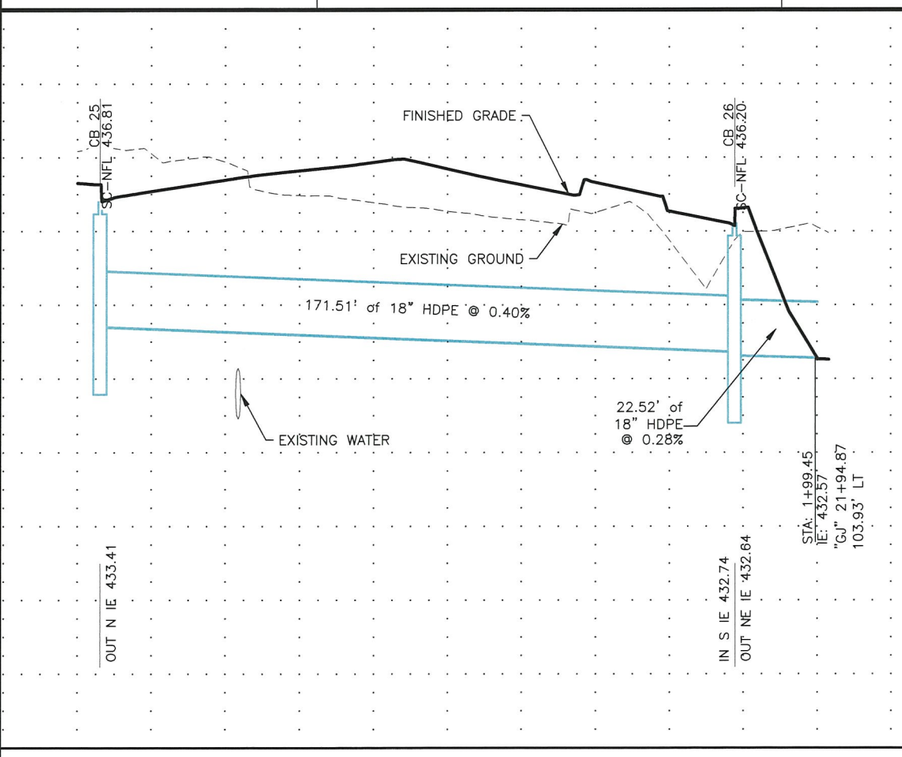
STORM DRAIN PLAN AND PROFILE (1 OF 2)

STATE OF ALASKA
49 TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER





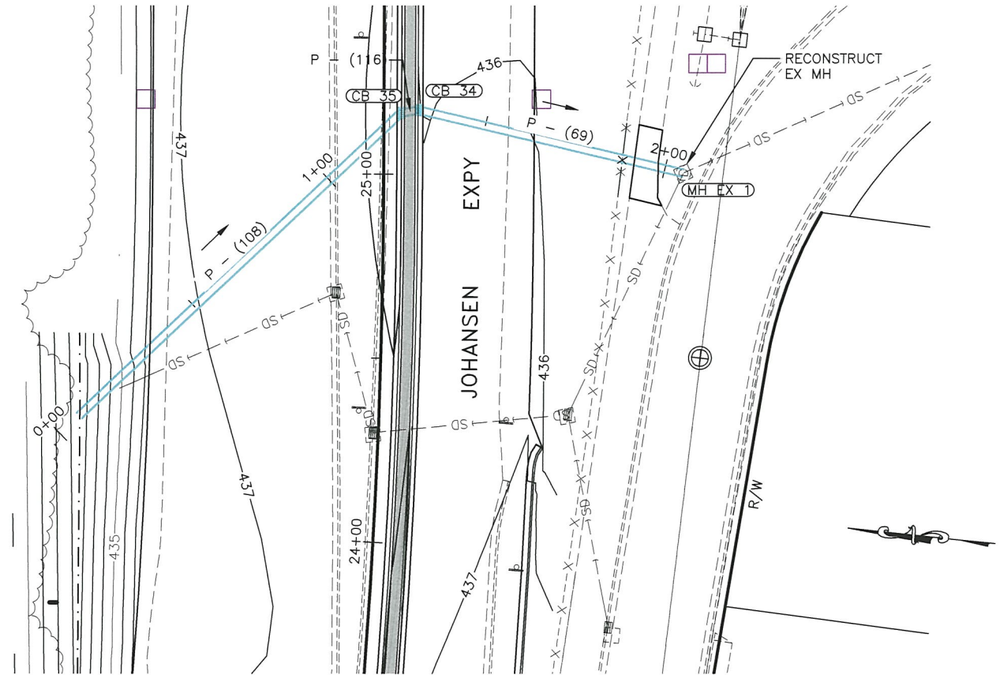


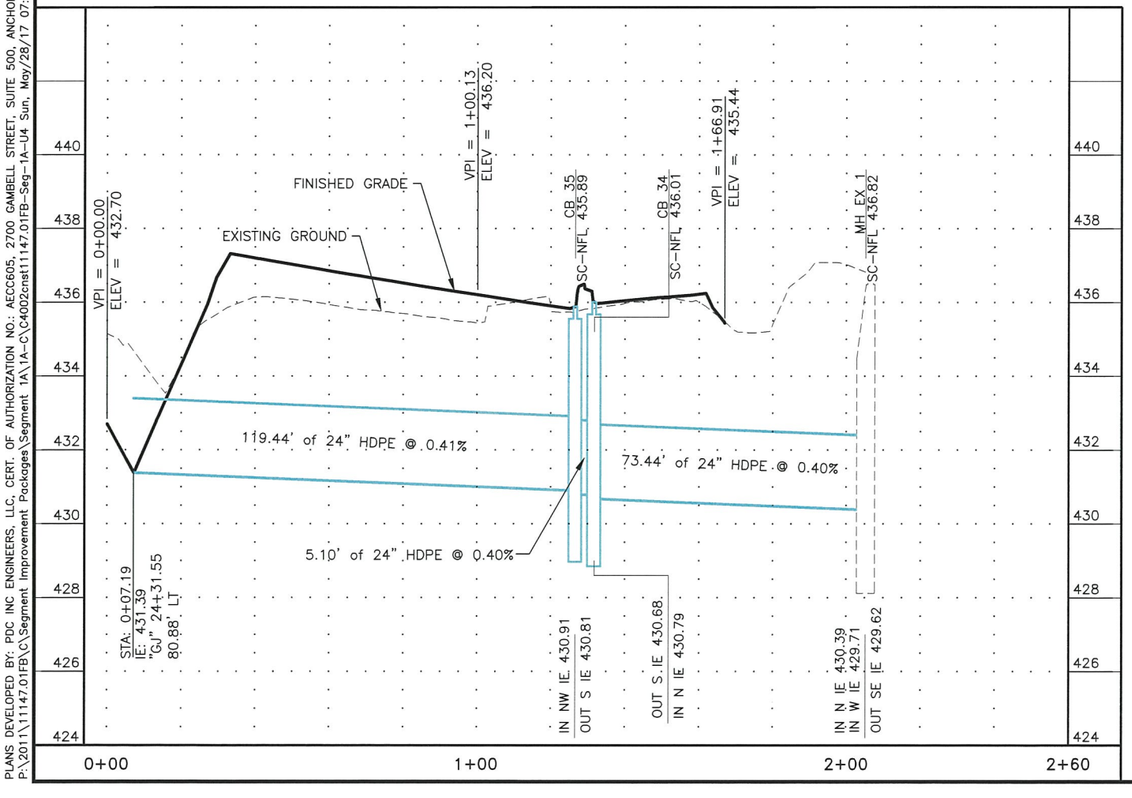


PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C4002cnst111147.01FB-Seg-1A-U3 Sun, May/28/17 07:26pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	U4	U5



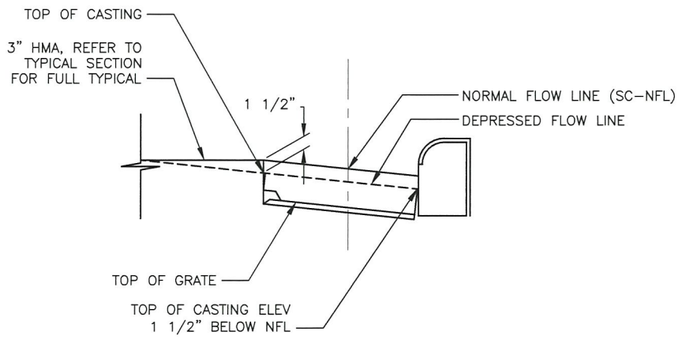


PIPE SUMMARY

NAME	SIZE (IN)	MATERIAL	SLOPE	START INVERT	END INVERT	LENGTH (FT)	REMARKS
P – (10)	12	HDPE	0.25%	433.95'	433.88'	28	
P – (12)	12	HDPE	0.25%	433.60'	433.51'	37	
P – (52)	18	HDPE	0.40%	433.41'	432.74'	172	
P – (53)	18	HDPE	0.28%	432.64'	432.57'	23	
P – (69)	24	HDPE	0.40%	430.68'	430.39'	73	
P – (108)	24	HDPE	0.41%	431.39'	430.91'	119	
P – (116)	24	HDPE	0.40%	430.81'	430.79'	5	

STRUCTURE SUMMARY

NAME:	TYPE	STATION	OFFSET	SC–NFL	TOC	PIPES IN INVERTS	PIPES OUT INVERTS	COVER	REMARKS
CB 25	INLET, TYPE A	21+71.69	81.90 R	436.81	436.68		(P – (52)) 433.41' N	STD CURB INLET AND GRATE	
CB 26	INLET, TYPE A	21+80.24	89.39 L	436.20	436.08	(P – (52)) 432.74' S	(P – (53)) 432.64' NE	STD CURB INLET AND GRATE	
CB 34	INLET, TYPE A	25+17.44	9.65 R	436.01	435.84	(P – (116)) 430.79' N	(P – (69)) 430.68' S	EXP CURB INLET AND GRATE	
CB 35	INLET, TYPE A	25+16.72	4.60 R	435.89	435.71	(P – (108)) 430.91' NW	(P – (116)) 430.81' S	EXP CURB INLET AND GRATE	
CB 36	INLET, TYPE A	16+53.57	42.94 L	435.63	435.56		(P – (10)) 433.95' N	STD CURB INLET AND GRATE	
CB 37	INLET, TYPE A	13+76.86	39.17 L	435.24	435.18		(P – (12)) 433.60' N	STD CURB INLET AND GRATE	
CB 38	INLET, TYPE A	19+10.52	47.92 R	436.02	435.97		(P – (8)) 433.91' SW	STD CURB INLET AND GRATE	
MH EX 1	STORM SEWER MANHOLE, 48 INCH	25+00.34	81.07 R	436.82	––	(P – (69)) 430.39' N (E – (152)) 429.71' W	(E – (159)) 429.62' SE	EX MANHOLE LID	EXISTING MH



CURB INLET DETAIL

SHEET NOTES

1. STATIONS AND OFFSETS MEASURED FROM GEIST / JOHANSEN ALIGNMENT.
2. SC–NFL REPRESENTS CENTER OF STRUCTURE AT NORMAL FLOW LINE. SEE CURB INLET DETAIL.
3. TOP OF CASTING 1 1/2" BELOW NORMAL FLOW LINE
4. SEE STANDARD DRAWING D–23.01 AND D–22.01 FOR INLET CONSTRUCTION DETAILS.
5. ALL TYPE "A" INLETS REQUIRE AN 18" SUMP. SEE STANDARD DRAWING D–26.03 FOR TYPE "A" INLET BOX DETAILS.

STATE OF ALASKA 49TH
Heather D. Estabrook
5/30/17
CE-11130
REGISTERED PROFESSIONAL ENGINEER

STORM DRAIN PLAN AND PROFILE (2 OF 2)

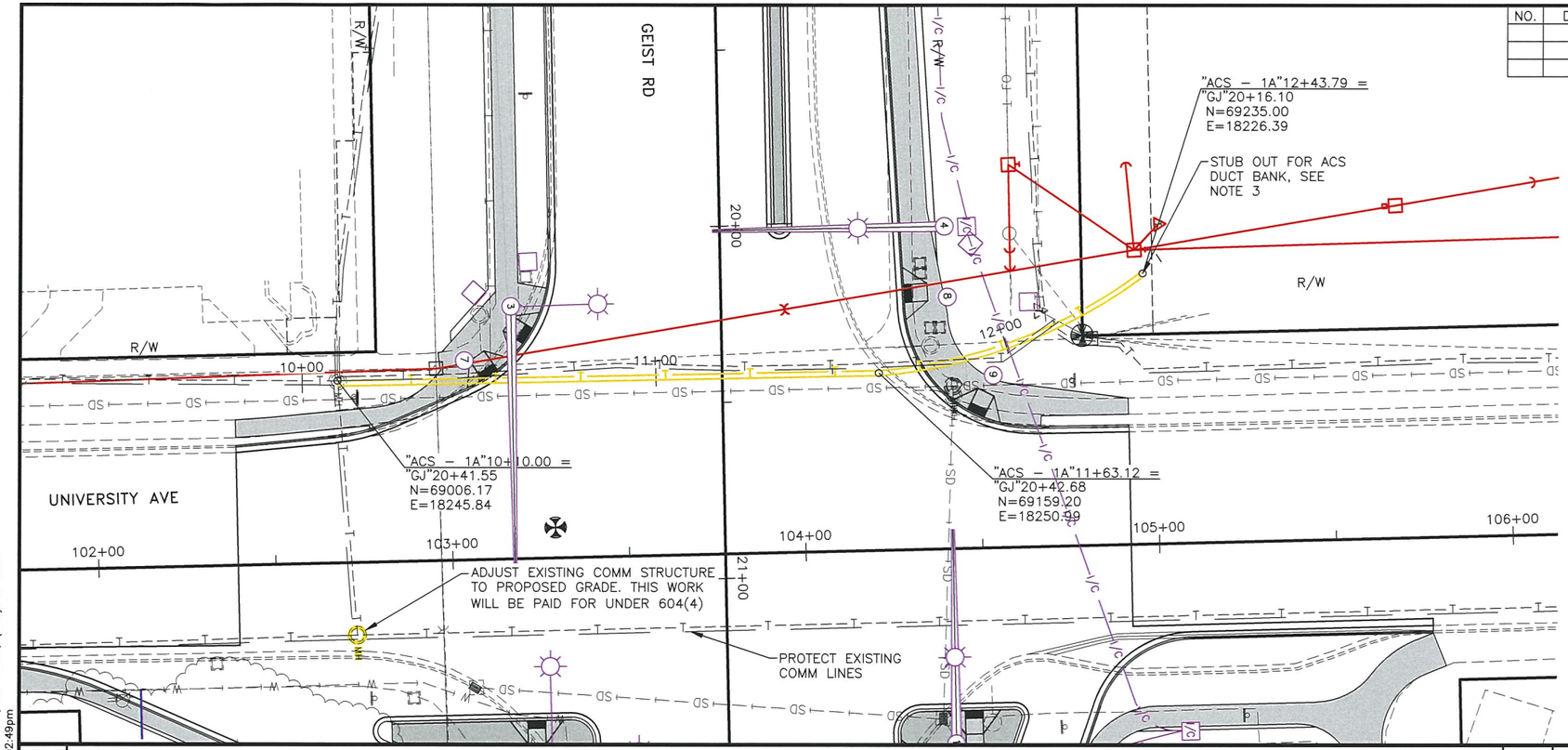
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C4002cnst111147.01FB-Seg-1A-U4 Sun, May/28/17 07:27pm

NO.	DATE	REVISION

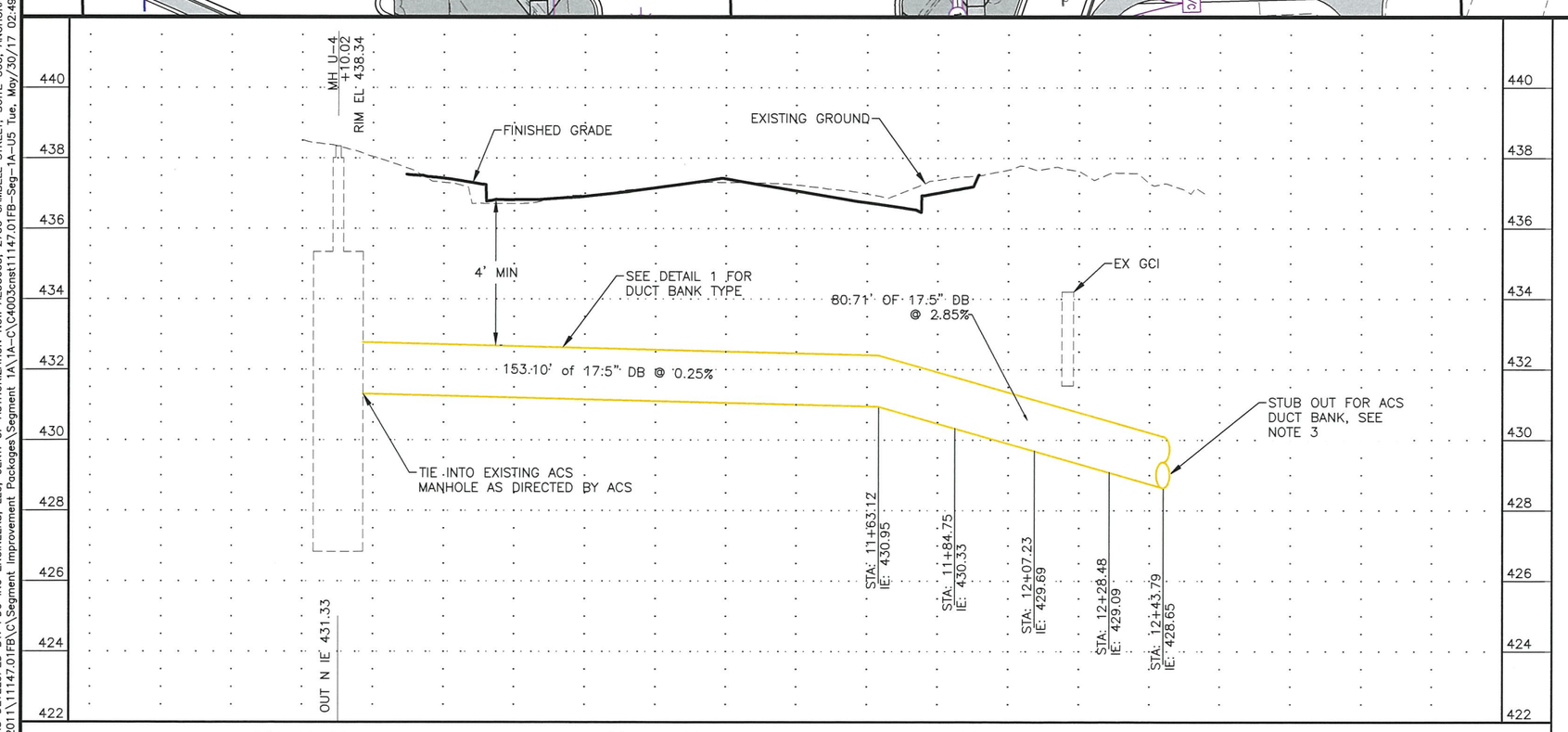
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00270	2017	U5	U5

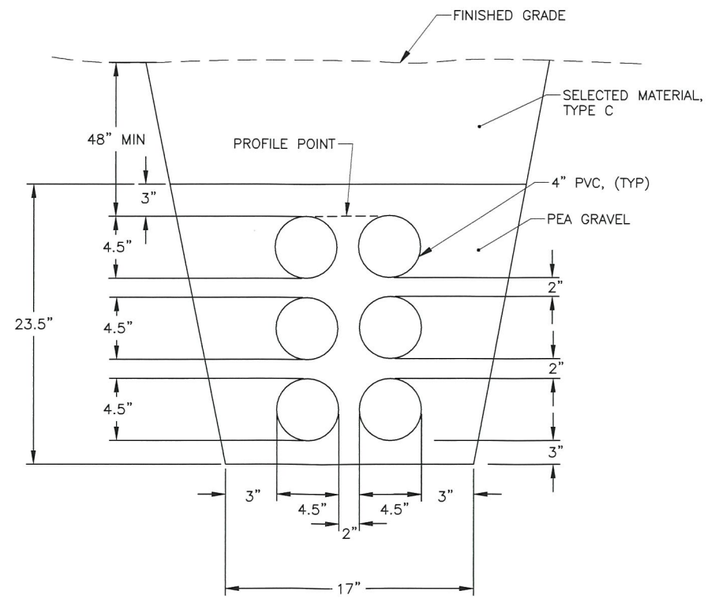
SHEET NOTES:

1. PROFILES SHOWN ARE BASED ON PIPE CENTERLINE.
2. DB DIA IS EFFECTIVE HEIGHT OF DUCT BANK CONDUIT GROUP.
3. PLUG ENDS OF CONDUIT AND PLACE MARKER POST FOR FUTURE USE.



ACS DUCT BANK PLAN AND PROFILE





1 (6) 4" PVC CONDUITS
"DB1" 10+10.00 TO "DB1" 12+43.79

STATE OF ALASKA 49TH
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P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1A\1A-C\C4003cnst111147.01FB-Seg-1A-U5 Tue, May/30/17 02:49pm