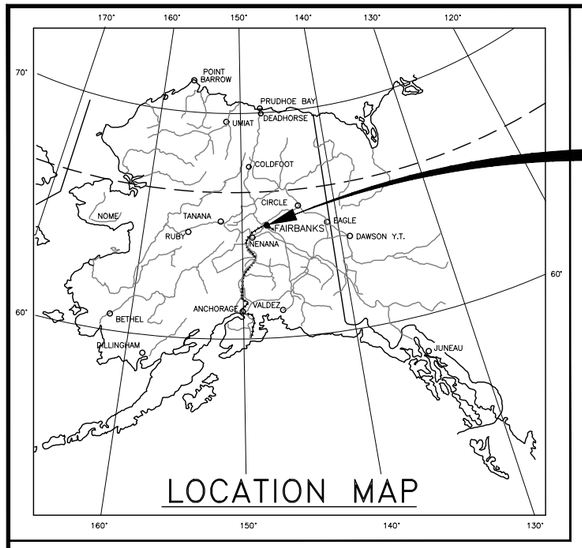


PROJECT LOCATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

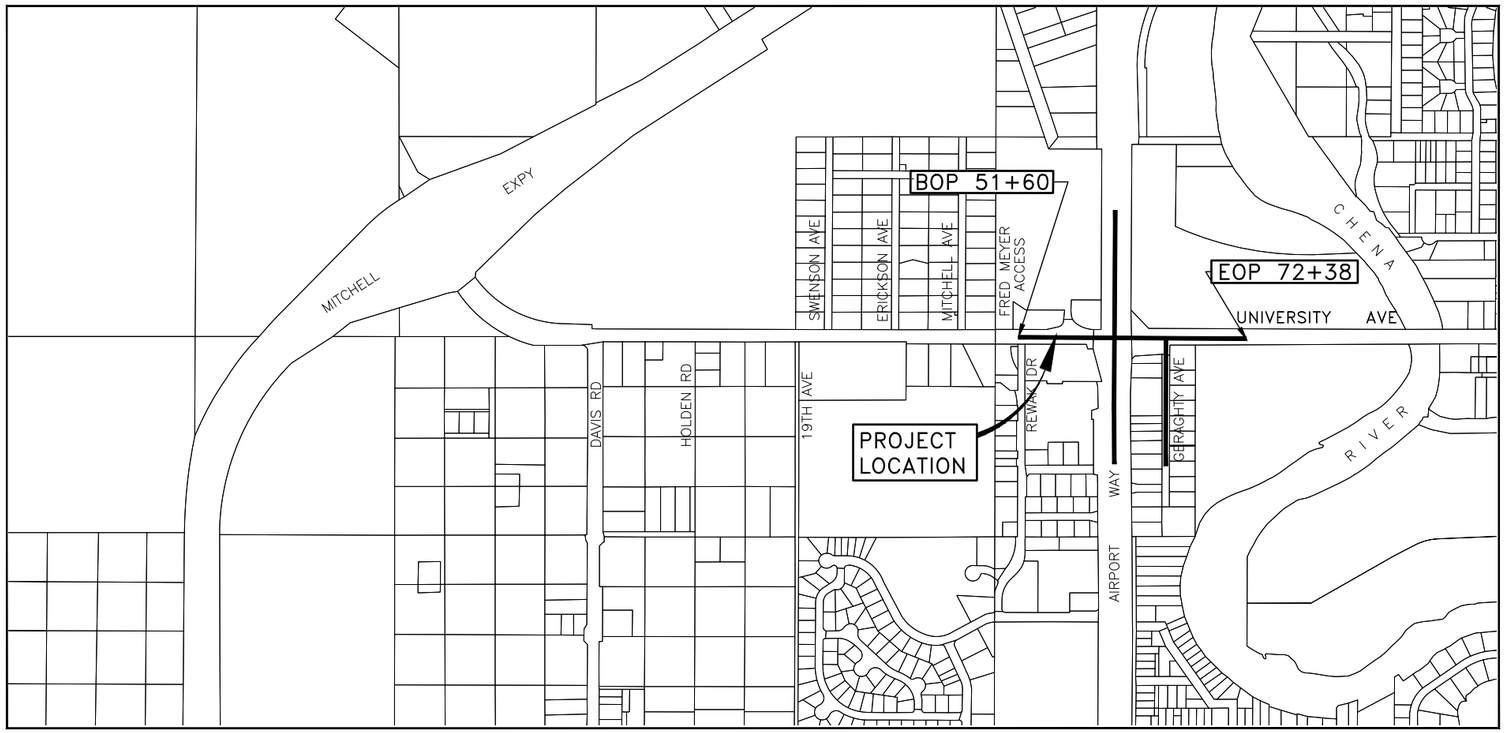
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	A1	XXX
CDS ROUTE: 175900	MILEPOINT: 3.60	TO	3.92	

PROPOSED HIGHWAY PROJECT
NFHWY00468

UNIVERSITY AVENUE REHABILITATION & WIDENING : SEGMENT IIA

GRADING, DRAINAGE, PAVING, ILLUMINATION & SIGNALIZATION

INDEX OF SHEETS



VICINITY MAP

DESIGN DESIGNATIONS

	UNIVERSITY AVE	AIRPORT WAY	GERAGHTY AVE
ADT (2015)	17,750	(2018) 15,084	(2018) 2,500
ADT (2035)	21,660		(2035) 2,960
DHV (2025)	10%		
PERCENT TRUCKS (T)	5%		3%
DIRECTIONAL SPLIT (D)	45/55		
DESIGN SPEED (V)	40 MPH	45 MPH	30 MPH
DESIGN EAL'S (2035)	1,458,275		(2038) 141,516

PROJECT SUMMARY

	UNIVERSITY AVE	AIRPORT WAY	GERAGHTY AVE
WIDTH OF PAVEMENT	57 FT	90 FT	27 FT
LENGTH OF GRADING	0.40 MI	0.33 MI	0.27 MI
LENGTH OF PAVING	0.40 MI	0.33 MI	0.27 MI
LENGTH OF PROJECT	0.40 MI	0.33 MI	0.27 MI

Preliminary PS&E
December 18, 2019
Northern Region

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

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED BY:

_____ DATE _____

Sarah E. Schacher, P.E.
Preconstruction Engineer, Northern Region

ACCEPTED FOR CONSTRUCTION

_____ DATE _____

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
\\pdc.local\dfs\Projects\2011\11147.04fb-univ_ave-segment_2a\C\C0001cnst11147.04FB-A1 Tue, Dec/10/19 04:21pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	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, SD, MH, P-10
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, T, (1)
TELEPHONE PEDESTAL		T
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		C

NOTES:

(1) UTILITIES INSTALLED IN 2019.

	EXISTING	PROPOSED
ROADWAY/PAVEMENT EDGE		
FENCE		
CURB AND GUTTER		
DETECTABLE WARNINGS		
GUARDRAIL		
CULVERT PIPE		
SIGN		
MAILBOX	MB	MB
RAILROAD TRACKS		
RAILROAD DEVICES	CROSS-BUCK, FLASHING LIGHT	CANTILEVER, SWITCH
TREE LINE		
WATER BOUNDARY		
ORDINARY HIGH WATER LINE		
FLOW CENTERLINE		
FLOW DIRECTION		
WETLANDS		
RIPRAP		
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	P	
SATELLITE DISH	SAT. DISH	
TEST HOLE	TH	
CONIFER TREE		
DECIDUOUS TREE		
GRAVE		
THERMOSIPHON		
PARKING METER		
VEHICLE PLUG-IN		
DELINEATOR/GUIDE MARKER		

	EXISTING	PROPOSED
JUNCTION BOX, TYPE IA		5
JUNCTION BOX, TYPE II		6
JUNCTION BOX, TYPE III		3
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	54	54
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	IC	IC
SIGNAL CONTROLLER		CT
LOAD CENTER		
POST MOUNTED TRANSFORMER AND DISCONNECT SWITCH		E
LUMINAIRE		N2
RIGID METAL CONDUIT		
TRAFFIC SIGNAL INTERCONNECT	I/C	I/C
BORING/ENCASED CONDUITS		

STATE OF ALASKA 49TH — REGISTERED PROFESSIONAL ENGINEER

LEGEND AND NOTES

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C0001cnst11147.04FB-A2 Thu, Dec/05/19 06:18pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	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.
6. WORK IN PUE'S IS FOR UTILITY PURPOSES. PUE'S ARE NOT AVAILABLE FOR STAGING, ETC. FOR OTHER WORK ITEMS.

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 U SERIES SHEETS FOR ADDITIONAL NOTES.
6. CONTRACTOR MUST RESTORE PUE'S AFTER UTILITY CONSTRUCTION, IN ACCORDANCE WITH PUE REQUIREMENTS. NOTE TO REVIEWERS: A TABLE OF PUE IMPACTS WILL BE ADDED AS NEEDED.
7. CONTRACTOR SHALL PROVIDE SWPPP FOR THE CONCURRENT UTILITY RELOCATIONS. THIS WORK IS SUBSIDIARY TO 641 PAY ITEMS.
8. UTILITY COMPANIES WILL BE WORKING CONCURRENTLY WITH THE CONTRACTOR TO COMPLETE THE WORK IN THIS SECTION. THIS WORK MAY INCLUDE, BUT IS NOT LIMITED TO INSTALLING CABLE, SPLICING CABLE, INSTALLING OTHER EQUIPMENT AN CONNECTING SERVICES. THE CONTRACTOR SHALL COOPERATE AND SUPPORT THIS WORK. INCLUDING PROVIDING ANY NECESSARY TRAFFIC CONTROL. TRAFFIC CONTROL FOR UTILITY COMPANY WORK WILL BE PAID UNDER 643 PAY ITEMS.

ABBREVIATIONS

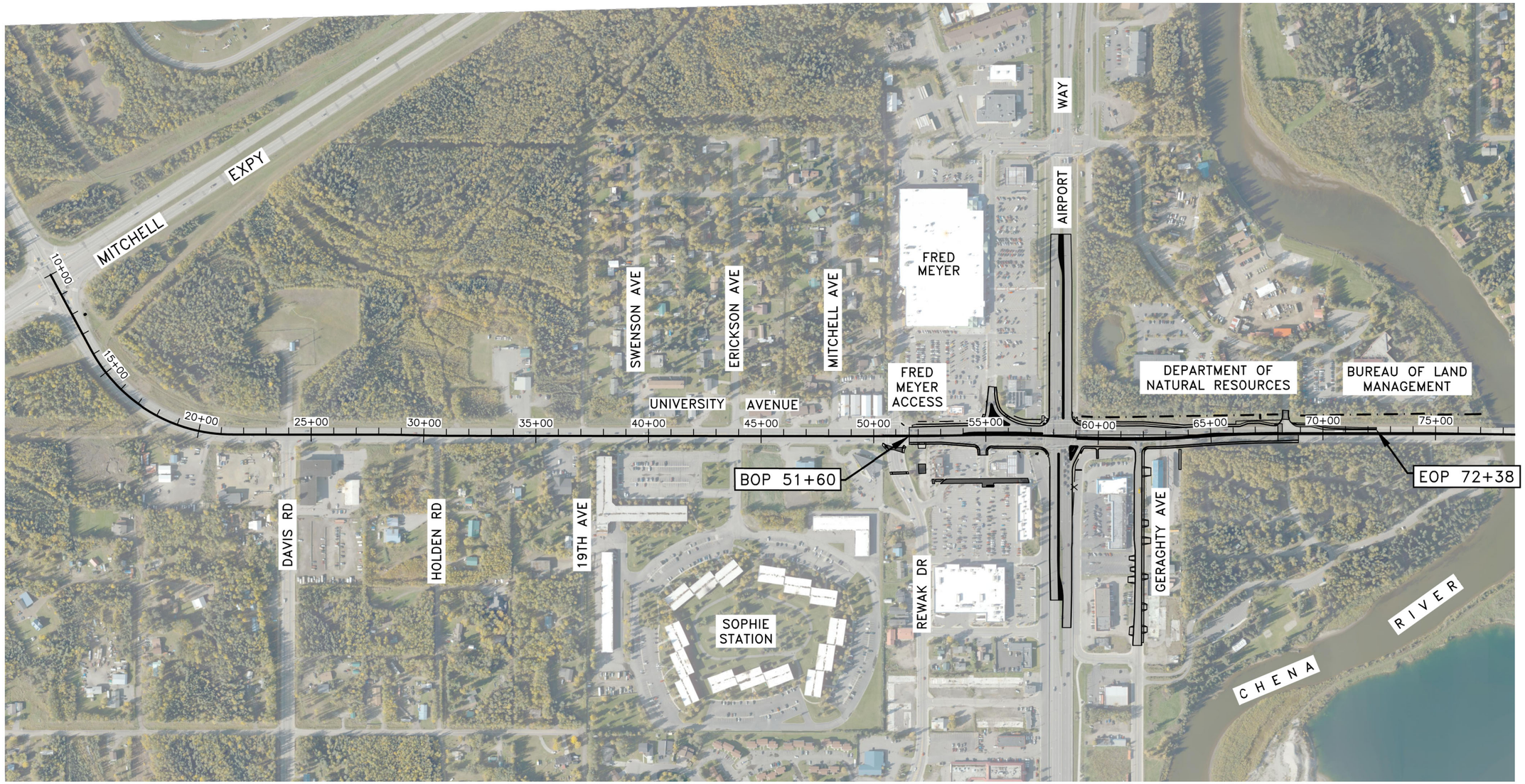
ACS	ALASKA COMMUNICATION SYSTEMS
ADA	AMERICANS WITH DISABILITIES ACT
ARRC	ALASKA RAILROAD CORPORATION
ATB	ASPHALT TREATED BASE
AVE	AVENUE
BLM	THE BUREAU OF LAND MANAGEMENT
BOP	BEGINNING OF PROJECT
BP	BEGIN POINT
BV	BUTTERFLY VALVE
C/A	ACCESS CONTROL
℄, CL	CENTERLINE
C	CENTER
CB	CATCH BASIN
CGP	CONSTRUTION GENERAL PERMIT
CMP	CORRUGATED METAL PIPE
COM	COMMERCIAL
COMM	COMMUNICATIONS
CON	CONCRETE
CPM	CRITICAL PATH METHOD
CSP	CORRUGATED STEEL PIPE
DEMO	DEMOLITION
DIP	DUCTILE IRON PIPE
DOT	DEPARTMENT OF TRANSPORTATION
DNR	DEPARTMENT OF NATURAL RESOURCES
DR	DRIVE
DRWY	DRIVEWAY
DWT	DETECTABLE WARNING TILE
E	EASTING
EA	EACH
EG	EXISTING GROUND
ELEV, EL	ELEVATION
EOP	END OF PROJECT
EP	END POINT, END OF PAVEMENT
EXPY, EXP	EXPRESSWAY
EXP	EXPANSION JOINT
EX	EXISTING
FG	FINISHED GRADE
FL	FLOW LINE
FLG	FLANGE
FM	FORCE MAIN
FNG	FAIRBANKS NATURAL GAS
FT	FEET
GALV	GALVANIZE
GB	GRADE BREAK
GCI	GENERAL COMMUNICATIONS INCORPORATED
GPR	GROUND PENETRATING RADAR
GV	GATE VALVE
GVEA	GOLDEN VALLEY ELECTRIC ASSOCIATION
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HMCP	HAZARDOUS MATERIAL CONTROL PLAN
INT	INTERSECTION
INV	INVERT
LHF	LEFT HAND FORWARD
LN	LANE
LOC	LIP OF CURB
LP	LOW POINT
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MMA	METHYL METHACRYLATE
NO./#	NUMBER
N	NORTHING
NFL	NORMAL FLOW LINE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE / POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
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
SHLDR	SHOULDER
SS	SANITARY SEWER
ST	STREET
STD	STANDARD
STA	STATION
SW	SIDEWALK
SWR	SEWER
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TBC	TOP 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\11147.04FB-UNV_AVE-SEGMENT_2A\C\C0001cnst11147.04FB-A3 Thu, Dec/05/19 06:18pm

STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

GENERAL NOTES

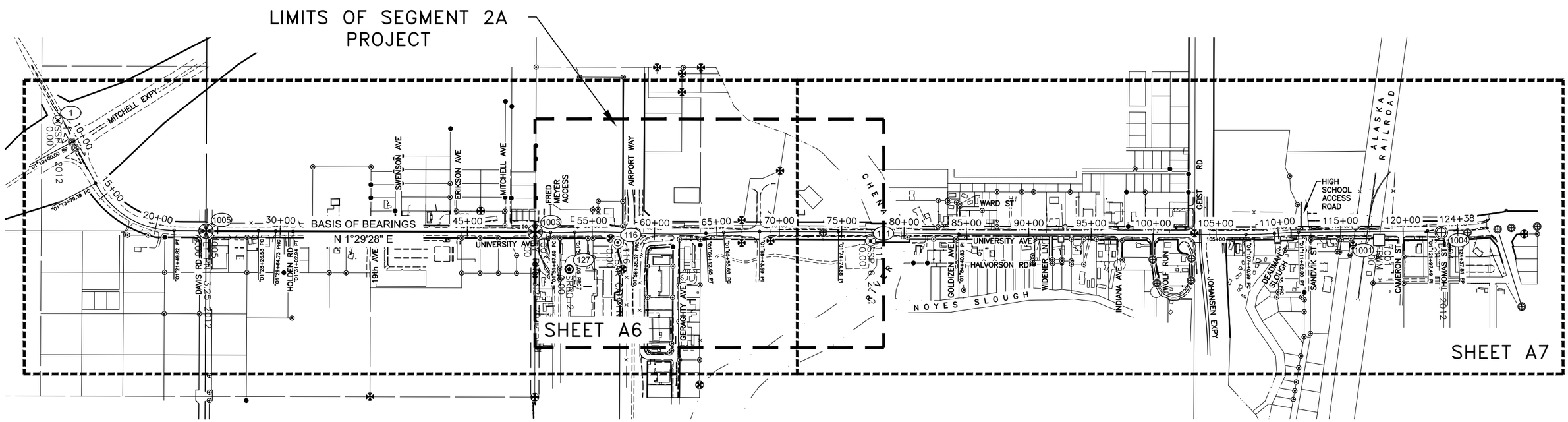
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	A4	A8



VICINITY MAP

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C0002cnst111147.04FB-A4 Thu, Dec/05/19 06:20pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	A5	A8



NOTES:

1. 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.

2. 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.

3. THIS PROJECT IS IN A LOCAL GROUND COORDINATE SYSTEM. UNITS ARE U.S. SURVEY FEET.

4. 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.

5. 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.

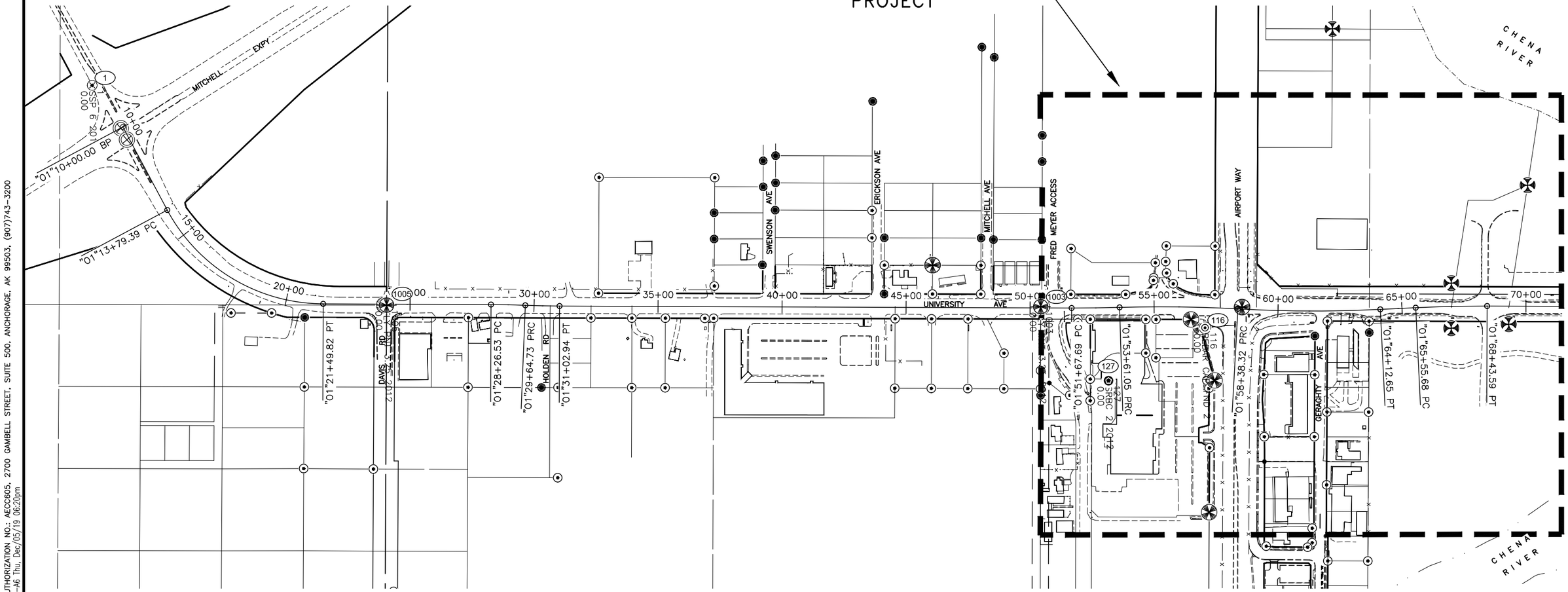
STATE OF ALASKA 49TH REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY CONTROL (1 OF 3)

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\00010cnst11147.04FB-AS Thu, Dec/05/19 06:20pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	A6	A8

LIMITS OF SEGMENT 2A PROJECT



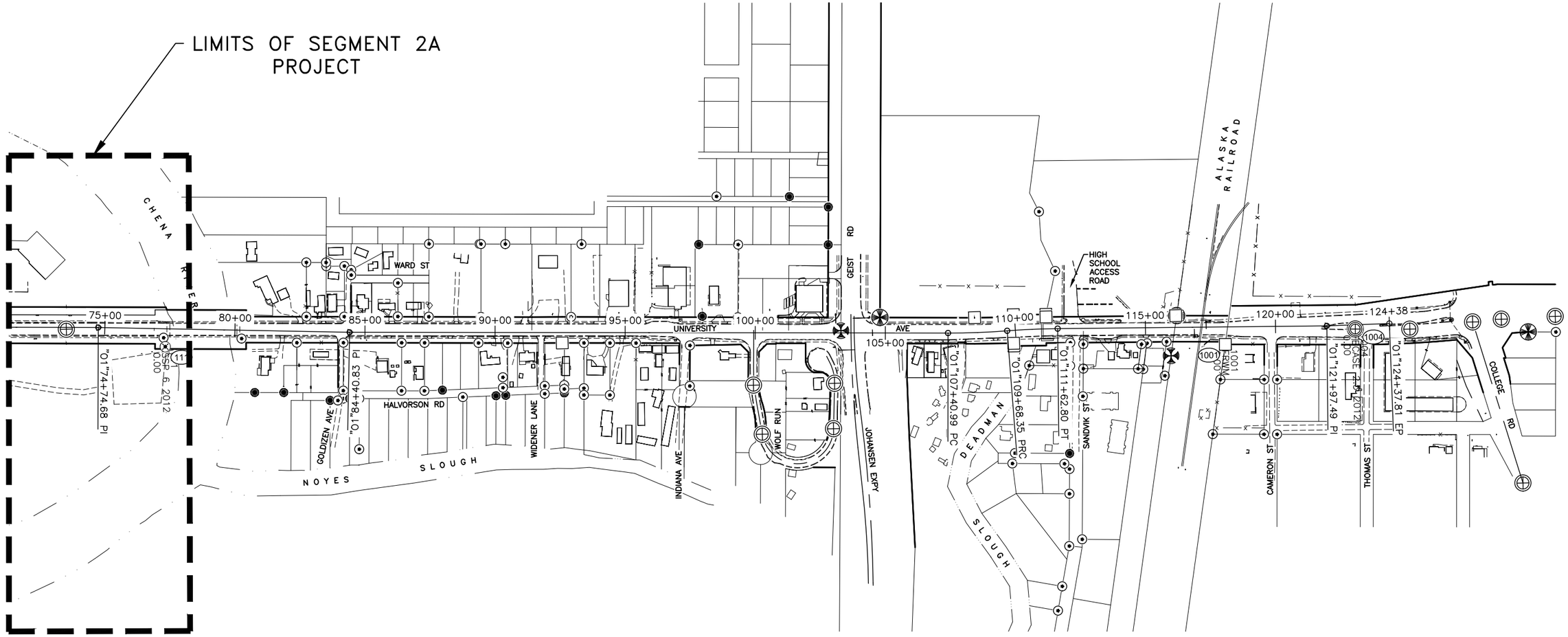
200 100 0 200 400 600
SCALE IN FEET

SURVEY CONTROL
(2 OF 3)

STATE OF ALASKA 49 TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C0010crst11147.04FB-A6 Thu, Dec/05/19 06:20pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	A7	A8



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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\00010cnst11147.04FB-A7 Thu, Dec/05/19 06:20pm

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY CONTROL (3 OF 3)

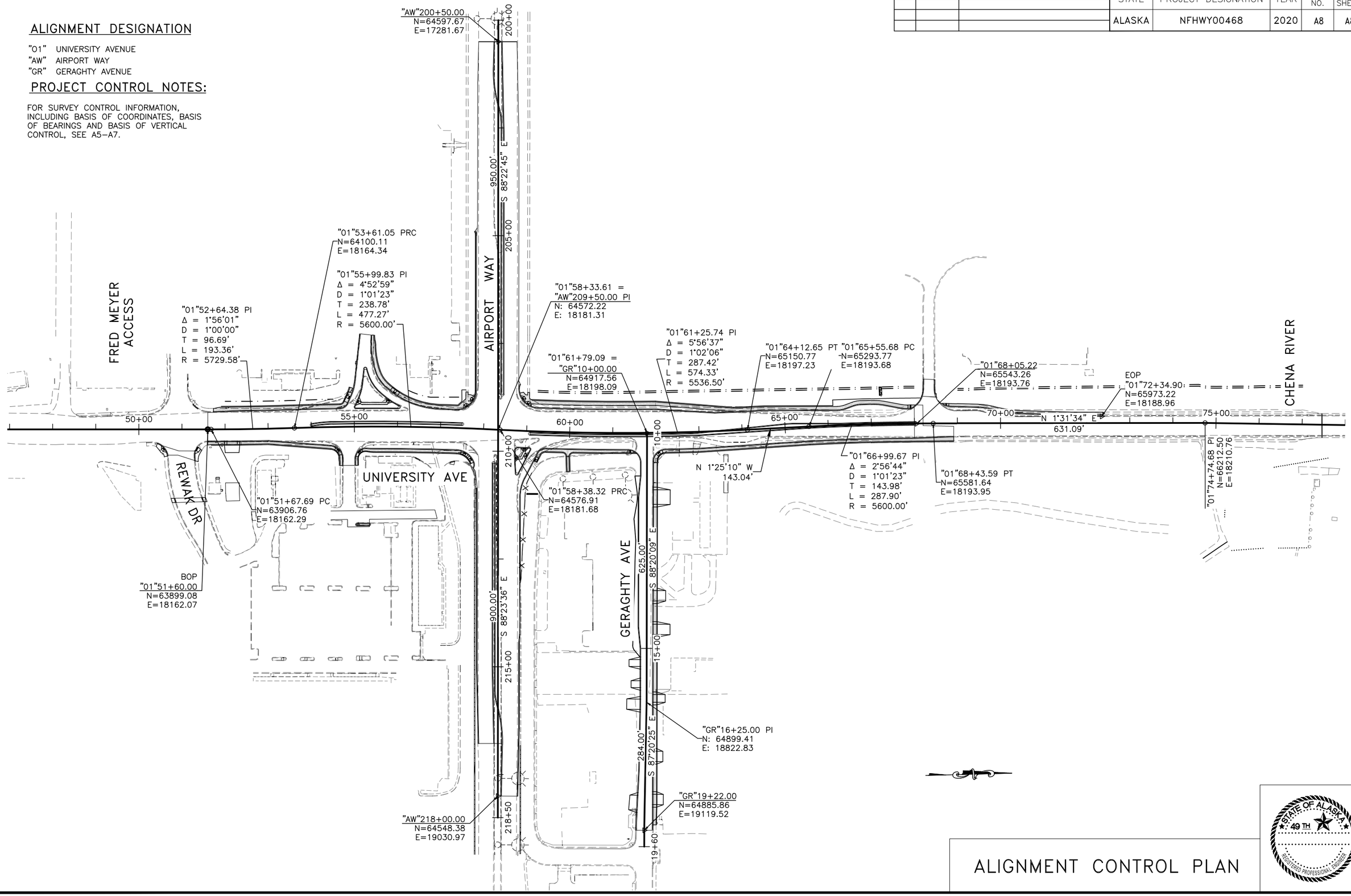
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	A8	A8

ALIGNMENT DESIGNATION

"01" UNIVERSITY AVENUE
"AW" AIRPORT WAY
"GR" GERAGHTY AVENUE

PROJECT CONTROL NOTES:

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



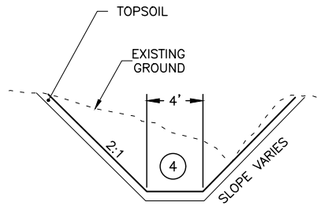
ALIGNMENT CONTROL PLAN

STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

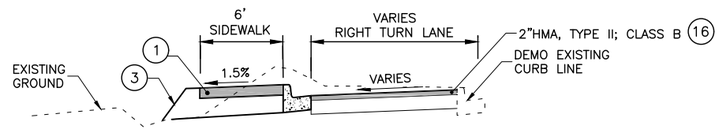
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C0011cnst11147.04FB-A8 Thu, Dec/05/19 06:21pm

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
\\pdc.local\dfs\Projects\2011\11147.04fb-univ_ave-segment_2a\C\C3001cnst11147.04FB-B1 Mon, Dec/09/19 03:00pm

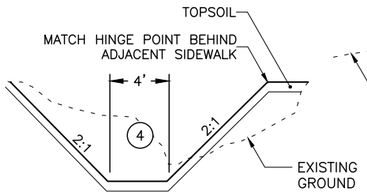
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	B1	B5



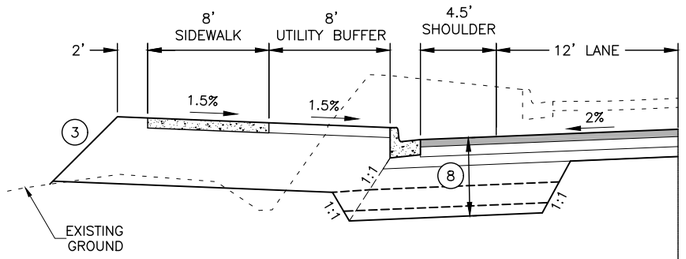
DITCH C
"01" 69+00 TO "01" 77+00



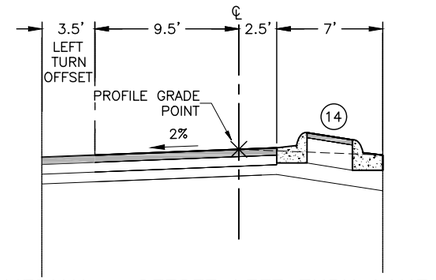
RIGHT TURN LANE B
"01" 68+60 TO "01" 72+38



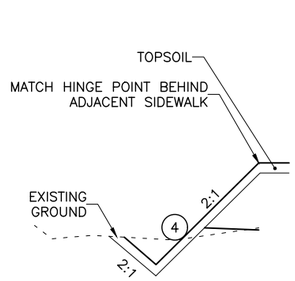
DITCH B
"01" 59+25 TO "01" 68+00



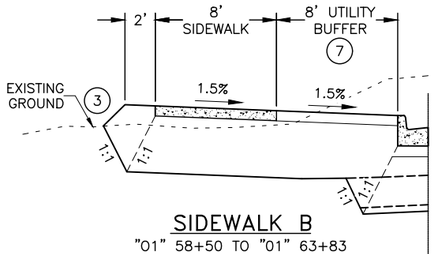
RIGHT TURN LANE A
"01" 59+00 TO "01" 62+00



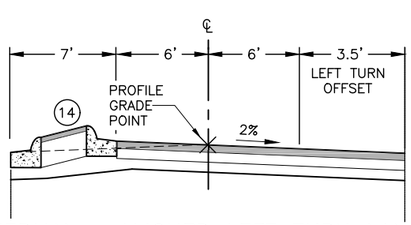
MEDIAN – OFFSET LEFT TURN LANE
"01" 58+50 TO "01" 62+80



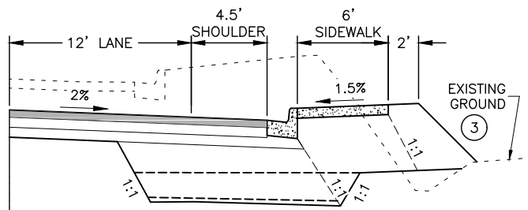
DITCH A
"01" 51+70 TO "01" 54+50
"01" 56+15 TO "01" 57+40



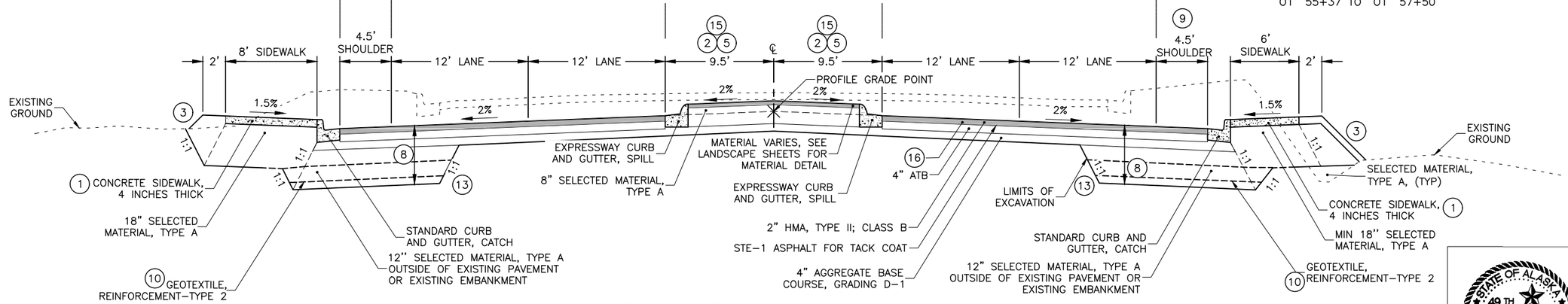
SIDEWALK B
"01" 58+50 TO "01" 63+83



MEDIAN – ALIGNED LEFT TURN LANE
"01" 54+00 TO "01" 58+50



RIGHT TURN LANE
"01" 55+37 TO "01" 57+50



SIDEWALK A
(1) "01" 51+73 TO "01" 58+50
"01" 63+83 TO "01" 68+03

UNIVERSITY AVENUE
"01" 51+60 TO "01" 54+00
"01" 62+80 TO "01" 68+00

NOTES:

1. TEMPORARY 1.5" ASPHALT SIDEWALK FROM "01" 51+60 TO "01" 54+09 AND "01" 68+60 TO "01" 72+38.
2. 9' TOTAL WIDTH MEDIAN FROM "01" 66+30 TO "01" 68+00.
3. UNLESS OTHERWISE CONTROLLED BY A DITCH TYPICAL SECTION CATCH TO EXISTING GROUND AT 2:1 IN BOTH A CUT AND FILL CONDITION.
4. SEE GRADING SHEETS FOR DITCH CONTROL.
5. MEDIAN VARIES IN WIDTH AND CENTERLINE VARIES IN LOCATION FROM "01" 62+80 TO "01" 66+30. SEE GRADING SHEETS FOR LAYOUT CONTROL.
6. TOPSOIL AND SEED ANY LOCATIONS WHERE FINISHED SLOPE WORK ABUTS THE LAWNS OF RESIDENTIAL OR COMMERCIAL PROPERTY OWNERS.
7. UTILITY BUFFER VARIES FROM "01" 62+00 TO "01" 63+83. SEE GRADING SHEETS FOR LAYOUT CONTROL.
8. OVER EXCAVATE BELOW PROPOSED GRADE 7' FROM "01" 61+00 TO "01" 63+00. INSTALL GEOTEXTILE, REINFORCEMENT – TYPE 2 AS SHOWN IN NOTE 10.
9. 2' SHOULDER DIMENSION FROM "01" 51+60 TO "01" 53+00.
10. 2 LAYERS OF GEOTEXTILE, REINFORCEMENT– TYPE 2 WITH A MINIMUM OF 12" OF SELECTED MATERIAL, TYPE A IN BETWEEN AND AS DIRECTED BY THE ENGINEER.
11. ALL DISTURBED GROUND NOT TO BE COVERED IN ASPHALT, CONCRETE OR LANDSCAPING MATERIAL SHALL BE SEEDED.
12. PROOFROLL THE BASE OF EXCAVATION. SEE SPEC SECTION 203–3.06.
13. BENCH SLOPES PER SPECIFICATION SECTION 203.
14. MEDIAN SLOPE VARIES, CONTROLLED BY MEDIAN WIDTH AND HORIZONTAL LOCATION OF MEDIAN WITH RESPECT TO ℄.
15. FROM INNER LANE LINE TO CENTERLINE OMIT CURB AND GUTTER AND MEDIAN, INSTALL 1' GORE STRIPE FROM "01" 51+60 TO "01" 54+00. SEE SIGNING AND STRIPING SHEETS FOR MORE INFORMATION.
16. OMIT ALL ROADWAY STRUCTURAL LAYERS EXCEPT 2" HMA, TYPE II; CLASS B AND AGGREGATE BASE COURSE, GRADING D–1 FOR LEVELING COURSE FROM "01" 51+60 TO "01" 54+00, "01" 68+60 TO "01" 72+38.
17. EXPRESSWAY CURB AND GUTTER IN THE MEDIANS SHALL BE SPILL. SEE SHEET G19 FOR CURB AND GUTTER DETAILS.

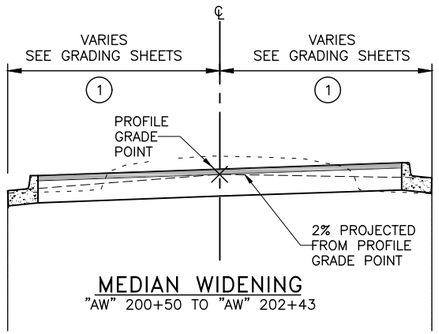
STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

TYPICAL SECTIONS

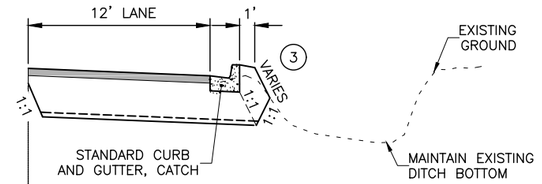
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	B2	B5

NOTES:

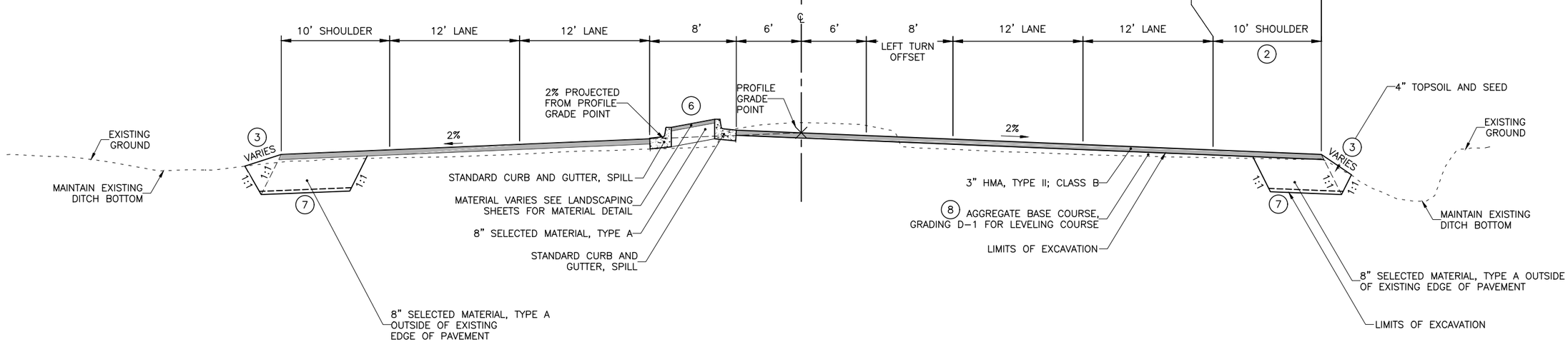
1. MEDIAN VARIES IN SLOPE, WIDTH AND CENTERLINE VARIES IN LOCATION. SEE GRADING SHEETS FOR CONTROL LAYOUT.
2. SHOULDER WIDTH VARIES FROM 10' TO 0' FROM "AW" 203+56 TO "AW" 205+00.
3. VARY FORESLOPE TO MAX OF 3:1 AND MAINTAIN EXISTING DITCH BOTTOM.
4. ALL DISTURBED GROUND NOT TO BE COVERED IN ASPHALT, CONCRETE OR LANDSCAPING MATERIAL SHALL BE SEEDED.
5. PROOFROLL THE BASE OF EXCAVATION. SEE SPEC SECTION 203-3.06.
6. MEDIAN SLOPE VARIES, CONTROLLED BY MEDIAN WIDTH AND HORIZONTAL LOCATION OF MEDIAN WITH RESPECT TO CL FROM "01" 202+43 TO "01" 202+66.
7. GEOTEXTILE, STABILIZATION IS TO BE PLACED WHEN SILT IS ENCOUNTERED AT THE BOTTOM OF EXCAVATION, AS DIRECTED BY THE ENGINEER. MAXIMUM DEPTH FOR OVEREXCAVATION SHALL BE 30".
8. REMOVE EXISTING PAVEMENT LAYER AND PRIOR TO PLACING PROPOSED LAYERS FILL VOIDS BETWEEN BOTTOM OF PROPOSED AND TOP OF EXISTING WITH AGGREGATE BASE COURSE, GRADING D-1. DEPTH AND AMOUNT VARIES BY LOCATION.



MEDIAN WIDENING
"AW" 200+50 TO "AW" 202+43



RIGHT TURN LANE
"AW" 205+00 TO "AW" 208+70



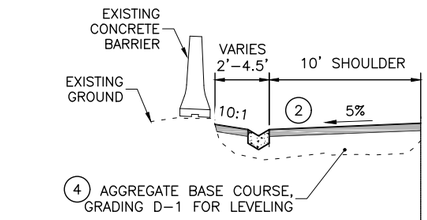
AIRPORT WAY
"AW" 200+50 TO "AW" 209+50

NO CURBING
"AW" 200+50 TO "AW" 205+00

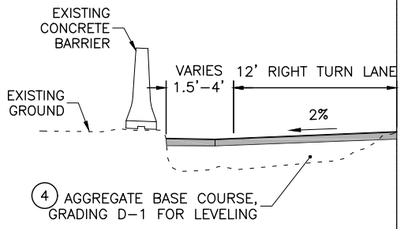
TYPICAL SECTIONS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
\\pdc.local\dfs\Projects\2011\11147.04fb-univ_ave-segment_2a\C\C3001cnst11147.04FB-B2 Mon, Dec/09/19 03:01pm

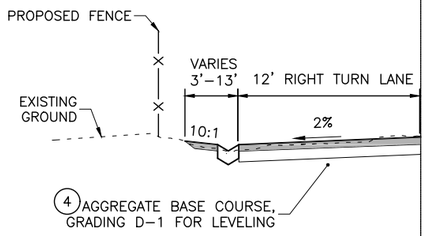
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	B3	B5



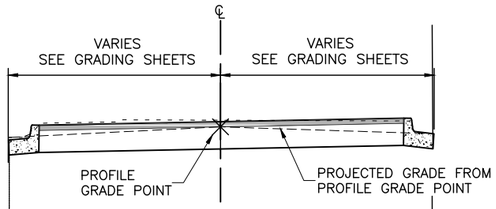
SHOULDER
"AW" 214+20 TO "AW" 218+00



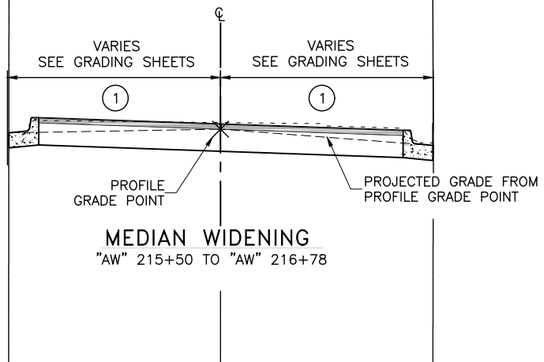
RIGHT TURN LANE C
"AW" 213+05 TO "AW" 214+20



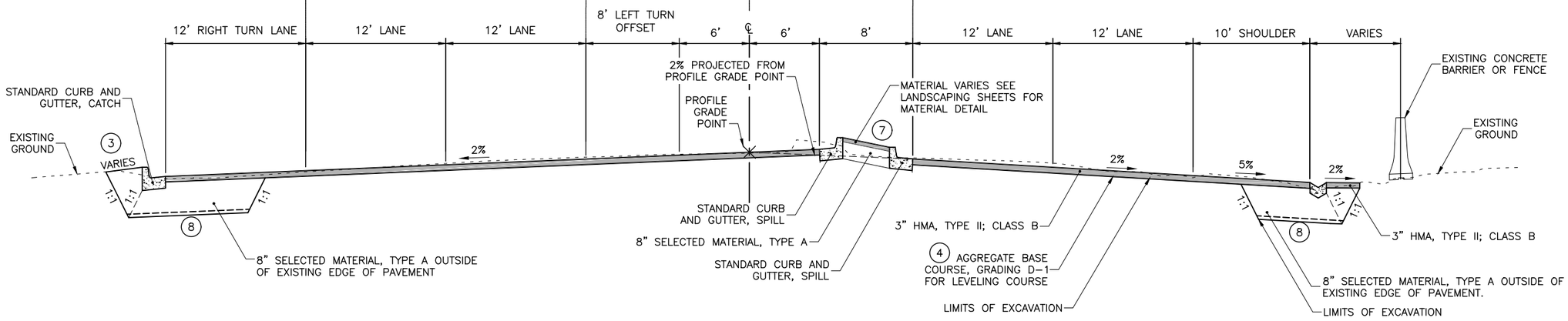
RIGHT TURN LANE B
"AW" 211+50 TO "AW" 213+05



MEDIAN WIDENING LEFT
"AW" 216+78 TO "AW" 218+00



MEDIAN WIDENING
"AW" 215+50 TO "AW" 216+78



RIGHT TURN LANE A
"AW" 210+00 TO "AW" 211+50

AIRPORT WAY
"AW" 209+50 TO "AW" 218+00 LT
"AW" 209+50 TO "AW" 216+78 RT

RIGHT GUTTER
"AW" 210+85 TO "AW" 216+78

NOTES:

1. MEDIAN VARIES IN SLOPE, WIDTH, AND CENTERLINE VARIES IN LOCATION. SEE GRADING SHEETS FOR CONTROL LAYOUT.
2. SHOULDER WIDTH VARIES FROM 0' TO 10' FROM "AW" 214+20 TO "AW" 215+64.
3. SLOPE VARIES, SEE GRADING SHEETS FOR CONTROL LAYOUT.
4. REMOVE EXISTING PAVEMENT LAYER AND PRIOR TO PLACING PROPOSED LAYERS FILL VOIDS BETWEEN BOTTOM OF PROPOSED AND TOP OF EXISTING WITH AGGREGATE BASE COURSE, GRADING D-1. DEPTH AND AMOUNT VARIES BY LOCATION.
5. ALL DISTURBED GROUND NOT TO BE COVERED IN ASPHALT, CONCRETE OR LANDSCAPING MATERIAL SHALL BE SEEDED.
6. PROOFROLL THE BASE OF EXCAVATION. SEE SPEC SECTION 203-3.06.
7. MEDIAN SLOPE VARIES, CONTROLLED BY MEDIAN WIDTH AND HORIZONTAL LOCATION OF MEDIAN WITH RESPECT TO ℄, FROM "AW" 215+50 TO "AW" 216+78.
8. GEOTEXTILE, STABILIZATION IS TO BE PLACED WHEN SILT IS ENCOUNTERED AT THE BOTTOM OF EXCAVATION, AS DIRECTED BY THE ENGINEER. MAXIMUM DEPTH FOR OVEREXCAVATION SHALL BE 30".

TYPICAL SECTIONS

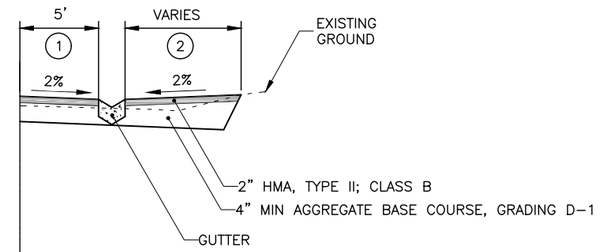
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	B4	B5

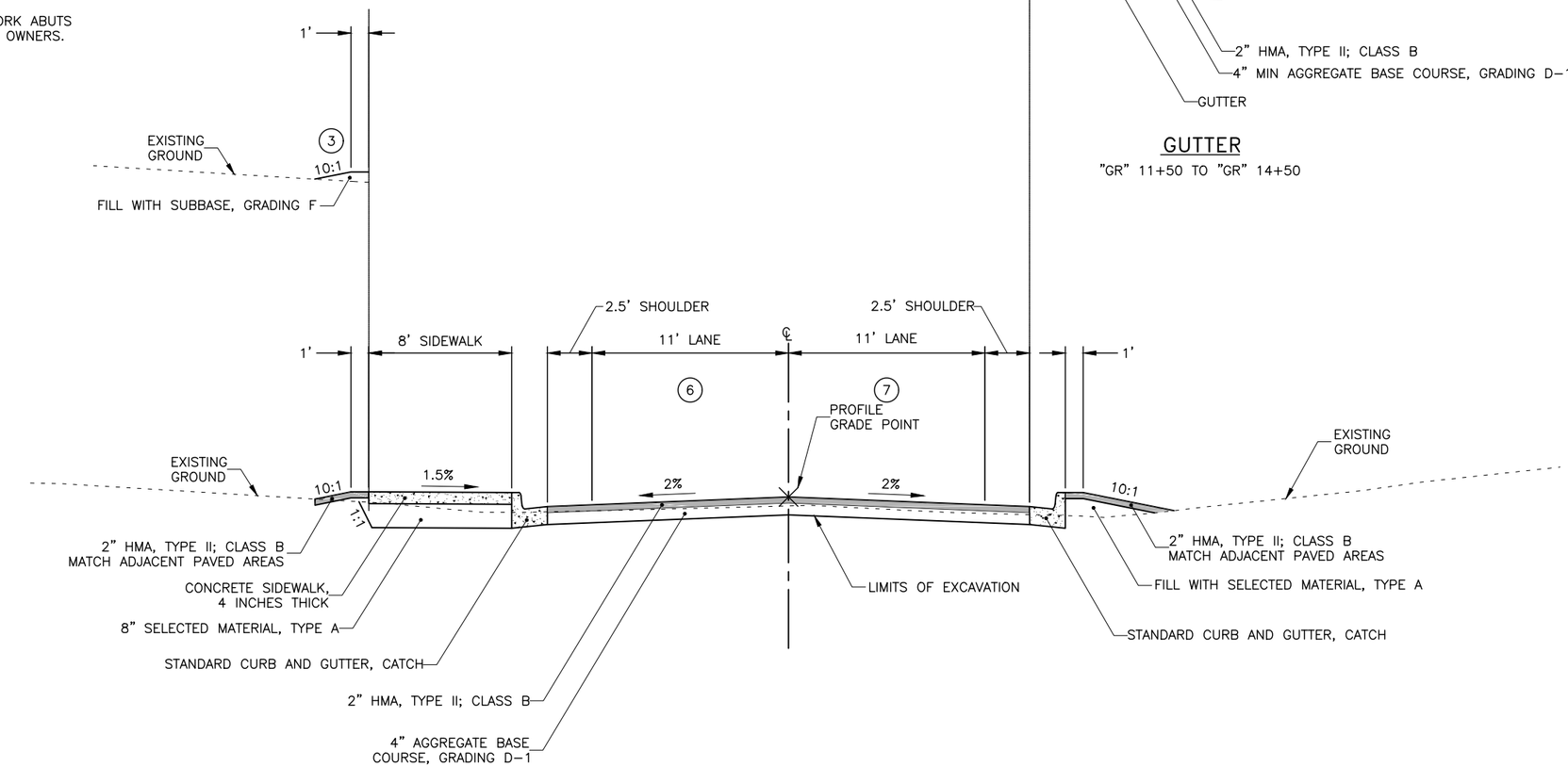
NOTES:

1. GRADE VARIES TO −4% FROM "GR" 13+50 TO "GR" 14+50.
2. SEE GRADING SHEETS FOR WIDTH AND LAYOUT CONTROL.
3. ALL DISTURBED GROUND NOT TO BE COVERED IN ASPHALT, CONCRETE OR LANDSCAPING MATERIAL SHALL BE SEEDED.
4. PROOFROLL THE BASE OF EXCAVATION SEE SPEC SECTION 203−3.06.
5. TRANSITION TO EXISTING FROM "GR" TO 16+25 TO "GR" 19+22.
6. TRANSITION TO EXISTING FROM "GR" 17+79 TO "GR".
7. TOPSOIL AND SEED ANY LOCATIONS WHERE FINISHED WORK ABUTS THE LAWNS OF RESIDENTIAL OR COMMERCIAL PROPERTY OWNERS.



GUTTER

"GR" 11+50 TO "GR" 14+50



GERAGHTY AVE

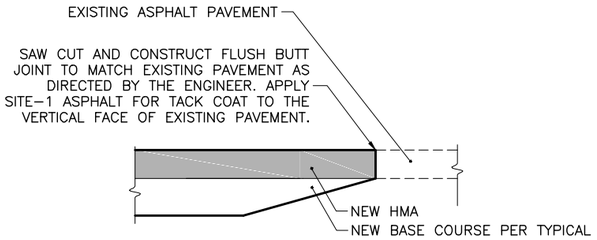
"GR" 10+38 TO "GR" 19+22

TYPICAL SECTIONS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	B5	B5

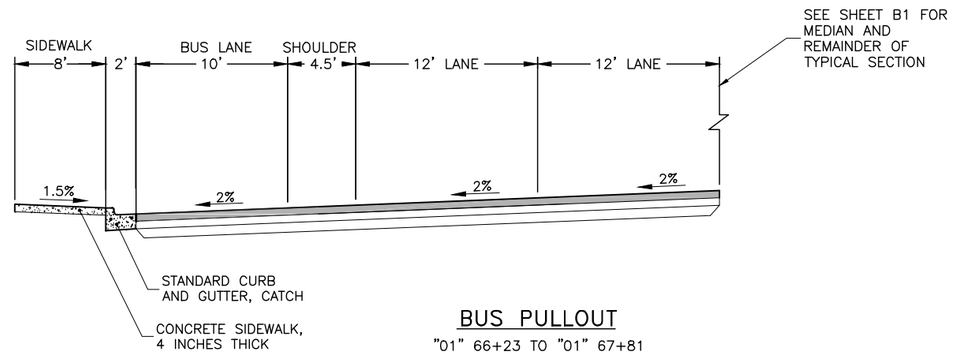
NOTES:

1. ALL DISTURBED GROUND NOT TO BE COVERED IN ASPHALT, CONCRETE OR LANDSCAPING MATERIAL SHALL BE SEEDED.
2. PROOFROLL THE BASE OF EXCAVATION. SEE SPEC SECTION 203–3.06.
3. TOPSOIL AND SEED ANY LOCATIONS WHERE FINISHED SLOPE WORK ABUTS THE LAWNS OF RESIDENTIAL OR COMMERCIAL PROPERTY OWNERS.



MATCH EXISTING PAVEMENT DETAIL

BOP, EOP, AIRPORT WAY, GERAGHTY AVE, AND APPROACHES.

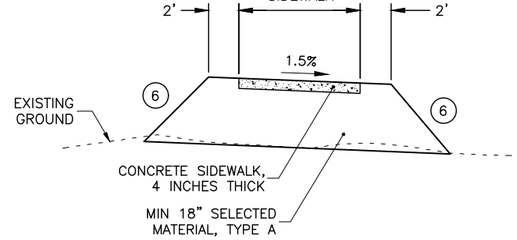


BUS PULLOUT

"01" 66+23 TO "01" 67+81

NOTES:

4. SEE UNIVERSITY AVENUE TYPICAL ON B1 AND GRADING SHEET G4 FOR LAYOUT CONTROL.
5. MATCH UNIVERSITY AVENUE TYPICAL MATERIAL SECTION ON SHEET B1 FOR MATERIALS AT BUS PULLOUT AND SIDEWALK.



SEPARATED SIDEWALK

UNIVERSITY AVENUE
"01" 59+94

NOTES:

(6) CATCH TO EXISTING GROUND AT 2:1 IN BOTH CUT AND FILL CONDITION.

7. SEE GRADING SHEETS G2– G3 FOR LAYOUT CONTROL.

TYPICAL SECTIONS

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	C1	C2

ESTIMATE OF QUANTITIES

ITEM NO.	SSHC 2017 ITEM NO.	DESCRIPTION	UNIT	TOTAL
201.0007.0000	201(1B)	CLEARING	LUMP SUM	ALL REQUIRED
201.0008.0000	201(2B)	GRUBBING	LUMP SUM	ALL REQUIRED
202.0001.0000	202(1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQUIRED
202.0002.0000	202(2)	REMOVAL OF PAVEMENT	SQUARE YARD	36,557
202.0003.0000	202(3)	REMOVAL OF SIDEWALK	SQUARE YARD	2,423
202.0009.0000	202(9)	REMOVAL OF CURB AND GUTTER	LINEAR FOOT	8,410
203.0003.0000	203(3)	UNCLASSIFIED EXCAVATION	CUBIC YARD	23,000
203.0006.0000	203(6)	BORROW	TON	12,600
301.0001.00D1	301(1)	AGGREGATE BASE COURSE, GRADING D-1	TON	4,600
304.0001.000F	304(1)	SUBBASE, GRADING F	TON	34,000
306.0001.0000	306(1)	ATB	TON	2,405
306.0002.5228	306(102)	ASPHALT BINDER, GRADE PG 52-28	TON	110
401.0001.002B	401(1B)	HMA, TYPE II; CLASS B	TON	5,300
401.0004.5240	401(4)	ASPHALT BINDER, GRADE PG 52-40	TON	295
401.0008.002B	401(8B)	HMA PRICE ADJUSTMENT, TYPE II; CLASS B	CONTINGENT SUM	ALL REQUIRED
401.0015.0000	401(15)	ASPHALT MATERIAL PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
402.0001.STE1	402(1)	STE-1 ASPHALT FOR TACK COAT	TON	5
603.0001.0036	603(1)-36	CSP 36 INCH	LINEAR FOOT	146
603.0003.0036	603(20)-36	END SECTION FOR CSP 36 INCH	EACH	2
603.0021.0012	603(21)-12	CORRUGATED POLYETHYLENE PIPE 12 INCH	LINEAR FOOT	90
603.0021.0018	603(21)-18	CORRUGATED POLYETHYLENE PIPE 18 INCH	LINEAR FOOT	2,250
603.0021.0024	603(21)-24	CORRUGATED POLYETHYLENE PIPE 24 INCH	LINEAR FOOT	410
603.0021.0036	603(21)-36	CORRUGATED POLYETHYLENE PIPE 36 INCH	LINEAR FOOT	200
604.0001.0000	604(1)	STORM SEWER MANHOLE	EACH	17
604.0002.0000	604(2)	SANITARY SEWER MANHOLE	EACH	5
604.0004.0000	604(4)	ADJUST EXISTING MANHOLE	EACH	1
604.0005.000A	604(5)	INLET, TYPE A	EACH	18
607.2003.0000	607(3)	CHAIN LINK FENCE	LINEAR FOOT	257
607.2012.0000	607(4)	RECONSTRUCTED FENCE	LINEAR FOOT	131
608.0001.0004	608(1A)	CONCRETE SIDEWALK, 4 INCHES THICK	SQUARE YARD	2,600
608.0001.0006	608(1B)	CONCRETE SIDEWALK, 6 INCHES THICK	SQUARE YARD	866
608.0002.0000	608(2)	ASPHALT SIDEWALK	TON	62
608.0006.0000	608(6)	CURB RAMP	EACH	22
608.2013.0005	608(101)-1	CONCRETE SLABS, COLORED & PATTERN IMPRINTED, 4 INCHES THICK	SQUARE YARD	1,136
	608(101)-2	CONCRETE SLABS, 4 INCHES THICK	SQUARE YARD	160
609.0001.0004	609(1)	CURB, TYPE 4	LINEAR FOOT	602
609.0002.0001	609(2)	CURB AND GUTTER, TYPE 1	LINEAR FOOT	13,620
609.2000.0000	609(101)	CURB, DRAIN	EACH	1
611.0003.0001	611(102)	RIPRAP, CLASS I	LUMP SUM	ALL REQUIRED
613.0002.0000	613(2)	CULVERT MARKER POST	EACH	4
615.0001.0000	615(1)	STANDARD SIGN	SQUARE FOOT	517
615.0006.0000	615(6)	SALVAGE SIGN	EACH	75
618.0002.0000	618(2)	SEEDING	POUND	720
620.0001.0000	620(1)	TOPSOIL	SQUARE YARD	12,970

ESTIMATE OF QUANTITIES

ITEM NO.	SSHC 2017 ITEM NO.	DESCRIPTION	UNIT	TOTAL
621.0001.0000	621(1)-A	TREE, BIRCH (BETULA PAPYIFERA), 2" CAL.	EACH	7
621.0002.0000	621(2)-A	SHRUB, COTONEASTER (COTONEASTER ACUTIFOLIA), 24" HT.	EACH	86
621.0002.0000	621(2)-B	SHRUB, SPIREA (SPIREA BEAUVERDIANA), 24" HT.	EACH	188
621.0002.0000	621(2)-C	SHRUB, ROSE (ROSA ACICULARIS), 24" HT.	EACH	40
	621(7)	ROCK MULCH	SQUARE YARD	21
621.2004.0000	621(104)-A	PERENNIAL, IRIS (IRIS SETOSA), 1 GAL.	EACH	65
621.2004.0000	621(104)-B	PERENNIAL, YARROW (ACHILLEA MILLEFOLIUM 'RED PEPPER'), 1 GAL.	EACH	93
621.2016.0000	621(110)	PLANT MAINTENANCE AND REPLACEMENT	CONTINGENT SUM	ALL REQUIRED
626.0001.0008	626(1)-8	SANITARY SEWER CONDUIT, 8 INCH	LINEAR FOOT	170
626.0001.0010	626(1)-10	SANITARY SEWER CONDUIT, 10 INCH	LINEAR FOOT	510
626.0002.0000	626(2)	SANITARY SEWER SERVICE CONNECTION	EACH	1
626.2002.0000	626(104)	SANITARY SEWER LIFT STATION	LUMP SUM	ALL REQUIRED
627.0001.0004	627(1)-4	DUCTILE IRON WATER CONDUIT, 4 INCH, CLASS 350	LINEAR FOOT	112
627.0001.0006	627(1)-6	DUCTILE IRON WATER CONDUIT, 6 INCH, CLASS 350	LINEAR FOOT	84
627.0001.0008	627(1)-8	DUCTILE IRON WATER CONDUIT, 8 INCH, CLASS 350	LINEAR FOOT	110
627.0001.0010	627(1)-10	DUCTILE IRON WATER CONDUIT, 10 INCH, CLASS 350	LINEAR FOOT	1,516
627.0001.0012	627(1)-12	DUCTILE IRON WATER CONDUIT, 12 INCH, CLASS 350	LINEAR FOOT	308
627.0001.0014	627(1)-14	DUCTILE IRON WATER CONDUIT, 14 INCH, CLASS 350	LINEAR FOOT	520
627.0005.0000	627(5)	FIRE HYDRANT INSTALLATION	EACH	5
627.0008.0000	627(8)	WATER SERVICE CONNECTION	EACH	11
627.0009.0008	627(9)-10	GATE VALVE, 10 INCH	EACH	5
627.0009.0012	627(9)-12	GATE VALVE, 12 INCH	EACH	1
627.0009.0014	627(9)-14	GATE VALVE, 14 INCH	EACH	1
627.0010.0000	627(10)	ADJUSTMENT OF VALVE BOX	EACH	1
630.0002.0000	630(2)	GEOTEXTILE, STABILIZATION, CLASS 1	SQUARE YARD	555
630.0003.0002	630(3B)	GEOTEXTILE, REINFORCEMENT - TYPE 2	SQUARE YARD	11,500
631.0002.0001	631(2)	GEOTEXTILE, EROSION CONTROL, CLASS 1	SQUARE YARD	25
639.2000.0000	639(101)	APPROACH	EACH	14
640.0001.0000	640(1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
641.0001.0000	641(1)	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED
641.0003.0000	641(3)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LUMP SUM	ALL REQUIRED
641.0005.0000	641(5)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL BY DIRECTIVE	CONTINGENT SUM	ALL REQUIRED
641.0006.0000	641(6)	WITHHOLDING	CONTINGENT SUM	ALL REQUIRED
641.0007.0000	641(7)	SWPPP MANAGER	LUMP SUM	ALL REQUIRED
642.0001.0000	642(1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
642.0003.0000	642(3)	THREE PERSON SURVEY PARTY	HOUR	55
643.0002.0000	643(2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
643.0003.0000	643(3)	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQUIRED
643.0023.0000	643(23)	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
643.0025.0000	643(25)	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQUIRED
643.2005.0000	643(117)	PUBLIC INFORMATION PROGRAM	LUMP SUM	ALL REQUIRED

ESTIMATE OF QUANTITIES

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	C2	C2

ESTIMATE OF QUANTITIES

ITEM NO.	SSHC 2017 ITEM NO.	DESCRIPTION	UNIT	TOTAL
644.0001.0000	644(1)	FIELD OFFICE	LUMP SUM	ALL REQUIRED
644.0002.0000	644(2)	FIELD LABORATORY	LUMP SUM	ALL REQUIRED
644.0006.0000	644(6)	VEHICLE	LUMP SUM	ALL REQUIRED
645.0001.0000	645(1)	TRAINING PROGRAM, 2 TRAINEES / APPRENTICES	LABOR HOUR	2,000
646.0001.0000	646(1)	CPM SCHEDULING	LUMP SUM	ALL REQUIRED
	660(1B)	TRAFFIC SIGNAL SYSTEM COMPLETE, UNIVERSITY/AIRPORT	LUMP SUM	ALL REQUIRED
660.0003.0000	660(3)	HIGHWAY LIGHTING SYSTEM COMPLETE, UNIVERSITY AVENUE	LUMP SUM	ALL REQUIRED
	660(7B)	TEMPORARY SIGNAL SYSTEM COMPLETE, UNIVERSIYT/AIRPORT	LUMP SUM	ALL REQUIRED
661.0001.0000	661(1)	LOAD CENTER, TYPE 1	EACH	1
661.0006.0000	661(6)	TRANSFORMER, 5 KVA	EACH	1
662.2005.0000	662(122)	FIBER OPTIC INTERCONNECT INFRASTRUCTURE	LUMP SUM	ALL REQUIRED
670.2006.0000	670(104)	MMA PAVEMENT MARKINGS, LONGITUDINAL INLAID	LINEAR FOOT	27,555
670.2007.0000	670(109)	MMA PAVEMENT MARKINGS, SYMBOLS AND ARROW(S) INLAID	EACH	3,440
670.2010.0000	670(107)	MMA PAVEMENT MARKINGS, TRANSVERSE AND GORE INLAID	SQUARE FOOT	25
680.2001.0000	680(102)	TELECOMMUNICATIONS VAULT, DUCTBANK, AND CONDUIT SYSTEM	LUMP SUM	ALL REQUIRED

ESTIMATED LUMP SUM QUANTITIES

ITEM NO.	SSHC 2017 ITEM NO.	DESCRIPTION	QUANTITY
201.0007.0000	201(1B)	CLEARING	0.13 ACRE
201.0008.0000	201(2B)	GRUBBING	3.32 ACRE
202.0001.0000	202(1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	
		SD PIPE	1,945 LINEAR FOOT
		SD MANHOLE	13 EACH
		SD CATCH BASIN	18 EACH
		WATER VALVE	12 EACH
		WATER HYDRANT	3 EACH
		WATER PIPE	2,167 LINEAR FOOT
		SEWER MANHOLE	2 EACH
		SEWER PIPE	520 LINEAR FOOT
		LIFT STATION	1 EACH
		BUS SHELTER	1 EACH
		FENCE	286 LINEAR FOOT
		CULVERT PIPE	134 LINEAR FOOT
		GAS LINE	91 LINEAR FOOT
		BOLLARD	4 EACH
611.0003.0001	611(102)	RIPRAP, CLASS I	5 CUBIC YARD
680.2001.0000	680(102)	TELECOMMUNICATIONS VAULT, DUCTBANK, AND CONDUIT SYSTEM	
		ACS CONDUIT	1,990 LINEAR FOOT
		ACS PED	3 EACH
		GCI CONDUIT	260 LINEAR FOOT

NOTES:

SEE SIGNING AND STRIPING SHEETS HX–HX FOR SIGNING AND STRIPING SUMMARY SHEETS.

ESTIMATING FACTORS

ITEM NO.	SSHC 2017 ITEM NO.	DESCRIPTION	FACTOR
203.0006.0000	203(6)	BORROW	2 TONS/CUBIC YARD
301.0001.00D1	301(1)	AGGREGATE BASE COURSE, GRADING D-1	1.96 TONS/CUBIC YARD
304.0001.000F	304(1)	SUBBASE, GRADING F	2 TONS/CUBIC YARD
306.0001.0000	306(1)	ATB	1.96 TONS/CUBIC YARD
306.0002.5228	306(102)	ASPHALT BINDER, GRADE PG 52-28	4.5%/TON
401.0001.002B	401(1B)	HMA, TYPE II; CLASS B	1.96 TONS/CUBIC YARD
401.0004.5240	401(4)	ASPHALT BINDER, GRADE PG 52-40	5.5%/TON
402.0001.STE1	402(1)	STE-1 ASPHALT FOR TACK COAT	0.0003 TONS/SQUARE YARD
608.0002.0000	608(2)	ASPHALT SIDEWALK	1.96 TONS/CUBIC YARD
618.0002.0000	618(2)	SEEDING	4.0 LBS/1,000 SQUARE FEET

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
\\pdc.local\dfs\Projects\2011\11147.04fb-univ_ave-segment_2a\C\C0003cnst11147.04FB - -C2 Tue, Dec/10/19 03:36pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	E1	E14

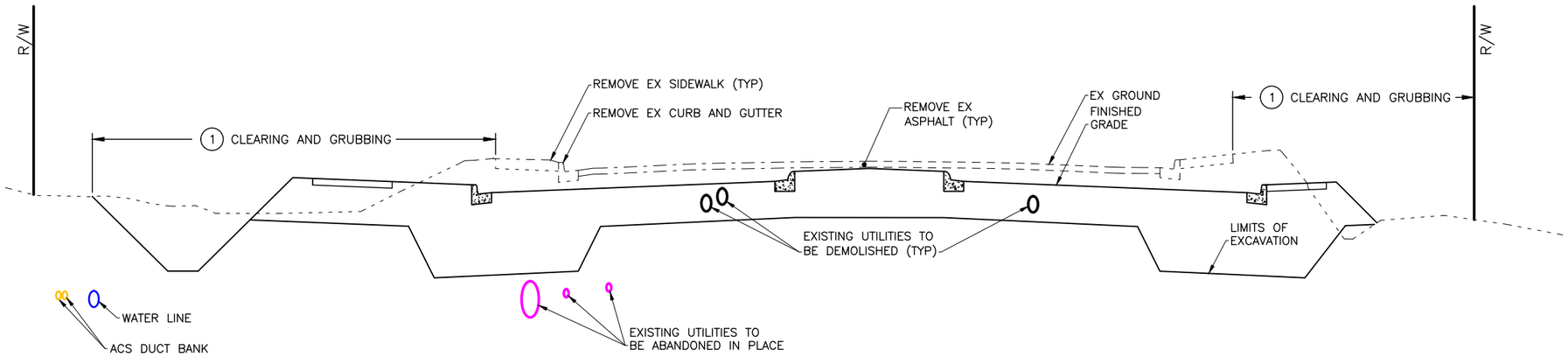
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C0006cnst11147.04FB-E1 Tue, Dec/03/19 09:30am

E9
E10
E11
E12
E13
E14
E3
E4
E5
E6
E7
E8
AIRPORT WAY
FRED MEYER ACCESS
UNIVERSITY AVENUE
IREWAK DR
GERAGHTY AVE
CHENA RIVER
50+00
55+00
60+00
65+00
70+00
75+00

DEMOLITION SHEET LAYOUT INDEX

STATE OF ALASKA
49 TH
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	E2	E14



ROADWAY DEMOLITION TYPICAL

GENERAL DEMOLITION NOTES

1. CLEARING AND GRUBBING TO OCCUR IN LOCATIONS SHOWN IN THE DEMOLITION PLANS. DO NOT CLEAR BEYOND THE RIGHT OF WAY.
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.
6. EXISTING ACS DUCT BANK IS TO REMAIN IN PLACE UNTIL FULL RELOCATION CAN OCCUR. PROTECT ACS DUCT BANK AND STRUCTURES DURING CONSTRUCTION.

DEMOLITION INDEX:

SANITARY SEWER DEMO
SANITARY SEWER ABANDON IN PLACE
WATER DEMO
WATER ABANDON IN PLACE
STORM DRAIN DEMO
STORM DRAIN ABANDON IN PLACE
ACS DUCT BANK DEMO
ACS DUCT BANK ABANDON IN PLACE
GCI DEMO
GCI ABANDON IN PLACE
LIGHTING DEMO
FORCE MAIN DEMO
FORCE MAIN ABANDON IN PLACE
GAS LINE DEMO
GAS LINE ABANDON IN PLACE
CULVERT DEMO
CULVERT ABANDON IN PLACE

STRUCTURES
FENCE
GUARDRAIL
BUS SHELTER
GUY ANCHOR
SIGNS
MAILBOX
HAND CLEARING
CLEARING
GRUBBING
REMOVAL OF PAVEMENT, CONCRETE, CURB & GUTTER

REMOVAL BY OWNERS

ALIGNMENT	BEGIN	OFFSET	END	OFFSET	QUANTITY	UNIT	REMARKS
"01"	53+28	52.25 RT	53+68	53.62 RT	40	LF	WOOD BEAM FENCE
"01"	53+76	53.88 RT	54+17	54.58 RT	40	LF	WOOD BEAM FENCE
"01"	62+24	31.93 RT	–	–	390	SF	LANDSCAPE
"01"	62+93	35.08 RT	–	–	33	SF	LANDSCAPE
"01"	62+86	51 RT	–	–	1	EA	FLAG POLE
"GR"	10+46	30 LT	–	–	1	EA	SPLASH AND DASH PRIVATE BUSINESS SIGN
"GR"	16+02	29 LT	–	–	1	EA	PRIVATE BUSINESS SIGN
"GR"	18+00	26 LT	–	–	1	EA	PRIVATE BUSINESS SIGN

CAUTION: 2019 UTILITIES TO REMAIN

ACS DUCT BANK TO REMAIN

DEMOLITION DETAILS

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2007const11147.04FB-E2 Tue, Dec/03/19 09:30am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	E3	E14

MITCHELL AVE

FRED MEYER ACCESS

TCP

TCE

PROTECT EXISTING FRED MEYER SIGN TO REMAIN

PROTECT EXISTING STORM DRAIN TO REMAIN

PUE

PROTECT EXISTING WATER LINE TO REMAIN

R/W

EXISTING LIGHTING CONDUIT PICKED UP IN SURVEY DEMO IF FOUND

PROTECT EXISTING WATER LINE TO REMAIN

49+00 50+00 51+00 52+00 53+00 54+

UNIVERSITY AVENUE

MATCH "01" 54+00 LINE

REWAK DR

WOOD BEAM FENCE TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

UNIVERSITY AVE DEMOLITION PLAN (1 OF 5)

STATE OF ALASKA 49 TH 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
\\pdc.local\dfs\Projects\2011\11147.04fb-univ_ave-segment_2a\C\C2007cnst11147.04FB-E3 Mon, Dec/09/19 11:07am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	E4	E14

PROTECT EXISTING Mt. MCKINLEY BANK TO REMAIN

PROTECT EXISTING ACS INSTALLED WITH 2019 CONSTRUCTION

PROTECT EXISTING ACS STEEL CASING TO REMAIN IN PLACE

PROTECT EXISTING WATER LINE TO REMAIN

PROTECT EXISTING WATER LINE TO REMAIN

EXISTING LIGHTING CONDUIT PICKED UP IN SURVEY DEMO IF FOUND

EXISTING LIGHTING CONDUIT CROSSES UNIVERSITY AVE. NOT SURVEYED, DEMO IF FOUND

PROTECT EXISTING CARL'S JR. SIGN TO REMAIN

PROTECT EXISTING SAFEWAY SIGN TO REMAIN

CURRENT SURVEYED WATER SERVICE LOCATION, CORRECT LOCATION OF SAFEWAY SERVICE TO BE FIELD LOCATED.

PROTECT EXISTING UG FUEL TANK AND VENT PIPING TO REMAIN

PROTECT EXISTING SEWER LINE TO REMAIN

PROTECT EXISTING SIGN TO REMAIN

PROTECT EXISTING FENCE TO REMAIN

APPROX. LOCATION OF EXISTING HYDRANT TO BE REMOVED.

APPROX. LOCATION OF SAFEWAY SERVICE PER GHU SYSTEM MAP. TO BE FIELD LOCATED.

UNIVERSITY AVENUE

AIRPORT WAY

MATCH "01" 54+00 LINE

MATCH "01" 60+00 LINE

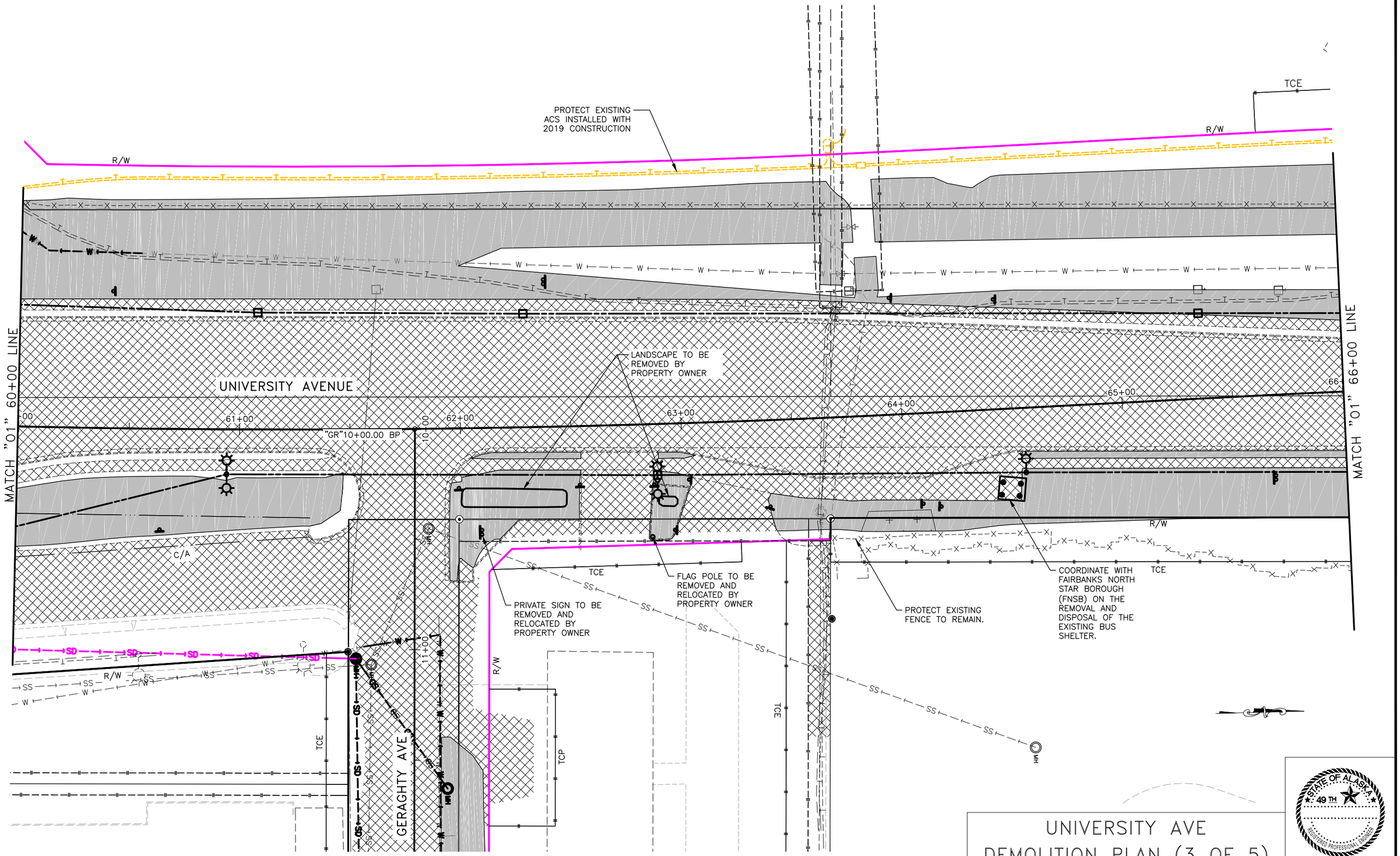
UNIVERSITY AVE DEMOLITION PLAN (2 OF 5)

STATE OF ALASKA 49TH 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

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	E5	E14

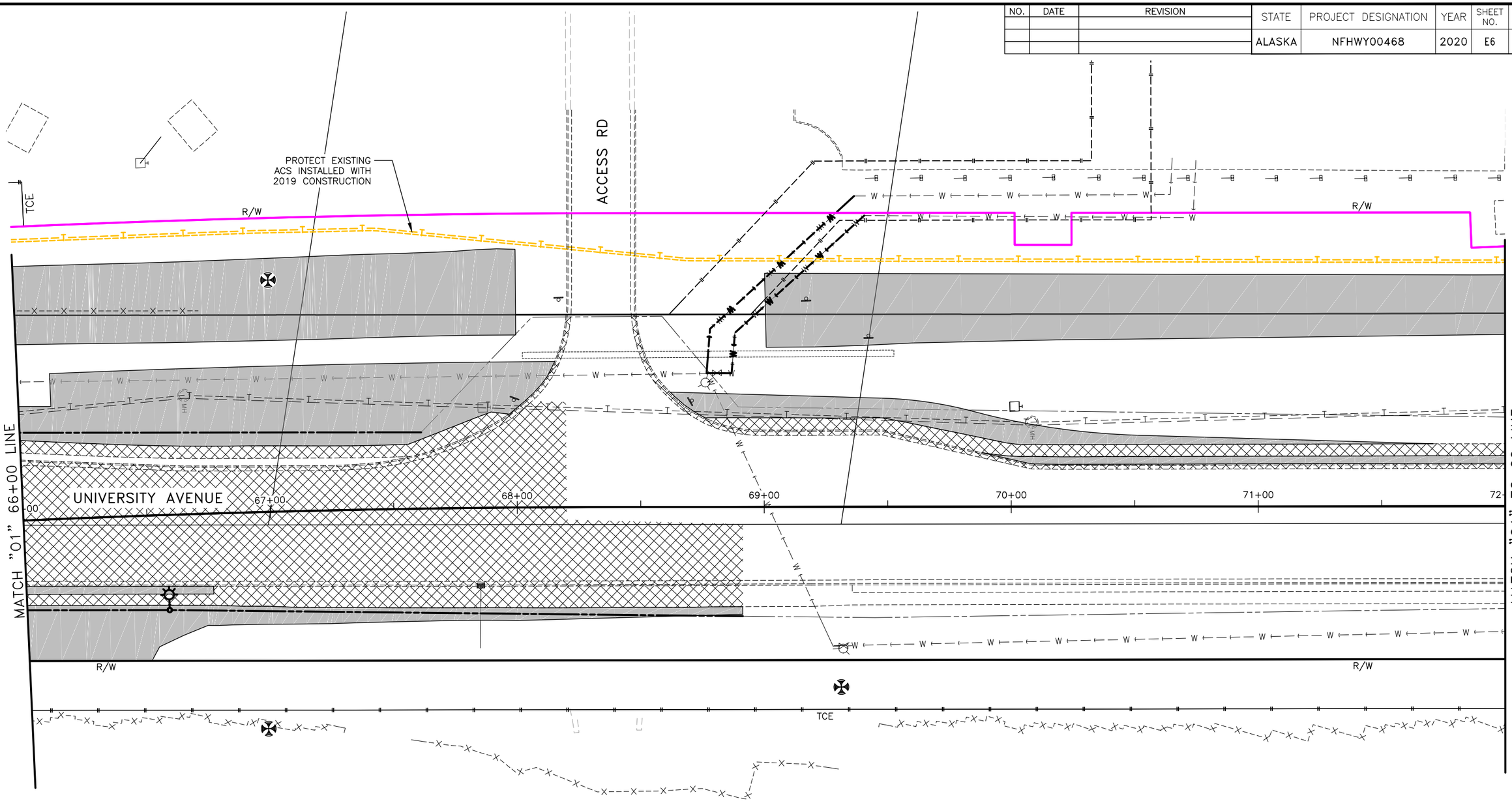


UNIVERSITY AVE DEMOLITION PLAN (3 OF 5)

STATE OF ALASKA 49 TH 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
\\pdc.local\dfs\Projects\2011\11147.04fb-univ_ave-segment_2a\C\C2007cnst11147.04FB-E5 Mon, Dec/09/19 11:08am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	E6	E14



UNIVERSITY AVE DEMOLITION PLAN (4 OF 5)

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	E7	E14

PROTECT EXISTING ACS INSTALLED WITH 2019 CONSTRUCTION

R/W

R/W

CHENA RIVER

MATCH "01" 72+00 LINE

72+00

73+00

74+00

75+00

76+00

77+00

78+

UNIVERSITY AVENUE

R/W

R/W

TCE

TCP

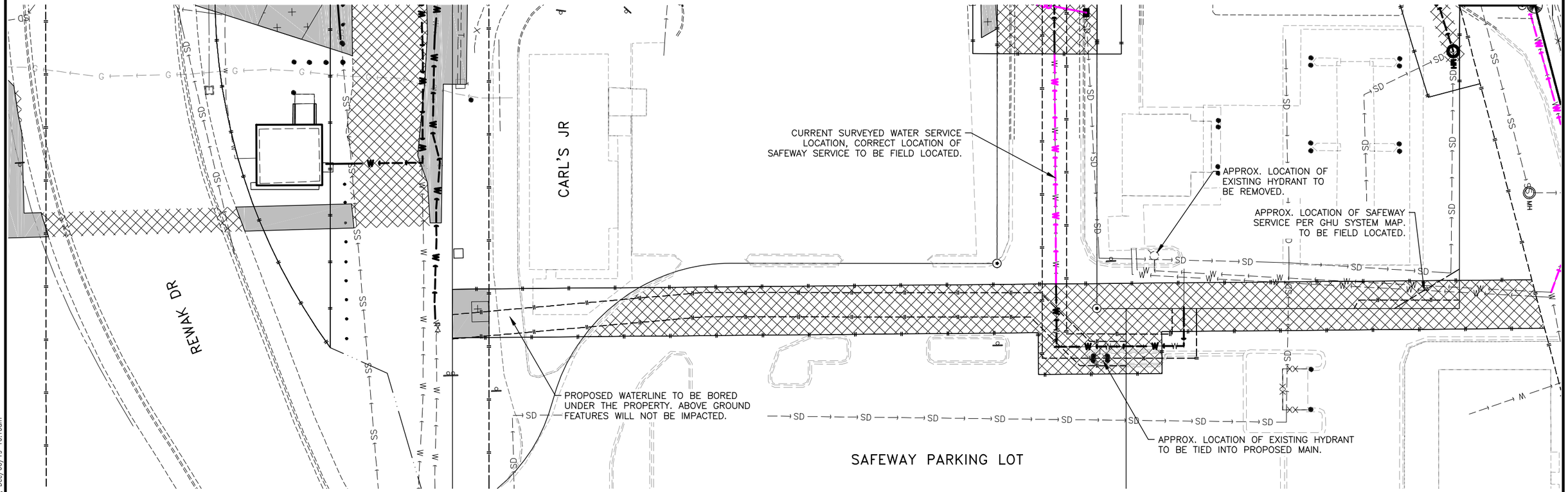
TCE

UNIVERSITY AVE
DEMOLITION PLAN (5 OF 5)

STATE OF ALASKA 49TH 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
\\pdc.local\dfs\Projects\2011\11147.04fb-univ_ave-segment_2a\c\C2007cnst11147.04FB-E7 Mon, Dec/09/19 11:08am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	E8	E14



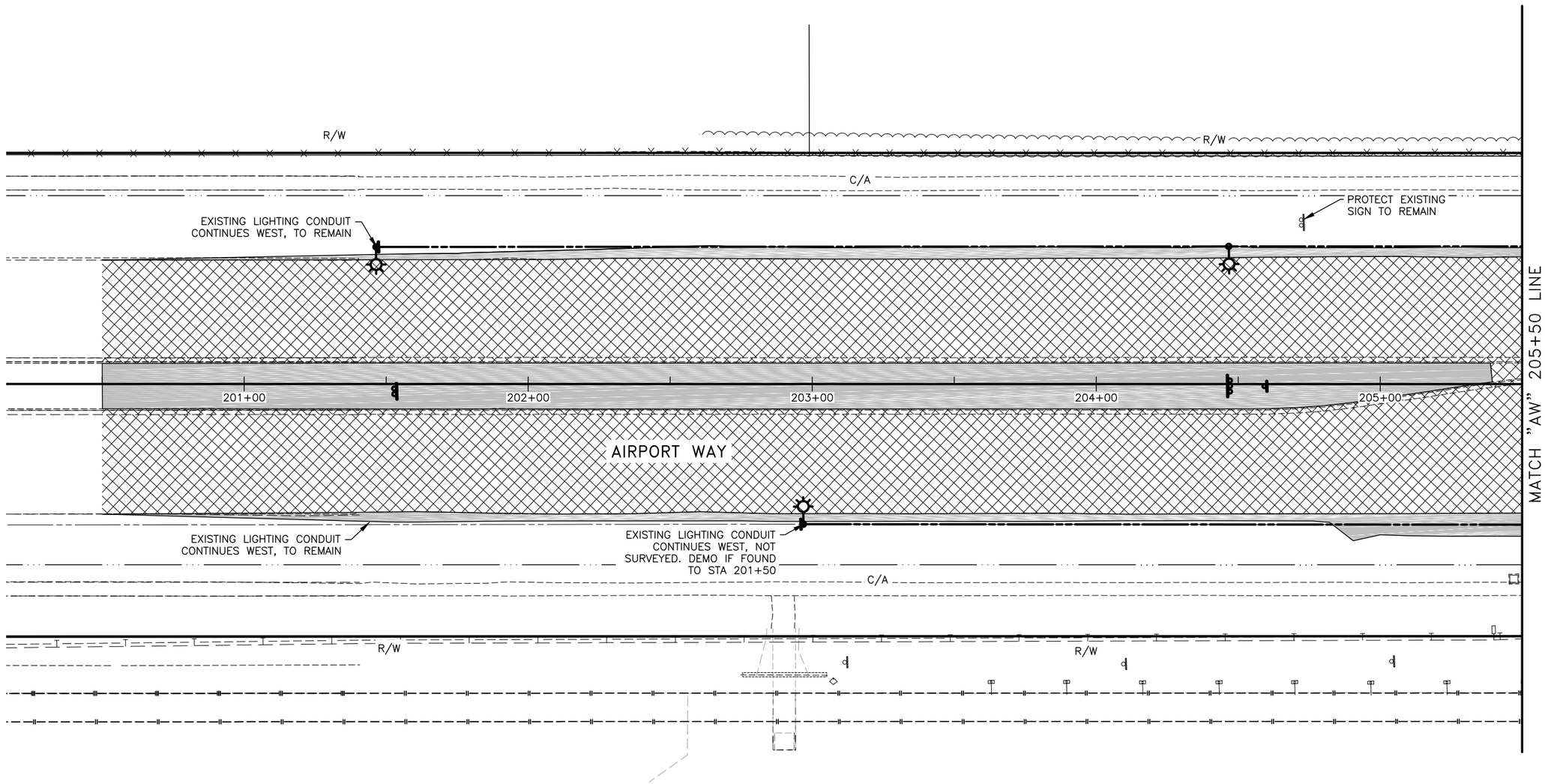
SAFEWAY PARKING DEMOLITION PLAN (1 OF 1)

STATE OF ALASKA 49TH 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
\\pdc.local\dfs\Projects\2011\11147.04fb-univ_ave-segment_2a\C\C2007cnst11147.04FB-EB Fri, Dec/06/19 10:10am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	E9	E14

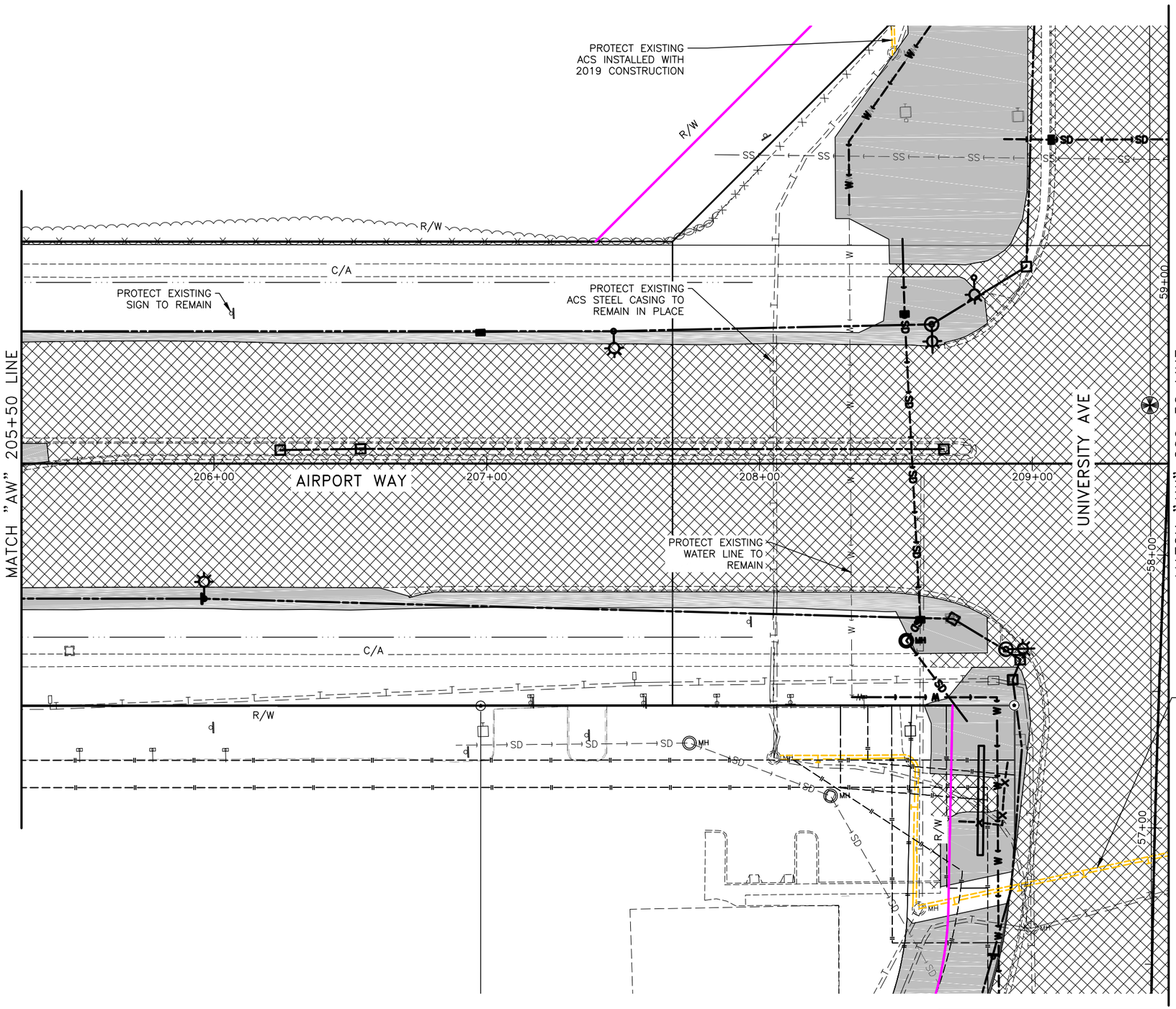


AIRPORT WAY
DEMOLITION PLAN (1 OF 4)

STATE OF ALASKA
49 TH
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\11147.04FB-UNV_AVE-SEGMENT_2A\C\C2007cnst11147.04FB-E9 Tue, Dec/03/19 09:31am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	E10	E14



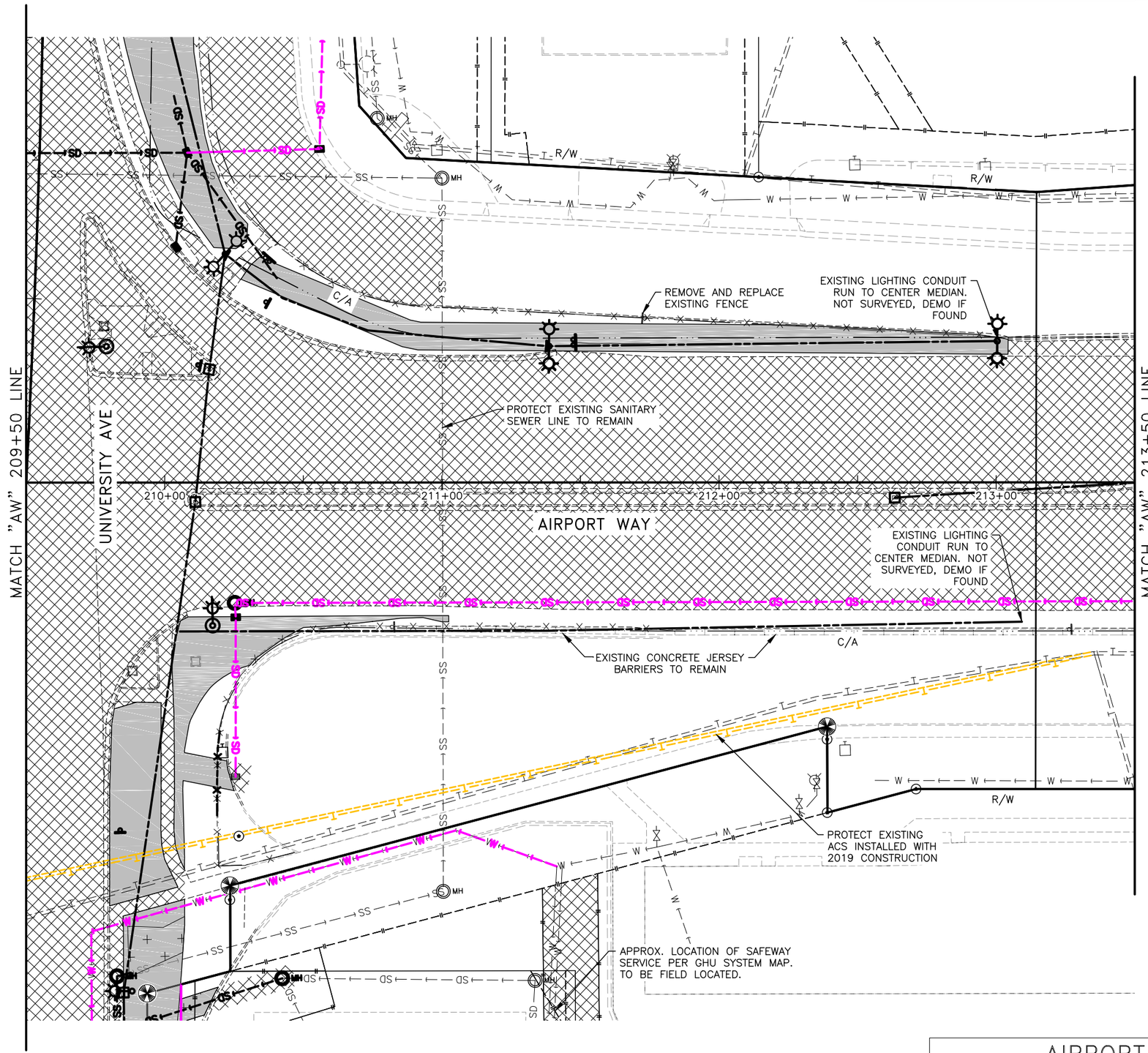
AIRPORT WAY
DEMOLITION PLAN (2 OF 4)

STATE OF ALASKA 49TH 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\11147.04FB-UNV_AVE-SEGMENT_2A\C\C2007cnst11147.04FB-E10 Tue, Dec/03/19 09:31am

NO.	DATE	REVISION

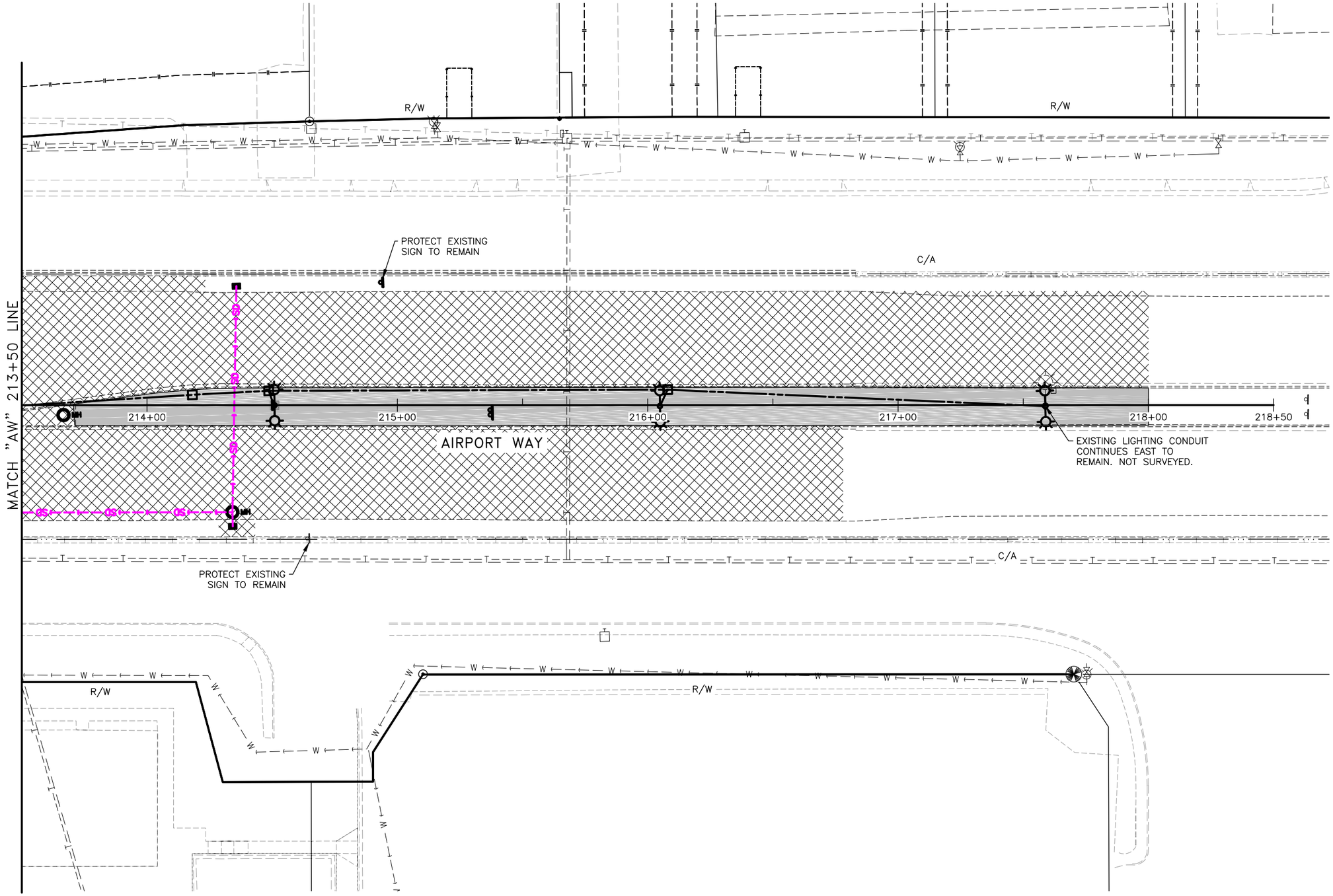
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	E11	E14



AIRPORT WAY
DEMOLITION PLAN (3 OF 4)

STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	E12	E14



AIRPORT WAY
DEMOLITION PLAN (4 OF 4)

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2007cnst11147.04FB-E12 Tue, Dec/03/19 09:32am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	E13	E14

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2007cnst111147.04FB-E13 Tue, Dec/03/19 09:32am

UNIVERSITY AVENUE

MATCH "GR" 15+00 LINE

GERAGHTY AVE

11+00 12+00 13+00 14+00

TCE

PUE

TCE

TCE

R/W

PRIVATE SIGN TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

PROTECT EXISTING SANITARY SEWER LINE TO REMAIN

TCP

TCP

TCP

R/W

R/W

R/W

R/W

R/W

TCE

PROTECT EXISTING SANITARY SEWER LINE TO REMAIN

PROTECT EXISTING OH POWER POLE TO REMAIN

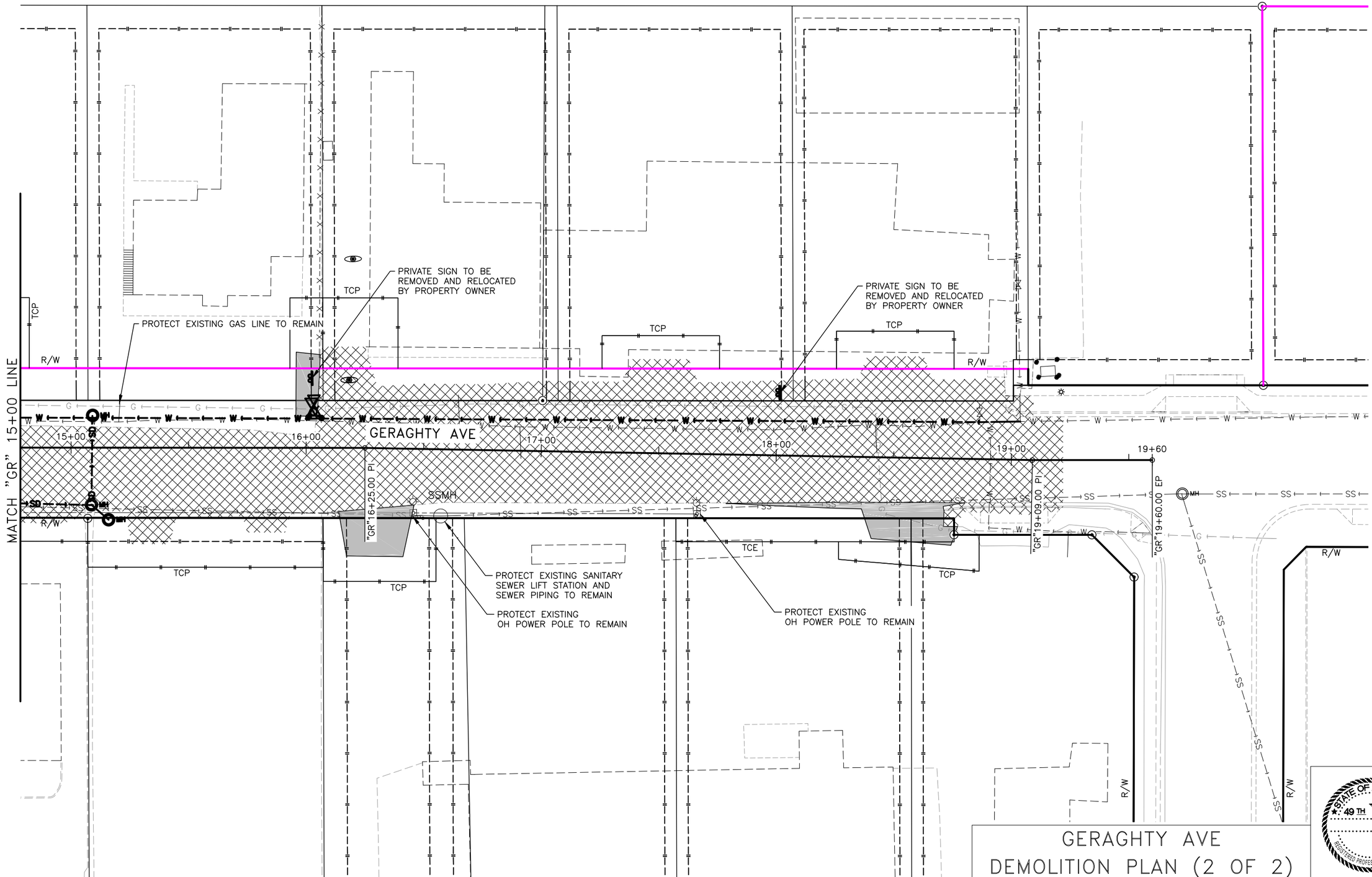
PROTECT EXISTING OH POWER POLE TO REMAIN

C/A

GERAGHTY AVE
DEMOLITION PLAN (1 OF 2)

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	E14	E14

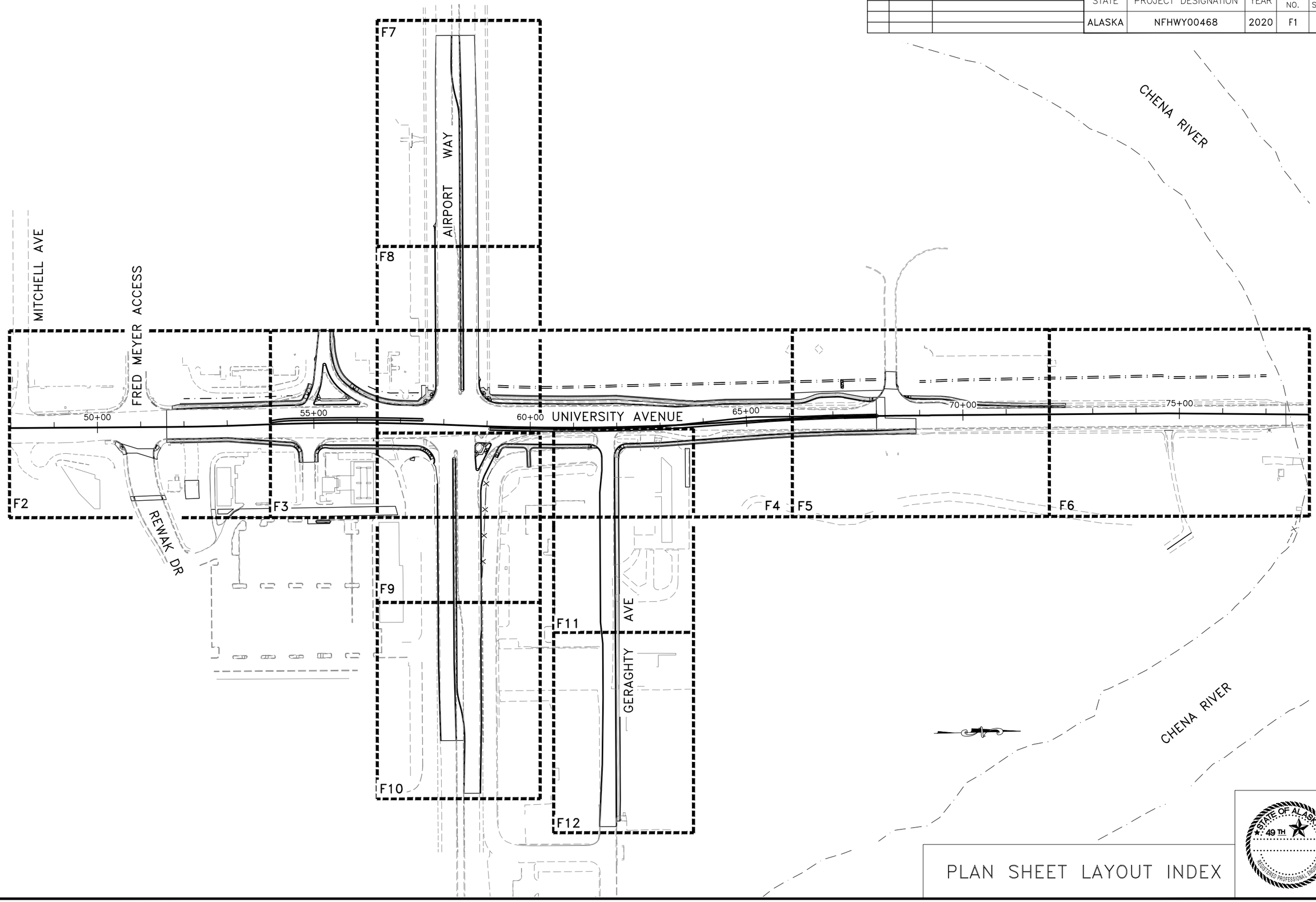


GERAGHTY AVE
DEMOLITION PLAN (2 OF 2)

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2007cnst11147.04FB-E14 Tue, Dec/03/19 09:32am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F1	F17



PLAN SHEET LAYOUT INDEX

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c0006cnst11147.04fb-F1 Wed, Dec/04/19 09:59am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F2	F17

MITCHELL AVE

FRED MEYER ACCESS

UNIVERSITY AVENUE

REWAK DR

MATCH "01" 48+00 LINE

MATCH "01" 54+00 LINE

N 1°34'29" E 2064.75'

"01"52+64.38 PI
Δ = 1°56'01"
D = 1°00'00"
T = 96.69'
L = 193.36'
R = 5729.58'

"01"55+99.83 PI
Δ = 4°52'59"
D = 1°01'23"
T = 238.78'
L = 477.27'
R = 5600.00'

"01"51+67.69 PC

"01"53+91.05 PRC

MATCH EXISTING 51+60

FRED MEYER SIGN BASE TO REMAIN

TCE

PUE

TCP

R/W

PAVEMENT REPLACEMENT

PLAN NOTES

1. SEE U200 – U210 FOR STORM DRAIN RELOCATION.
2. SEE U100 – U108 FOR WATER LINE RELOCATION.
3. SEE U300 – U308 FOR DUCT BANK RELOCATION.
4. SEE L1 – L10 FOR LANDSCAPING PLAN.

UNIVERSITY AVENUE PLAN (1 OF 5)

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c2001cnst11147.04fb-F2 Tue, Dec/10/19 11:40am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F3	F17

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c2001cnst11147.04fb-F3 Tue, Dec/10/19 11:40am

MATCH "01" 54+00 LINE

UNIVERSITY AVENUE

"01"55+99.83 PI
Δ = 4°52'59"
D = 1°01'23"
T = 238.78'
L = 477.27'
R = 5600.00'

55+00 56+00 57+00 58+00 59+00

"01"58+38.32 PRC

"01"58+33.61 = "AW"209+50

208+00 209+00 210+00 211+00

MATCH "01" 60+00 LINE

AIRPORT WAY

PROTECT EXISTING ACS STEEL CASING TO REMAIN IN PLACE

CARL'S JR SIGN AND BASE TO REMAIN

SAFEWAY SIGN AND BASE TO REMAIN

RECONSTRUCT EXISTING CHAIN LINK FENCE

INSTALL NEW CHAIN LINK FENCE

CONCRETE BARRIER

TCE

TCP

PUE

R/W

C/A

SD

SS

W

M

UNIVERSITY AVENUE PLAN
(2 OF 5)

STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F4	F17

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\11147.04FB_UNIV_AVE-SEGMENT_2A\C\c2001cnst11147.04fb-F4 Tue, Dec/10/19 11:40am

MATCH "01" 60+00 LINE

MATCH "01" 66+00 LINE

UNIVERSITY AVENUE

"01"61+25.74 PI
Δ = 5°56'37"
D = 1°02'06"
T = 287.42'
L = 574.33'
R = 5536.50'

"01"61+79.42 = "GR"10+00

N 1°25'10" W 143.04

"01"64+12.65 PT

"01"65+55.68 PC

GERACHTY AVE

R/W

TCE

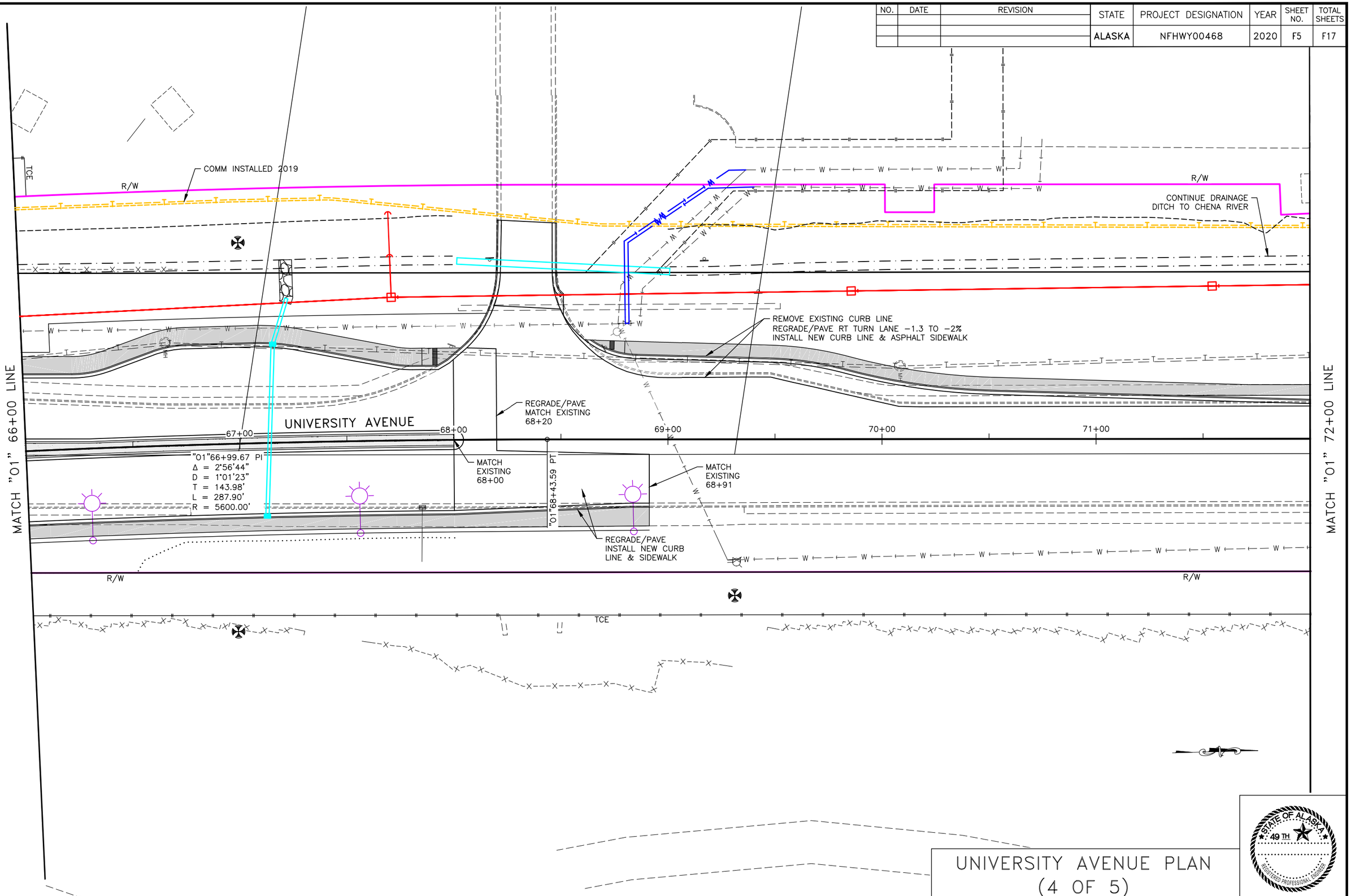
TCP

C/A

UNIVERSITY AVENUE PLAN
(3 OF 5)

STATE OF ALASKA
49 TH
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F5	F17



UNIVERSITY AVENUE PLAN (4 OF 5)

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2001cnst11147.04FB-F5 Wed, Dec/04/19 10:00am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F6	F17

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2001const11147.04FB-F6 Wed, Dec/04/19 10:00am

MATCH "01" 72+00

MATCH EXISTING 72+37.50

"01" 74+74.68 PI

CHENA RIVER

R/W

TCP

SD

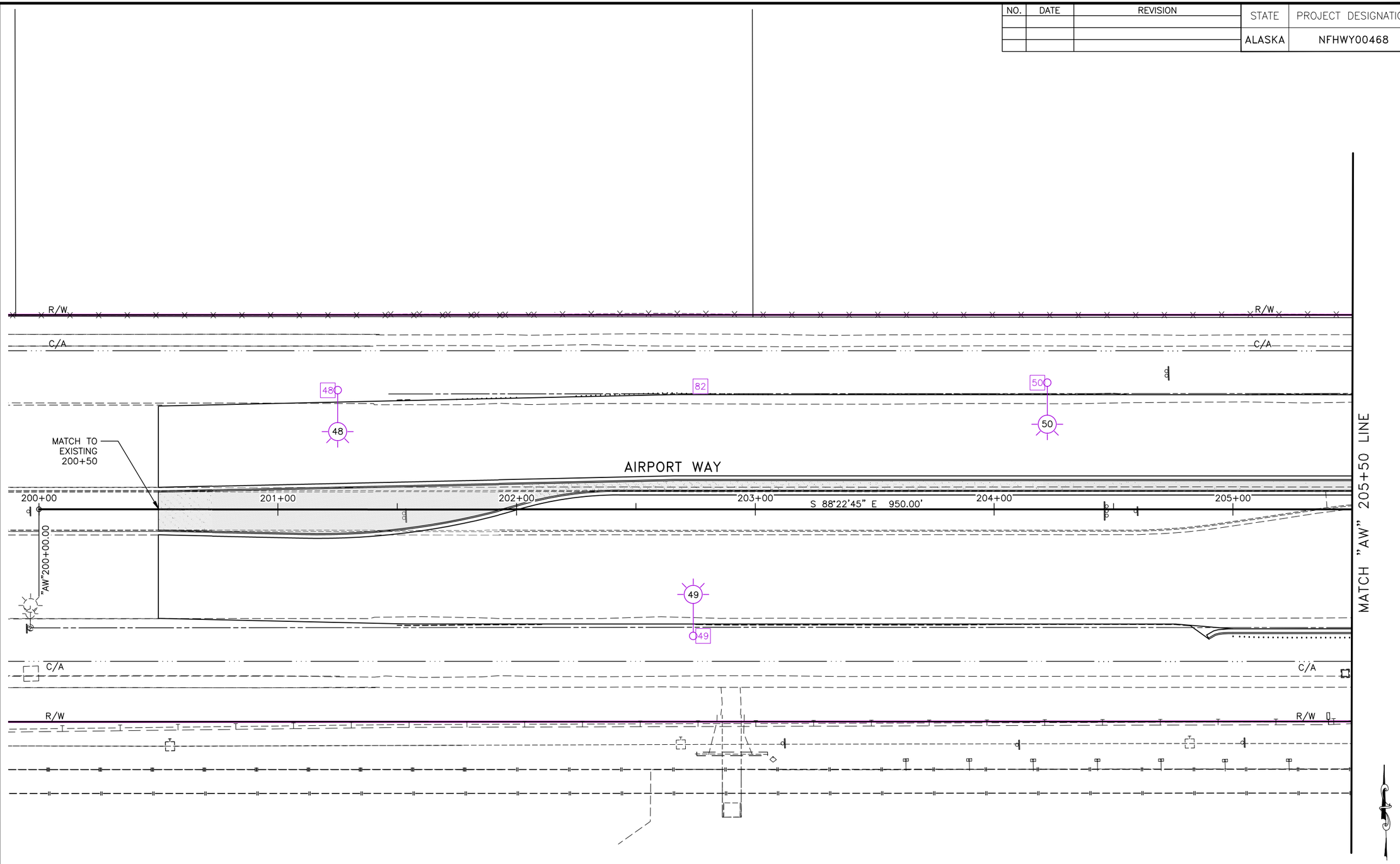
W

73+00 74+00 75+00 76+00 77+00 78+00

UNIVERSITY AVENUE PLAN (5 OF 5)

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F7	F17



PLAN NOTES

1. SEE U200 – U210 FOR STORM DRAIN RELOCATION.
2. SEE U100 – U108 FOR WATER LINE RELOCATION.
3. SEE U300 – U308 FOR DUCT BANK RELOCATION.
4. SEE L1 – L10 FOR LANDSCAPING PLAN.

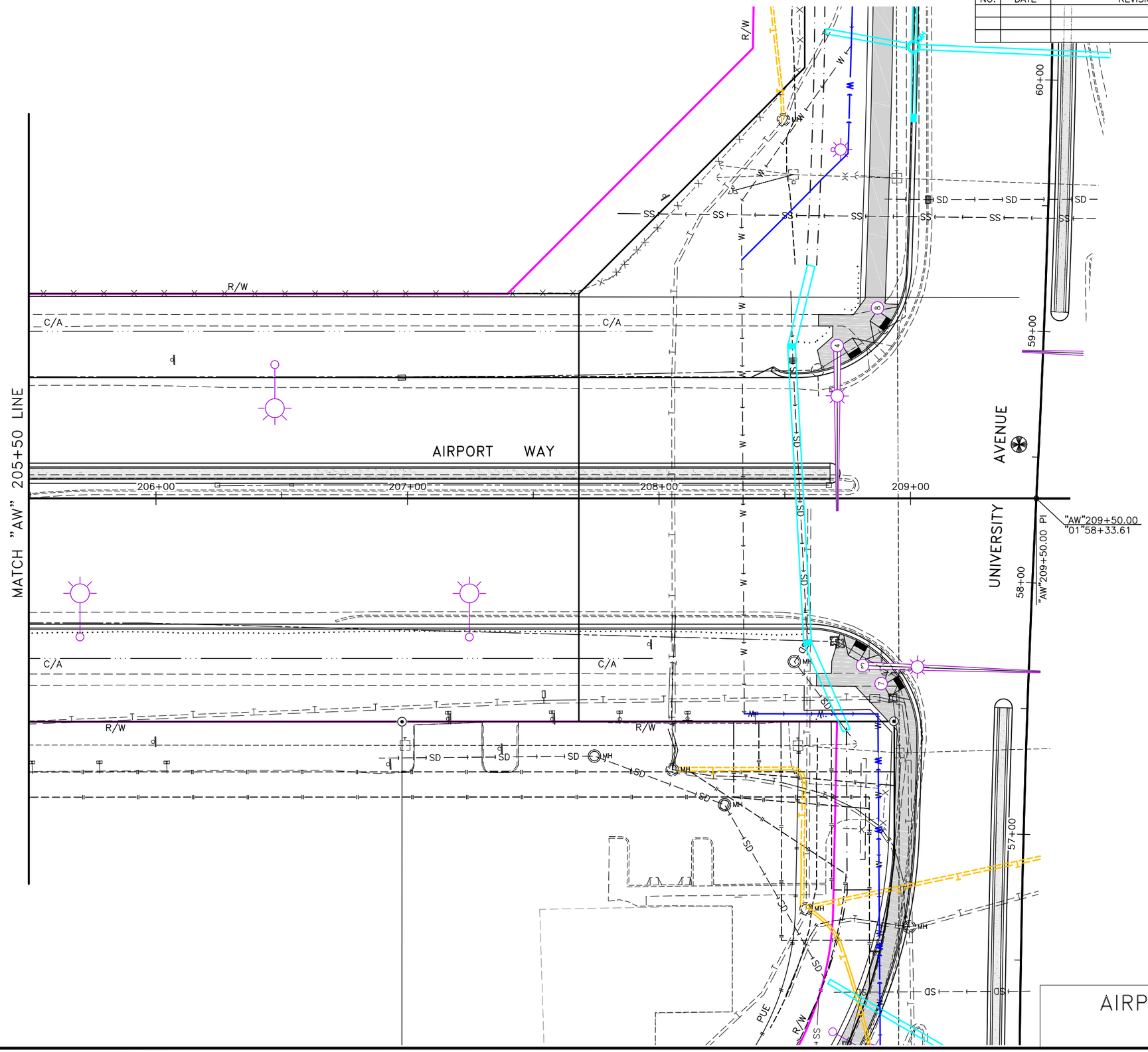
AIRPORT WAY PLAN
(1 OF 4)

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2002cnst11147.04FB-F7 Mon, Dec/09/19 08:29am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	F8	F17



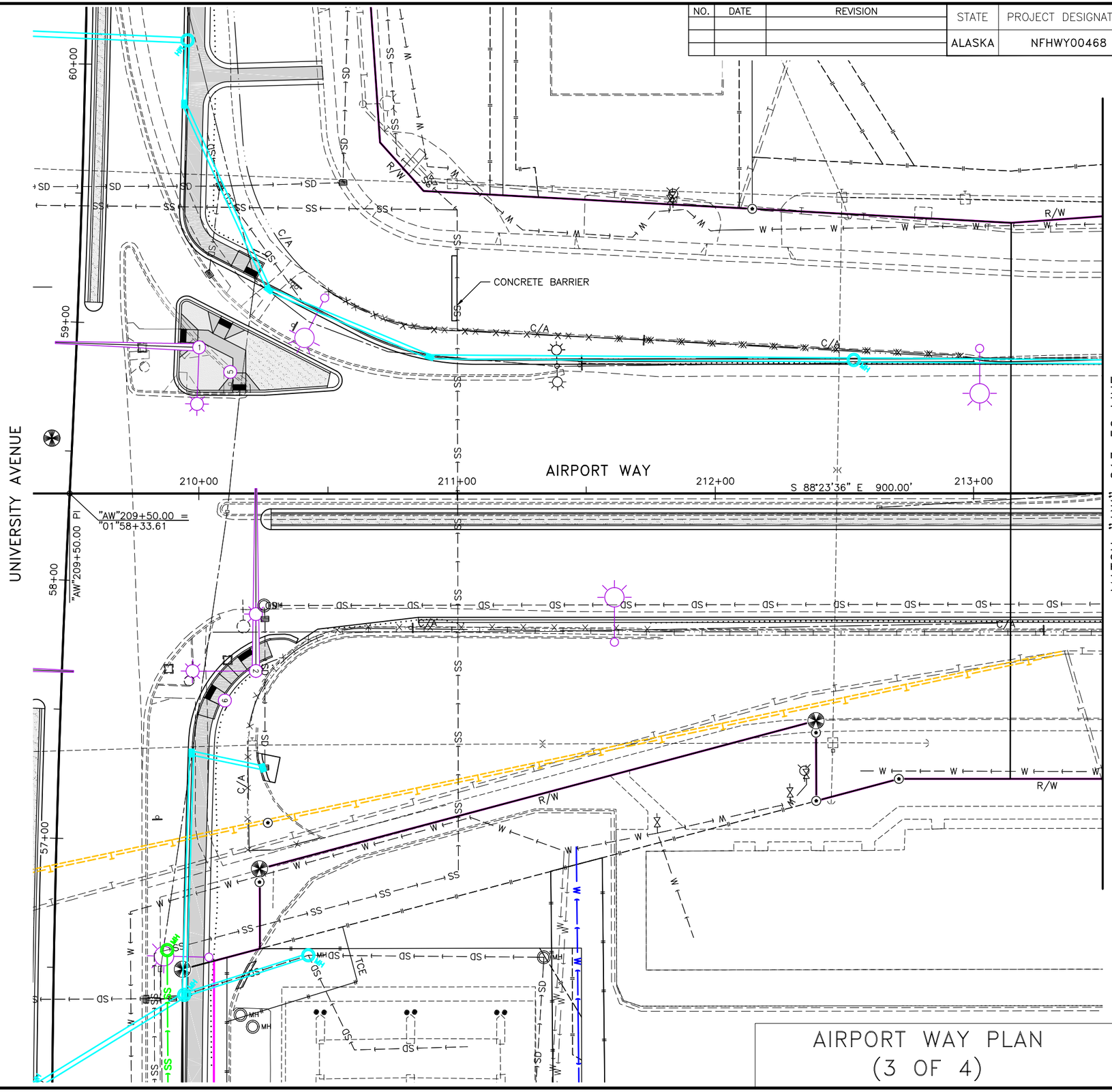
AIRPORT WAY PLAN
(2 OF 4)

STATE OF ALASKA
49TH
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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2002cnst11147.04FB-F8 Wed, Dec/04/19 10:01am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	F9	F17



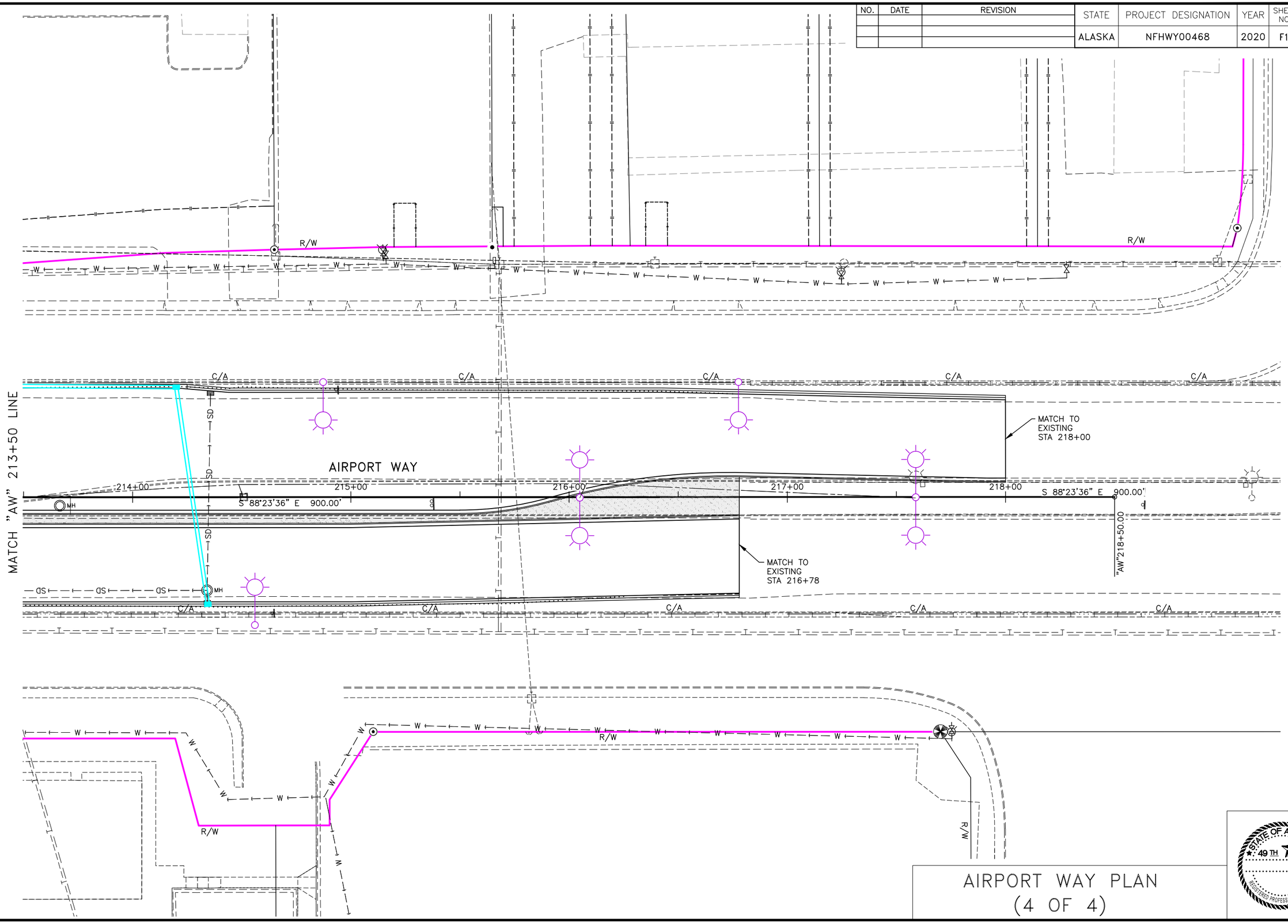
AIRPORT WAY PLAN
(3 OF 4)

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2002const11147.04FB-F9 Wed, Dec/04/19 10:01am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F10	F17

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2002cnst11147.04FB-F10 Wed, Dec/04/19 10:01am

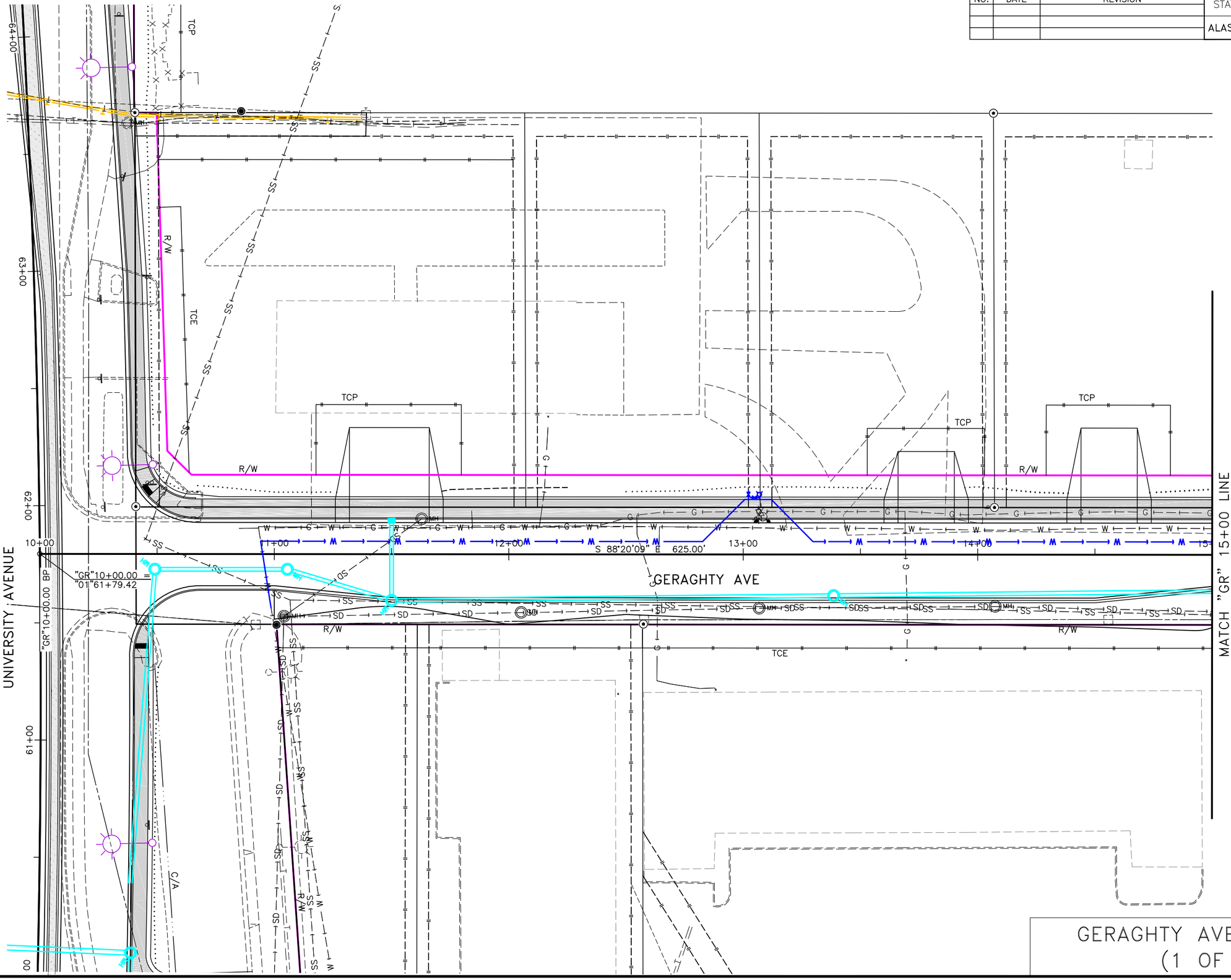


AIRPORT WAY PLAN (4 OF 4)

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	F11	F17

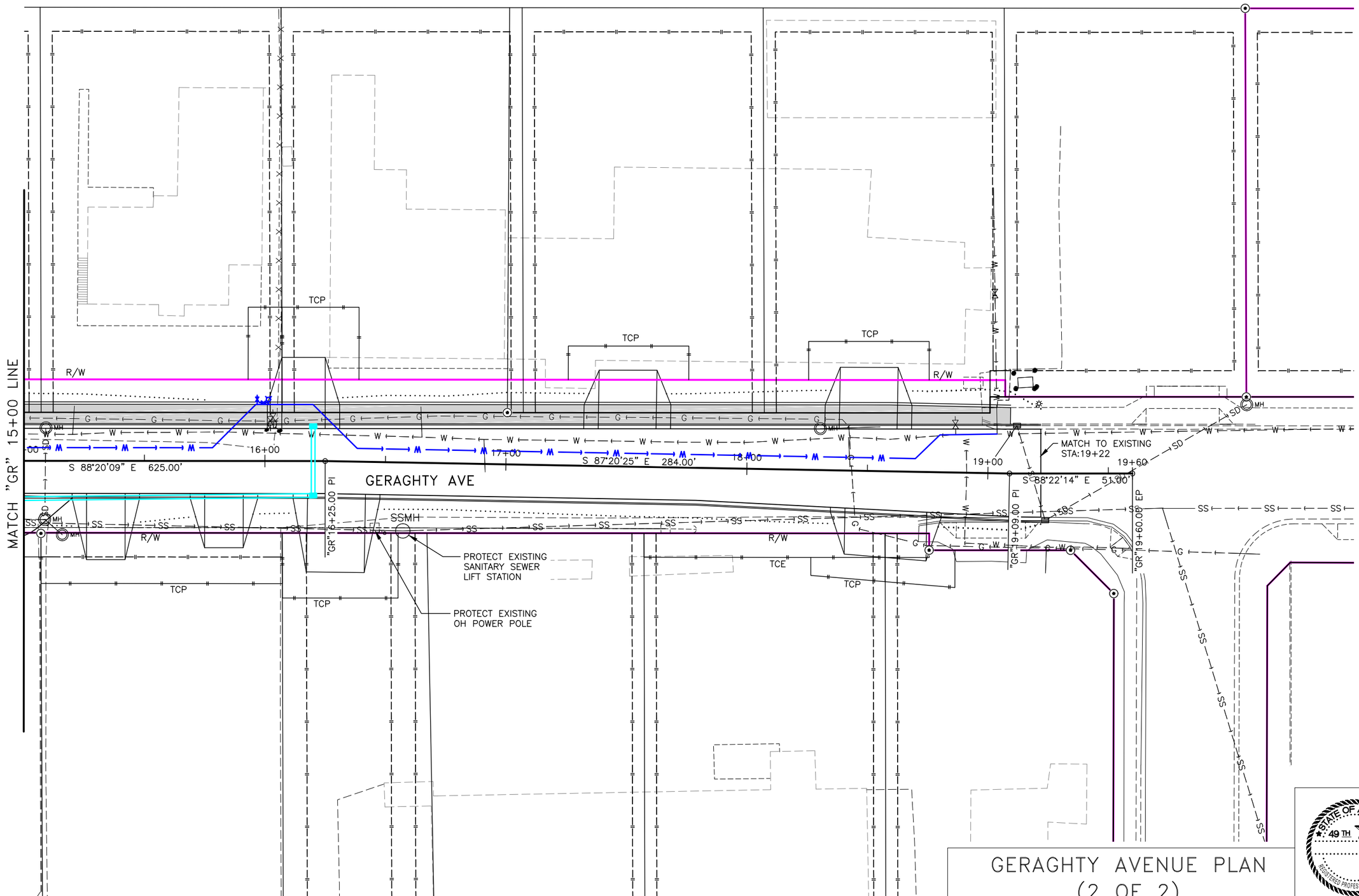


GERAGHTY AVENUE PLAN (1 OF 2)

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2002cnst11147.04FB-F11 Wed, Dec/04/19 10:01am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F12	F17



GERAGHTY AVENUE PLAN
(2 OF 2)

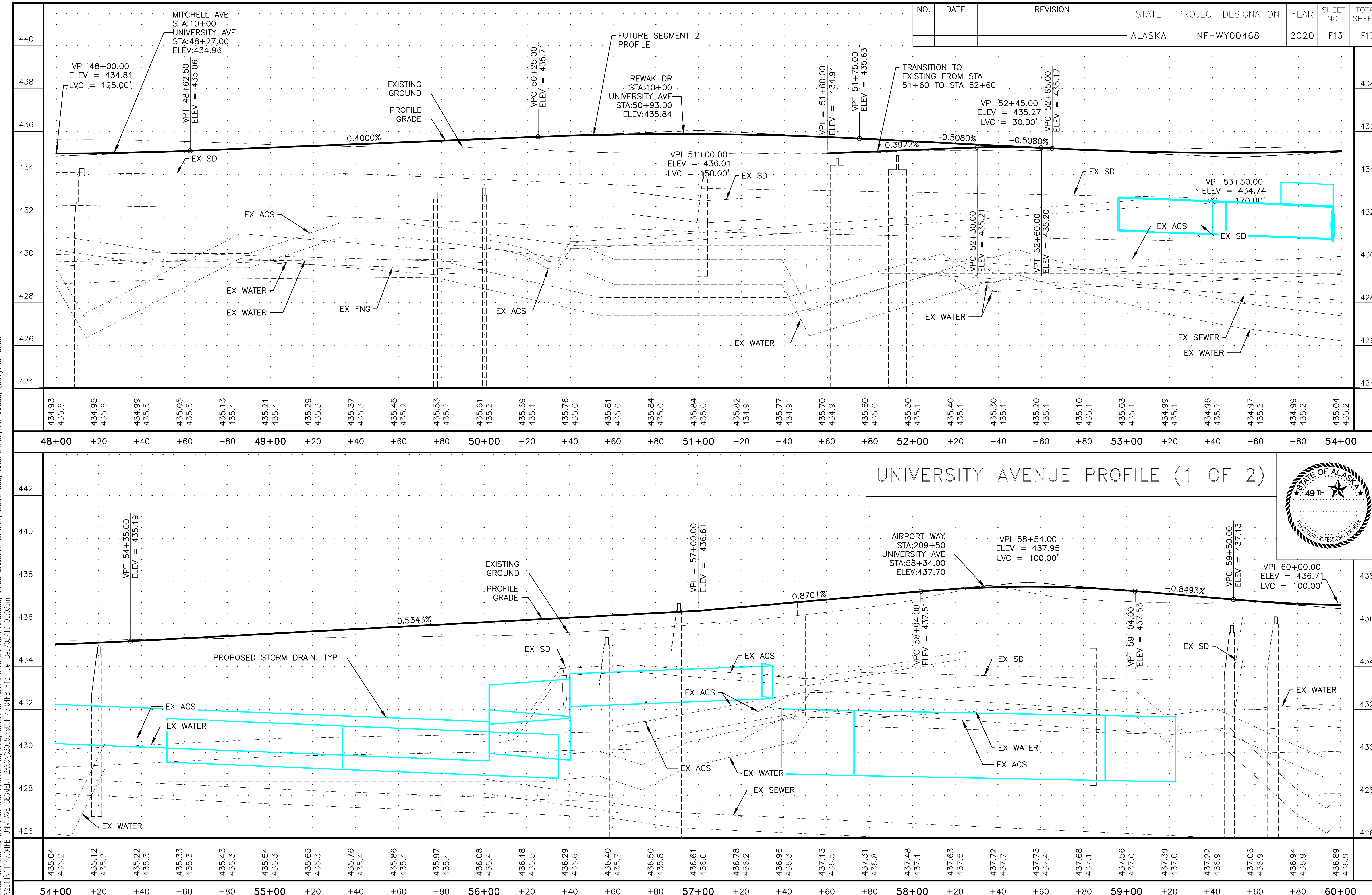
STATE OF ALASKA
49 TH
REGISTERED PROFESSIONAL ENGINEER

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2002cnst11147.04FB-F12 Wed, Dec/04/19 10:02am

NO.	DATE	REVISION

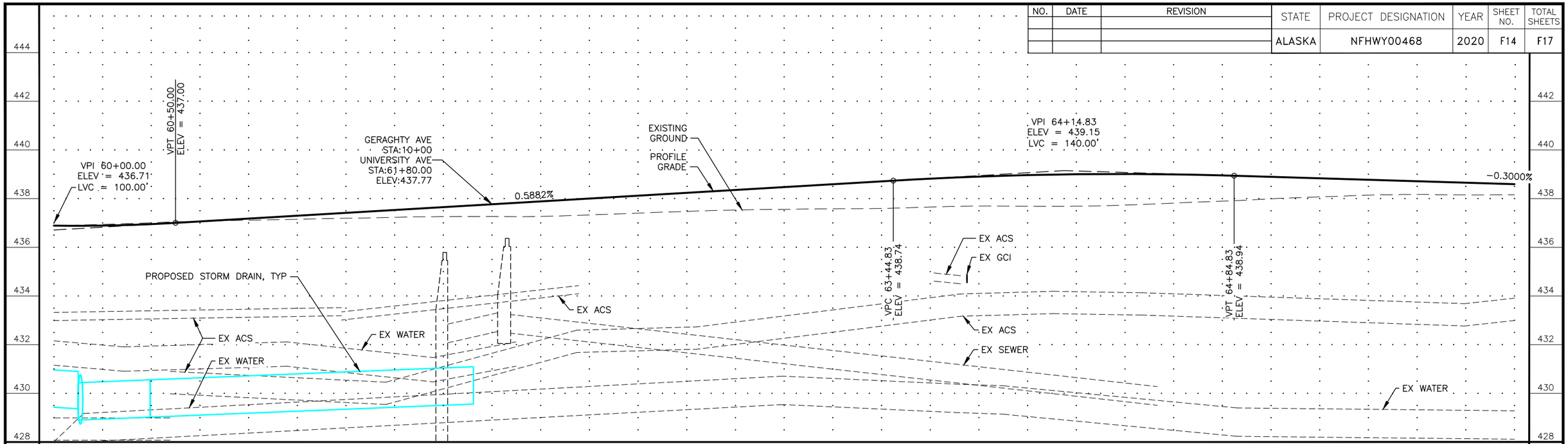
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	F13	F17

UNIVERSITY AVENUE PROFILE (1 OF 2)

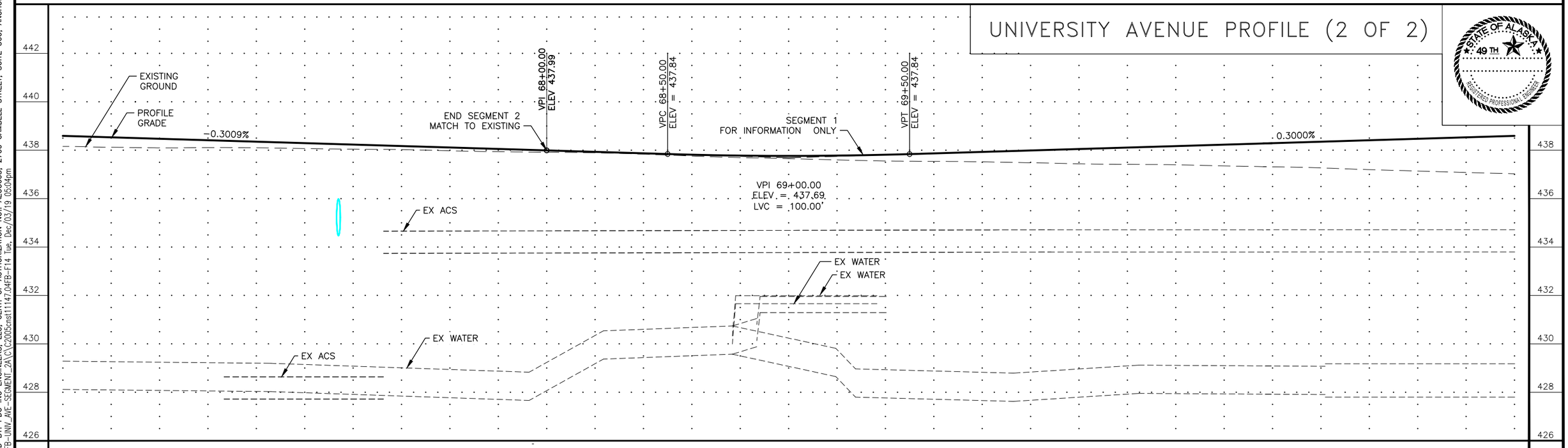


PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2005cnst11147.04FB-F13 Tue, Dec/03/19 05:03pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F14	F17

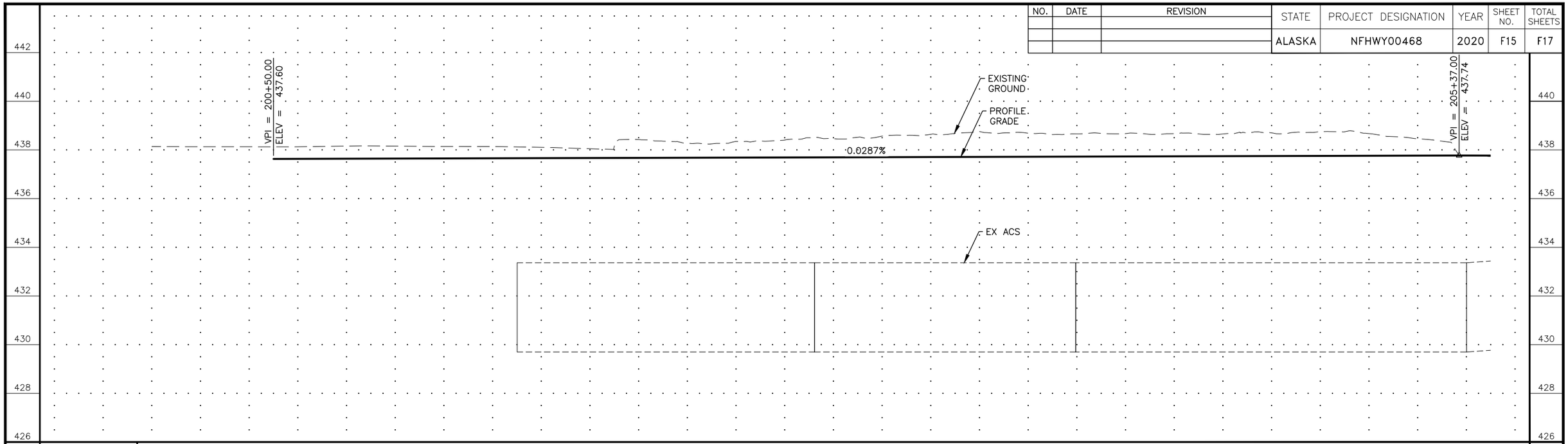


UNIVERSITY AVENUE PROFILE (2 OF 2)



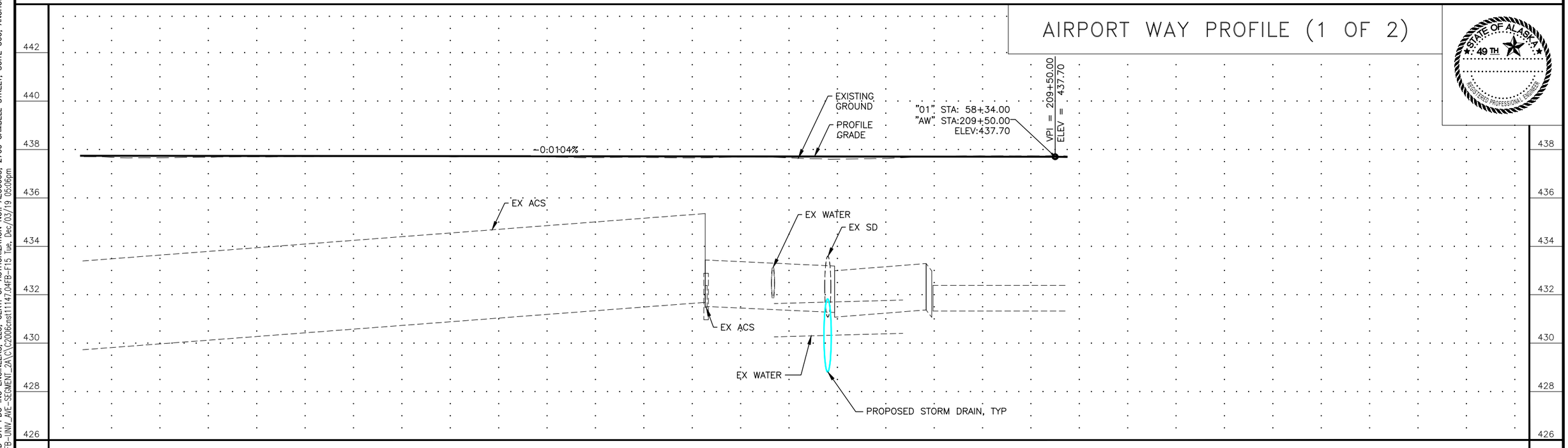
STATE OF ALASKA
49 TH
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F15	F17



	438.1	438.1	438.1	437.60 438.1	437.61 438.1	437.61 438.1	437.62 438.1	437.63 438.1	437.63 438.1	437.64 438.0	437.64 438.4	437.65 438.2	437.65 438.3	437.66 438.4	437.67 438.4	437.67 438.5	437.68 438.6	437.68 438.7	437.69 438.7	437.69 438.6	437.70 438.6	437.71 438.6	437.71 438.6	437.72 438.7	437.72 438.7	437.73 438.6	437.74 438.4	437.74 437.7	437.74 437.7
	200+00	+20	+40	+60	+80	201+00	+20	+40	+60	+80	202+00	+20	+40	+60	+80	203+00	+20	+40	+60	+80	204+00	+20	+40	+60	+80	205+00	+20	+40	+60	

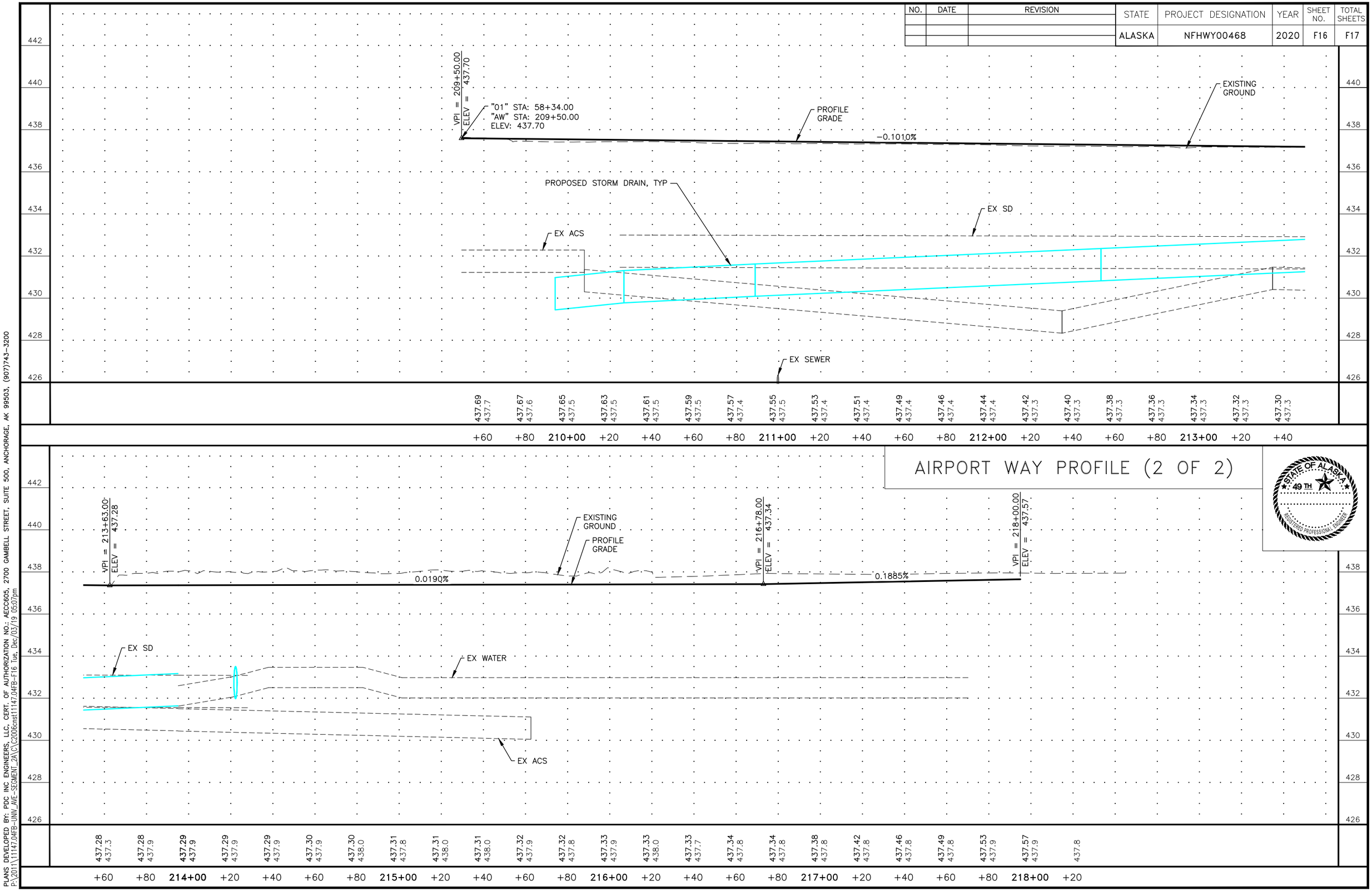
AIRPORT WAY PROFILE (1 OF 2)



	437.74 437.7	437.74 437.7	437.74 437.7	437.73 437.7	437.73 437.7	437.73 437.7	437.73 437.7	437.73 437.7	437.72 437.7	437.72 437.7	437.72 437.7	437.72 437.7	437.71 437.7	437.71 437.7	437.71 437.7	437.71 437.7	437.71 437.6	437.70 437.6	437.70 437.7	437.70 437.7	437.70 437.7							
	+40	+60	+80	206+00	+20	+40	+60	+80	207+00	+20	+40	+60	+80	208+00	+20	+40	+60	+80	209+00	+20	+40							

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\11147.04FB-UNV_AVE-SEGMENT_2A\C\C2006crnst11147.04FB-F15 Tue, Dec/03/19 05:06pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F16	F17

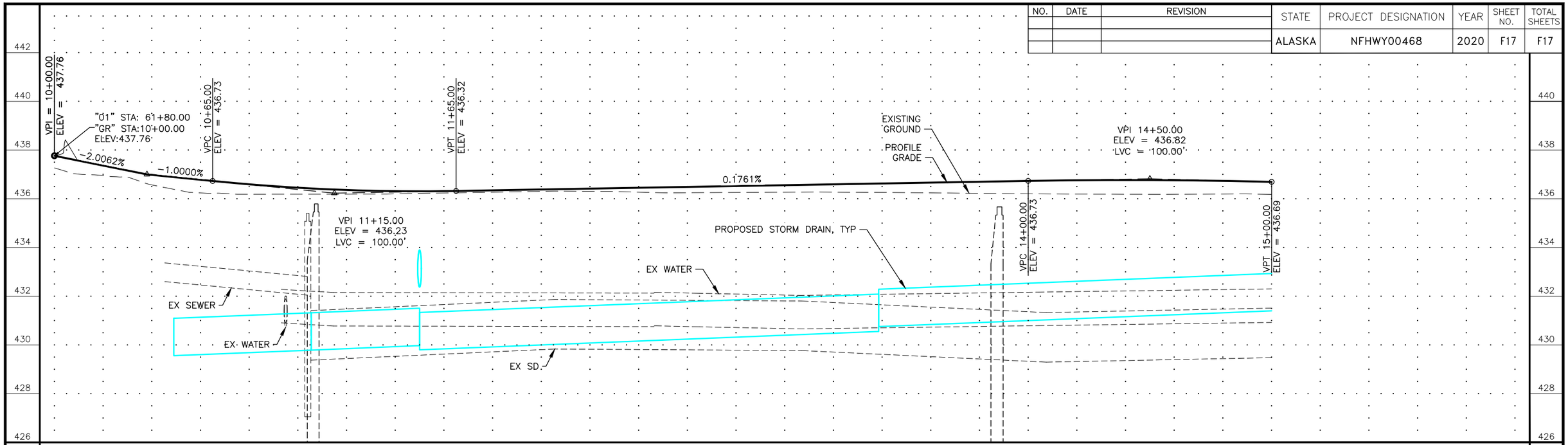


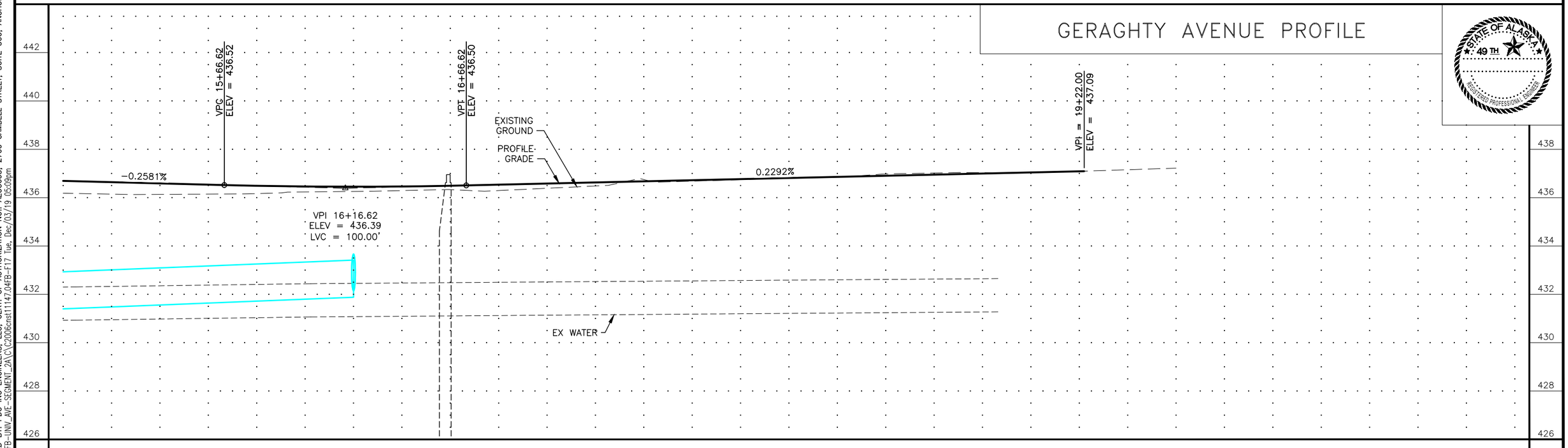
AIRPORT WAY PROFILE (2 OF 2)

STATE OF ALASKA 49 TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2006crnst11147.04FB-F16 Tue, Dec/03/19 05:07pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	F17	F17





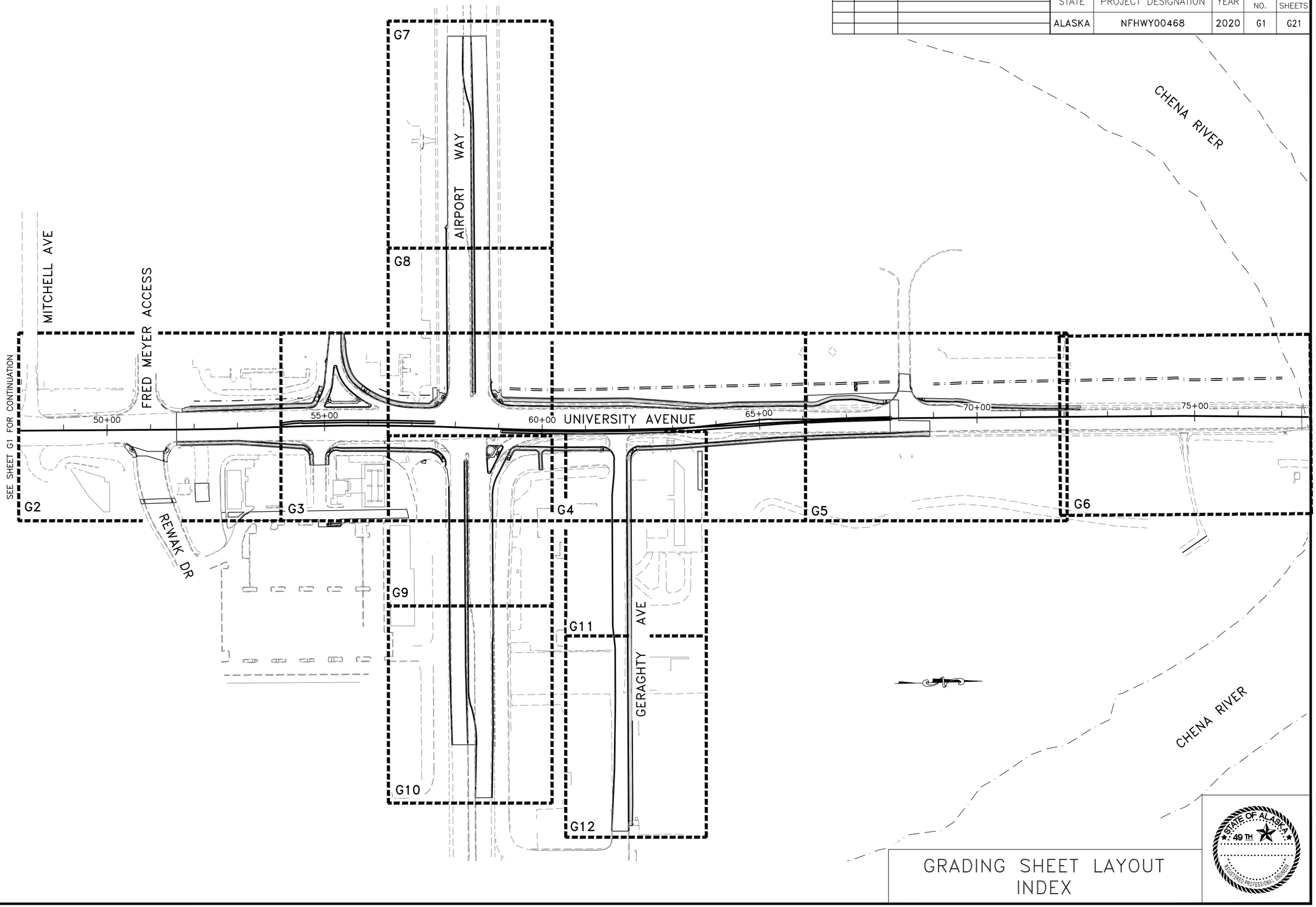
GERAGHTY AVENUE PROFILE

STATE OF ALASKA
49 TH
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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2006crnst11147.04FB-F17 Tue, Dec/03/19 05:09pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	G1	G21

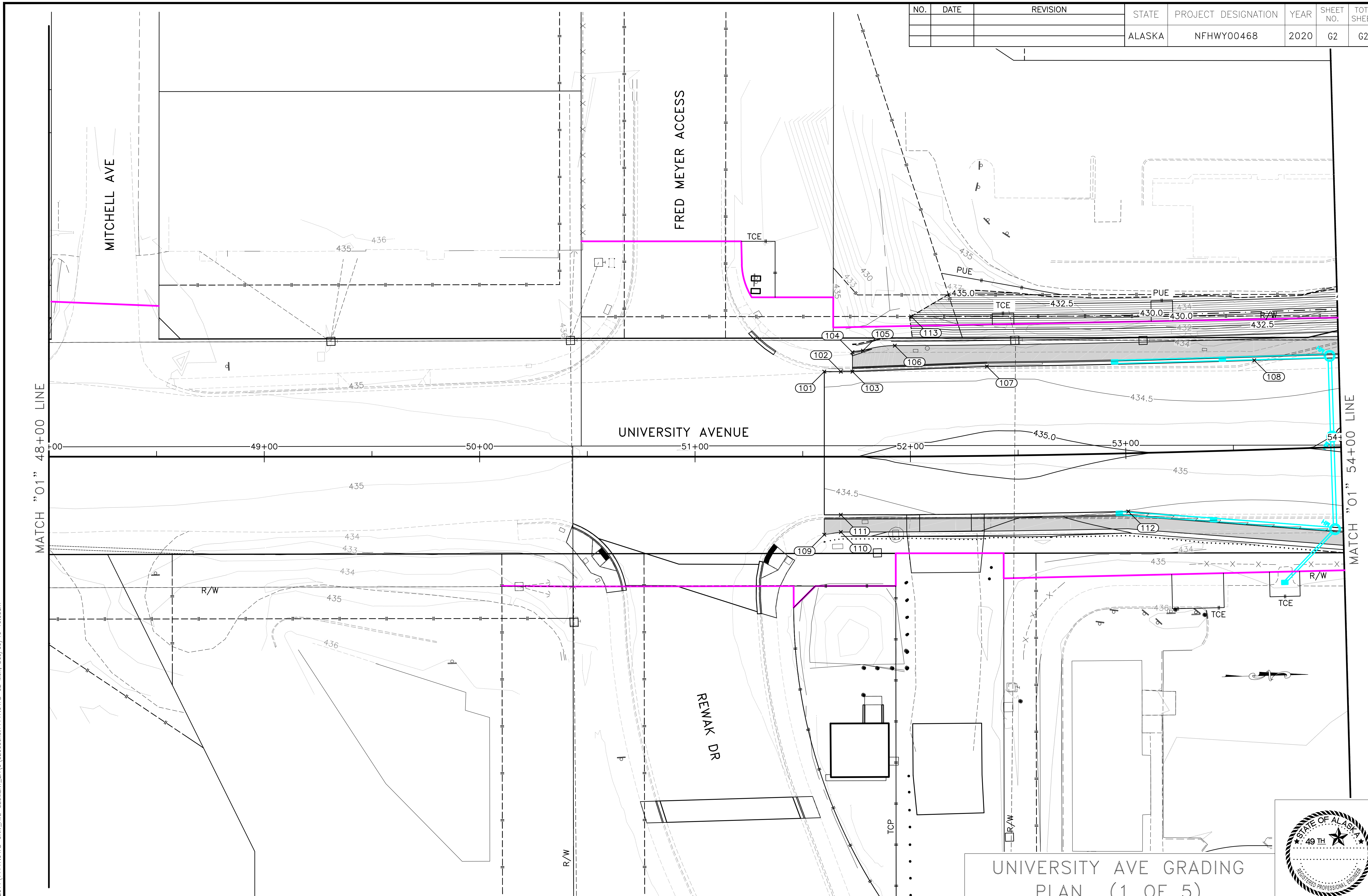


GRADING SHEET LAYOUT INDEX

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c0006cnst11147.04fb-G1 Mon, Dec/09/19 01:22pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G2	G21

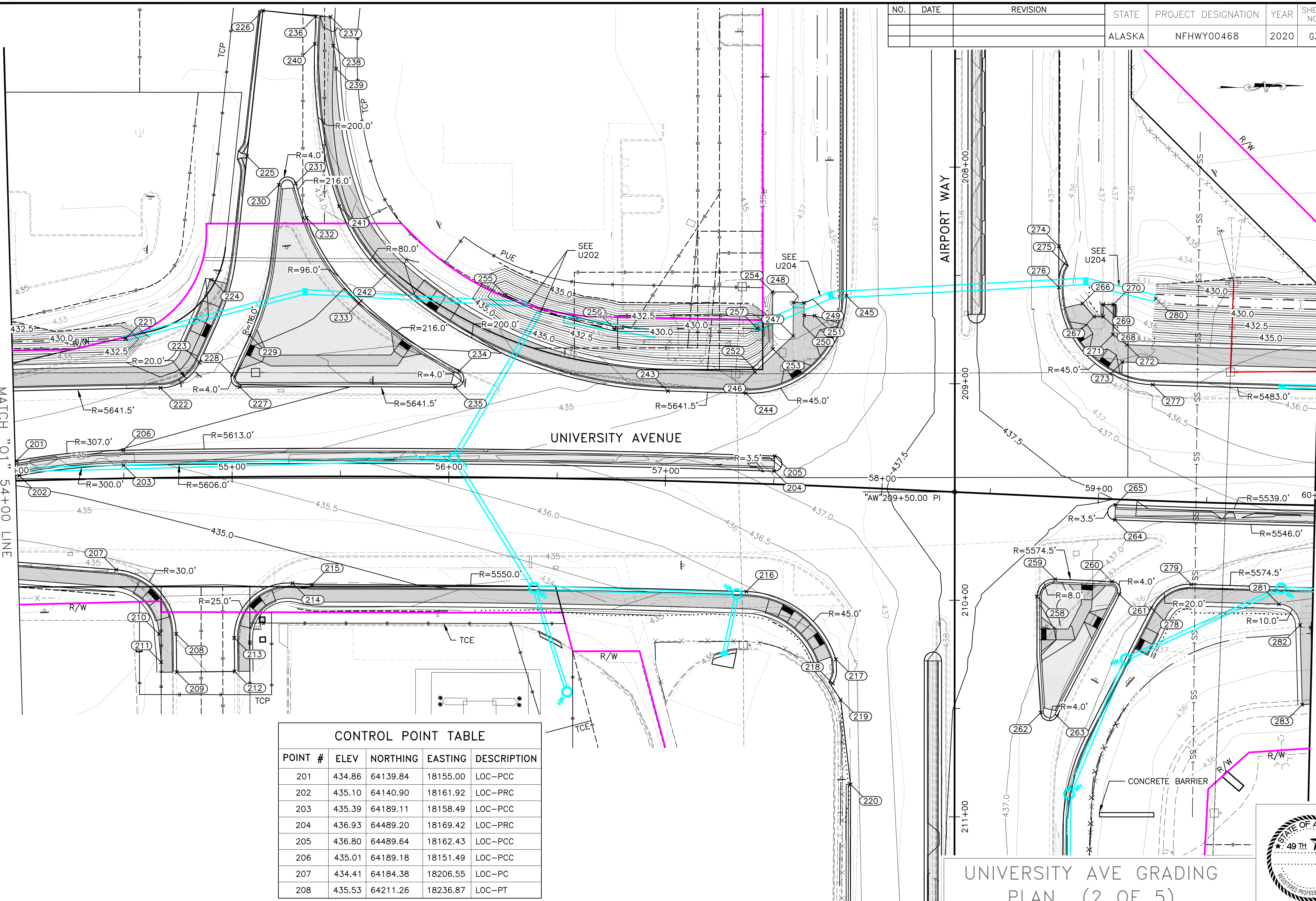


UNIVERSITY AVE GRADING PLAN (1 OF 5)

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

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	G3	G21



CONTROL POINT TABLE

POINT #	ELEV	NORTHING	EASTING	DESCRIPTION
201	434.86	64139.84	18155.00	LOC–PCC
202	435.10	64140.90	18161.92	LOC–PRC
203	435.39	64189.11	18158.49	LOC–PCC
204	436.93	64489.20	18169.42	LOC–PRC
205	436.80	64489.64	18162.43	LOC–PCC
206	435.01	64189.18	18151.49	LOC–PCC
207	434.41	64184.38	18206.55	LOC–PC
208	435.53	64211.26	18236.87	LOC–PT

UNIVERSITY AVE GRADING PLAN (2 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2003cnst\1147.04FB-G3 Mon, Dec/09/19 10:53am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G4	G21

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2003crst11147.04FB-G4 Mon, Dec/09/19 10:53am

MATCH "01" 60+00 LINE

MATCH "01" 66+00 LINE

UNIVERSITY AVENUE

GERAGHTY AVE

"GR"10+00.00 BP

SEE U206

C/A

TCE

TCP

R/W

60+00

61+00

62+00

63+00

64+00

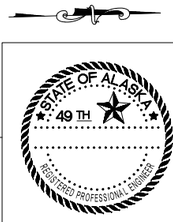
65+00

66+00

10+00

11+00

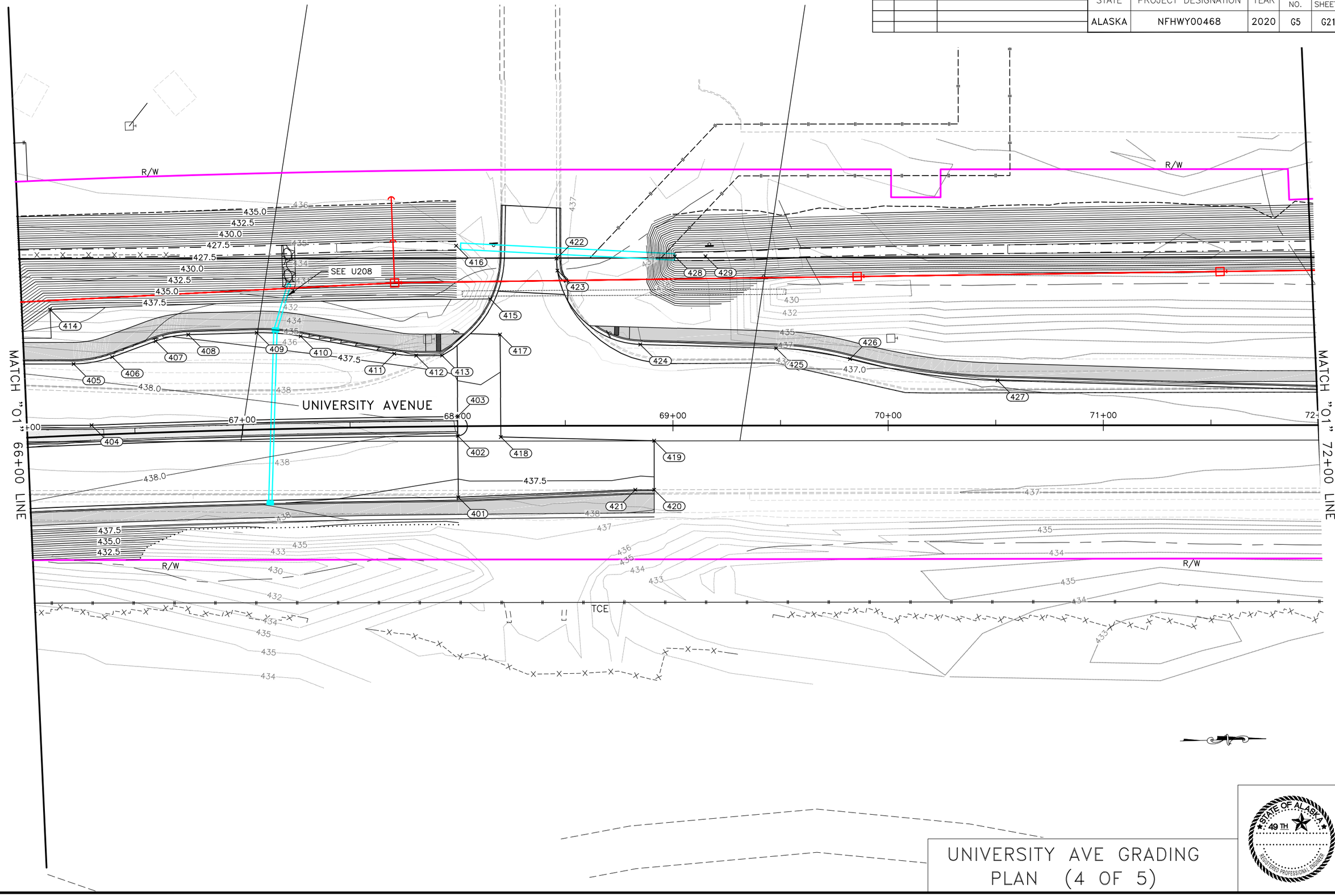
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317



UNIVERSITY AVE GRADING PLAN (3 OF 5)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	G5	G21



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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c2003cnst11147.04FB-G5 Mon, Dec/09/19 10:53am

UNIVERSITY AVE GRADING PLAN (4 OF 5)

STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G5	G21

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2003cnst11147.04FB-G6 Mon, Dec/09/19 10:53am

R/W

R/W

CHENA RIVER

502

501

MATCH "01" 72+00 LINE

UNIVERSITY AVENUE

73+00

74+00

75+00

76+00

77+00

R/W

R/W

TCP

TCP

TCP

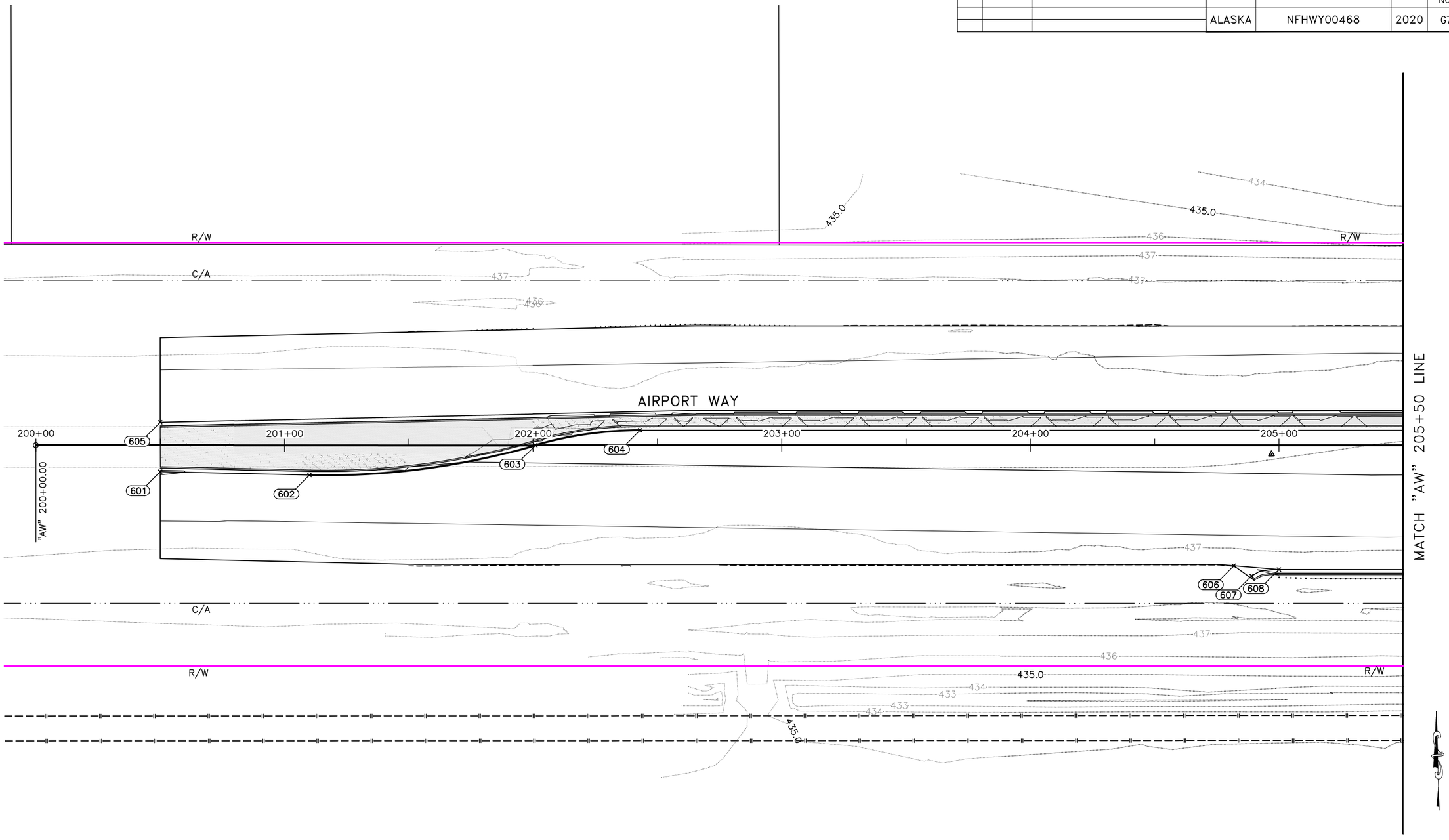
TCP

TCP

UNIVERSITY AVE GRADING PLAN (5 OF 5)

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G7	G21



AIRPORT WAY GRADING
PLAN (1 OF 4)

STATE OF ALASKA 49 TH 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\11147.04FB-UNV_AVE-SEGMENT_2A\C\C2004cnst11147.04FB-G7 Mon, Dec/09/19 10:54am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	G8	G21

MATCH "AW" 205+50 LINE

AIRPORT WAY

206+00 207+00 208+00 209+00

"01"58+38.32 PRC

702 701

UNIVERSITY AVENUE

"AW"209+50.00 PI

60+00 59+00 58+00 57+00

R/W C/A PUE

434 435 436 437 433 432.5 430.0 435.0 436.0 436.5 437.0 437.5

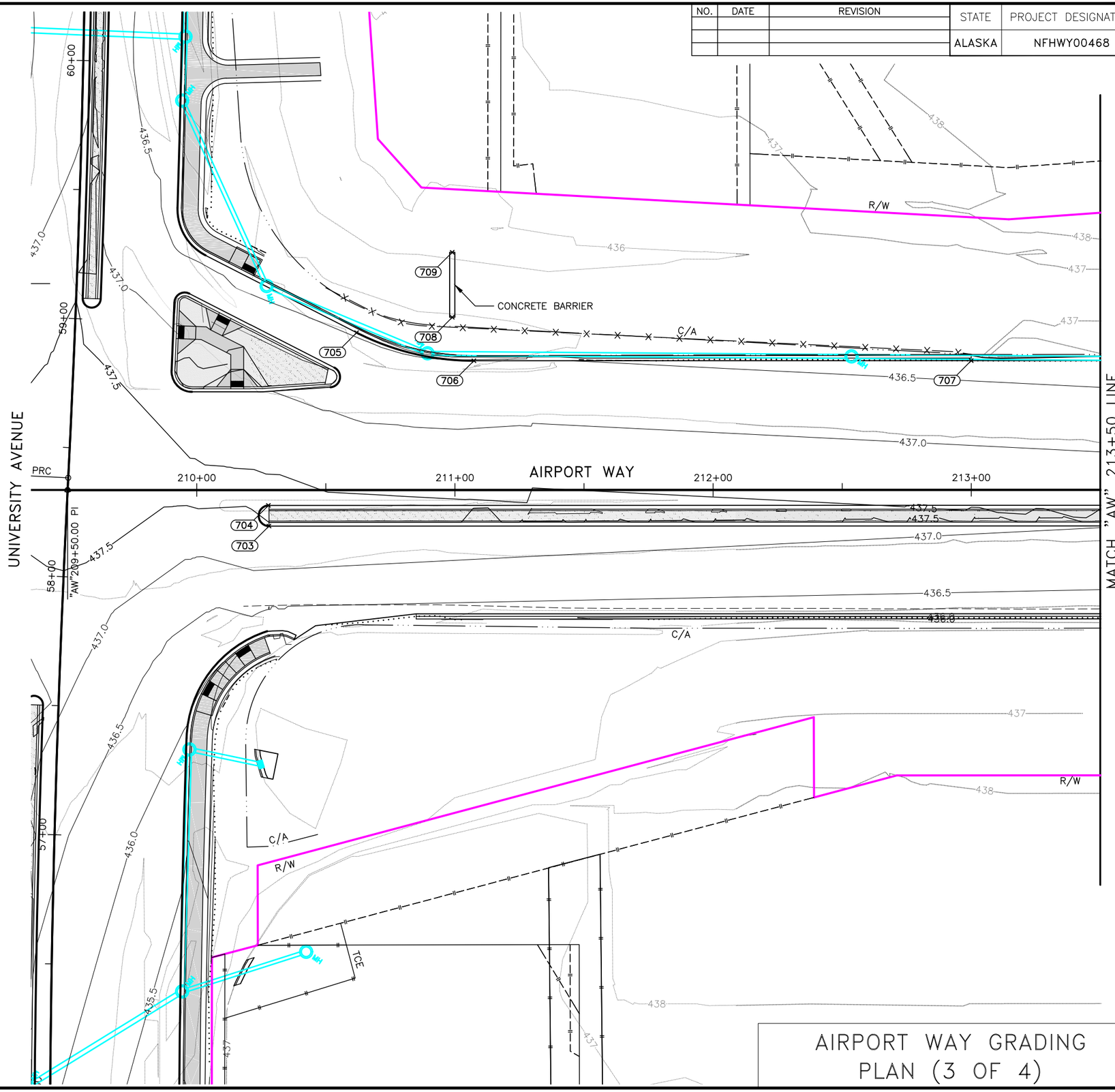
AIRPORT WAY GRADING PLAN (2 OF 4)

STATE OF ALASKA 49 TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2004cnst11147.04FB-G8 Mon, Dec/09/19 10:54am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	G9	G21

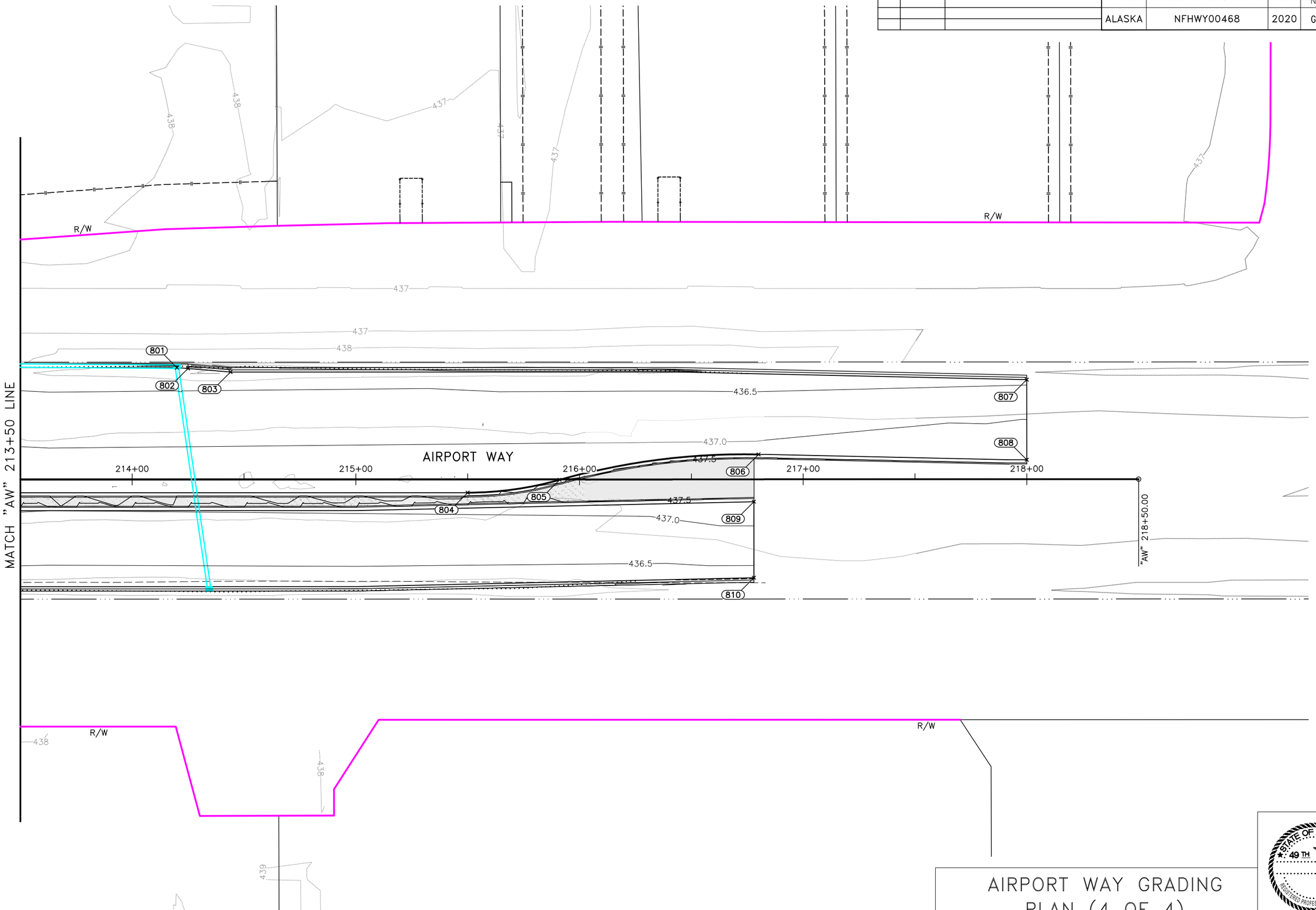


AIRPORT WAY GRADING
PLAN (3 OF 4)

STATE OF ALASKA
49 TH
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\11147.04FB-UNV_AVE-SEGMENT_2A\C\C2004cnst111147.04FB-G9 Mon, Dec/09/19 10:54am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G10	G21



AIRPORT WAY GRADING PLAN (4 OF 4)

STATE OF ALASKA 49 TH 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\11147.04FB-UNW_AVE-SEGMENT_2A\C\C2004crst11147.04FB-G10 Mon, Dec/09/19 10:54am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G11	G21

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

UNIVERSITY AVENUE

GERAGHTY AVE

MATCH "GR" 15+00 LINE

11+00 12+00 13+00 14+00

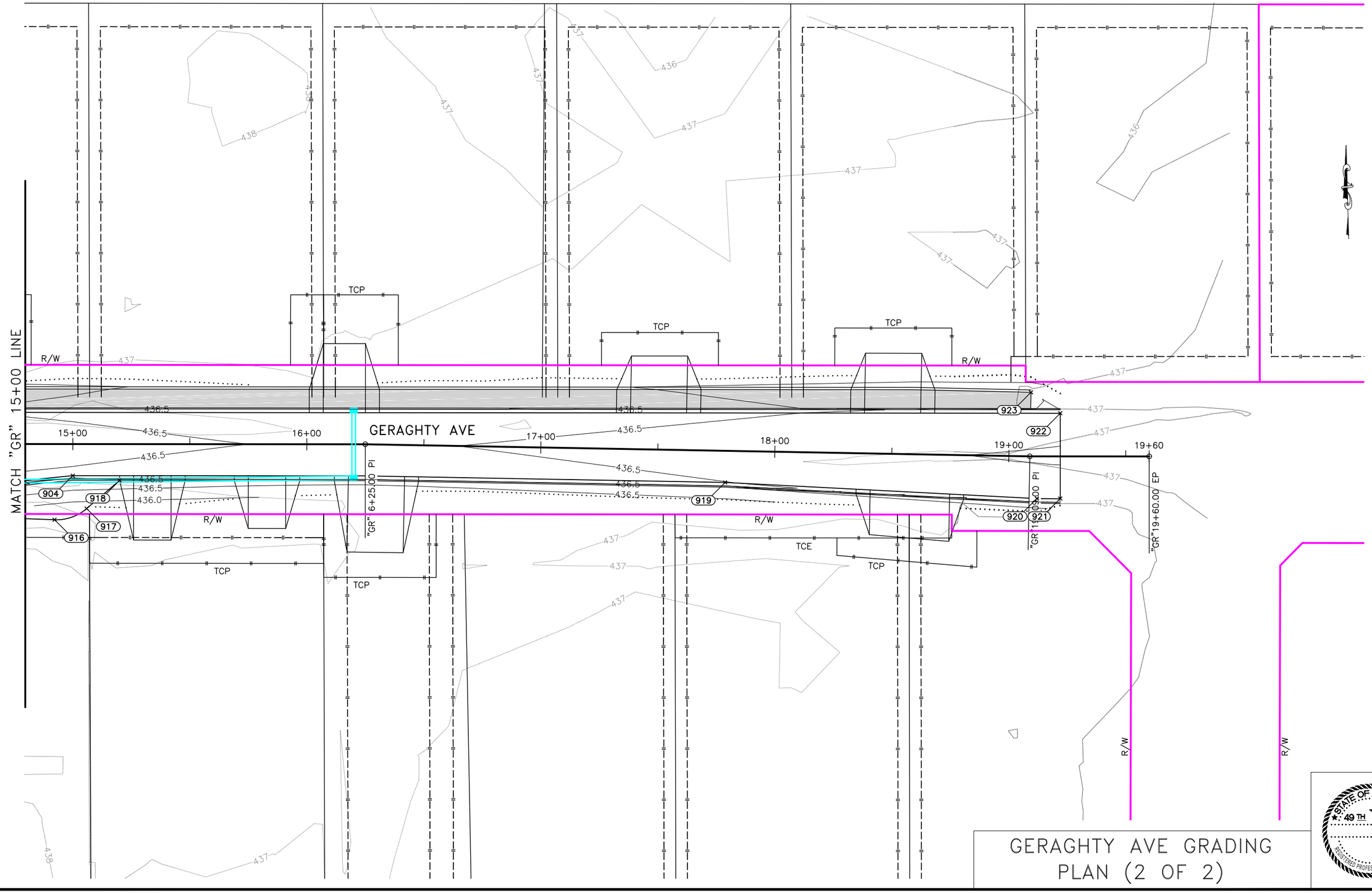
TCP R/W TCE

901 902 903 905 906 907 908 909 910 911 912 913 914 915

GERAGHTY AVE GRADING PLAN (1 OF 2)

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G12	G21



GERAGHTY AVE GRADING
PLAN (2 OF 2)

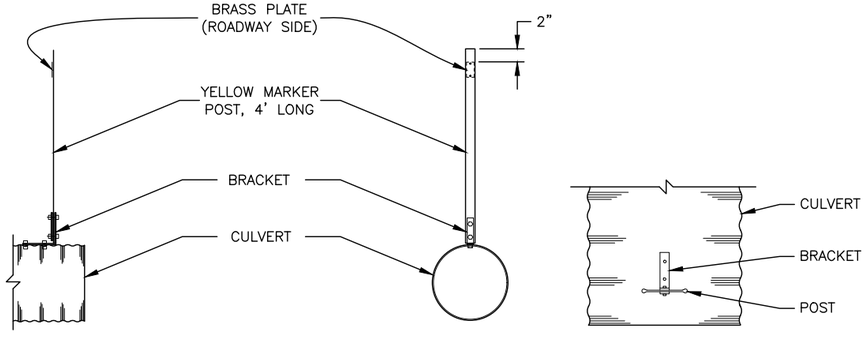
STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2004cnst111147.04FB-G12 Mon, Dec/09/19 10:55am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G13	G21

CULVERT SUMMARY

STATION	LT/C/RT	603(1)–36	INVERT		613(2) CULVERT MARKER POST	SKEW ANGLE	END SECTION	REMARKS
		36"	IN	OUT			603(20)–36	
"01" 56+73	LT	43	429.37	429.54	2	0	2	
"01" 68+51	LT	100	427.76	427.47	2	2°53'44" RHF	0	APPROACH LT
	TOTAL:	143			4		2	

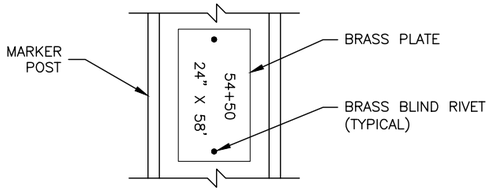


SIDE VIEW
NTS

END VIEW
NTS

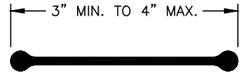
TOP VIEW
NTS

CULVERT MARKER POST DETAIL



STAMP STATION AND PIPE SIZE, USING 3/8" HIGH MINIMUM LETTERS INTO A 2"X4"X 0.064" THICK BRASS PLATE. FASTEN PLATE TO THE SIDE FACING THE ROADWAY WITH TWO 1/8" BRASS BLIND RIVETS.

BRASS PLATE DETAIL
NTS

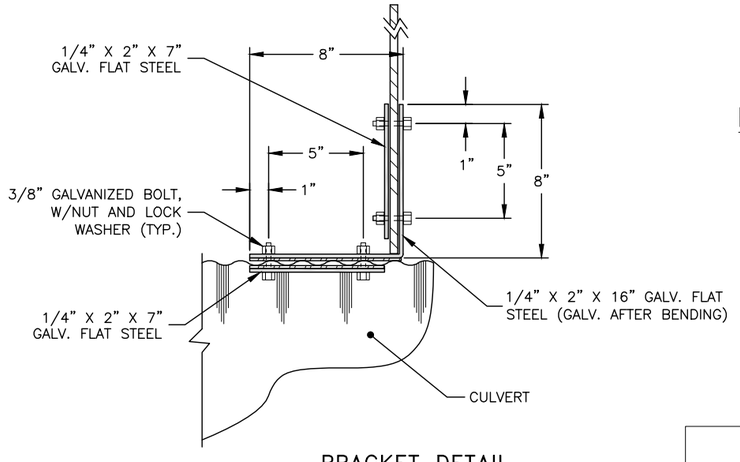


POST DETAIL
NTS

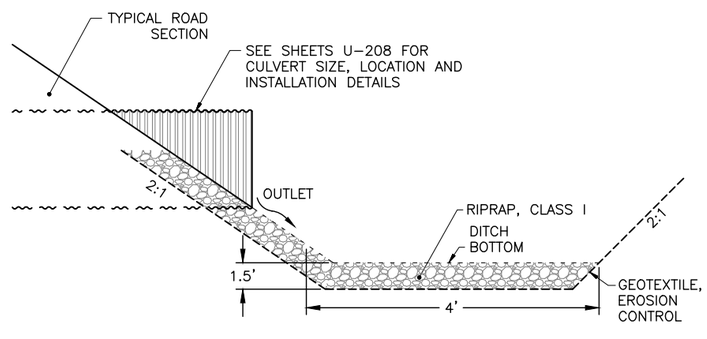
CULVERT MARKER POST DETAILS

CULVERT MARKER POSTS NOTES:

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



BRACKET DETAIL
NTS



RIPRAP OUTLET AT STORM DRAIN OUTLET
NTS

NOTES:

1. INSTALL RIPRAP TO A WIDTH OF THREE TIMES CULVERT DIAMETER.
2. INSTALL RIPRAP UP FILL SLOPE TO CULVERT SPRING LINE.
3. SEE SHEET U–208, PIPE NUMBER P–64.

STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

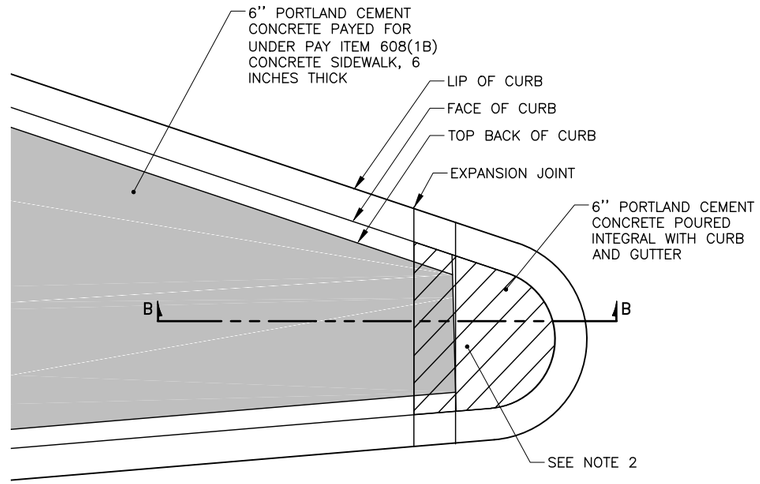
CULVERT DETAILS

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C4001cnst11147.04FB-G13 Thu, Dec/05/19 04:35pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G14	G21

639(101) APPROACH

STATION	OFFSET	SKEW ANGLE (90° TYP.)	(1) APPROACH PLAN TYPE	WIDTH (FT)	LENGTH (FT)	RADIUS (FT)	LANDING LENGTH (FT)	REMARKS
"01" 52+16.00	RT	90°	2	24/32	54	–	30(2)	CUC LOT
"01" 54+69.84	LT	65	1	12	223	50	–	FRED MEYER ACCESS
"01" 54+86.76	RT	90°	1	27	90	30	30	SAFWAY INC.
"01" 57+36.56	LT	23	1	16	330	207	–	FRED MEYER ACCESS
"GR" 11+49.00	LT	90°	2	34	54	–	30	SPLASH AND DASH
"GR" 13+78.00	LT	90°	2	24	44	–	30(2)	
"GR" 14+56.00	LT	90°	2	24	54	–	30	
"GR" 15+34.00	RT	90°	3	16	41	–	30(2)	
"GR" 15+83.00	RT	90°	3	16	36	–	10	
"GR" 16+16.00	LT	90°	2	18	43	–	10	
"GR" 16+30.00	RT	90°	3	24	46	–	30	
"GR" 17+50.00	LT	90°	2	24	40	–	30(2)	
"GR" 18+50.00	LT	90°	2	24	43	–	30(2)	
"GR" 18+58.00	RT	90°	3	34	36	–	10(2)	
		PAY ITEM TOTALS	14					



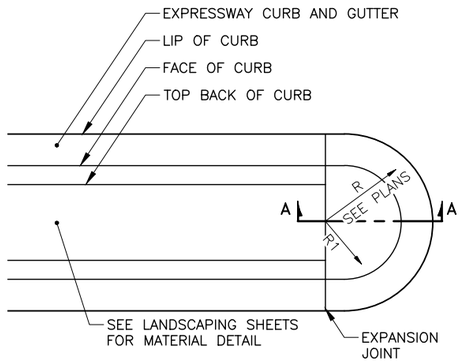
ISLAND–RAMPED MEDIAN NOSE DETAIL

NTS

APPROACH NOTES:

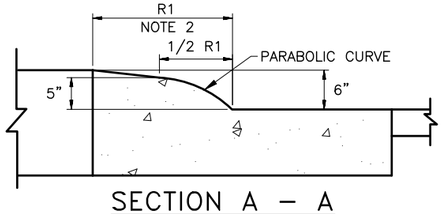
(1) SEE DETAILS ON G15 THROUGH G17 FOR APPROACH PLAN TYPE.

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



RAMPED MEDIAN NOSE DETAIL

NTS



SECTION A – A

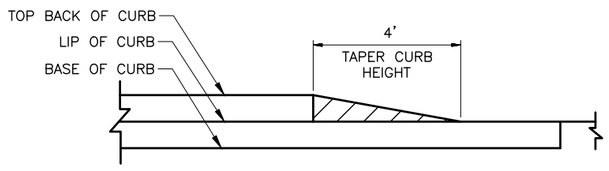
NTS

RAMPED MEDIAN NOSE NOTES:

1. CONSTRUCT RAMP MEDIAN NOSE TO RADIUS POINT "R1" OR 3 FEET 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(2) 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 SIGNING AND STRIPING PLAN SHEETS AND SPECS.

ISLAND – RAMPED MEDIAN NOSE NOTES:

1. CONSTRUCTION OF ISLAND RAMPED MEDIAN NOSE IS SUBSIDIARY TO PAY ITEM 609(2) 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

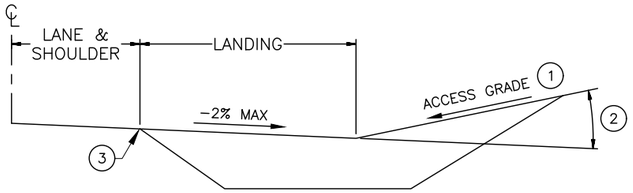
ISLAND – RAMPED MEDIAN NOSE LOCATIONS		
STATION	OFFSET	REMARKS
"01" 55+23	150' LT	
"01" 56+06	45' LT	
"AW" 210+55	43' LT	

APPROACH AND RAMPED NOSE DETAILS

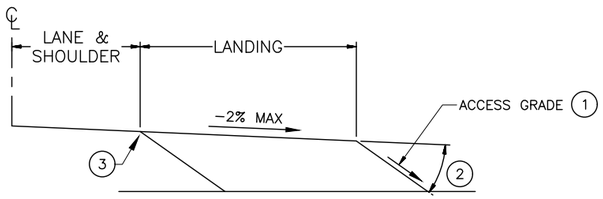
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C4001const11147.04FB-G14 Thu, Dec/05/19 04:35pm

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\11147.04FB-UNV_AVE-SEGMENT_2A\C\C4001cnst11147.04FB-G15 Thu, Dec/05/19 04:35pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G15	G21

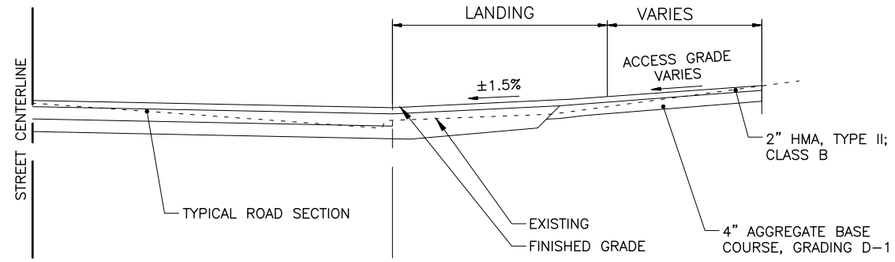


IN CUT



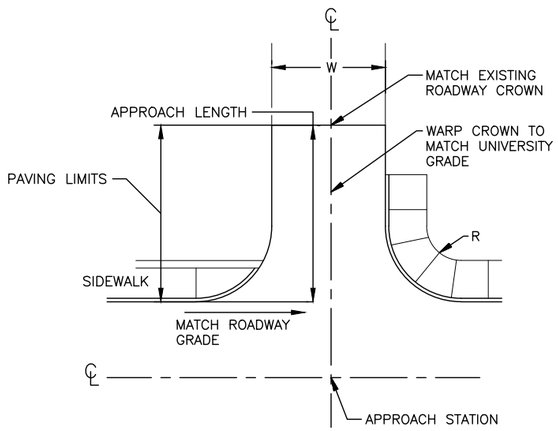
IN FILL

1. MAX RESIDENTIAL ACCESS GRADE IS 15%.
2. MAX ALGEBRAIC DIFFERENCE FOR COMMERCIAL ACCESS GRADE: 8%
   RESIDENTIAL: NONE
3. FOR OTHER APPROACH PLAN TYPES FOLLOW THESE CUT AND FILL DETAILS FROM LANDING POINT FOR ACCESS GRADE. THE LANE SHOULDER AND LANDING CONFIGURATION IS DIFFERENT FOR APPROACH TYPE PLAN 2, & 3, SEE SECTION DETAIL FOR SPECIFIC LAYOUT FROM ROADWAY EDGE THROUGH LANDING



APPROACH PLAN TYPE 1 SECTION DETAIL

NTS

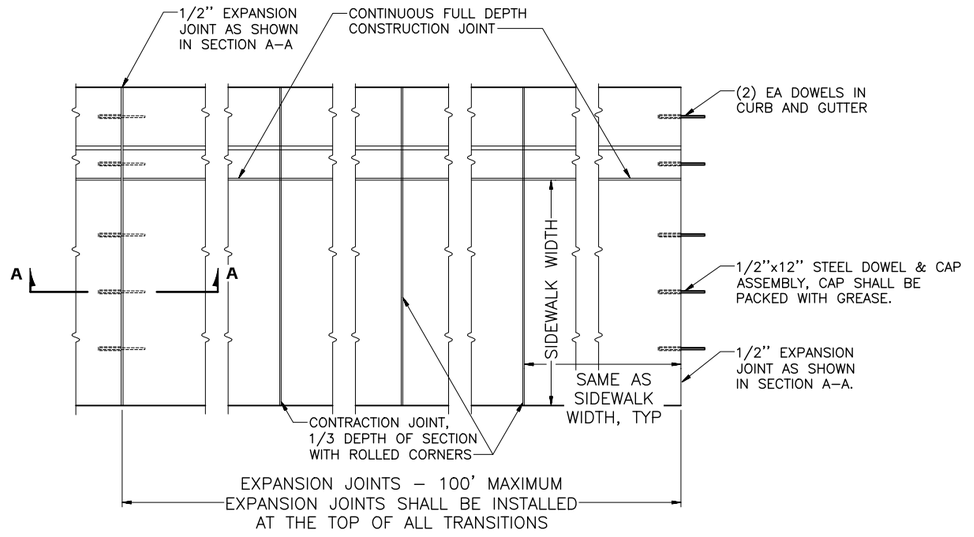


APPROACH PLAN TYPE 1 PLAN DETAIL

NTS

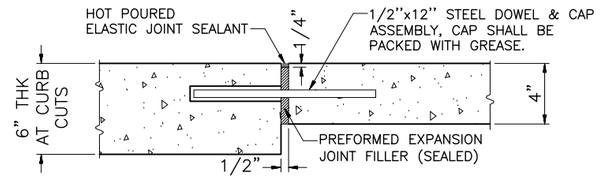
APPROACH NOTES:

1. MATERIAL FOR CONSTRUCTION OF APPROACH IS PAID FOR UNDER THE RESPECTIVE PAY ITEM.



PLAN VIEW

NTS



PARTIAL SECTION VIEW A − A

NTS

EXPANSION SIDEWALK & CURB AND GUTTER JOINT DETAIL

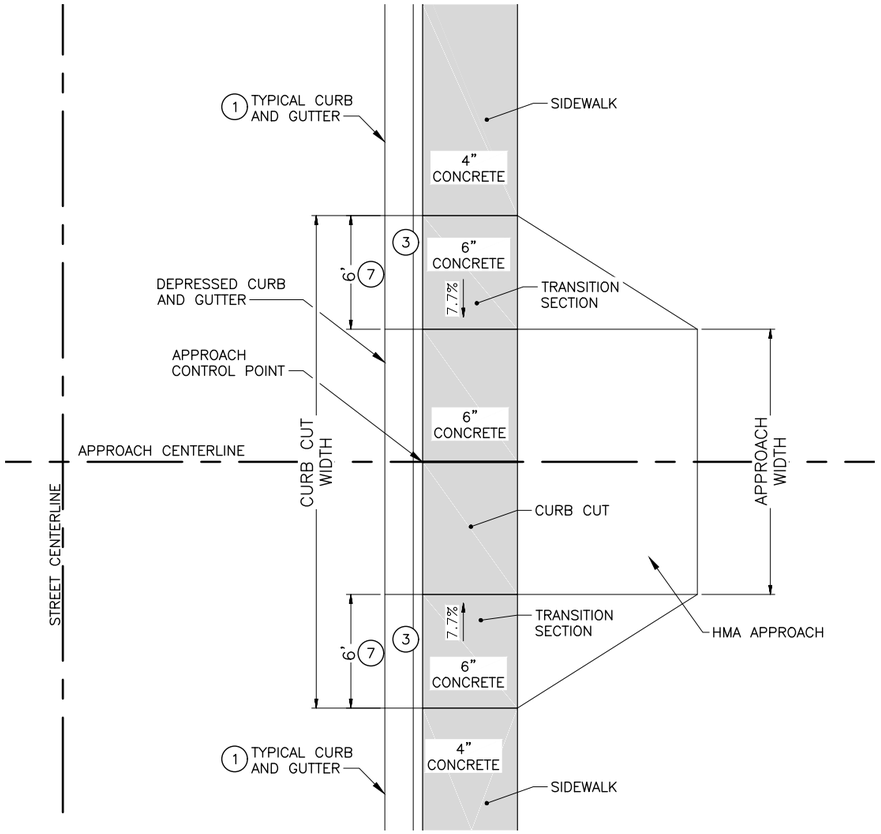
EXPANSION JOINT NOTES:

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.

APPROACH DETAILS

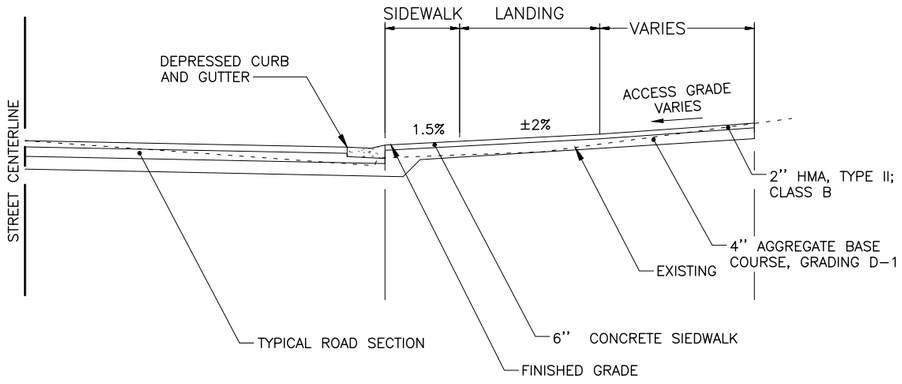
STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G16	G21



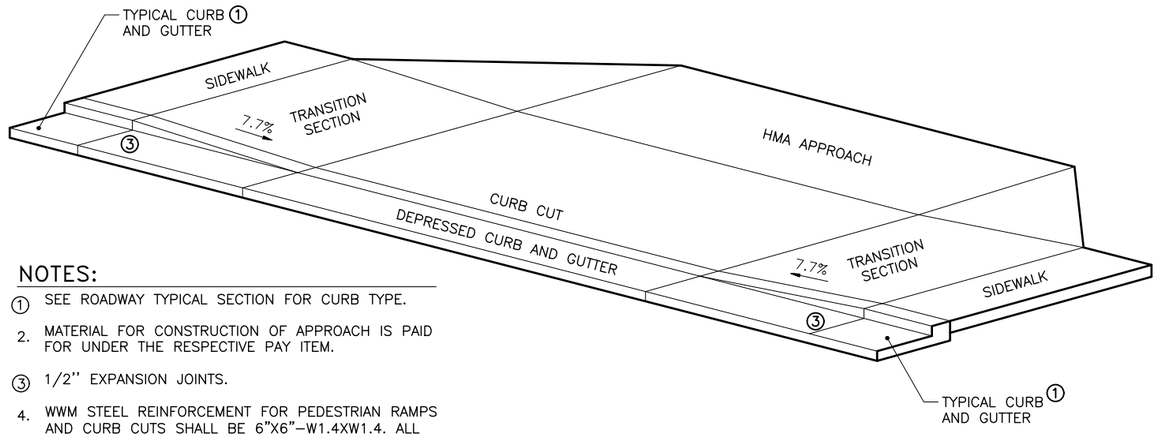
APPROACH PLAN TYPE 2 PLAN DETAIL

NTS



APPROACH PLAN TYPE 2 SECTION DETAIL

NTS



NOTES:

1. SEE ROADWAY TYPICAL SECTION FOR CURB TYPE.
2. MATERIAL FOR CONSTRUCTION OF APPROACH IS PAID FOR UNDER THE RESPECTIVE PAY ITEM.
3. 1/2'' EXPANSION JOINTS.
4. WWM STEEL REINFORCEMENT FOR PEDESTRIAN RAMPS AND CURB CUTS 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.
5. FOR SIDEWALK REINFORCEMENT, POSITION STEEL 1 1 1/2'' UP FROM BOTTOM OF SIDEWALK.
6. SEE SHEET G15 FOR EXPANSION SIDEWALK & CURB AND GUTTER JOINT DETAIL.

7. TRANSITION SECTION LENGTHS SHOWN IN PLANS ARE APPROXIMATE. CONSTRUCT TRANSITIONS AT A NOMINAL 7.7% GRADE OR FLATTER. SLOPES MAY BE INCREASED TO A MAXIMUM OF 8.3% WHERE SITE CONDITIONS WARRANT.

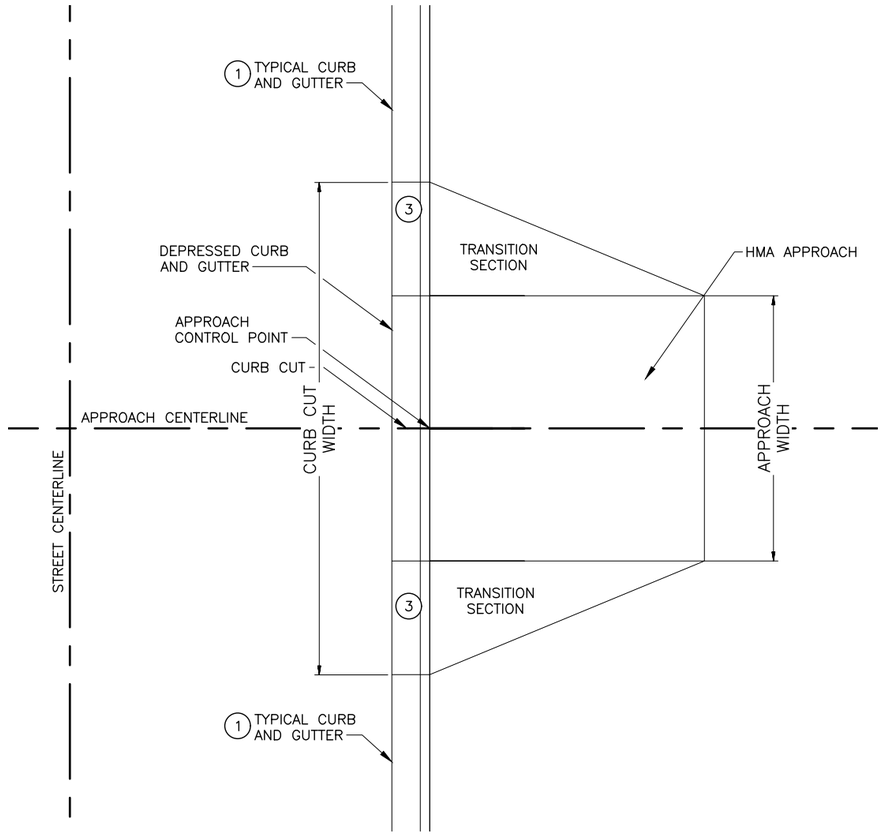
APPROACH PLAN TYPE 2 DETAIL

NTS

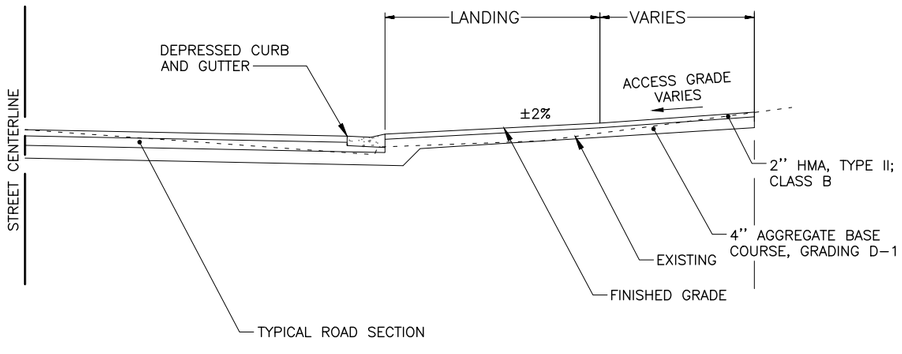
APPROACH DETAILS

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\24001cnst11147.04FB-G16 Thu, Dec/05/19 04:35pm

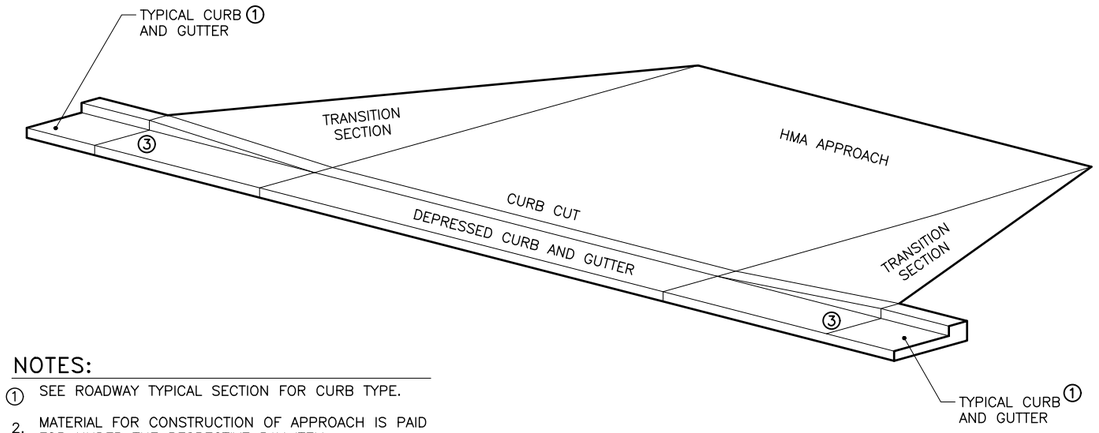
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G17	G21



APPROACH PLAN TYPE 3 PLAN DETAIL
NTS



APPROACH PLAN TYPE 3 SECTION DETAIL
NTS



NOTES:

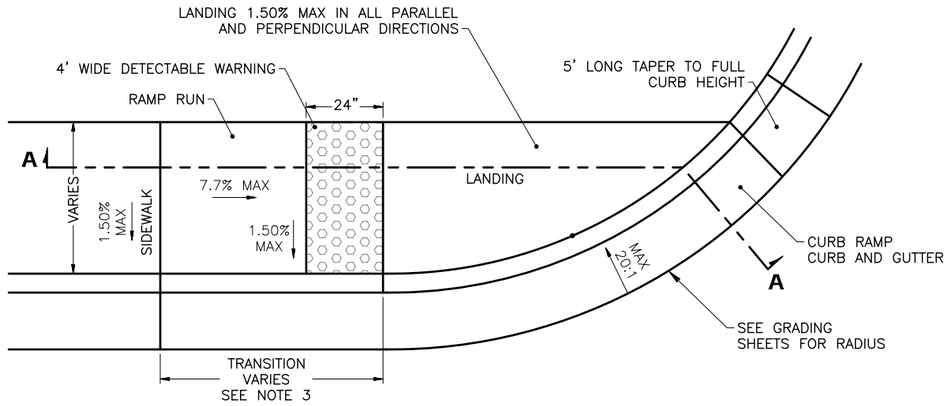
1. SEE ROADWAY TYPICAL SECTION FOR CURB TYPE.
2. MATERIAL FOR CONSTRUCTION OF APPROACH IS PAID FOR UNDER THE RESPECTIVE PAY ITEM.
3. 1/2" EXPANSION JOINTS.
4. SEE SHEET G15 FOR EXPANSION SIDEWALK & CURB AND GUTTER JOINT DETAIL.

APPROACH PLAN TYPE 3 DETAIL
NTS

APPROACH DETAILS

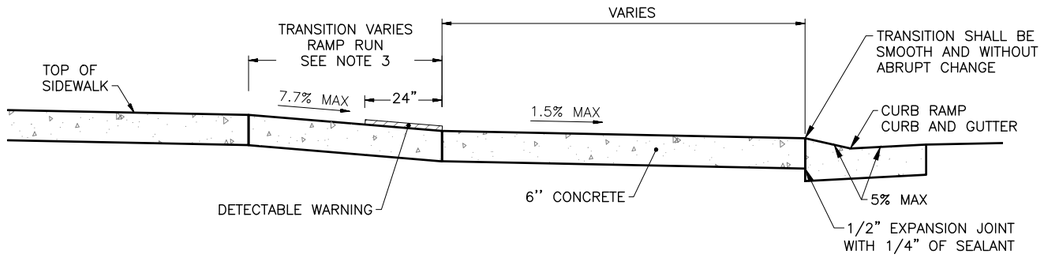
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C4001cnst111147.04FB-G17 Thu, Dec/05/19 04:36pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G18	G21



PLAN

NTS



SECTION A–A

NTS

UNIDIRECTIONAL CURB RAMP DETAILS

UNDIRECTIONAL CURB RAMP NOTES:

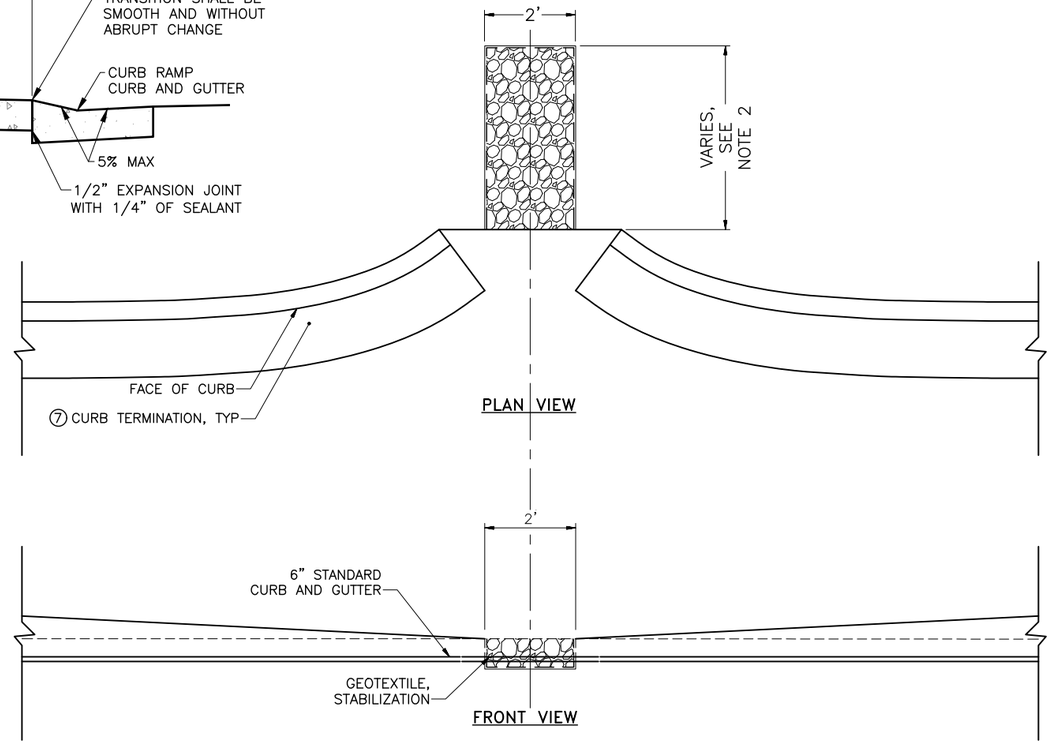
1. CONSTRUCT 6 INCH THICK RAMP AND LANDING OF CONCRETE.
2. CONCRETE SHALL RECEIVE A COARSE BROOMED FINISH RUNNING PERPENDICULAR TO THE CURB ON RAMP RUNS AND UPPER LANDINGS AND PARALLEL TO THE DIRECTION OF TRAVEL ON LOWER LANDINGS.
3. TRANSITION FROM STANDARD CURB AND GUTTER WHERE SIDEWALK SLOPE MAKES IT NECESSARY TO LENGTHEN A RAMP RUN TO AVOID EXCEEDING THE ALLOWABLE RAMP SLOPE.
4. INSTALL FEDERAL YELLOW CAST IRON DETECTABLE WARNINGS IN THE RAMP RUN.
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 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%.
7. CONSTRUCT LANDING AND SIDEWALK CROSS SLOPE AT NOMINAL 1.5% (1% MIN.,2% MAX) DO NOT CONSTRUCT LANDING AND SIDEWALK CROSS SLOPES STEEPER THAN 2%.
8. 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.
9. FOR SIDEWALK REINFORCEMENT, POSITION STEEL 1 1/2" UP FROM BOTTOM OF SIDEWALK.
10. 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.
11. SEE SHEET G15 FOR EXPANSION SIDEWALK AND CURB AND GUTTER JOINT DETAIL.

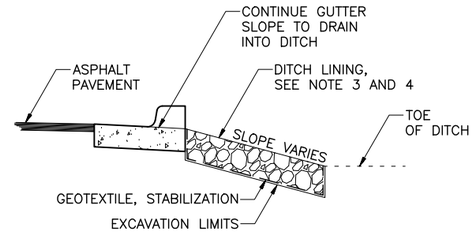
609(101) CURB DRAIN

ALIGNMENT	STATION	OFFSET	QUANTITY (EACH)	REMARKS
"01"	55+08	LT	1	FRED MEYER ACCESS
PAY ITEM TOTALS			1	

CURB DRAIN 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.
7. (7) INSTALL CURB TERMINATIONS ON EITHER SIDE OF THE CURB DRAIN CUT. SEE CURB TERMINATION DETAIL ON SHEET G19.





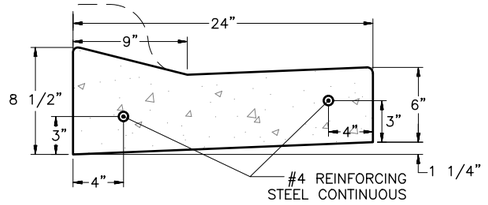
PROFILE VIEW

CURB DRAIN DETAIL

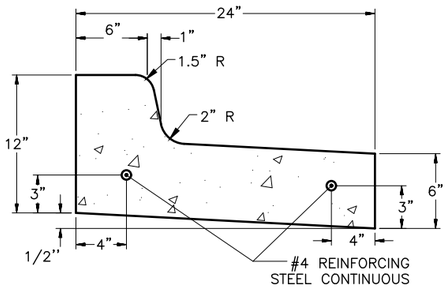
CURB AND GUTTER DETAILS

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C4001cnst11147.04FB-G18 Thu, Dec/05/19 04:36pm

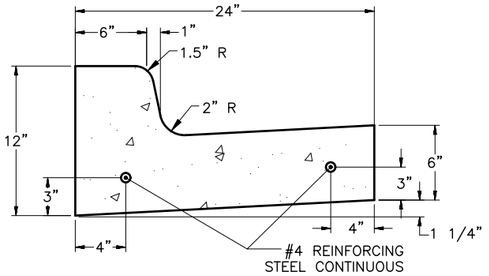
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G19	G21



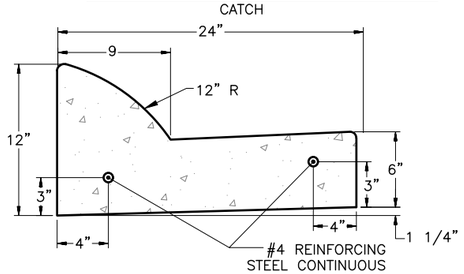
DEPRESSED CURB AND GUTTER



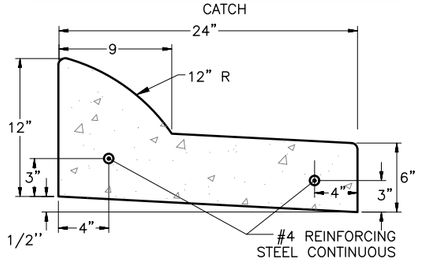
STANDARD CURB AND GUTTER
SPILL



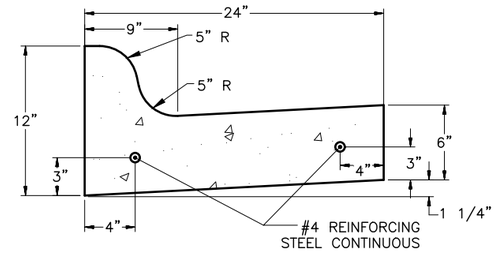
STANDARD CURB AND GUTTER
CATCH



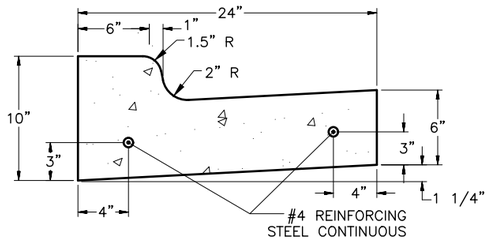
EXPRESSWAY CURB AND GUTTER
CATCH



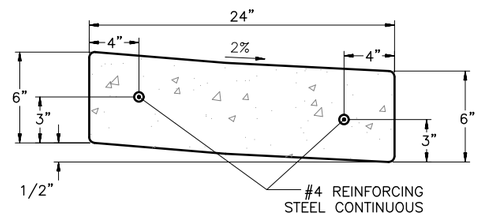
EXPRESSWAY CURB AND GUTTER



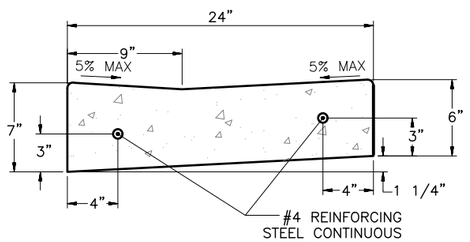
MOUNTABLE CURB AND GUTTER



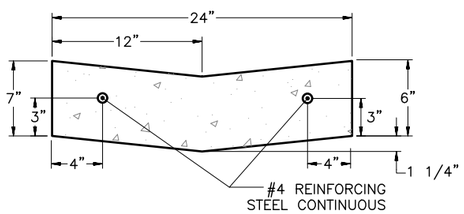
STANDARD CURB AND GUTTER CATCH
FOR PARRALLEL RAMPS UPPER LANDING



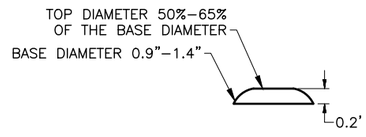
CURB RAMP CURB AND GUTTER
SPILL

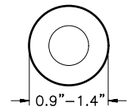


CURB RAMP CURB AND GUTTER
CATCH



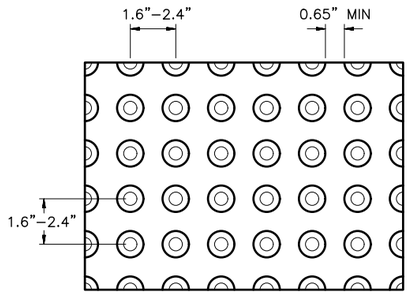
GUTTER



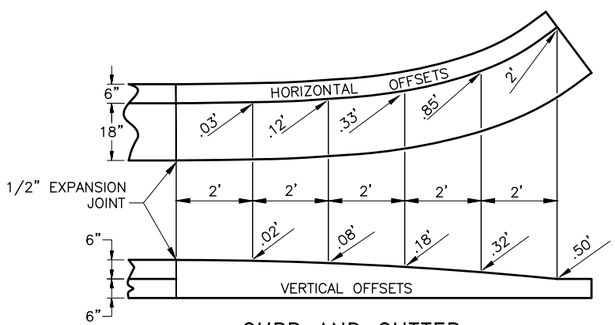


= TRUNCATED
DOME SURFACE
(SEE NOTE 7)

TRUNCATED DOME DETAILS



TRUNCATED PATTERN DETAIL



CURB AND GUTTER
TERMINATION TRANSITIONS

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(2).
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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C4001cnst11147.04FB-G19 Thu, Dec/05/19 04:36pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G20	G21

607(3) CHAIN LINK FENCE

ALIGNMENT	START		PI/PC/PT		END		LENGTH	REMARKS
	STATION	OFFSET	STATION	OFFSET	STATION	OFFSET	(FT)	
"AW"	210+50.00	78.25' LT						
			PI 210+68.28	68.91 LT				
			PC 210+88.60	63.49 LT				R= 50.00'
			PT 211+60.00	60.00 LT				
			PI 212+93.00	53.50 LT				
					213+03.00	52.00 LT	256.47	
						PAY ITEM TOTAL	256.47	

608(1A) CONCRETE SIDEWALK, 4 INCHES THICK

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (SQUARE YARD)	REMARKS
"01"	50+40.26	50+66.10	RT	26.89	UTILITY PATCHING
"01"	50+74.56	50+84.80	RT	7.89	UTILITY PATCHING
"01"	51+30.96	51+46.32	RT	21.78	UTILITY PATCHING
"01"	51+47.46	51+58.26	RT	7.89	UTILITY PATCHING
"01"	54+00.00	54+84.69	LT	76.74	
"01"	54+09.00	54+56.62	RT	31.00	
"01"	54+63.74	54+71.12	RT	15.44	
"01"	54+87.53	54+98.34	LT	9.68	
"01"	55+02.38	55+07.93	RT	11.44	
"01"	55+14.05	55+78.57	LT	35.55	
"01"	55+18.08	57+49.82	RT	150.56	
"01"	55+41.00	55+87.93	LT	118.00	
"01"	55+99.93	57+76.72	LT	186.67	
"01"	58+80.93	67+20.00	LT	754.89	
"01"	58+83.02	58+98.95	RT	13.89	
"01"	59+24.13	61+35.03	RT	176.00	
"01"	62+14.03	68+00.00	RT	390.11	
"GR"	10+49.63	11+26.00	LT	65.89	
"GR"	11+72.00	13+60.00	LT	167.11	
"GR"	13+96.00	14+38.00	LT	37.33	
"GR"	14+74.00	16+01.00	LT	112.89	
"GR"	16+30.73	17+32.00	LT	90.11	
"GR"	17+68.00	18+32.00	LT	56.89	
"GR"	18+68.00	19+09.33	LT	33.56	
			PAY ITEM TOTALS	2598.20	

608(1B) CONCRETE SIDEWALK, 6 INCHES THICK

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (SQUARE YARD)	REMARKS
"01"	50+52.48	50+63.65	RT	8.44	UTILITY PATCHING
"01"	51+30.49	51+42.80	RT	11.11	UTILITY PATCHING
"01"	54+77.52	54.94.88	LT	21.81	
"01"	55+02.23	56+06.42	LT	379.23	ISLAND MEDIAN
"01"	54+53.67	54+70.00	RT	13	
"01"	55+19.72	55+03.02	RT	11.44	
"01"	55+83.09	56+04.09	LT	18.11	
"01"	57+48.33	57+79.50	RT	25	
"01"	57+51.91	57+65.10	LT	7.89	
"01"	57+66.23	57+76.30	LT	8	
"01"	58+77.54	59+09.48	RT	123.44	ISLAND MEDIAN
"01"	58+83.25	58+92.80	LT	8.11	
"01"	58+93.17	59+07.64	LT	8.33	
"01"	59+19.74	59+29.50	RT	7	
"01"	61+35.04	61+52.80	RT	8.22	
"01"	62+00.45	62+15.68	RT	10.44	
"GR"	11+26.00	11+72.00	LT	40.89	
"GR"	13+60.00	13+96.00	LT	32	
"GR"	14+38.00	14+74.00	LT	32	
"GR"	16+01.00	16+30.59	LT	26.67	
"GR"	17+32.00	17+68.00	LT	32	
"GR"	18+32.00	18+68.00	LT	31.89	
			PAY ITEM TOTALS	865.02	

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.

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C4001const11147.04FB-G20 Summary Table (1 of 2) Thu, Dec/05/19 04:36pm

SUMMARY TABLE
(1 OF 2)

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	G21	G21

608(2) ASPHALT SIDEWALK

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (TONS)	REMARK
"01"	51+73.12	54+00.00	LT	17	
"01"	51+60.00	54+09.00	RT	14	
"01"	67+20.00	68+03.24	LT	6	
"01"	68+00.00	68+91.27	RT	6	
"01"	68+64.58	72+37.50	LT	19	
			PAY ITEM TOTALS	62	

608(6) CURB RAMP

ALIGNMENT	STATION	OFFSET	QUANTITY (EACH)	REMARKS
"01"	50+57.65	RT	1	PERPENDICULAR
"01"	51+34.92	RT	1	PERPENDICULAR
"01"	54+62.90	RT	1	PARALLEL
"01"	54+88.83	LT	1	PARALLEL
"01"	55+08.87	LT	1	PERPENDICULAR
"01"	55+10.67	RT	1	PARALLEL
"01"	55+79.36	LT	1	PERPENDICULAR
"01"	55+92.01	LT	1	PARALLEL
"01"	57+58.27	LT	1	PERPENDICULAR
"01"	57+58.57	RT	1	PARALLEL
"01"	57+72.30	LT	1	PERPENDICULAR
"01"	57+73.68	RT	1	PARALLEL
"01"	58+77.62	RT	1	PERPENDICULAR
"01"	58+88.23	LT	1	PERPENDICULAR
"01"	58+96.47	RT	1	PERPENDICULAR
"01"	59+00.60	LT	1	PERPENDICULAR
"01"	59+01.79	RT	1	PERPENDICULAR
"01"	59+21.83	RT	1	PARALLEL
"01"	61+39.99	RT	1	UNIDIRECTIONAL
"01"	62+06.01	RT	1	PARALLEL
"01"	67+91.46	LT	1	UNIDIRECTIONAL
"01"	68+73.85	LT	1	UNIDIRECTIONAL
		PAY ITEM TOTALS	22	

609(2) CURB AND GUTTER, TYPE I

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (LINEAR FOOT)	SHAPE	REMARKS
"01"	50+42.88	50+66.59	RT	40	STANDARD	UTILITY PATCHING
"01"	50+82.19	50+85.32	RT	10	STANDARD	UTILITY PATCHING
"01"	51+31.41	51+30.46	RT	24	STANDARD	UTILITY PATCHING
"01"	51+46.93	51+50.61	RT	11	STANDARD	UTILITY PATCHING
"01"	51+26.07	51+37.26	LT	15	STANDARD	UTILITY PATCHING
"01"	51+60.00	54+72.49	RT	347	STANDARD	
"01"	51+73.12	55+14.15	LT	482	STANDARD	
"01"	52+95.19	53+20.04	RT	33	STANDARD	UTILITY PATCHING
"01"	55+02.39	55+35.85	RT	69	STANDARD	UTILITY PATCHING
"01"	53+99.09	57+52.25	LT	713	EXPRESSWAY MEDIAN	
"01"	54+96.19	56+05.21	LT	331	EXPRESSWAY ISLAND MEDIAN	
"01"	55+01.87	57+79.49	RT	328	STANDARD	
"01"	55+40.52	57+78.53	LT	375	STANDARD	
"01"	56+42.84	56+53.08	RT	11	STANDARD	UTILITY PATCHING
"01"	57+24.71	57+35.51	RT	11	STANDARD	UTILITY PATCHING
"01"	58+73.72	59+11.16	RT	175	EXPRESSWAY MEDIAN	
"01"	58+80.93	68+03.24	LT	962	STANDARD	
"01"	59+05.75	68+03.25	LT/RT	1,803	EXPRESSWAY MEDIAN	
"01"	59+27.57	61+63.81	RT	259	STANDARD	
"01"	61+93.46	68+91.27	RT	714	STANDARD	
"01"	68+03.73	68+21.21	LT	64	STANDARD	UTILITY PATCHING
"01"	68+47.48	68+47.52	LT	23	STANDARD	UTILITY PATCHING
"01"	68+64.58	72+37.50	LT	377	STANDARD	
"01"	68+47.52	68+50.86	LT	11	STANDARD	
"AW"	200+50.00	208+70.50	LT/RT	1,646	STANDARD	
"AW"	204+89.75	208+59.82	RT	370	STANDARD	
"AW"	210+04.16	211+50.00	LT	155	STANDARD	
"AW"	210+25.50	218+00.00	LT/RT	1,431	STANDARD	
"AW"	210+85.00	216+78.00	RT	593	GUTTER	
"AW"	211+50.00	213+00.00	LT	150	GUTTER	
"AW"	214+25.00	218+00.02	LT	375	GUTTER	
"GR"	10+67.33	19+22.00	LT	855	STANDARD	
"GR"	10+68.34	11+50.00	RT	82	STANDARD	
"GR"	11+50.00	14+50.00	RT	300	GUTTER	
"GR"	14+50.00	19+21.98	RT	472	STANDARD	
			PAY ITEM TOTALS	13,616		

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 49 TH REGISTERED PROFESSIONAL ENGINEER

SUMMARY TABLE (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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C4001cnst11147.04FB-G21 Summary Table (2 of 2) Thu, Dec/05/19 04:36pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H1	H58

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	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
MMA	METHYL METHACRYLATE
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
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

LEGEND

LEGEND APPLIES TO H SHEETS ONLY.

	EXISTING	PROPOSED
JUNCTION BOX, TYPE IA	5	5
JUNCTION BOX, TYPE II	6	6
JUNCTION BOX, TYPE III	3	3
JUNCTION BOX, ABOVE GRADE	7	7
SIGNAL FACE, VEHICULAR	42	42
SIGNAL FACE, BACKPLATE	42	42
SIGNAL FACE, LEFT TURN, BACKPLATE	43	43
SIGNAL FACE, PEDESTRIAN	80 41	80 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	IC	IC
TRAFFIC CONTROLLER		M
LOAD CENTER		
LUMINAIRE		
RIGID METAL CONDUIT		
TRAFFIC SIGNAL INTERCONNECT	I/C	I/C
BORING		
TRANSFORMER	E	E

INDEX OF SHEETS

MMA TRAFFIC MARKINGS SUMMARY

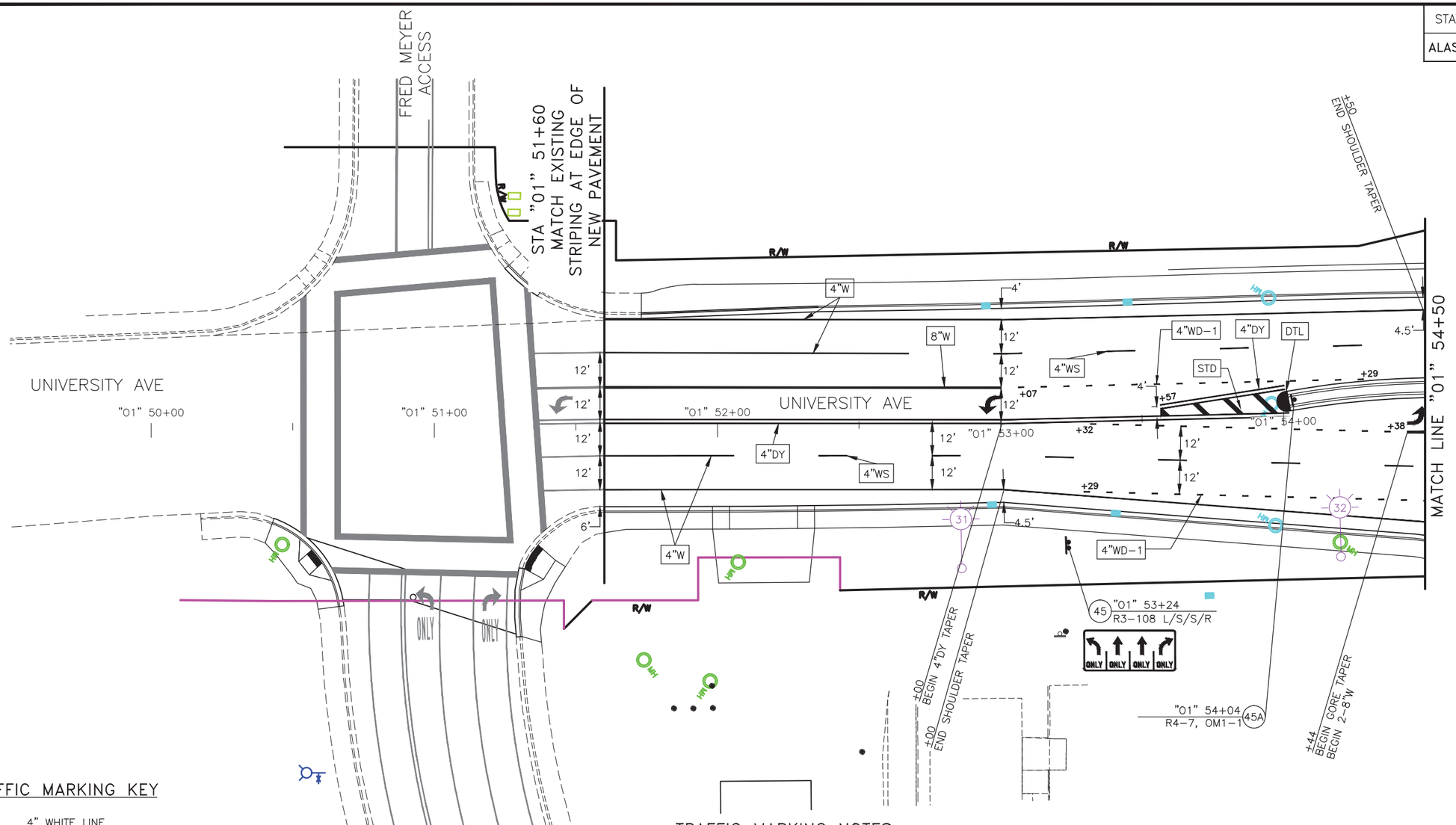
DESCRIPTION	QUANTITY	REMARKS
4"W	7,520 LF	
4"WS	5,860 LF	INCLUDES SKIPS
4"WD-1	900 LF	INCLUDES SKIPS
4"DY	3,090 LF	
8"W	6,060 LF	
8"WD-2	90 LF	INCLUDES SKIPS
24"W	2,160 SF	INCLUDES CROSSWALKS AND STOP BARS
WHITE CHEVRONS	990 SF	
YELLOW DIAGONALS	280 SF	
TURN ARROW SYMBOLS	25 EA	
YELLOW RAMPED MEDIAN NOSES	9 EA	
YELLOW CURB AND GUTTER	21 LF	MEASURED ALONG FACE OF CURB

TRAFFIC LEGEND, ABBREVIATIONS, AND SHEET INDEX

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H2	H58



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 INLAID METHYL METHACRYLATE (MMA).
2. SEE SECTION 670 OF THE SPECIAL PROVISIONS FOR DEPTH OF INLAID MARKINGS.
3. 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, CENTER THE CROSSWALK PAVEMENT MARKINGS ON THE CURB RAMP.
4. "LADDER" STYLE CROSSWALK PAVEMENT MARKINGS SHALL BE COMPRISED OF 24"W LINES THAT ARE 10-FT LONG WITH 2-FT GAPS. CENTER THE 24"W 10-FT LONG PAVEMENT MARKINGS ON THE CURB RAMP. ALIGN THE 24"W PAVEMENT MARKINGS WITH THE VEHICLE TRAVEL DIRECTION AND CENTER THE 2-FT GAP ON THE WHEEL PATH.
5. TRANSITION NEW PAVEMENT MARKINGS TO MATCH EXISTING MARKINGS AT A 100:1 TAPER.
6. REMOVE ALL EXISTING PAVEMENT MARKINGS NOT COINCIDING WITH THE NEW INLAID MARKINGS. THIS WORK IS SUBSIDIARY TO 670 PAY ITEMS.
7. DIMENSIONS REFER TO THE CENTER OF STRIPE, STRIPE GROUP, EDGE OF PAVEMENT OR LIP OF GUTTER WHEN PRESENT.
8. ALL LANES ARE 12-FT WIDE UNLESS OTHERWISE NOTED.
9. AT MINOR SIDE STREETS, BREAK 4"W FOG LINE PAVEMENT MARKINGS AT APPROACH RADII. DO NOT BREAK FOG LINE AT DRIVEWAYS.
10. 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.
11. INSTALL THE "APPROACH TO OBSTRUCTIONS" PAVEMENT MARKINGS IN ACCORDANCE WITH STANDARD DRAWING T-20.04 OR AS SHOWN ON THESE PLANS.
12. INSTALL TURN ARROWS WHERE SHOWN AND ACCORDING TO STD. DWG. T-21.03. DO NOT INSTALL "ONLY" MARKINGS UNLESS SHOWN ON THE STRIPING PLAN.
13. 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 TRAFFIC PAINT. THIS WORK IS SUBSIDIARY TO 670 PAY ITEMS.
14. LOCATE STOP BARS A MINIMUM OF EITHER 4' FROM BACK OF SIDEWALK OR 10' FROM FACE OF CURB, WHICHEVER PROVIDES THE GREATER OFFSET FROM BACK OF SIDEWALK.
15. STRIPING CONFIGURATIONS IN THIS PLAN SET ARE APPROXIMATE. THE CONTRACTOR SHALL PERFORM PRELIMINARY SPOTTING (RABBIT TRACKING) OF STRIPING AT LEAST 48 HOURS PRIOR TO FINAL MILLING AND APPLICATION OF MARKINGS. THE ENGINEER WILL THEN APPROVE THE LAYOUT OR MAKE MODIFICATIONS AS REQUIRED.

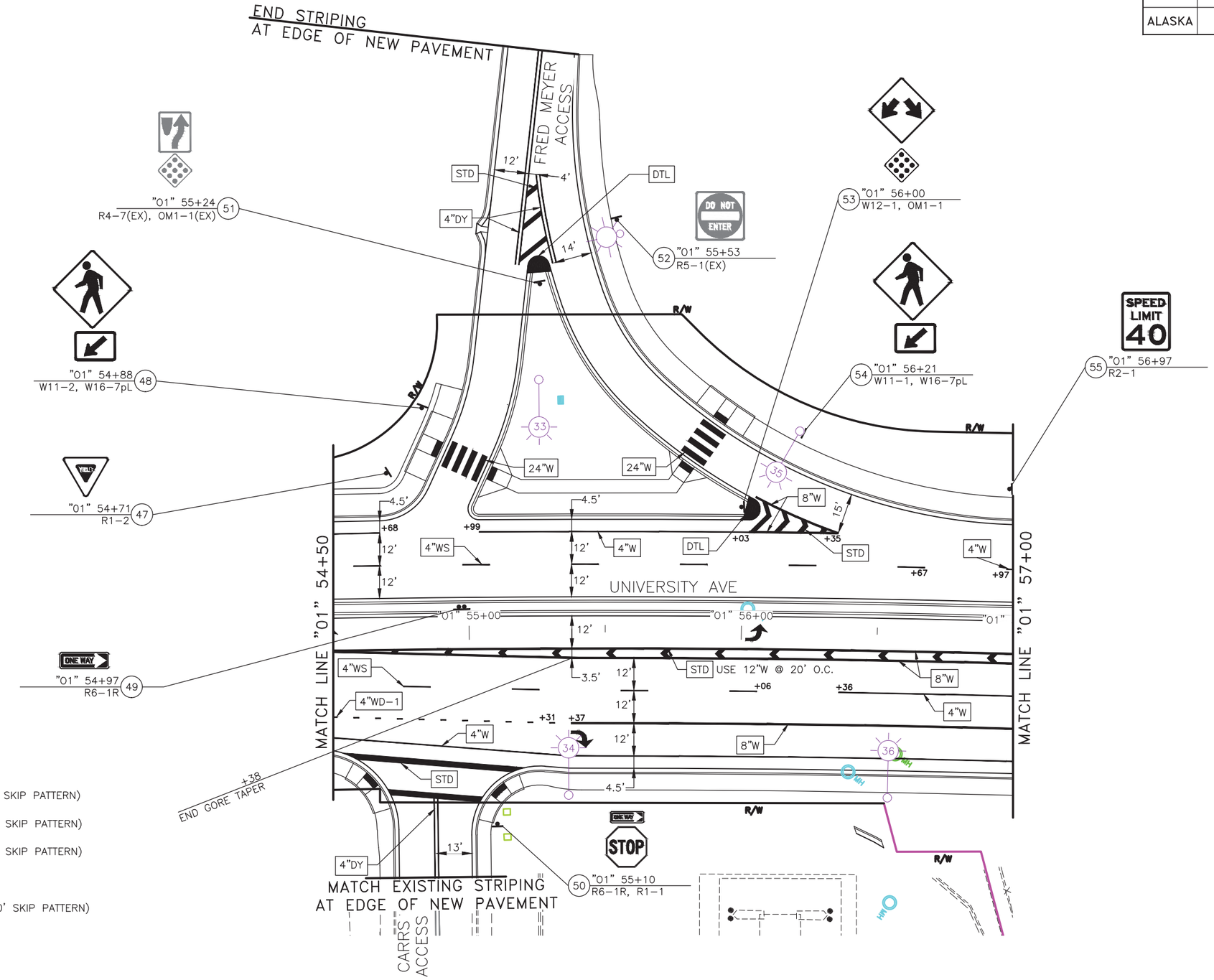
SIGNING AND STRIPING

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2-SEG-2A\DWGS\C\SHEETS\63213_H2-H10_SIGN&STRIP.DWG PLOTTED: Dec 10, 2019 - 5:52:41 PM (Brian Lewis) KE#: 00245

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H3	H58



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

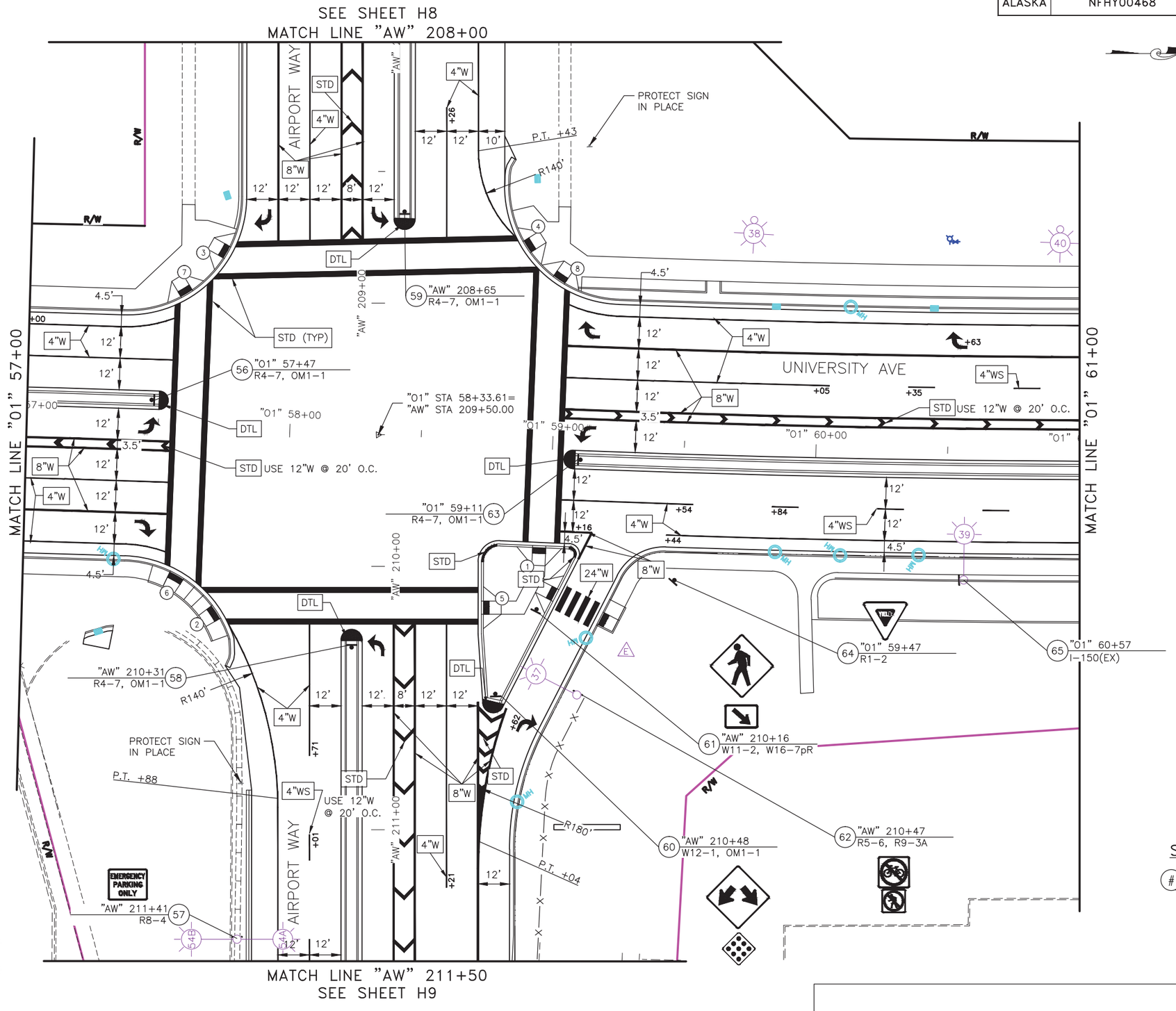
(#) STATION
SIGN CODE(S)
SIGN LOCATION #

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95% PS&E SUBMITTAL

SIGNING AND STRIPING

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H4	H58



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

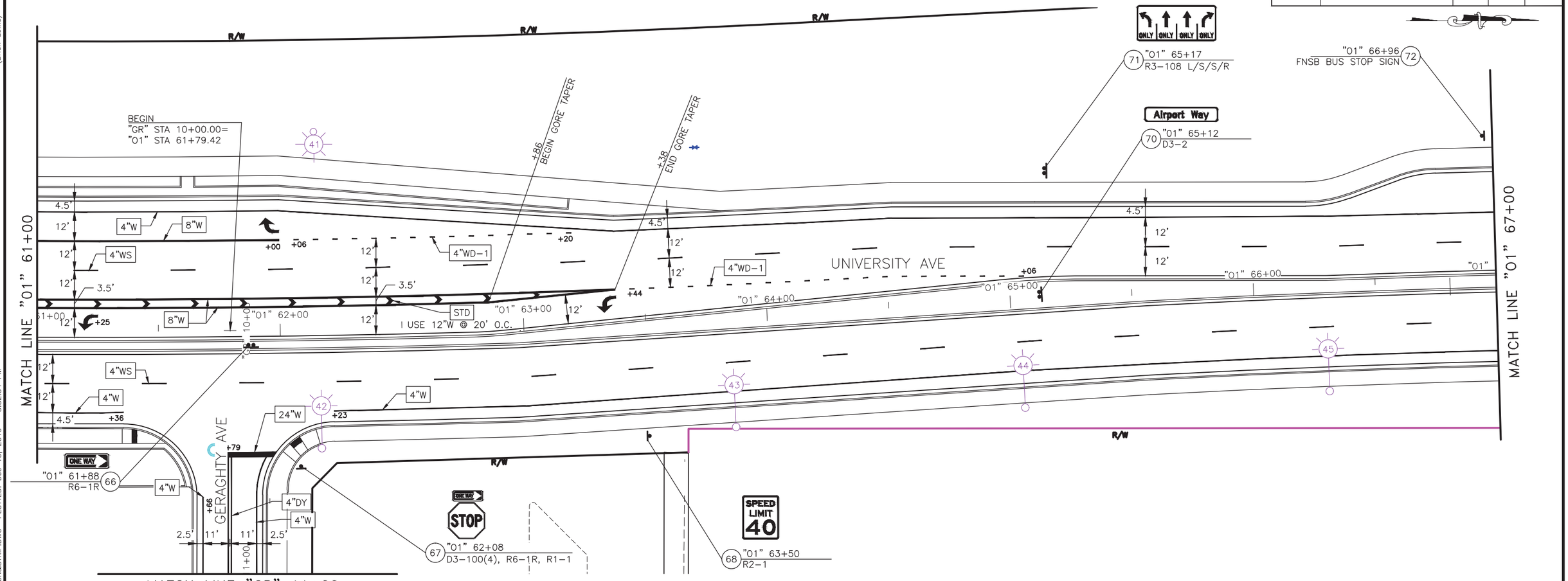
(#) STATION
SIGN CODE(S)
SIGN LOCATION #

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95% PS&E SUBMITTAL

SIGNING AND STRIPING

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H5	H58



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

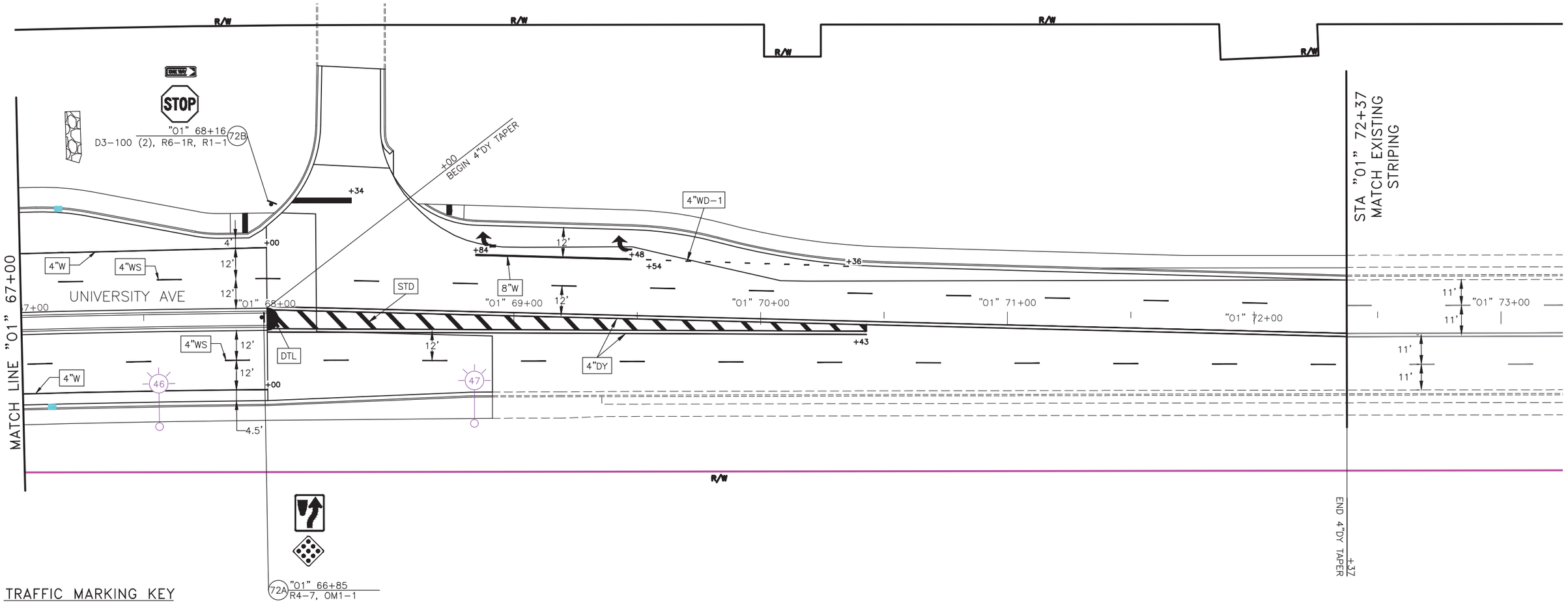
(#) STATION
SIGN CODE(S)
SIGN LOCATION #

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95% PS&E SUBMITTAL

SIGNING AND STRIPING

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H6	H58



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

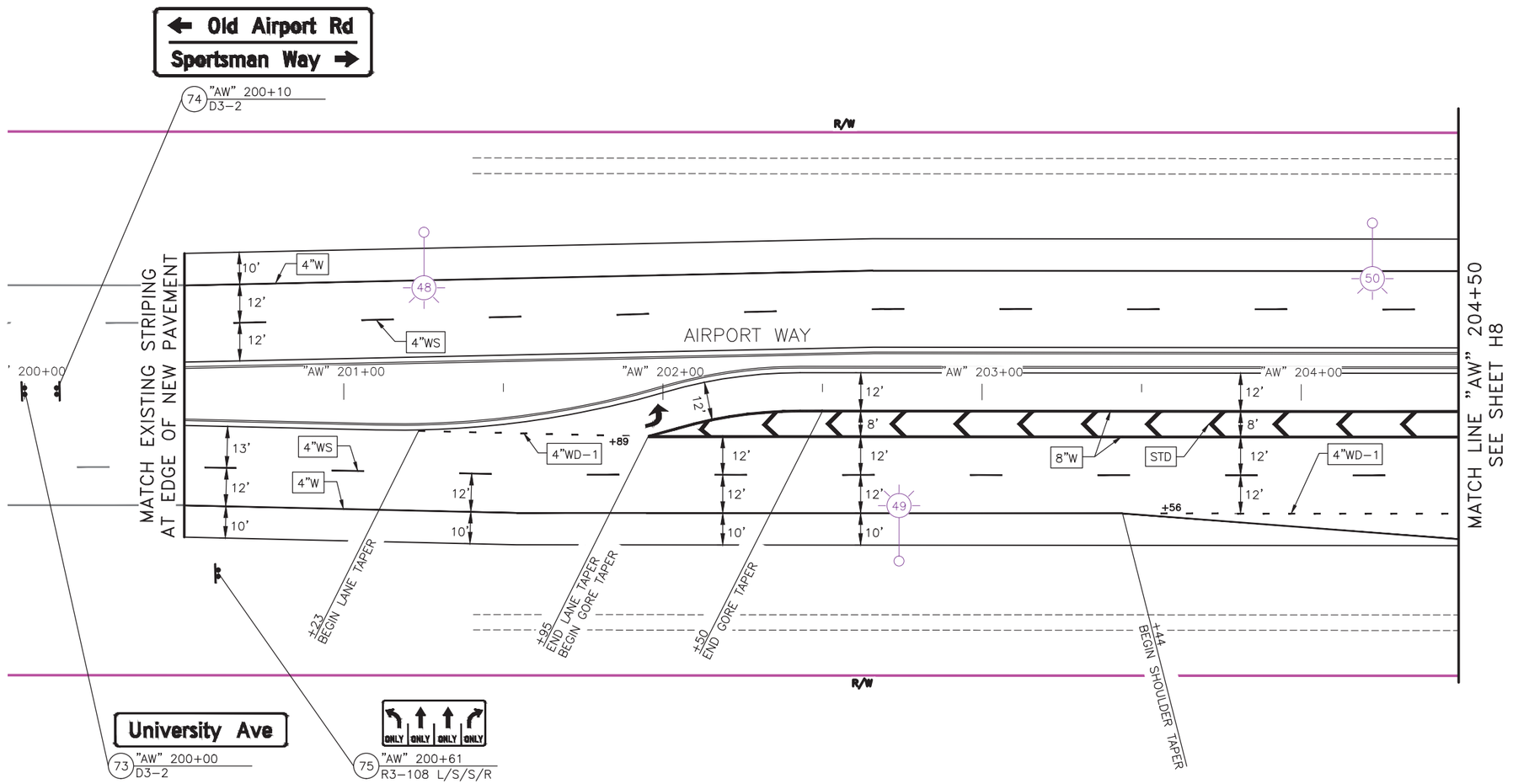
(#) STATION
SIGN CODE(S)
SIGN LOCATION #

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

SIGNING AND STRIPING

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H7	H58



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

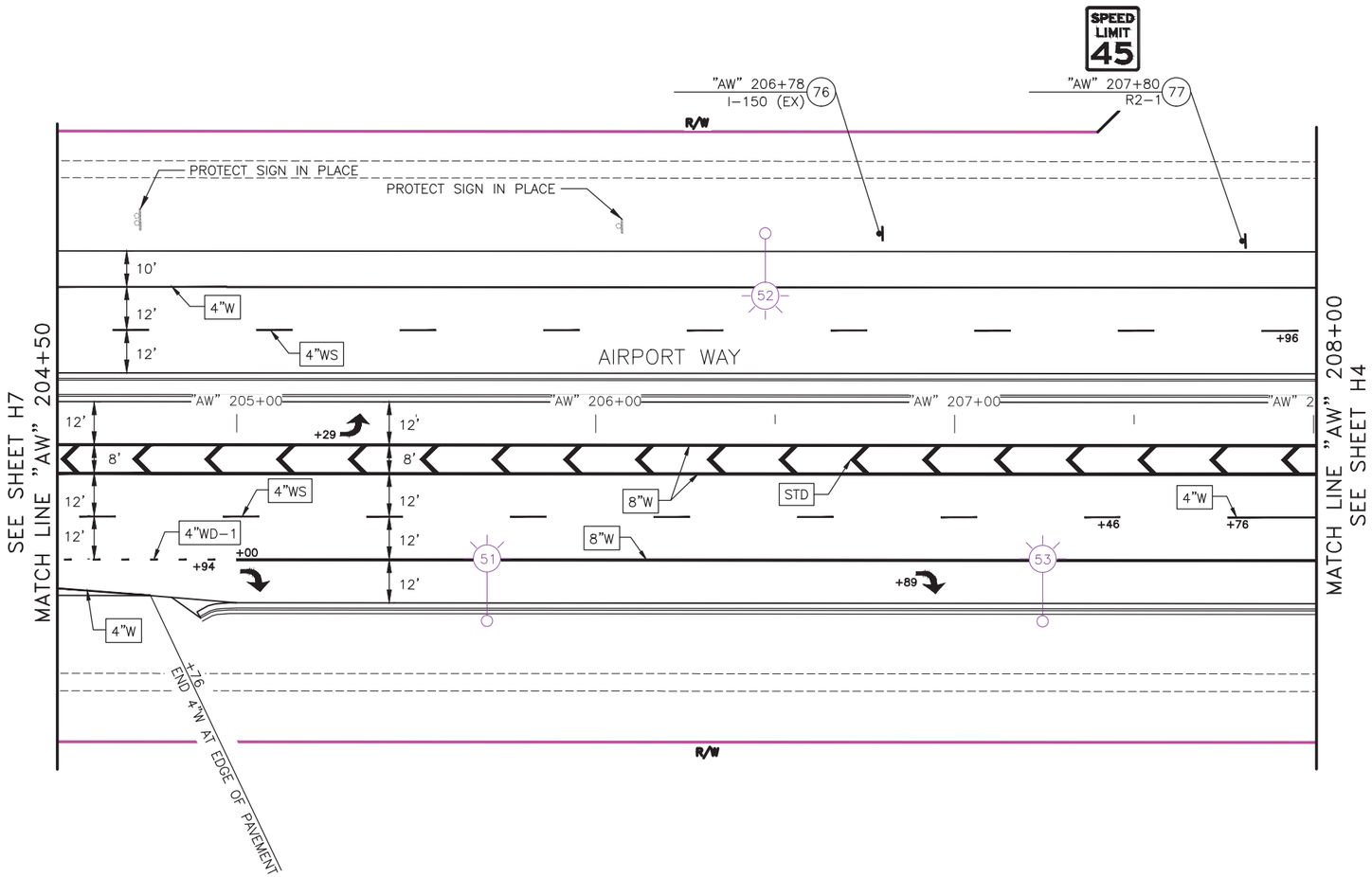
(#) STATION
SIGN CODE(S)
SIGN LOCATION #

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95% PS&E SUBMITTAL

SIGNING AND STRIPING

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H8	H58



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

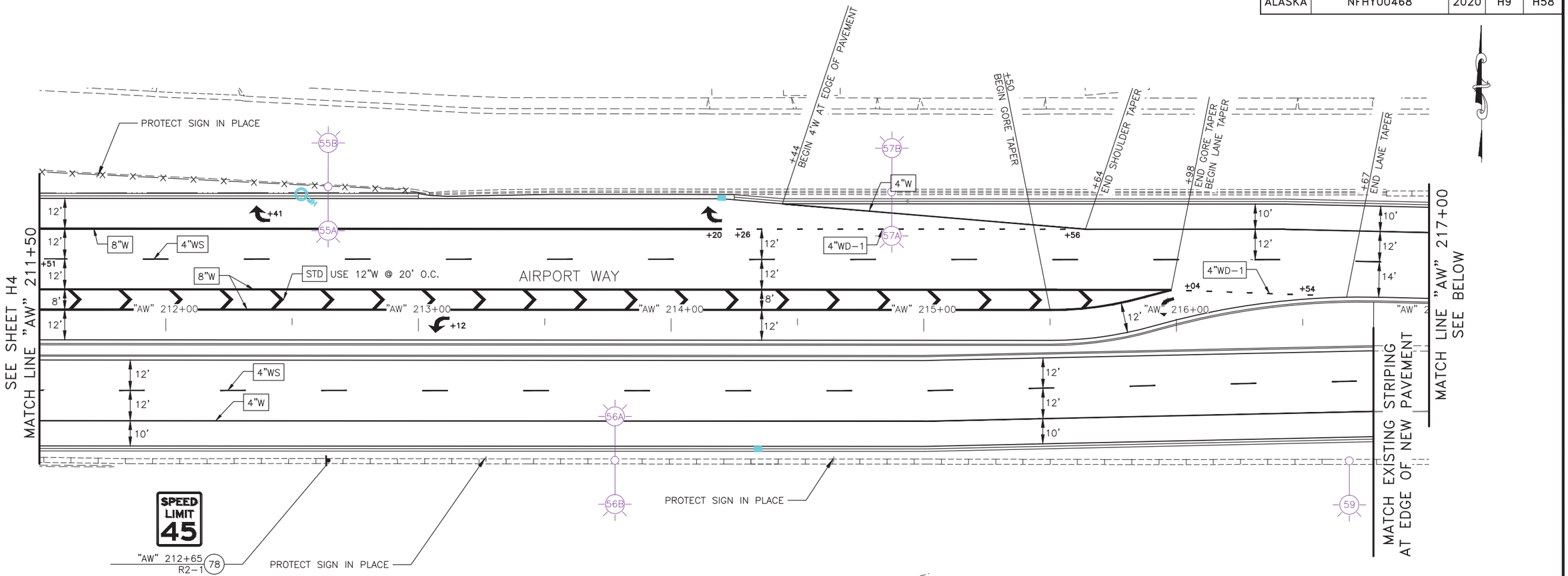
(#) STATION
SIGN CODE(S)
SIGN LOCATION #

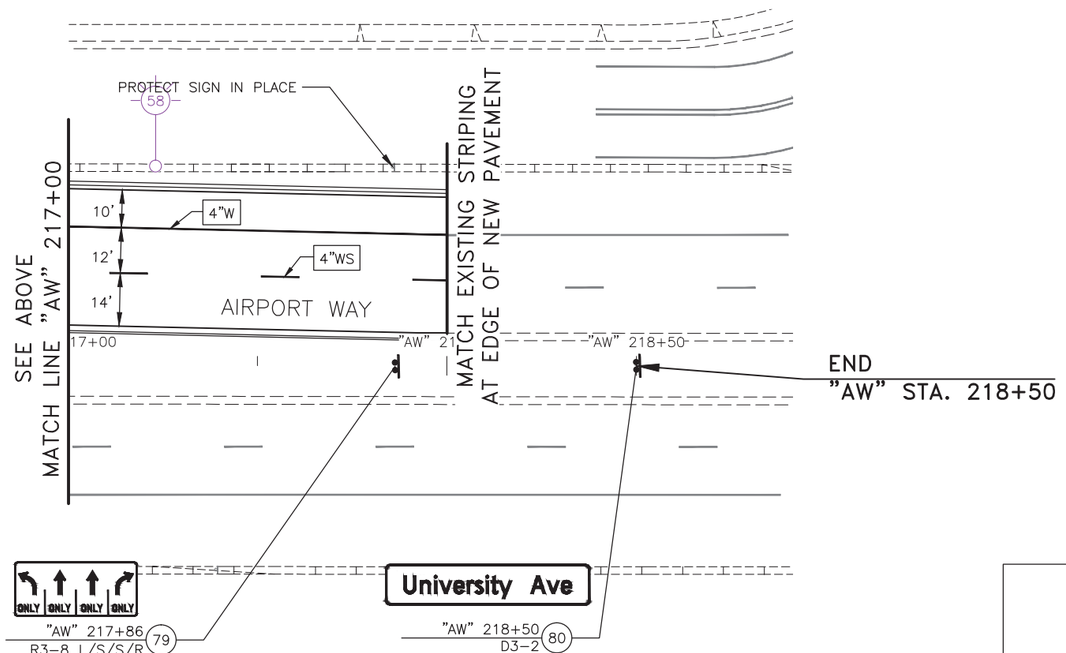
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

SIGNING AND STRIPING

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H9	H58





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

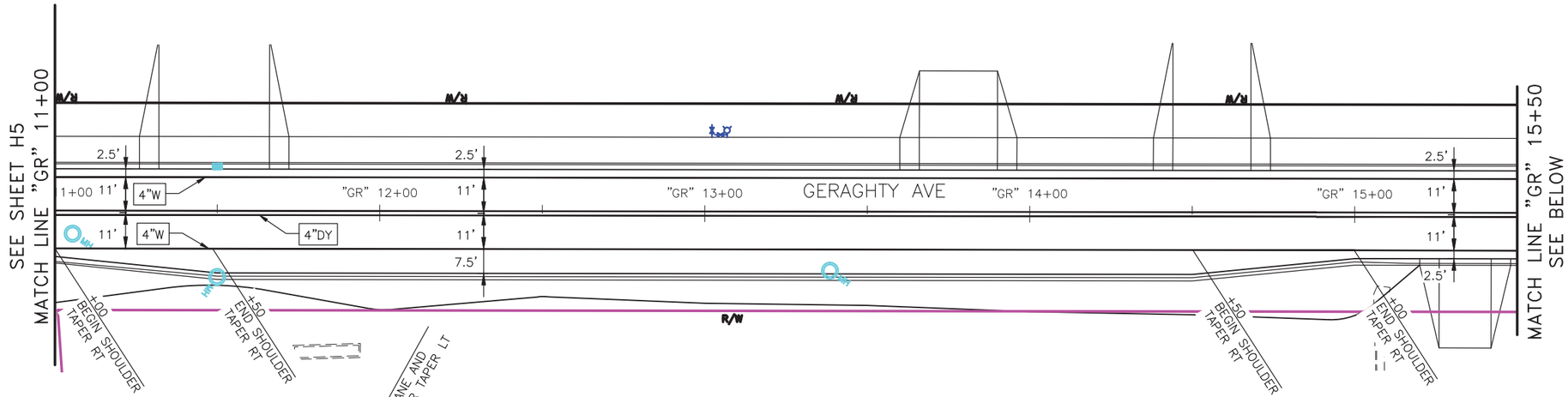
(#) STATION
SIGN CODE(S)
SIGN LOCATION #

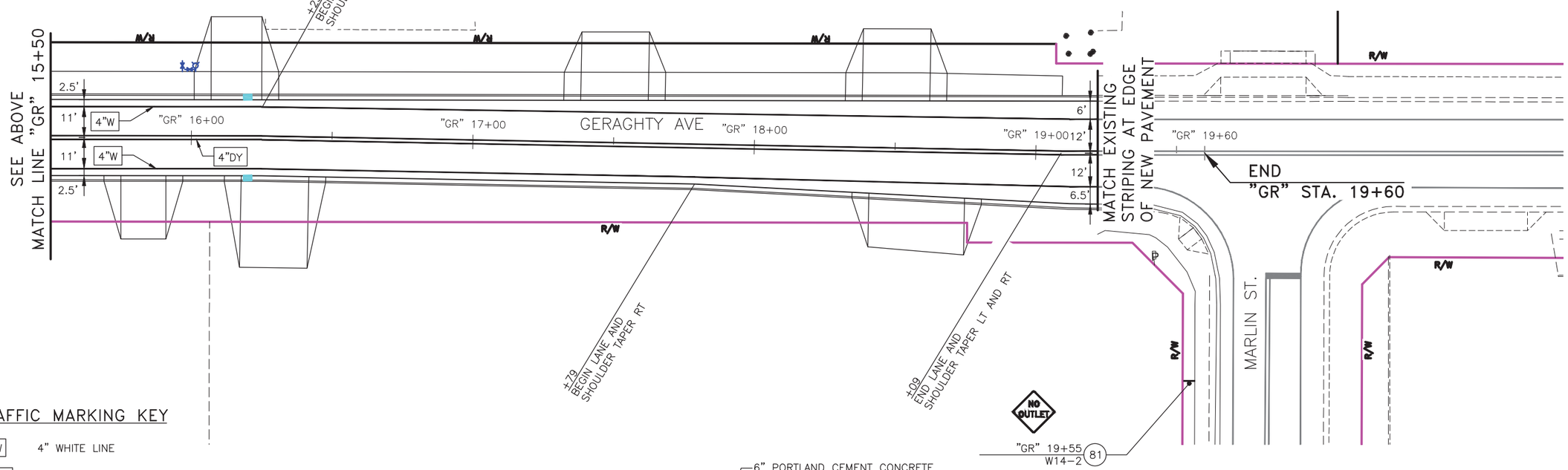
SIGNING AND STRIPING

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

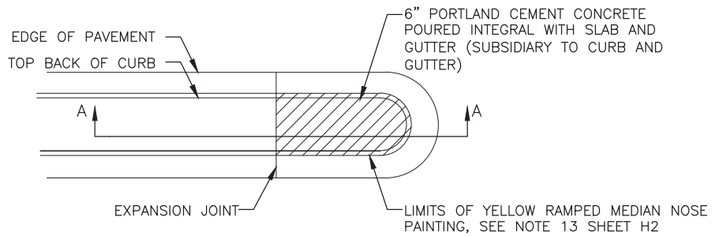
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H10	H58

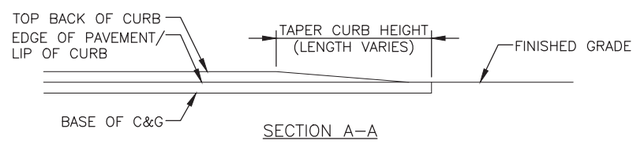




TRAFFIC MARKING KEY

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





SECTION A–A

RAMPED MEDIAN NOSE DETAIL

N.T.S.

SIGNING KEY

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

SIGNING AND STRIPING

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2–SEG–2A\DWGS\C\SHEETS\63213_H2–H10_SIGN&STRIP.DWG PLOTTED: Dec 10, 2019 – 5:53:20 PM (Brian Lewis) KE#: 00245

SIGNING SUMMARY

LOC. NO	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H (INCHES)	SIZE X	SIZE V (INCHES)	BRACING/ FRAMING BRACED	BRACING/ FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
45	"01" 53+24		X	R3-108 L/S/S/R	(LEFT) ARROW ONLY, (THRU) ARROW ONLY, (THRU) ARROW ONLY, (RIGHT) ARROW ONLY	66	X	30		X	13.75		S	TS	3.0	2	SEE NOTES 20 & 21
45A	"01" 54+04		X	R4-7	KEEP RIGHT	24	X	30			5		S	PST	2.5	1	
				OM1-1	OBJECT MARKER	18	X	18			2.25						
47	"01" 54+71	X		R1-2	YIELD	36	X	36	X		9		NW	PST	2.5	1	
48	"01" 54+88	X		W11-2	PEDESTRIAN SYMBOL	36	X	36	X		9.0		W	PST	2.5	1	
				W16-7pL	(DOWN LEFT) ARROW	30	X	18	X		3.75						
49	"01" 54+97	X		R6-1R	ONE WAY (RIGHT) ARROW	54	X	18		X	6.75		E	TS	3.0	2	SEE NOTES 20 & 21
50	"01" 55+10		X	R6-1R	ONE WAY (RIGHT) ARROW	36	X	12	X		3		E	PST	2.5	1	
				R1-1	STOP	30	X	30	X		6.25						
51	"01" 55+24	X		R4-7	KEEP RIGHT								W	PST	2.5	1	SALVAGE EXISTING SIGNS AND REINSTALL ON NEW POST
				OM1-1	OBJECT MARKER 1												
52	"01" 55+53	X		R5-1	DO NOT ENTER								W	PST	2.5	1	SALVAGE EXISTING SIGNS AND REINSTALL ON NEW POST
53	"01" 56+00	X		W12-1	(DOWN LEFT-RIGHT) DOUBLE ARROW	36	X	36	X		9.0		N	PST	2.5	1	
				OM1-1	OBJECT MARKER 1	18	X	18			2.25						
54	"01" 56+21	X		W11-2	PEDESTRIAN SYMBOL	36	X	36	X		9		NE	PST	2.5	1	MOUNT ON LIGHT POLE
				W16-7pL	(DOWN LEFT) ARROW	30	X	18	X		3.75						
55	"01" 56+97	X		R2-1	40 MPH SPEED LIMIT	30	X	36	X		7.5		N	PST	2.5	1	
56	"01" 57+47	X		R4-7	KEEP RIGHT	24	X	30			5		N	PST	2.5	1	
				OM1-1	OBJECT MARKER	18	X	18			2.25						
57	"AW" 211+41		X	R8-4	EMERGENCY PARKING ONLY	30	X	24	X		5.0		W	PST	2.5	1	
58	"AW" 210+31		X	R4-7	KEEP RIGHT	24	X	30			5		W	PST	2.5	1	
				OM1-1	OBJECT MARKER	18	X	18			2.25						
59	"AW" 208+65	X		R4-7	KEEP RIGHT	24	X	30			5		E	PST	2.5	1	
				OM1-1	OBJECT MARKER	18	X	18			2.25						
60	"AW" 210+48	X		W12-1	(DOWN LEFT-RIGHT) DOUBLE ARROW	36	X	36	X		9.0		E	PST	2.5	1	
				OM1-1	OBJECT MARKER 1	18	X	18			2.25						
61	"AW" 210+16	X		W11-2	PEDESTRIAN SYMBOL	36	X	36	X		9.0		E	PST	2.5	1	
				W16-7pR	(DOWN RIGHT) ARROW	30	X	18	X		3.75						
62	"AW" 210+47	X		R5-6	NO BIKES SYMBOL	30	X	30	X		6.25		W				INSTALL ON NEW LIGHT POLE
				R9-3A	NO PEDESTRIANS SYMBOL	18	X	18			2.25						
63	"01" 59+11		X	R4-7	KEEP RIGHT	24	X	30			5		S	PST	2.5	1	
				OM1-1	OBJECT MARKER	18	X	18			2.25						
64	"01" 59+47	X		R1-2	YIELD	36	X	36	X		9.0		SE	PST	2.5	1	
65	"01" 60+57		X	I-150	ADOPT A HIGHWAY								S				INSTALL EXISTING SIGNS ON NEW LIGHT POLE
					GOLDEN KEY INT'L HONOR SOCIETY												
66	"01" 61+88		X	R6-1R	ONE WAY (RIGHT) ARROW	54	X	18		X	6.75		E	TS	3.0	2	SEE NOTES 20 & 21

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H11	H58

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, SIGNS MOUNTED ON LIGHT POLES, AND 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 H14.
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 H29-H33 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 H14 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 H14 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.

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95% PS&E SUBMITTAL

SIGN SUMMARY

SIGNING SUMMARY

LOC. NO	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H (INCHES)	SIZE X	SIZE V (INCHES)	BRACING/ FRAMING BRACED	BRACING/ FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
67	"01" 62+08		X	D3-100(2)	UNIVERSITY AVE	36	X	8	X		4		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H14
				D3-100(2)	GERAGHTY AVE	48	X	12	X		8		N/S				
				R6-1R	ONE WAY (RIGHT) ARROW	36	X	12	X		3		E				
				R1-1	STOP	30	X	30	X		6.25						
68	"01" 63+50		X	R2-1	40 MPH SPEED LIMIT	30	X	36	X		7.5		S	PST	2.5	1	
69	"01" 64+49		X	FNSB	BUS STOP								S				INSTALL EXISTING SIGN ON NEW POST
70	"01" 65+12	X		D3-2	AIRPORT WAY	60	X	18		X	7.5		N	TS	3.0	2	SEE NOTES 20 & 21
71	"01" 65+17	X		R3-108 L/S/S/R	(LEFT) ARROW ONLY, (THRU) ARROW ONLY, (THRU) ARROW ONLY, (RIGHT) ARROW ONLY	66	X	30		X	13.75		N	TS	3.0	2	SEE NOTES 20 & 21
72	"01" 66+96	X		FNSB	BUS STOP								N	PST	2.5	1	INSTALL EXISTING SIGN ON NEW POST
72A	"01" 67+98	X		R4-7	KEEP RIGHT	24	X	30			5		N	PST	2.5	1	
				OM1-1	OBJECT MARKER	18	X	18			2.25						
72B	"01"68+02	X		D3-100(2)	University Ave	36	X	8	X		4.00		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H14
				R6-1R	ONE WAY (RIGHT) ARROW	36	X	12	X		3.00		W				
				R1-1	STOP	30	X	30	X		6.25		W				
73	"AW" 200+00		X	D3-2	UNIVERSITY AVE	90	X	18		X	11.25		W	TS	3.0	2	SEE NOTES 20 & 21
74	"AW" 200+10		X	D3-2	(LEFT) ARROW OLD AIRPORT RD, SPORTSMAN WAY (RIGHT) ARROW	114	X	36		X	28.5		E	TS	3.0	2	SEE NOTES 20 & 21
75	"AW" 200+61		X	R3-108 L/S/S/R	(LEFT) ARROW ONLY, (THRU) ARROW ONLY, (THRU) ARROW ONLY, (RIGHT) ARROW ONLY	66	X	30		X	13.75		W	TS	3.0	2	SEE NOTES 20 & 21
76	"AW" 206+78	X		I-150	ADOPT A HIGHWAY / FAIRBANKS ANIMAL SHELTER FUND								E				INSTALL EXISTING SIGNS ON NEW LIGHT POLE
77	"AW" 207+80	X		R2-1	45 MPH SPEED LIMIT	30	X	36	X		7.5		E	PST	2.5	1	
78	"AW" 212+65		X	R2-1	45 MPH SPEED LIMIT	30	X	36	X		7.5		W				MOUNT ON LIGHT POLE
79	"AW" 217+86		X	R3-108 L/S/S/R	(LEFT) ARROW ONLY, (THRU) ARROW ONLY, (THRU) ARROW ONLY, (RIGHT) ARROW ONLY	66	X	30		X	13.75		E	TS	3.0	2	SEE NOTES 20 & 21
80	"AW" 218+50		X	D3-2	UNIVERSITY AVE	90	X	18		X	11.25		E	TS	3.0	2	SEE NOTES 20 & 21
81	"GR" 19+55		X	W14-2	NO OUTLET	30	X	30	X		6.25		N	PST	2.5	1	
					SUBTOTAL =						342.8						
					SIGNAL SIGN SUBTOTAL =						174.0						
					TOTAL SIGN AREA =						516.8						

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H12	H58

SIGN SUMMARY

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H13	H58

SIGN SALVAGE SUMMARY

ALIGNMENT	STATION	CL REF	ASDS CODE	LEGEND	REMARKS
01	54+63	70.3' LT	R5-1	DO NOT ENTER	
01	54+77	44.3' LT	R5-1	DO NOT ENTER	
01	54+84	46.7' LT	R3-2	NO (LEFT) ARROW TURN	
01	55+11	69.6' RT	R1-1	STOP	
01	55+25	105.8' LT	R4-7	KEEP RIGHT	STORE SIGNS UNTIL THEY CAN BE INSTALLED IN NEW LOCATION
			OM1-1	OBJECT MARKER 1	
01	55+58	116.5' LT	R5-1	DO NOT ENTER	STORE SIGN UNTIL IT CAN BE INSTALLED IN NEW LOCATION
01	55+64	44.6' LT	R2-1	40 MPH SPEED LIMIT	
01	56+07	43.5' LT	W12-1	(DOWN LEFT-RIGHT) ARROW	
			OM1-1	OBJECT MARKER 1	
01	56+52	58.2' LT	D11-1	BIKE ROUTE	
01	57+09	38.8' RT	R3-7R	RIGHT LANE MUST TURN RIGHT	
01	60+42	62.0' LT	D11-1	BIKE ROUTE	
01	60+64	45.8' RT	W1-1L	CURVE WARNING	
			W13-1	15 MPH SPEED ADVISORY	
01	60+94	20.4' RT	R2-1	40 MPH SPEED LIMIT	MOUNTED ON LIGHT POLE
01	61+36	85.7' RT	D3-1	GERAGHTY AVE	
			R1-2	YIELD	
01	61+99	27.3' RT	D3-1	GERAGHTY AVE	
			D3-1	UNIVERSITY AVE	
			R1-1	STOP	
01	62+38	54.7' LT	D3-2	AIRPORT WAY	
01	62+54	26.7' LT	R1-1	STOP	
			SPECIAL	EXIT ONLY	
01	62+87	27.4' RT	R1-1	STOP	
			SPECIAL	EXIT ONLY	
01	62+88	25.4' RT	I-150	ADOPT A HIGHWAY	MOUNTED ON LIGHT POLE. STORE SIGNS UNTIL THEY CAN BE INSTALLED IN NEW LOCATION
				GOLDEN KEY HONOUR SOCIETY	
01	62+96	48.2' RT	SPECIAL	ENTRANCE (LEFT) ARROW	
01	64+08	41.0' RT	R7-107A	BUS STOP	STORE SIGN UNTIL IT CAN BE INSTALLED IN NEW LOCATION
01	63+39	39.2' RT	R1-1	STOP	
			SPECIAL	ENTRANCE	
			SPECIAL	EXIT	
01	63+97	52.9' LT	R7-107A	BUS STOP	STORE SIGN UNTIL IT CAN BE INSTALLED IN NEW LOCATION
01	64+16	42.6' RT	D11-1	BIKE ROUTE	
			SPECIAL	USE SIDEWALK	
01	64+44	49.8' LT	I-5	AIRPORT (SYMBOL)	
01	67+99	43.6' LT	R1-1	STOP	
01	68+71	43.0' LT	R5-1	DO NOT ENTER	
AW	201+46	48.3' LT	M4-5	TO	
			M1-5	STATE ROUTE 3	
			M6-3	(THRU) ARROW	
AW	201+53	3.6' RT	D3-2	(LEFT) ARROW OLD AIRPORT RD, SPORTSMAN WAY (RIGHT) ARROW	
AW	204+47	0.7' RT	D3-2	UNIVERSITY AVE	
AW	204+59	0.8' RT	R2-1	45 MPH SPEED LIMIT	
AW	205+96	49.2' RT	SPECIAL	NO LITTER (SYMBOL)	
AW	206+06	55.1' LT	I-150	ADOPT A HIGHWAY	STORE SIGNS UNTIL THEY CAN BE INSTALLED IN NEW LOCATION
				FAIRBANKS ANIMAL SHELTER FUND	

SIGN SALVAGE SUMMARY

ALIGNMENT	STATION	CL REF	ASDS CODE	LEGEND	REMARKS
AW	207+96	58.1' RT	R5-6	NO BIKES (SYMBOL)	
			R9-3A	NO PEDESTRIANS (SYMBOL)	
AW	208+70	5.4' LT	R4-7	KEEP RIGHT	
			OM1-1	OBJECT MARKER 1	
AW	210+12	42.4' LT	W12-1	(DOWN LEFT-RIGHT) ARROW	
			OM1-1	OBJECT MARKER 1	
AW	210+17	5.9' RT	R4-7	KEEP RIGHT	
			OM1-1	OBJECT MARKER 1	
AW	210+22	82.5' LT	R1-2	YIELD	
AW	210+37	64.9' LT	W11-2	PEDESTRIAN	
			W16-7PL	(DOWN-LEFT) ARROW	
AW	210+38	79.8' LT	W1-8R	(RIGHT) ARROW	
			OM1-1	OBJECT MARKER 1	
AW	210+57	73.7' LT	W1-8R	(RIGHT) CHEVRON	
AW	211+15	61.3' LT	R7S-104	NO STOPPING OR STANDING	
AW	211+38	49.1' LT	R5-6	NO BIKES (SYMBOL)	
			R9-3A	NO PEDESTRIANS (SYMBOL)	
AW	211+38	53.5' RT	R8-4	NO PARKING	
			R7-107	EMERGENCY PARKING ONLY	
AW	211+47	49.6' LT	D1-101	(THRU) ARROW AIRPORT, ANCHORAGE, UAF (RIGHT) ARROW	
AW	213+26	92.5' LT	W1-1R	CURVE WARNING	
			W13-1	15 MPH SPEED ADVISORY	
AW	214+51	0.3' RT	R2-1	45 MPH SPEED LIMIT	
AW	214+93	49.1' LT	R3-7R	RIGHT LANE MUST TURN RIGHT	
AW	215+37	3.8' RT	D3-2	UNIVERSITY AVE	
GR	12+58	24.2' LT	R7-1	NO PARKING	
GR	13+58	24.2' LT	R1-1	STOP	

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.

SIGN SALVAGE

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

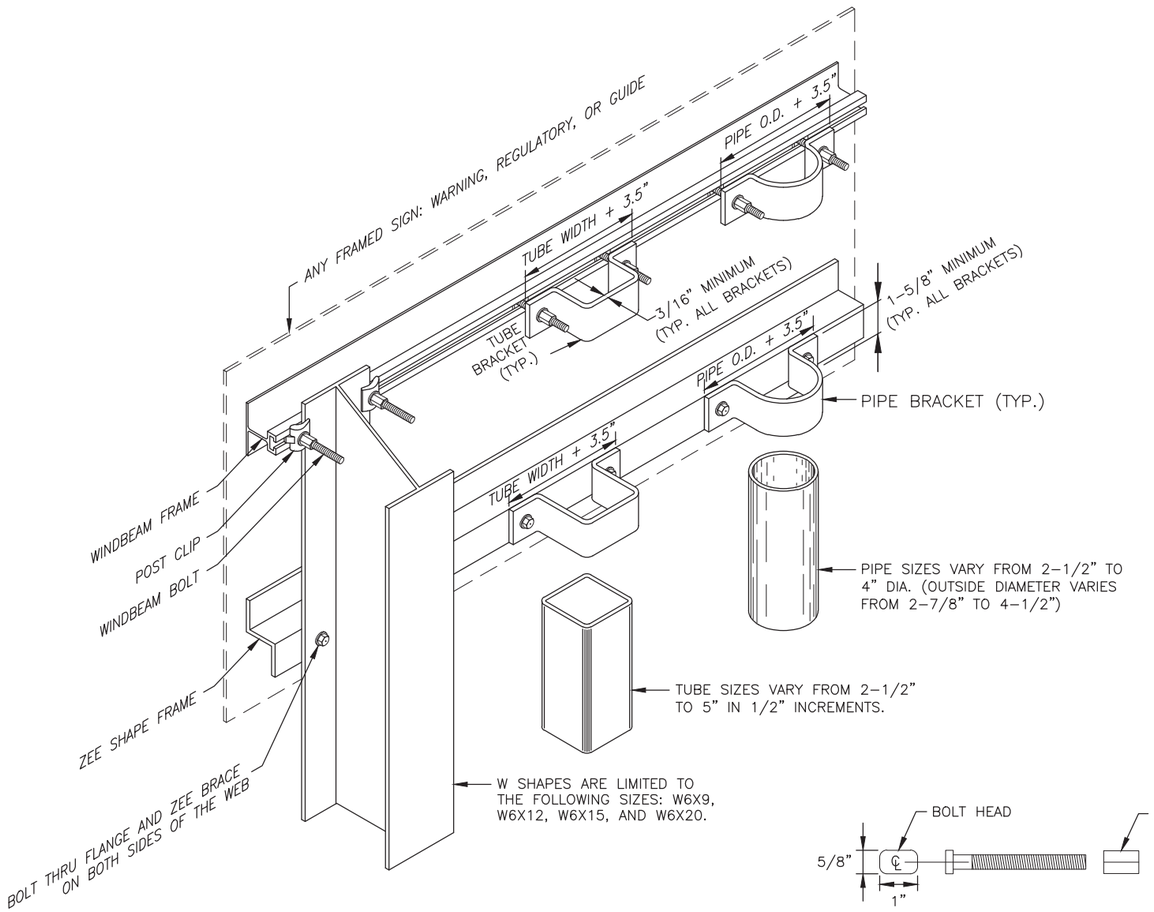
12/10/2019
95% PS&E SUBMITTAL

FRAMED SIGN & BRACKET DETAIL 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.

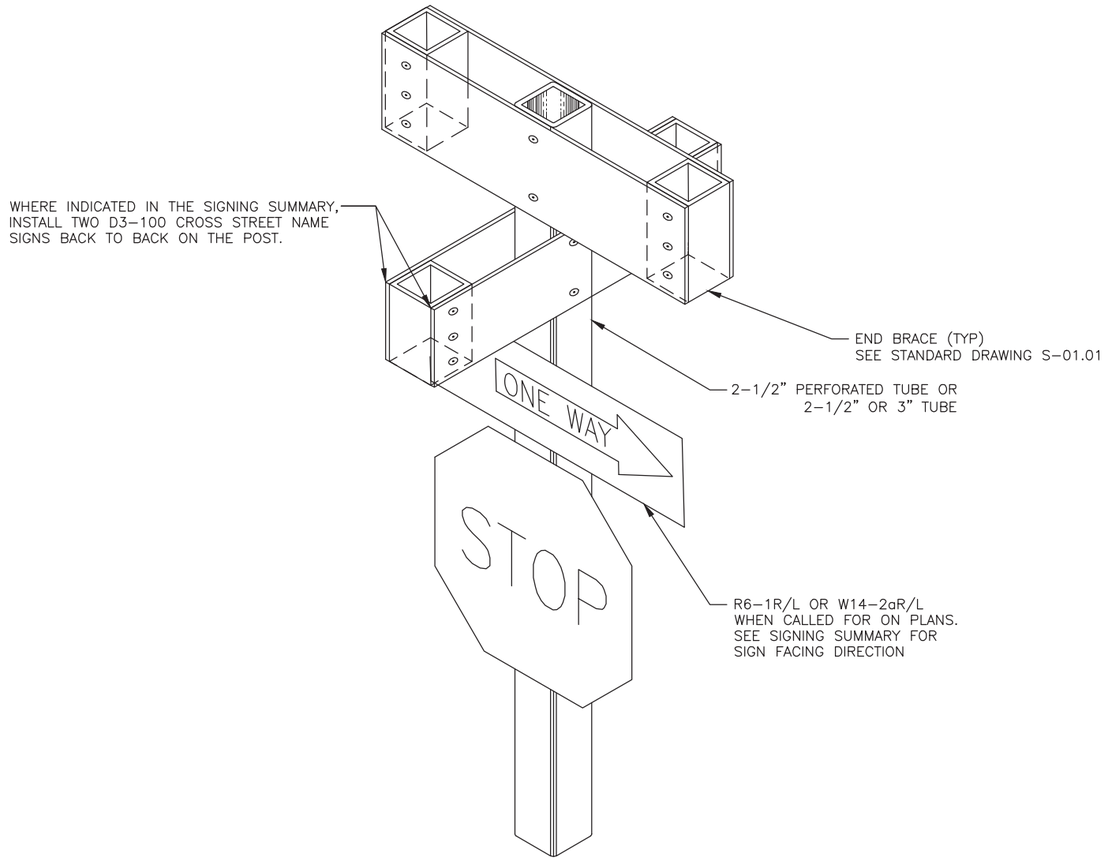
FASTENER SPECIFICATION TABLE		
FASTENERS	STEEL	STAINLESS STEEL
BOLTS	ASTM A 307	ASTM F 593
NUTS	ASTM A 563	ASTM F 594
WASHERS	ASTM F 844	ASTM A 480

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



FRAMED SIGN ATTACHMENT BRACKETS

3/8" DIA. WINDBEAM BOLT AND LONG NUT



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.

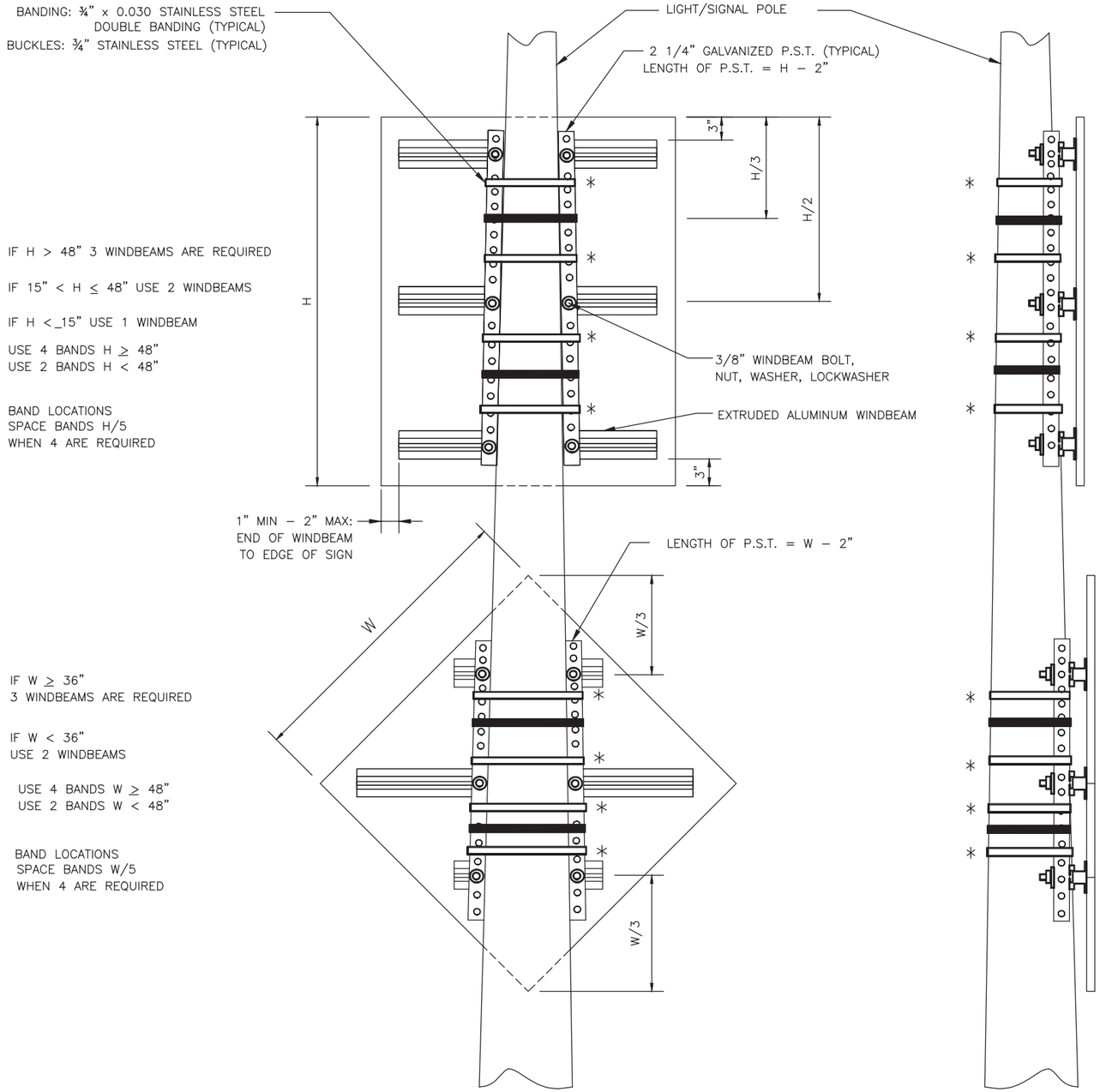
STREET NAME SIGN

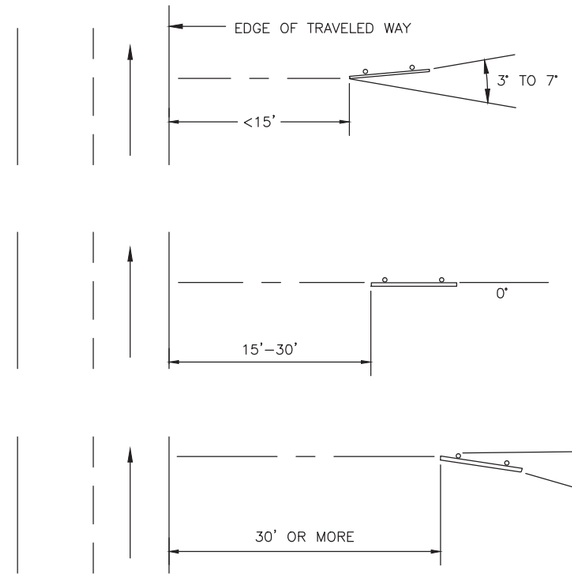
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

SIGN DETAILS
2 OF 3

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H15	H58

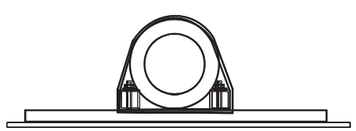




SIGN INSTALLATION ANGLES

NOTE:

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



LIGHT/SIGNAL POLE SIGN FRAMING & MOUNTING DETAILS

SIGN DETAILS
3 OF 3

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95%
PS&E
SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H16	H58

FRED MEYER ACCESS

BEGIN "01" STA. 51+00

"01" 50+00

"01" 51+00

UNIVERSITY AVE

"01" 52+00

"01" 53+00

"01" 54+00

MATCH LINE "01" 54+50

VAULT #1

[2" HDPE (FUTURE)]

[1-3c#8, UA-8]
[1-2" RMC
[1-3" RMC (FUTURE)

REWAK DR

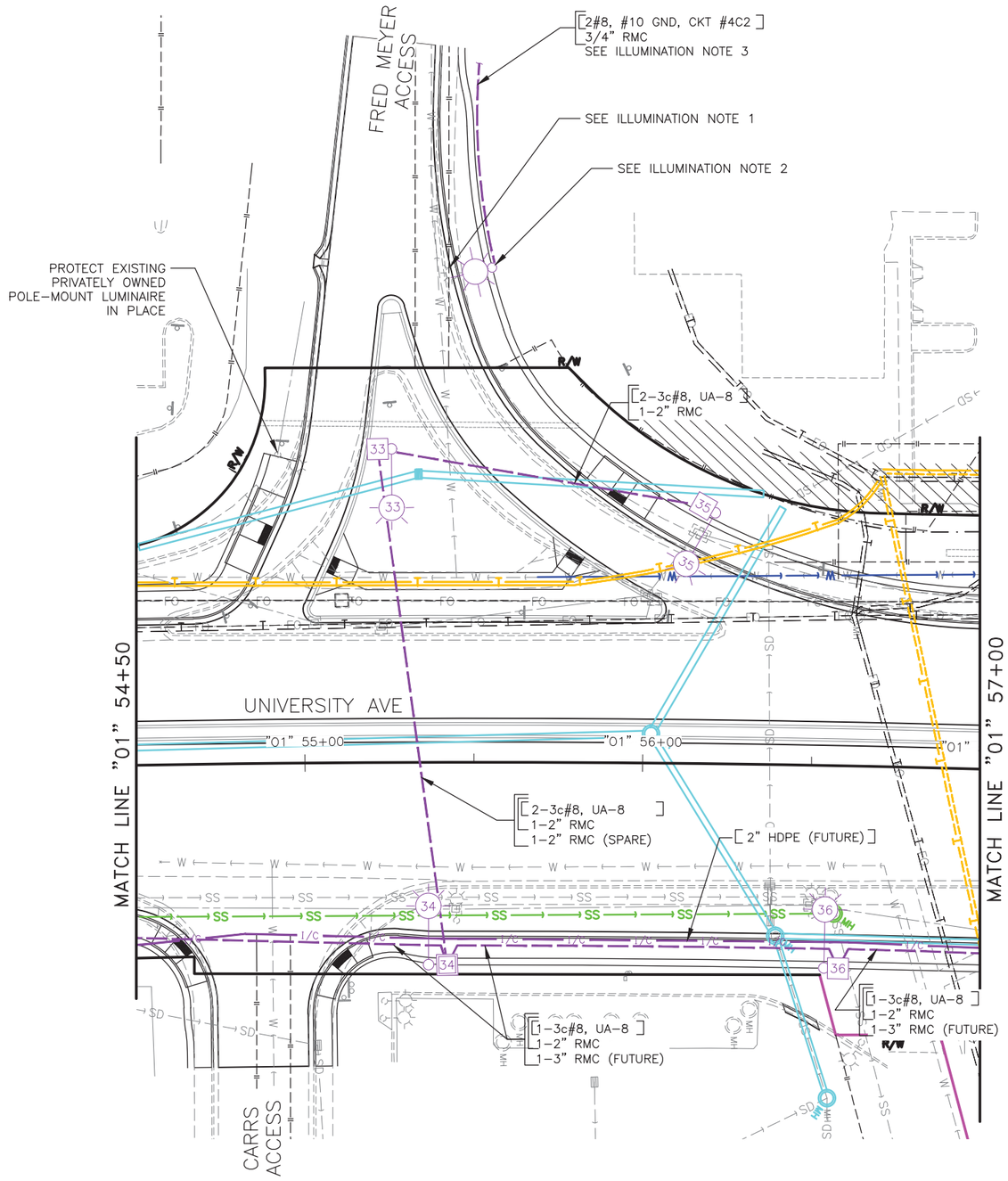
ILLUMINATION AND INTERCONNECT PLANS

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC
12/10/2019
95% PS&E SUBMITTAL

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC
12/10/2019
95% PS&E SUBMITTAL

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2-SEG-2A\DWGS\C\SHEETS\63213_H16-H23_ILLUM&INTERC.DWG PLOTTED: Dec 10, 2019 - 5:12:17 PM (Brian Lewis) KE#: 00245

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H17	H58



ILLUMINATION NOTES:

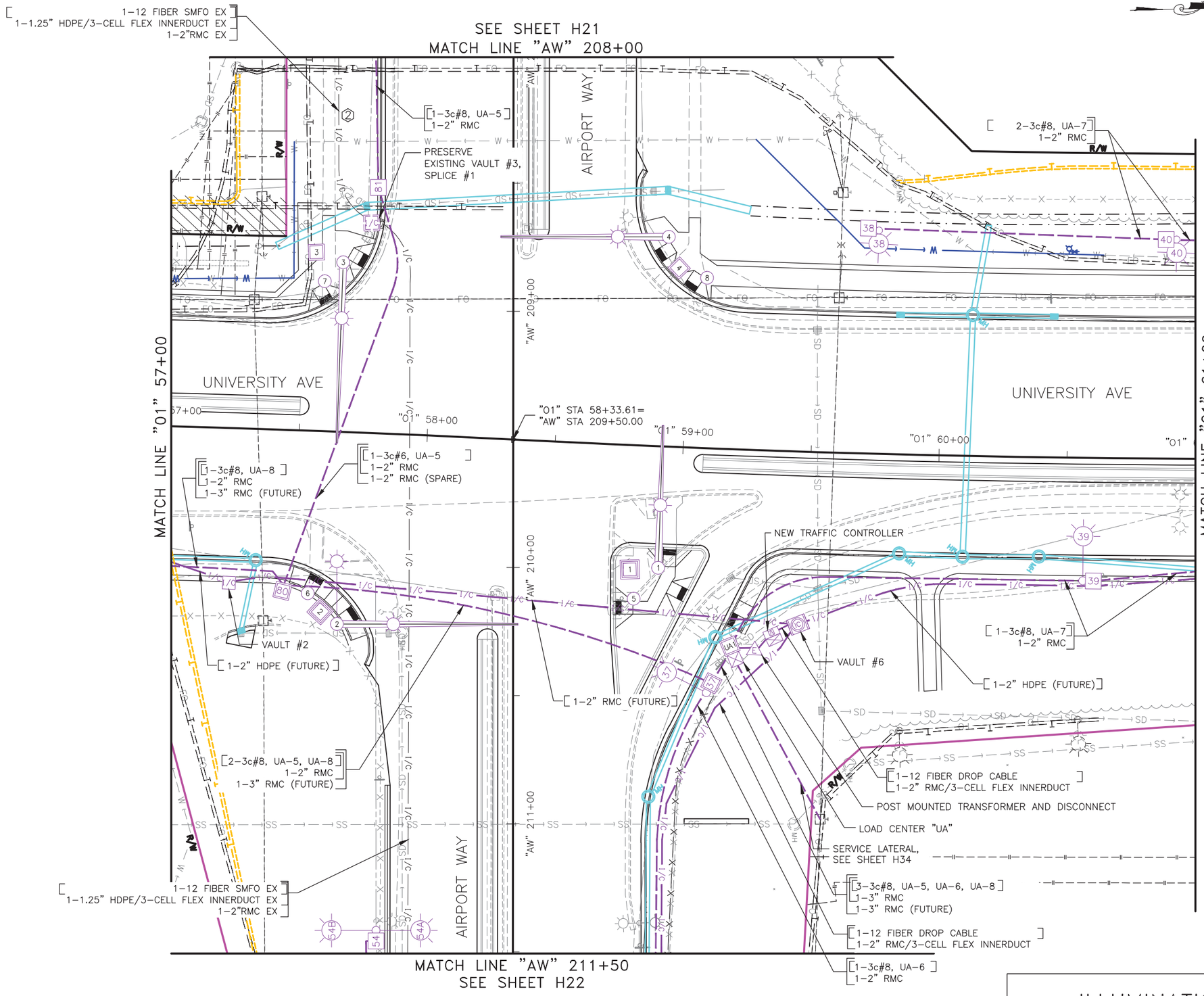
1. SALVAGE AND RELOCATE PRIVATELY–OWNED POLE–MOUNT LUMINAIRE. COORDINATE WITH PROPERTY OWNER (FRED MEYER) MAINTENANCE TO IDENTIFY AND DE–ENERGIZE EXISTING CIRCUITS AS REQUIRED.
2. PROVIDE NEW FOUNDATION FOR RELOCATED POLE–MOUNT LUMINAIRE AT STATION 55+55.29, 146.44' LT, INSTALL SALVAGED ELECTROLIER AND RECONNECT TO EXISTING 277V LIGHTING CIRCUIT. SET CENTER OF FOUNDATION 24" FROM BACK OF SIDEWALK. SEE SHEET H49 "LIGHT POLE FOUNDATION DETAIL".
3. INTERCEPT EXISTING 3/4" RMC CONDUIT AT 30" DEPTH FROM UPSTREAM ELECTROLIER. EXTEND CONDUIT AS REQUIRED AND PROVIDE NEW CONDUCTORS FROM UPSTREAM ELECTROLIER TO RELOCATED ELECTROLIER, APPROXIMATELY 130' HORIZONTAL DISTANCE.

ILLUMINATION AND INTERCONNECT PLANS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95% PS&E SUBMITTAL

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95% PS&E SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H18	H58



INTERCONNECT NOTE:

1. PULL EXISTING INTERCONNECT COILED IN EXISTING INTERCONNECT VAULT ON NORTHWEST QUADRANT THROUGH NEW CONDUIT TO EXISTING VAULT NUMBER 7. SPLICE EXISTING CABLE AS SHOWN ON H68.

(2) PRESERVE AND PROTECT EXISTING CONDUIT AND FIBER OPTIC CABLE.

ILLUMINATION AND INTERCONNECT PLANS

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC
12/10/2019
95% PS&E SUBMITTAL

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC
12/10/2019
95% PS&E SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H19	H58

[2-3c#8, UA-7
1-2" RMC

R/W

BEGIN
"GR" STA 10+00.00=
"01" STA 61+79.42

UNIVERSITY AVE

MATCH LINE "01" 61+00

[2-3c#8, UA-7
1-2" RMC
1-2" RMC (SPARE)

"01" 62+00

"01" 63+00

"01" 64+00

"01" 65+00

"01" 66+00

"01"

MATCH LINE "01" 67+00
SEE BELOW

[1-2" HDPE (FUTURE)

[1-2" HDPE (FUTURE)

VAULT #7

[1-3c#8, UA-7
1-2" RMC

[1-3c#8, UA-7
1-2" RMC

[1-3c#8, UA-7
1-2" RMC

GERAGHTY AVE

EXISTING UTILITY-OWNED STREET LIGHTS ON GERAGHTY AVE TO REMAIN

MATCH LINE "GR" 11+00
SEE SHEET H23

SEE ABOVE
MATCH LINE "01" 67+00

EOP
"01" STA. 69+00

"01" 68+00

"01" 69+00

"01" 72+00

UNIVERSITY AVE

SPLICE NEW CONDUCTORS TO EXISTING IN POLE BASE AT STATION 72+29.83 RT

[1-3c#8, UA-7
1-2" RMC (EX)

[1-3c#8, UA-7
1-2" RMC

[1-3c#8, UA-7
1-2" RMC

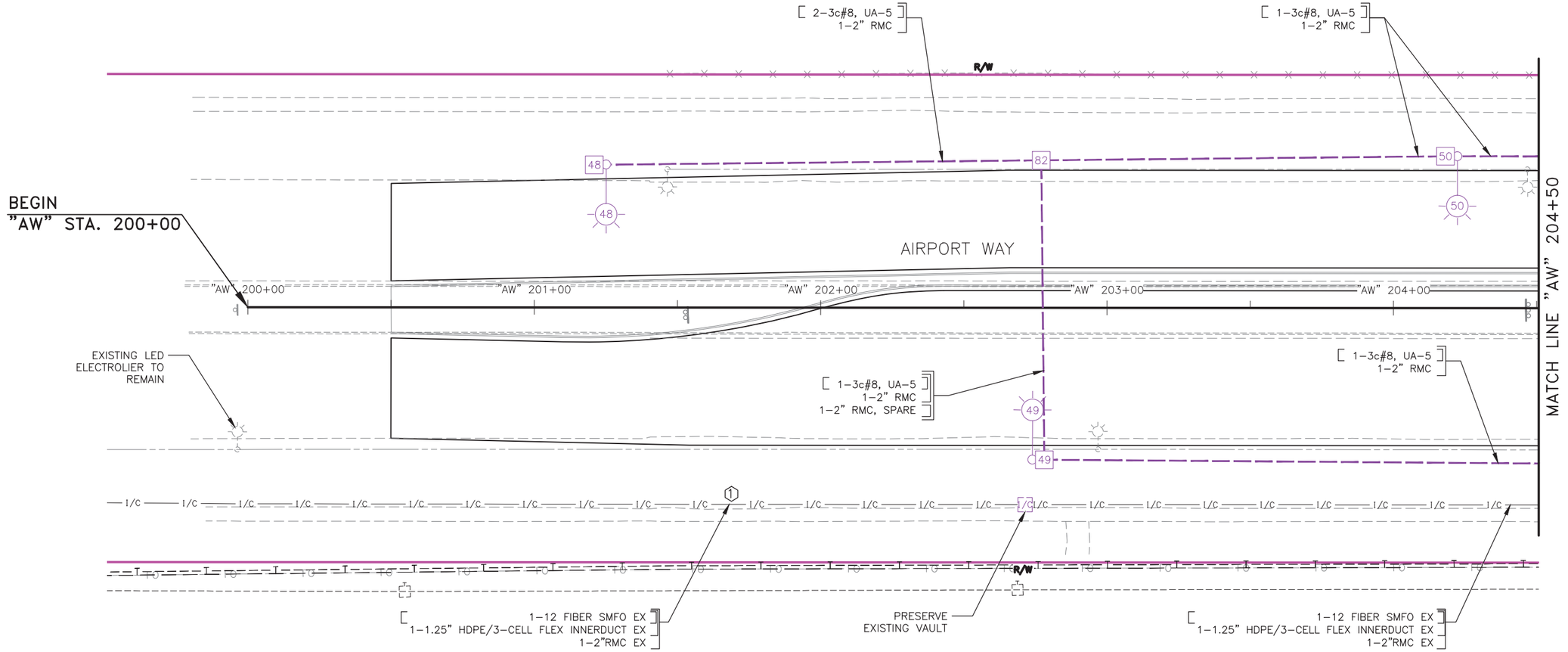
ILLUMINATION AND INTERCONNECT PLANS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95%
PS&E
SUBMITTAL

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95%
PS&E
SUBMITTAL

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2-SEG-2A\DWGS\C\SHEETS\63213_H16-H23_ILLUM&INTERC.DWG PLOTTED: Dec 10, 2019 - 5:12:39 PM (Brian Lewis) KE#: 00245

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H20	H58



INTERCONNECT NOTE:

(1) PRESERVE AND PROTECT EXISTING CONDUIT AND FIBER OPTIC CABLE.

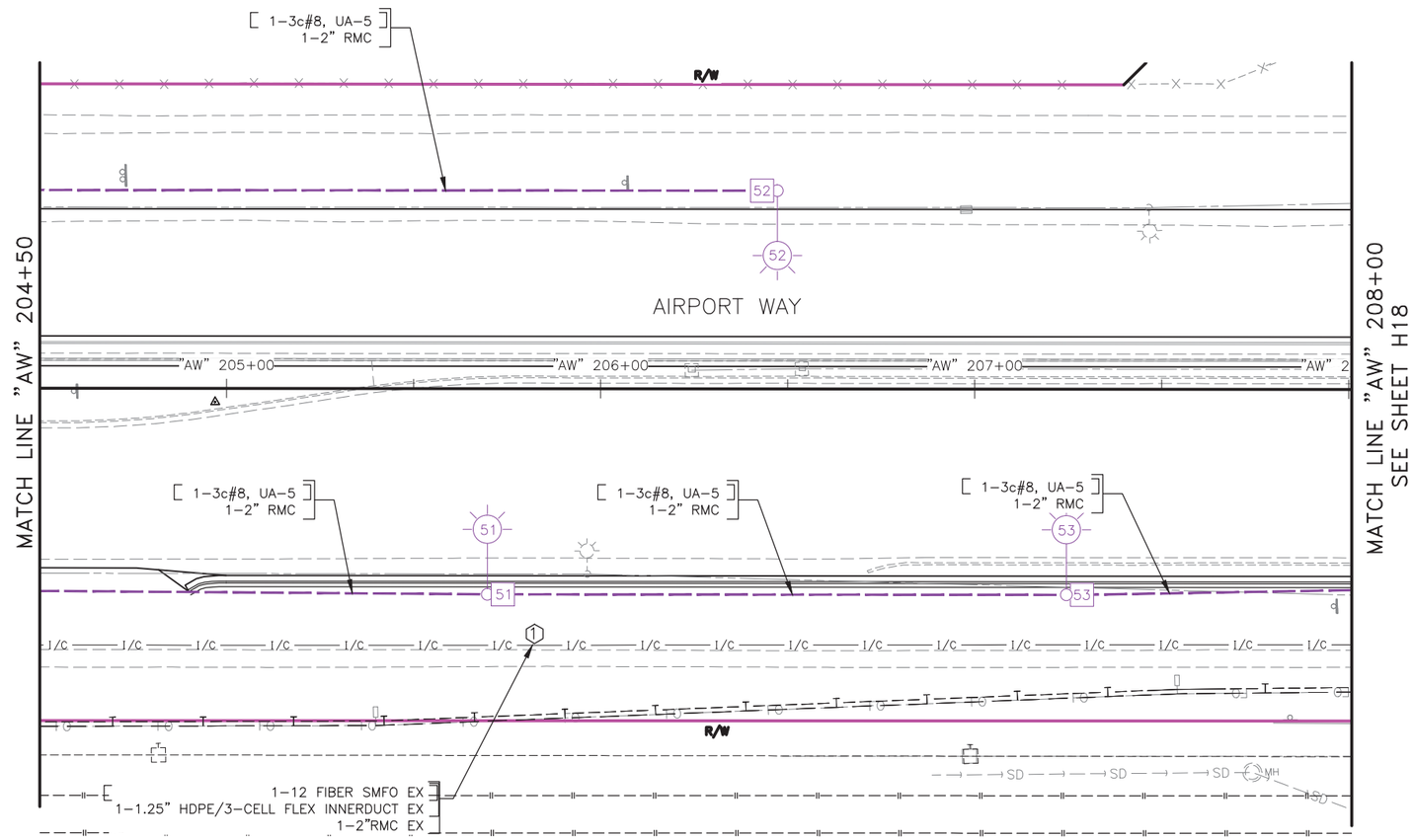
ILLUMINATION AND INTERCONNECT PLANS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95%
PS&E
SUBMITTAL

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95%
PS&E
SUBMITTAL

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2-SEG-2A\DWGS\C\SHEETS\63213_H16-H23_ILLUM&INTERC.DWG PLOTTED: Dec 10, 2019 – 5:12:44 PM (Brian Lewis) KE#: 00245

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H21	H58



INTERCONNECT NOTE:

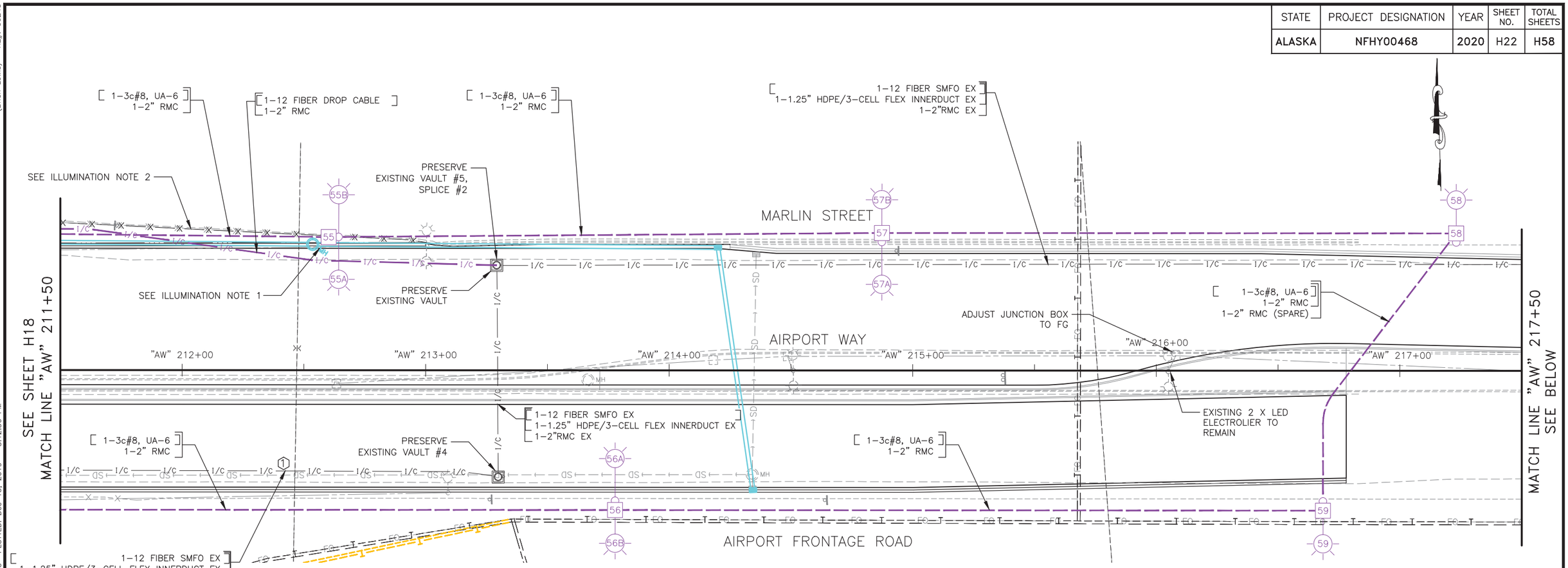
(1) PRESERVE AND PROTECT EXISTING CONDUIT AND FIBER OPTIC CABLE.

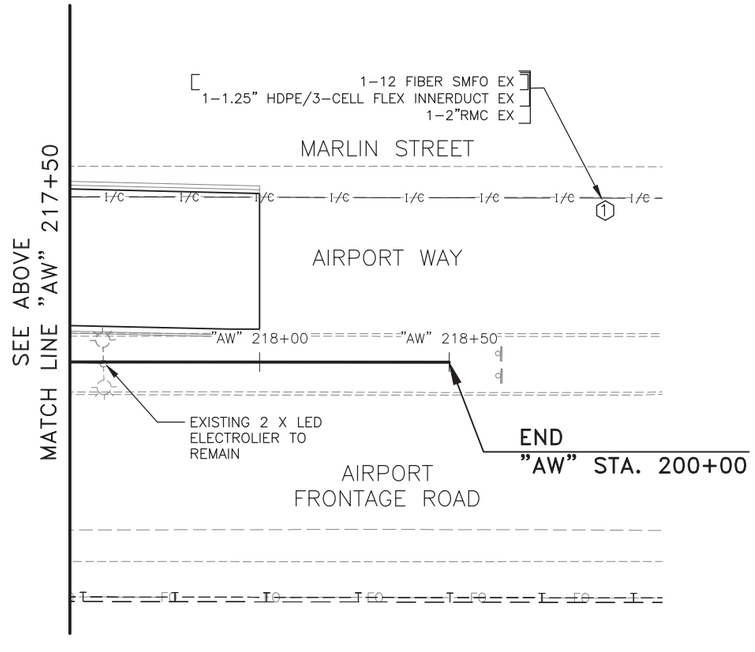
ILLUMINATION AND INTERCONNECT PLANS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95%
PS&E
SUBMITTAL

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95%
PS&E
SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H22	H58





ILLUMINATION NOTES:

1. LOCATE PIPE PILE FOUNDATION AND J–BOX CENTERED IN SPACE BETWEEN FENCE AND NEW STORM DRAIN LINE.
2. REMOVE AND RECONSTRUCT APPROXIMATELY 100 LF OF FENCING FROM STA "AW" 212+00 TO 213+00 UNDER BID ITEM 607(4)–A, AS REQUIRED FOR TRENCHING AND ELECTROLIER #57 INSTALLATION.

INTERCONNECT NOTE:

(1) PRESERVE AND PROTECT EXISTING CONDUIT AND FIBER OPTIC CABLE.

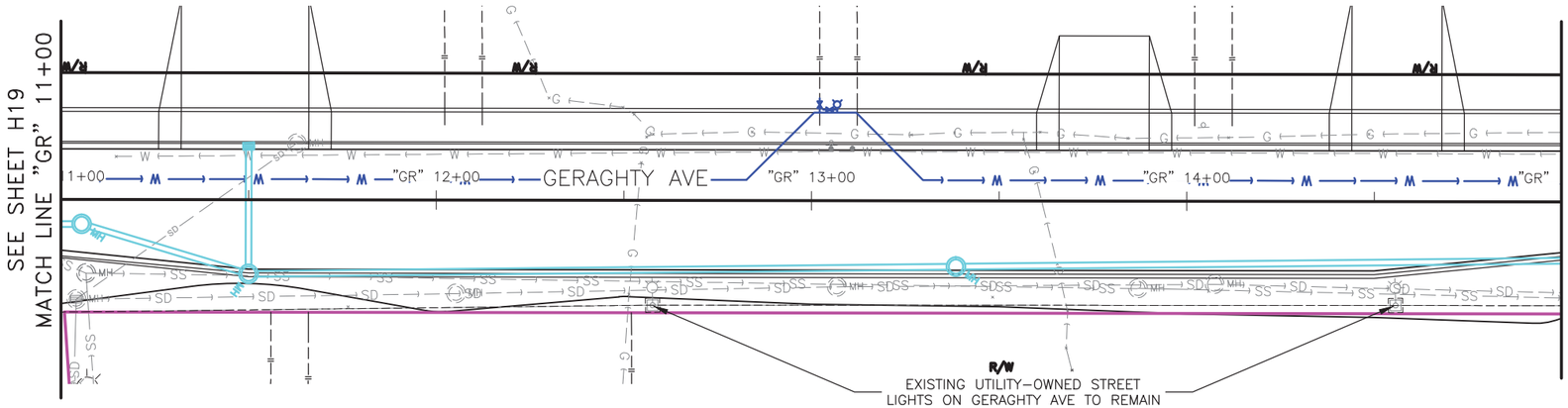
ILLUMINATION AND INTERCONNECT PLANS

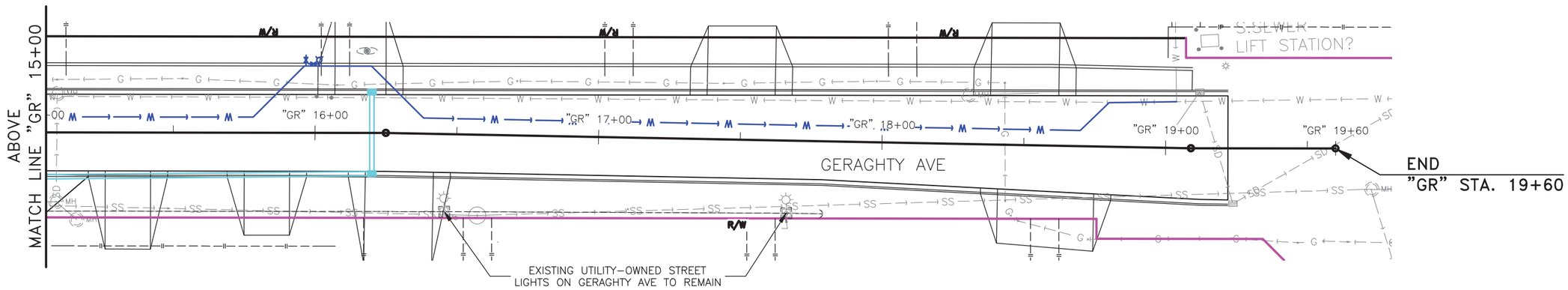
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95%
PS&E
SUBMITTAL

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95%
PS&E
SUBMITTAL

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2–SEG–2A\DWGS\C\SHEETS\63213_H16–H23_ILLUM&INTERC.DWG PLOTTED: Dec 10, 2019 – 5:12:56 PM (Brian Lewis) KE#: 00245

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H23	H58





ILLUMINATION AND INTERCONNECT PLANS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95% PS&E SUBMITTAL

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC
12/10/2019
95% PS&E SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H24	H58

COBRAHEAD ELECTROLIER SUMMARY

LUMINAIRE No.	ALIGN.	STATION	OFFSET	POLE TYPE	BASE TYPE	LUMINAIRE			ADJUSTABLE OUTPUT (NOTE 10)	CIRCUIT	MOUNT HEIGHT	MAST ARM LENGTH	REMARKS
						TYPE	VOLTAGE	WATTAGE					
31	"01"	52+85.30	49.99 RT	STP	CIDH	A	480V	240W		UA-8	40'	22'	
32	"01"	54+19.15	49.57 RT	STP	CIDH	A	480V	240W		UA-8	40'	22'	
33	"01"	55+26.02	92.81 LT	STP	CIDH	A	480V	240W		UA-8	30'	22'	
34	"01"	55+36.46	59.90 RT	STP	CIDH	B	480V	200W		UA-8	40'	22'	
35	"01"	56+20.63	74.29 LT	STP	CIDH	B	480V	200W		UA-8	30'	12'	ORIENT MAST ARM PARALLEL W/ CROSSWALK
36	"01"	56+54.82	60.00 RT	STP	CIDH	B	480V	200W		UA-8	40'	22'	
37	"01"	59+12.77	95.33 RT	STP	CIDH	B	480V	200W		UA-6	40'	12'	ORIENT MAST ARM PARALLEL W/ CROSSWALK
39	"01"	60+56.68	48.00 RT	STP	CIDH	B	480V	200W		UA-7	40'	22'	
42	"01"	62+16.37	48.81 RT	STP	CIDH	B	480V	200W		UA-7	40'	22'	
43	"01"	63+85.16	45.56 RT	STP	CIDH	A	480V	240W		UA-7	40'	22'	
44	"01"	65+03.96	43.75 RT	STP	CIDH	A	480V	240W		UA-7	40'	22'	
45	"01"	66+29.71	43.00 RT	STP	CIDH	A	480V	240W		UA-7	40'	22'	
46	"01"	67+55.72	43.00 RT	STP	CIDH	A	480V	240W		UA-7	40'	22'	
47	"01"	68+84.01	42.47 RT	STP	CIDH	A	480V	240W		UA-7	40'	22'	
48	"AW"	201+25.08	49.88 LT	STP	CIDH	A	480V	240W		UA-5	40'	22'	
49	"AW"	202+73.99	53.00 RT	STP	CIDH	A	480V	240W		UA-5	40'	22'	
50	"AW"	204+22.26	53.00 LT	STP	CIDH	A	480V	240W		UA-5	40'	22'	
51	"AW"	205+69.78	55.00 RT	STP	CIDH	A	480V	240W		UA-5	40'	22'	
52	"AW"	206+47.26	53.00 LT	STP	CIDH	B	480V	200W		UA-5	40'	22'	
53	"AW"	207+24.59	55.00 RT	STP	CIDH	A	480V	240W		UA-5	40'	22'	
54A	"AW"	211+41.66	53.44 RT	STP	CIDH	B	480V	200W		UA-6	40'	22'	
54B	"AW"	211+41.66	53.44 RT	STP	CIDH	B	480V	200W		UA-6	35'	4'	FRONTAGE ROAD LIGHTING
55A	"AW"	212+64.29	54.62 LT	STP	DPP	B	480V	200W		UA-6	40'	22'	
55B	"AW"	212+64.29	54.62 LT	STP	DPP	B	480V	200W		UA-6	35'	4'	FRONTAGE ROAD LIGHTING
56A	"AW"	213+77.84	53.57 RT	STP	JBF	B	480V	200W		UA-6	40'	22'	
56B	"AW"	213+77.84	53.57 RT	STP	JBF	B	480V	200W		UA-6	35'	4'	FRONTAGE ROAD LIGHTING
57A	"AW"	214+87.32	52.67 LT	STP	JBF	B	480V	200W		UA-6	40'	22'	
57B	"AW"	214+87.32	52.67 LT	STP	JBF	B	480V	200W		UA-6	35'	4'	FRONTAGE ROAD LIGHTING
58	"AW"	217+23.12	52.63 LT	STP	JBF	B	480V	200W		UA-6	35'	4'	FRONTAGE ROAD LIGHTING
59	"AW"	216+68.46	53.65 RT	STP	JBF	B	480V	200W		UA-6	35'	4'	FRONTAGE ROAD LIGHTING

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. DESIGN MOUNTING HEIGHT AS SCHEDULED SHALL BE MEASURED FROM THE FINISHED ROAD SURFACE TO THE LUMINAIRE.
6. 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.
7. ORIENT POLE WITH LUMINAIRE MAST ARMS PERPENDICULAR TO THE ROADWAY CENTERLINE, UNLESS A SPECIFIC ORIENTATION IS OTHERWISE NOTED.
8. ALL LED LUMINAIRES SHALL BE FURNISHED WITH A 0-10V DIMMING DRIVER. ALL LUMINAIRES SHALL BE FURNISHED WITH A NEMA 7-PIN TWIST-LOCK PHOTOCELL RECEPTACLE AND WIRELESS CONTROL NODE.
9. PROVIDE LED LUMINAIRES WITH FIELD ADJUSTABLE OUTPUT, SET FOR 100% INITIAL OUTPUT UNLESS OTHERWISE NOTED.
10. REFER TO LIGHT POLE WIDENING DETAILS ON SHEET H49 FOR TYPICAL ELECTROLIER INSTALLATION, UNLESS OTHERWISE NOTED.
11. SEE TRAFFIC SIGNAL SHEETS FOR ADDITIONAL LUMINAIRES MOUNTED ON TRAFFIC SIGNAL POLE STRUCTURES.
12. UNLESS OTHERWISE NOTED, ALL ELECTROLIERS SHALL BE MOUNTED USING FRANGIBLE COUPLINGS.

ABBREVIATIONS:
BOS BACK OF SIDEWALK
CIDH CAST IN DRILLED HOLE
DPP DRIVEN PIPE PILE, SEE DETAIL ON SHEET H51
JBF JERSEY BARRIER FOUNDATION, SEE DETAILS ON SHEETS H52-H53
STP STEEL TAPERED POLE

ELECTROLIER SUMMARY
1 OF 2

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

OFFSET ELECTROLIER SUMMARY

LUMINAIRE No.	ALIGN.	STATION	OFFSET	POLE TYPE	BASE TYPE	LUMINAIRE			ADJUSTABLE OUTPUT (NOTE 10)	CIRCUIT	MOUNT HEIGHT	TILT (DEGREES)	REMARKS
						TYPE	VOLTAGE	WATTAGE					
38	"01"	59+74.20	87.12 LT	STP	CIDH	C	480V	215W		UA-7	30'	20°	NOTE 3. PROVIDE 4' SEPARATION TO WATERLINE, APPROX. 15 FT. BOS OFFSET
40	"01"	60+92.31	85.52 LT	STP	CIDH	C	480V	215W		UA-7	30'	20°	NOTE 3. PROVIDE 4' SEPARATION TO WATERLINE, APPROX. 14 FT. BOS OFFSET
41	"01"	62+14.98	81.25 LT	STP	CIDH	C	480V	215W		UA-7	30'	20°	NOTE 3. PROVIDE 4' SEPARATION TO WATERLINE, APPROX. 11 FT. BOS OFFSET

NOTE:
SEE SHEET H24 FOR ELECTROLIER NOTES

STREET LIGHTING DESIGN CRITERIA

ROADWAY CHARACTERISTICS	
ROADWAY LIGHTING STANDARD:	IESNA RP-8-2014
CALCULATION ZONE:	ENTIRE ROADWAY
STREET CLASSIFICATION (UNIV. AVE.)	MAJOR
PEDESTRIAN AREA CLASSIFICATION:	MEDIUM (UNLESS NOTED OTHERWISE)
PAVEMENT CLASSIFICATION:	R3
TRAFFIC FLOW:	2-WAY
LANE WIDTH:	12 FT.
NO. OF LANES, LEFT / RIGHT:	UNIVERSITY AND AIRPORT: 2 BOTH DIRECTIONS FRONTAGE ROADS: 1 BOTH DIRECTIONS
MEDIAN:	VARIES
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
Lmax/Lmin RATIO (MAXIMUM):	<= 5.0
Lvmax/Lavg VEILING LUMINANCE RATIO (MAXIMUM):	<= 0.3
INTERSECTION ILLUMINANCE CRITERIA	
UNIVERSITY AVE/AIRPORT WAY, ILLUMINANCE:	Eavg >= 2.4 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 AND 1.64 FT SPACING IN DIRECTION OF APPROACHING TRAFFIC, CENTERED IN CROSSWALK
CROSSWALKS AT NON-SIGNALIZED, UNCONTROLLED TRAFFIC FREE-RIGHT SLIP LANES, HIGH PEDESTRIAN CONFLICT:	Emin,v >= 1.0 FC METERED AT 5FT HEIGHT AND 1.64 FT SPACING IN DIRECTION OF APPROACHING TRAFFIC, CENTERED IN CROSSWALK
LUMINAIRE DEPRECIATION	
LED - TOTAL LIGHT LOSS FACTOR (LLF):	0.85

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-40K7-UH-N-Q9	LED	TYPE III MED.	31,100	4000K	0.51 AMPS	480V 347VA/240W	>0.9	HORIZ. TENON	
B	CREE # RSWX-A-HT- 3ME-24L-40K7-UH-N-Q9	LED	TYPE III MED.	23,800	4000K	0.42 AMPS	480V 347VA/200W	>0.9	HORIZ. TENON	
C	CREE # OSQ-A-NM- 3ME-U-40K7-UH-SV-DIM-Q9-R	LED	TYPE III MED.	26,583	4000K	0.45 AMPS	480V 347VA/215W	>0.9	VERT. OSQ-B-AASV MOUNT	MOUNTING ORDERED SEPARATELY FROM LUMINAIRE

NOTES: DCC = DIMMING CONSTANT CURRENT FAO = FIELD ADJUSTABLE OUTPUT

1. ALL LUMINAIRES SHALL BE FURNISHED WITH 0-10V DIMMING BALLAST, 7-PIN NEMA PHOTOCELL RECEPTACLE AND WIRELESS CONTROL NODE.
2. LED LUMEN OUTPUT SHALL BE FIELD ADJUSTABLE IN APPROXIMATELY 10% INCREMENTS, DOWN TO AT LEAST 70% OF FULL OUTPUT.

REMOVE AND REPLACE LUMINAIRE

ALIGN.	STATION	OFFSET	LUMINAIRE			CIRCUIT	REMARKS
			TYPE	VOLTAGE	WATTAGE		
"01"	72+29.83	RT	A	480V	240W	UA-7	
"01"	75+24.77	RT	A	480V	240W	UA-7	

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

ELECTROLIER SUMMARY
2 OF 2

LUMINAIRE JUNCTION BOX SUMMARY

JUNCTION BOX No.	ALIGN.	STATION	OFFSET	TYPE	CIRCUIT	REMARKS
31	"01"	52+89.40	RT	1A	UA–8	
32	"01"	54+23.33	RT	1A	UA–8	
33	"01"	55+21.96	LT	1A	UA–8	
34	"01"	55+42.02	RT	II	UA–8	
35	"01"	56+17.07	LT	1A	UA–8	
36	"01"	56+59.00	RT	1A	UA–8	
37	"01"	59+14.48	RT	II	UA–5,6,8	
38	"01"	59+70.00	LT	1A	UA–7	
39	"01"	60+60.78	RT	1A	UA–7	
40	"01"	60+88.12	LT	1A	UA–7	
41	"01"	62+10.78	LT	1A	UA–7	
42	"01"	62+20.47	RT	1A	UA–7	
43	"01"	63+89.26	RT	1A	UA–7	
44	"01"	65+08.09	RT	1A	UA–7	
45	"01"	66+33.87	RT	1A	UA–7	
46	"01"	67+59.89	RT	1A	UA–7	
47	"01"	68+88.15	RT	1A	UA–7	
48	"AW"	201+20.95	LT	1A	UA–5	
49	"AW"	202+78.12	RT	1A	UA–5	
50	"AW"	204+18.13	LT	1A	UA–5	
51	"AW"	205+73.92	RT	1A	UA–5	
52	"AW"	206+43.13	LT	1A	UA–5	
53	"AW"	207+28.72	RT	1A	UA–5	
54	"AW"	211+45.80	RT	1A	UA–6	
55	"AW"	212+60.15	LT	1A	UA–6	
56	"AW"	213+77.84	RT	1A	UA–6	
57	"AW"	214+87.32	LT	1A	UA–6	
58	"AW"	217+23.12	LT	STP	UA–6	
59	"AW"	216+68.46	RT	STP	UA–6	

JUNCTION BOX SUMMARY

JUNCTION BOX No.	ALIGN.	STATION	OFFSET	TYPE	CIRCUIT	REMARKS
80	"01"	57+46.00	60.68 RT	II	UA–5,8	
81	"AW"	208+51.66	52.74 RT	1A	UA–5	
82	"AW"	202+76.99	51.47 LT	1A	UA–5	

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

LUMINAIRE JUNCTION BOX SUMMARY

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H27	H58

ELECTROLIER DEMOLITION SUMMARY

ALIGN.	STATION	OFFSET	REMARKS
"01"	52+62.01	RT	
"01"	53+86.72	RT	
"01"	55+44.83	RT	
"01"	55+49.70	LT	NON-DOT; SALVAGE ELECTROLIER & REINSTALL. SEE SHEET H49
"01"	56+50.81	RT	
"01"	59+18.66	RT	SALVAGE (2 EA) TYPE B LUMINAIRES FOR REINSTALLATION
"01"	60+94.21	RT	DUAL LUMINAIRE ELECTROLIER
"01"	62+88.26	RT	
"01"	64+55.00	RT	
"01"	66+57.98	RT	
"01"	69+44.78	RT	
"AW"	201+46.43	LT	SALVAGE TYPE A LUMINAIRE FOR REINSTALLATION
"AW"	202+96.91	RT	SALVAGE TYPE A LUMINAIRE FOR REINSTALLATION
"AW"	204+46.68	LT	SALVAGE TYPE A LUMINAIRE FOR REINSTALLATION
"AW"	205+96.48	RT	SALVAGE TYPE A LUMINAIRE FOR REINSTALLATION
"AW"	207+46.52	LT	SALVAGE TYPE A LUMINAIRE FOR REINSTALLATION
"AW"	211+38.07	RT	SALVAGE TYPE B LUMINAIRE FOR REINSTALLATION
"AW"	211+38.71	LT	SALVAGE (2 EA) TYPE B LUMINAIRES FOR REINSTALLATION
"AW"	213+00.38	LT	SALVAGE (2 EA) TYPE B LUMINAIRES FOR REINSTALLATION
"AW"	213+09.25	RT	SALVAGE TYPE B LUMINAIRE FOR REINSTALLATION
"AW"	214+50.79	RT	SALVAGE (2 EA) TYPE B LUMINAIRES FOR REINSTALLATION

SALVAGE LUMINAIRE NOTES:

1. CONTRACTOR SHALL SALVAGE 5 EA TYPE A LUMINAIRES AND 9 EA TYPE B LUMINAIRES FROM EXISTING DEMOLISHED ELECTROLIERS.
2. 4 EA TYPE A LUMINAIRES SHALL BE SALVAGED FROM DEMOLISHED SIGNAL POLES FROM AIRPORT WAY AND UNIVERSITY AVENUE INTERSECTION.

ELECTROLIER DEMOLITION SUMMARY

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H28	H58

FIBER–OPTIC INTERCONNECT VAULT SCHEDULE

I/C VAULT NO.	LOCATION			TYPE	REMARKS
	ALIGNMENT	STATION	OFFSET		
VAULT 1	"01"	51+70.9	52.0 RT	VAULT TYPE I	
VAULT 2	"01"	57+24.3	60.0 RT	VAULT TYPE I	
VAULT 3	"01"	57+74.3	81.9 LT	VAULT TYPE II	EXISTING VAULT
VAULT 4	"AW"	213+29.8	43.8 RT	MANHOLE	EXISTING VAULT
VAULT 5	"AW"	213+29.2	43.1 LT	MANHOLE	EXISTING VAULT
VAULT 6	"01"	59+47.0	67.5 RT	MANHOLE	
VAULT 7	"01"	57+75.27	81.2 LT	VAULT TYPE I	

NOTES:

1. REFER TO PLANS FOR CABLE ROUTING TO/FROM CABINETS.
2. ALL ETHERNET SWITCHES, ARE SINGLE MODE, OPERATING AT 1310 nm, UNLESS OTHERWISE SPECIFIED.
3. ETHERNET SWITCHES AND TERMINAL SERVERS SHALL INCLUDE POWER ADAPTERS CONVERTING 120 VAC TO APPROPRIATE OPERATING VOLTAGES.
4. ALL SPLICE TRAYS SHALL BE CONTAINED WITHIN ONE CLOSURE PER VAULT.
5. DROP CABLES SHALL BE PRECONNECTORIZED IN THE FACTORY. CONNECTORS INSTALLED IN THE FIELD WILL NOT BE ALLOWED.
6. COMMUNICATION COMPONENTS ARE SHOWN SCHEMATICALLY. VERIFY TX–RX FIBER PORTS PRIOR TO MAKING FINAL CONNECTIONS.
7. CONNECT ETHERNET SWITCH TO EACH PATCH PANEL WITH TWO SINGLE MODE FIBER PATCH CABLES. THE CABLES SHALL BE OF SUFFICIENT LENGTH TO ALLOW FOR MOVING OF THE ETHERNET SWITCH TO ANY SHELF LOCATION IN THE CABINET ONCE THE PATCH PANEL HAS BEEN INSTALLED. LABEL EACH PATCH CABLE ACCORDING TO THE TRANSMISSION DIRECTION TABLE.
8. PROVIDE THREE (EACH) ETHERNET CABLES OF SIX FOOT LENGTH FOR EACH CABINET RECEIVING AN ETHERNET SWITCH, TO BE CONNECTED TO CABINET COMPONENTS ACCORDING TO THE SWITCH COMMUNICATIONS WIRING DIAGRAM.
9. NO SPLICES ARE PERMITTED EXCEPT WHERE SPECIFICALLY INDICATED IN THE FIBER OPTIC SPLICE DIAGRAM. SPLICE CLOSURES MUST CONFORM TO SECTION 662–3.10 OF THE SPECIFICATIONS
10. MOUNT PATCH PANEL TO CABINET WALL AND IN A LOCATION AS TO NOT INTERFERE WITH OTHER EQUIPMENT AND SUCH THAT IT IS READILY ACCESSIBLE. PROVIDE SUFFICIENT SLACK CABLE IN CABINET TO ALLOW THE PATCH CABLE TO BE RELOCATED AT ANY LOCATION IN THE CABINET.

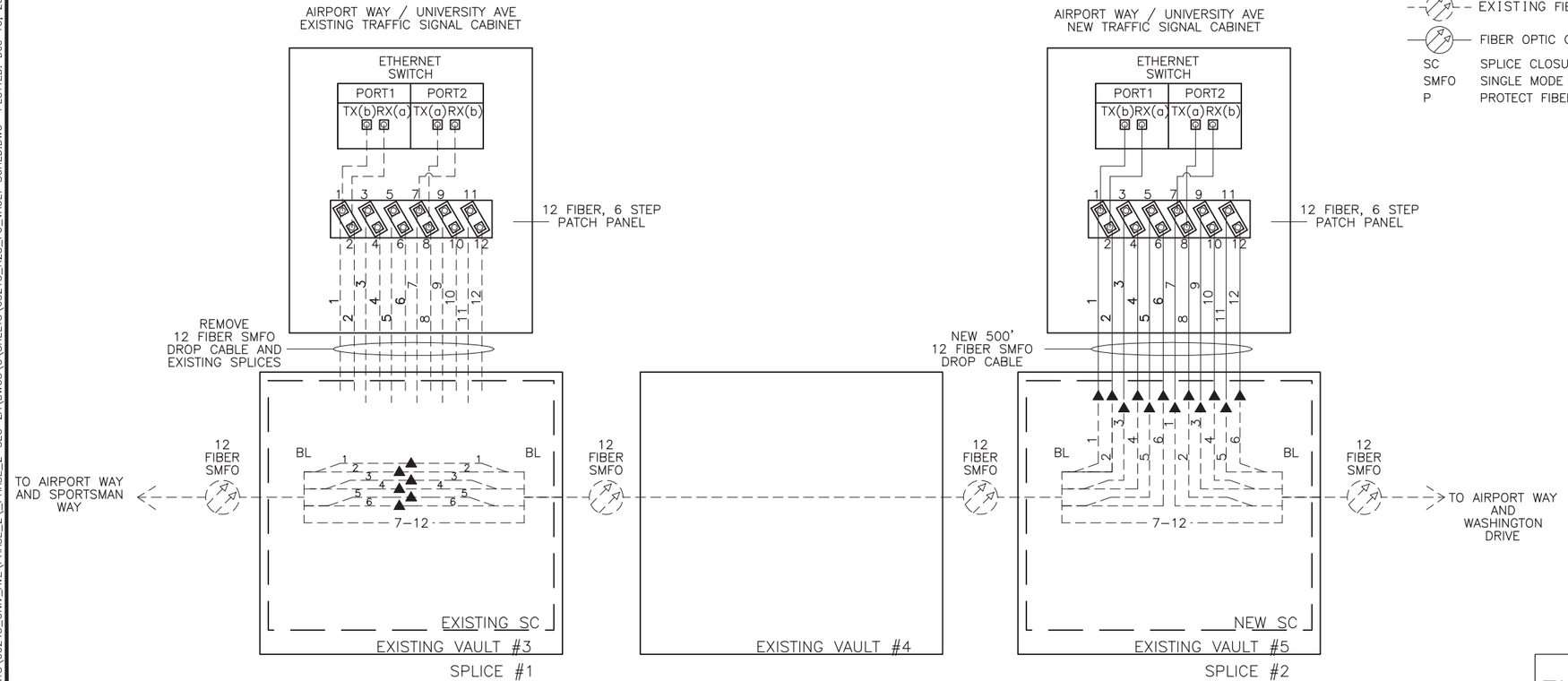
LEGEND

- ▲ FIBER SPLICE
- EXISTING FIBER SPLICE
- FIBER STRAND / BUFFER TUBE
- LC CONNECTOR
- LC PORT
- JUMPER OR PATCH CHORD
- EXISTING FIBER STRAND / BUFFER TUBE
- EXISTING FIBER OPTIC CABLE
- FIBER OPTIC CABLE
- SC SPLICE CLOSURE
- SMFO SINGLE MODE FIBER OPTIC CABLE
- P PROTECT FIBER END

BUFFER COLOR CODING

FIBER / POSITION NO.	BASE COLOR	ABBREVIATION
1	BLUE	BL
2	ORANGE	OR
3	GREEN	GR
4	BROWN	BR
5	SLATE	SL
6	WHITE	WH
7	RED	RD
8	BLACK	BK
9	YELLOW	YL
10	VIOLET	VI
11	PINK	PK
12	AQUA	AQ

TRANSMIT DIRECTION	ABBREVIATION	
	TRANSMIT	RECEIVE
SOUTH TO NORTH	TX(a)	RX(a)
NORTH TO SOUTH	TX(b)	RX(b)
WEST TO EAST	TX(a)	RX(a)
EAST TO WEST	TX(b)	RX(b)

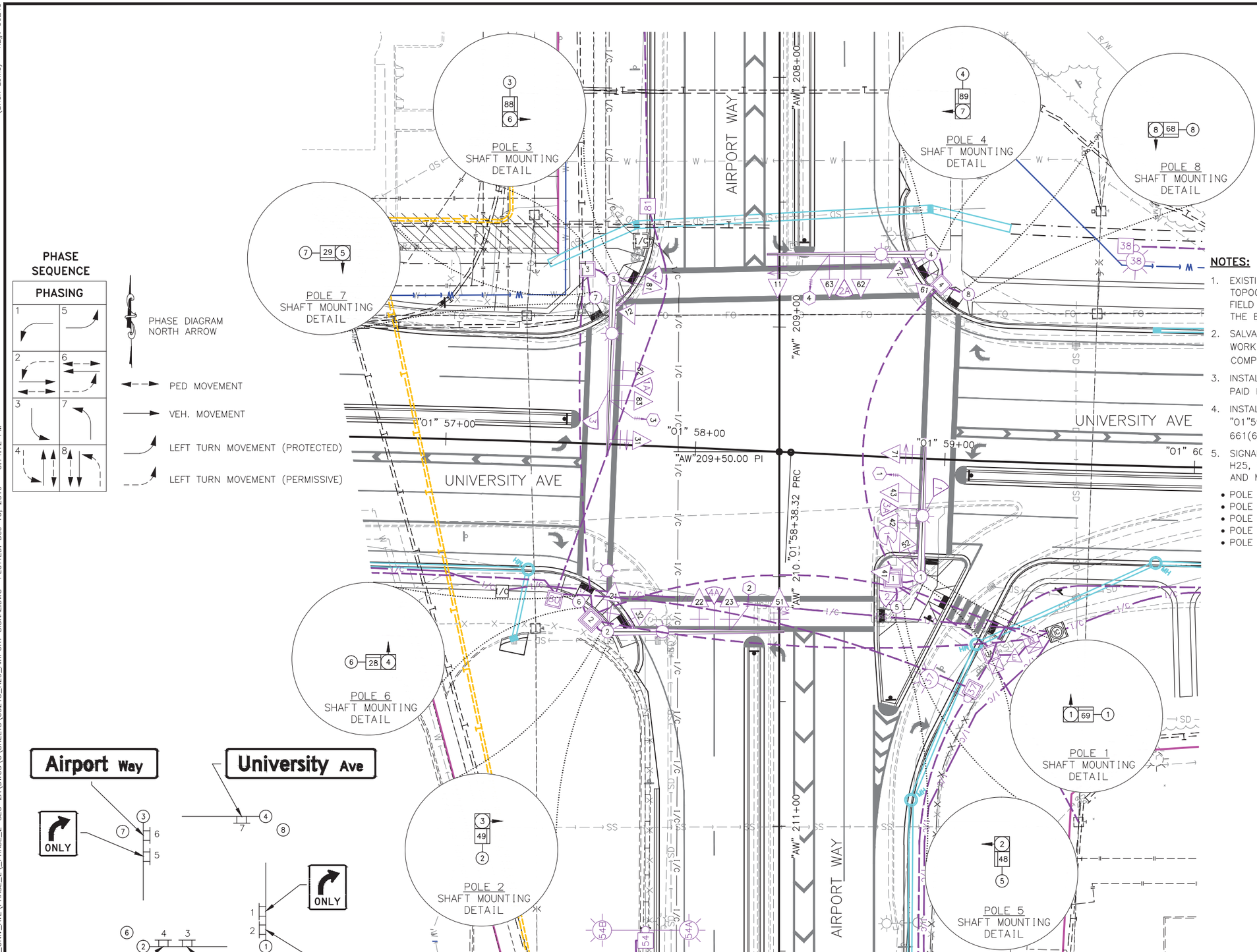


FIBER OPTIC SPLICE DIAGRAM AND VAULT SCHEDULE

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H29	H58



PHASE SEQUENCE

PHASING

1	5
2	6
3	7
4	8

PHASE DIAGRAM NORTH ARROW

PED MOVEMENT

VEH. MOVEMENT

LEFT TURN MOVEMENT (PROTECTED)

LEFT TURN MOVEMENT (PERMISSIVE)

SIGN PLACEMENT

NOTES:

1. EXISTING SIGNAL LINE WORK IS FROM A COMBINATION OF DESIGN TOPOGRAPHIC SURVEY, AS-BUILTS AND SITE VISITS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS BEFORE MAKING MODIFICATIONS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. SALVAGE EXISTING SIGNAL EQUIPMENT PER THE SPECIFICATIONS. THIS WORK SHALL BE PAID FOR UNDER 660(1B) TRAFFIC SIGNAL SYSTEM COMPLETE, UNIVERSITY/AIRPORT.
3. INSTALLATION OF NEW SIGNS ON TRAFFIC SIGNAL STRUCTURES WILL BE PAID FOR UNDER PAY ITEM 615(1).
4. INSTALL NEW SIGNAL CONTROLLER TRANSFORMER AND DISCONNECT AT STA: "01"59+31 OFF: 78.1RT. PAYMENT SHALL BE MADE UNDER PAY ITEM 661(6) TRANSFORMERS, 5KVA. SEE INSTALLATION DETAIL ON SHEET H35.
5. SIGNAL POLE LUMINAIRES SHALL BE PER LUMINAIRE SCHEDULE ON SHEET H25, SEE BELOW FOR TYPE. SEE SHEET H31 FOR REQUIRED MAST ARMS AND MOUNTING HEIGHTS. ADJUST LUMINAIRES FOR OUTPUT AS FOLLOWS:
   - POLE 1: TYPE B SET TO 100%
   - POLE 2 LUMINAIRE 1: TYPE B SET TO 90%
   - POLE 2 LUMINAIRE 2: TYPE B SET TO 90%
   - POLE 3: TYPE B SET TO 80%
   - POLE 4: TYPE A SET TO 100%

AIRPORT WAY SIGNAL PLAN

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95% PS&E SUBMITTAL

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2-SEG-2A\DWGS\C\SHEETS\63213_H29_AIRPORT SIGNAL.DWG PLOTTED: Dec 10, 2019 - 5:14:12 PM (Brian Lewis) KE#: 00245

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H30	H58

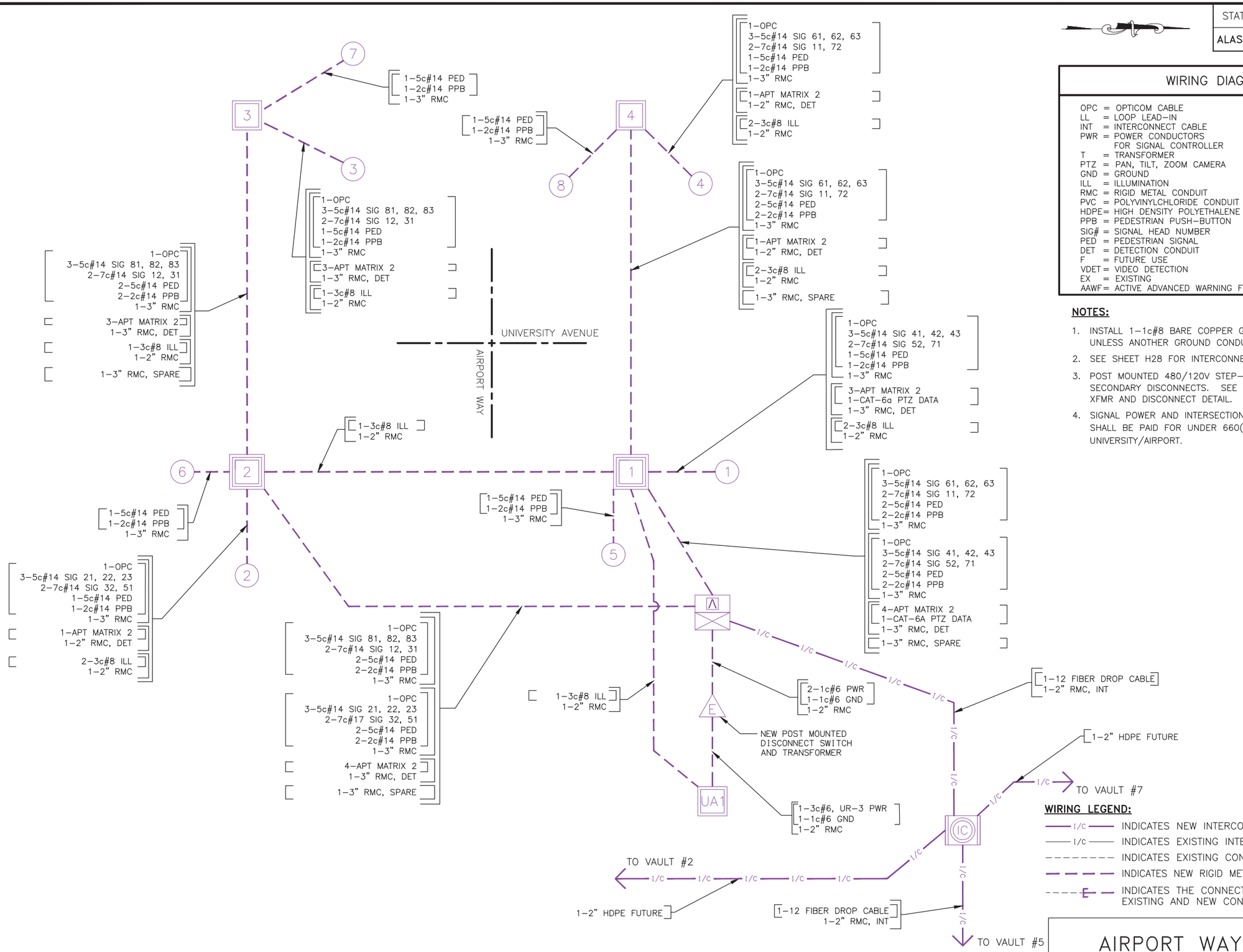
WIRING DIAGRAM CODING LEGEND

OPC = OPTICOM CABLE
LL = LOOP LEAD-IN
INT = INTERCONNECT CABLE
PWR = POWER CONDUCTORS FOR SIGNAL CONTROLLER
T = TRANSFORMER
PTZ = PAN, TILT, ZOOM CAMERA
GND = GROUND
ILL = ILLUMINATION
RMC = RIGID METAL CONDUIT
PVC = POLYVINYLCHLORIDE CONDUIT
HDPE = HIGH DENSITY POLYETHALENE
PPB = PEDESTRIAN PUSH-BUTTON
SIG# = SIGNAL HEAD NUMBER
PED = PEDESTRIAN SIGNAL
DET = DETECTION CONDUIT
F = FUTURE USE
VDET = VIDEO DETECTION
EX = EXISTING
AAWF = ACTIVE ADVANCED WARNING FLASHER

5c#14 TRAFFIC SIGNALS
7c#14 PROTECTED-PERMITTED SIGNALS
5c#14 PEDESTRIAN SIGNALS
2c#14 PEDESTRIAN PUSH-BUTTON
3pr#18, 6pr#18, 9pr#18, 15pr#18 } LOOP LEAD-IN CABLE & VDET
3c#8 ILLUMINATION
3c#6 SIGNAL POWER
1c#8 BARE COPPER GROUND
18pr#19 PE-39 INTERCONNECT CABLE
1c#6 BARE COPPER GROUND
APT MATRIX 2 RDET HOME RUN CABLE
CAT-6a PTZ DATA
SMFO SINGLE MODE FIBER OPTIC

NOTES:

1. INSTALL 1-1c#8 BARE COPPER GROUND CONDUCTOR IN ALL CONDUITS UNLESS ANOTHER GROUND CONDUCTOR IS SPECIFIED.
2. SEE SHEET H28 FOR INTERCONNECT SPLICE DETAIL.
3. POST MOUNTED 480/120V STEP-DOWN TRANSFORMER WITH PRIMARY AND SECONDARY DISCONNECTS. SEE SHEET H36 FOR SIGNAL CONTROLLER XFMR AND DISCONNECT DETAIL.
4. SIGNAL POWER AND INTERSECTION CONDUIT AND WIRING TO AIRPORT WAY SHALL BE PAID FOR UNDER 660(1B) TRAFFIC SIGNAL SYSTEM COMPLETE, UNIVERSITY/AIRPORT.



WIRING LEGEND:

1/c — INDICATES NEW INTERCONNECT CONDUIT RUN
1/c — INDICATES EXISTING INTERCONNECT CONDUIT RUN
INDICATES EXISTING CONDUIT RUN
INDICATES NEW RIGID METAL CONDUIT RUN(S)
INDICATES THE CONNECTION BETWEEN EXISTING AND NEW CONDUIT

AIRPORT WAY WIRING DIAGRAM

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

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'	55'	SIG. OR SIGN	SIGNAL	SIGNAL	RADAR	RADAR	SIGNAL	SIGN	SIGN	LUMINAIRE ARM @ 0° MOUNTING HEIGHT @ 45'
				LOC. OFFSET	49.0	33.5	27.3	24.5	21.5	11.4	5.3	
				LxW OR S.F.	14.10	11.50	1.00	1.00	11.50	7.50	17.00	
2	SE	LUMINAIRE 1 – 22' LUMINAIRE 2 – 22'	70'	SIG. OR SIGN	SIGNAL	SIGNAL	RADAR	SIGNAL	SIGN	SIGN		LUMINAIRE ARM 1 @ 0° MOUNTING HEIGHT @ 45' LUMINAIRE ARM 2 @ 270° MOUNTING HEIGHT @ 45'
				LOC. OFFSET	68.7	48.7	42.8	36.7	24.7	10.0		
				LxW OR S.F.	14.10	11.50	1.00	11.50	7.50	20.00		
3	SW	22'	70'	SIG. OR SIGN	SIGNAL	SIGNAL	RADAR	RADAR	SIGNAL	SIGN	SIGN	LUMINAIRE ARM @ 0° MOUNTING HEIGHT @ 30'
				LOC. OFFSET	64.2	48.4	44.2	42.4	36.4	24.4	9.0	
				LxW OR S.F.	14.10	11.50	1.00	1.00	11.50	7.50	17.00	
4	NW	20'	65'	SIG. OR SIGN	SIGNAL	SIGNAL	RADAR	SIGNAL	SIGN			LUMINAIRE ARM @ 0', MOUNTING HEIGHT @ 45'
				LOC. OFFSET	61.5	40.7	34.8	28.1	9.2			
				LxW OR S.F.	14.10	11.50	1.00	11.50	20.00			

POLE–POST DESIGN LOADING SCHEDULE NOTES:

1. ORIENT SIGNAL MAST ARM(S) 90° TO THE ℄ OF THE ROADWAY UNLESS NOTED OTHERWISE.
2. LUMINAIRE MAST ARM MOUNTING HEIGHT IS FROM ROADWAY FINISHED GRADE TO BOTTOM OF FIXTURE.
3. SEE LUMINAIRE SCHEDULE ON SHEET H25 FOR LUMINAIRE TYPE.

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	11.4	R3–5R	RIGHT ONLY	30x36	7.5		X	
2	1	5.3	D3–1B	AIRPORT WAY	102x24	17.0		X	SEE NOTE 2
3	2	24.7	R3–5R	RIGHT ONLY	30x36	7.5		X	
4	2	10.0	D3–1B	UNIVERSITY AVE	120x24	20.0		X	SEE NOTE 2
5	3	24.5	R3–5R	RIGHT ONLY	30x36	7.5		X	
6	3	9.0	D3–1B	AIRPORT WAY	102x24	17.0		X	SEE NOTE 2
7	4	9.2	D3–1B	UNIVERSITY AVE	120x24	20.0		X	SEE NOTE 2
					SUBTOTAL SIGNAL SIGNS	96.5			

SIGNAL SIGN SCHEDULE NOTES:

1. LOCATION OFFSETS ARE FROM CENTER OF SIGN TO ℄ OF SIGNAL POLE.
2. FOR SIGN STREET NAMES, USE 12" INITIAL UPPERCASE LETTERING AND A MINIMUM OF 9" LOWERCASE LETTERING. FOR STREET TYPES, USE 8" INITIAL UPPERCASE LETTERING AND A MINIMUM OF 5" LOWERCASE LETTERING.

SIGNAL HEAD SCHEDULE

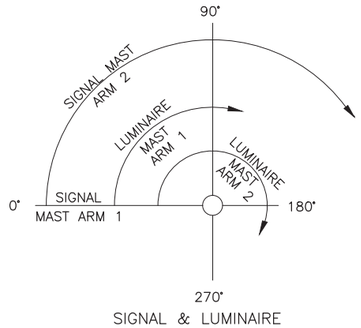
POLE/POST NO.	FACE NO.	INDICATIONS										MOUNTING				REMARKS
		12" BALL			12" ARROW				8" BALL			MAST ARM		SIDE MTNG. TYPE	TOP OF POST	
		R	Y	G	R	Y	FYA	G	R	Y	G	LOC. OFFSET	ELEV. PLUMB			
1	41	X	X	X										D		
	52				L	L	L	L						D		
	42	X	X	X								21.5	X			
	43	X	X	X								33.5	X			
	71				L	L	L	L				49.0	X			
2	21	X	X	X										D		
	32				L	L	L	L						D		
	22	X	X	X								36.7	X			
	23	X	X	X								48.7	X			
	51				L	L	L	L				68.7	X			
3	81	X	X	X										D		
	12				L	L	L	L						D		
	82	X	X	X								36.4	X			
	83	X	X	X								48.4	X			
	31				L	L	L	L				64.2	X			
4	61	X	X	X										D		
	72				L	L	L	L						D		
	62	X	X	X								28.1	X			
	63	X	X	X								40.7	X			
	11				L	L	L	L				61.5	X			

SIGNAL HEAD SCHEDULE NOTES:

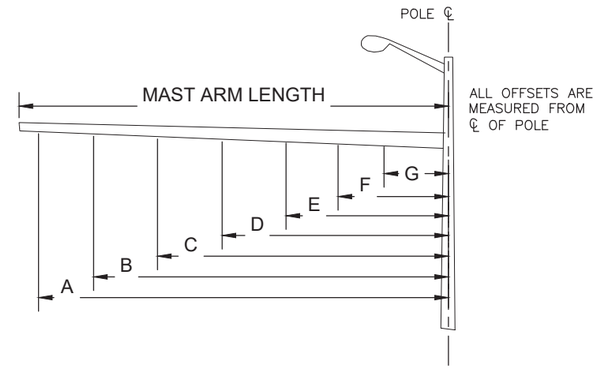
1. LOCATION OFFSETS ARE FROM CENTER OF SIGNAL HEAD TO ℄ OF SIGNAL POLE.
2. FYA = FLASHING YELLOW ARROW.

PED SIGNAL HEAD SCHEDULE

POLE/POST NO.	FACE NO.	MOUNTING TYPE	REMARKS
1	69	P	
2	49	P	
3	88	P	
4	89	P	
5	48	P	
6	28	P	
7	29	P	
8	68	P	

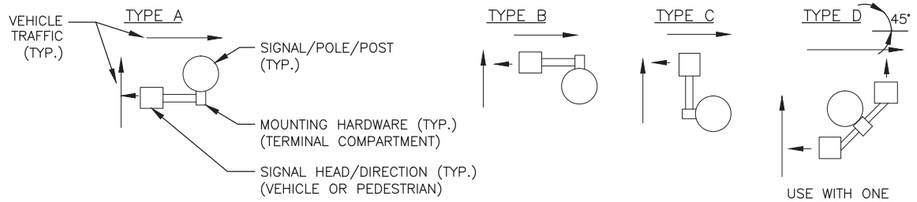


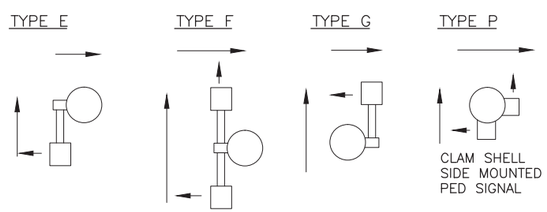
SIGNAL & LUMINAIRE ARM ORIENTATION

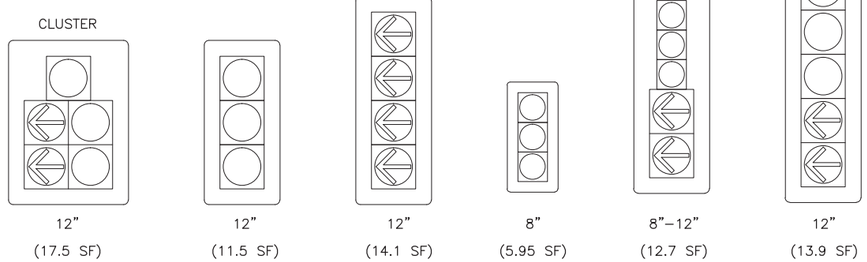


POLE/POST SIGNAL HEAD SIDE MOUNTING TYPES

NTS







SIGNAL HEAD CONFIGURATIONS

(AREAS ARE FOR WIND LOAD CALCULATIONS)

(ARROWS AND BALL INDICATIONS ARE INTERCHANGEABLE)

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

AIRPORT WAY SCHEDULES

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H32	H58

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" 58+92.3	47.4' RT	1			X							
"01" 57+67.65	75.1' RT	2			X							SE NOTE 3
"01" 57+64.7	66.1' LT	3			X							
"01" 58+91.0	81.9' LT	4			X							
"01" 58+83.3	59.9' RT	5					X					SEE NOTE 2
"01" 57+55.7	63.5' RT	6					X					SEE NOTES 2 & 3
"01" 57+57.8	58.4' LT	7					X					SEE NOTE 2
"01" 59+05.8	66.5' LT	8					X					SEE NOTE 2
"01" 58+81.3	48.5' RT		1							X		
"01" 57+62.4	68.7' RT		2							X		
"01" 57+50.4	64.6' LT		3						X			
"01" 58+95.6	69.9' LT		4						X			
"01" 59+35.6	70.6' RT			X								

BASE & JUNCTION BOX NOTES:

1. INSTALL ON PUSH BUTTON POST BASE TYPE B, SEE STD. DWG, T-31.00.
2. USE ALTERNATE "PELCO" POST BASE, SEE STD. DWG, T-31.00.
3. INSTALL JUNCTION BOX/FOUNDATION AT BACK OF SIDEWALK.

*P = PRECAST BASE (FOUNDATION)
A = TYPE "A" SIGNAL BASE POST FOUNDATION. SEE STD. DWG, T-31.00
CIDH = CAST IN DRILLED HOLE

PEDESTRIAN DETECTION SCHEDULE

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

PEDESTRIAN DETECTION NOTES:

1. INSTALL AN R10-3eL SIGN ABOVE PEDESTRIAN PUSH BUTTON. SIGN SHALL NOT BE MEASURED FOR PAYMENT AND IS SUBSIDIARY TO TRAFFIC SIGNAL PAY ITEMS.
2. INSTALL AN 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 MATRIX (WX-SS-225)
8	PELCO MOUNT (WX-SS-611)
8	SMARTSENSOR 6-CONDUCTOR CABLE (WX-SS-704-XXX)
4	SMARTSENSOR ADVANCED EXTENDED RANGE (WX-SS-200E)

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)

OPTICOM DETECTOR SCHEDULE

LOCATION	DET. NO.	PHASE CALL	FACING DIR.	PREEMPTOR PRIORITY	REMARKS
ON TOP OF SIGNAL HEAD 43	1	4, 7	SOUTH		
ON TOP OF SIGNAL HEAD 23	2	2, 5	WEST		
ON TOP OF SIGNAL HEAD 83	3	3, 8	NORTH		
ON TOP OF SIGNAL HEAD 63	4	1, 6	EAST		

OPTICOM DETECTOR NUMBER

COMMUNICATION EQUIPMENT

QTY	DESCRIPTION
1	RUGGEDCOM RX-1210 ETHERNET SWITCH OR APPROVED EQUAL
1	12-FIBER ITS DROP CABLE
2	LC SMF PATCH CABLE
3	CAT-6A CABLE (6')

ADDITIONAL EQUIPMENT

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

RADAR DETECTION SCHEDULE

DET. NO.	PHASE CALL	TYPE	FACING DIR.	POLE NO.	LOCATION	RADAR TYPE
1	3&8	STOP BAR	NORTHWEST	1	SIGNAL MAST ARM	SMARTSENSOR MATRIX
2	1&6	STOP BAR	SOUTHEAST	1	SIGNAL SHAFT	SMARTSENSOR MATRIX
3	4&7	STOP BAR	SOUTHEAST	3	SIGNAL MAST ARM	SMARTSENSOR MATRIX
4	2&5	STOP BAR	NORTH	3	SIGNAL SHAFT	SMARTSENSOR MATRIX
1A	8	ADVANCE	NORTH	3	SIGNAL MAST ARM	SMARTSENSOR ADVANCE
2A	6	ADVANCE	EAST	4	SIGNAL MAST ARM	SMARTSENSOR ADVANCE
3A	4	ADVANCE	SOUTH	1	SIGNAL MAST ARM	SMARTSENSOR ADVANCE
4A	2	ADVANCE	WEST	2	SIGNAL MAST ARM	SMARTSENSOR ADVANCE

RADAR DETECTOR NUMBER

FLASH PROGRAM COLOR

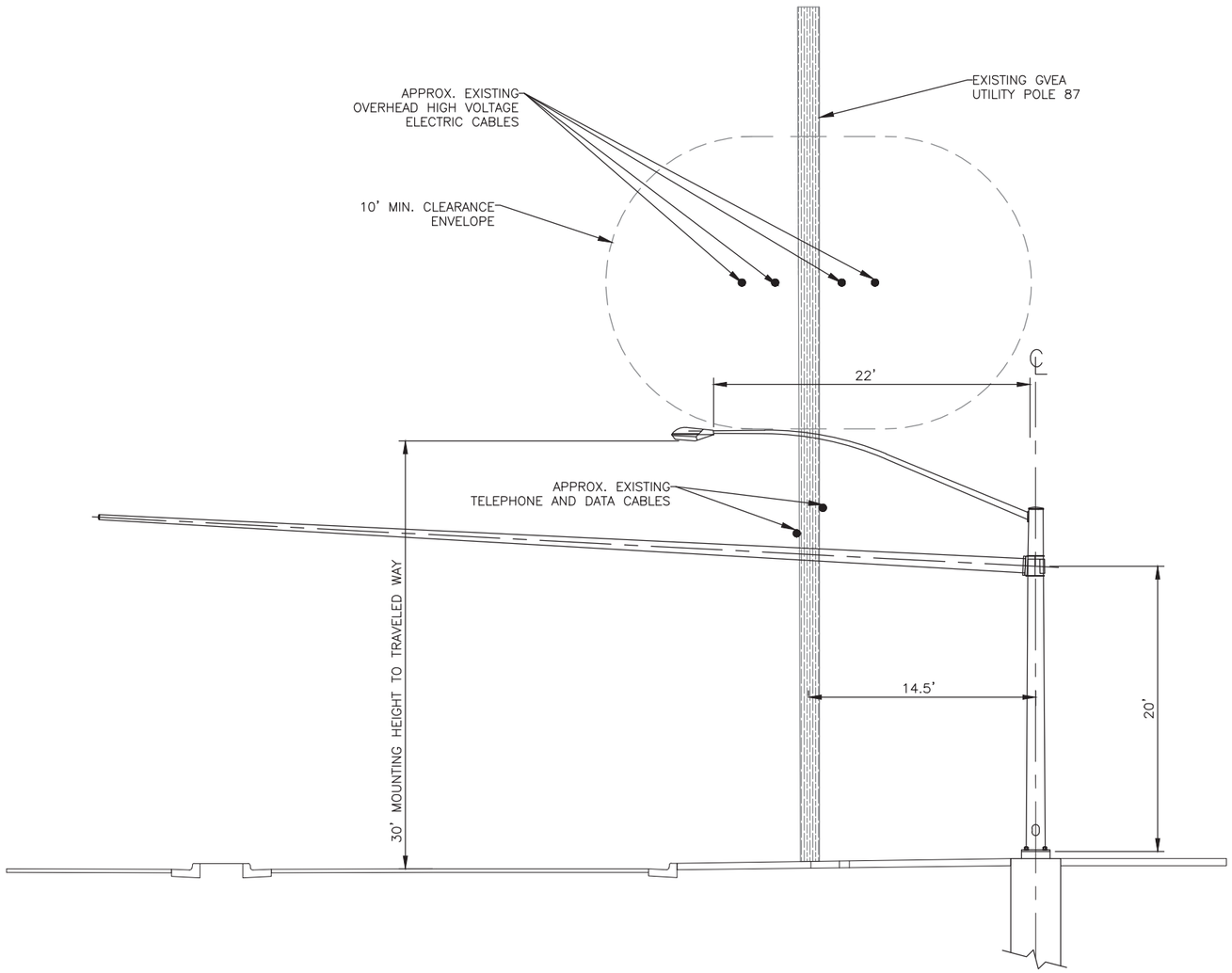
PHASE	1	2	3	4	5	6	7	8
COLOR	R	R	R	R	R	R	R	R

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

AIRPORT WAY SCHEDULES

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H33	H58



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.

AIRPORT WAY POLE ELEVATIONS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	H34	H58

LOAD CENTER "UA"

TYPE 1 LOAD CENTER, LOCATION: ALIGNMENT "AW", STA. 210+36', 86.8' LT.
SERVICE LOCATION: ALIGNMENT "AW", STA. 210+98', 119.9' LT. APPROX. DISTANCE: 70'
240/480V SINGLE PHASE SERVICE, 4-JAW METER
100 AMP MAIN BREAKER, 10,000 AIC MIN.

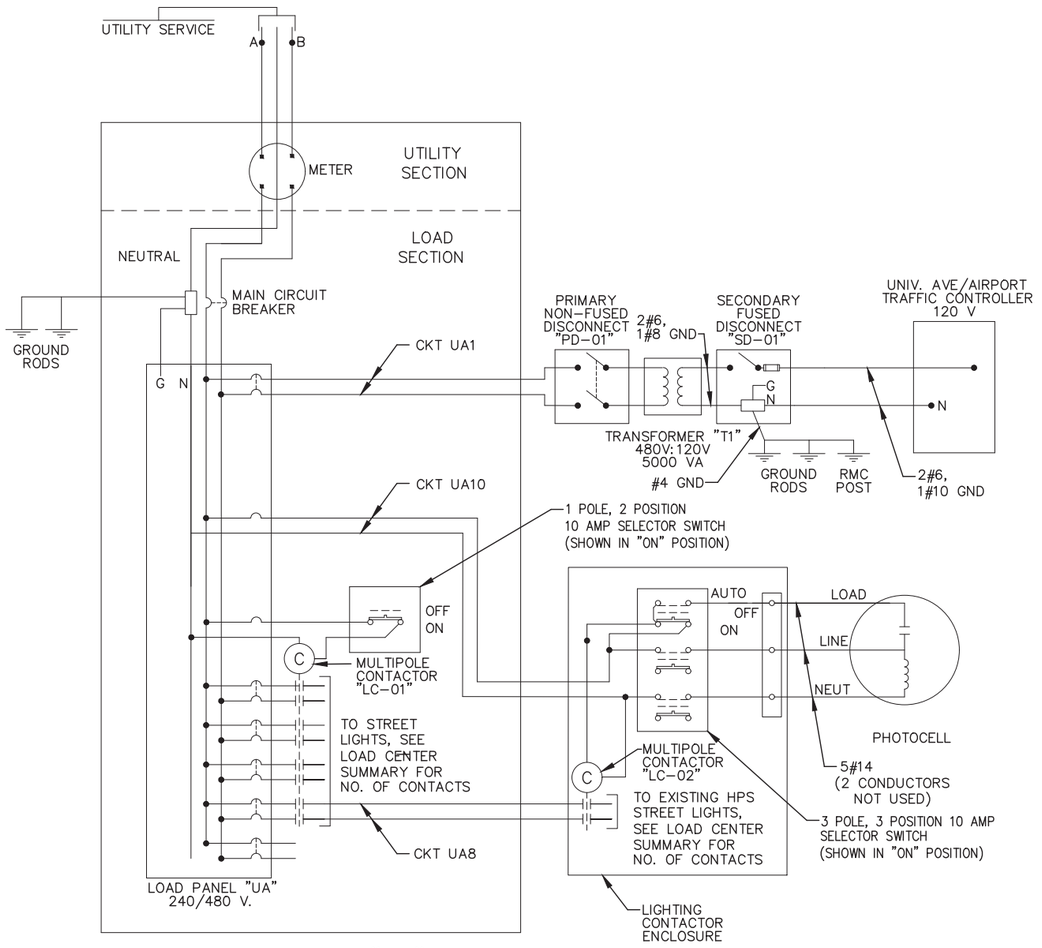
CIRCUIT	BRANCH BREAKER	PURPOSE	CONTACTOR	LOAD
UA1	25 AMP, 2P, 480V	TRAFFIC CONTROLLER- UA/AW	N/A	8.7 AMPS
UA2	20 AMP, 1P, 240V	LIGHTING	LC-01:30 AMP	6.0 AMPS
UA3	XX AMP, 2P, 480V	FUTURE TRAFFIC CONTR.- UA/R	N/A	
UA4	XX AMP, 1P, 240V	FUTURE LIGHTING	LC-01:30 AMP	
UA5	20 AMP, 2P, 480V	LIGHTING	LC-01:30 AMP	2.9 AMPS
UA6	20 AMP, 2P, 480V	LIGHITNG	LC-01:30 AMP	4.6 AMPS
UA7	20 AMP, 2P, 480V	LIGHTING, EXISTING HPS LIGHTING	LC-01:30 AMP; LC-02:30 AMP	6.3 AMPS
UA8	20 AMP, 2P, 480V	LIGHTING	LC-01:30 AMP	2.8 AMPS
UA9	15 AMP, 1P, 240V	LIGHTING CONTACTOR "LC-01"	N/A	0.1 AMPS
UA10	15 AMP, 1P, 240V	LIGHTING CONTACTOR "LC-02"	N/A	0.1 AMPS
UA11	20 AMP, 2P, 480V	SPARE	LC-01:30 AMP	
UA12	20 AMP, 2P, 480V	SPARE	LC-01:30 AMP	
TOTAL LOAD				31.5 AMPS
NEC TOTAL LOAD(125%)				39.4 AMPS
DEMAND				18.9 KVA

NOTES:

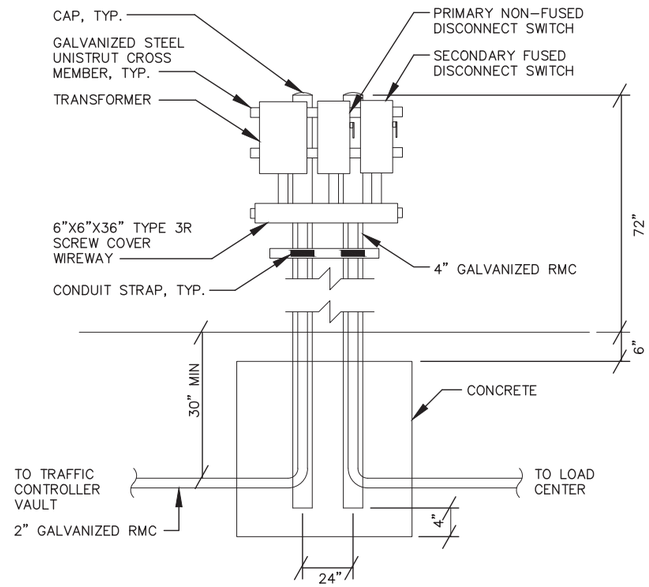
1. SERVING UTILITY IS GOLDEN VALLEY ELECTRIC ASSOIATION LOCATED IN FAIRBANKS, ALASKA.
2. COORDINATE INSTALLATION OF SERVICE TO LOAD CENTERS WITH GVEA. CONTACT GVEA FOR SERVICE REQUIREMENTS AND SPECIFICATIONS.
3. ALL SERVICE CONDUCTORS ARE TO BE COPPER, TYPE XHHW-2.
4. PROVIDE EQUIPMENT GROUNDING CONDUCTORS WITH ALL FEEDERS AND BRANCH CIRCUITS. TERMINATE EACH END OF SUITABLE LUG, BUS OR BUSHING. SIZE EQUIPMENT GROUNDING CONDUCTORS IN ACCORDANCE WITH NEC AND ADOT PROJECT SPECIFICATION SECTION 660 AND 661, UNLESS OTHERWISE INDICATED, BUT NOT SMALLER THAN NO. 8 AWG.

LOAD CENTER SUMMARY

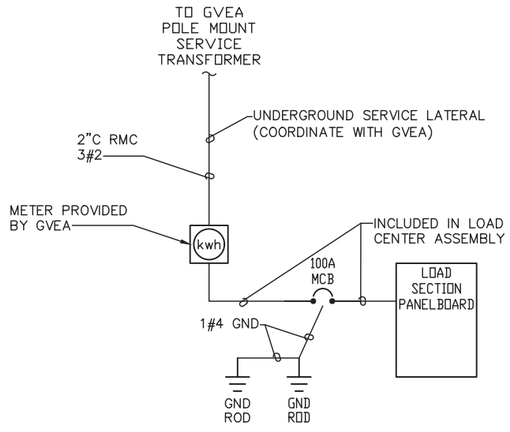
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	H35	H58



LOAD CENTER "UA"
WIRING DIAGRAM AND
SELECTOR SWITCH WIRING



POST-MOUNTED TRANSFORMER AND DISCONNECT



LOAD CENTER "UA"
ONE-LINE DIAGRAM

WIRING NOTES- FOR LOAD CENTER "UA"

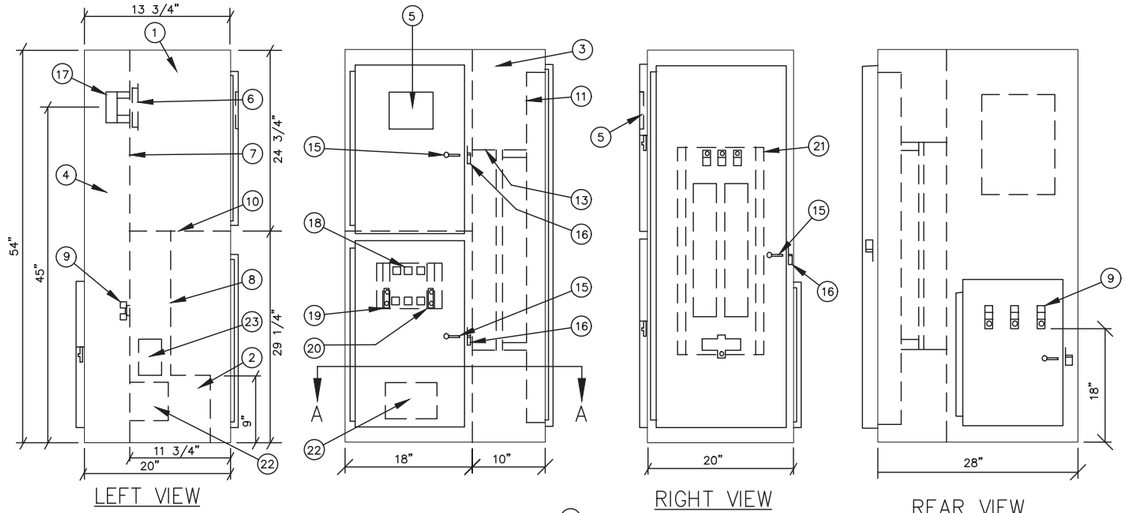
1. FURNISH ALL EQUIPMENT NOTED IN THE LOAD CENTER SUMMARY, PLUS TWO 20-AMP 2-POLE SPARE CIRCUIT BREAKERS, AND SPACE FOR A MINIMUM OF TWO ADDITIONAL TWO-POLE CIRCUIT BREAKERS, IN EACH LOAD PANEL. SEE SUMMARIES FOR LOAD PANEL VOLTAGES, CURRENT RATINGS, SHORT CIRCUIT INTERRUPTING RATINGS, AND THE NAME OF 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"/"ON-OFF-AUTO".
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. SEE 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.
6. SEE ILLUMINATION AND INTERCONNECT PLANS FOR ROUTING OF UNDERGROUND SERVICE LATERAL AND FEEDERS.
7. SEE LOAD CENTER SUMMARIES FOR FEATURES AND OTHER OVERCURRENT PROTECTIVE DEVICES NOT INDICATE ON ELECTRICAL ONE-LINE DIAGRAM.
8. MOUNT LIGHTING CONTACTOR "LC-02" ENCLOSURE ON THE SIDE OF LOAD CENTER UA ENCLOSURE.
9. MOUNT "LC-02" PHOTOCELL ON THE SAME SIDE OF LIGHTING CONTRACTOR "LC-02" ENCLOSURE, AT 1 FOOT ABOVE LOAD CENTER AND ATTACHED TO A 1 INCH RMC CONDUIT STEM. THE CONDUIT SHALL BE FASTENED TO CHANNEL STRUT AT TWO POINTS.
10. PRIMARY NON-FUSED DISCONNECTS "PD-01" SHALL BE TYPE HD "HEAVY DUTY", RATED FOR 30 AMPS, 600V AND NEMA TYPE 3R ENCLOSURE.
11. SECONDARY FUSED DISCONNECTS "SD-01" SHALL BE TYPE HD "HEAVY DUTY", RATED FOR 60 AMPS, 240V AND NEMA TYPE 3R ENCLOSURE. FUSE TO BE SIZED AT 55 AMPS.
12. SEE ILLUMINATION AND INTERCONNECT PLANS FOR TRANSFORMERS "T1" PRIMARY SIDE CONDUCTOR SIZE AND LOCATION OF POST-MOUNT TRANSFORMER AND DISCONNECT SWITCHES.
13. SEE POST-MOUNT TRANSFORMER AND DISCONNECT DETAIL FOR ADDITIONAL INFORMATION AND CONSTRUCTION OF ASSEMBLY.

POST-MOUNTED
TRANSFORMER AND DISCONNECT NOTES:

1. THE DIMENSIONS OF THE CONCRETE BLOCK IS 36"x36"x24" (HxWxD).

LOAD CENTER DETAILS

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	H36	H58



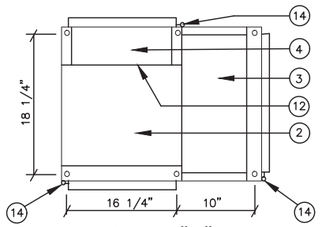
LEFT VIEW

RIGHT VIEW

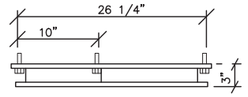
REAR VIEW

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"

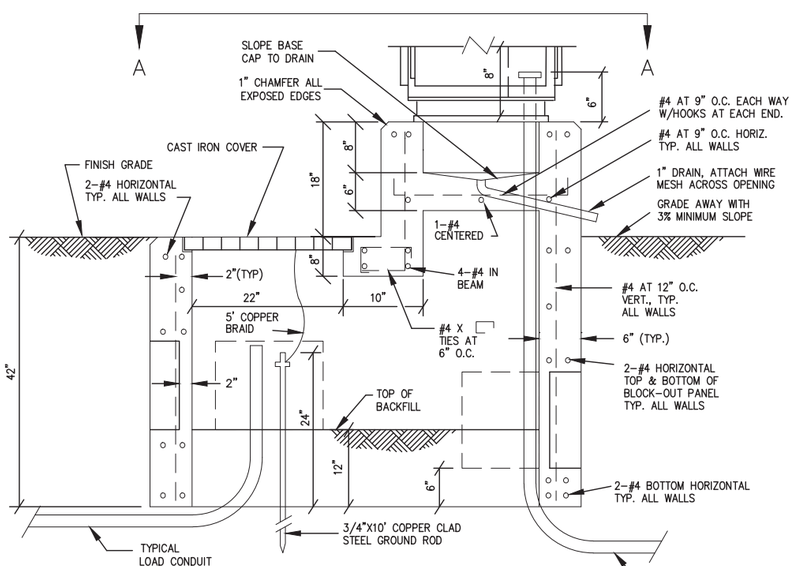


MOUNTING BASE

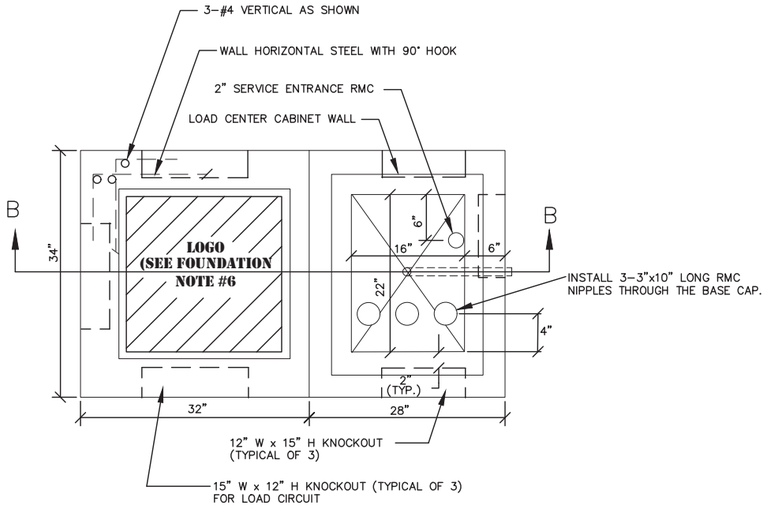
TYPE 1 LOAD CENTER CABINET SECTION / ELEVATION

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

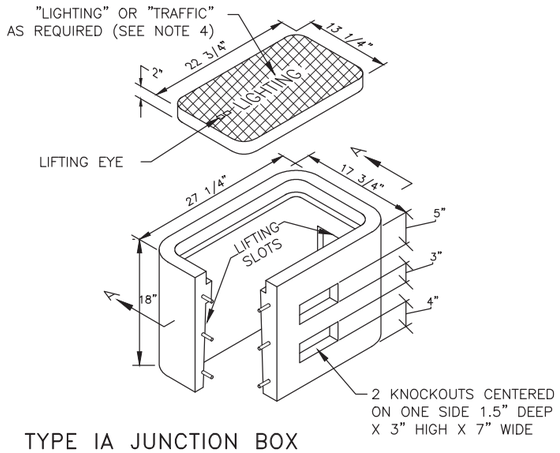
NOTE: STOP HORIZONTAL & VERTICAL STEEL AT BLOCK-OUT PANELS & OPTIONAL JOINT USING 90° HOOK. INSTALL 2 EXTRA #4 HORIZONTAL & VERTICAL BARS ON ALL SIDES OF EACH KNOCKOUT.

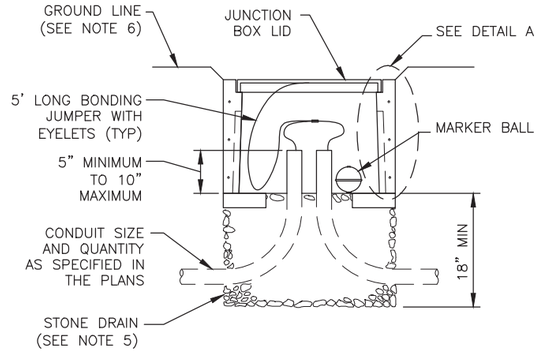
LOAD CENTER FOUNDATION DETAILS

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H37	H58

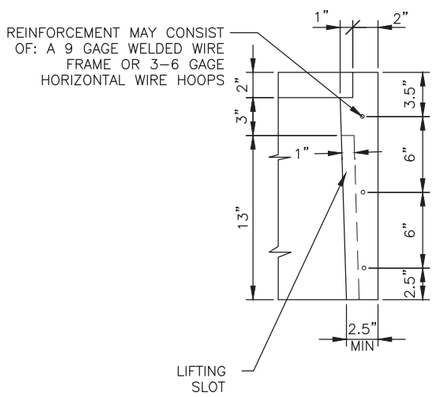
TYPE IA JUNCTION BOX

NTS

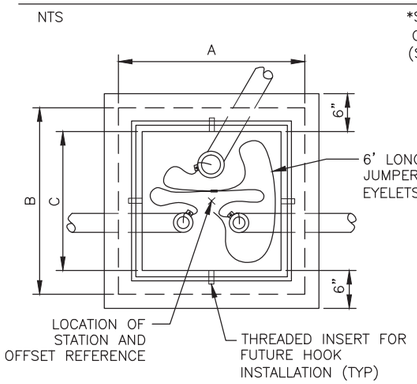




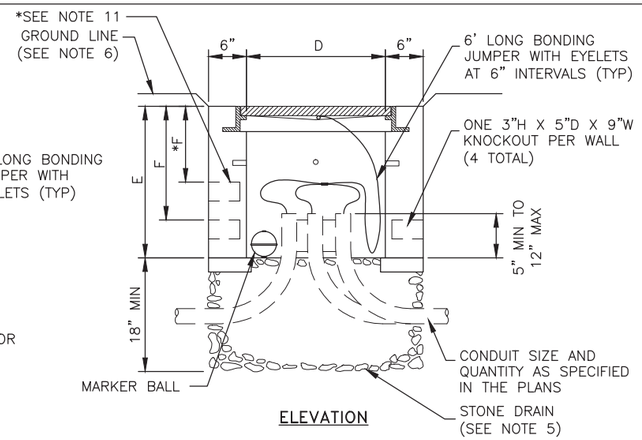
SECTION A–A



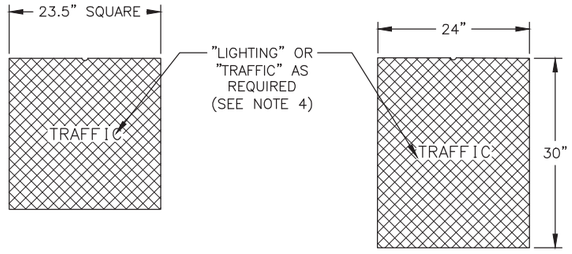
DETAIL A



PLAN



ELEVATION

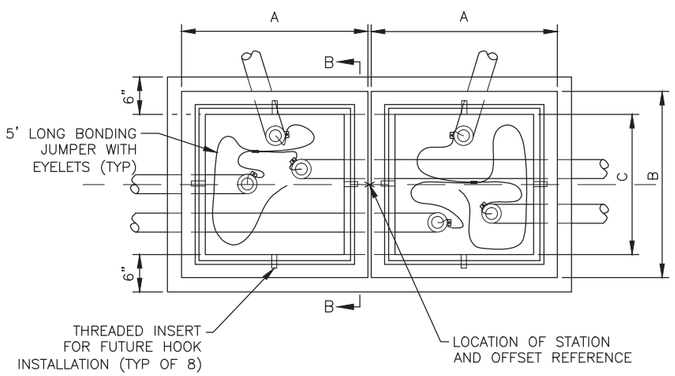


NOTES:

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

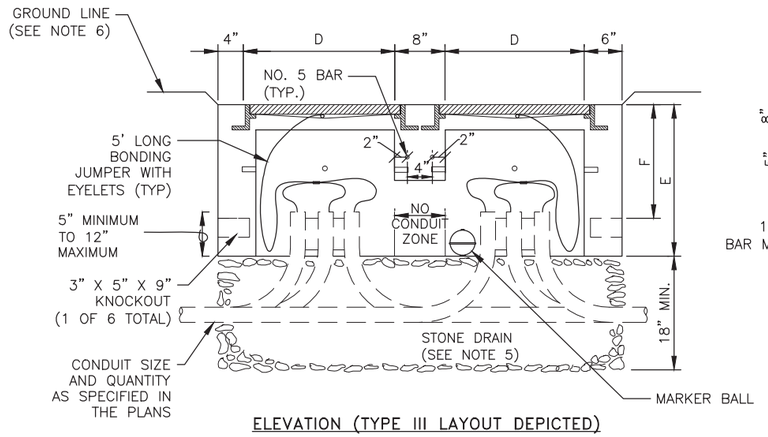
NTS *=APPLICABLE TO MODIFIED TYPE II JUNCTION BOX



PLAN

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

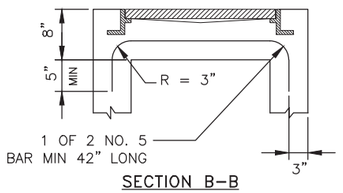
NTS



ELEVATION (TYPE III LAYOUT DEPICTED)

LID FOR TYPE IV J–BOX

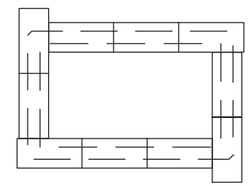
NTS



SECTION B–B

J–BOX DIMENSIONS

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"



BRICK BASE TYPE IA AND TYPE II ONLY

NTS

TYPE III/IV JUNCTION BOX

NTS

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC

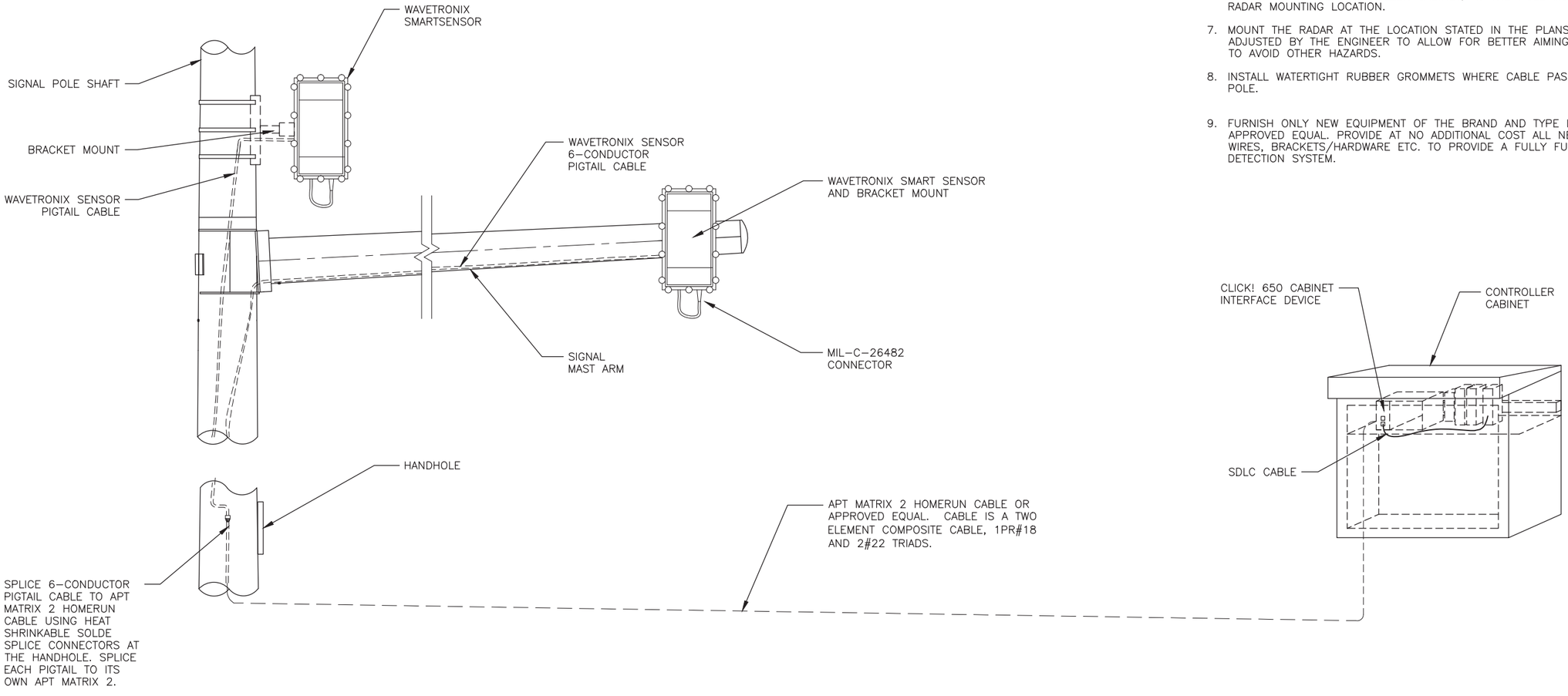
12/10/2019 95% PS&E SUBMITTAL

JUNCTION BOX DETAILS

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H38	H58

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 INSTALLATION DETAIL

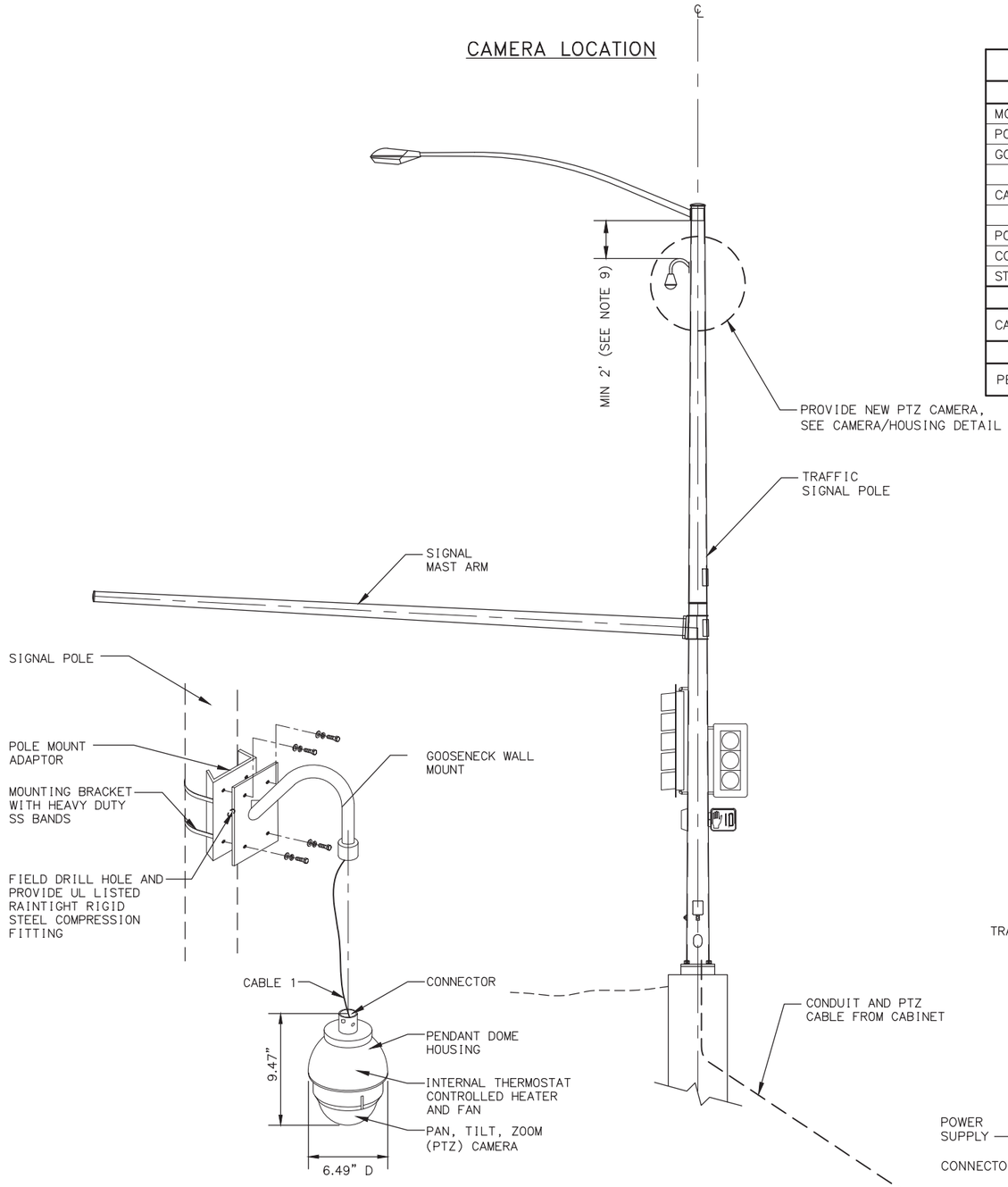
NTS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

RADAR DETAIL

CAMERA LOCATION



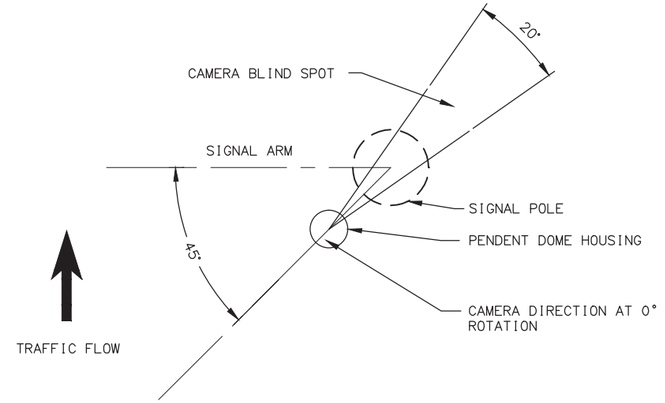
CAMERA/HOUSING DETAIL
NTS

MATERIAL REQUIREMENTS

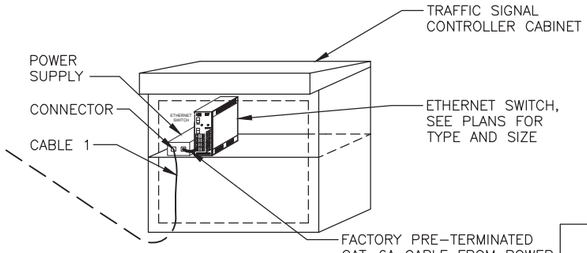
ALL ASSEMBLIES	
MOUNTING BRACKET	PELCO TRITON BRACKET OR APPROVED EQUAL
POLE MOUNT ADAPTOR	AXIS T91A57 OR APPROVED EQUAL
GOOSENECK WALL MOUNT	AXIS T91G61 OR APPROVED EQUAL
CABLE 1	CAT–6a, FOILED
POWER SUPPLY	AXIS T8134 60W OR APPROVED EQUAL
CONNECTOR	ENVIRONMENTALLY HARDENED RJ–45
STRAIN RELIEF	REMKE 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

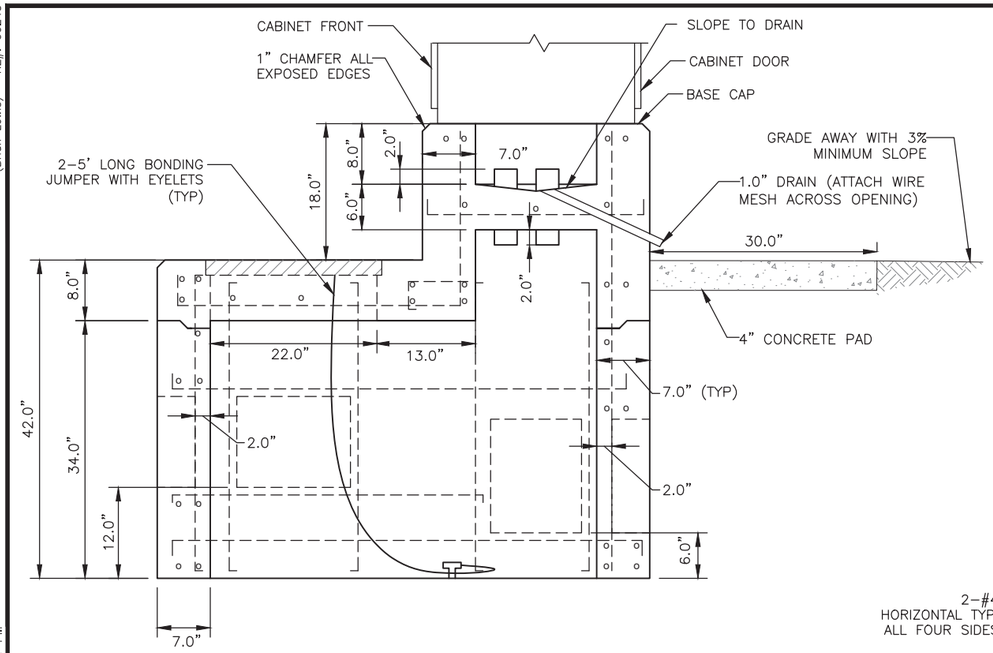


PAN, TILT, ZOOM, CAMERA DETAILS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

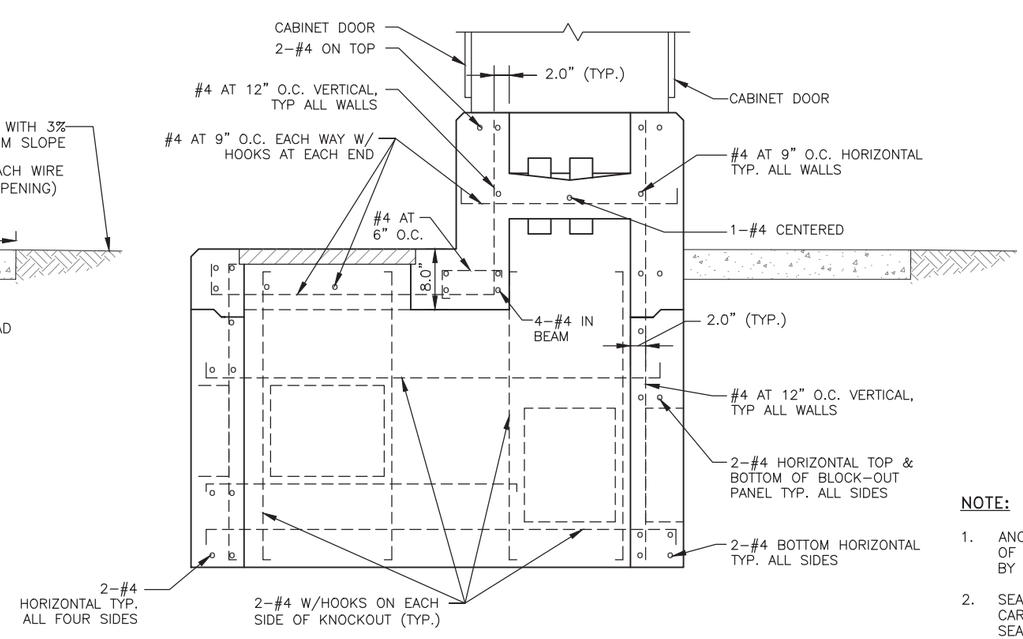
12/10/2019
95%
PS&E
SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H40	H58



SECTION A–A

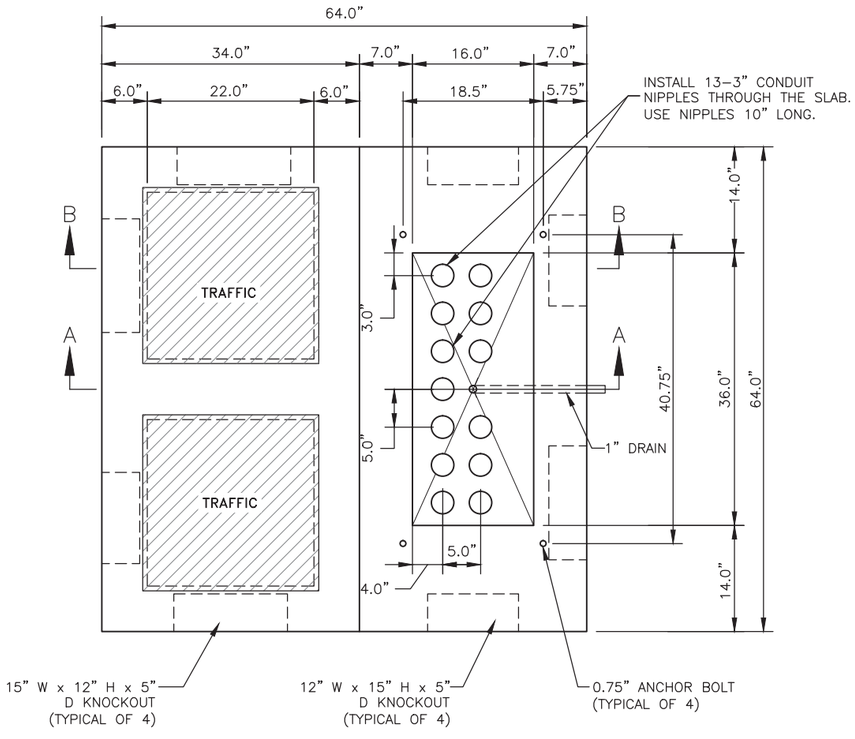
NOTE: SEE SECTION B–B FOR REBAR DETAILS



SECTION B–B

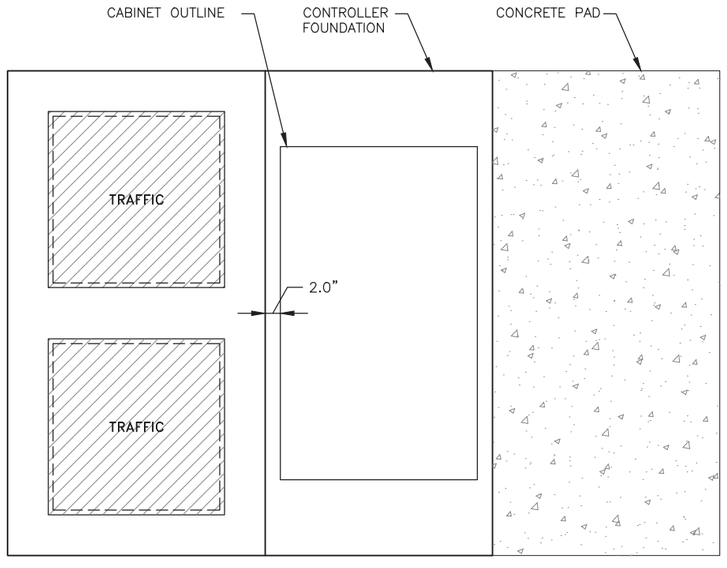
NOTE:

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.



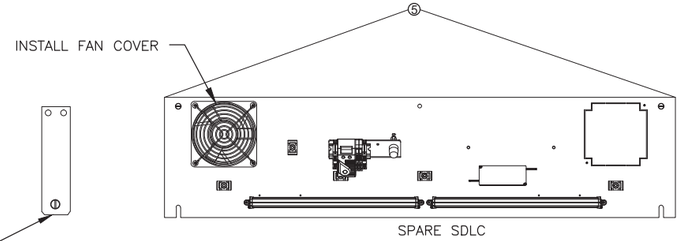
PLAN VIEW

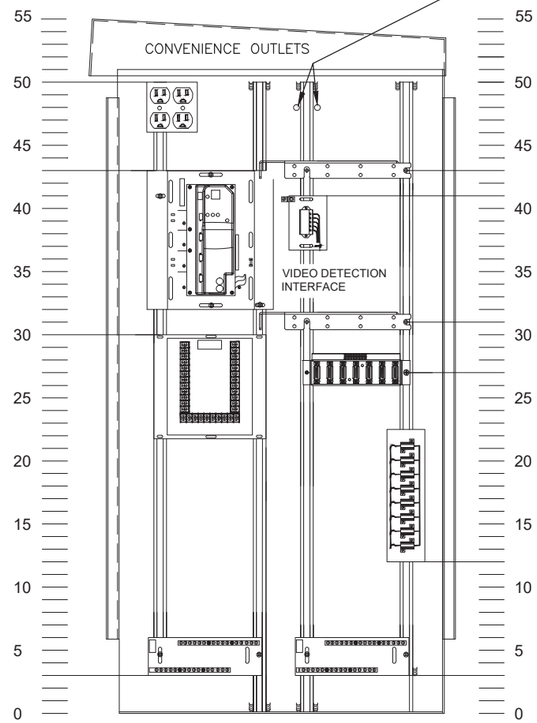
SIGNAL CONTROLLER FOUNDATION DETAILS

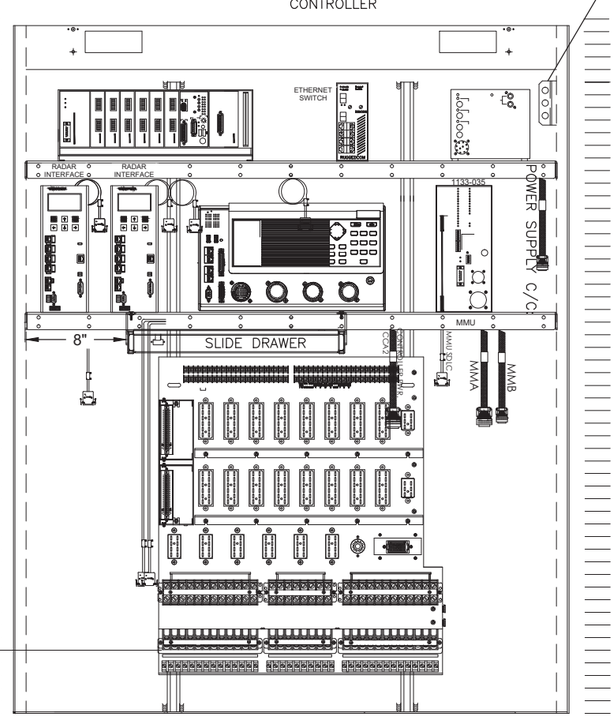
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

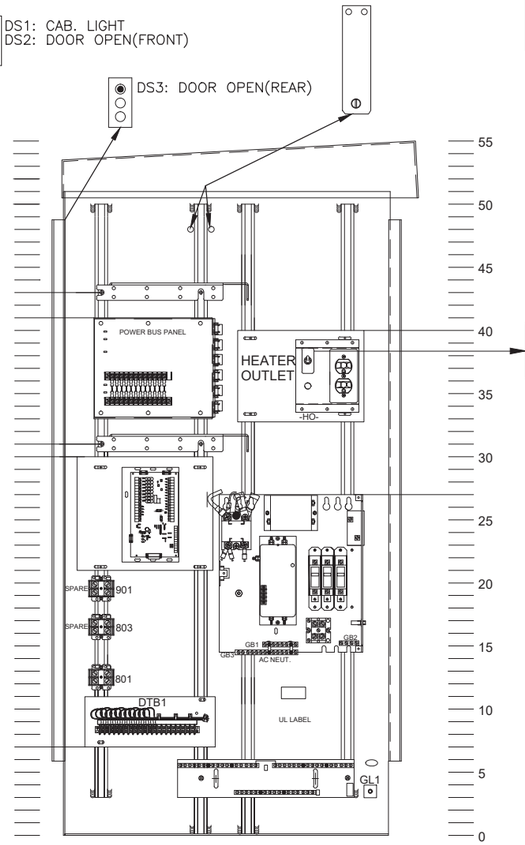
12/10/2019
95%
PS&E
SUBMITTAL

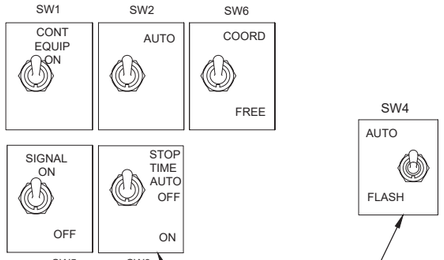
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H41	H58

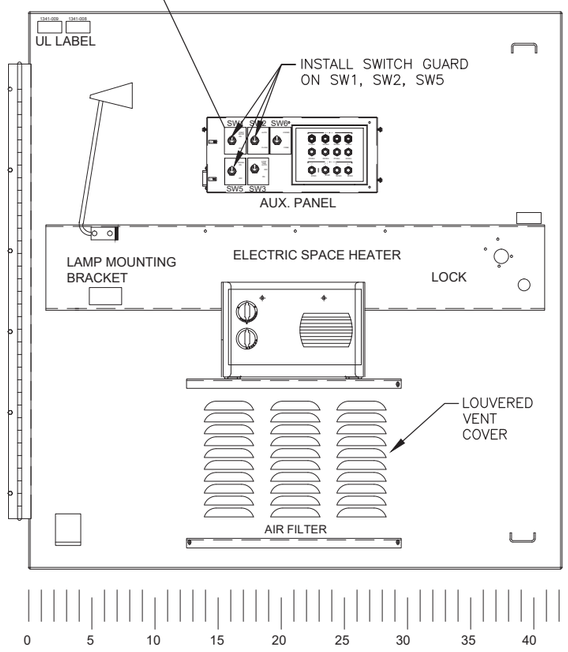


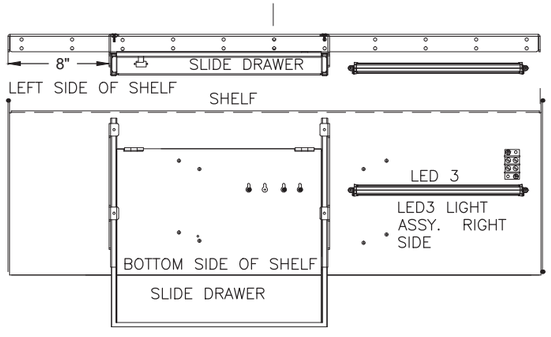


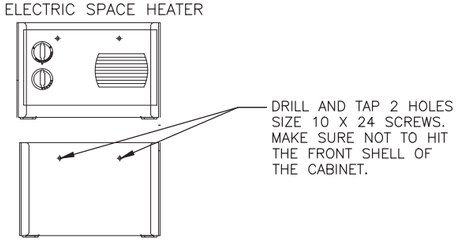










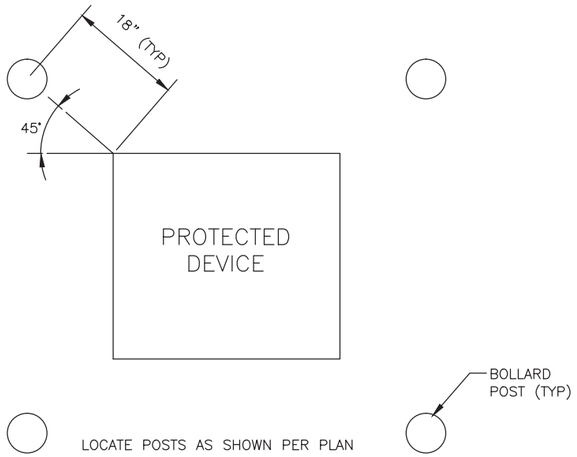


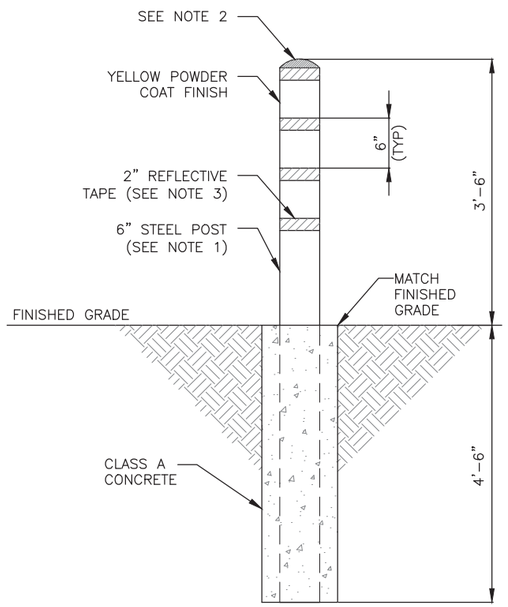
CONTROLLER CABINET LAYOUT

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H42	H58

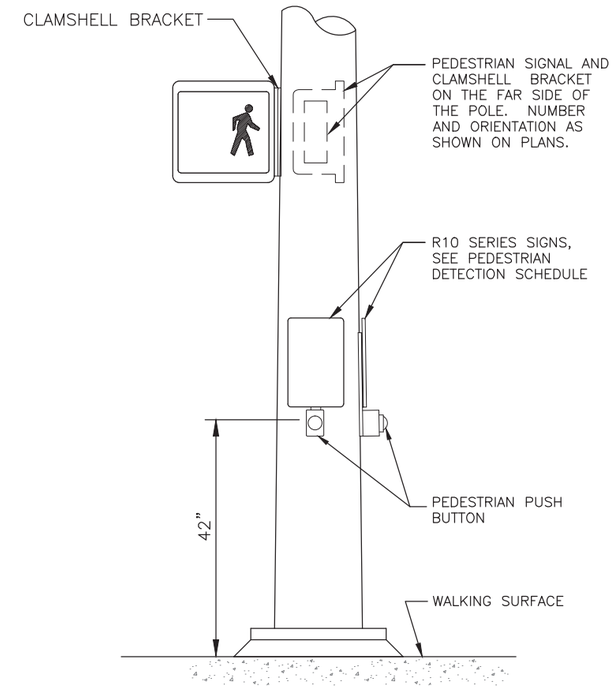


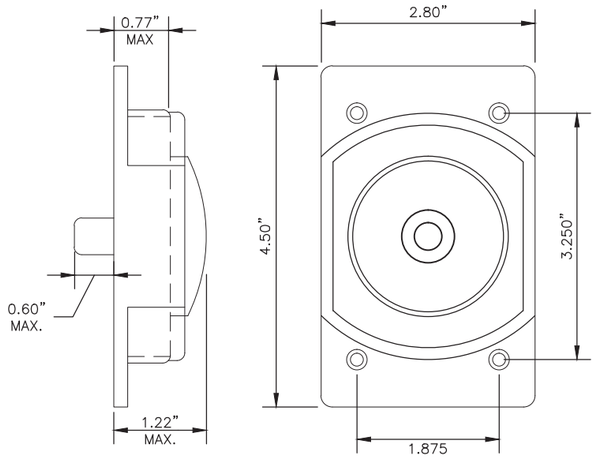


BOLLARD AND PLACEMENT DETAIL
NTS

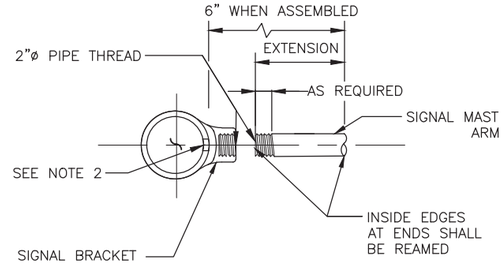
BOLLARD NOTES:

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.





PEDESTRIAN PUSH BUTTON DETAIL
NTS



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

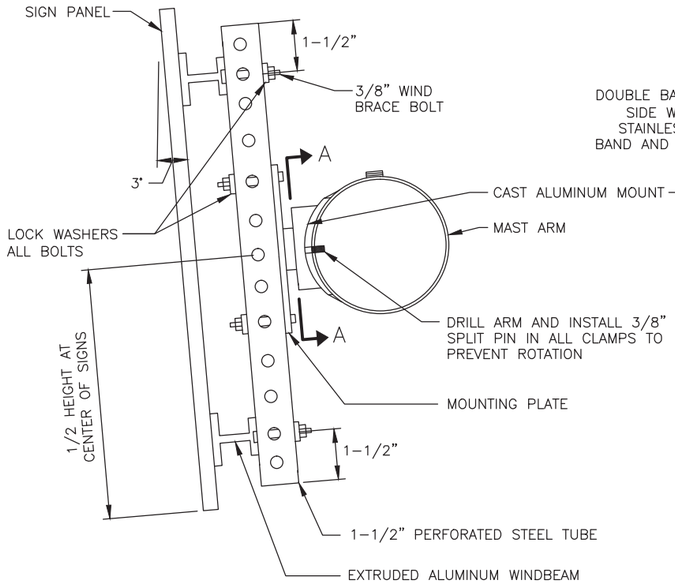
NOTES

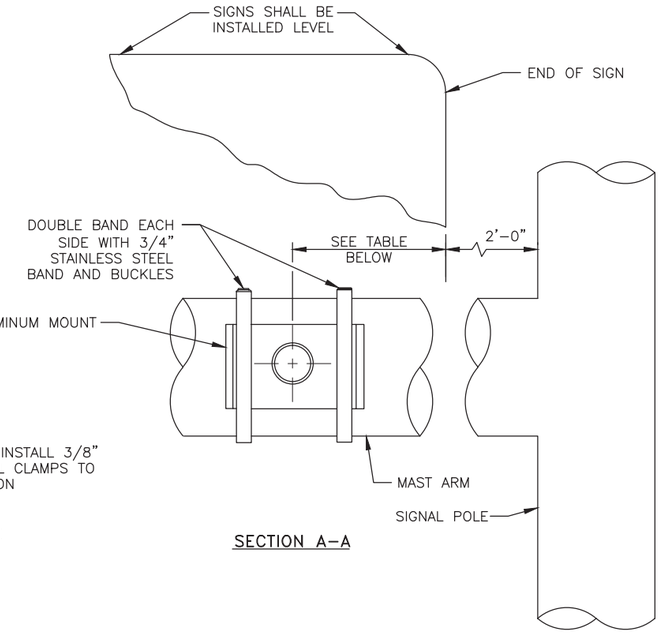
1. THESE DETAILS MODIFY STANDARD DRAWING T-30.11.
2. FIELD DRILL WIRING ACCESS HOLE AS REQUIRED. REAM INSIDE & OUTSIDE AND PAINT WITH COLD ZINC GALVANIZING COMPOUND CONFORMING TO DOD-P-21035A, MIL-P-26915A, OR TT-P-460.
3. ONE 2" GALVANIZED SCHEDULE 40 RIGID METAL CONDUIT EXTENSION SHALL BE FURNISHED 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.

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95% PS&E SUBMITTAL

PED PUSH BUTTON POST AND SIGNAL MOUNTING BRACKET DETAIL





SECTION A–A

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

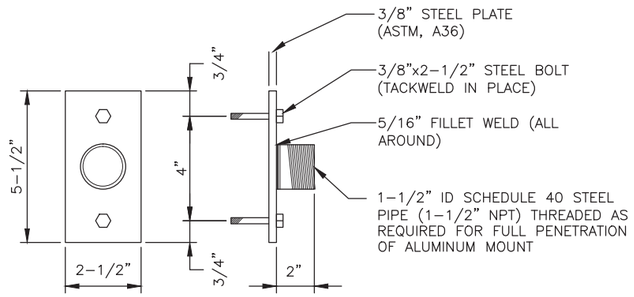
BUCKLES = STAINLESS STEEL 3/4"
TYPE 201 NO. C256

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

PIN = NO. D042

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

NTS



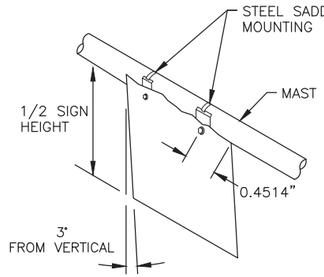
NOTES:

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

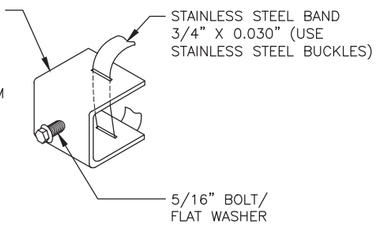
MOUNTING PLATE DETAIL

NTS

SIGN WIDTH(W)	NO. OF CLAMPS	CLAMP SPACING		
		OVERHANG	BETWEEN CLAMPS	OVERHANG
0–12.5'	2	0.2W	1 SPACE AT 0.6W	0.2W
13' TO 21'	3	0.15W	2 SPACES AT 0.35W	0.15W



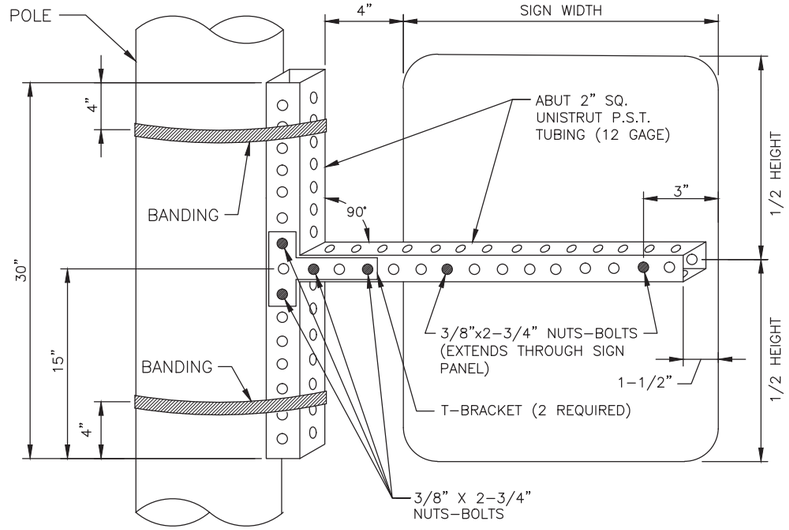
FIELD DRILL SIGNS FOR LEVEL INSTALLATION



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

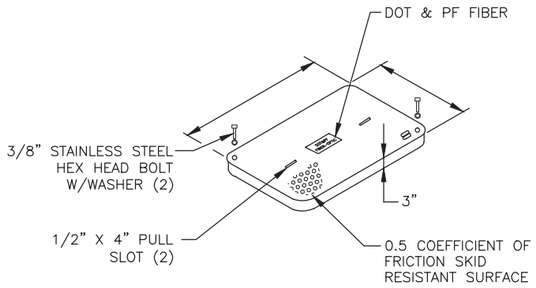
NTS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

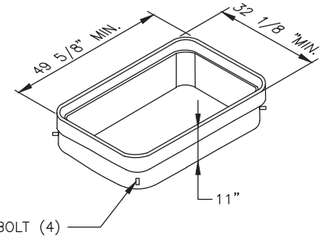
SIGNAL MOUNTED SIGN DETAILS

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2–SEG–2A\DWGS\C\SHEETS\63213_H37–H43_SIGNAL DETLS.DWG PLOTTED: Dec 10, 2019 – 5:15:46 PM (Brian Lewis) KE#: 00245



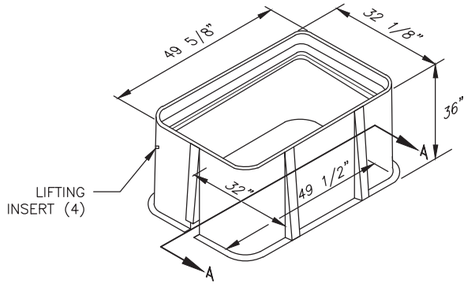
COVER
N.T.S.

HUBBELL QUAZITE NO. PG3048HH00
OR APPROVED EQUIVALENT



TOP EXTENSION
N.T.S.

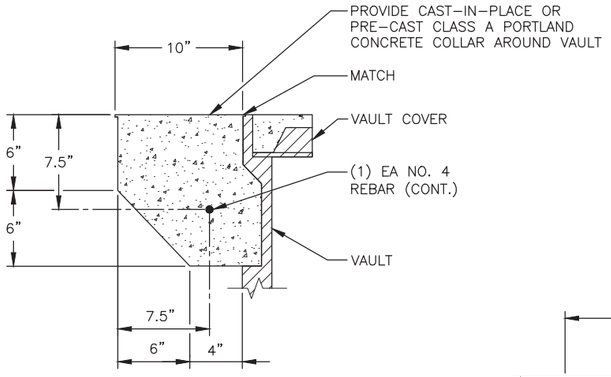
HUBBELL QUAZITE NO. PG3048EA11
OR APPROVED EQUIVALENT



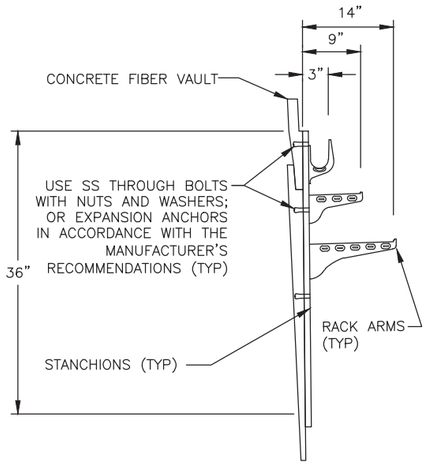
BOTTOM

TYPE I VAULT
N.T.S.

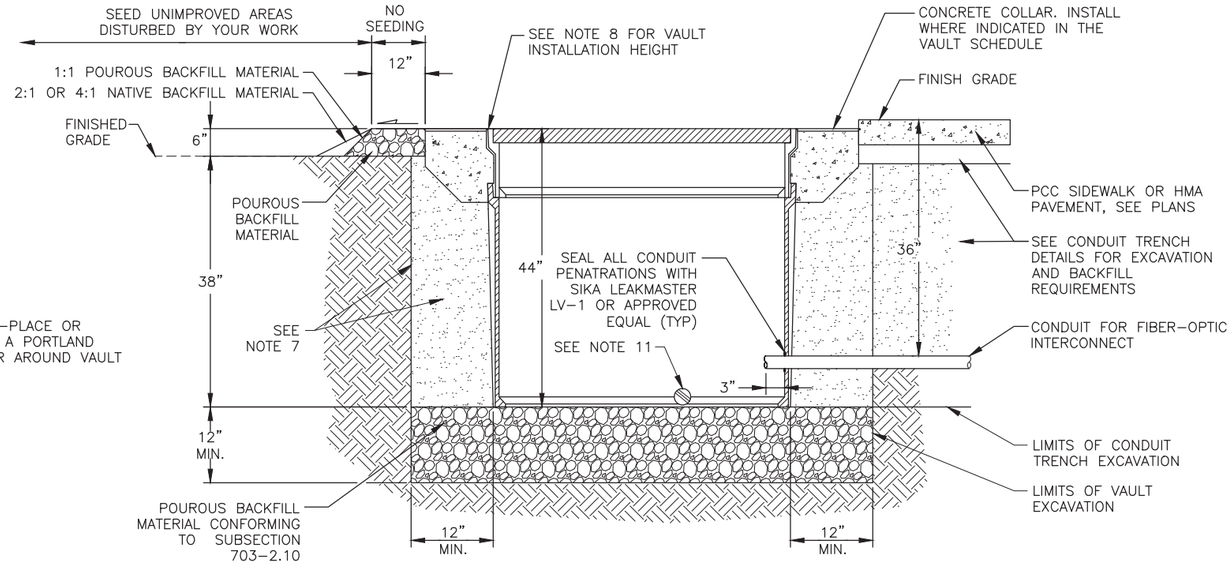
HUBBELL QUAZITE NO. PG3048BA36
OR APPROVED EQUIVALENT



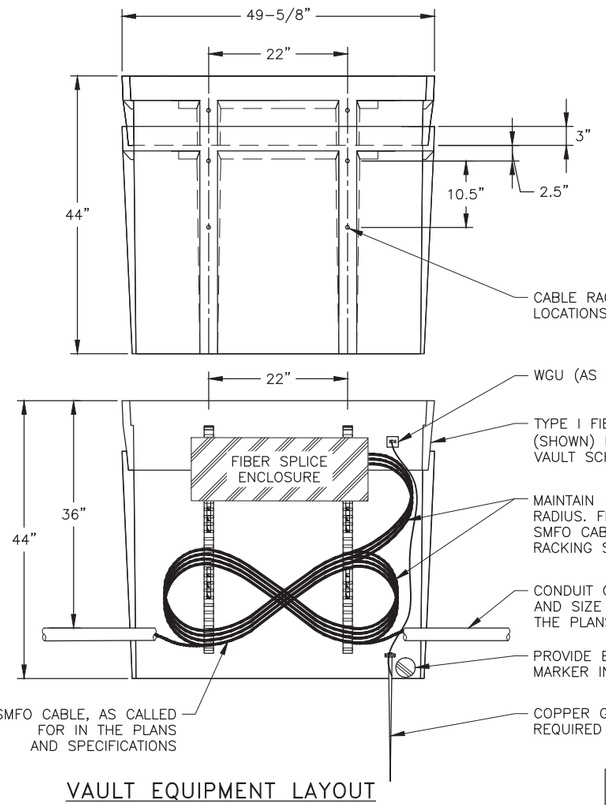
CONCRETE COLLAR DETAIL
N.T.S.



TYPICAL CABLE RACK
N.T.S.



SECTION
N.T.S.



VAULT EQUIPMENT LAYOUT
N.T.S.

NOTES:

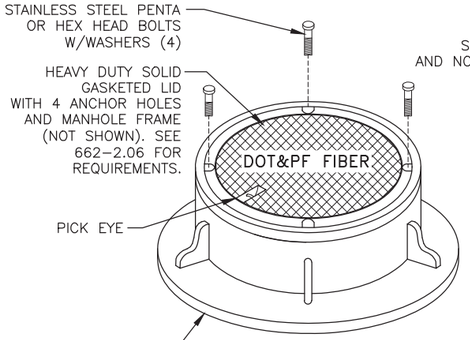
1. PROVIDE TYPE I FIBER-OPTIC VAULTS WHERE NOTED IN THE PLANS.
2. TYPE 1 FIBER-OPTIC VAULTS SHALL BE PRECAST POLYMER CONCRETE, HAVE OPEN FLARED BOTTOMS, AND CONFORM TO PLAN DETAILS AND PROJECT SPECIFICATIONS.
3. THE DESIGN/TEST LOAD STRENGTH OF THE BOX SHALL BE MINIMUM OF 22,500/33,750 LBS.
4. THE STANDARD 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. EXCAVATE AND BACKFILL FOR VAULT INSTALLATION IN ACCORDANCE WITH SECTION 204. USE BACKFILL MEETING THE REQUIREMENTS OF SELECTED MATERIAL TYPE A
8. U.O.N., TYPE I FIBER OPTIC VAULTS SHALL BE INSTALLED:
   A. BETWEEN 1/16" TO 3/16" BELOW FINISHED GRADE WHEN INSTALLED IN OR IMMEDIATELY ADJACENT TO SIDEWALK, PATHWAY, DRIVEWAY, ROADWAY, OR PARKING LOT; OR
   B. 6" ABOVE FINISHED GRADE IN UNIMPROVED AREAS.
9. FIBER-OPTIC VAULTS SHALL NOT INCLUDE ELECTRICAL CONDUCTORS.
10. DO NOT INSTALL VAULTS IN DRAINAGE COLLECTION AREAS.
11. PROVIDE ONE MARKER BALL IN EACH VAULT, SEE PROJECT SPECIFICATIONS.
12. ALL TRENCHING AND EXCAVATION SHALL COMPLY WITH OSHA SAFETY STANDARDS AND REGULATIONS.

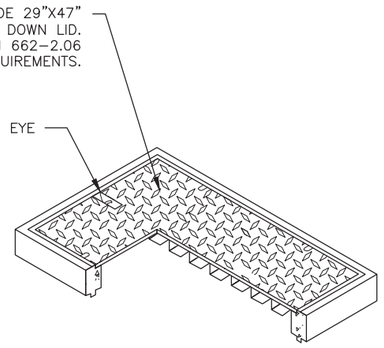
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95% PS&E SUBMITTAL

TYPE I FIBER OPTIC VAULT

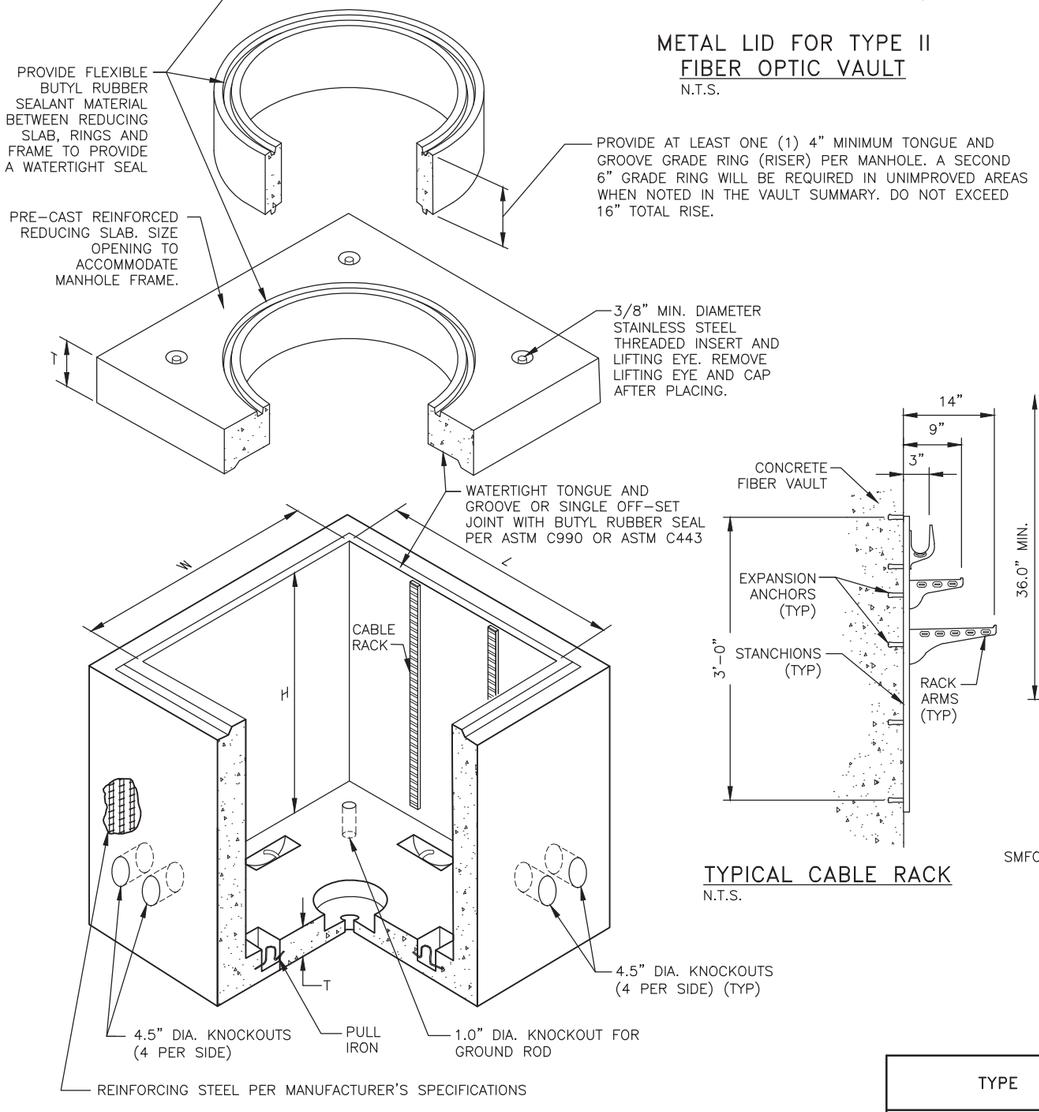
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H45	H58





METAL LID FOR TYPE II FIBER OPTIC VAULT

N.T.S.



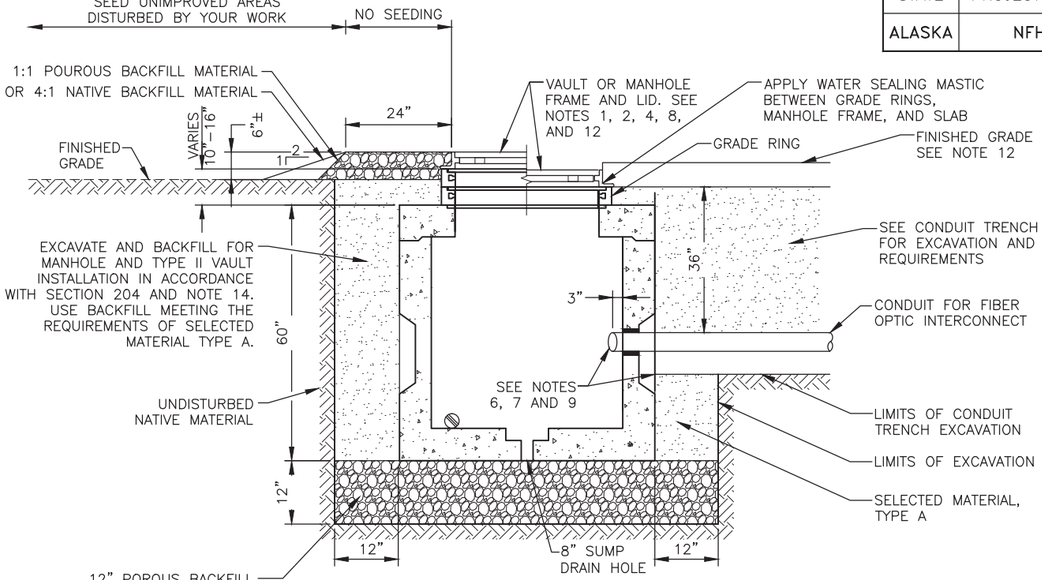
FIBER OPTIC MANHOLE WITH MANHOLE LID

N.T.S.

(TYPE II FIBER OPTIC VAULT SIMILAR)

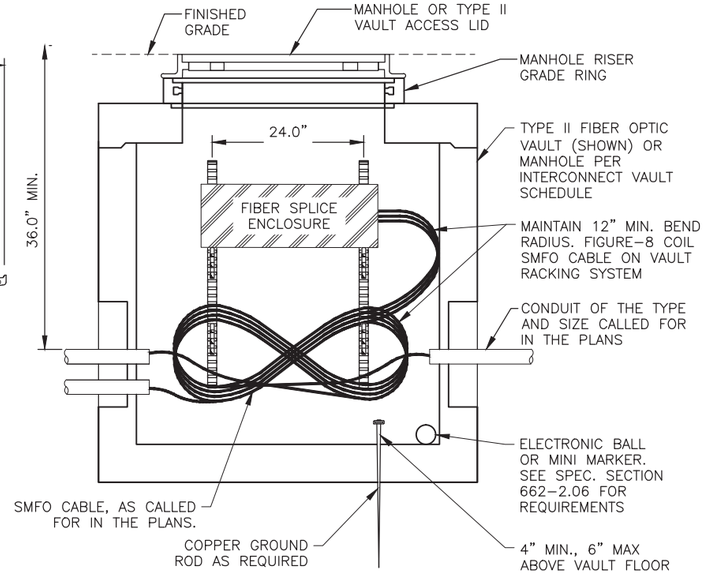
TYPICAL CABLE RACK

N.T.S.



SECTION

N.T.S.



MANHOLE AND TYPE II VAULT LAYOUT

N.T.S.

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

NOTES:

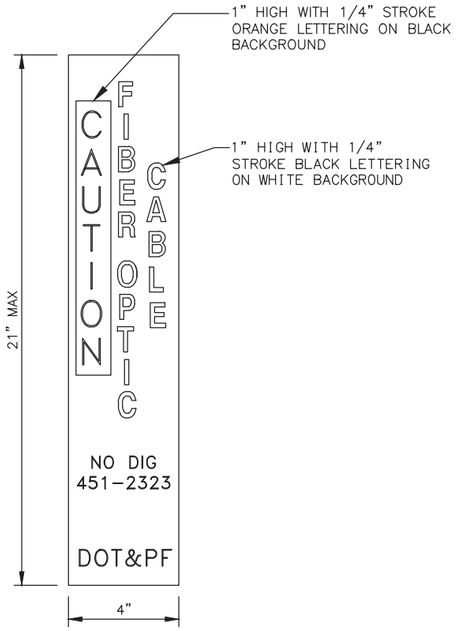
1. PROVIDE TYPE II FIBER OPTIC VAULTS WITH BOLT DOWN HINGED METAL LID. SUPPLY FIBER VAULTS, LIDS, AND COVERS RATED FOR AASHTO HS-20-44 LOADING.
2. SUPPLY ALL LIDS WITH WITH A HOLE OR SLOT FOR REMOVAL WITH A LEVER OR HOOK.
3. WHERE REQUIRED BY OSHA, PROVIDE A PORTABLE ENTRY LADDER MEETING OSHA REQUIREMENTS.
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. INSTALL 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. SEAL CONDUIT PENETRATIONS USING SIKA LEAKMASTER LV-1 OR APPROVED ADEKA PRODUCT EQUIVALENT.
8. BOND AND GROUND ALL METALLIC COMPONENTS OF THE FIBER VAULT, INCLUDING RACK, FRAME AND LIDS PER STANDARD SPECIFICATION 660-3.06.
9. PLUG CONDUITS ENDS TO EXCLUDE WATER UNTIL FIBER OPTIC CABLE IS INSTALLED. SEE SECTIONS 660 AND 662.
10. EXTEND GROUND ROD A MINIMUM OF 4 INCHES AND A MAXIMUM OF 6 INCHES ABOVE BOTTOM OF VAULTS AND MANHOLES.
11. USE A SPLIT BOLT CONNECTER TO ATTACH GROUND WIRES TO GROUND ROD. ATTACH NOT MORE THAN TWO WIRES PER BOLT.
12. U.O.N., TOP OF FIBER OPTIC VAULTS AND MANHOLES SHALL BE INSTALLED:
    A. FROM 0" TO 3/16" BELOW FINISHED GRADE WHEN LOCATED IN A SIDEWALK OR PATHWAY;
    B. 3/8" BELOW FINISHED GRADE WHEN LOCATED IN A PAVED PARKING LOT, MEDIAN, OR ROADWAY;
    C. FROM 4" TO 8" ABOVE FINISHED GRADE IN UNIMPROVED AREAS, AWAY FROM HARDSCAPED SURFACES;
    D. OR AS DIRECTED BY THE ENGINEER.
13. DO NOT PLACE VAULTS AND MANHOLES IN THE BOTTOM OF DRAINAGE COLLECTION AREAS.
14. ALL TRENCHING AND EXCAVATION SHALL COMPLY WITH OSHA SAFETY STANDARDS AND REGULATIONS.

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC

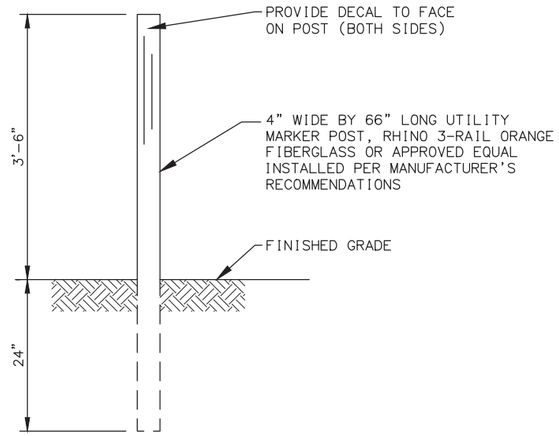
12/10/2019 95% PS&E SUBMITTAL

TYPE II FIBER OPTIC VAULT AND FIBER OPTIC MANHOLE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H46	H58

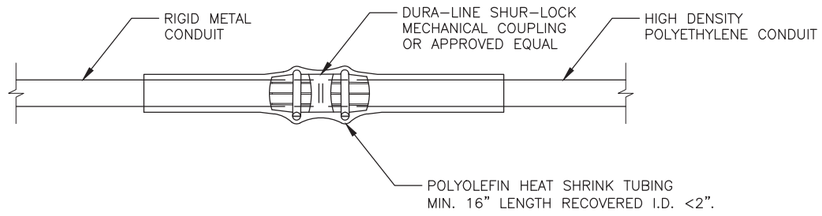


DECAL DETAIL
NTS



ELEVATION

FIBER OPTIC MARKER POST DETAIL
NTS



ELEVATION

NOTES:

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

RMC TO HDPE CONDUIT CONNECTION DETAIL
NTS

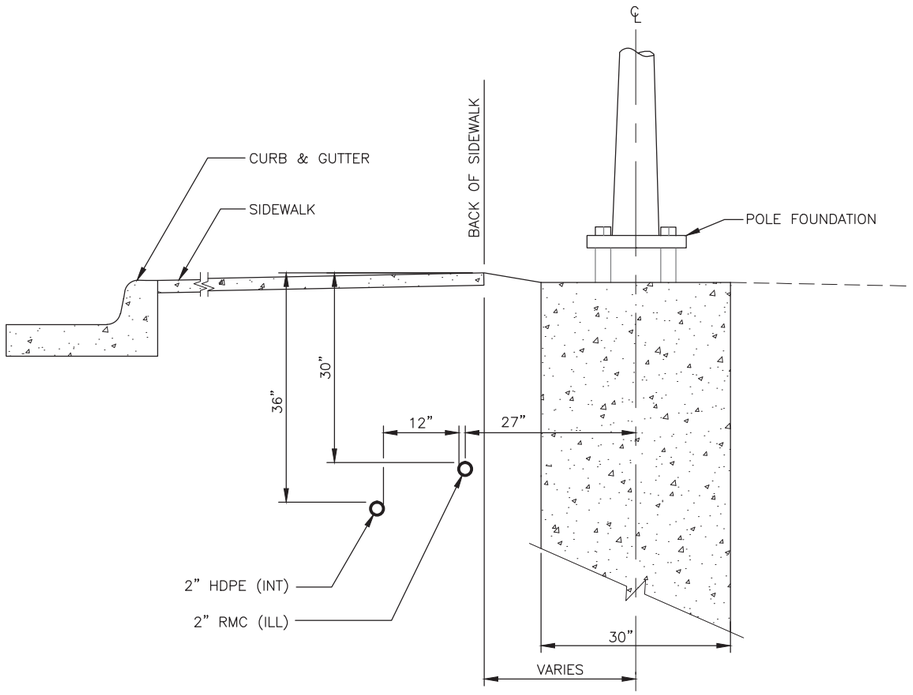
MISCELLANEOUS FIBER OPTIC DETAILS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

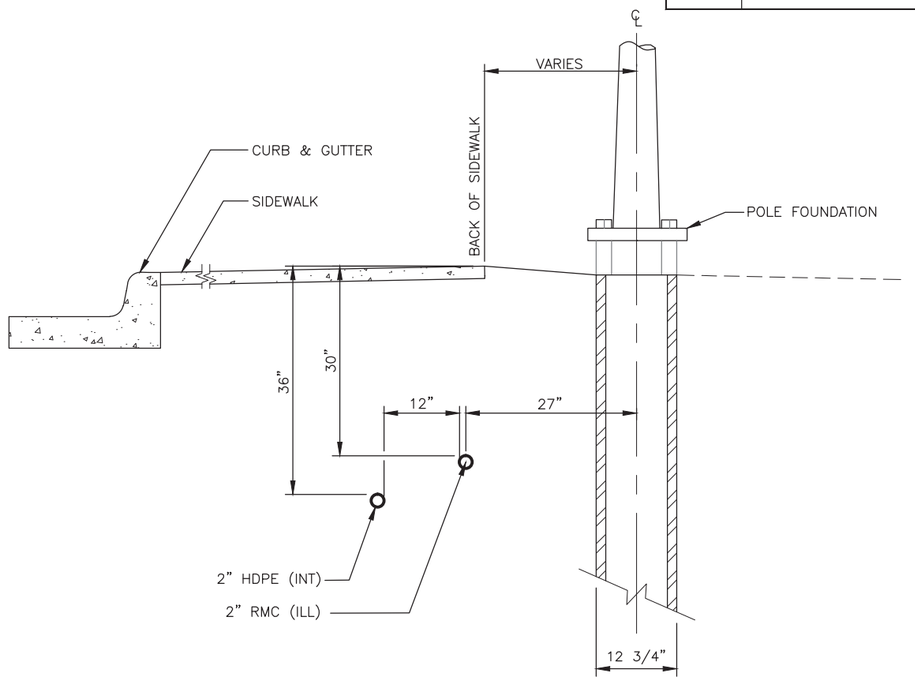
12/10/2019
95%
PS&E
SUBMITTAL

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2-SEG-2A\DWGS\C\SHEETS\63213_H44-H47_INTERCT DETLS.DWG PLOTTED: Dec 10, 2019 - 5:16:06 PM (Brian Lewis) KE#: 00245

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H47	H58



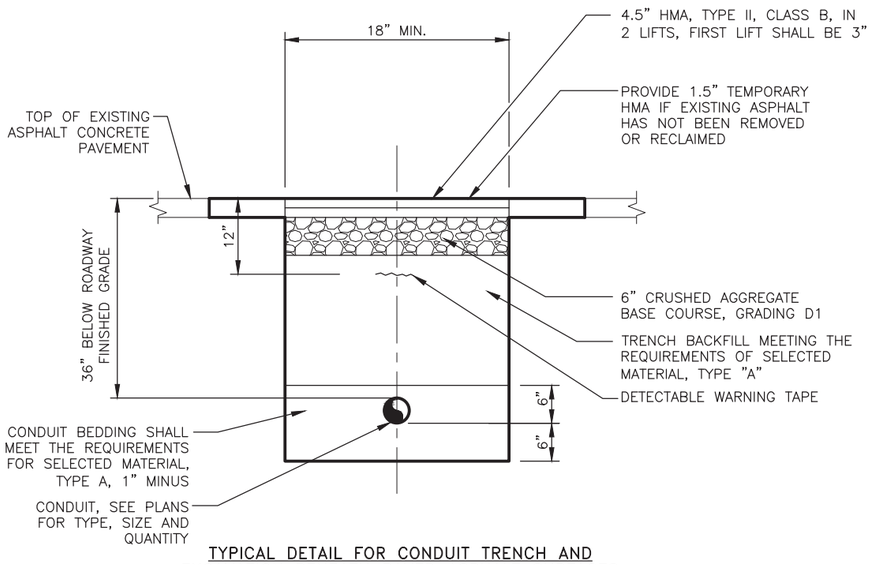
TYPICAL PLACEMENT ADJACENT TO CIDH LIGHT POLE FOUNDATIONS



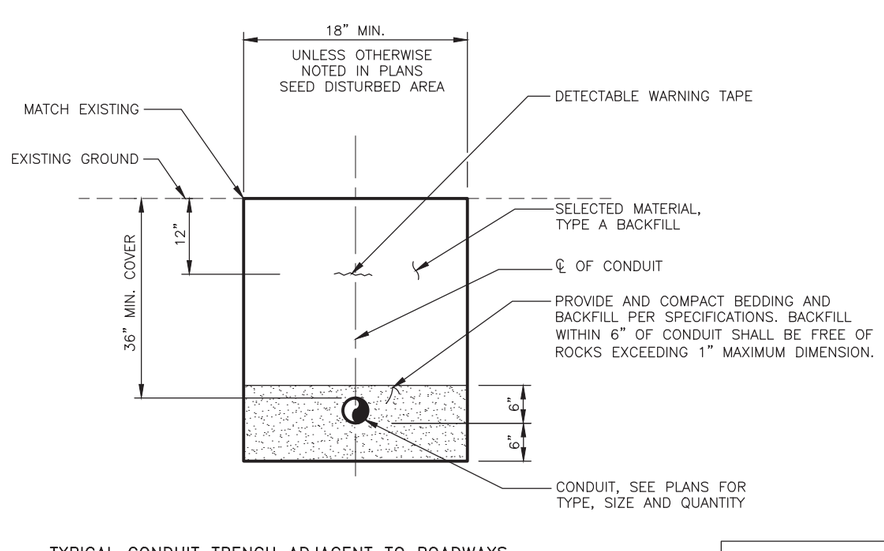
TYPICAL PLACEMENT ADJACENT TO STEEL PIPE PILE LIGHT POLE FOUNDATIONS

UTILITY PLACEMENT DETAILS

NTS



TYPICAL DETAIL FOR CONDUIT TRENCH AND EXCAVATION BENEATH PAVED ASPHALT SURFACES



TYPICAL CONDUIT TRENCH ADJACENT TO ROADWAYS

TRENCH DETAILS

NTS

NOTES:

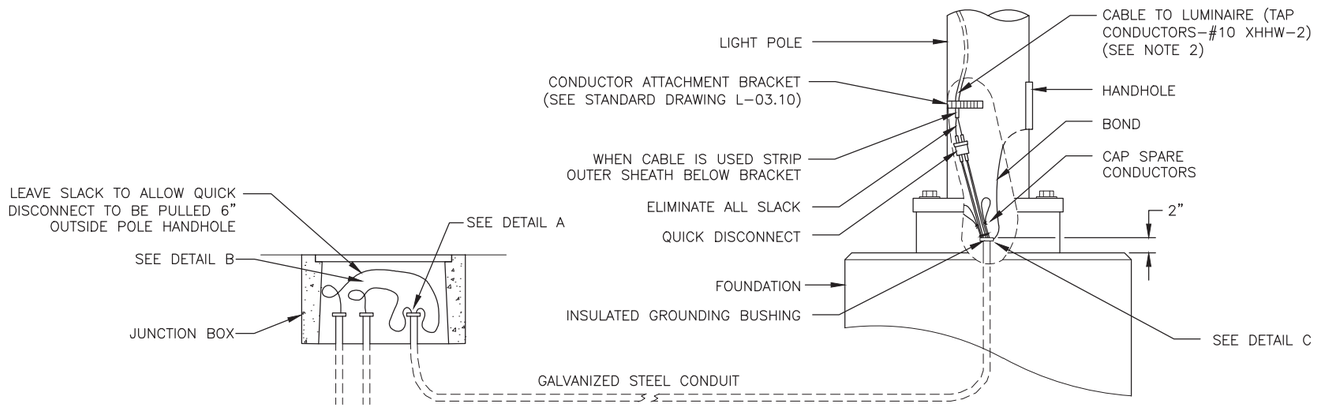
1. ALL ASPHALT PAVEMENT OR CONCRETE SIDEWALK SHALL BE SAWCUT PRIOR TO REMOVAL. EXCEPTION: WHERE APPLICABLE, THE CONCRETE SIDEWALK SHALL BE REMOVED TO THE NEAREST CONSTRUCTION JOINT UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. ALL CONDUIT TRENCH AND EXCAVATION BENEATH ASPHALT OR CONCRETE PAVED SURFACES SHALL BE COMPLETED BEFORE FINAL PAVING.
3. SEE SPECIAL PROVISIONS SUBSECTION 643-3.08 FOR ADDITIONAL PAVING REQUIREMENTS.

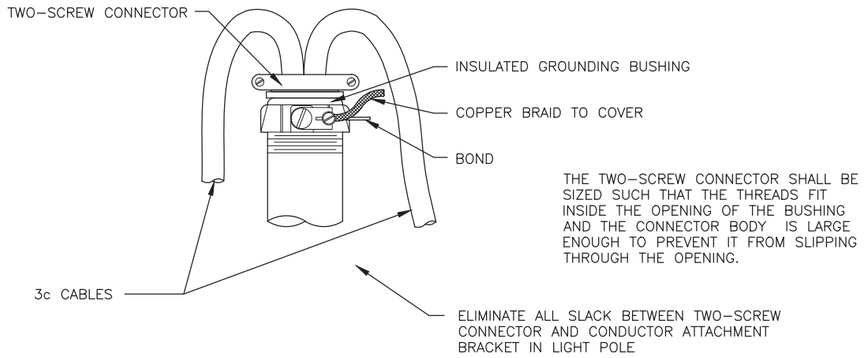
INTERCONNECT AND LIGHTING TRENCH DETAILS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

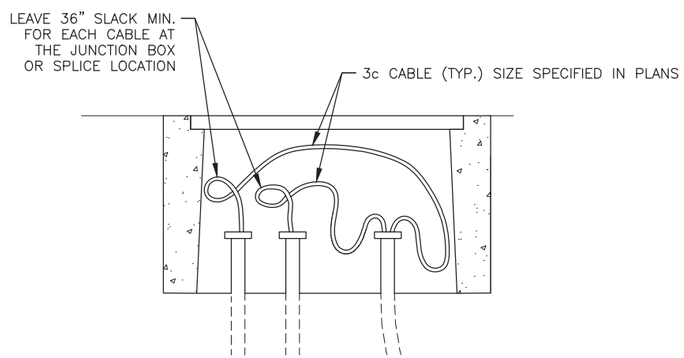
12/10/2019
95% PS&E SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H48	H58

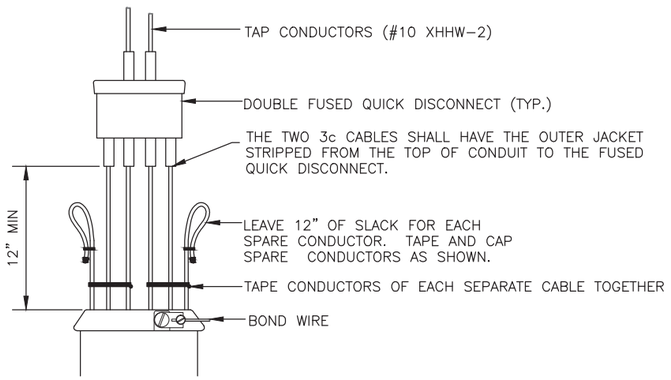




DETAIL A



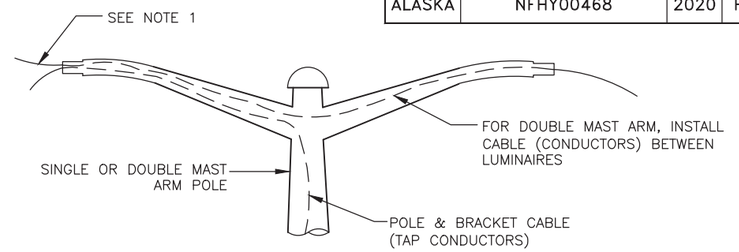
DETAIL B



DETAIL C

LIGHTING SYSTEM POLE AND J-BOX WIRING DETAILS

NTS

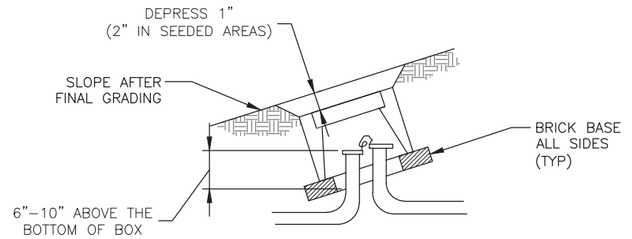


NOTE:

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



TYPE IA J-BOX INSTALLATION ON SLOPE

NTS

NOTES:

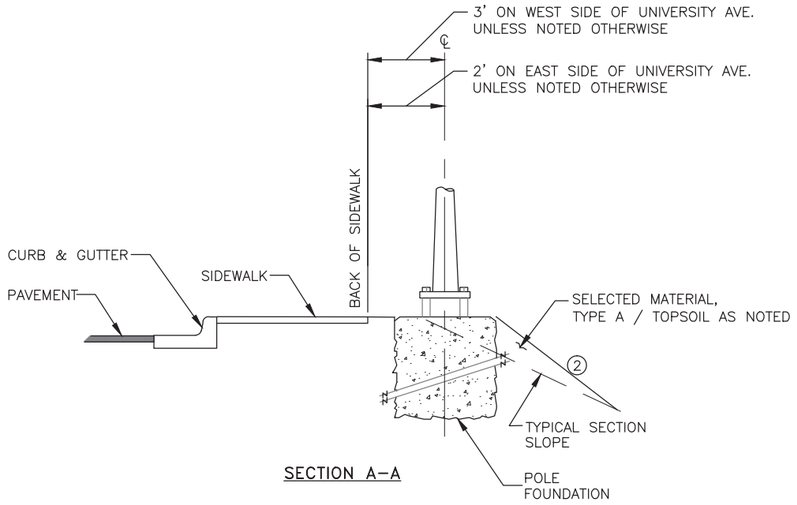
1. LABEL ALL CABLES AND CONDUCTORS IN POLE BASE AND J-BOX.
2. LEAVE ENOUGH SLACK ABOVE THE CONDUCTOR ATTACHMENT BRACKET TO ALLOW THE QUICK DISCONNECT TO BE PULLED 6" OUTSIDE OF HANDHOLE.
3. NOT ALL GROUNDING CONDUCTORS, AS REQUIRED BY SECTION 660-3.06, ARE SHOWN IN THESE DETAILS.

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

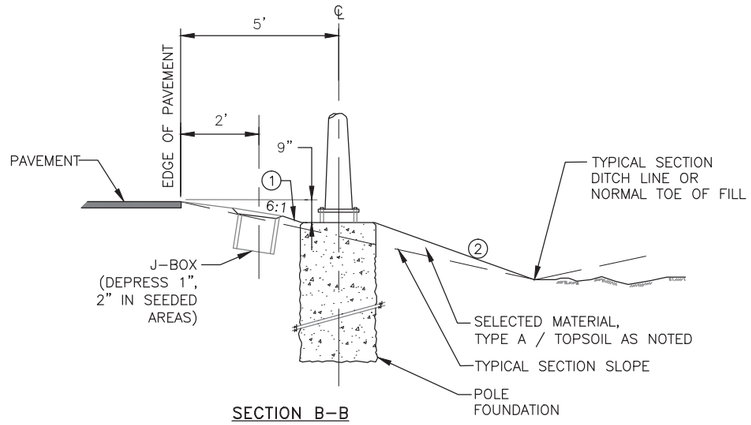
12/10/2019
95%
PS&E
SUBMITTAL

LIGHTING SYSTEM POLE J-BOX DETAILS

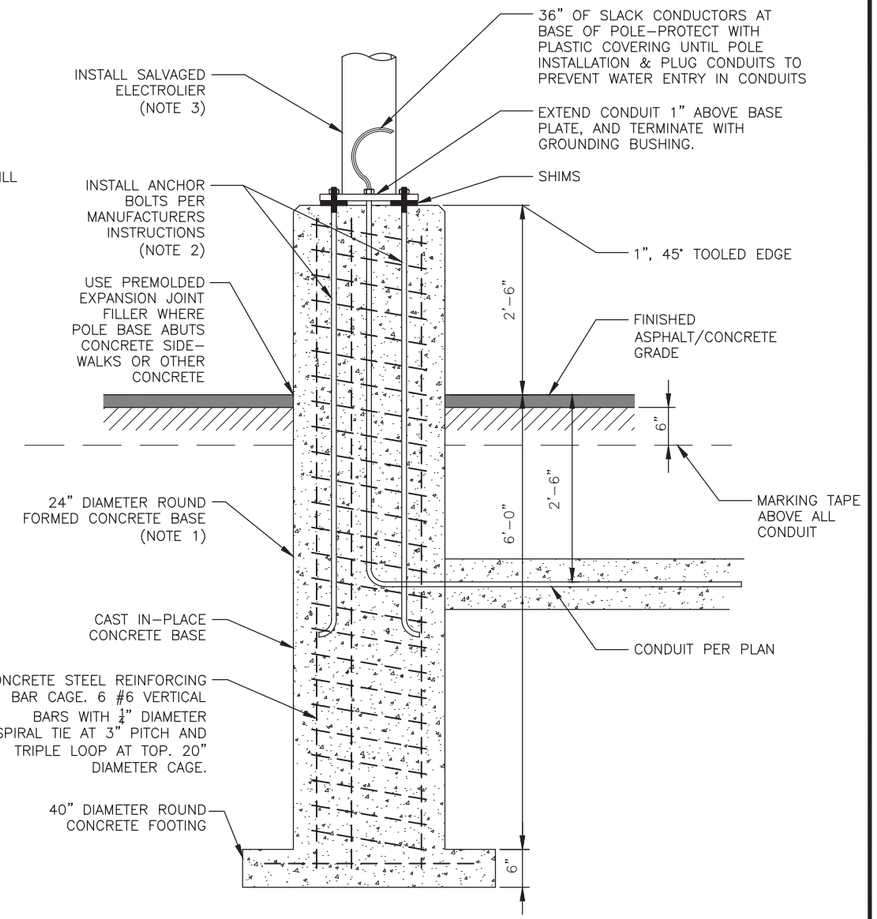
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H49	H58

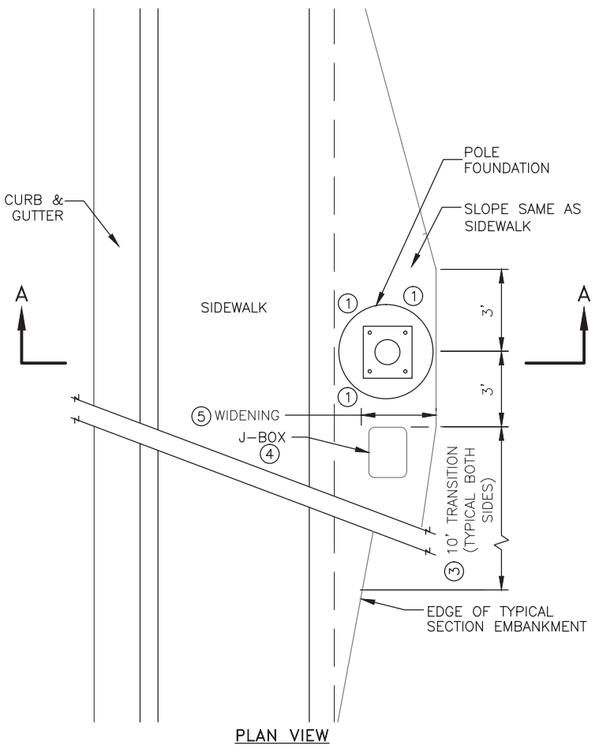


SECTION A–A



SECTION B–B

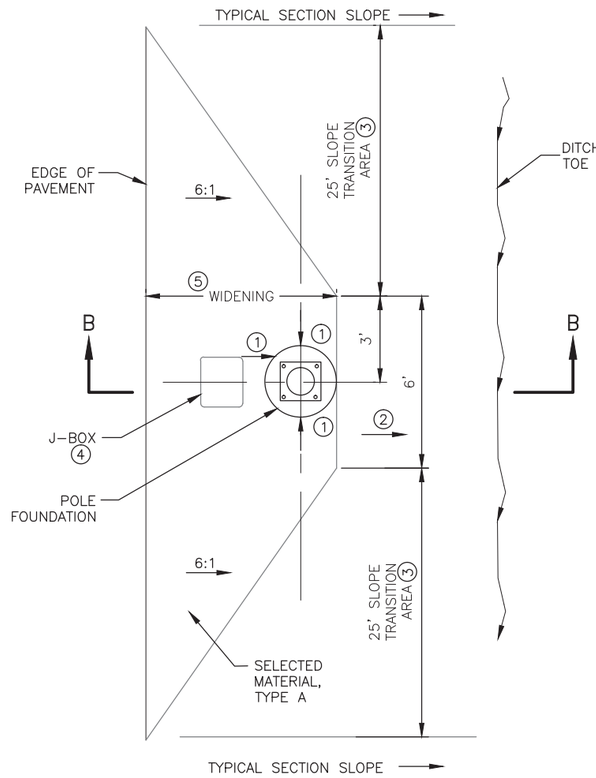




PLAN VIEW

LIGHT POLE WIDENING DETAIL "A"

(USE WHEN POLE IS LOCATED OFF BACK OF SIDEWALK)



LIGHT POLE WIDENING DETAIL "C"

(USE WHEN POLE IS LOCATED OFF SHOULDER)

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.

NOTES:

1. FOUNDATION DETAIL APPLIES TO RELOCATED, SALVAGED ELECTROLIER AT THE FRED MEYER ENTRANCE DRIVEWAY. SEE SHEET H17 PLAN.
2. PROVIDE 1" X 36" X 4" ANCHOR BOLTS WITH 11.5" BOLT CIRCLE WITH NEW NUTS AND WASHERS.
3. PROVIDE NEW LAMP IN LUMINAIRE AFTER SALVAGED ELECTROLIER INSTALLED ON NEW FOUNDATION. BASED ON RECORD DRAWINGS, EXISTING ELECTROLIER CONSISTS OF THE FOLLOWING:

- LUMINAIRE: SINGLE POLE–MOUNT SQUARE LUMINAIRE, 250W HPS, TYPE V SQUARE DISTRIBUTION, WET LOCATION LISTED, 277V HPF BALLAST. MANUFACTURER: KIM #SBC500/250HPS277/WHITE.
- POLE: 25 FT STRAIGHT SQUARE POLE WITH HANDHOLE AND BASE COVER. MANUFACTURER: VALMONT DS230–500Q250–P2–PP–HH–AB.

FRED MEYER LIGHT POLE – FOUNDATION DETAIL

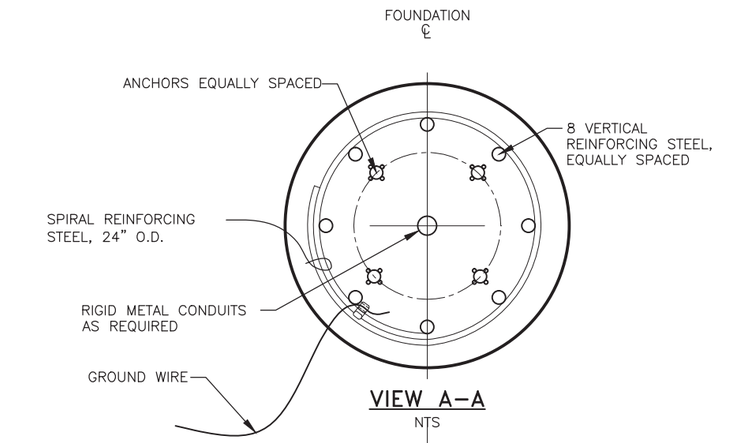
NTS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

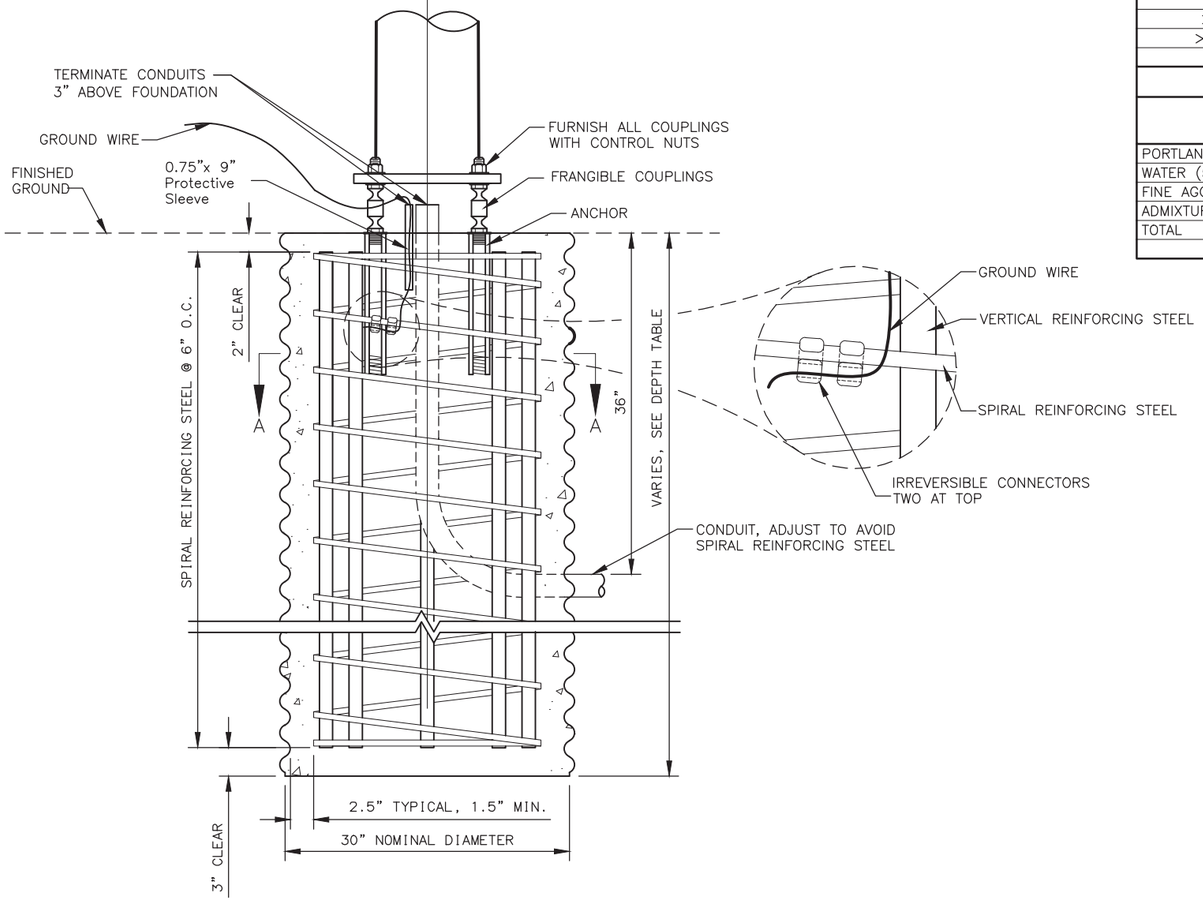
12/10/2019
95% PS&E SUBMITTAL

LIGHTING AND JUNCTION BOX DETAILS

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H50	H58



VIEW A–A
NTS



FOUNDATION DETAILS

NTS
(SKIRT OMITTED FOR CLARITY)

MATERIAL REQUIREMENTS

CONCRETE	CLASS A	F'C = 4000 PSI
CMP	AASHTO M218	14 GA.
VERTICAL REINFORCING STEEL	AASHTO M31 #11	GR 60
SPIRAL REINFORCING STEEL	AASHTO M31 #5	GR 60
GROUND WIRE		#4 awg
FRANGIBLE COUPLING	NCHRP 350 TL3 FRANGIBLE COUPLING	VU = 5.5 KIPS TU = 43.2 KIPS
ANCHOR	NCHRP 350 TL3 FRANGIBLE COUPLING ANCHOR	
CONDUIT	SCH 40	RMC
PROTECTIVE SLEEVE	SCH 40	PVC

GRADE	ELECTROLIER * SEE NOTE 9	BREAKAWAY TRAFFIC SIGNAL
FLAT TO 6:1	8	6
>=6:1 TO 3:1	9	7
>=3:1 TO 1.5:1	10	8

PORTLAND CEMENT CONCRETE	188	701–2.01
WATER (52.1 GAL.)	435	712–2.01
FINE AGGREGATE SSD	3041	703–2.01
ADMIXTURE: MICROAIR	2.0 OZ.	711–2.02
TOTAL	3664	

NORTHERN REGION PROJECTS	14.5"

DESIGN NOTES:

DESIGN STANDARD: SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, LFRD 1ST EDITION, AASHTO, 2015, WITH 2017 AND 2018 INTERIM REVISIONS.

DESIGN LOAD: 1,000 LBS AXIAL, 2,000 LBS SHEAR, 50,000 FT–LBS MOMENT.

CONSTRUCTION STANDARD: LATEST EDITION OF THE STATE OF ALASKA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION WITH SPECIAL PROVISIONS.

NOTES:

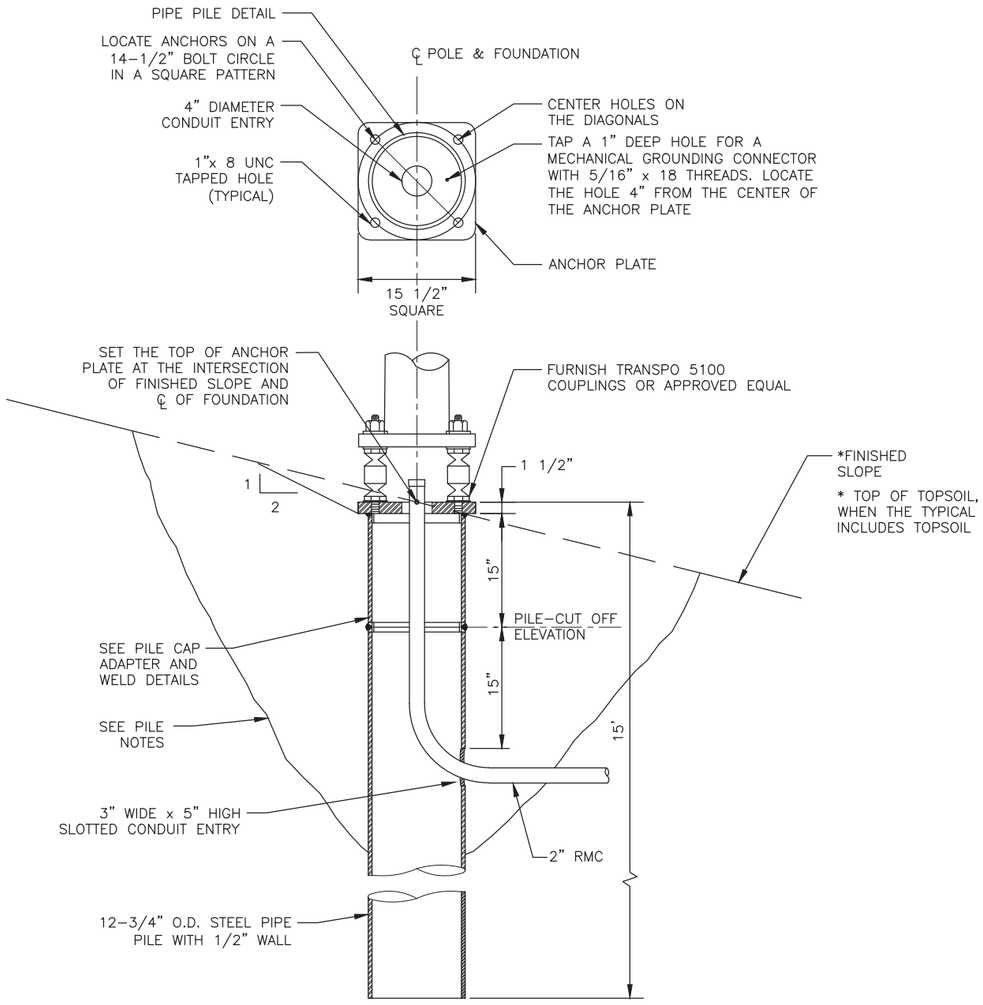
1. THIS FOUNDATION IS APPROVED FOR ELECTROLIER AND BREAKAWAY TRAFFIC SIGNAL APPLICATIONS IN COHESIONLESS SOILS WITH AN N1–60 VALUE OF 10 OR GREATER PER AASHTO T–206, "STANDARD PENETRATION TEST" (SPT). THIS FOUNDATION SHALL NOT BE USED IF ANY OF THE FOLLOWING ARE ENCOUNTERED; WATER TABLE ABOVE THE BOTTOM OF FOUNDATION, VERY LOOSE SOILS, ORGANIC SOILS, COHESIVE SOILS (CLAY), OR SOILS SUSCEPTIBLE TO FROST JACKING. IF ANY OF THESE CONDITIONS ARE ENCOUNTERED, STOP FOUNDATION WORK AND CONTACT THE ENGINEER.
2. PLACE FOUNDATION IN DRILLED OR EXCAVATED HOLE WITH CENTERLINE OF FOUNDATION LOCATED AT THE STATION, OFFSET, AND ELEVATION SPECIFIED IN PLANS. SET FOUNDATION TO SATISFY THE CONDITIONS DEPICTED IN CLEARANCE DETAIL.
3. FORM THE FOUNDATION IN CORRUGATED METAL PIPE CONFORMING TO SUBSECTION 707–2.01 OF THE SPECIFICATIONS.
4. PROVIDE 1.5 EXTRA TURNS AT EACH END OF THE SPIRAL REINFORCING STEEL. REINFORCING STEEL SHALL NOT BE SPLICED. TIE VERTICAL REINFORCING STEEL TO EACH INTERSECTION OF THE SPIRAL REINFORCING STEEL.
5. CONNECT GROUND WIRE NEAR THE TOP OF SPIRAL REINFORCING STEEL WITH TWO IRREVERSIBLE CONNECTORS AS SHOWN. FASTEN CONNECTORS ACCORDING TO THE MANUFACTURERS' RECOMMENDATIONS INCLUDING THE USE OF MANUFACTURER SPECIFIED TOOLS. THE GROUND WIRE MAY BE BARE SOLID, STRANDED, OR BRAIDED COPPER. PROTECT GROUND WIRE WITH PROTECTIVE SLEEVE AS SHOWN AND FILL WITH SILICON SEALANT.
6. COMPLETE ALL CONCRETE WORK IN CONFORMANCE WITH SECTIONS 501, 503, AND 660 OF THE SPECIFICATIONS. USE A TUBE WITH A HOPPER HEAD OR OTHER APPROVED DEVICE WHEN DROPPING CONCRETE MORE THAN 5 FEET PER SUBSECTION 501–3.08. VIBRATE CONCRETE DURING PLACEMENT BY MECHANICAL VIBRATION PER SUBSECTION 501–3.08. ENSURE ANCHOR THREADS ARE PROTECTED FROM CONTACT WITH CONCRETE DURING POUR.
7. BACKFILL AND COMPACT ACCORDING TO SECTION 205, AND SUBSECTIONS 203–3.04 AND 660–3.01 OF THE SPECIFICATIONS. USE SELECT MATERIAL, TYPE A OR SAND SLURRY AS BACKFILL MATERIAL. ENSURE AREA BELOW FOUNDATION MEETS COMPACTION REQUIREMENTS AND IS FREE OF LOOSE MATERIAL AND DEBRIS PRIOR TO CONCRETE WORK.
8. INSTALL ALL ANCHORS ACCORDING TO THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. ANCHORS SHALL BE INSTALLED PLUMB. ANCHORS GREATER THAN 1:40 OUT–OF–PLUMB WILL RESULT IN FOUNDATION REJECTION.
9. WHEN USED FOR ELECTROLIER REDUCE THE FOUNDATION DEPTH 1 FOOT WHEN THERE IS NO LUMINAIRE ARM OR THE LUMINAIRE ARM IS LESS THAN OR EQUAL TO 12 FEET.
10. GRADE IN DEPTH TABLE REFERS TO FILL SLOPES. IF FOUNDATION IS IN A CUT SLOPE ASSUME FLAT GRADE IN TABLE. TO DETERMINE GRADE IN FILL SLOPES, USE THE MOST SEVERE GRADE FOUND WITHIN AN 8 FOOT RADIUS OF THE CENTER OF THE FOUNDATION. SLOPES STEEPER THAN 1.5:1 REQUIRE ENGINEERED DEPTH CALCULATION.

CIDH LIGHT POLE FOUNDATION DETAIL

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

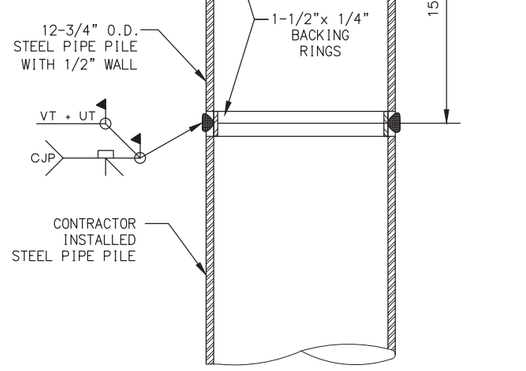
12/10/2019
95%
PS&E
SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H51	H58



PIPE PILE FOUNDATION

(SHOWN WITH FRANGIBLE COUPLINGS)
NTS



PILECAP ADAPTER DETAIL

NTS

DESIGN NOTES:

DESIGN STANDARD: 2001 STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS WITH 2006 INTERIM.

DESIGN LOADS: 5–KIPS AXIAL, 7.5–KIPS SHEAR, 40–KIP–FT MOMENT.

CONSTRUCTION STANDARD: STATE OF ALASKA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2004 ENGLISH EDITION WITH SPECIAL PROVISIONS.

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

NOTES:

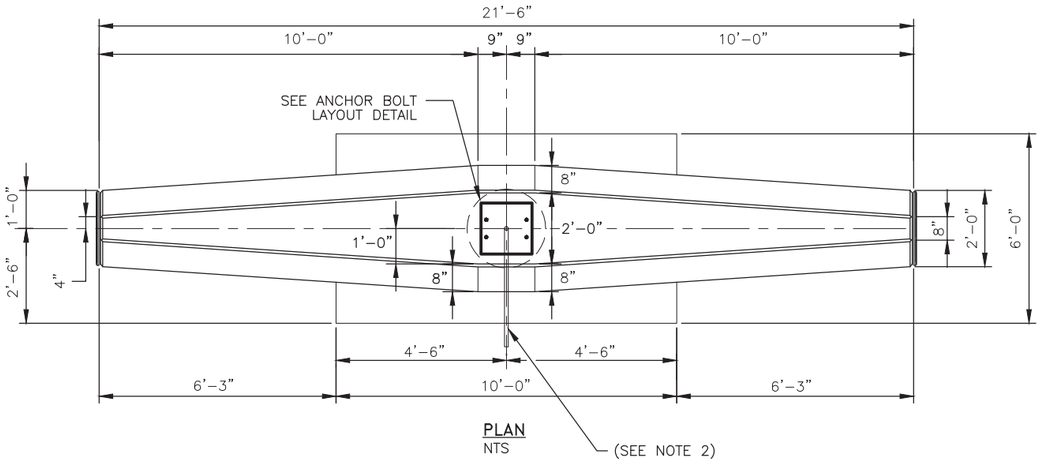
1. IN LIEU OF CONCRETE STREET LIGHT FOUNDATIONS SHOWN IN STANDARD DRAWING L–30.10, THE CONTRACTOR MAY PROVIDE STEEL PIPE PILE LIGHT POLE FOUNDATIONS IN ACCORDANCE WITH THIS DRAWING AND PROJECT SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE OF ALASKA.
2. FURNISH STEEL PIPE PILES THAT CONFORM TO THE 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. AT EACH FOUNDATION, EXCAVATE A CONE SHAPED WORK HOLE 6.5' DIAMETER AT THE SURFACE DOWN TO 1 FOOT BELOW THE CONDUIT HOLE SUBJECT TO THE REQUIREMENTS AND RESTRICTIONS OF OSHA 1926.652. AFTER CUTTING THE CONDUIT ENTRANCE HOLE AND WELDING ON THE PILECAP ADAPTER, BACKFILL AND COMPACT THE WORK HOLE IN 8" LIFTS WITH A SOIL–CEMENT MIXTURE, CONSISTING OF 2 SACKS OF PORTLAND CEMENT PER CUBIC YARD OF SOIL. SUFFICIENT COMPACTIVE EFFORT WILL BE DETERMINED BY THE ENGINEER.
7. WAIT AT LEAST 3 DAYS AFTER BACKFILLING THE WORK HOLE BEFORE ERECTING THE LUMINAIRE POLE.
8. 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

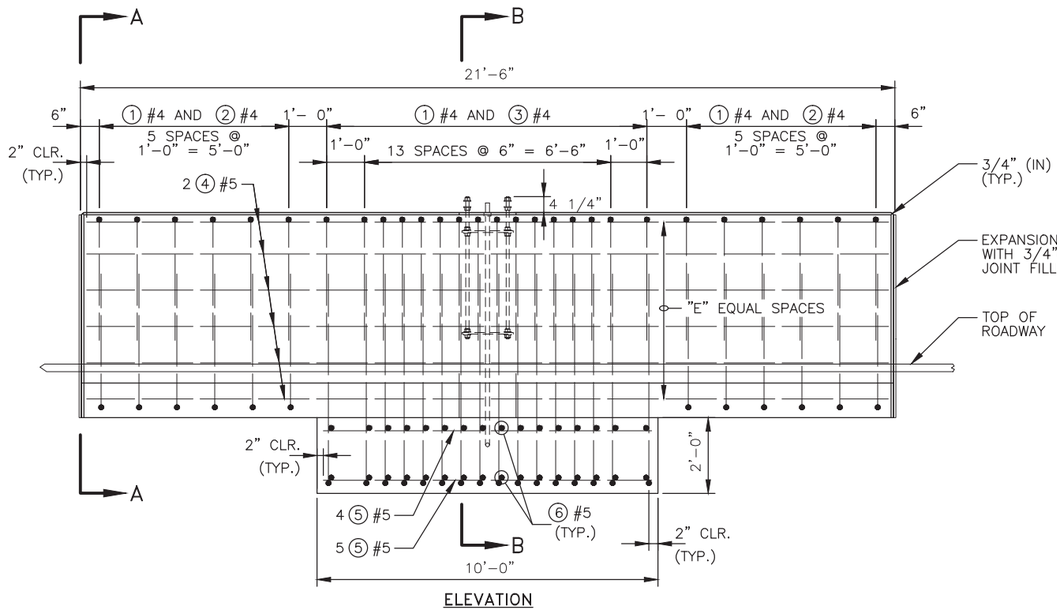
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

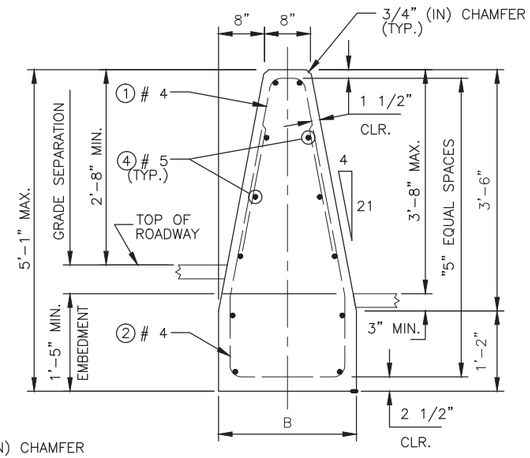
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H52	H58



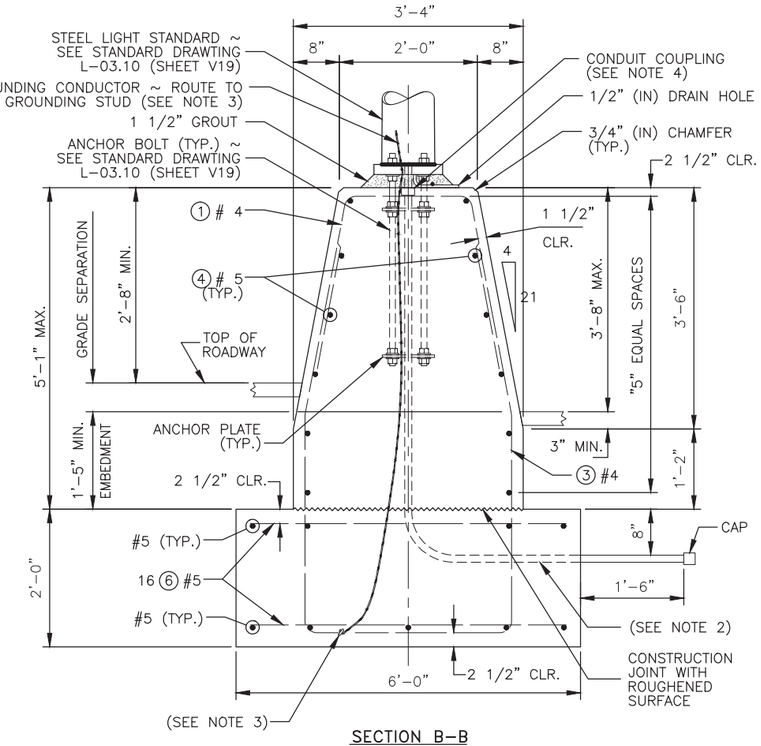
PLAN
NTS



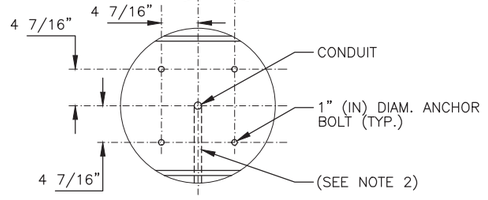
ELEVATION
NTS



SECTION A–A
NTS

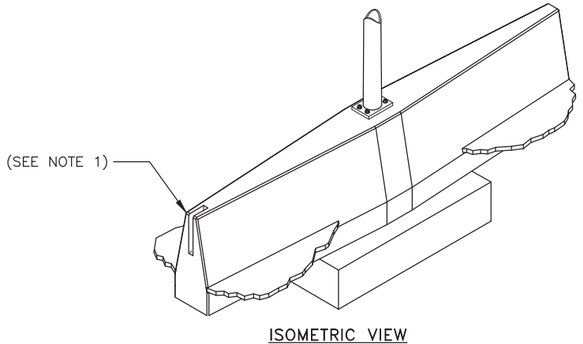


SECTION B–B
NTS



PLAN VIEW

ANCHOR BOLT LAYOUT DETAIL
NTS

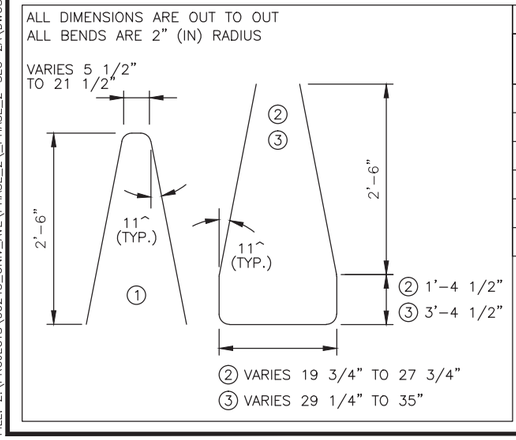


ISOMETRIC VIEW

NOTES

1. WHEN CONNECTING BETWEEN CAST–IN–PLACE AND PRECAST SINGLE–SLOPE BARRIER, PROVIDE A CONNECTION BLOCKOUT AND REBAR GRID AS SHOWN ON STANDARD DETAIL G–46.11.
2. SEE THE CONTRACT PLANS FOR CONDUIT PLACEMENT.
3. GROUNDING CONDUCTOR SHALL BE NON–INSULATED #4 AWG STRANDED COPPER; PROVIDE 3' – 0" MIN. SLACK. CLAMP STEEL REINFORCING BAR WITH CONNECTOR SUITABLE FOR USE EMBEDDED IN CONCRETE.
4. INSTALL CONDUIT COUPLING FLUSH WITH TOP OF FOUNDATION. DO NOT GLUE PVC STUBOUT.
5. THIS PLAN SHALL BE USED FOR A 35' (FT) LIGHT STANDARD WITH 15' (FT) MAX. LENGTH DOUBLE MAST ARMS.
6. USE AIR ENTRAINED CONCRETE WITH MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
7. THIS SPREAD FOOTING IS DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2500 PSF OR BETTER.

ALL DIMENSIONS ARE OUT TO OUT
ALL BENDS ARE 2" (IN) RADIUS



BAR LIST

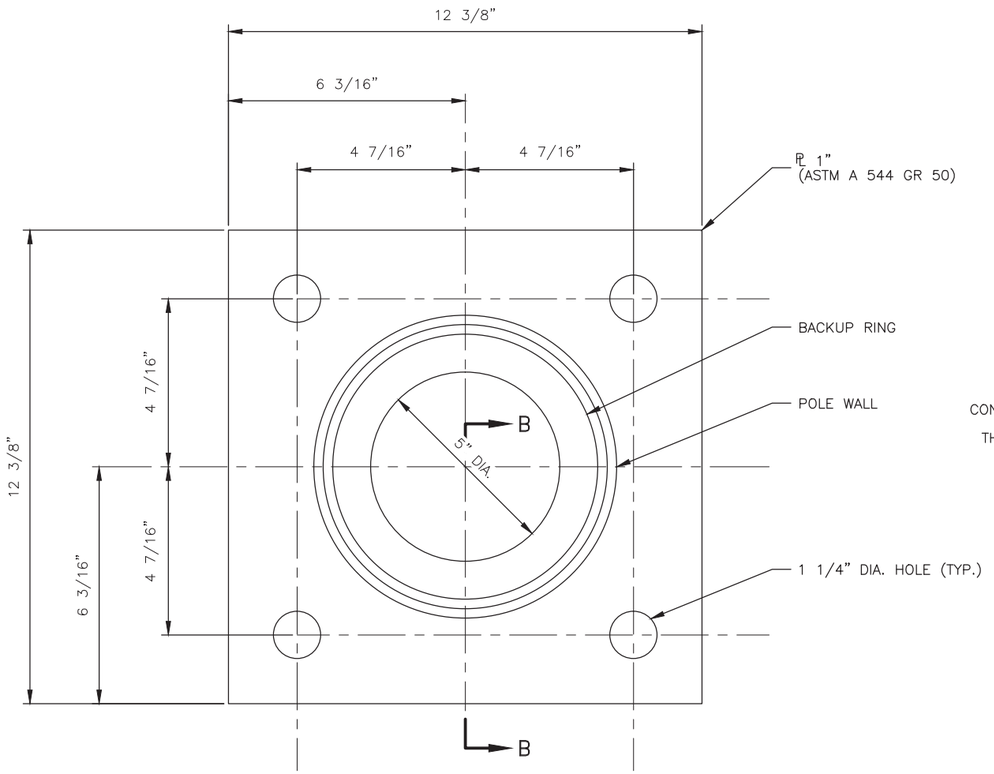
MARK NO.	LOCATION	SIZE	QUANTITY
①	BARRIER ~ TOP VERTICAL	# 4	28
②	BARRIER ~ BOTTOM VERTICAL	# 4	12
③	FND. & BARRIER ~ VERTICAL	# 4	16
④	BARRIER ~ HORIZONTAL	# 5	12
⑤	FOUNDATION	# 5	10
⑥	FOUNDATION	# 5	34

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

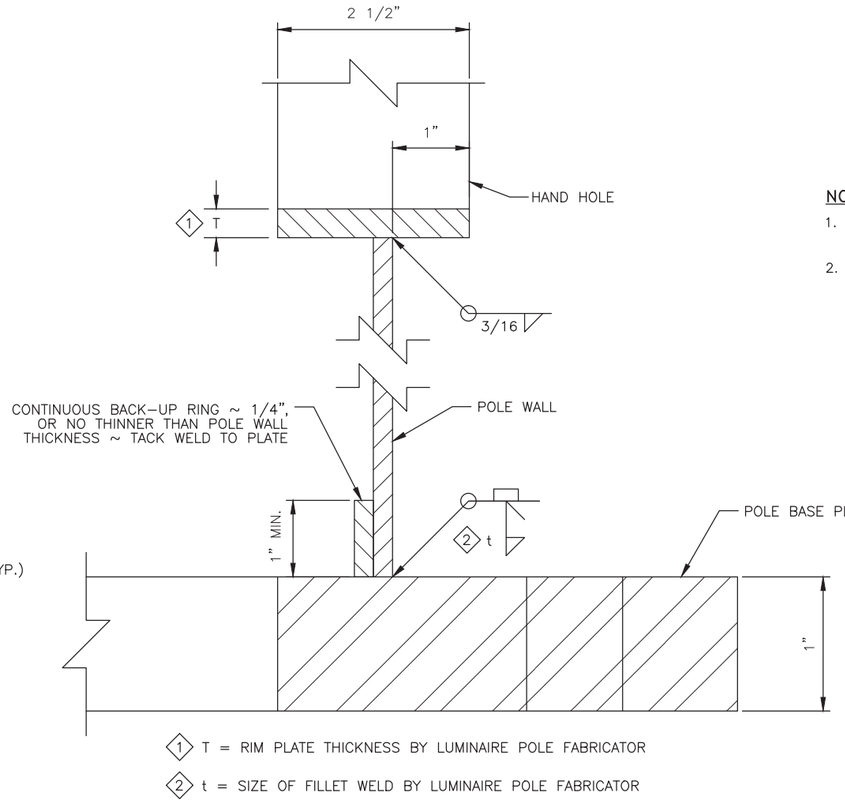
STATE OF ALASKA
2/17/2016
INTERIM PS&E SUBMITTAL
PROFESSIONAL ENGINEER

SINGLE–SLOPE CONCRETE LIGHT STANDARD FOUNDATION DETAILS

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H53	H58



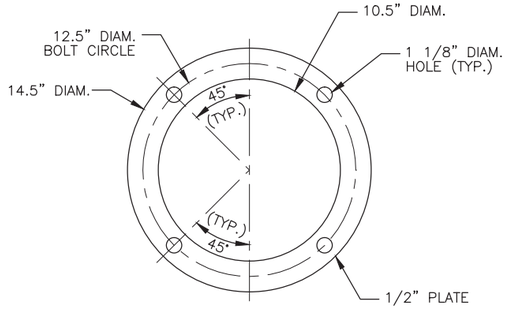
SECTION A–A
NTS



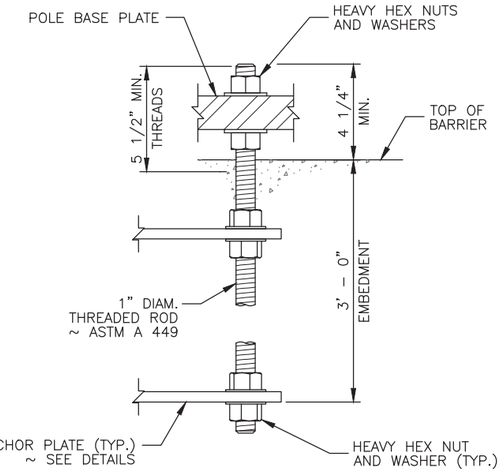
1 T = RIM PLATE THICKNESS BY LUMINAIRE POLE FABRICATOR

2 t = SIZE OF FILLET WELD BY LUMINAIRE POLE FABRICATOR

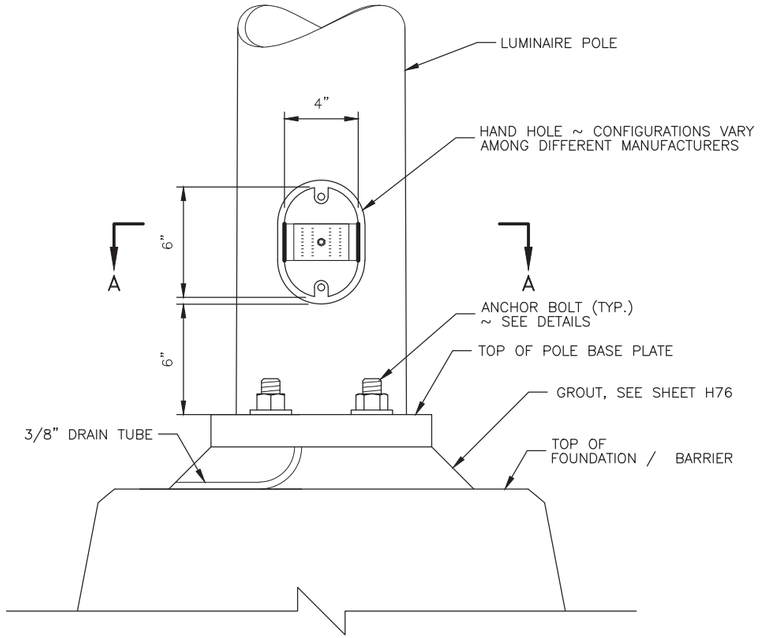
SECTION B–B
NTS



ANCHOR PLATE
NTS



ANCHOR BOLT DETAIL
NTS
GALVANIZE EXPOSED ANCHOR ROD END 1' – 0" MIN.



PLACEMENT DETAIL
NTS SEE NOTE 4

NOTES

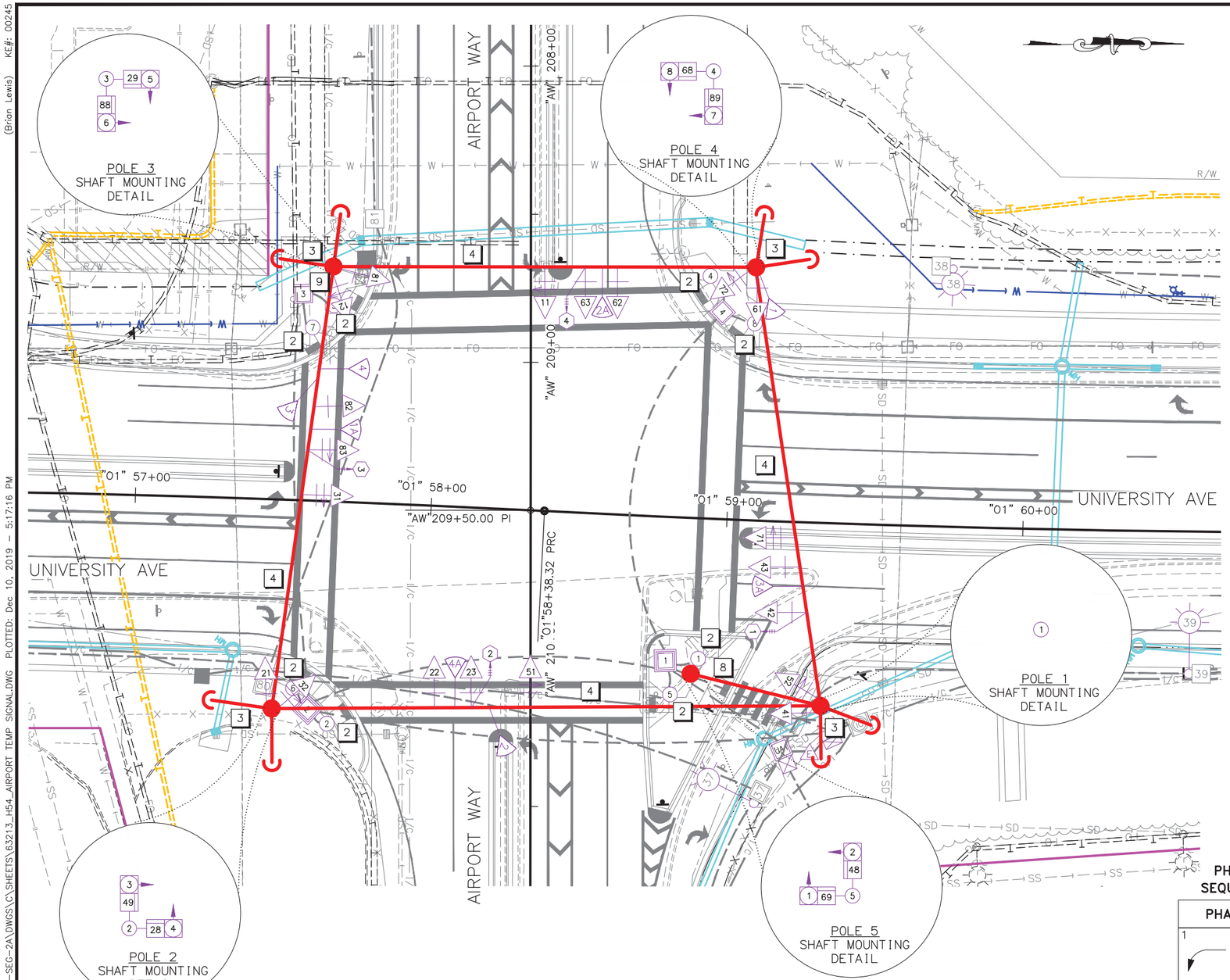
1. ROUND AND SMOOTH ALL EDGES AROUND HAND HOLE AND ALONG THE WIRE–WAY TO PROTECT THE CONDUCTORS.
2. INSTALL GROUT AFTER PLUMBING THE POLE.

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

STATE OF ALASKA
2/17/2016
INTERIM PS&E SUBMITTAL
PROFESSIONAL ENGINEER

SINGLE–SLOPE CONCRETE LIGHT STANDARD FOUNDATION DETAILS

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2-SEG-2A\DWGS\C\SHEETS\63213_H48-H53_LIGHT DETLS.DWG PLOTTED: Dec 10, 2019 – 5:16:46 PM (Brian Lewis) KE#: 00245



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H54	H58

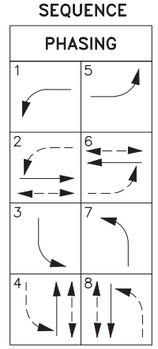
GENERAL SHEET NOTES:

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.

PHASE SEQUENCE



PHASE DIAGRAM NORTH ARROW

PED MOVEMENT

VEH. MOVEMENT

LEFT TURN MOVEMENT (PROTECTED)

LEFT TURN MOVEMENT (PERMISSIVE)

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

AIRPORT WAY TEMPORARY SIGNAL PLAN

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2__PHASE_2-SEG-2A\DWGS\C\SHEETS\63213_H54_AIRPORT TEMP SIGNAL.DWG PLOTTED: Dec 10, 2019 - 5:17:16 PM (Brian Lewis) KE#: 00245

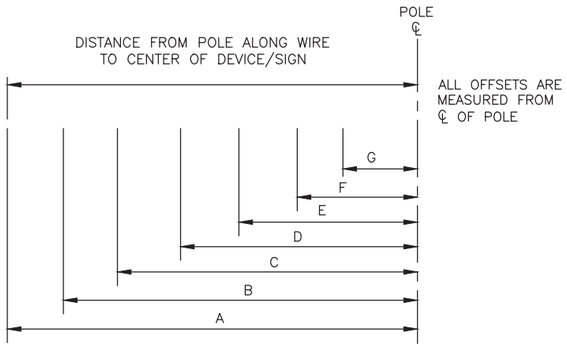
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H55	H58

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
2	69	P	REUSE OF EXISTING SIGNAL HEADS IS PERMITTED, AS APPROVED BY ENGINEER
	48	P	
3	88	P	
	89	P	
4	48	P	
	28	P	
5	29	P	
	68	P	

PEDESTRIAN DETECTION SCHEDULE

POLE	PUSH BUTTON	PHASE	REMARKS
5	1	6	SEE NOTE 1
	2	4	SEE NOTE 1
2	3	4	SEE NOTE 2
	4	2	SEE NOTE 1
3	5	2	SEE NOTE 2
	6	8	SEE NOTE 1
4	7	8	SEE NOTE 2
	8	6	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 H32 FOR POLE/POST SIGNAL HEAD SIDE MOUNTING TYPES AND SIGNAL HEAD CONFIGURATIONS.
4. SEE SHEET H32 FOR SIGNAL SIGN SCHEDULE. REUSE OF EXISTING SIGNS FOR TEMPORARY TRAFFIC CONTROL IS PERMITTED, AS APPROVED BY ENGINEER.
5. SEE SHEET H32 FOR OPTICOM DETECTION SCHEDULE. LOCATION OF OPTICOM SENSORS MAY BE ALTERED WITH APPROVAL OF ENGINEER.
6. SEE SHEET H32 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

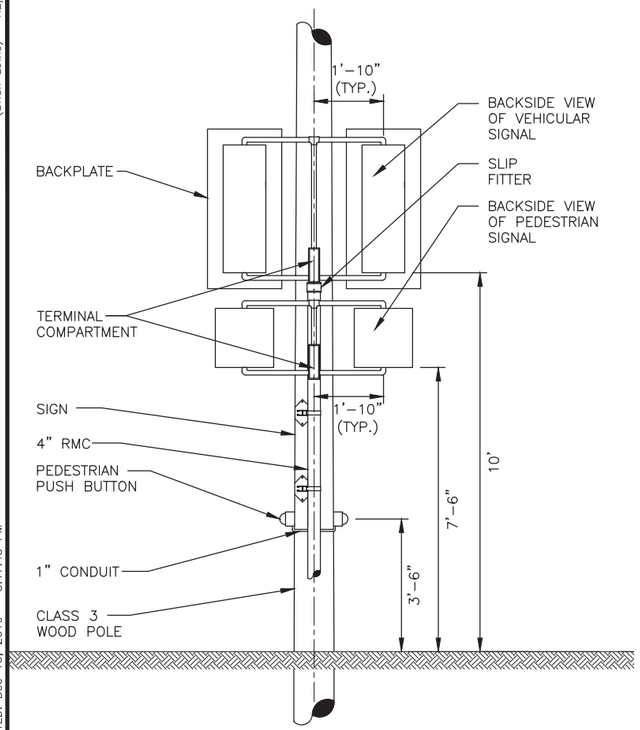
SIGNAL HEAD SCHEDULE

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
	52				L	L	L	L						D		
	42	X	X	X								21.5	X			
	43	X	X	X								33.5	X			
	71				L	L	L	L				49.0	X			
2	21	X	X	X										D		
	32				L	L	L	L						D		
	22	X	X	X								36.7	X			
	23	X	X	X								48.7	X			
	51				L	L	L	L				68.7	X			
3	81	X	X	X										D		
	12				L	L	L	L						D		
	82	X	X	X								36.4	X			
	83	X	X	X								48.4	X			
	31				L	L	L	L				64.2	X			
4	61	X	X	X										D		
	72				L	L	L	L						D		
	62	X	X	X								28.1	X			
	63	X	X	X								40.7	X			
	11				L	L	L	L				61.5	X			

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

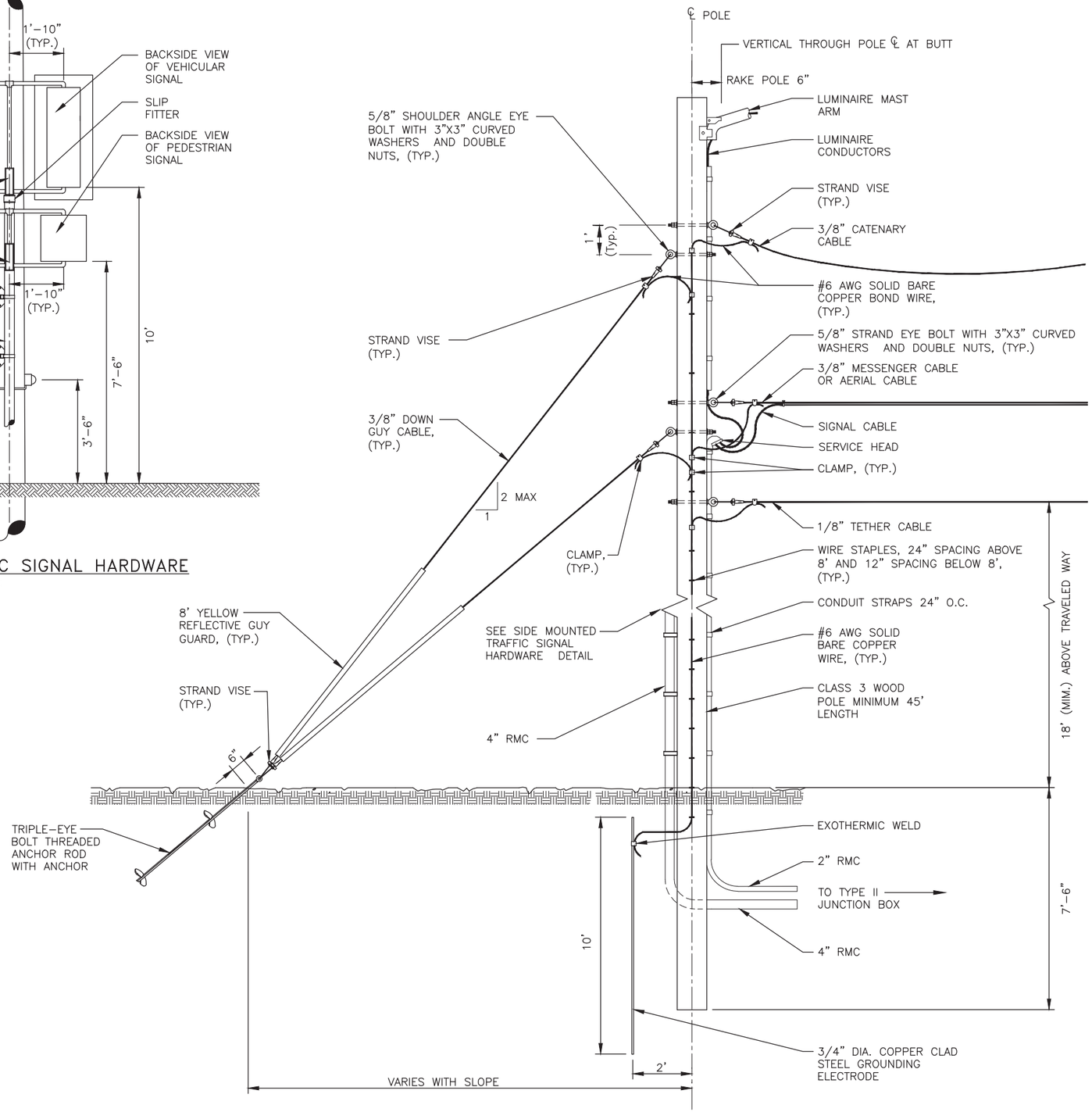
12/10/2019
95%
PS&E
SUBMITTAL

AIRPORT WAY TEMPORARY SIGNAL SCHEDULE



SIDE MOUNTED TRAFFIC SIGNAL HARDWARE

NTS



WOOD TRAFFIC POLE DETAIL

NTS
(SINGLE SPAN ATTACHMENT SHOWN)

GENERAL NOTES:

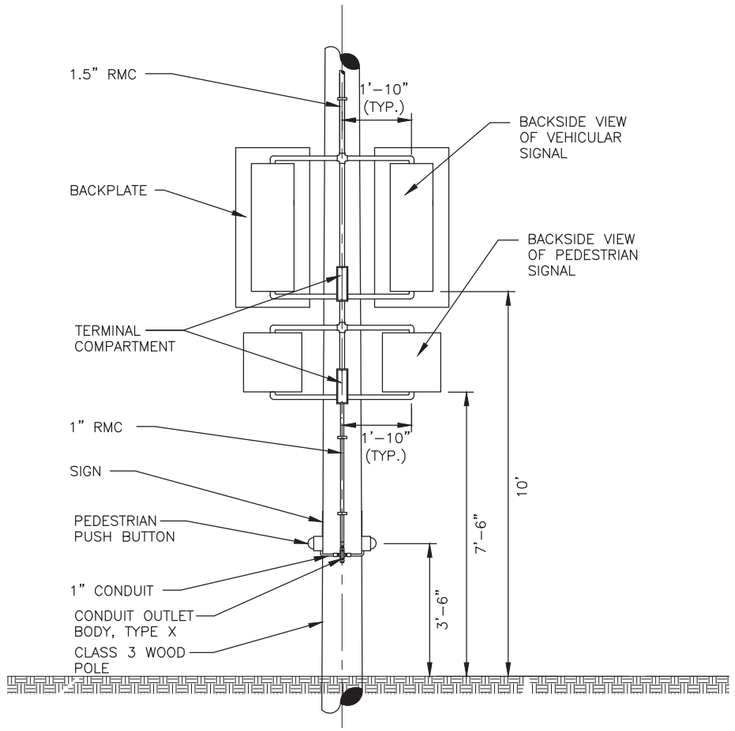
1. ATTACH A 4 INCH RIGID METAL CONDUIT TO THE WOOD POLE, USING UNISTRUT P9014 WITH P4101 CHANNEL, AND P1121 PIPE CLAMPS, OR APPROVED EQUAL.
2. INSTALL THE 4 INCH CONDUIT ON THE SIDE OF THE POLE AT A LOCATION WHERE A LINE PARALLEL TO THE LONG CORD (P.C. TO P.T.) OF THE RADIUS IS TANGENT TO THE POLE, AS 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 DETAILS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

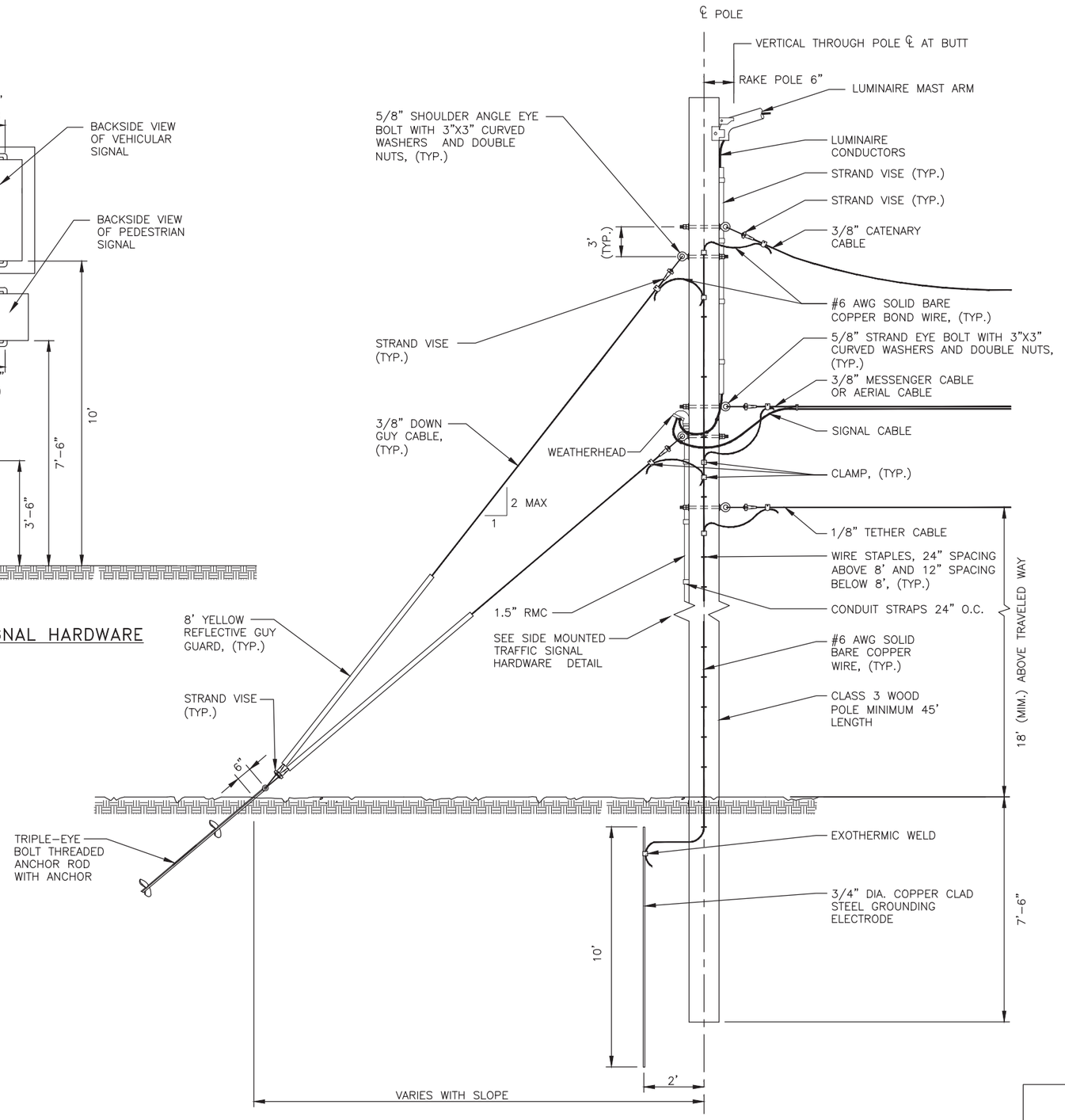
12/10/2019
95%
PS&E
SUBMITTAL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H57	H58



SIDE MOUNTED TRAFFIC SIGNAL HARDWARE

NTS



WOOD TRAFFIC POLE DETAIL

NTS

(SINGLE SPAN ATTACHMENT SHOWN)

GENERAL NOTES:

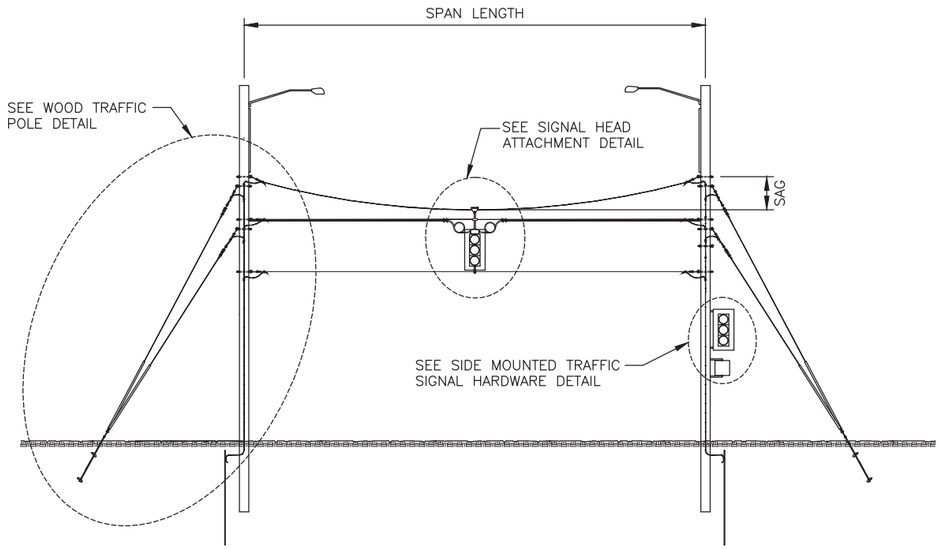
1. ATTACH A 4 INCH RIGID METAL CONDUIT TO THE WOOD POLE, USING UNISTRUT P9014 WITH P4101 CHANNEL, AND P1121 PIPE CLAMPS, OR APPROVED EQUAL.
2. INSTALL THE 4 INCH CONDUIT ON THE SIDE OF THE POLE AT A LOCATION WHERE A LINE PARALLEL TO THE LONG CORD (P.C. TO P.T.) OF THE RADIUS IS TANGENT TO THE POLE, AS 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 DEATILS

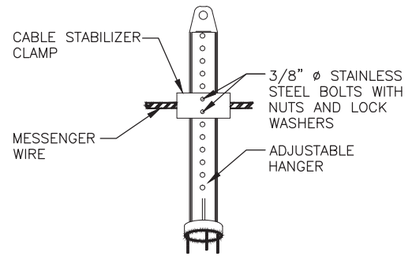
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

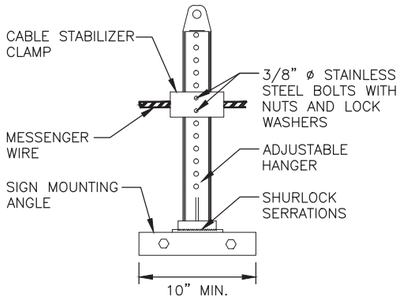
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	H58	H58



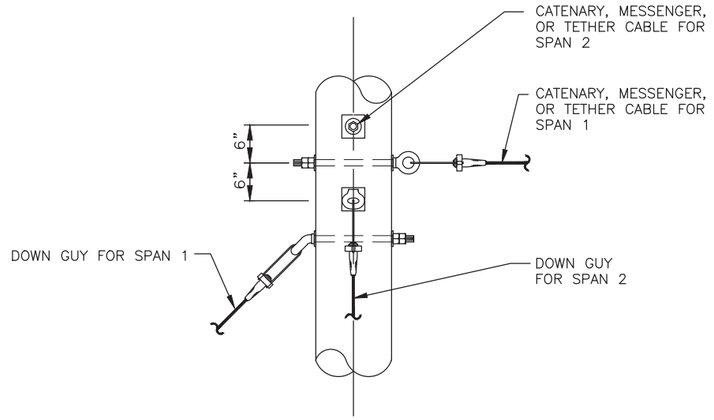
SPAN ELEVATION
NTS



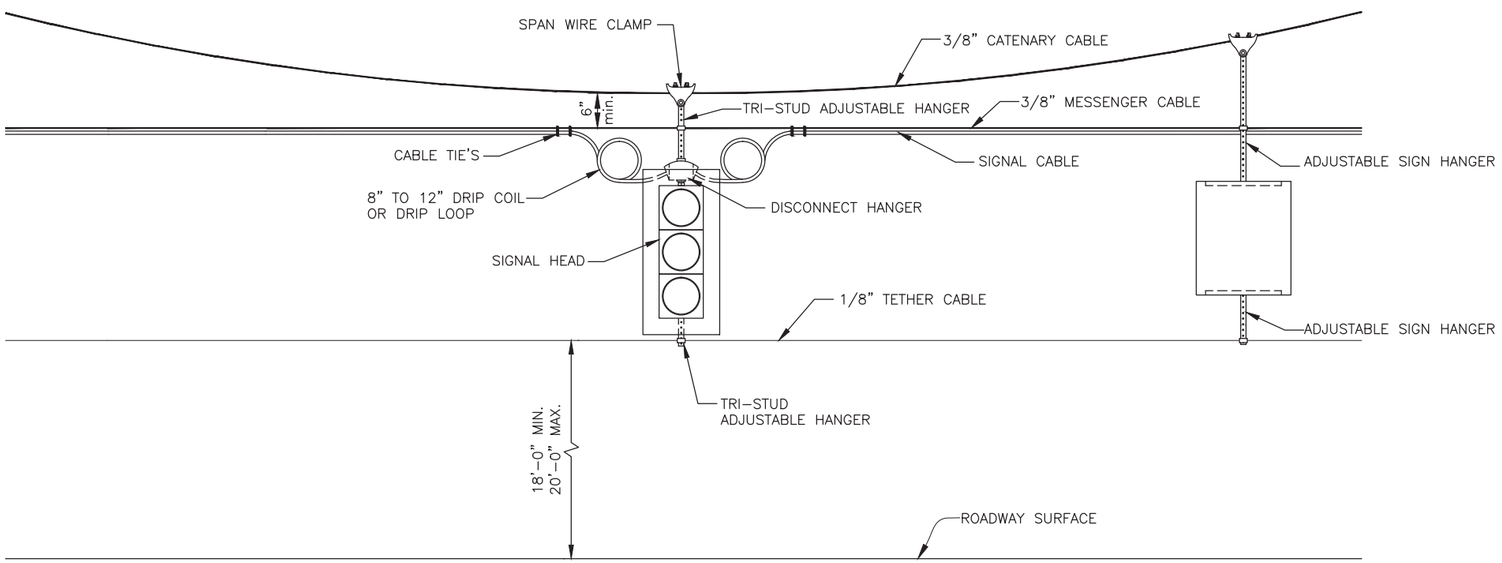
TRI–STUD ADJUSTABLE HANGER
NTS



ADJUSTABLE HANGER FOR SIGN MOUNTING
NTS



MULTIPLE SPAN ATTACHMENT DETAIL
NTC



SIGNAL HEAD AND SIGN ATTACHMENT DETAIL
NTS

GENERAL NOTES:

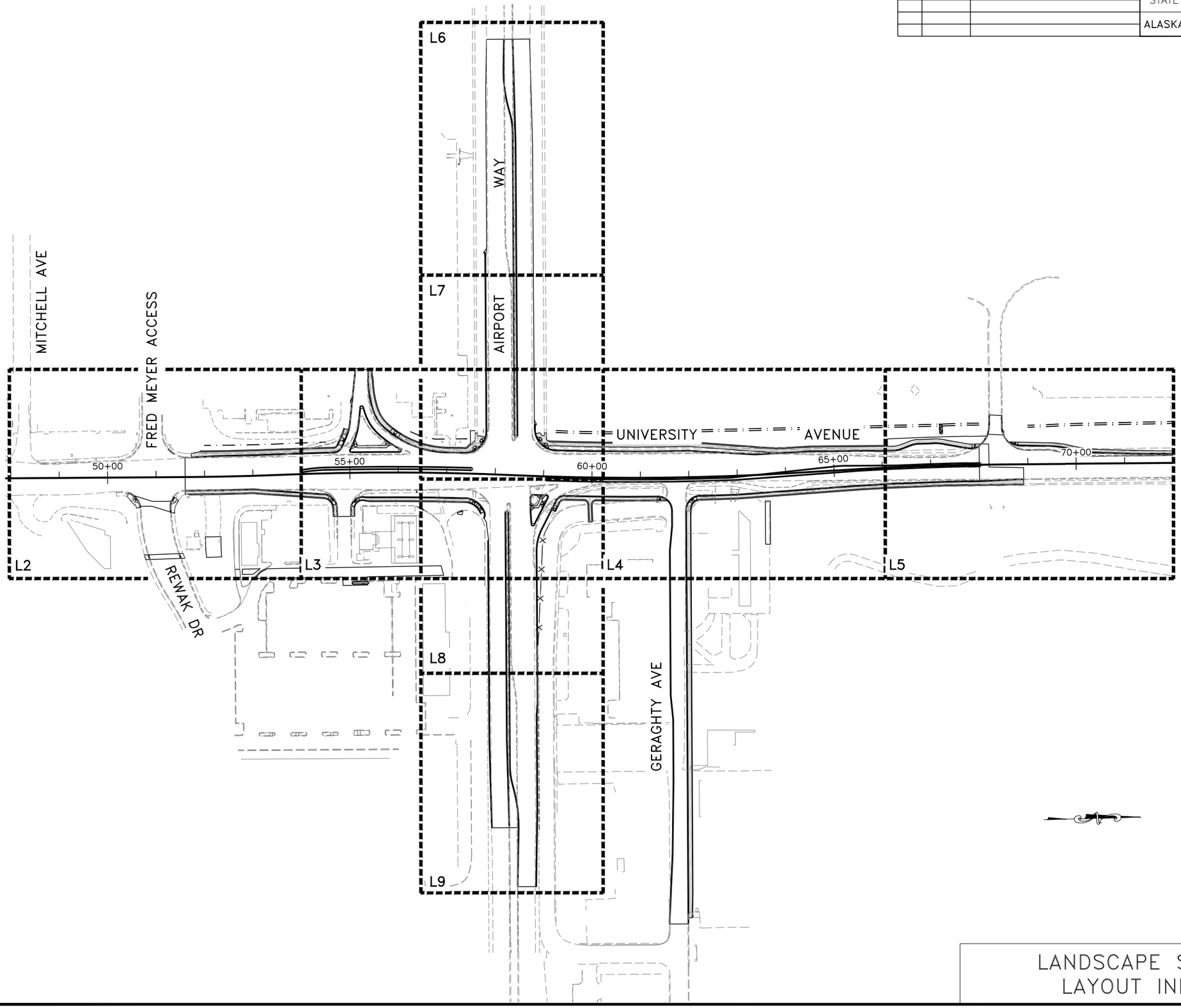
1. ATTACH ADJUSTABLE HANGERS TO THE MESSENGER AND TETHER CABLES WITH CABLE STABILIZER CLAMPS.
2. ATTACH SIGNAL CABLES TO MESSENGER CABLE EVERY 1' USING 3M HEAVY DUTY BLACK CABLE TIES OR APPROVED EQUAL. CABLE TIES SHALL BE WEATHER RESISTANT BLACK NYLON GREATER THAN 0.065" THICK, HAVE A TENSILE STRENGTH 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 DETAILS

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	L1	L10



LANDSCAPE SHEET
LAYOUT INDEX

PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL 1007, 729 N STREET, ANCHORAGE, AK 99501, (907)279-2688
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c0006cnst11147.04fb-L1 Wed, Dec/04/19 09:45am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	L2	L10

MITCHELL AVE

FRED MEYER ACCESS

R/W

TCE

PUE

PUE

TCP

R/W

MATCH "01" 48+00 LINE

48+00

49+00

50+00

UNIVERSITY AVENUE

51+00

52+00

53+00

54+

N 1°34'29" E 2064.75'

SEEDING, SEE CIVIL

MATCH "01" 54+00 LINE

R/W

TCE

TCE

MH

REWAK DR

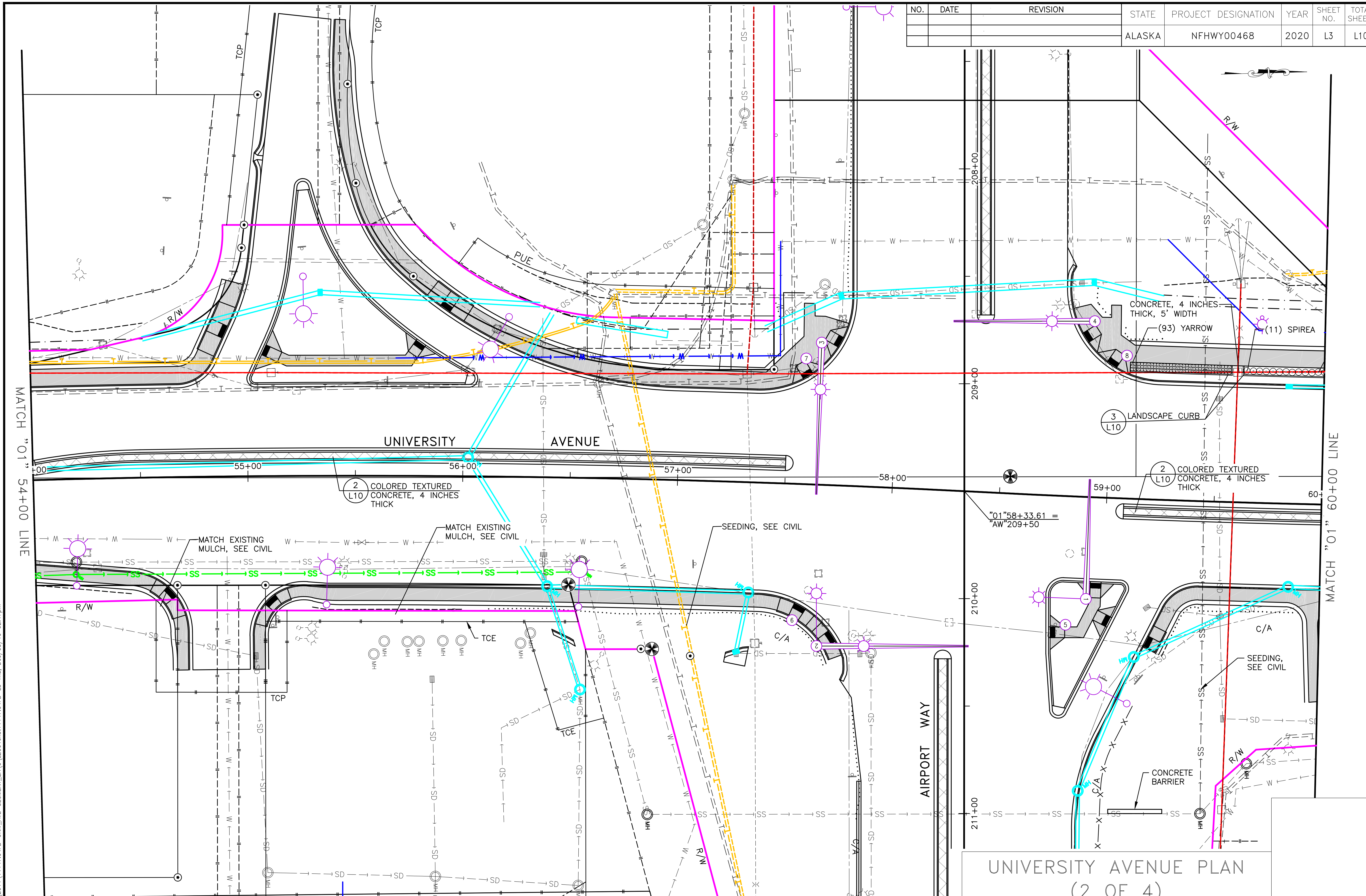
PUMP HOUSE

TCP

UNIVERSITY AVENUE PLAN
(1 OF 4)

PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL 1007, 729 N STREET, ANCHORAGE, AK 99501, (907)279-2688
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\L2001const11147.04FB-L2 Thu, Dec/05/19 02:46pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	L3	L10



UNIVERSITY AVENUE PLAN (2 OF 4)

PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL 1007, 729 N STREET, ANCHORAGE, AK 99501, (907)279-2688

P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\L2001cnst11147.04FB-L3 Thu, Dec/05/19 02:47pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	L4	L10

MATCH "01" 60+00 LINE

MATCH "01" 66+00 LINE

UNIVERSITY AVENUE

"01"61+79.42 = "GR"10+00

N 1°25'10" W 143.04

60+00 61+00 62+00 63+00 64+00 65+00 66+00

10+00 11+00

GERAGHTY AVE

TCE

R/W

(13) SPIREA

(40) ROSE

(45) SPIREA

3 L10 LANDSCAPE CURB

CONCRETE, 4 INCHES THICK, 5' WIDTH

2 L10 COLORED TEXTURED CONCRETE, 4 INCHES THICK

(7) BIRCH

(119) SPIREA

(86) COTONEASTER

(25) IRIS

(40) IRIS

3 L10 LANDSCAPE CURB

SEEDING, SEE CIVIL

4 L10 PLANTING BED

TCP

SD

SS

W

MH

UNIVERSITY AVENUE PLAN
(3 OF 4)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	L5	L10

TCE

R/W

SEEDING, SEE CIVIL

SEEDING, SEE CIVIL

SEEDING, SEE CIVIL

R/W

MATCH "01" 66+00 LINE

UNIVERSITY AVENUE

66+00

67+00

68+00

69+00

70+00

71+00

2 L10 COLORED TEXTURED CONCRETE, 4 INCHES THICK

MATCH EXISTING 68+00

R/W

R/W

TCE

UNIVERSITY AVENUE PLAN
(4 OF 4)

PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL 1007, 729 N STREET, ANCHORAGE, AK 99501, (907)279-2688
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\L2001cnst11147.04FB-L5 Wed, Dec/04/19 09:46am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	L6	L10

R/W

R/W

MATCH TO EXISTING 200+50

BEGIN COLORED TEXTURED CONCRETE AT "AW" 202+25

AIRPORT WAY

200+00 201+00 202+00 203+00 204+00 205+00

S 88°22'45" E 950.00'

MATCH "AW" 205+50 LINE

SEEDING, SEE CIVIL

COLORED TEXTURED CONCRETE, 4 INCHES THICK

2 L10

R/W

R/W

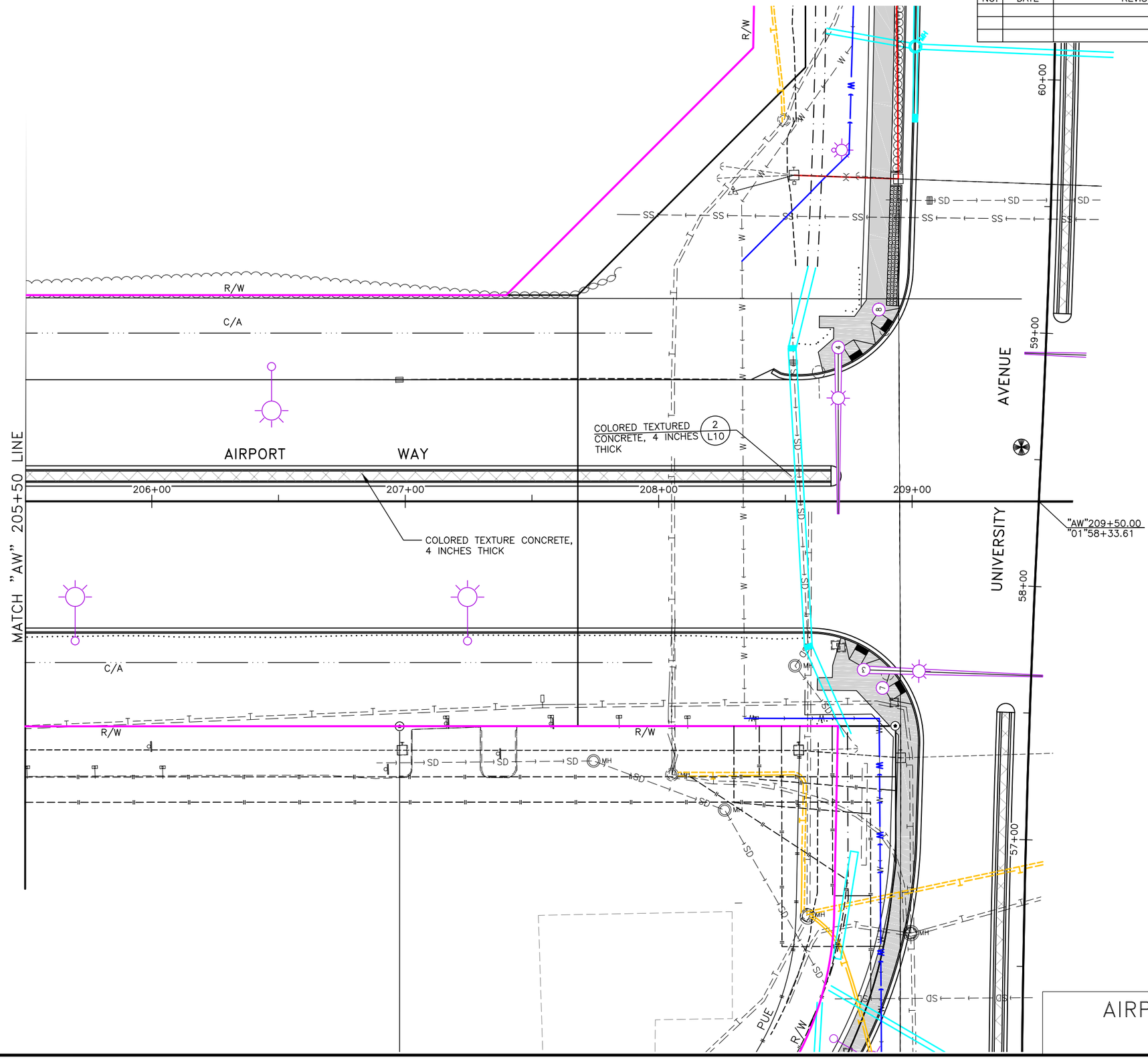
TCE

AIRPORT WAY PLAN
(1 OF 4)

PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL 1007, 729 N STREET, ANCHORAGE, AK 99501, (907)279-2688
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\L2002cnst11147.04FB-L6 Wed, Dec/04/19 09:47am

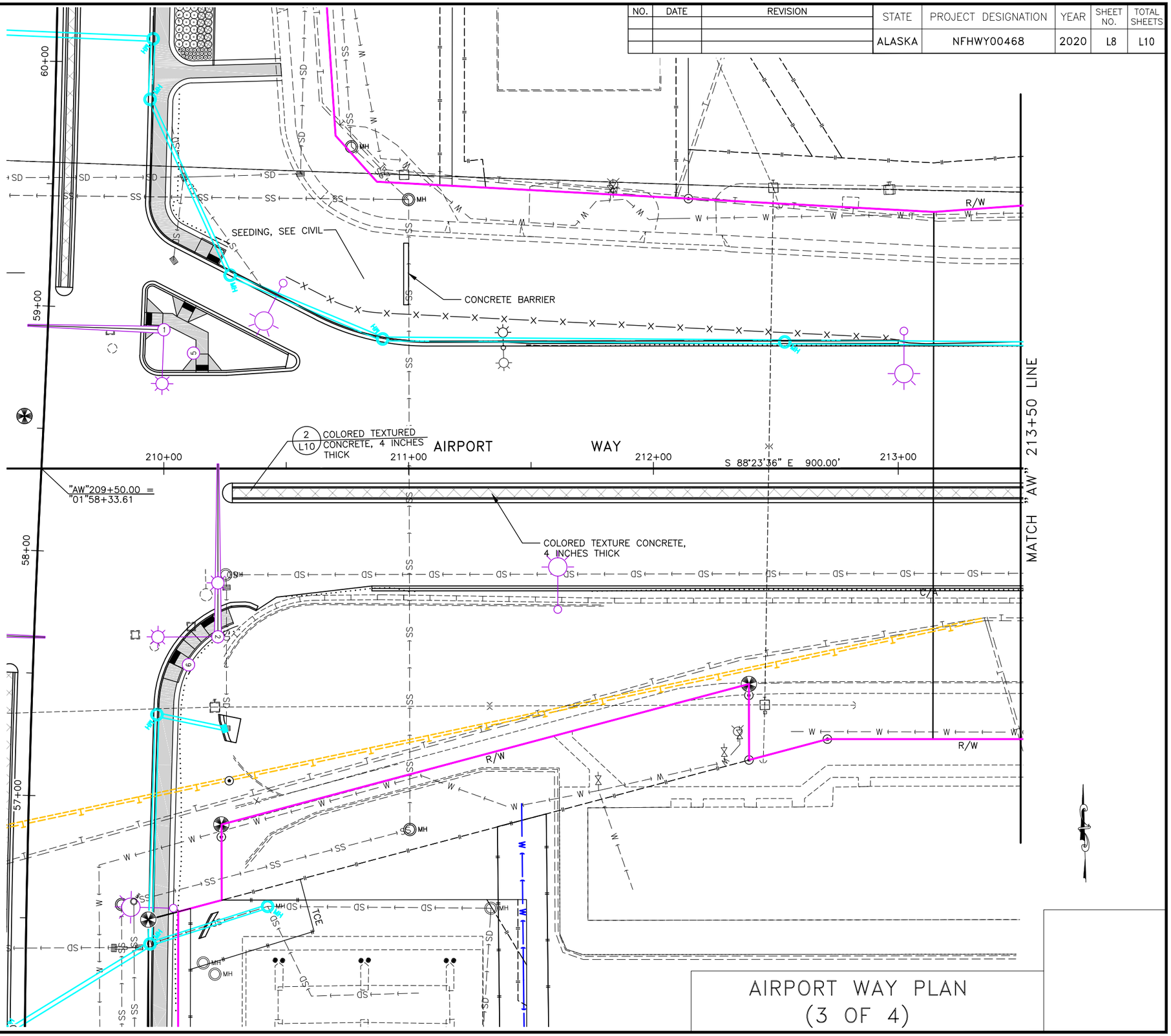
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	L7	L10



AIRPORT WAY PLAN
(2 OF 4)

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	L8	L10



AIRPORT WAY PLAN (3 OF 4)

PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL 1007, 729 N STREET, ANCHORAGE, AK 99501, (907)279-2688
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\L2002cnst11147.04FB-L8 Wed, Dec/04/19 09:47am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	L9	L10

PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL 1007, 729 N STREET, ANCHORAGE, AK 99501, (907)279-2688
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\L2002cnst11147.04FB-L9 Wed, Dec/04/19 09:48am

MATCH "AW" 213+50 LINE

2 / L10 COLORED TEXTURED CONCRETE, 4 INCHES THICK

214+00

215+00

AIRPORT WAY

216+00

217+00

218+00

S 88°23'36" E 900.00'

S 88°23'36" E 900.00'

MH

SD

GS

R/W

END COLORED TEXTURED CONCRETE AT "AW" 215+75

SEEDING, SEE CIVIL

MATCH TO EXISTING 218+00

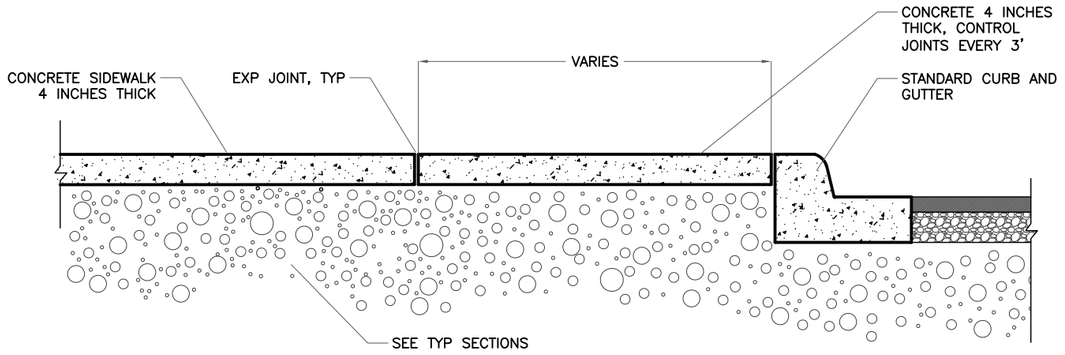
DO NOT DISTURB EX. SHRUBS

SEEDING, SEE CIVIL

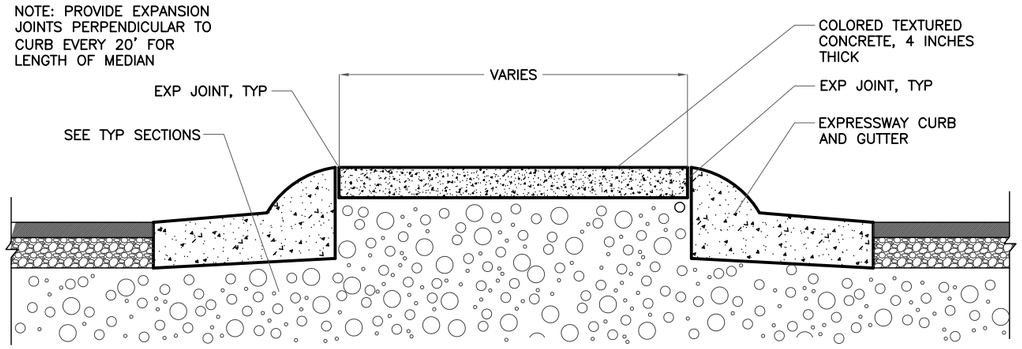
MATCH TO EXISTING 216+78

AIRPORT WAY PLAN (4 OF 4)

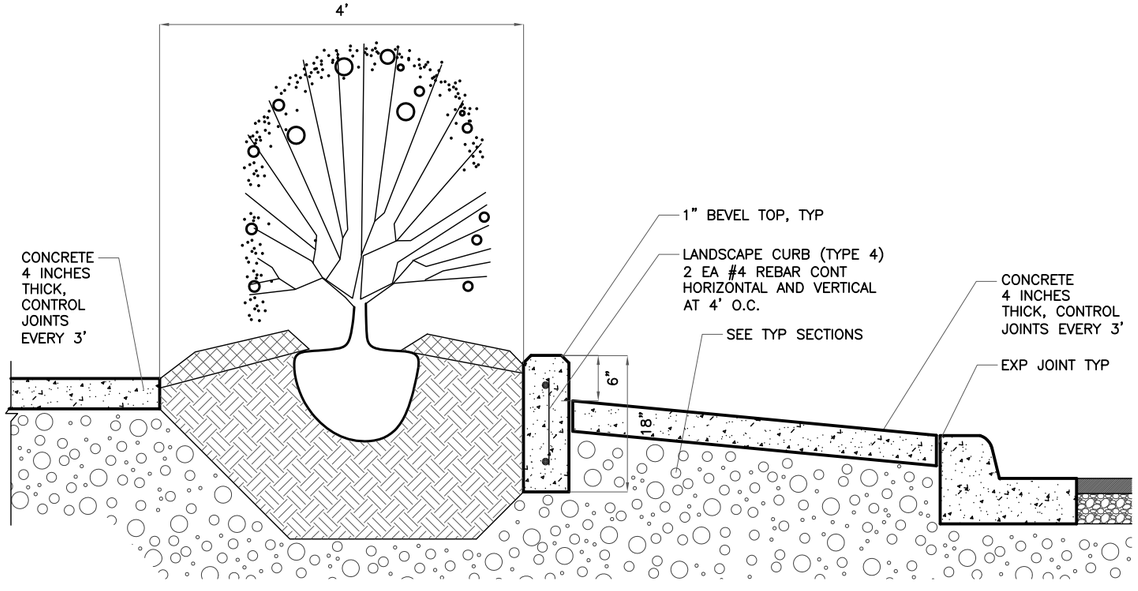
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	L10	L10



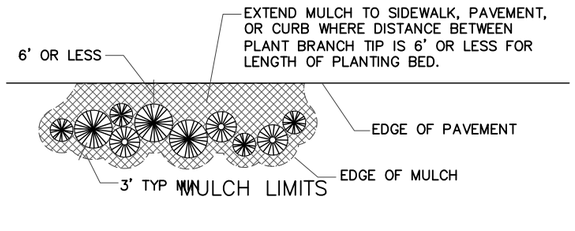
1 ROADSIDE APRON AT SEPARATED PATHWAY



2 MEDIAN TREATMENT – NARROW



3 ROADSIDE APRON W/ PLANTINGS AT SEPARATED PATHWAY



4 PLANTING BED

1. PREPARE PLANTING BED AS SHOWN ON PLANS:
   A. EXCAVATE AND REMOVE SOIL
   B. TILL SUBGRADE
   C. BACKFILL WITH APPROVED TOPSOIL
   D. PLANTONLY AFTER ENGINEER HAS APPROVED STAKED LOCATIONS
2. CONTRACTOR TO VERIFY LOCATION OF UTILITIES PRIOR TO EXCAVATION
3. SEVERAL AREAS ON THE PLANS REQUIRE LARGE AREAS OF MULCH. CONTRACTOR TO PROVIDE MULCH BETWEEN ADJACENT PLANTINGS UP TO PATHS OR CURBS AND UP TO EXISTING VEGETATION NO LESS THAN 3' FROM TIPS OF PLANTS UNLESS OTHERWISE SHOWN.

LANDSCAPING DETAILS

PLANS DEVELOPED BY: EARTHSCAPE, LLC. CERT AUTHORIZATION NO. AECL1007, 329 F ST SUITE 222, ANCHORAGE AK 99501 (907)279-2688
\\theia\folder Redirection\Elise\Desktop\DECEMBER 2-19-files\University\details- univ-Layout1 Wed, Dec/04/19 04:44pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	Q1	Q2

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)	21.9 AC
DISTURBED AREA (ACRE)	12.5 AC
PRE–CONSTRUCTION IMPERVIOUS AREA (%)	39%
POST–CONSTRUCTION IMPERVIOUS AREA (%)	44%
PRE–CONSTRUCTION RUNOFF COEFFICIENT	0.50
POST–CONSTRUCTION RUNOFF COEFFICIENT	0.54

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 NOYES SLOUGH AND CHENA RIVER.
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.

ENVIRONMENTAL INFORMATION

1. RECEIVING WATERS: CHENA RIVER AND ADJACENT WETLANDS
2. IMPAIRED WATER BODIES: CHENA RIVER
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.
5. THREATENED AND ENDANGERED SPECIES: NONE
6. HISTORICAL & CULTURAL RESOURCE PRESENCE: NONE AFFECTED
7. FISH & WILDLIFE HABITAT PRESENCE: CHENA RIVER
8. WETLANDS: ADJACENT TO CHENA RIVER. SEE Q2 FOR WETLAND BOUNDARIES.
9. NO EXISTING PUBLIC WATER SYSTEM (PWS) DRINKING WATER PROTECTION AREAS (DWPA) INTERSECT THE BOUNDARY OF THE PROPOSED PROJECT. (SOURCE:ADEC DRINKING WATER PROTECTION MAP)
10. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE MIGRATORY BIRD TREATY ACT TO PREVENT THE KILLING OR TAKING OF MIGRATORY BIRDS OR ANY PART, NEST OR EGGS. THE NESTING SEASON FOR THE INTERIOR IS MAY 1ST THROUGH JULY 15TH. SEE THE US FISH AND WILDLIFE SERVICES "LAND CLEARING TIMING GUIDANCE FOR ALASKA" FOR MORE 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).
11. AVOID UNNECESSARY GROUND DISTURBANCE AND MAINTAIN NATIVE VEGETATION WHERE PRACTICABLE THROUGH THE USE OF BMPs AND DOT&PF REVIEW OF PROPOSED SWPPP.
12. FOLLOW BMPs, SOPs, AND THE SWPPP TO AVOID IMPACTS TO A CONTAMINATED SITE IF THE AREA MUST BE USED FOR CONSTRUCTION STAGING. DEVELOP A CONTINGENCY PLAN IN THE EVENT THAT CONTAMINATION IS UNEXPECTEDLY ENCOUNTERED, AND PHASE UNDERGROUND CONSTRUCTION WORK IN KNOWN GROUNDWATER–CONTAMINATED AREAS DURING PERIODS OF LOW GROUNDWATER.
13. VEGETATIVE BUFFERS IS THE PREFERRED METHOD OF PERIMETER CONTROL FOR THIS PROJECT. WHERE VEGETATION IS NOT 25 FEET WIDE, THEN A BMP MUST BE INSTALLED FOR PERIMETER CONTROL.
14. SWEEP CLEAN STABILIZED CONSTRUCTION EXITS EACH SHIFT OR AS DIRECTED BY ENGINEER.

ESCP LEGEND:

- PARCEL BOUNDARY
- SURFACE WATER FLOW DIRECTION
- CULVERT INLET PROTECTION (SEE BMP 08.00 DOT&PF SWPPP GUIDE)
- VELOCITY DISSIPATOR (RIPRAP CLASS II OR FUNCTIONAL EQUIVALENT)
- WETLANDS
- UPLANDS
- DITCH LINE
- EXISTING EMBANKMENT CATCHLINE (CUT OR FILL)
- EXISTING STORM DRAIN (FLOW DIRECTION →)
- MH — STORM DRAIN MANHOLE
- FI — STORM DRAIN FIELD INLET
- STORM DRAIN CATCH BASIN
- CATCH BASIN PROTECTION AREA
- EXISTING CULVERT PIPE
- APPROXIMATE LIMITS OF EARTH DISTURBANCE

EROSION CONTROL NOTES & DETAILS (1 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\11147.04FB–UNIV_AVE–SEGMENT_2A\C\C5001cnst11147.04FB–P1 Thu, Dec/05/19 10:01am

NO.	DATE	REVISION

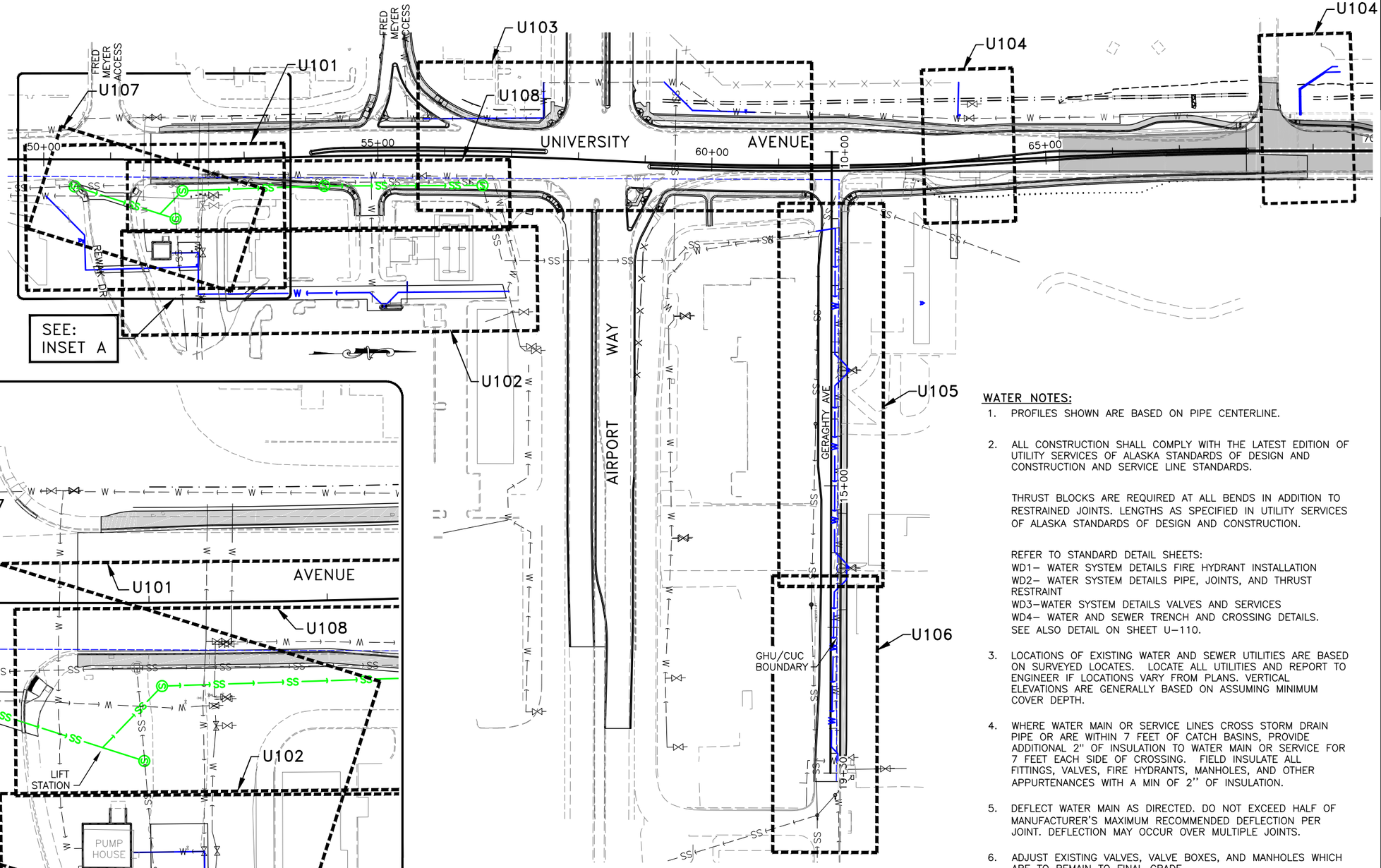
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	Q2	Q2

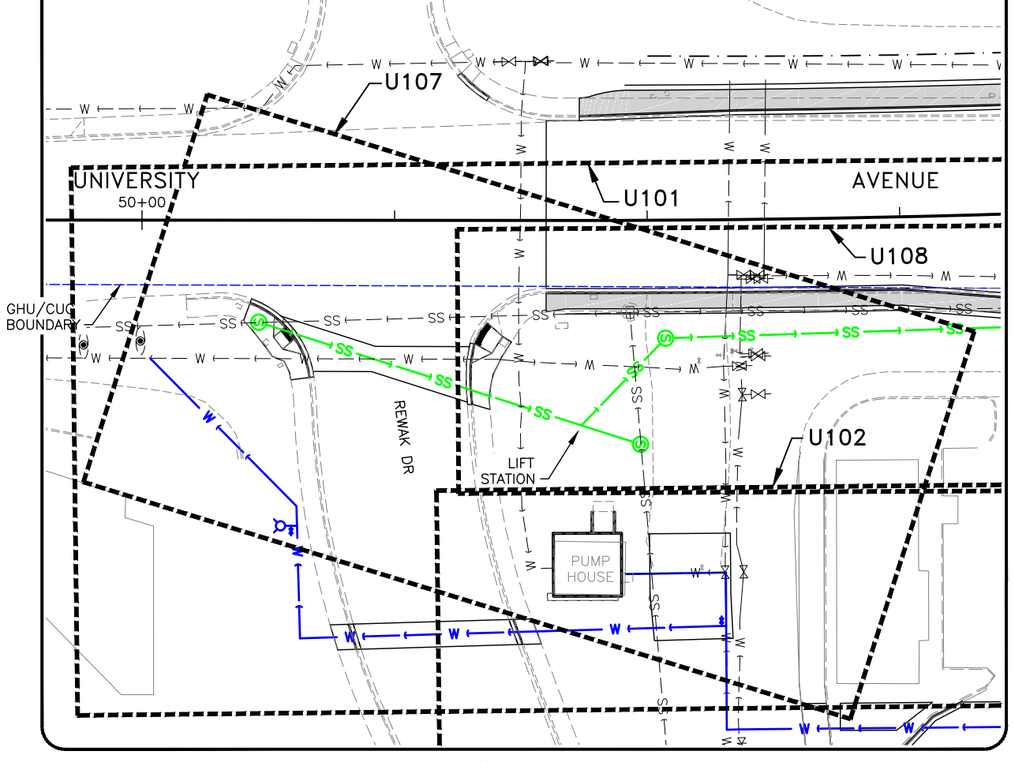
FEET
100 0 50 100 200

EROSION AND SEDIMENT CONTROL PLAN (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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C6001cnst11147.04FB-02 Thu, Dec/05/19 10:01am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U100	U109





INSET A

WATER NOTES:

1. PROFILES SHOWN ARE BASED ON PIPE CENTERLINE.
2. ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF UTILITY SERVICES OF ALASKA STANDARDS OF DESIGN AND CONSTRUCTION AND SERVICE LINE STANDARDS.

   THRUST BLOCKS ARE REQUIRED AT ALL BENDS IN ADDITION TO RESTRAINED JOINTS. LENGTHS AS SPECIFIED IN UTILITY SERVICES OF ALASKA STANDARDS OF DESIGN AND CONSTRUCTION.

   REFER TO STANDARD DETAIL SHEETS:
   WD1– WATER SYSTEM DETAILS FIRE HYDRANT 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.
   SEE ALSO DETAIL ON SHEET U–110.
3. LOCATIONS OF EXISTING WATER AND SEWER UTILITIES ARE BASED ON SURVEYED LOCATES. LOCATE ALL UTILITIES AND REPORT TO ENGINEER IF LOCATIONS VARY FROM PLANS. VERTICAL ELEVATIONS ARE GENERALLY BASED ON ASSUMING MINIMUM COVER DEPTH.
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 INSULATION.
5. DEFLECT WATER MAIN AS DIRECTED. DO NOT EXCEED HALF OF MANUFACTURER'S MAXIMUM RECOMMENDED DEFLECTION PER JOINT. DEFLECTION MAY OCCUR OVER MULTIPLE JOINTS.
6. ADJUST EXISTING VALVES, VALVE BOXES, AND MANHOLES WHICH ARE TO REMAIN TO FINAL GRADE.

LEGEND

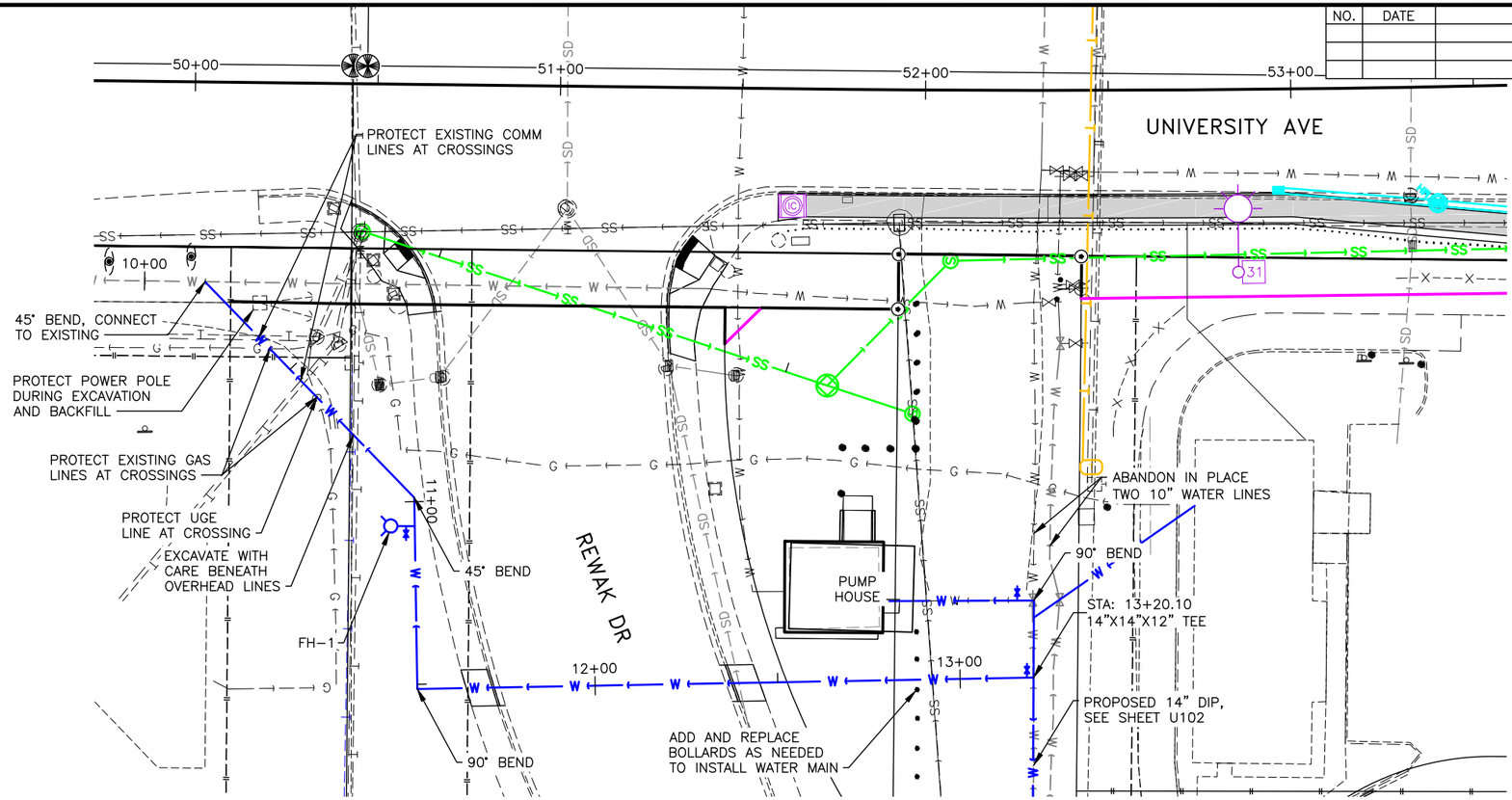
WATER AND SEWER #
SHEET #

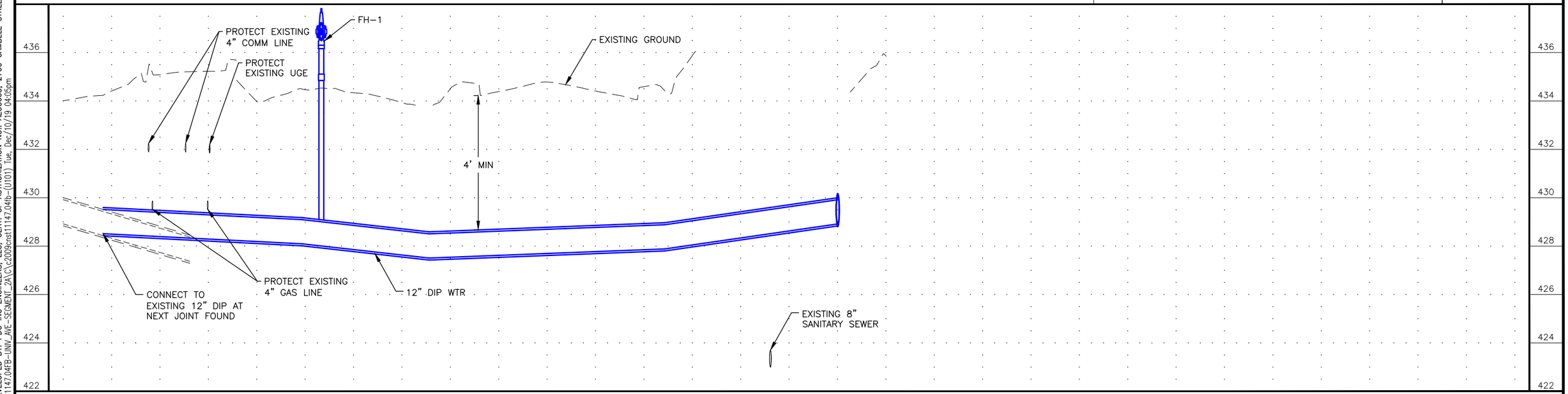
WATER AND SEWER SHEET LAYOUT INDEX

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

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U101	U109



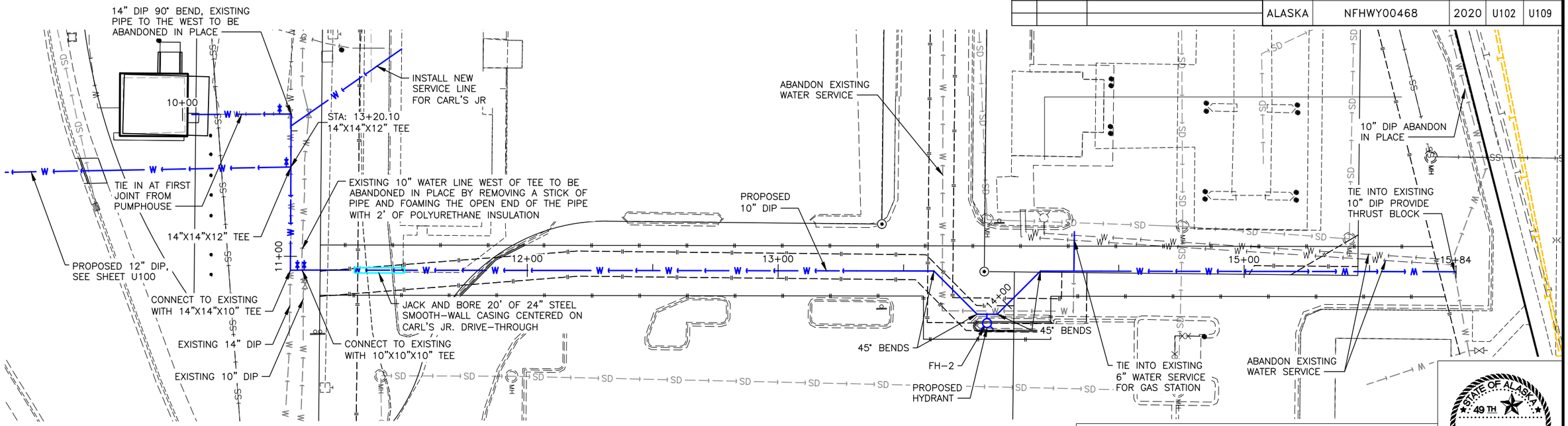


WATER AND SEWER PLAN AND PROFILE (1 OF 8)

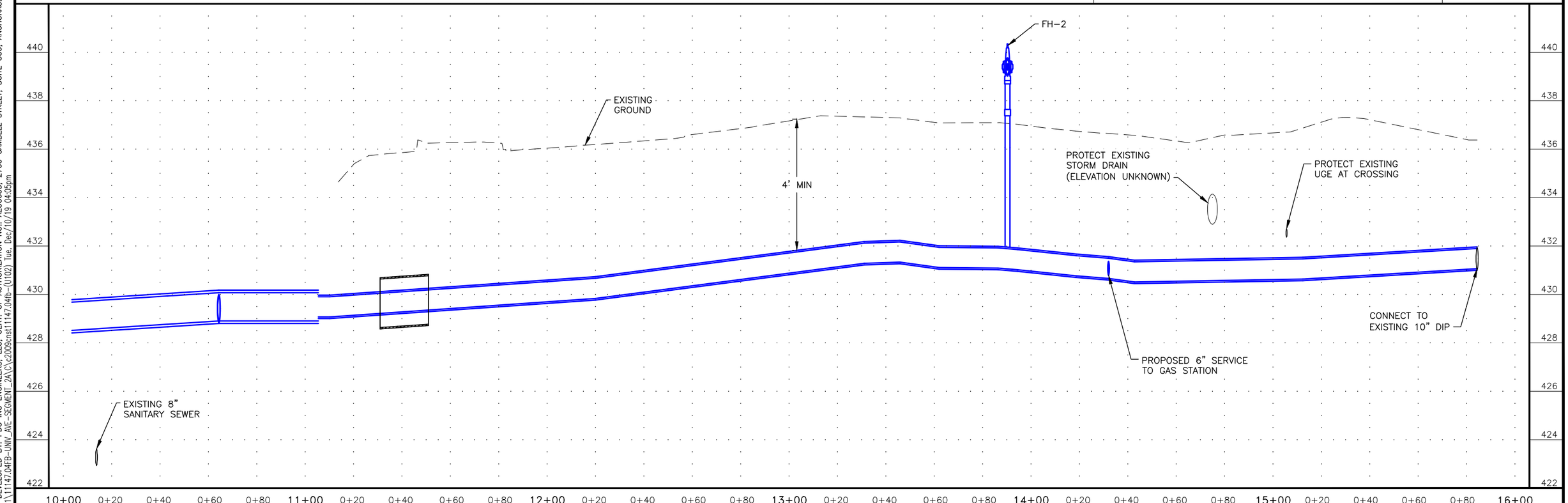
STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c2009cnst11147.04fb-(U101) Tue, Dec/10/19 04:05pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U102	U109



WATER AND SEWER PLAN AND PROFILE (2 OF 8)



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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c2009cnst11147.04fb-(U102) Tue, Dec/10/19 04:05pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U103	U109

CONNECT TO EXISTING 10+00

R/W

90° BEND

CONNECT TO EXISTING 14" DIP

THRUST BLOCK

13+00

CONNECT TO EXISTING 14" DIP

45° BEND

THRUST BLOCK

CONNECT TO EXISTING 15+66

R/W

FH #3

15+00

16+00

45° BEND

10+00

11+00

12+00

90° BEND

UNIVERSITY AVENUE

56+00

57+00

58+00

59+00

60+00

61+00

AIRPORT WAY

R/W

WATER AND SEWER PLAN AND PROFILE (3 OF 8)

STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

438
436
434
432
430
428
426
424
422

FINISH GRADE

EXISTING GROUND

EX ACS DUCT BANK

EX STORM DRAIN

NEW 24" CSP SD

EX ACS

EX STORM DRAIN

NEW 24" CSP SD

EX 24" CASING

14" DIP WATER

CONNECT TO EXISTING

CONNECT TO 14" DIP EXISTING

EXISTING ACS DUCT BANK

4' MIN

1.5' MIN

12" MIN

1.5' MIN

14" DIP WATER

STA:12+26.72

ROTATE 90° BEND TO MAKE TRANSITION

APPROX WATER TABLE

STA:13+77.43

ADD SERVICE TAP IN TOP OF PIPE TO BLEED AIR DURING CONSTRUCTION/TESTING

FH #3

ACS DUCT BANK

CONNECT TO 14" DIP EXISTING

NEW 24" CSP SD

2' MIN

1.5' MIN

14" DIP WATER

PROTECT EXISTING DUCT BANK PARALLEL TO WATER MAIN

14" 22.5° BEND

ABANDONED 10" WOODSTAVE SEWER

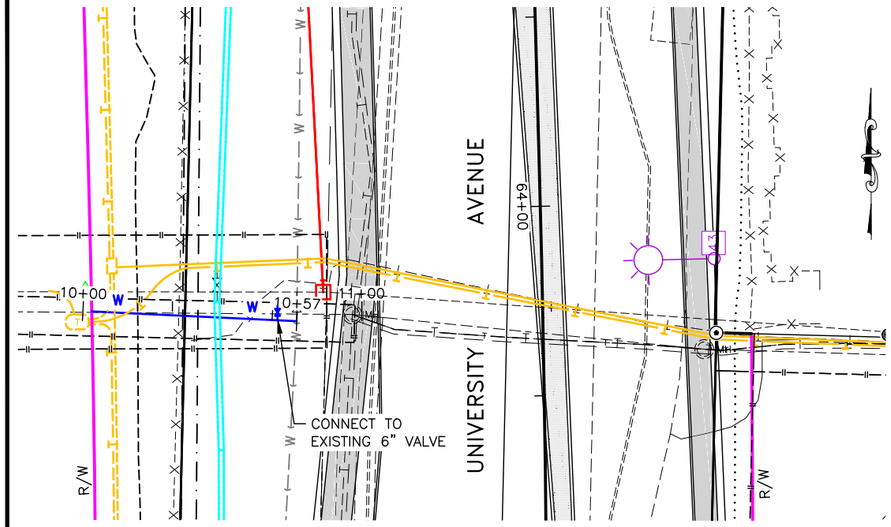
BENDS BY DEFLECTION LIMITATIONS IN SPECIFICATIONS

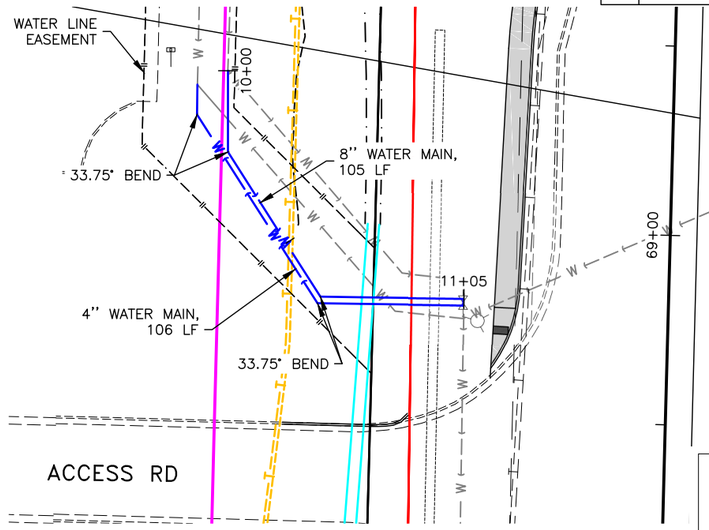
10+00 0+20 0+40 0+60 0+80 11+00 0+20 0+40 0+60 0+80 12+00 0+20 0+40 0+60 0+80 13+00 0+20 0+40 0+60 0+80 14+00 0+20 0+40 0+60 0+80 15+00 0+20 0+40 0+60 0+80 16+00

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c2009crest11147.04fb-(U103) Tue, Dec/10/19 04:05pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U104	U109



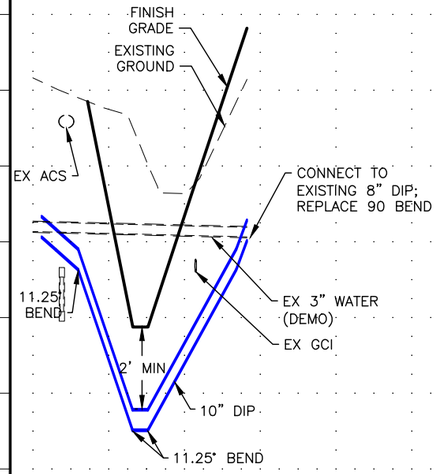


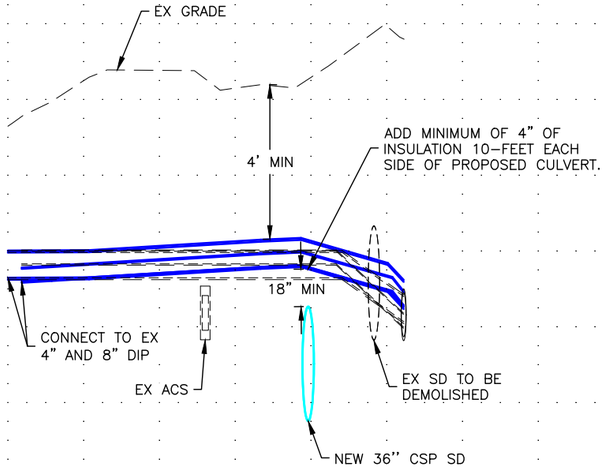
NOTES:

1. NOTE TO CONTRACTOR – VERIFY ELEVATION OF EXISTING WATER LINES AND PROVIDE TO ENGINEER. IF ELEVATION OF EXISTING WATER LINES ARE NOT IN CONFLICT WITH PROPOSED 36" CSP CULVERT, NEW MAINS WILL NOT BE INSTALLED. PROVIDE MIN 6" OF INSULATION BETWEEN CULVERT AND EXISTING WATER LINES FOR 10–FEET EITHER SIDE OF CROSSING.

WATER AND SEWER PLAN AND PROFILE (4 OF 8)

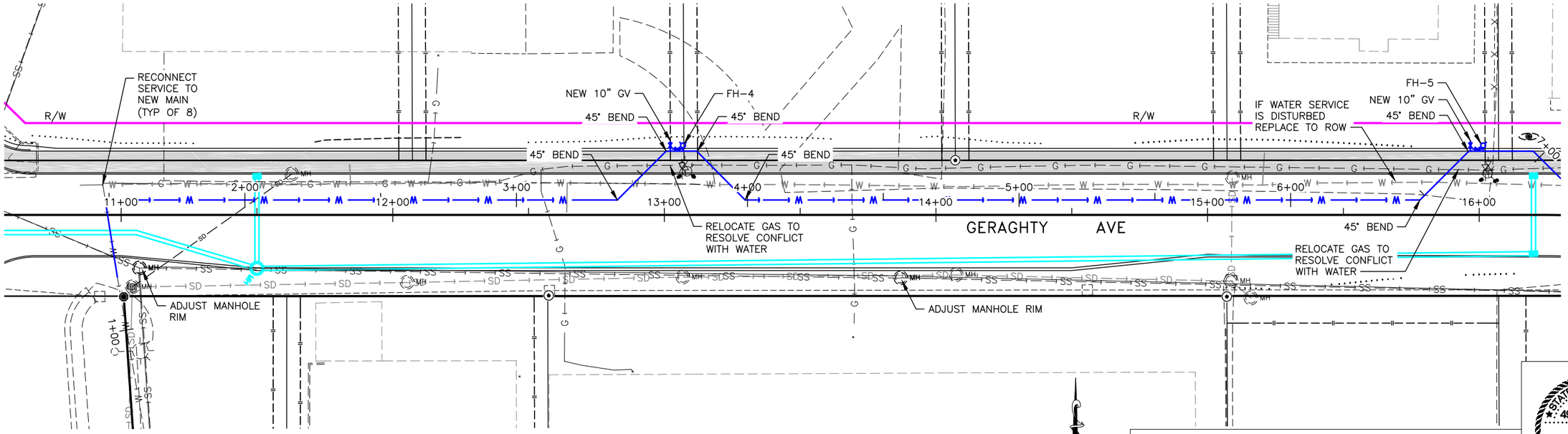
STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER



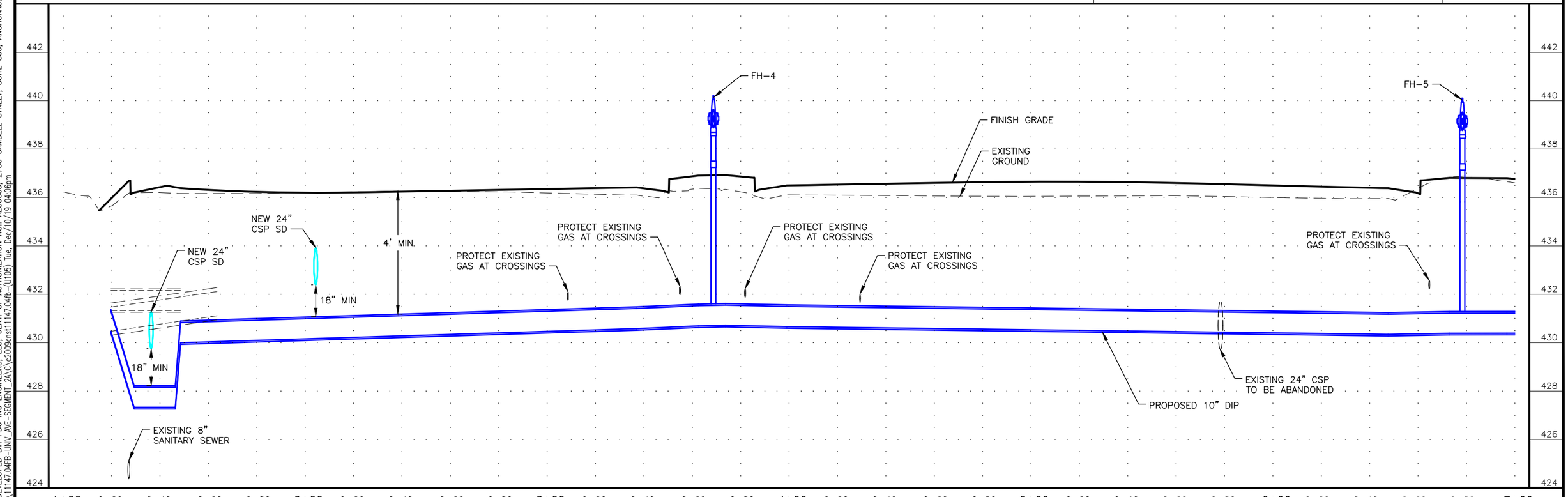


PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c2009cnst11147.04fb-(U104) Tue, Dec/10/19 04:06pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U105	U109

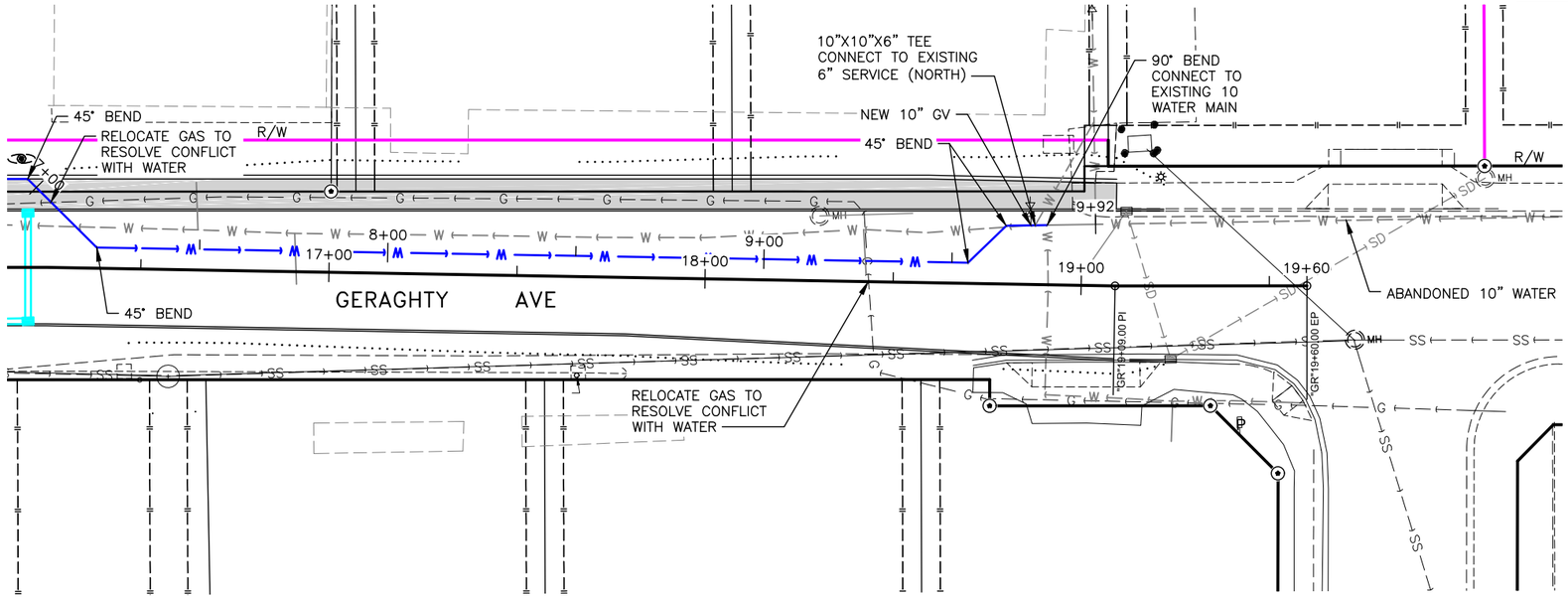


WATER AND SEWER PLAN AND PROFILE (5 OF 8)

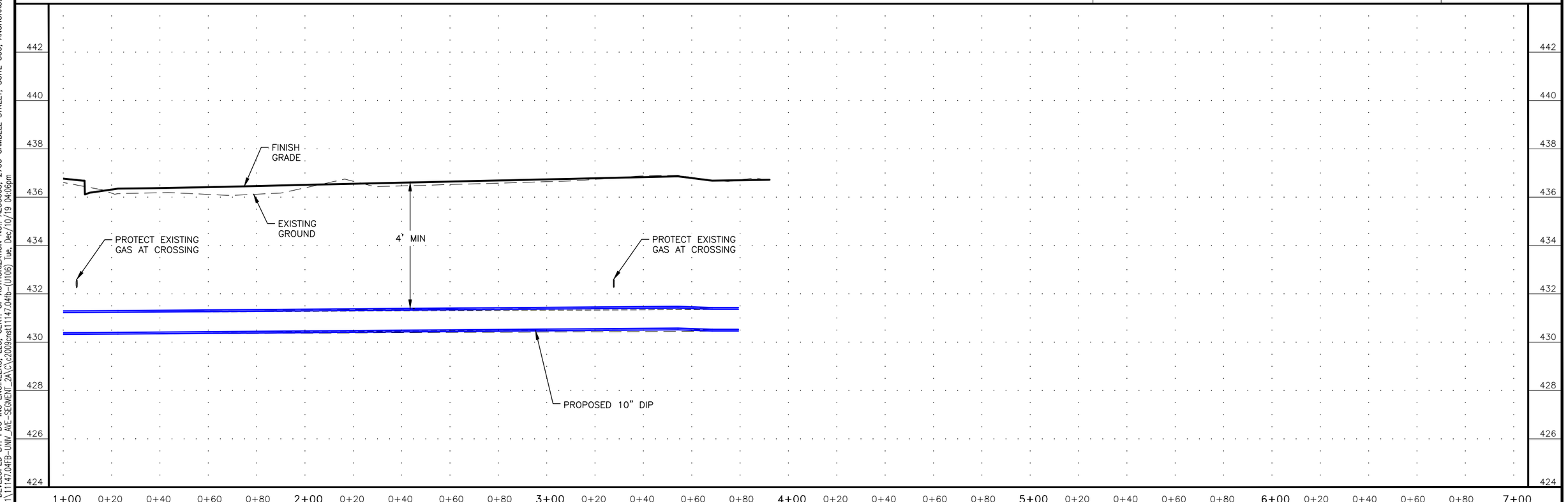


STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U106	U109



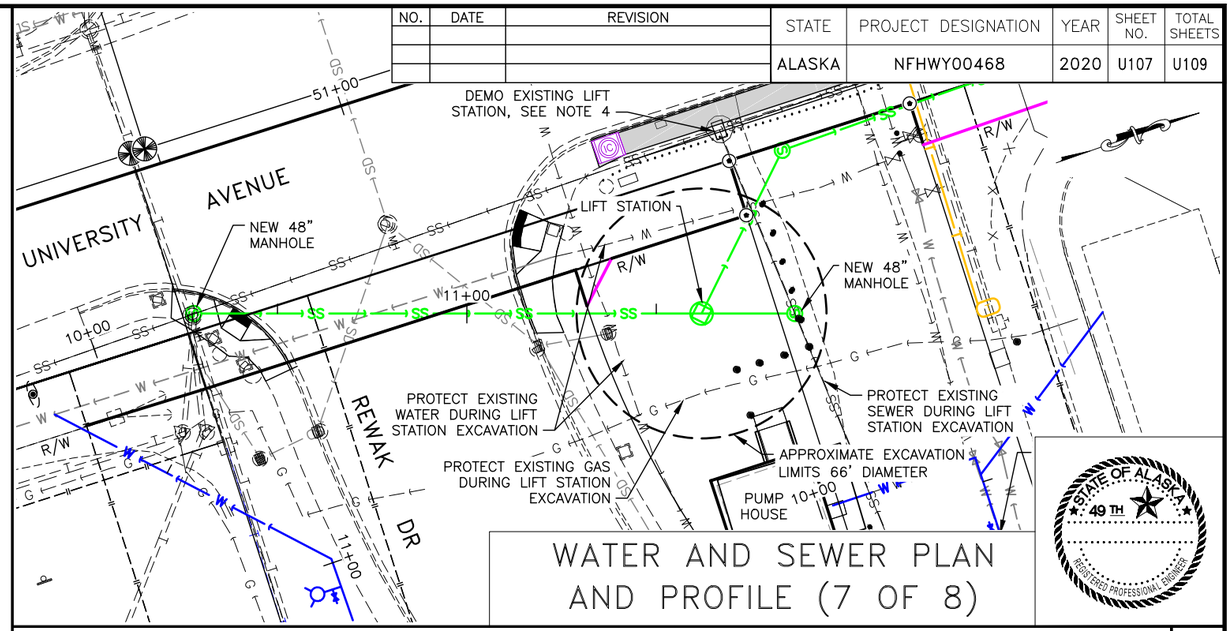
WATER AND SEWER PLAN AND PROFILE (6 OF 8)



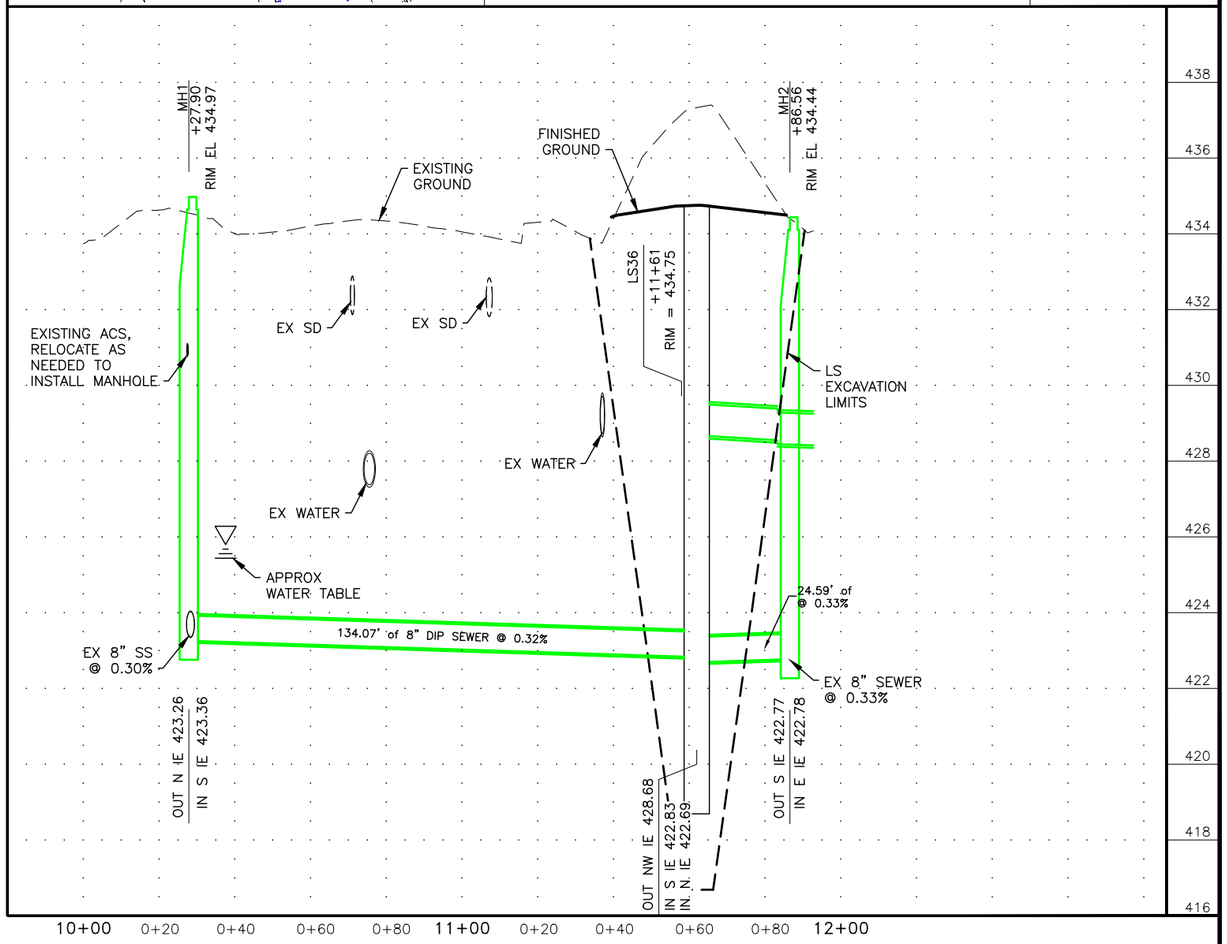
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c2009cnst11147.04fb-(U106) Tue, Dec/10/19 04:06pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U107	U109



WATER AND SEWER PLAN AND PROFILE (7 OF 8)



LIFT STATION NOTES

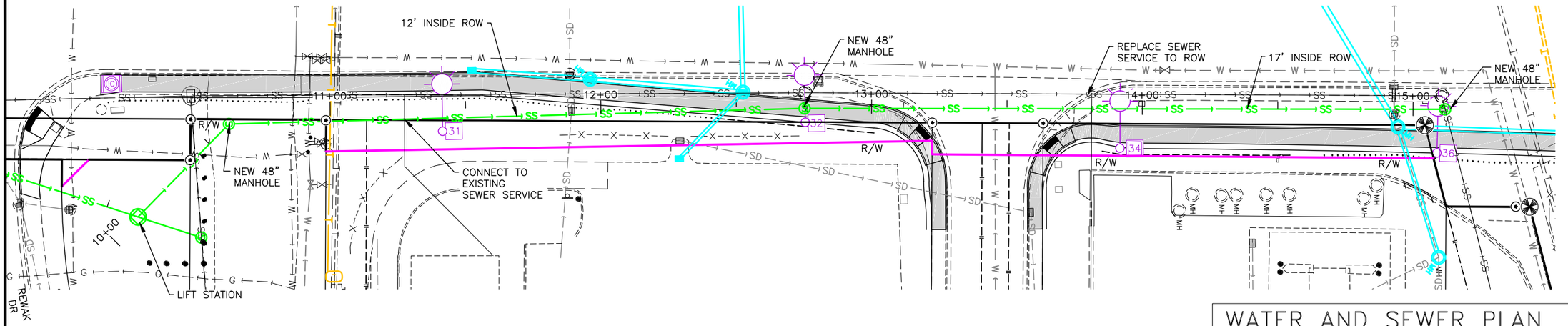
1. REFER TO GOLDEN HEART UTILITIES/COLLEGE UTILITIES CORP. STANDARD DETAIL "LS1" FOR LIFT STATION DETAIL.
2. ALL PUMPING, CONTROLS, INTERIOR PIPING, AND ELECTRICAL EQUIPMENT WILL BE PROVIDED "BY OTHERS". SEE SPECIFICATIONS SECTION 626 SANITARY SEWER SYSTEM.
3. HATCH AND LID ARE INCLUDED IN LIFT STATION CONSTRUCTION.
4. DEMOLITION OF EXISTING LIFT STATION SHALL INCLUDE:

   4.1. DEMO OF ALL INTERIOR PIPING, EQUIPMENT, ELECTRICAL, AND VENTS
   4.2. DRILL HOLES IN BASE OF EXISTING LIFT STATION
   4.3. FILL PIPES IN/OUT OF LIFT STATION WITH GROUT FOR AT LEAST THE FIRST 2 FEET.
   4.4. DEMO TOP 4 FEET OF LIFT STATION STRUCTURE.
   4.5. FILL REMAINDER OF STRUCTURE WITH COMPACTED GRAVEL.
   4.6. REMOVE AND DISPOSE OF DEMOLISHED ITEMS IN ACCORDANCE WITH SECTION 202 REMOVAL OF STRUCTURES AND OBSTURCTIONS.

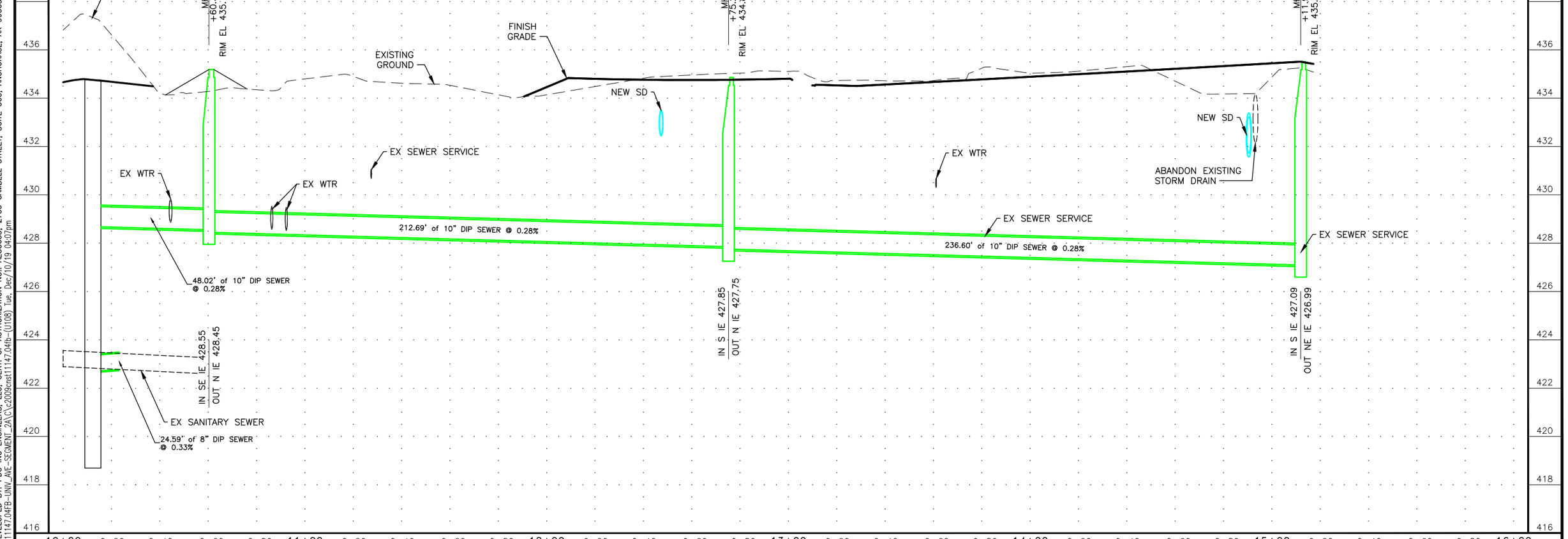
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c2009cnst11147.04fb-(U107) Tue, Dec/10/19 04:06pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U108	U109

UNIVERSITY AVENUE



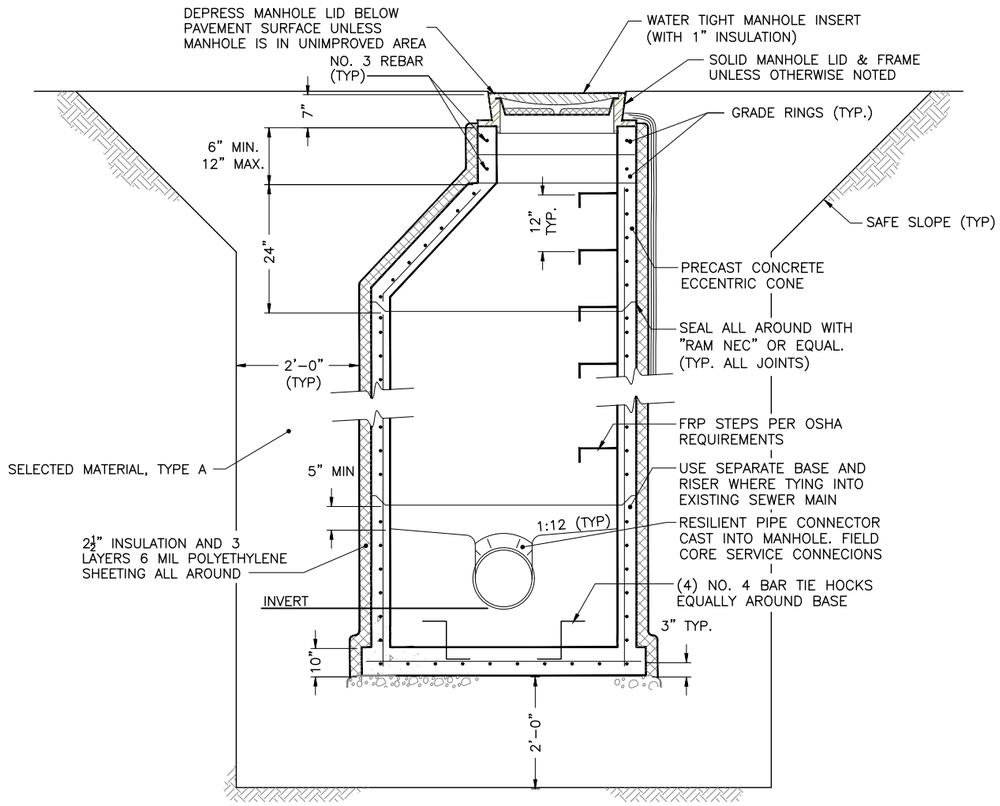
WATER AND SEWER PLAN AND PROFILE (8 OF 8)



STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

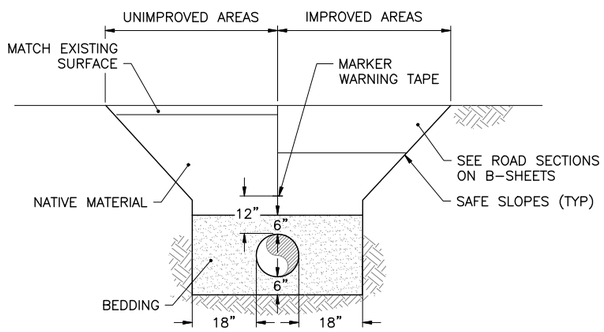
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\c2009cnst11147.04fb-(U108) Tue, Dec/10/19 04:07pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U109	U109



MANHOLE DETAIL

NTS

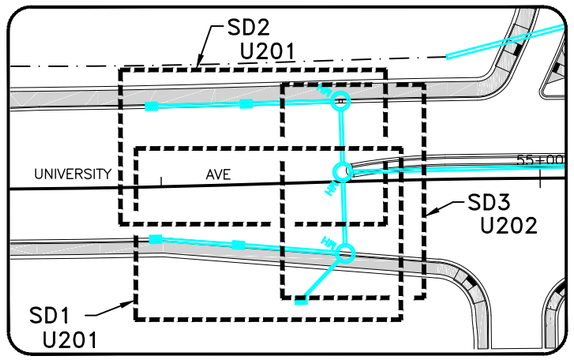


TYPICAL TRENCH SECTION

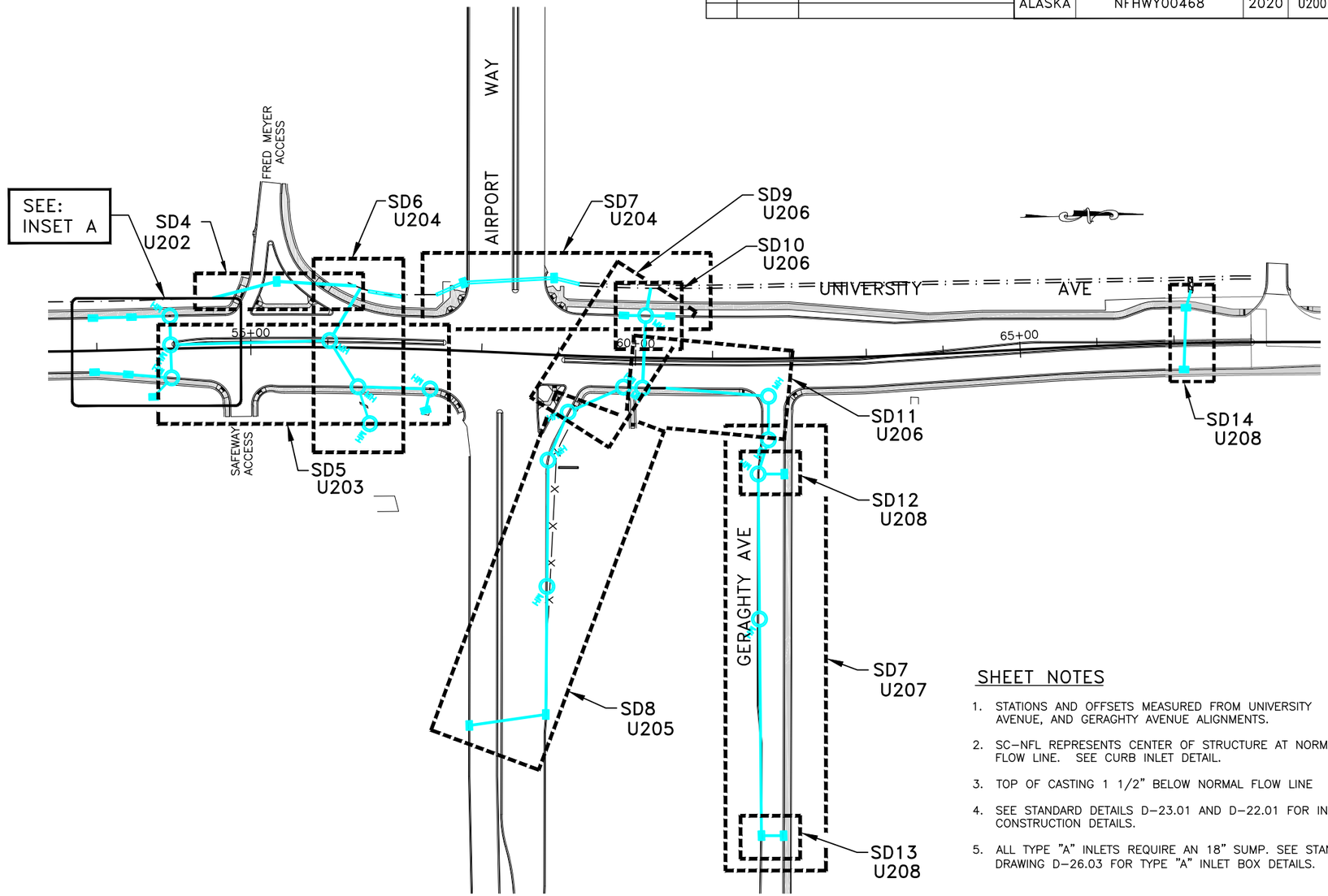
WATER AND SEWER DETAILS

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C0007cnst111147.04FB-U109 Tue, Dec/10/19 04:07pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U200	U210



INSET A



SHEET NOTES

1. STATIONS AND OFFSETS MEASURED FROM UNIVERSITY AVENUE, AND GERAGHTY AVENUE ALIGNMENTS.
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 DETAILS 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.

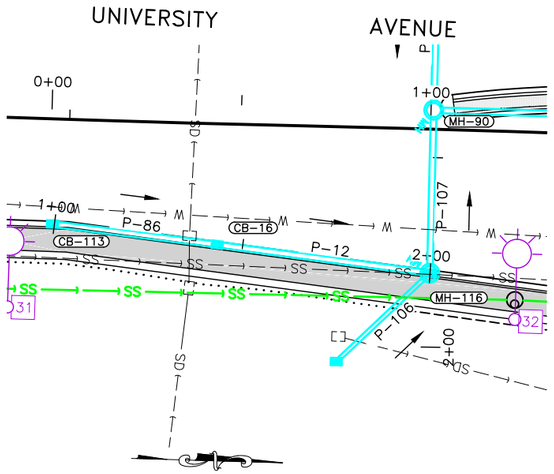
LEGEND

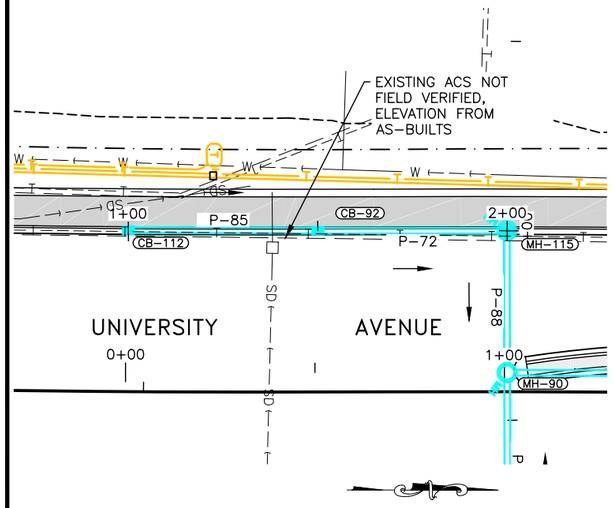
STORM DRAIN #
SHEET #

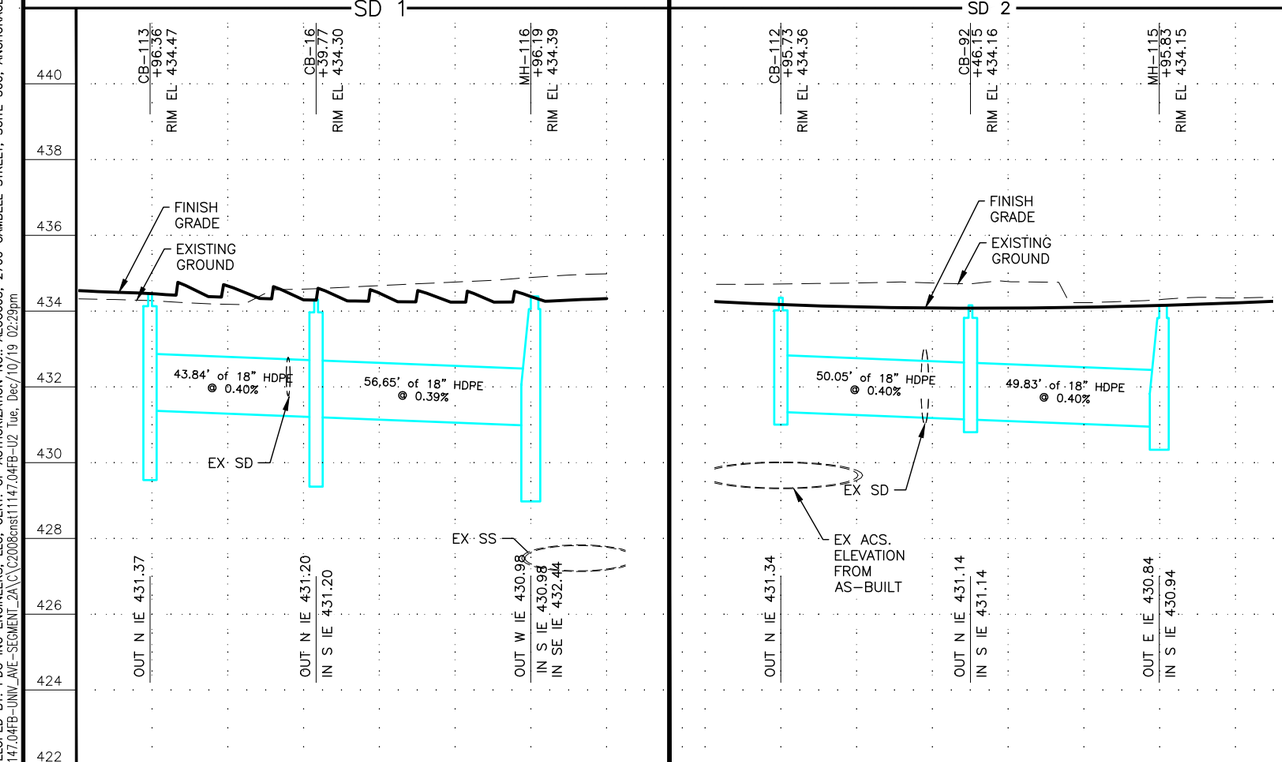
STORM DRAIN SHEET LAYOUT INDEX

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C0007crst11147.04FB-U2 Tue, Dec/10/19 02:28pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U201	U210



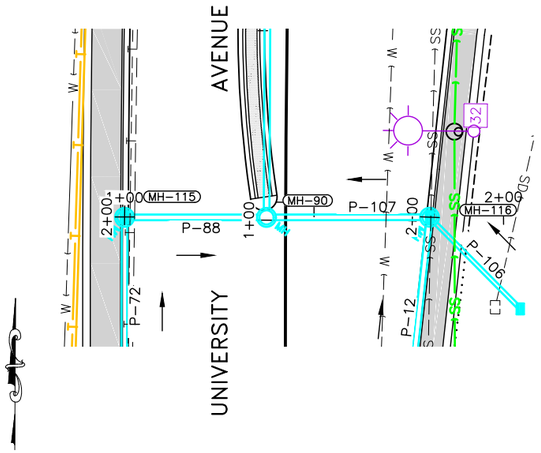


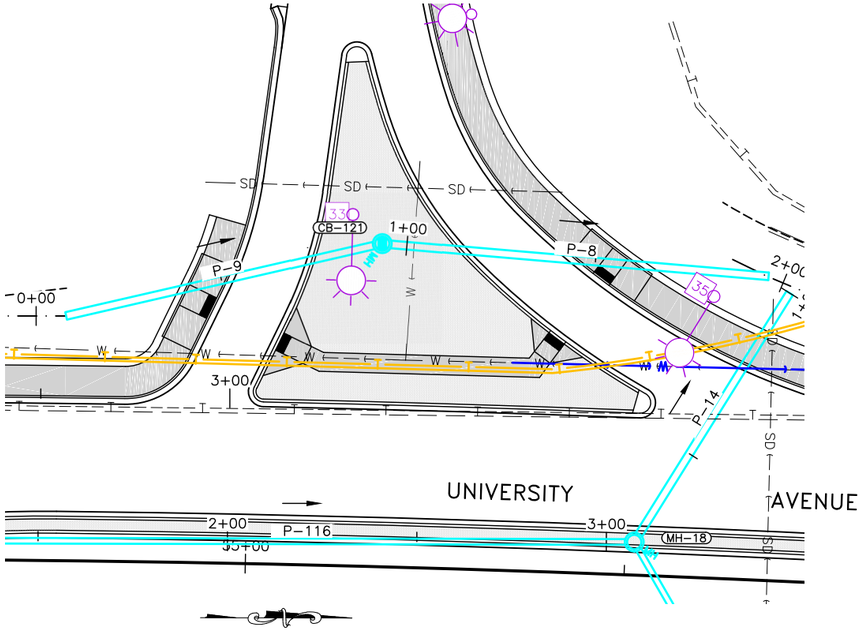


STORM DRAIN PLAN AND PROFILE (1 OF 8)

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2008cnst11147.04FB-U2 Tue, Dec/10/19 02:29pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U202	U210

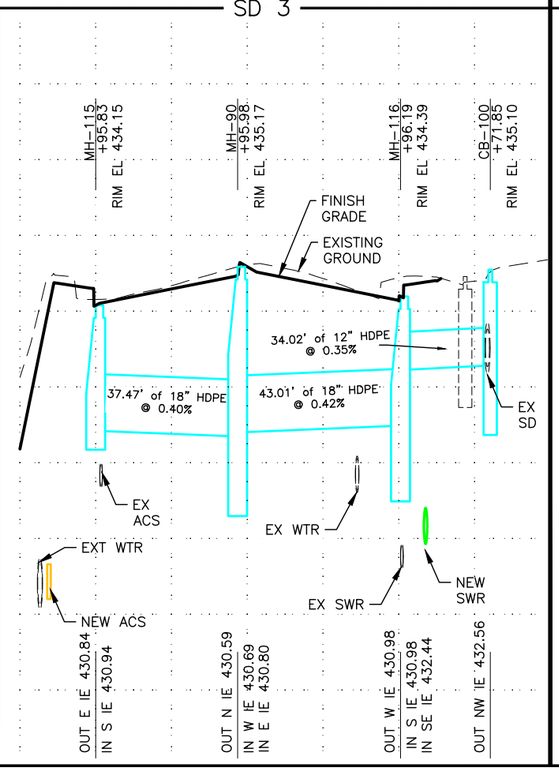




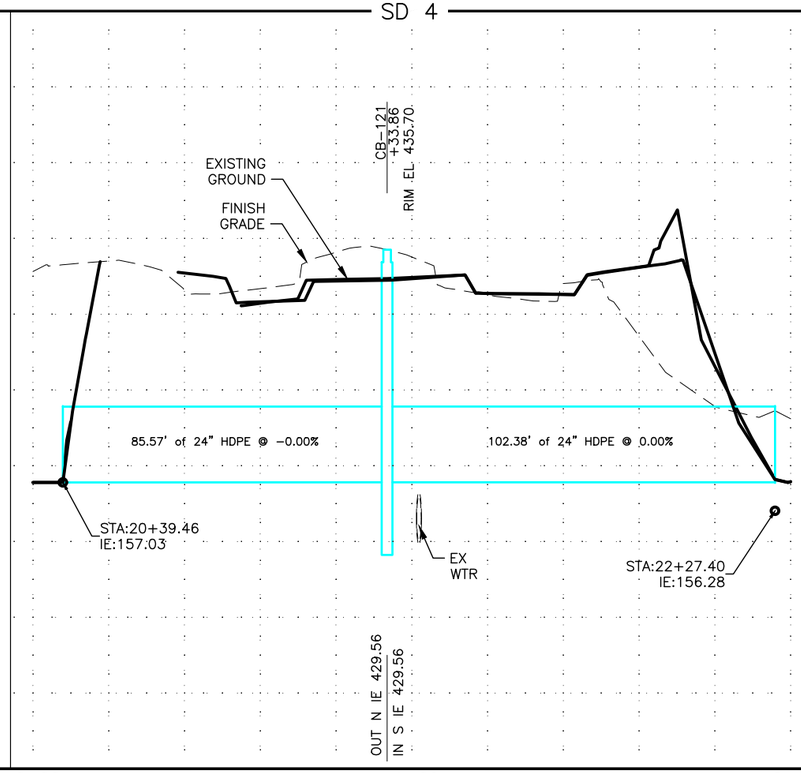
STORM DRAIN PLAN AND PROFILE (2 OF 8)

STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

SD 3



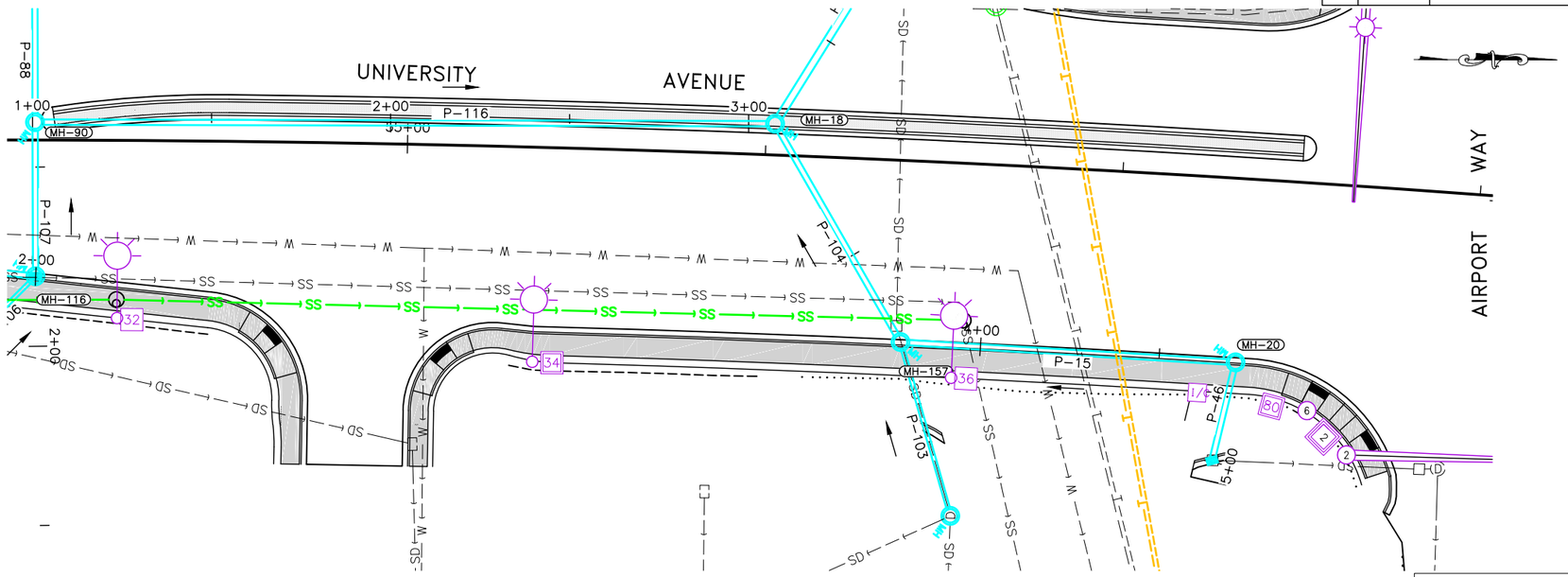
SD 4



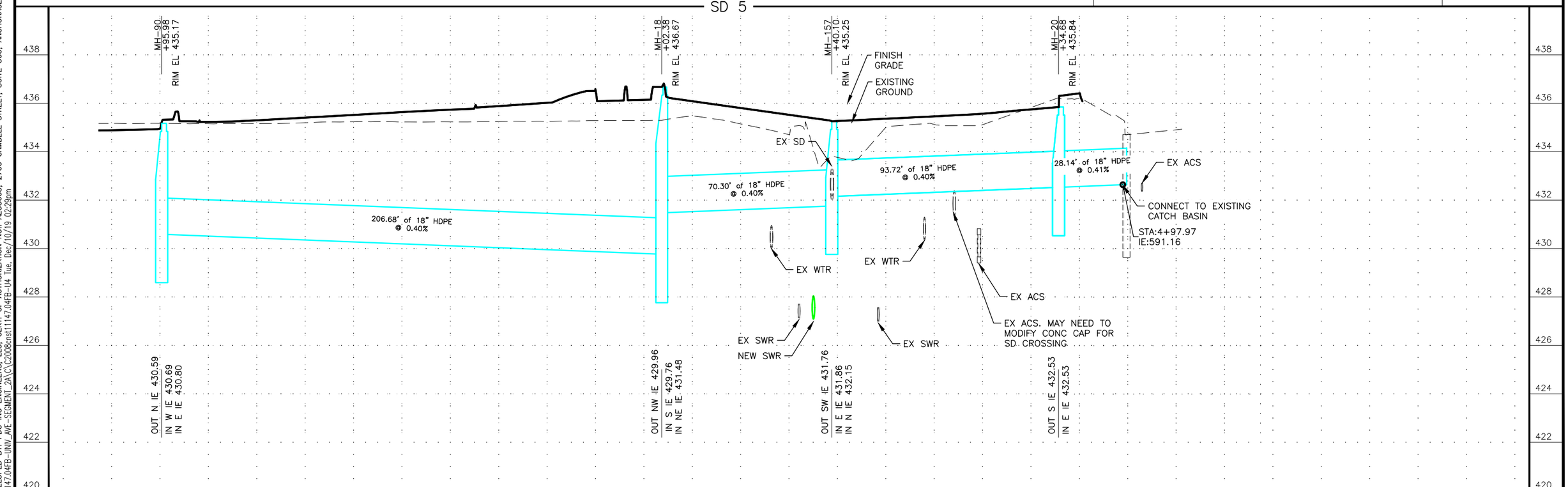
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2008crst11147.04FB-U3 Tue, Dec/10/19 02:29pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U203	U210

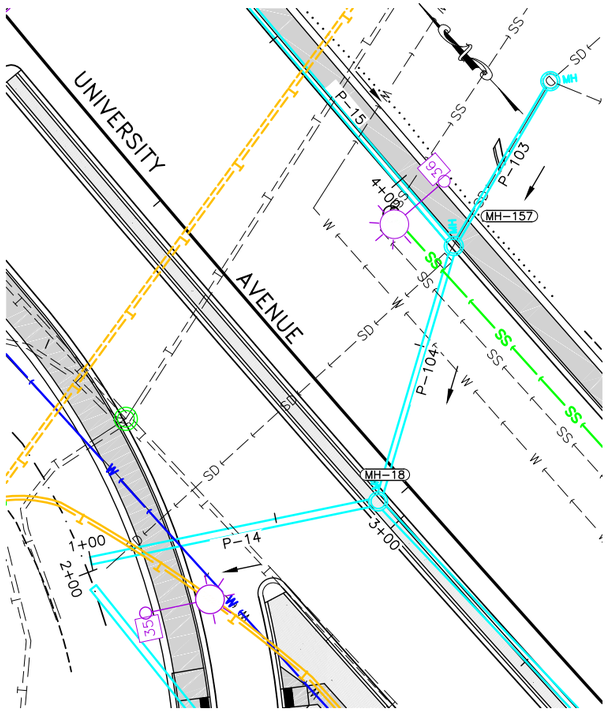


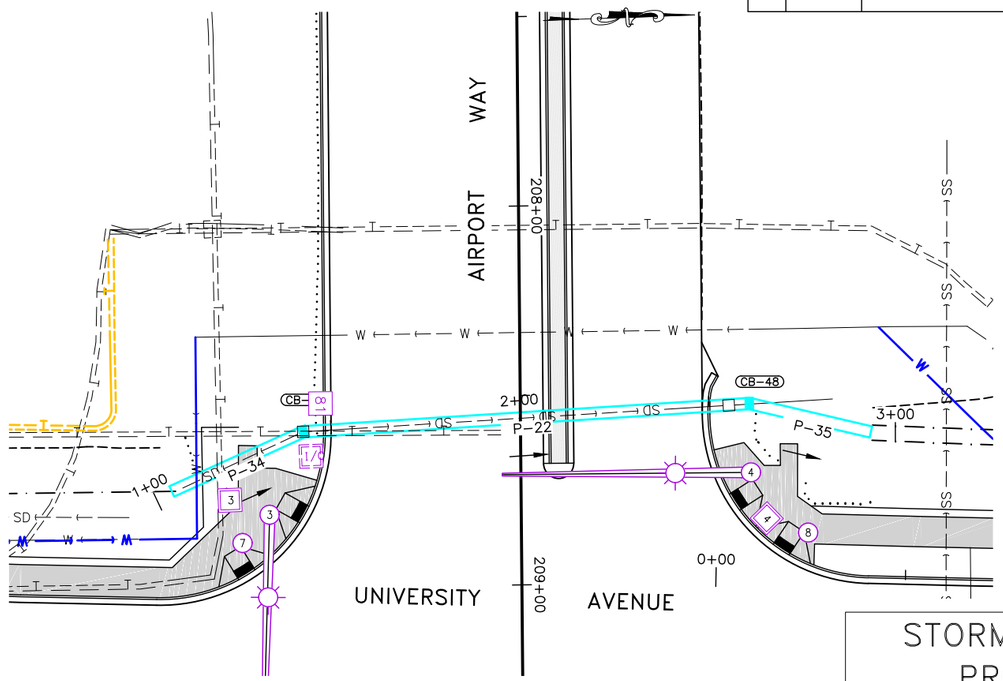
STORM DRAIN PLAN AND PROFILE (3 OF 8)



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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2008cnst11147.04FB-U4 Tue, Dec/10/19 02:29pm

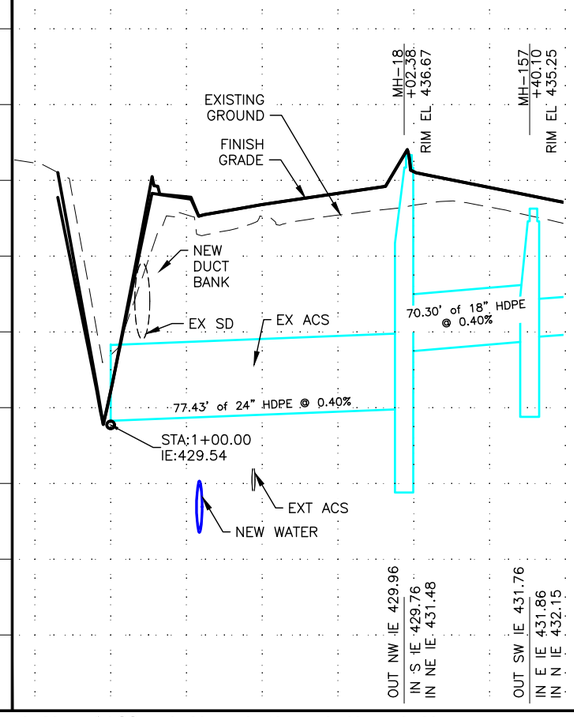
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U204	U210



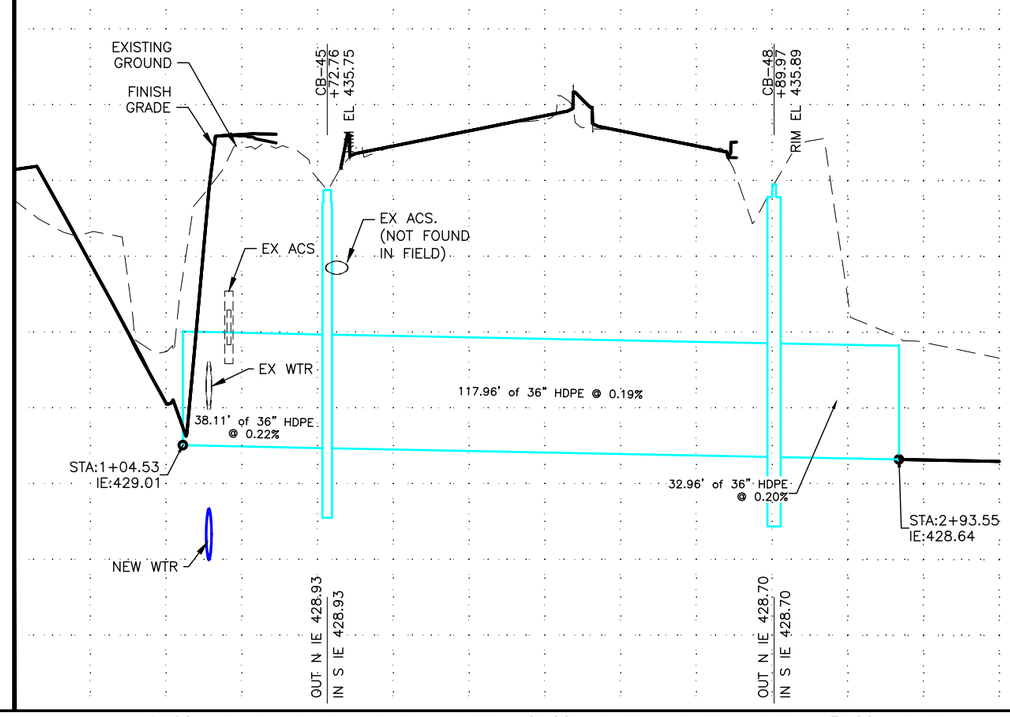


STORM DRAIN PLAN AND PROFILE (4 OF 8)

SD 6



SD 7



PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC6605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2008cnst11147.04FB-U5 Tue, Dec/10/19 02:29pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U205	U210

AIRPORT WAY

CB-24 0+00

CB-25 1+00

MH-30 2+00

MH-26 4+00

MH-91 5+00

P-20 P-111 P-21

ABANDONED 10" WOODSTAVE SEWER

MATCHLINE SHEET U206

STORM DRAIN PLAN AND PROFILE (5 OF 8)

SD 8

CB-24 +34.43 RIM EL 435.95
OUT N IE 432.14

CB-25 +20.00 RIM EL 436.10
OUT W IE 431.69
IN S IE 431.69

100.51' of 18" HDPE @ 0.44%

MH-30 +53.64 RIM EL 436.38
OUT W IE 430.95
IN E IE 430.95

166.36' of 18" HDPE @ 0.45%

MH-26 +89.43 RIM EL 436.90
OUT NW IE 430.21
IN E IE 430.21

164.22' of 18" HDPE @ 0.45%

FINISH GRADE
EXISTING GROUND

MH-91 +27.11 RIM EL 436.42
OUT NW IE 429.90
IN SE IE 429.90

67.55' of 18" HDPE @ 0.46%

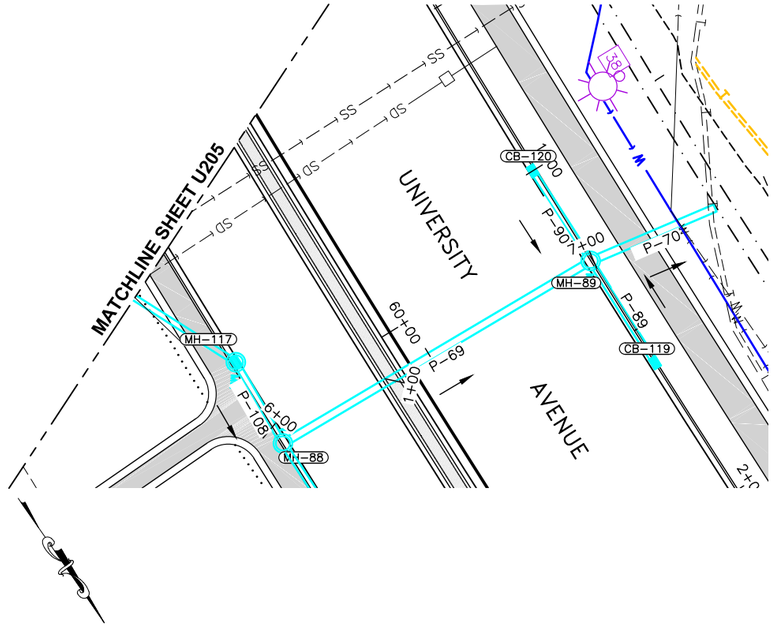
MATCHLINE SHEET U206

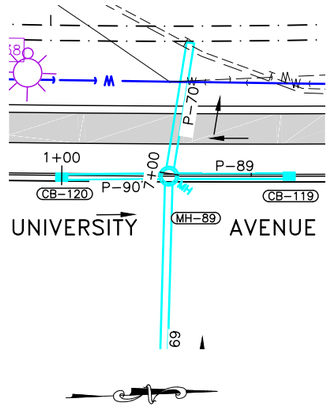
440 438 436 434 432 430 428 426 424 422

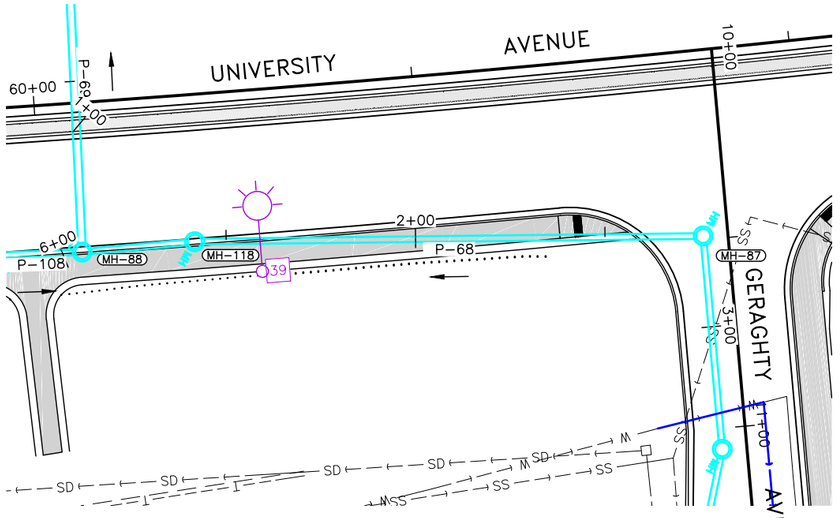
0+00 0+20 0+40 0+60 0+80 1+00 0+20 0+40 0+60 0+80 2+00 0+20 0+40 0+60 0+80 3+00 0+20 0+40 0+60 0+80 4+00 0+20 0+40 0+60 0+80 5+00 0+20 0+40 0+60 0+80 6+00

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2008cnst11147.04FB-U6 Tue, Dec/10/19 02:29pm

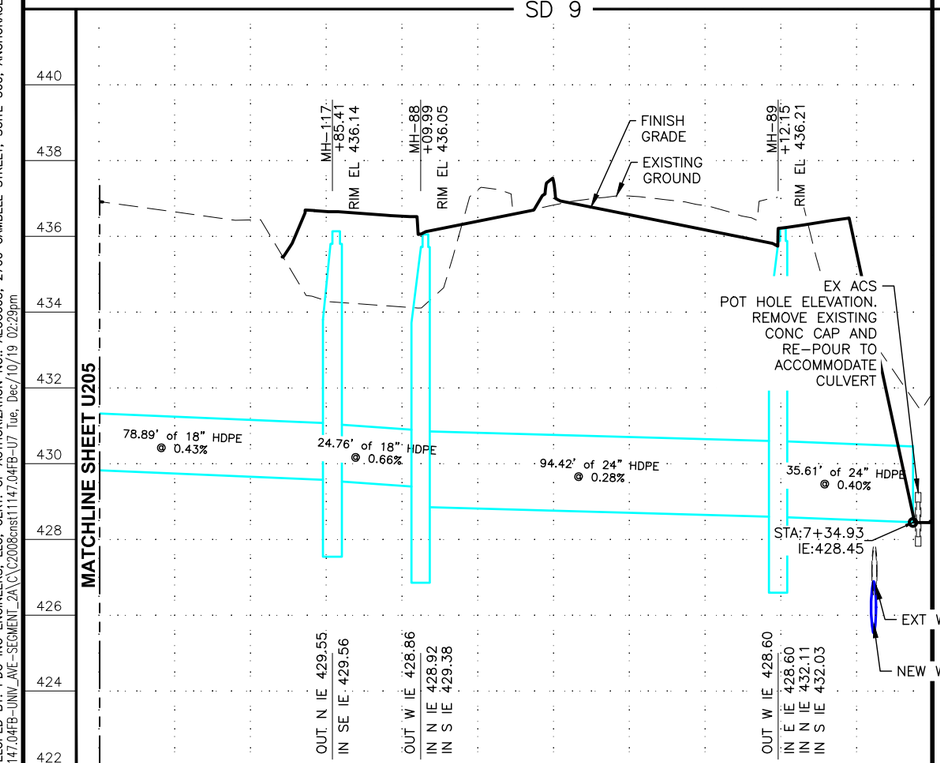
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U206	U210

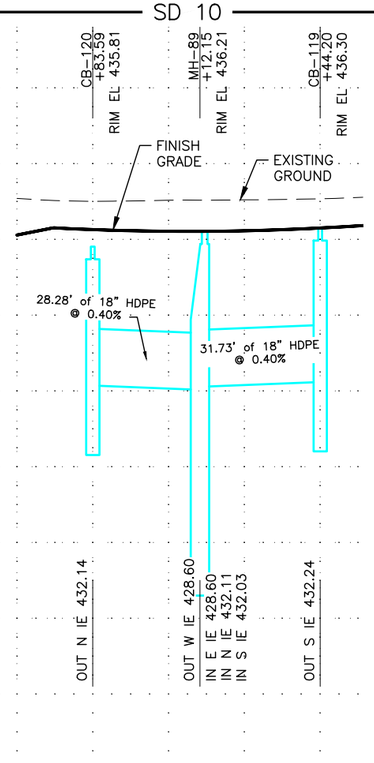


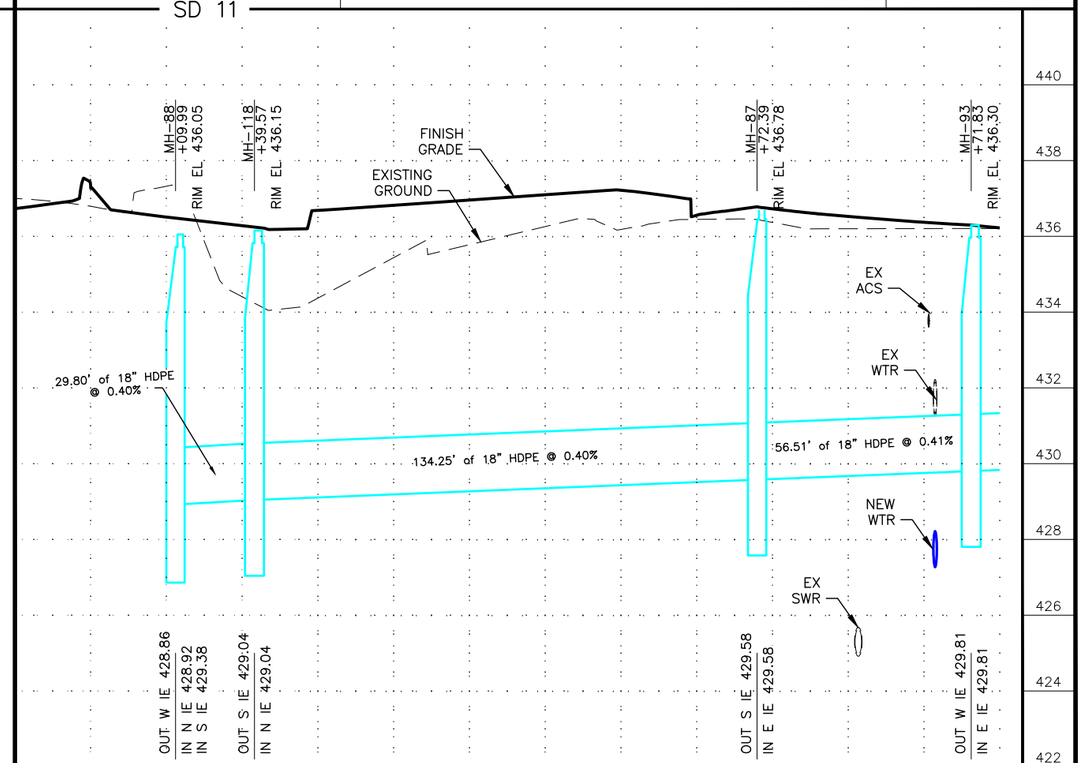




STORM DRAIN PLAN AND PROFILE (6 OF 8)

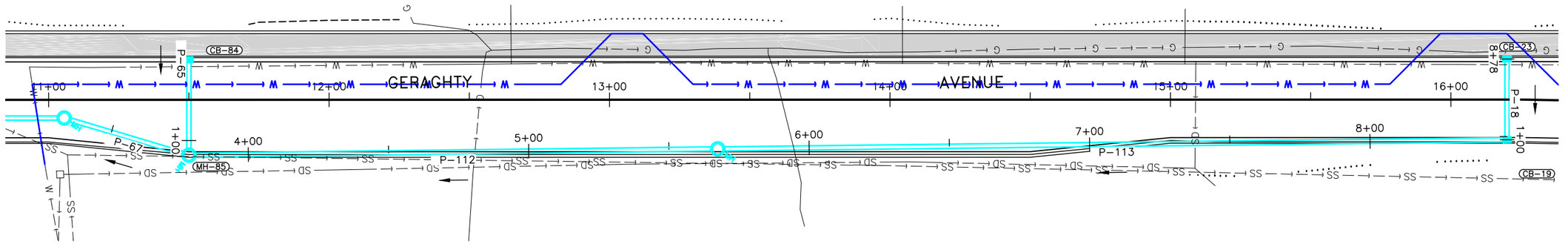




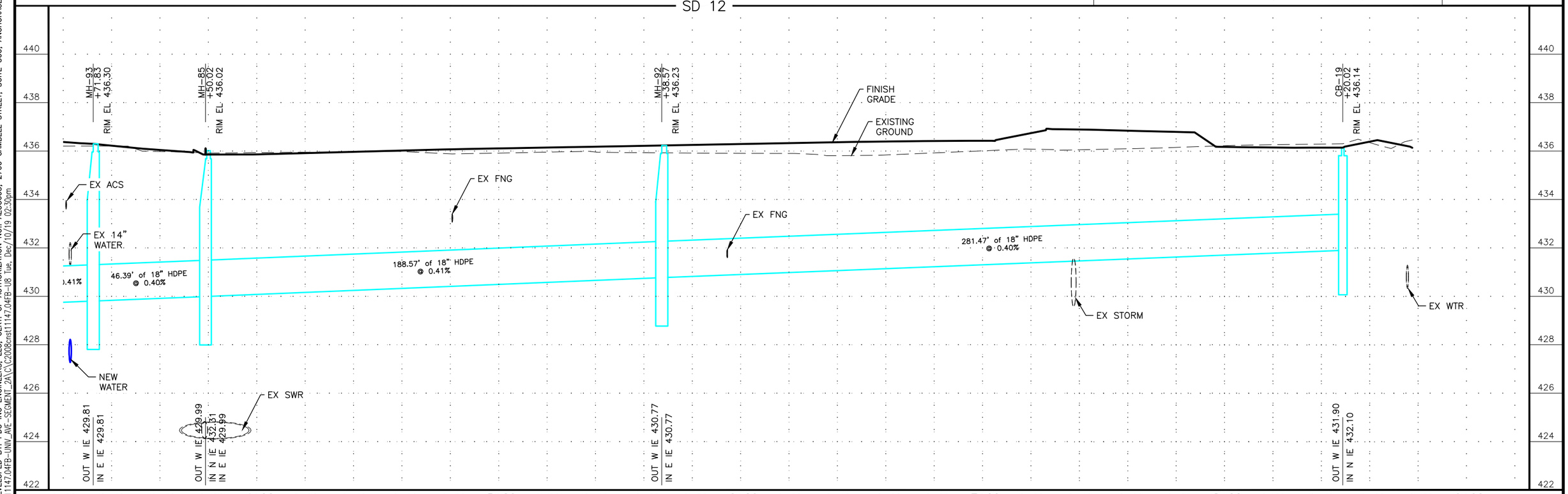


PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2008crnst11147.04FB-U7 Tue, Dec/10/19 02:29pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U207	U210

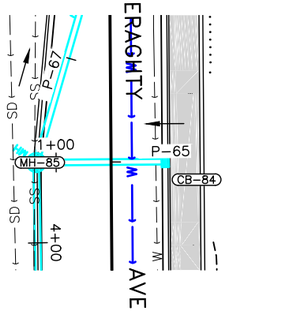


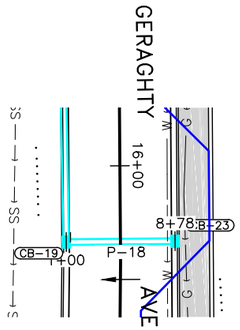
SD 12

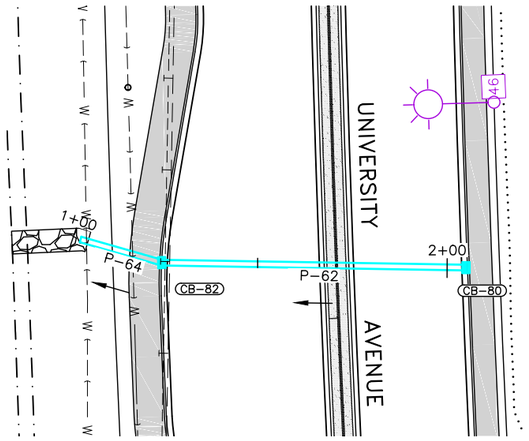


STORM DRAIN PLAN AND PROFILE (7 OF 8)

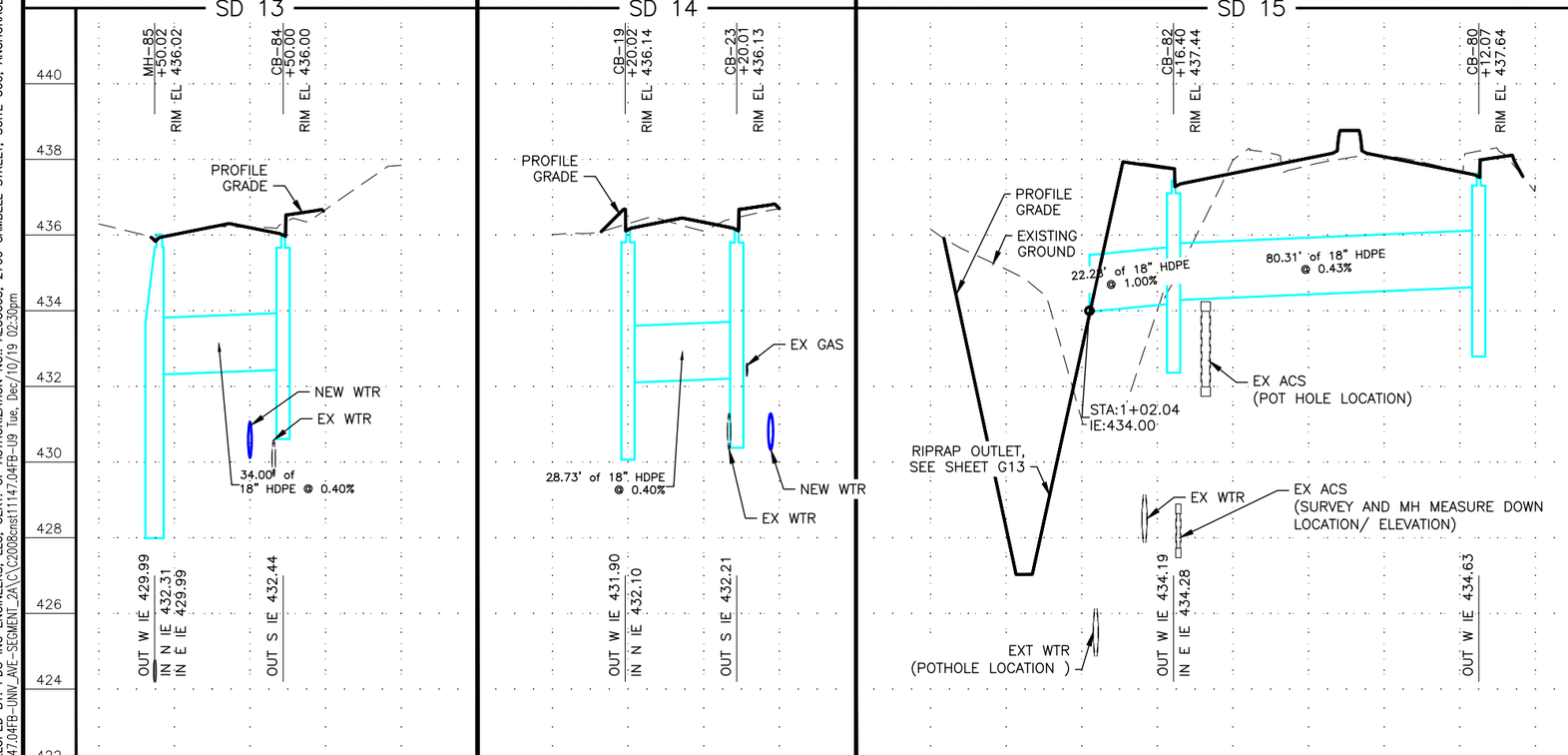
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U208	U210







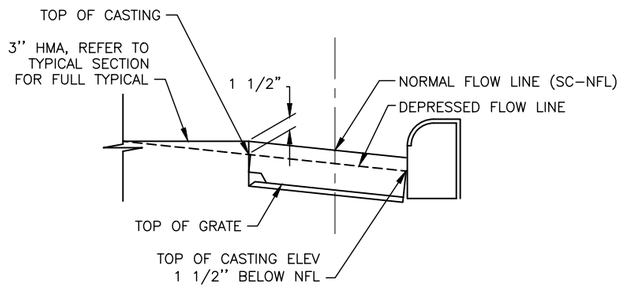
STORM DRAIN PLAN AND PROFILE (8 OF 8)



NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U209	U210

STRUCTURE SUMMARY

NAME:	TYPE	STATION	OFFSET	SC–NFL	TOC	PIPES IN INVERTS	PIPES OUT INVERTS	SUMP	COVER	REMARKS
CB–16	INLET, TYPE A	53+39.77	31.88 R	434.30	434.175	(P–86) 431.20' S	(P–12) 431.20' N	1.5	STD CURB INLET AND FRAME	
CB–19	INLET, TYPE A	16+20.02	14.30 R	436.14	436.015	(P–18) 432.10' N	(P–113) 431.90' W	1.5	DEPRESSED CURB GRATE	
CB–23	INLET, TYPE A	16+20.01	14.43 L	436.13	436.005		(P–18) 432.21' S	1.5	STD CURB INLET AND GRATE	
CB–24	INLET, TYPE A	214+34.43	49.08 R	435.95	435.825		(P–19) 432.14' N	1.5	VALLEY GUTTER GRATE	
CB–25	INLET, TYPE A	214+20.00	50.38 L	436.10	435.975	(P–19) 431.69' S	(P–20) 431.69' W	1.5	GUTTER GRATE	
CB–45	INLET, TYPE A	57+72.76	88.28 L	435.75	––	(P–34) 428.93' S	(P–22) 428.93' N	1.5	FIELD INLET GRATE	
CB–48	INLET, TYPE A	58+89.97	100.04 L	435.89		(P–22) 428.70' S	(P–35) 428.70' N	1.5	FIELD INLET GRATE	
CB–62	INLET, TYPE A	57+29.75	79.02 R	434.72	435.534		(P–46) 432.64' W	1.5	STD CURB INLET AND GRATE	CONNECT TO EXISTING PIPE
CB–80	INLET, TYPE A	67+12.07	34.14 R	437.54	437.415		(P–62) 434.63' W	1.5	STD CURB INLET AND GRATE	
CB–82	INLET, TYPE A	67+16.40	46.05 L	437.44	437.285	(P–62) 434.28' E	(P–64) 434.19' W	1.5	STD CURB INLET AND GRATE	
CB–84	INLET, TYPE A	11+50.00	14.27 L	436.00	435.875		(P–65) 432.44' S	1.5	STD CURB INLET AND GRATE	
CB–92	INLET, TYPE A	53+46.15	42.57 L	434.08	434.03	(P–85) 431.14' S	(P–72) 431.14' N	0.0	SD CURB INLET AND GRATE	
CB–100	INLET, TYPE A	53+71.85	62.00 R	434.92	––		(P–106) 432.56' NW	1.5	FIELD INLET	
CB–112	INLET, TYPE A	52+95.73	42.59 L	434.16	434.23		(P–85) 431.34' N	0.0	STD CURB INLET AND GRATE	
CB–113	INLET, TYPE A	52+96.36	27.72 R	434.47	434.345		(P–86) 431.37' N	1.5	STD CURB INLET AND GRATE	
CB–119	INLET, TYPE A	60+44.20	55.05 L	436.30	436.175		(P–89) 432.24' S	1.5	STD CURB INLET AND GRATE	
CB–120	INLET, TYPE A	59+83.59	54.53 L	435.81	436.135		(P–90) 432.14' N	1.5	STD CURB INLET AND GRATE	
CB–121	INLET, TYPE A	55+33.86	85.35 L	435.70		(P–9) 429.56' S	(P–8) 429.56' N	1.5	FIELD INLET	
MH–18	STORM SEWER MANHOLE, 48 INCH	56+02.38	8.72 L	436.67		(P–116) 429.76' S (P–104) 431.48' NE	(P–14) 429.96' NW	1.5	SOILD LID	
MH–20	STORM SEWER MANHOLE, 48 INCH	57+34.68	51.31 R	435.84	435.715	(P–46) 432.53' E	(P–15) 432.53' S	1.5	STD CURB INLET AND GRATE	
MH–26	STORM SEWER MANHOLE, 48 INCH	210+89.43	52.87 L	436.90	436.775	(P–111) 430.21' E	(P–21) 430.21' NW	1.5	STD CURB INLET AND GRATE	
MH–30	STORM SEWER MANHOLE, 48 INCH	212+53.64	51.63 L	436.38	436.255	(P–20) 430.95' E	(P–111) 430.95' W	1.5	GUTTER GRATE	
MH–85	STORM SEWER MANHOLE, 48 INCH	11+50.02	19.73 R	436.02	435.895	(P–65) 432.31' N (P–112) 429.99' E	(P–67) 429.99' W	1.5	STD CURB INLET AND GRATE	



CURB INLET DETAIL

SHEET NOTES

1. STATIONS AND OFFSETS MEASURED FROM UNIVERSITY AVE OR GERAGHTY AVE 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.

SUMMARY TABLE
(1 OF 2)

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U210	U210

STRUCTURE SUMMARY

NAME:	TYPE	STATION	OFFSET	SC-NFL	TOC	PIPES IN INVERTS	PIPES OUT INVERTS	SUMP	COVER	REMARKS
MH-87	STORM SEWER MANHOLE, 48 INCH	61+72.39	48.97 R	436.78		(P-110) 429.58' E	(P-68) 429.58' S	1.5	SOLID LID	
MH-88	STORM SEWER MANHOLE, 48 INCH	60+09.99	39.40 R	436.05	435.925	(P-68 (1)) 428.92' N (P-108) 429.38' S	(P-69) 428.86' W	1.5	STD CURB INLET AND GRATE	
MH-89	STORM SEWER MANHOLE, 48 INCH	60+12.15	55.00 L	436.21	436.085	(P-69) 428.60' E (P-89) 432.11' N (P-90) 432.03' S	(P-70) 428.60' W	1.5	STD CURB INLET AND GRATE	
MH-90	STORM SEWER MANHOLE, 48 INCH	53+95.98	5.00 L	435.17	--	(P-88) 430.69' W (P-107) 430.80' E	(P-116) 430.59' N	1.5	SOLID LID	
MH-91	STORM SEWER MANHOLE, 48 INCH	59+15.36	73.54 R	436.42	436.295	(P-21) 429.90' SE	(P-71) 429.90' NW	1.5	STD CURB INLET AND GRATE	
MH-92	STORM SEWER MANHOLE, 48 INCH	13+38.57	17.52 R	436.23		(P-113) 430.77' E	(P-112) 430.77' W	1.5	SOLID LID	
MH-93	STORM SEWER MANHOLE, 48 INCH	11+05.55	6.50 R	436.30		(P-67) 429.81' E	(P-110) 429.81' W	1.5	SOLID LID	
MH-115	STORM SEWER MANHOLE, 48 INCH	53+95.83	42.47 L	434.15	434.025	(P-72) 430.94' S	(P-88) 430.84' E	0.0	STD CURB INLET AND GRATE	
MH-116	STORM SEWER MANHOLE, 48 INCH	53+96.19	38.01 R	434.39	434.263	(P-12) 430.98' S (P-106) 432.44' SE	(P-107) 430.98' W	1.5	STD CURB INLET AND GRATE	
MH-117	STORM SEWER MANHOLE, 48 INCH	59+85.41	38.67 R	436.14	436.01	(P-71) 429.56' SE	(P-108) 429.55' N	1.5	STD CURB INLET AND GRATE	
MH-118	STORM SEWER MANHOLE, 48 INCH	60+39.57	38.80 R	436.15	436.029	(P-68) 429.04' N	(P-68 (1)) 429.04' S	1.5	STD CURB INLET AND GRATE	
MH-156	STORM SEWER MANHOLE, 48 INCH	56+56.48	98.48 R	436.88			(P-103) 432.11' W	1.5	SOLID LID	EX MANHOLE
MH-157	STORM SEWER MANHOLE, 48 INCH	56+40.10	50.69 R	435.25	435.125	(P-103) 431.86' E (P-15) 432.15' N	(P-104) 431.76' SW	1.5	STD CRUB INLET AND GRATE	

PIPE SUMMARY

NAME	SIZE (IN)	MATERIAL	SLOPE	START INVERT	END INVERT	LENGTH (FT)	REMARKS
P-8	24	HDPE	0.00%	429.56'	429.56'	102	
P-9	24	HDPE	-0.00%	429.56'	429.56'	86	
P-12	18	HDPE	0.39%	431.20'	430.98'	57	
P-14	24	HDPE	0.40%	429.96'	429.65'	77	
P-15	18	HDPE	0.40%	432.53'	432.15'	94	
P-18	18	HDPE	0.40%	432.21'	432.10'	29	
P-19	18	HDPE	0.44%	432.14'	431.69'	101	
P-20	18	HDPE	0.45%	431.69'	430.95'	166	
P-21	18	HDPE	0.46%	430.21'	429.90'	68	
P-22	36	HDPE	0.19%	428.93'	428.70'	118	
P-34	36	HDPE	0.22%	429.01'	428.93'	38	
P-35	36	HDPE	0.20%	428.70'	428.64'	33	
P-46	18	HDPE	0.41%	432.64'	432.53'	28	
P-62	18	HDPE	0.43%	434.63'	434.28'	80	
P-64	18	HDPE	1.00%	434.19'	433.97'	22	
P-65	18	HDPE	0.40%	432.44'	432.31'	34	
P-67	18	HDPE	0.40%	429.99'	429.81'	46	
P-68	18	HDPE	0.40%	429.58'	429.04'	134	
P-68 (1)	18	HDPE	0.40%	429.04'	428.92'	30	
P-69	24	HDPE	0.28%	428.86'	428.60'	94	
P-70	24	HDPE	0.40%	428.60'	428.46'	36	
P-71	18	HDPE	0.43%	429.90'	429.56'	79	
P-72	18	HDPE	0.40%	431.14'	430.94'	50	
P-85	18	HDPE	0.40%	431.34'	431.14'	50	
P-86	18	HDPE	0.40%	431.37'	431.20'	44	
P-88	18	HDPE	0.40%	430.84'	430.69'	37	
P-89	18	HDPE	0.40%	432.24'	432.11'	32	
P-90	18	HDPE	0.40%	432.03'	432.14'	28	
P-103	12	HDPE	0.50%	432.11'	431.86'	50	
P-104	18	HDPE	0.40%	431.76'	431.48'	70	
P-106	12	HDPE	0.35%	432.56'	432.44'	34	
P-107	18	HDPE	0.42%	430.80'	430.98'	43	
P-108	18	HDPE	0.66%	429.55'	429.38'	25	
P-110	18	HDPE	0.41%	429.81'	429.58'	57	
P-111	18	HDPE	0.45%	430.95'	430.21'	164	
P-112	18	HDPE	0.41%	430.77'	429.99'	189	
P-113	18	HDPE	0.40%	431.90'	430.77'	281	
P-116	18	HDPE	0.40%	430.59'	429.76'	207	

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2008cnst11147.04FB-U210 Tue, Dec/10/19 02:30pm

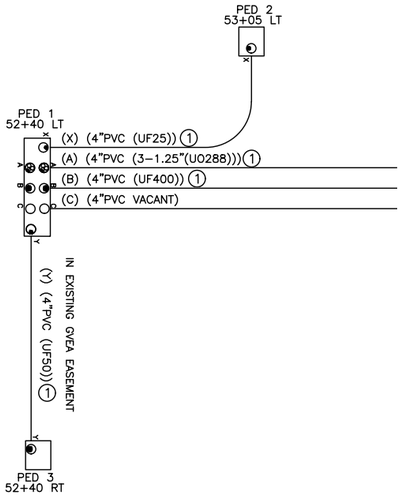
STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

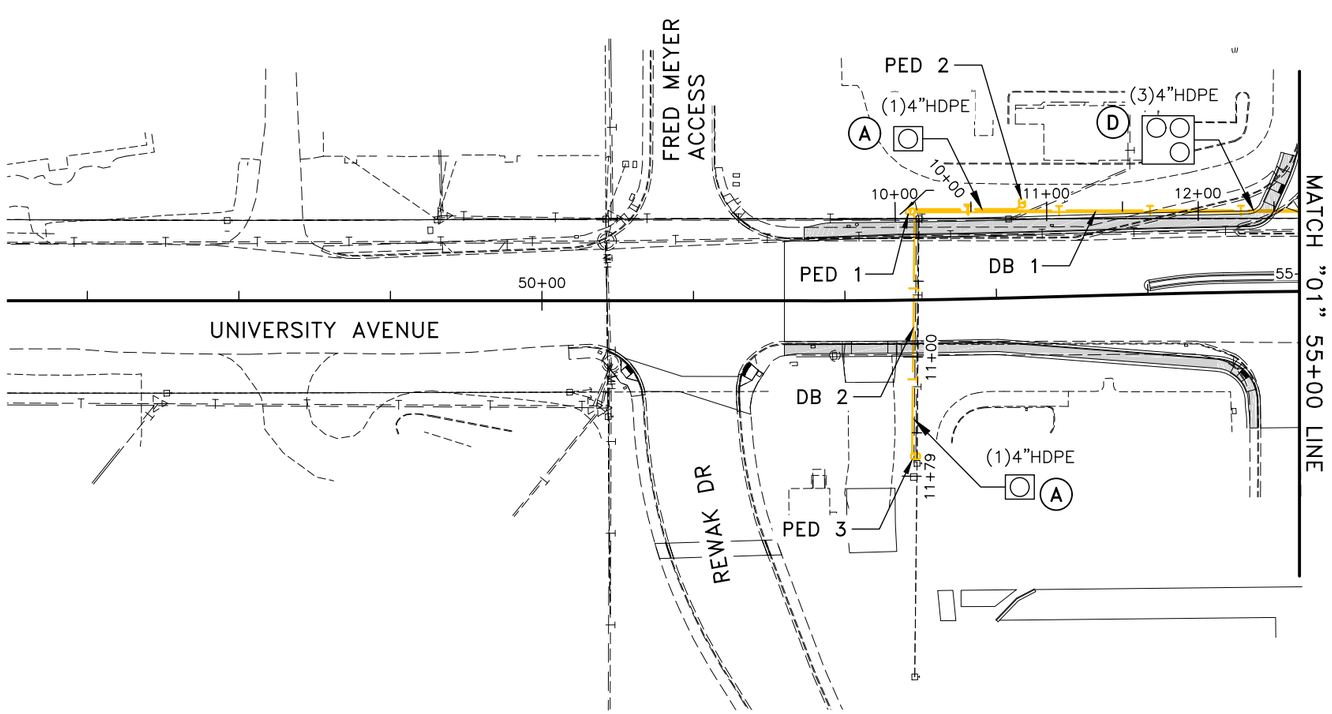
SUMMARY TABLES (2 OF 2)

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U-300	U-308

NOTES:

① CABLE INSTALLATION NOT IN CONTRACT (NIC)





DUCT BANK LAYOUT
(1 OF 3)

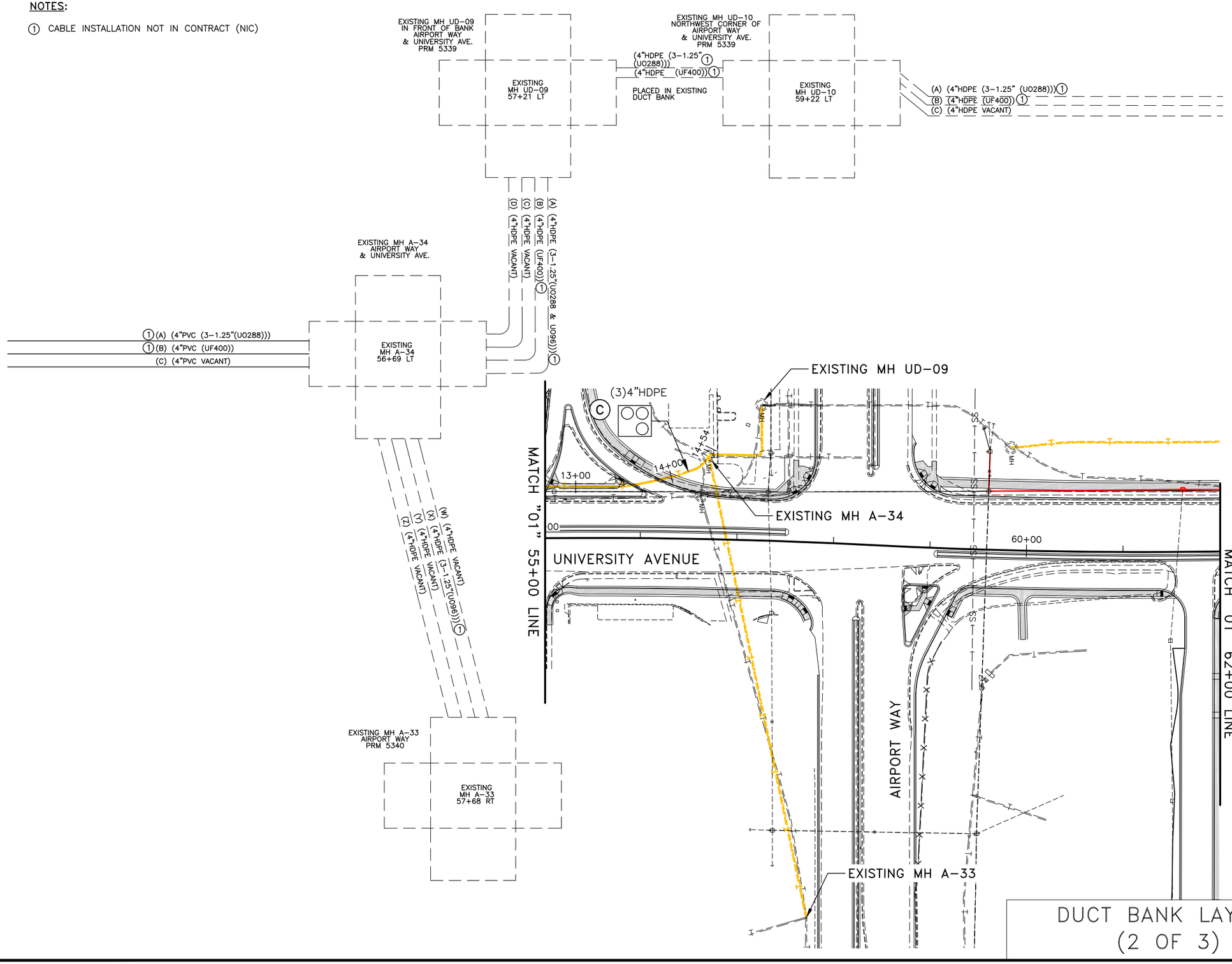
STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2013cnst11147.04FB-U-300 Tue, Dec/03/19 01:59pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U-301	U-308

NOTES:

① CABLE INSTALLATION NOT IN CONTRACT (NIC)



DUCT BANK LAYOUT
(2 OF 3)

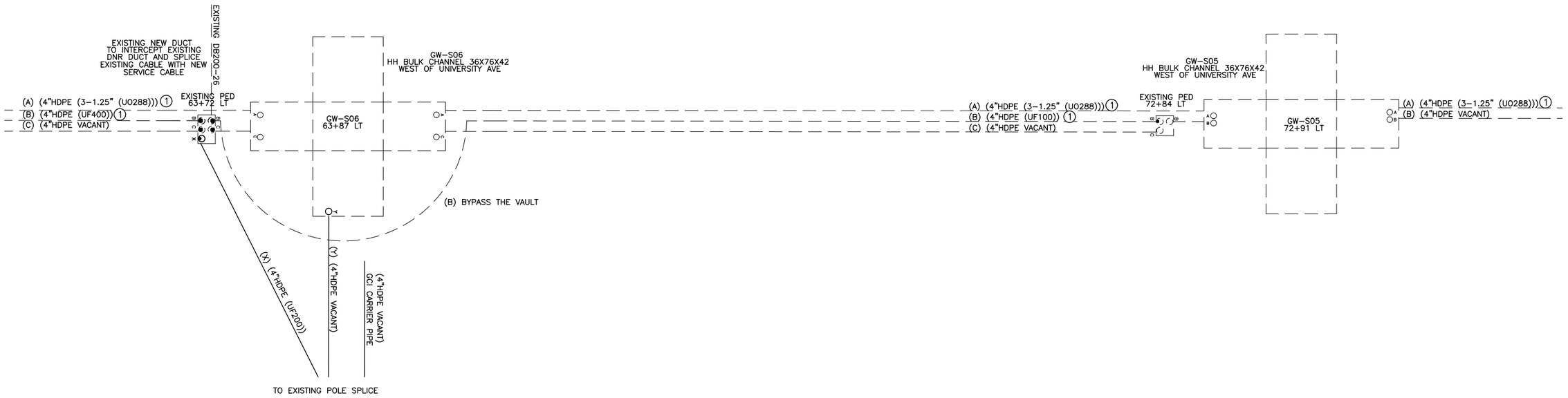
STATE OF ALASKA
49 TH
REGISTERED PROFESSIONAL ENGINEER

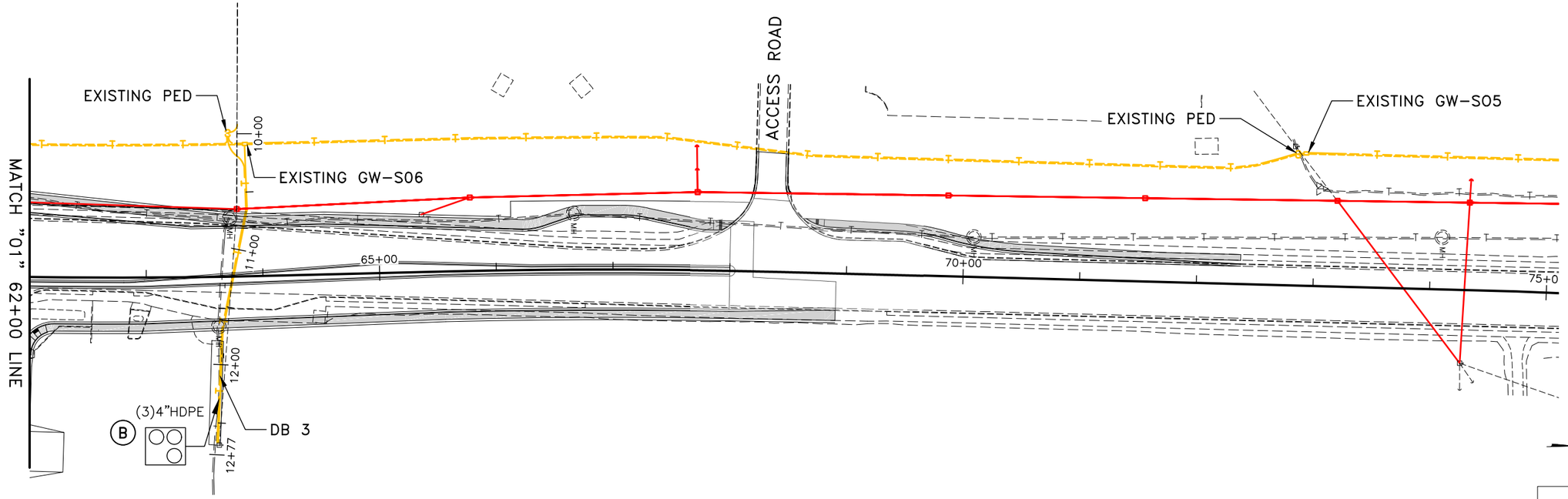
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2013cnst11147.04FB-U-301 Tue, Dec/03/19 01:59pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U-302	U-308

NOTES:

① CABLE INSTALLATION NOT IN CONTRACT (NIC)





DUCT BANK LAYOUT
(3 OF 3)

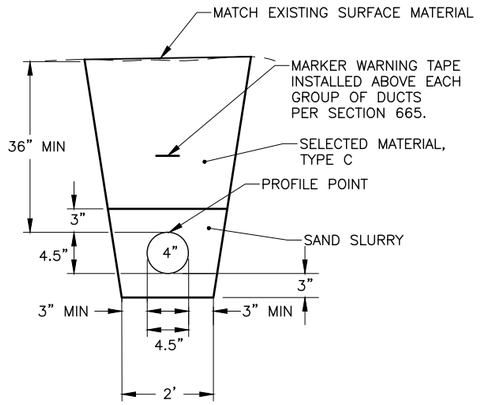
STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2013cnst11147.04FB-U-302 Tue, Dec/03/19 02:00pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U-303	U-308

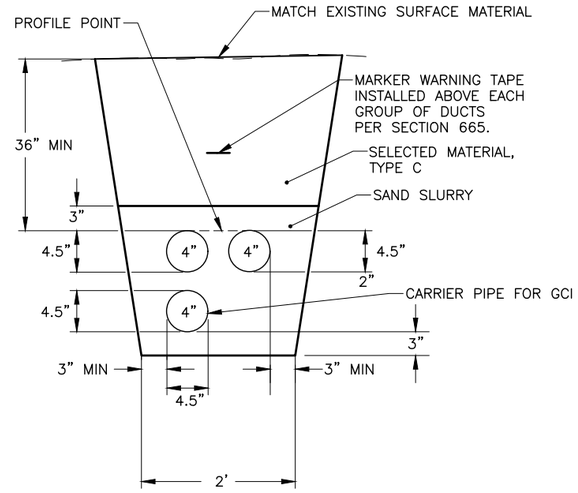
NOTES:

1. DUCT BANK SHALL BE INSTALLED WITHIN THE RIGHT-OF-WAY.
2. DUCT PLACEMENT CAN SHIFT WITHIN THE TRENCH SECTION, MAINTAIN MINIMUM SEPARATION BETWEEN DUCT EDGE AND TRENCH EDGE.



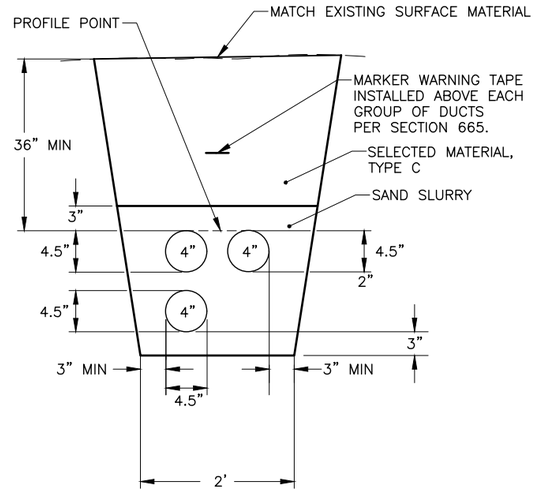
A (1) 4" HDPE CONDUITS

"DB1" 10+10.00 TO "DB1" 10+83.75
"DB2" 10+03.06 TO "DB2" 11+65.53



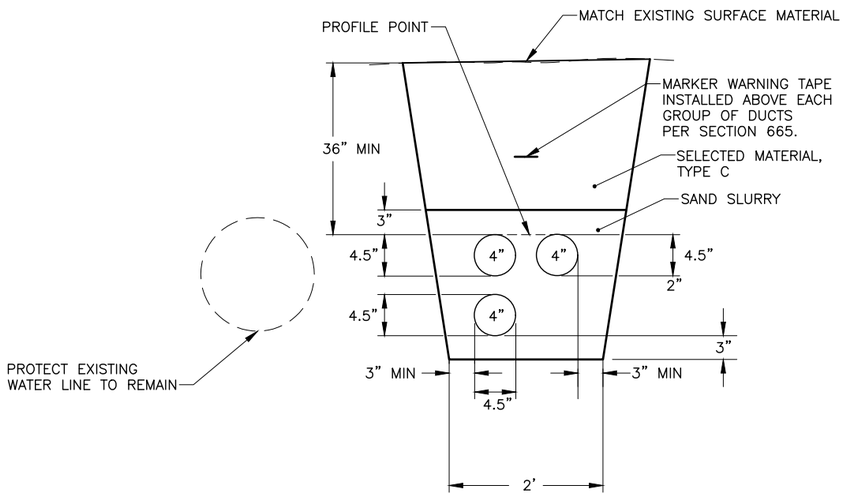
B COMMON COMMUNICATIONS TRENCH (3) 4" HDPE CONDUITS

"DB3" 10+02.60 TO "DB3" 12+67.11



C (3) 4" HDPE CONDUITS

"DB1" 13+46.53 TO "DB1" 14+45.39



D (3) 4" HDPE CONDUITS AND EXISTING WATER LINE

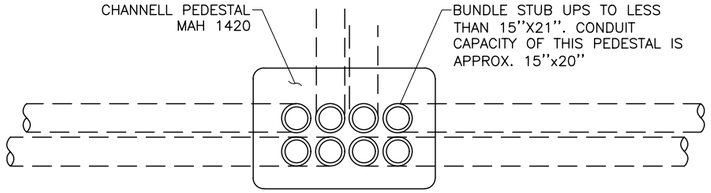
"DB1" 10+10.00 TO "DB1" 13+46.53

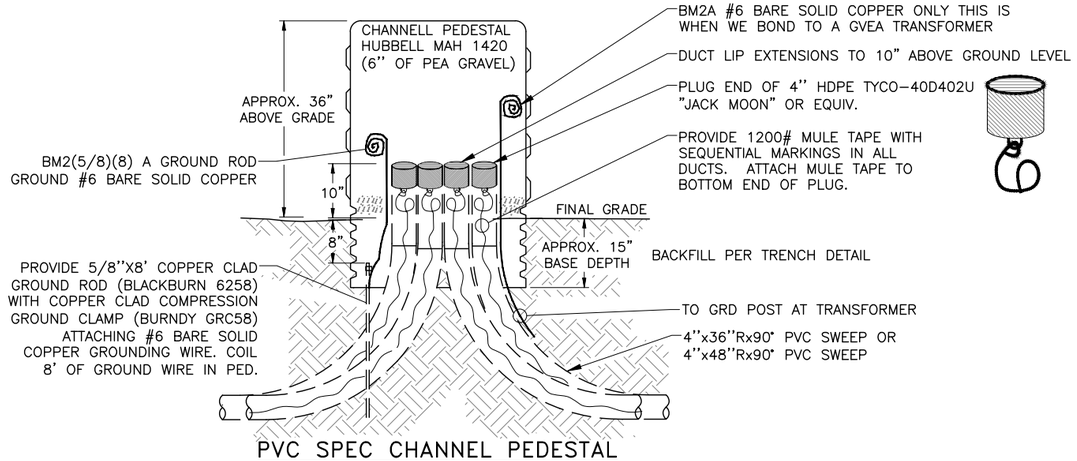
DUCT BANK TYPICAL TRENCH SECTION

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C0012const11147.04FB-U-303 Tue, Dec/03/19 02:00pm

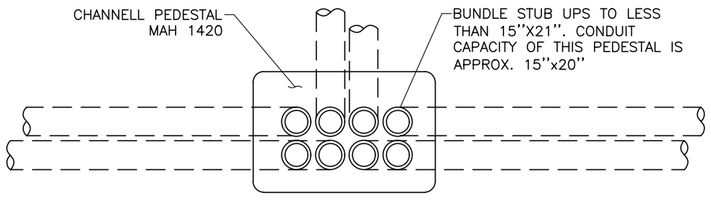
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U-304	U-308

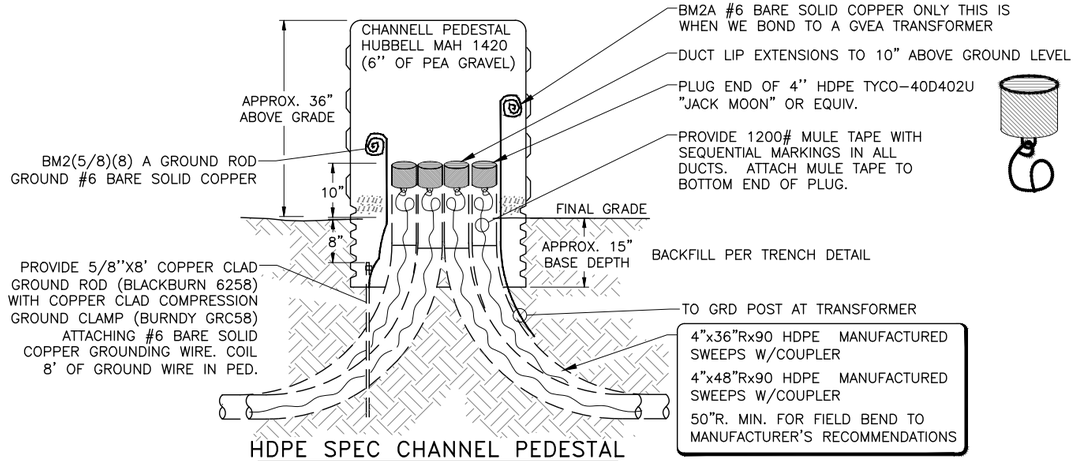




PVC SPEC CHANNEL PEDESTAL

CALL LOCATE: 1-800-478-3121
2 WORKING DAYS PRIOR TO CONSTRUCTION
FOR UNDERGROUND SERVICES LOCATING



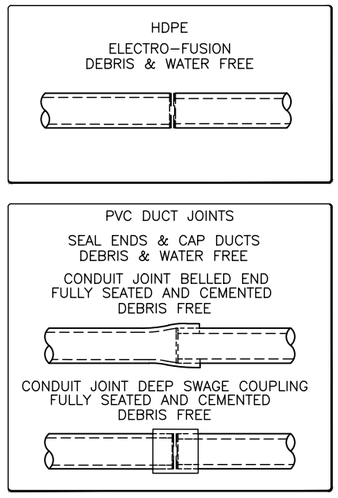


HDPE SPEC CHANNEL PEDESTAL

CALL LOCATE: 1-800-478-3121
2 WORKING DAYS PRIOR TO CONSTRUCTION
FOR UNDERGROUND SERVICES LOCATING

CHANNELL PEDESTAL NOTE:

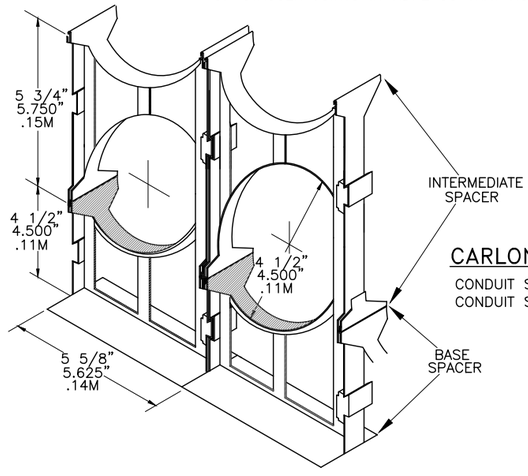
1. COLOR OF PEDESTAL SHALL BE STANDARD COLOR GREEN.



DUCT JOINT DETAILS

CARLON PLASTIC SPACER DETAIL NOTES

1. INSTALL CARLON PLASTIC DUCT SPACERS AT 4 FOOT INTERVALS MINIMUM
2. INSTALL CONTRACTOR PROVIDED POLY BANDING AT EVERY THIRD SPACER MINIMUM
3. STAGGER JOINTS IN HDPE SO THAT NO TWO JOINTS ARE CLOSER THAN 2 FEET



CONDUIT SPACING DETAIL

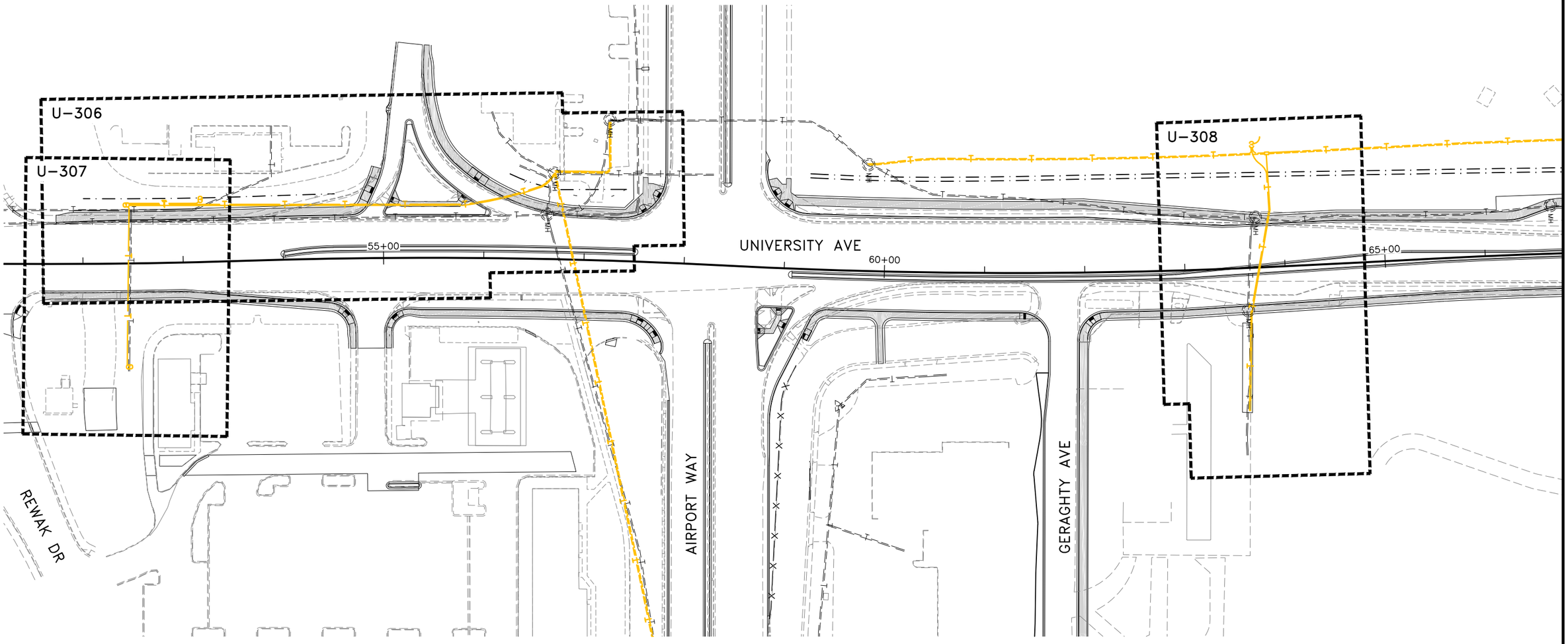
CARLON PLASTIC DUCT SPACERS:

CONDUIT SPACER BASE 4" CARLON #S288NLN
CONDUIT SPACER INTERMEDIATE 4" CARLON #S289NLN

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C0012cnst11147.04FB-U-304 Tue, Dec/03/19 02:00pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U-305	U-308



DUCT BANK SHEET INDEX

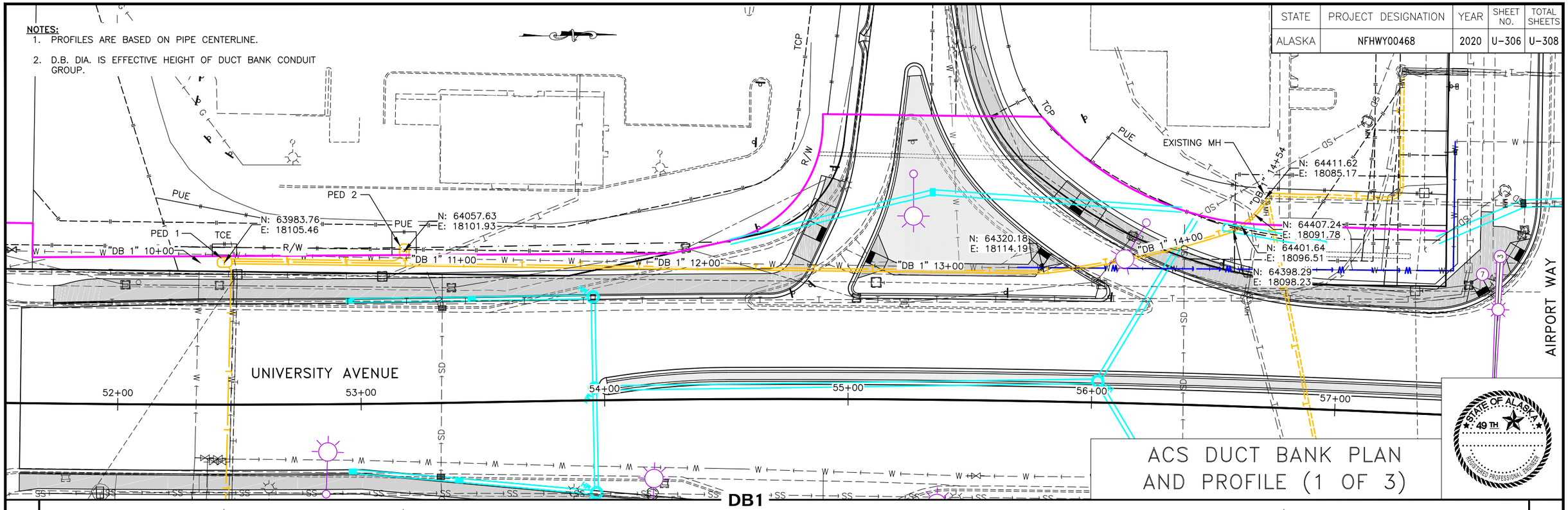
STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C0009cnst11147.04FB-U25 Tue, Dec/03/19 02:00pm

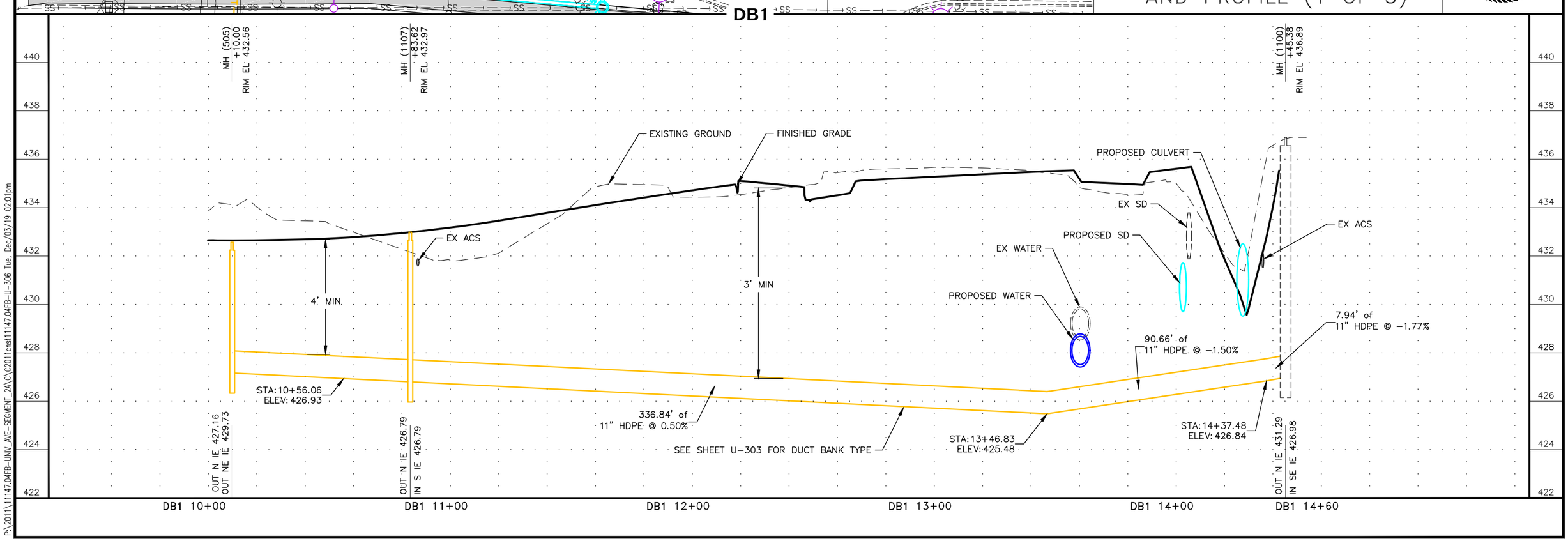
NOTES:

1. PROFILES ARE BASED ON PIPE CENTERLINE.
2. D.B. DIA. IS EFFECTIVE HEIGHT OF DUCT BANK CONDUIT GROUP.

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U-306	U-308



ACS DUCT BANK PLAN AND PROFILE (1 OF 3)



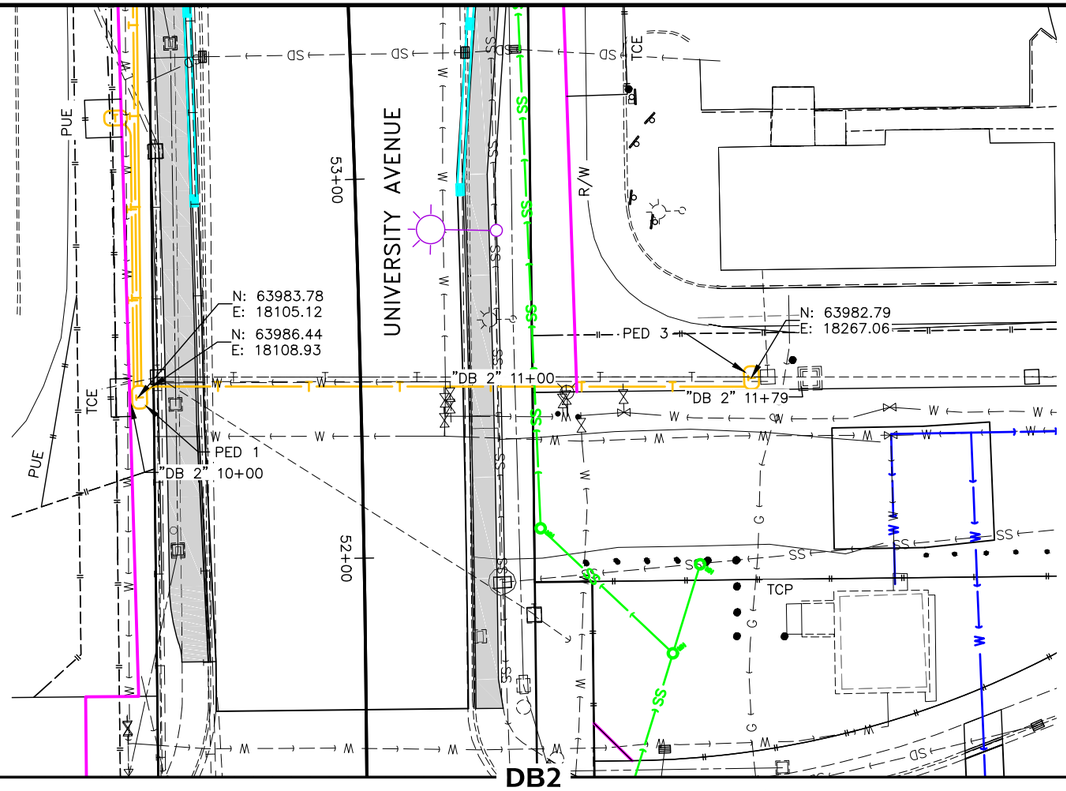
STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\C2011cnst11147.04FB-U-306 Tue, Dec/03/19 02:01pm

NOTES:

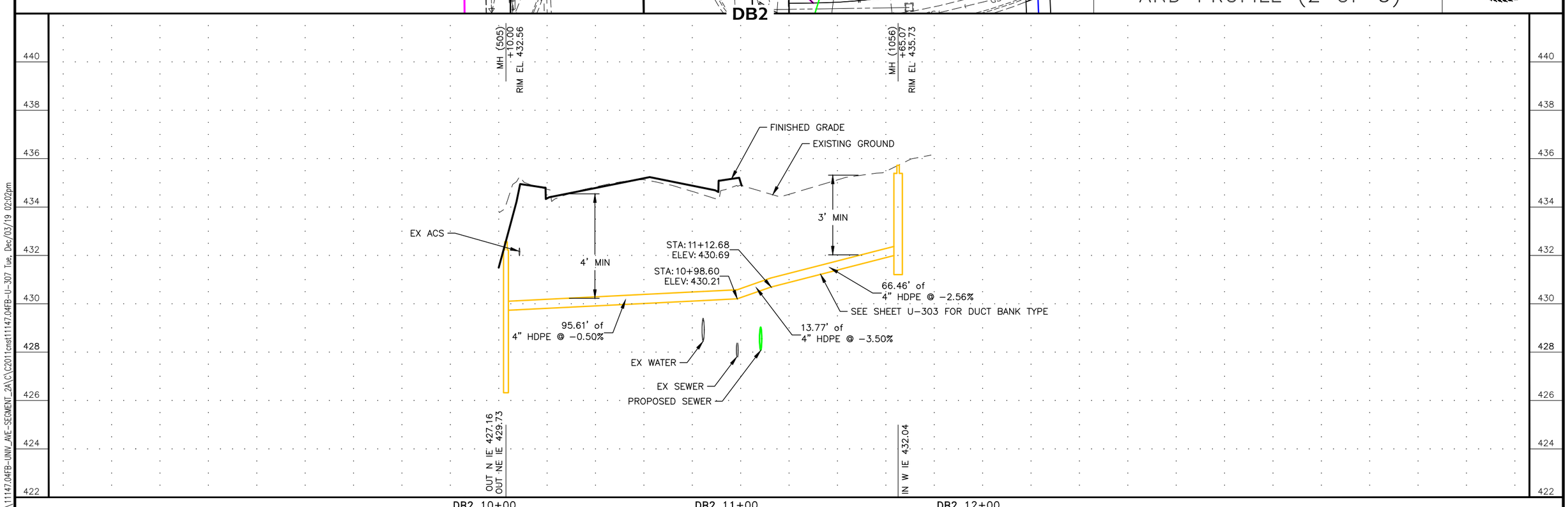
1. PROFILES ARE BASED ON PIPE CENTERLINE.
2. D.B. DIA. IS EFFECTIVE HEIGHT OF DUCT BANK CONDUIT GROUP.

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U-307	U-308



DB2

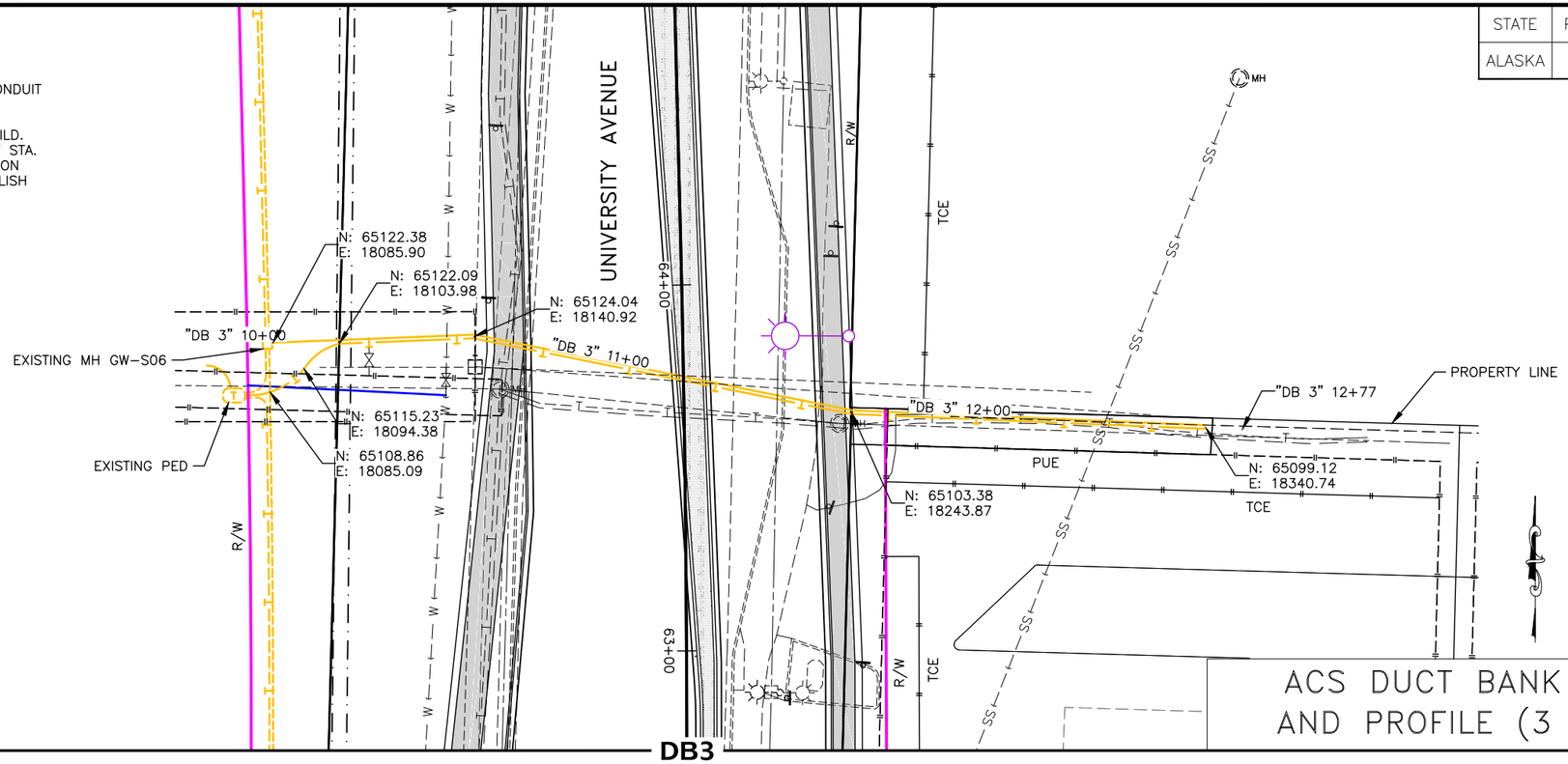
ACS DUCT BANK PLAN AND PROFILE (2 OF 3)



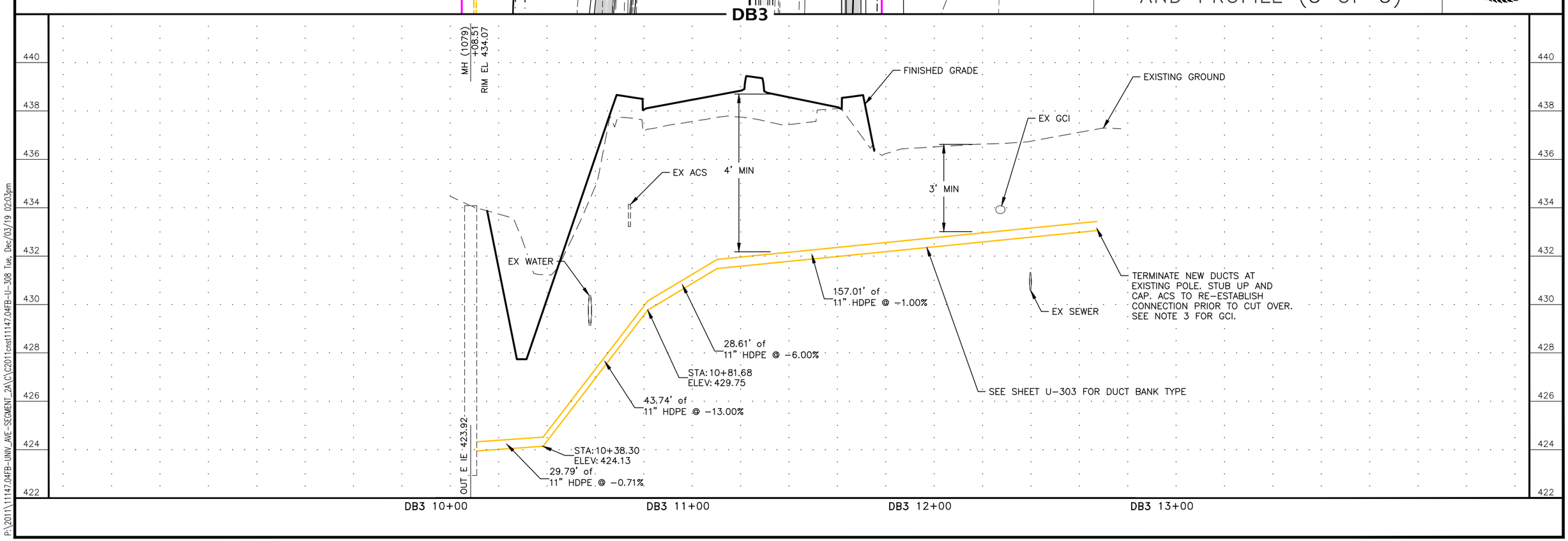
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00468	2020	U-308	U-308

NOTES:

1. PROFILES ARE BASED ON PIPE CENTERLINE.
2. D.B. DIA. IS EFFECTIVE HEIGHT OF DUCT BANK CONDUIT GROUP.
3. STUB UP AND CAP GCI CONDUIT FOR FUTURE BUILD. CONDUIT TO BEGIN ADJACENT TO POWER POLE AT STA. 63+59. TERMINATE NEW DUCT AT EXISTING POLE ON EAST SIDE OF UNIVERSITY AVE. GCI TO RE-ESTABLISH CONNECTION PRIOR TO CUT OVER.



ACS DUCT BANK PLAN AND PROFILE (3 OF 3)



NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U400	U403

ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
ACS	ALASKA COMMUNICATION SYSTEM
AIC	AMPS INTERRUPTING CAPACITY
AL	ALUMINUM
AK	ALASKA
AMP	AMPERES
ANC	ANCHOR
ARRC	ALASKA RAILROAD CORPORATION
ASMBLY	ASSEMBLY
AT	AMP TRIP
AWG	AMERICAN WIRE GUAGE
BCU	BARE COPPER WIRE
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CU	COPPER
CUC	COLLEGE UTILITIES CORPORATION
DEG	DEGREE
DIA	DIAMETER
DISC	DISCONNECT
DNR	DEPARTMENT OF NATURAL RESOURCES
DOT	DEPARTMENT OF TRANSPORTATION
EGC	EQUIPMENT GROUNDING CONDUCTOR
EMT	ELECTRICAL METALLIC TUBING
FLA	FULL LOAD AMPS
FT	FEET
FU	FUSE
GCI	GENERAL COMMUNICATION INC
GEC	GROUNDING ELECTRODE CONDUCTOR
GND	GROUND OR GROUNDED
GVEA	GOLDEN VALLEY ELECTRIC ASSOCIATION
HBH	HEADBOLT HEATER
ID	IDENTIFICATION
KVA	KILOVOLT AMPERES
LBS	POUNDS
LT	LEFT
LV	LOW VOLTAGE
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
N	NEUTRAL, NORTH
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE; NFPA 70
NESC	NATIONAL ELECTRICAL SAFETY CODE
NTS	NOT TO SCALE
OH	OVERHEAD
P	POLE
PE	POLYETHYLENE
PH	PHASE
PRI	PRIMARY
QTY	QUANTITY
RMC	RIGID METAL CONDUIT (HOT-DIPPED GALVANIZED)
RMS	ROOT MEAN SQUARED
REQ'D	REQUIRED
RSD	RESIDENTIAL
RT	RIGHT
SEC	SECONDARY
SPEC	SPECIFICATION
SVC	SERVICE
SVD	SERVICE DISCONNECT
TEL	TELEPHONE
TYP	TYPICAL
UAF	UNIVERSITY OF ALASKA FAIRBANKS
UG	UNDERGROUND
V	VOLTS
VA	VOLT AMPERES
W	WATT, WEST or WIRE
WH	WATTHOUR
XFMR	TRANSFORMER
#	NUMBER

NOT ALL ABBREVIATIONS ARE USED

SYMBOLS - DASHED INDICATES DEMO OR SALVAGE

	POWER POLE LINE
	JOINT USE POWER & TELEPHONE
	STUB POLE (POWER OR TELEPHONE)
	TELEPHONE PEDESTAL
	SIGNAL CONTROLLER
	LOAD CENTER
	ELECTRICAL SERVICE
	LUMINAIRE

WORK DESIGNATIONS

	GVEA
	PROJECT ELECTRICAL CONTRACTOR
	EXISTING EQUIPMENT

LINETYPES

DEMO OR SALVAGE	PROPOSED	
——— – – ———OHE———	———— OHE ————	ELECTRICAL LINE (OVERHEAD)
——— — — — — UGE ———	———— UGE ————	ELECTRICAL LINE (UNDERGROUND)

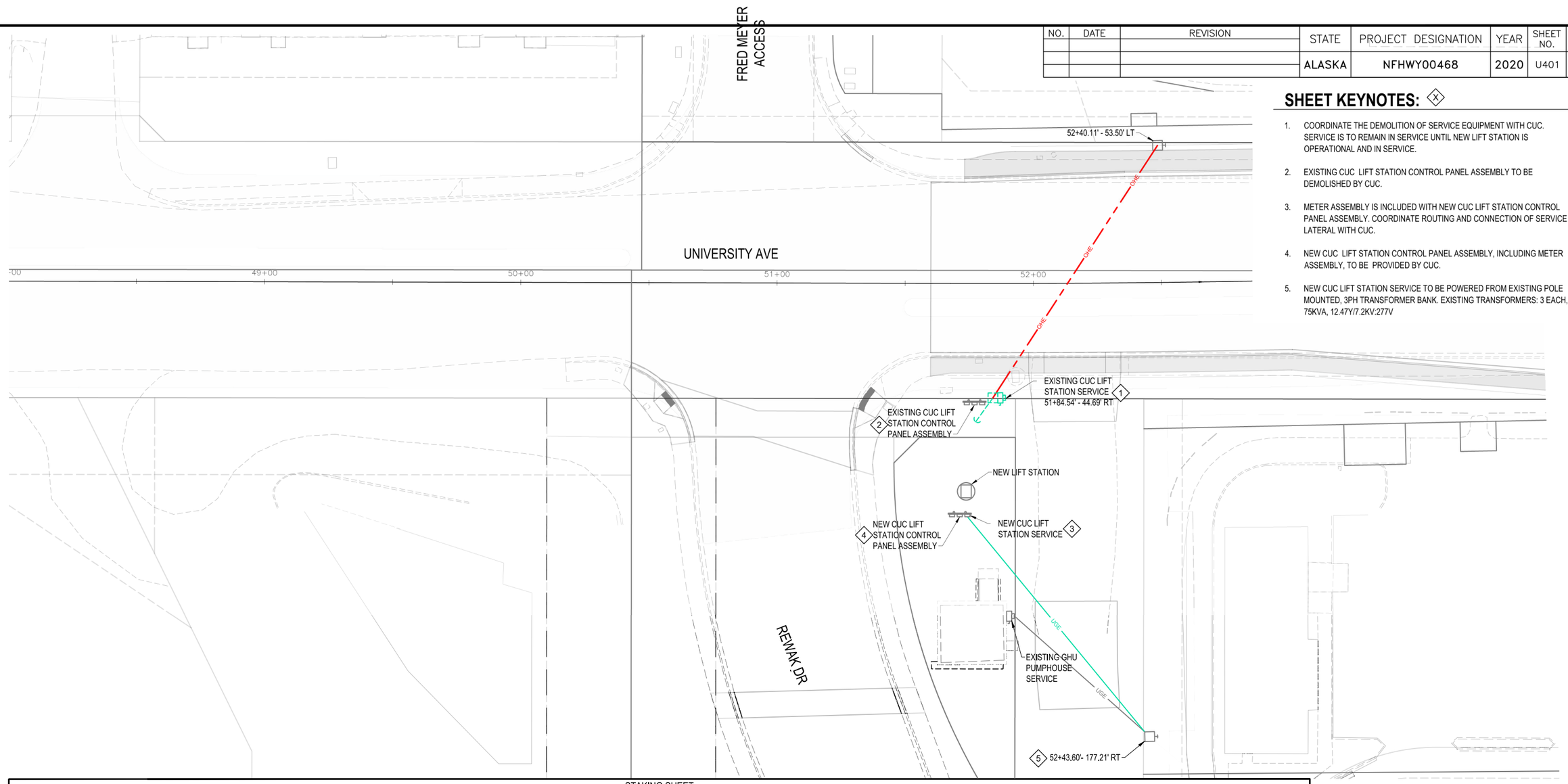
GENERAL ELECTRICAL NOTES:

1. COMPLY WITH NFPA 70, NATIONAL ELECTRICAL CODE 2017 EDITION; NECA 1, STANDARD FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION; AND NATIONAL ELECTRICAL SAFETY CODE 2012 EDITION.
2. ELECTRICAL COMPONENTS, DEVICES, ASSEMBLIES, AND ACCESSORIES ARE REQUIRED TO BE LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.
3. DRAWINGS SHOW THE GENERAL LOCATIONS OF THE ELECTRICAL FEATURES ONLY, UNLESS OTHERWISE INDICATED. MAKE MINOR RELOCATIONS AS REQUIRED FOR PROJECT CONDITIONS WHEN NECESSARY TO PRESENT SYMMETRICAL APPEARANCE OR TO AVOID INTERFERENCE WITH OTHER INSTALLATIONS.
4. ALL DETAILS/ASSEMBLIES INDICATED IN STAKING SHEETS REFERENCES GVEA STANDARD DETAILS, RUS BULLETIN 1728F-804, 2005 "SPECIFICATIONS AND DRAWINGS FOR 12.47KV LINE CONSTRUCTION" AND RUS BULLETIN 1728F-806, 2000 "SPECIFICATIONS AND DRAWINGS FOR UNDERGROUND ELECTRIC DISTRIBUTION", GVEA STANDARD DETAILS TAKE PRECEDENCE OVER RUS DEATILS, MODIFICATIONS TO RUS DETAILS/ASSEMBLIES ARE LOCATED IN THE DETAIL SECTION OF THIS PROJECT'S DESIGN AND ARE DESIGNATED WITH AN "XX" AFTER THE STANDARD RUS DETAILS/ASSEMBLIES DESIGNATION.
5. WORK INDICATED IN DRAWINGS IS LIMITED TO SECONDARY DISTRIBUTION.
6. COORDINATE ELECTRICAL SERVICE WORK AND SERVICE OUTAGES WITH OWNERS. TO MINIMIZE ELECTRICAL OUTAGES, SERVICE WORK SHALL BE PERFORMED TO THE FULLEST EXTENT POSSIBLE BEFORE DE-ENERGIZING SERVICE.
7. ALL NEW SECONDARY OVERHEAD SERVICE DROPS ARE TO BE SLACK SPANS.

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\11147.04FB-UNIV_AVE-SEGMENT_2A\E\Electrical Secondary Relocation\E0001epti1147.04FB-U400 Fri, Dec/06/19 12:11pm

ELECTRICAL LEGEND AND NOTES

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U401	U403



SHEET KEYNOTES: (X)

1. COORDINATE THE DEMOLITION OF SERVICE EQUIPMENT WITH CUC. SERVICE IS TO REMAIN IN SERVICE UNTIL NEW LIFT STATION IS OPERATIONAL AND IN SERVICE.
2. EXISTING CUC LIFT STATION CONTROL PANEL ASSEMBLY TO BE DEMOLISHED BY CUC.
3. METER ASSEMBLY IS INCLUDED WITH NEW CUC LIFT STATION CONTROL PANEL ASSEMBLY. COORDINATE ROUTING AND CONNECTION OF SERVICE LATERAL WITH CUC.
4. NEW CUC LIFT STATION CONTROL PANEL ASSEMBLY, INCLUDING METER ASSEMBLY, TO BE PROVIDED BY CUC.
5. NEW CUC LIFT STATION SERVICE TO BE POWERED FROM EXISTING POLE MOUNTED, 3PH TRANSFORMER BANK. EXISTING TRANSFORMERS: 3 EACH, 75KVA, 12.47Y/7.2KV:277V

STAKING SHEET

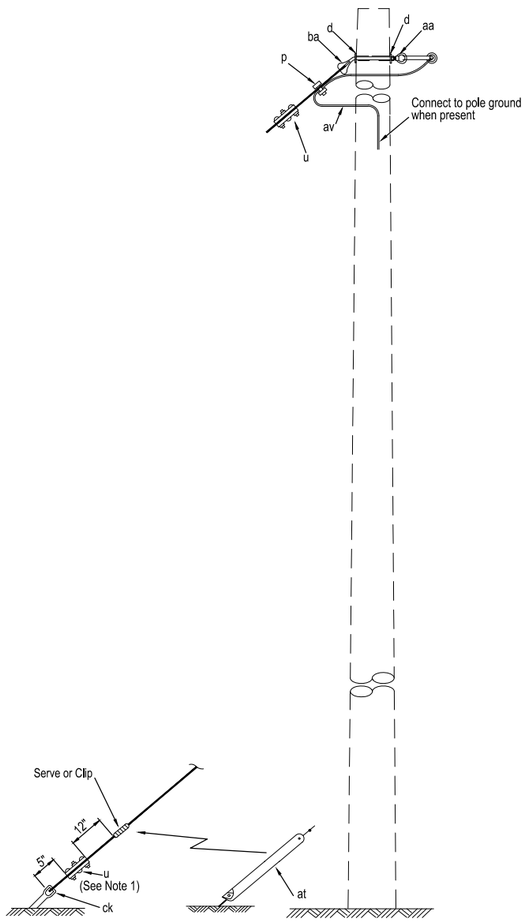
ID #	EXIST RETIRE ADD SALVAGE NEW	POLE								Underground			SECONDARY					GUY & ANCHOR								Misc. Parts				Remarks
		Back Span (Ft)	From Pole	To Pole	Line Angle		Poles								Conductor			# of guy anc.	No.	Guy Unit 'E'	Min. Lead or Span (Ft)	Lead N-pos (Ft)	Guy Strand		Anchor Unit 'F'	Qty	Description	Qty	Description	
					Deg.	Dir.	Height (Ft)	Class	Burial Depth (Ft)	Qty.	Asmbly	FT	Qty.	Asmbly	#	AWG	Type						Dia. (in)	Grade						
52+40.11'-53.50'LT	RETIRE												1	J3.1B																
EXISTING CUC LIFT STAION SERVICE	RETIRE	118	52+40.11'-53.50'LT										1	J3.1B	1	#2	QUADRUPLEX	1	1	E1.1XX			-	-	F3.10					
" "	RETIRE						35	-	-				1	Q2.1XX												1	CONDUIT RISER	1	SVC ASSEMBLY	EXISTING METER NO. 324788
52+43.60'-177.21'RT	EXIST												1	UM5XX	-	-														
EXISTING GHU PUMPHOUSE SERVICE	EXIST	91	52+43.60'-177.21'RT										1	UR2XX	-	-												1	SVC ASSEMBLY	EXISTING METER NO. 324427
52+43.60'-177.21'RT	NEW																									1	2" RMC CONDUIT RISER			ATTACHED NEW RISER TO EXISTING UTILITY POLE AND EXISTING STANDOFF BRACKET. COORDINATE WORK WITH GVEA.
NEW CUC LIFT STAION SERVICE	NEW	109	52+43.60'-177.21'RT										1	UR2XX	4	#2	XHHW									1	2" RMC CONDUIT			

ELECTRICAL SECONDARY RELOCATION PLANS

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\11147.04FB-UNIV_AVE-SEGMENT_2A\E\Electrical Secondary Relocation\E0002spep1147.04FB-U401 Fri, Dec/06/19 12:12pm

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\11147.04FB-UNIV_AVE-SEGMENT_2A\E\Electrical Secondary Relocation\E0003d011147.04FB-U402 Fri, Dec/06/19 12:11pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U402	U403



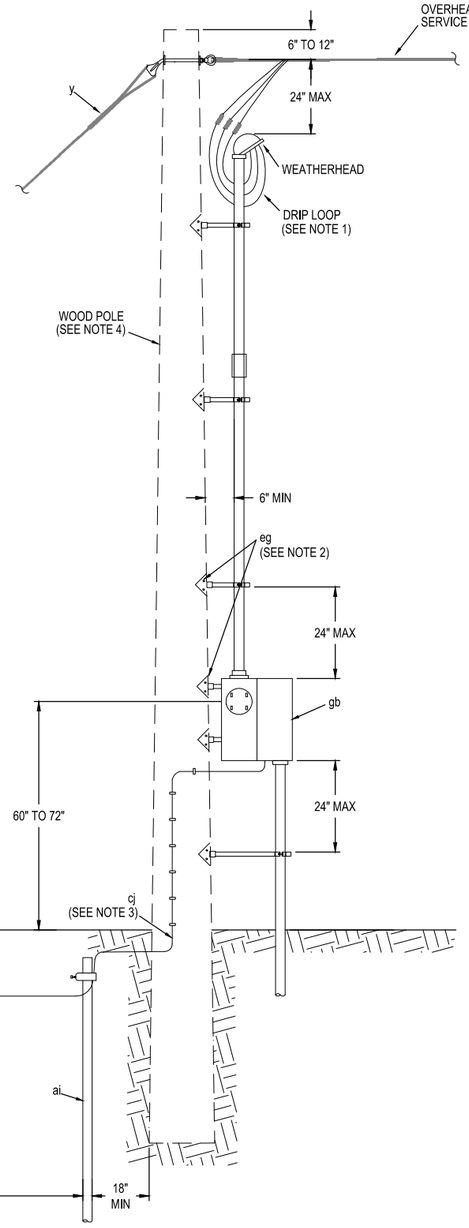
ITEM	QTY	MATERIAL
c	1	BOLT, MACHINE, 5/8" x REQ'D LENGTH
d	2	WASHER, 3" SQUARE, CURVED
p		CONNECTORS, GUY BOND AND AS REQ'D
u	2	DEADEND FOR GUY STRAND (SEE NOTE 1)
ba	1	ANGLE THIMBLE EYEBOLT
y		GUY WIRE AS REQ'D (SEE NOTE 3)
at	1	GUY MARKER
av		JUMPERS, AS REQ'D
ck	1	CLAMP, ANCHOR BONDING
aa	1	GALVANIZED OVAL EYENUT

NOTES:

1. OTHER ACCEPTED AND EQUIVALENT GUY DEADEND (ITEM "u") MATERIAL MAY BE SUBSTITUTED FOR THE ONES SHOWN.
2. SOME TYPES OF GUY ATTACHMENTS USE 2 BOLTS AND WASHER OR LAG SCREW (ITEM "j"). CHANGE MATERIALS ACCORDINGLY.
3. SPECIFY GUY WIRE SIZE, TYPE AND REQUIRED LENGTH.

1 / U402 E1.1XX: SINGLE DOWN GUY

SCALE: NTS



ITEM	QTY	MATERIAL
y	1	DOWN GUY
eg		STANDOFF BRACKET & CONDUIT SUPPORT, QTY AS REQ'D
gb	1	SERVICE ASSEMBLY
cj	1	GROUDNING ELECTRODE CONDUCTOR
ai	1	GROUNDING ELECTRODE, 3/4" x 10' COPPER CLAD

NOTES:

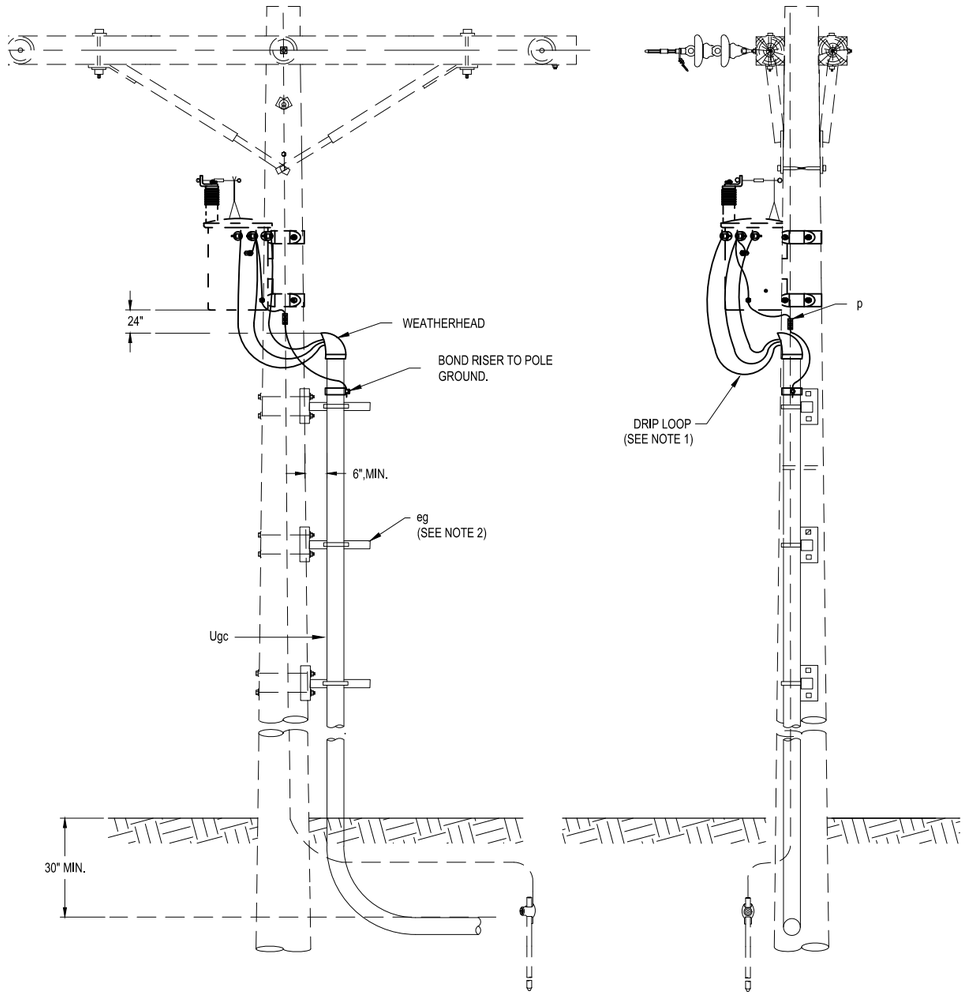
1. PROVIDE DRIP LOOP TO MINIMIZE MOISTURE INTO SERVICE RISER. PROVIDE A MINIMUM VERTICAL DISTANCE OF 6 INCHES FROM THE WEATHERHEAD TO THE BOTTOM OF DRIP LOOP.
2. THE INITIAL SECTION OF STRAIGHT RISER CONDUIT SHALL HAVE TWO STAND-OFF BRACKETS, SUBSEQUENT SECTIONS REQUIRE ONLY ONE BRACKET. BOTTOM-MOST BRACKET SHALL BE 8 FEET MINIMUM ABOVE FINISHED GRADE PER NESC 217.A.2.C.
3. STAPLE GROUNDING ELECTRODE CONDUCTOR EVERY 6 INCHES. STAPLES SHALL BE COPPER CLAD.
4. POLE BASE BELOW GRADE TO BE WRAPPED WITH THREE LAPS OF POLYETHYLENE SHEETING TO RESIST FROST JACKING.

2 / U402 Q2.1XX: POLE TYPE SERVICE ASSEMBLY

SCALE: NTS

ELECTRICAL DETAILS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	U403	U403



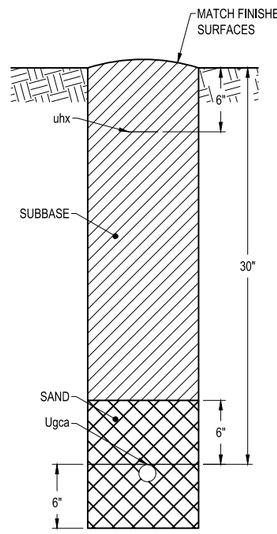
ITEM	QTY	MATERIAL
p		CONNECTORS, AS REQ'D
Ugc		RMC RISER, DIAMETER AND LENGTH AS REQ'D
eg		STANDOFF BRACKET & CONDUIT SUPPORT, QTY AS REQ'D

NOTES:

1. PROVIDE DRIP LOOP TO MINIMIZE MOISTURE INTO SERVICE RISER. PROVIDE A MINIMUM VERTICAL DISTANCE OF 6 INCHES FROM THE WEATHERHEAD TO THE BOTTOM OF DRIP LOOP.
2. STANDOFF TO BE A MINIMUM 15 INCHES. PROVIDE ONE MINIMUM PER SECTION OF CONDUIT.

1 / U403 UM5XX: SECONDARY CABLE TERMINAL POLE

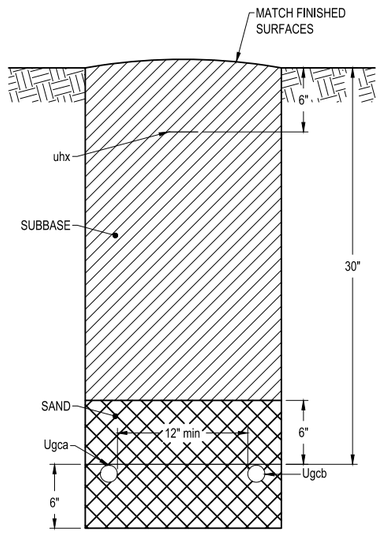
SCALE: NTS



UR2

TRENCHING UNIT
ONE CONDUIT

ITEM	QTY	MATERIAL
uhx		MARKER TAPE
Ugca		POWER CONDUIT, DIAMETER AND LENGTH REQ'D
Ugcb		TELECOM CONDUIT, DIAMETER AND LENGTH REQ'D



UR2-1

TRENCHING UNIT
POWER AND TELEPHONE CCONDUIT

2 / U403 UR2XX: TRENCHES FOR CONDUITS

SCALE: NTS

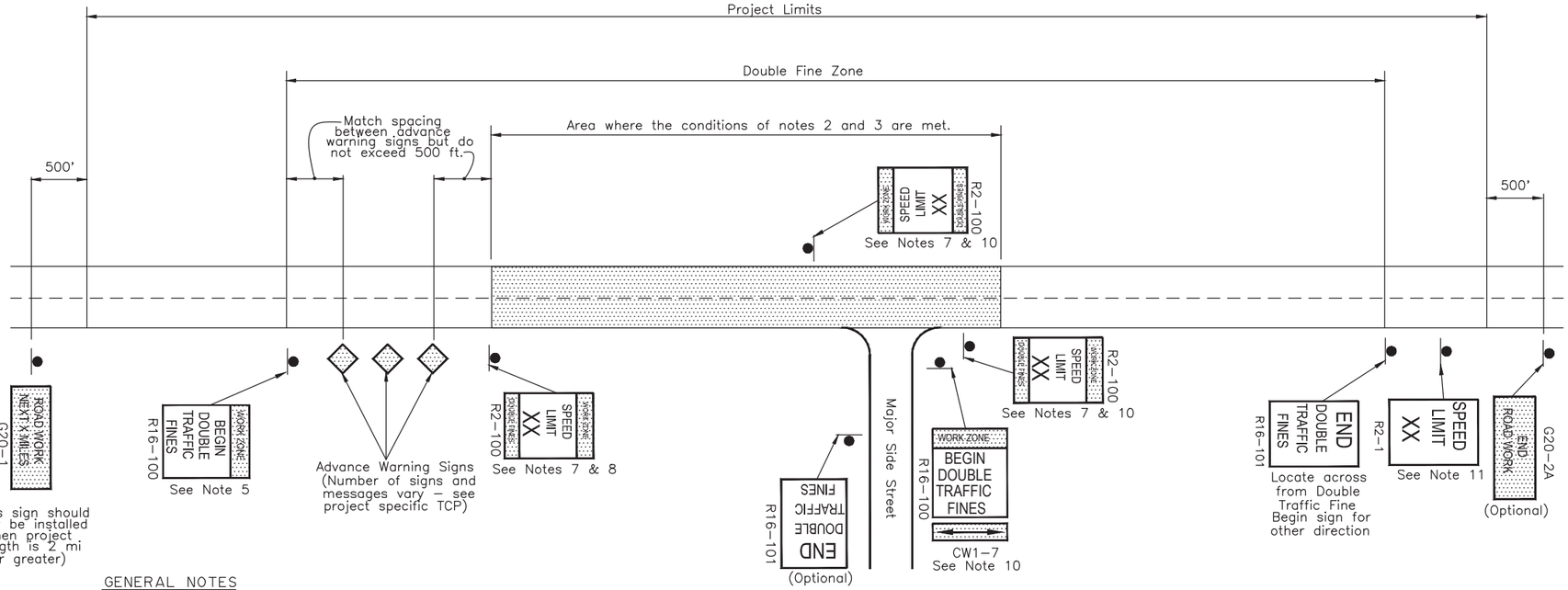
ELECTRICAL DETAILS

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\11147.04FB-UNIV_AVE-SEGMENT_2A\E\Electrical Secondary Relocation\E0004d1021147.04FB-U403 Fri, Dec/06/19 12:11pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	V1	V36

C-04.12

SHEET 1 of 1



GENERAL NOTES

1. Signs are shown for one direction only (with one exception). Signs for the other direction mirror those shown.
2. Double fine signs shall be used only where one or more of the following conditions exist:
   a. Active work areas (where road workers and/or machines are presently working on or adjacent to a road)
   b. Detours on new temporary roads built for that purpose (this does not include detours on existing streets)
   c. Sections of paved roads where pavement has been removed.
   d. Roads being paved where unmatched asphalt lifts result in a vertical lip between lanes.
3. Double fine signs shall be confined to the areas where the above conditions exist, with the following exceptions:
   a. If the project is 2 miles or shorter in length, the entire project may be posted for double fines when the above conditions exist on any part of the project.
   b. When the above conditions exist at multiple locations separated by less than 2 miles, the locations and the intervening segments may be posted as a single double fine zone.
4. Double fine signs shall be removed or covered when work activity ceases for more than two days and conditions b, c, or d of note 2 are not met.
5. The R16-100 "BEGIN" sign may be used in place of the first advance warning sign. However, when this is done, the appropriate advance warning sign must be reinstalled when the double fine sign is taken down or covered.
6. When a double fine zone is longer than 2 miles, work zone speed limit signs shall be posted at spacings not greater than 2 miles within the double fine zone.
7. "Work zone speed limit signs", as used here, refer either to 1) R2-100 signs or 2) standard R2-1 regulatory speed limit signs with CW20-102 "DOUBLE FINES" plates mounted below.
8. The limit shown on work zone speed limit signs shall be either the existing limit before construction or, if a work zone speed limit order has been approved in accordance with ADOT&PF Procedure 05.05.020 PDR, a reduced limit.
9. All existing regulatory speed limit signs within double fine zones shall either be replaced with R2-100 signs or supplemented with CW20-102 plates.
10. Signs shall be installed at major intersections within the double fine zone to warn entering drivers of double fines. This may be done with a R16-100 sign with a CW1-7 arrow panel on the side street or with two work zone speed limit signs on the main street on either side of the intersection. Use of R16-100 signs on side streets eliminates the need for "Road Work Ahead" signs on those streets. If the speed limit has been reduced, the two work zone speed limit signs are mandatory.
11. At the end of each double fine zone, install an R2-1 sign showing the speed limit for the road beyond the double fine zone.

REVISIONS		
Date	Description	By
6/11/99	Revised Notes	KJS
2/28/03	Rev. Notes & Sign No's	KJS

State of Alaska
Department of Transportation
& Public Facilities

LOCATION OF
DOUBLE TRAFFIC
FINE SIGNS

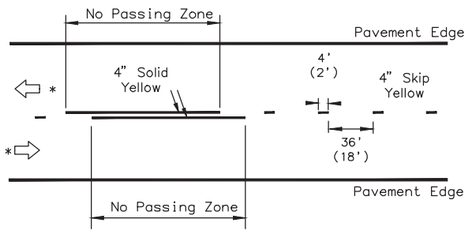
C-04.12

STANDARD DRAWING
C-04.12

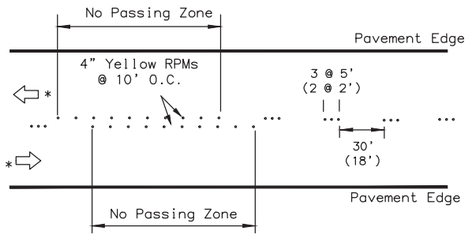
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

C-05.20



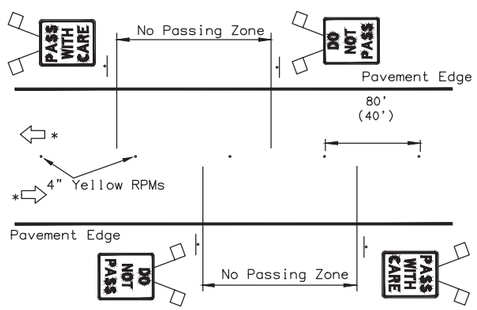
Striping



Temporary Raised Pavement Markers

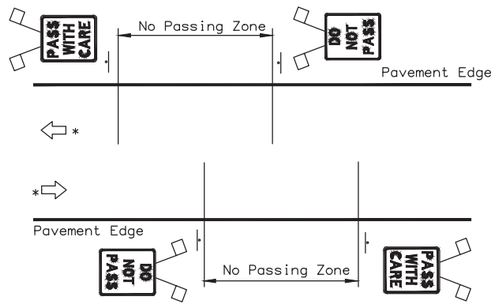
DETAIL A

Two-lane road: No Passing Zones indicated with pavement markings.



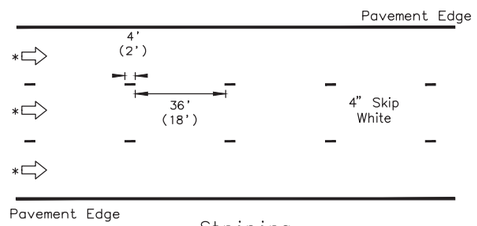
DETAIL B

Two-lane road: No Passing Zones indicated by signs only. Raised pavement markers for centerline delineation.

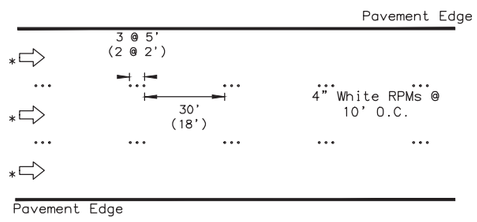


DETAIL C

Two-lane road: No Passing Zones indicated by signs only (see Note 2c). No centerline delineation.



Striping



Temporary Raised Pavement Markers

DETAIL D

Multilane one-way road: Lane dividing lines

* Direction of Travel

GENERAL NOTES:

1. Final pavement markings conforming to Part 3 of the Alaska Traffic Manual should be installed before paved roads are open to public travel. If that is not practical, install interim pavement markings as shown on this drawing. Maintain interim pavement markings until final pavement markings are installed.

2. No interim pavement markings are required:
   a. on projects that will not have permanent markings when finished.
   b. in work zones that are open to public travel for no more than one work shift during daytime or for no more than one hour at night.
   c. where DO NOT PASS and PASS WITH CARE signs are installed on two lane roads as shown in Detail C, no pavement markings are required:
      1) for 3 days if seasonal ADT is above 2000, or
      2) for 1 month if seasonal ADT is below 2000.

3. Interim pavement markings should not be in place longer than 14 calendar days before being replaced with permanent markings conforming to Part 3 of the Alaska Traffic Manual unless the Engineer provides written approval.

4. Where R4-1 DO NOT PASS signs are used, install at the beginning of no passing zones and at no more than 1500' spacings within no passing zones.

5. Install high level warning devices on all DO NOT PASS and PASS WITH CARE signs.

6. Offset temporary markings 8"-12" from the future location of permanent markings if applied on the same lift of pavement.

7. Dimensions in parenthesis apply to curves with a radius of 1000 feet or less or where posted speed limit is 30 mph or less.

REVISIONS		
Date	Description	By
4/28/10	RPM spacing, signs	KJS

Sheet 1 of 1

State of Alaska
Department of Transportation & Public Facilities

INTERIM
PAVEMENT MARKINGS

C-05.20

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

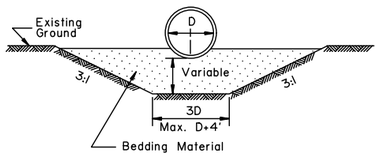
12/10/2019
95%
PS&E
SUBMITTAL

STANDARD DRAWING
C-05.20

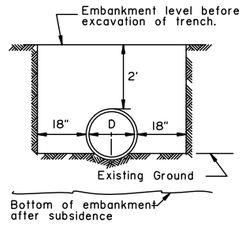
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V3	V

D-01.02

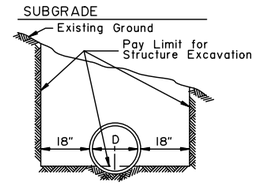
SHEET | of |



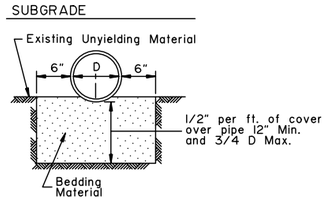
TYPE "A"
FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



TYPE "B"



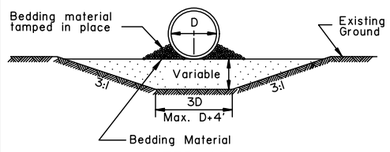
TYPE "C"



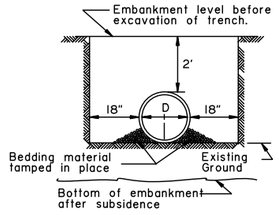
TYPE "D"
ROCK OR UNYIELDING MATERIAL

GENERAL NOTES:

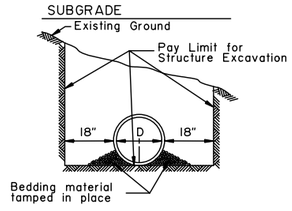
1. Sidefill shall be placed and compacted with care under haunches of pipe and shall be brought up evenly and simultaneously on both sides of pipe to 1 foot above the top of the full length of the pipe.
2. Alternate installation methods may only be used when specified or approved by the Engineer.



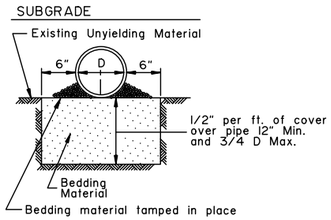
'ALTERNATE'
TYPE "A"
FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



'ALTERNATE'
TYPE "B"

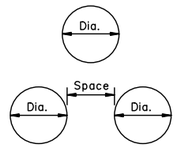


'ALTERNATE'
TYPE "C"



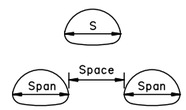
'ALTERNATE' TYPE "D"
ROCK OR UNYIELDING MATERIAL

D = Nominal Pipe Diameter



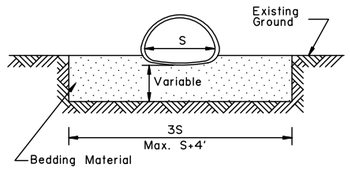
MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Dia. of pipe or 3', whichever is less.

S = Nominal Pipe Arch Span

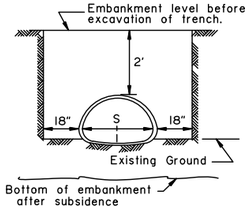


MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Span of pipe arch or 3', whichever is less.

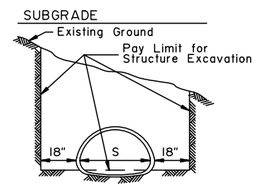
CULVERT PIPE



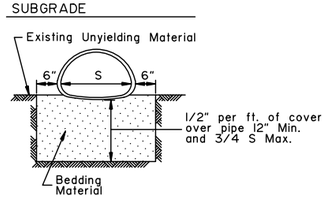
TYPE "A"
FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



TYPE "B"



TYPE "C"



TYPE "D"
ROCK OR UNYIELDING MATERIAL

ARCH

REVISIONS		
Date	Description	By
12/1/87	*Delete ref. to Specs.*	*Gdo*
4/1/93	*Delete All. Arch*	*Gdo*

State of Alaska
Department of Transportation
& Public Facilities

CULVERT PIPE & ARCH INSTALLATION DETAILS

D-01.02

CULVERT PIPE & ARCH INSTALLATION 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\d0102_11147.01FB-V3 Wed, Nov/27/19 02:32pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V4	V

D-04.21

Minimum & Maximum Cover For 2 2/3" x 1/2" Aluminum Pipe

GAGE	0.060"		0.075"		0.105"		0.135"		0.164"	
Dia. (In)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)
12	12	100+	12	100+	12	100+	12	100+	12	100+
15	12	94	12	100+	12	100+	12	100+	12	100+
18	12	75	12	94	12	100+	12	100+	12	100+
21	12	65	12	82	12	100+	12	100+	12	100+
24	12	56	12	71	12	99	12	100+	12	100+
27	12	48	12	63	12	89	12	100+	12	100+
30			12	56	12	79	12	100+	12	100+
36			12	47	12	66	12	85	12	100+
42			12	55	12	56	12	73	12	100+
48			12	47	12	49	12	63	12	78
54					15	43	15	56	15	69
60							15	50	15	62
66							18	44	18	56
72									18	45

Minimum & Maximum Cover For 3" x 1" Aluminum Pipe

GAGE	0.060"		0.075"		0.105"		0.135"		0.164"	
Dia. (In)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)
30	12	52	12	65						
36	12	43	12	54	12	100+	12	100+	12	100+
42	12	36	12	46	12	65	12	100+	12	100+
48	12	32	12	40	12	57	12	73	12	100+
54	15	28	15	35	15	50	12	65	12	100+
60	15	25	15	32	15	45	15	58	15	72
66	18	23	18	28	18	41	18	53	18	65
72	18	21	18	26	18	37	18	48	18	59
78			21	24	21	34	21	44	21	55
84					21	31	21	41	21	57
90					24	29	24	38	21	47
96					24	27	24	36	24	44
102							24	33	24	41
108							24	31	24	39
114									24	37
120									24	35

Minimum & Maximum Cover For 9" x 2 1/2" Aluminum Structural Plate Pipe*

GAGE	0.100"		0.125"		0.150"		0.175"		0.200"		0.225"		0.250"	
Dia. (In)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)
60	12	29 31	12	38 45	12	49 60	12	58 70	12	58 81	12	58 92	12	58 100+
66	12	26 28	12	35 41	12	44 54	12	53 64	12	53 74	12	53 84	12	53 94
72	13	24 25	12	32 37	12	41 50	12	48 58	12	48 67	12	48 77	12	48 86
78	14	22 23	12	29 35	12	37 46	12	45 54	12	45 62	12	45 71	12	45 79
84	15	20 22	13	27 32	12	35 42	12	41 50	12	41 58	12	41 66	12	41 73
90	16	19 20	14	25 30	13	32 40	12	39 47	12	39 54	12	39 61	12	39 68
96	17	18 19	15	24 28	14	30 37	13	36 44	12	36 50	12	36 57	12	36 64
102	18	17 18	16	22 26	15	29 35	14	34 41	13	34 47	13	34 54	13	34 60
108	19	16 17	17	21 25	16	27 33	14	32 39	14	32 45	14	32 51	14	32 57
114	20	15 16	18	20 23	16	25 31	15	30 37	15	30 42	15	30 48	15	30 54
120	21	14 15	19	19 22	17	24 30	16	29 35	15	29 40	15	29 46	15	29 51
126	22	13 14	20	18 21	18	23 28	17	27 33	16	27 38	16	27 44	16	27 49
132	23	13 14	21	17 20	19	22 27	18	26 32	17	26 37	17	26 42	17	26 47
138	24	12 13	22	16 19	20	21 26	18	25 30	18	25 35	18	25 40	18	25 44
144	25	12 12	22	16 18	21	20 25	19	24 29	18	24 33	18	24 38	18	24 43
150			23	15 18	21	19 24	20	23 28	19	23 32	19	23 36	19	23 41
156			24	14 17	22	18 23	21	22 27	20	22 31	20	22 35	20	22 39
162					23	18 22	21	21 26	21	21 30	21	21 34	21	21 38
168					24	17 21	22	20 25	21	20 29	21	20 33	21	20 36
174					25	17 20	23	20 24	22	20 28	22	20 31	22	20 35
180							24	19 23	23	19 27	23	19 30	23	19 34

*Longitudinal seams use (5 1/3) 3/4" dia. bolts per foot.

58 ← Upper figure for pipe with aluminum bolts.
100+ ← Lower figure for pipe with galvanized steel bolts.
(FOR TABLE ABOVE ONLY.)

GENERAL NOTES:

1. All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
5. See Standard Drawing "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the top of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflecton.
7. These tables have been developed for an H-20 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2000 AASHTO "LRFD Bridge Design Specifications".

CORRUGATED CIRCULAR ALUMINUM PIPE

CORRUGATED ALUMINUM PIPE-ARCH

Minimum & Maximum Cover For 2 2/3" x 1/2" Aluminum Pipe-Arch

Span x Rise (In. x In.)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (In)	Max. Cover (Ft) 2 Tons Corner Bearing Pressure	Max. Cover (Ft) 3 Tons Corner Bearing Pressure ⊘
17 x 13	3	0.060	12	13	20
21 x 15	3	0.060	12	12	19
24 x 18	3	0.060	12	11	16
28 x 20	3	0.075	12	10	16
35 x 24	3	0.075	12	9	14
42 x 29	3 1/2	0.105	12	7	13
49 x 33	4	0.105	15	6	12
57 x 38	5	0.135	15	6	12
64 x 43	6	0.135	18	6	12
71 x 47	7	0.164	18	6	12

Minimum & Maximum Cover For 3" x 1" Aluminum Pipe-Arch

Span x Rise (In. x In.)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (In)	Max. Cover (Ft) 2 Tons Corner Bearing Pressure	Max. Cover (Ft) 3 Tons Corner Bearing Pressure ⊘
40 x 31	5	0.075	30	8	12
46 x 36	6	0.075	24	8	13
53 x 41	7	0.075	24	8	13
60 x 46	8	0.075	24	13	20
66 x 51	9	0.075	18	13	20
73 x 55	12	0.075	18	16	24
81 x 59	14	0.105	18	14	22
87 x 63	14	0.105	18	13	20
95 x 67	16	0.105	18	12	18
103 x 71	16	0.135	24	11	17
112 x 75	18	0.164	24	10	16
117 x 79	18	0.164	24	10	15

Minimum & Maximum Cover For 9" x 2Ð " Aluminum Structural Plate Pipe-Arch*

Span x Rise (Ft-In x Ft-In)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (ft)	Max. Cover in Feet For Soil Bearing Capacity of: 2 Tons/ft²	3 Tons/ft²
5 - 11 x 5 - 5	31.8	0.100	2	24**	24**
6 - 11 x 5 - 9	31.8	0.100	2	22**	22**
7 - 3 x 5 - 11	31.8	0.100	2	20**	20**
7 - 9 x 6 - 0	31.8	0.100	2	28**	18**
8 - 5 x 6 - 3	31.8	0.100	2	17**	17**
9 - 3 x 6 - 5	31.8	0.100	2	15**	15**
10 - 3 x 6 - 9	31.8	0.100	2	14**	14**
10 - 9 x 6 - 10	31.8	0.100	2	13**	13**
11 - 5 x 7 - 1	31.8	0.100	2	12**	12**
12 - 7 x 7 - 5	31.8	0.125	2	14	16**
12 - 11 x 7 - 6	31.8	0.150	2	13	14**
13 - 1 x 8 - 2	31.8	0.150	2	13	18**
13 - 11 x 8 - 5	31.8	0.150	2	12	17**
14 - 8 x 9 - 8	31.8	0.175	2	12	18
15 - 4 x 10 - 0	31.8	0.175	2	11	17
16 - 1 x 10 - 4	31.8	0.200	2	10	16
16 - 9 x 10 - 8	31.8	0.200	2.17	10	15
17 - 3 x 11 - 0	31.8	0.225	2.25	10	15
18 - 0 x 11 - 4	31.8	0.255	2.25	9	14
18 - 8 x 11 - 8	31.8	0.250	2.33	9	14

*Longitudinal seams use (5 1/3) 3/4" dia. bolts per foot.
**Fill limited by the seam strength of the bolts. 3/4" dia. bolts per foot.

METAL THICKNESSES & GAGES

ALUMINUM	GAGE NO. (For Info Only)
0.060	16
0.075	14
0.105	12
0.135	10
0.164	8

⊘ This column shall not be used unless specified on the plans or approved by the Regional Geotechnical Engineer.

REVISIONS		
Date	Description	By
8/10/00	Pipe Tables & G. Notes.	DFD
10/31/03	Pipe Table Updates & New Sheet 4	LRG

Sheet 1 of 4

State of Alaska
Department of Transportation & Public Facilities

PIPE AND ARCH TABLES

D-04.21

PIPE AND ARCH TABLES (1 OF 4)

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\d0421_11147.01FB-V4 Wed, Nov/27/19 02:32pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V5	V

D-04.21

GENERAL NOTES

1. All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
5. See Standard Drawing "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the top of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflecton.
7. These tables have been developed for an H-20 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2000 AASHTO "LRFD Bridge Design Specifications".

Minimum & Maximum Cover For 2 2/3" x 1/2" Steel Pipe

GAGE	0.064"		0.079"		0.109"		0.138"		0.168"	
Dia. (In)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)
12	12	100+	12	100+	12	100+	12	100+	12	100+
15	12	100+	12	100+	12	100+	12	100+	12	100+
18	12	100+	12	100+	12	100+	12	100+	12	100+
21	12	100+	12	100+	12	100+	12	100+	12	100+
24	12	100+	12	100+	12	100+	12	100+	12	100+
27	12	100+	12	100+	12	100+	12	100+	12	100+
30	12	99	12	100+	12	100+	12	100+	12	100+
36	12	83	12	100+	12	100+	12	100+	12	100+
42	12	71	12	88	12	100+	12	100+	12	100+
48	12	62	12	77	12	100+	12	100+	12	100+
54			12	66	12	93	12	100+	12	100+
60					12	79	12	100+	12	100+
66					12	68	12	88	12	100+
72							12	75	12	93
78									12	79
84									12	66

Minimum & Maximum Cover For 3" x 1" Steel Pipe

GAGE	0.064"		0.079"		0.109"		0.138"		0.168"	
Dia. (In)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)
36	12		12		12	100+	12	100+	12	100+
42	12		12		12	100+	12	100+	12	100+
48	12		12	76	12	100+	12	100+	12	100+
54	12	63	12	79	12	100+	12	100+	12	100+
60	12	56	12	71	12	99	12	100+	12	100+
66	12	52	12	64	12	90	12	100+	12	100+
72	12	47	12	59	12	82	12	100+	12	100+
78	12	44	12	54	12	77	12	98	12	100+
84	12	41	12	51	12	71	12	92	12	100+
90	12	37	12	47	12	67	12	86	12	100+
96	12	35	12	44	12	62	12	80	12	98
102	18	33	18	42	18	59	18	76	18	93
108			18	40	18	55	18	71	18	87
114			18	36	18	51	18	66	18	80
120			18	34	18	46	18	61	18	75
126					18	44	18	56	18	70
132					18	41	18	53	18	64
138					18	37	18	49	18	60
144							18	44	18	55
150									18	52

Minimum & Maximum Cover For 5" x 1" Steel Pipe*

GAGE	0.064"		0.079"		0.109"		0.138"		0.168"	
Dia. (In)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)
36	12	81	12	90	12	100+	12	100+	12	100+
42	12	71	12	77	12	100+	12	100+	12	100+
48	12	62	12	68	12	100+	12	100+	12	100+
54	12	56	12	70	12	98	12	100+	12	100+
60	12	50	12	63	12	88	12	100+	12	100+
66	12	46	12	57	12	80	12	100+	12	100+
72	12	42	12	52	12	73	12	95	12	100+
78	12	39	12	48	12	68	12	87	12	100+
84	12	36	12	45	12	63	12	81	12	99
90	12	33	12	42	12	59	12	76	12	93
96	12	31	12	39	12	55	12	71	12	87
102	18	29	18	37	18	52	18	67	18	82
108			18	35	18	49	18	63	18	77
114			18	32	18	45	18	58	18	71
120			18	30	18	41	18	54	18	66
126					18	39	18	50	18	62
132					18	36	18	47	18	57
138					18	33	18	43	18	53
144							18	39	18	49
150									19	47

*Table for pipe with helical lockseams or helical welded seams ONLY.

Minimum & Maximum Cover For 6" x 2" Steel Structural Plate Pipe**

GAGE	ALL	0.111"	0.140"	0.170"	0.188"	0.218"	0.249"	0.280"
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
60	12	46	68	90	100+	100+	100+	100+
66	12	42	62	81	93	100+	100+	100+
72	12	38	57	75	86	100+	100+	100+
78	12	35	52	69	79	95	100+	100+
84	12	33	49	64	73	88	100+	100+
90	12	31	45	60	68	82	97	100+
96	12	29	43	56	64	77	91	100+
102	18	27	40	52	60	73	86	94
108	18	25	38	50	57	69	81	88
114	18	24	36	47	54	65	77	84
120	18	23	34	45	51	62	73	80
126	18	22	32	42	49	59	69	76
132	18	21	31	40	46	56	66	72
138	18	20	29	39	44	54	63	69
144	18	19	28	37	43	51	61	66
150	24	18	27	36	41	49	58	64
156	24	17	26	34	39	47	56	61
162	24	17	25	33	38	46	54	59
168	24	16	24	32	36	44	52	57
174	24	16	23	31	35	42	50	55
180	24	15	22	30	34	41	48	53
186	24	15	22	29	33	40	47	51
192	24		21	28	32	38	45	50
198	30		20	27	31	37	44	48
204	30		20	26	30	36	43	47
210	30		19	25	29	35	41	45
216	30			25	28	34	40	44
222	30			24	27	33	39	43
228	30			23	27	32	38	42
234	30			23	26	31	37	41
240	30				25	31	36	40
246	36				25	30	35	39
252	36					29	34	38
258	36					28	34	37
264	36					28	33	36
270	36					27	32	35
276	36						31	34
282	36						31	34
288	42						30	33
294	42							32
300	42							32
306	42							31
312	42							30

**Longitudinal seams use (4) 3/4" dia. bolts per foot.

CORRUGATED CIRCULAR STEEL PIPE

CORRUGATED STEEL PIPE-ARCH

Minimum & Maximum Cover For 2 2/3" x 1/2" Steel Pipe-Arch

Span x Rise (In. x In.)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (In)	Max. Cover (Ft) 2 Tons Corner Bearing Pressure	Max. Cover (Ft) 3 Tons Corner Bearing Pressure ⊘
17 x 13	3	0.064	12	16	18
21 x 15	3	0.064	12	15	14
24 x 18	3	0.064	12	15	13
28 x 20	3	0.064	12	15	11
35 x 24	3	0.064	12	15	7
42 x 29	3 1/2	0.064	12	15	7
49 x 33	4	0.079	12	15	6
57 x 38	5	0.109	12	15	8
64 x 43	6	0.109	12	15	9
71 x 47	7	0.138	12	15	10
77 x 52	8	0.168	12	15	10
83 x 57	9	0.168	12	15	10

Minimum & Maximum Cover For 3" x 1" Steel Pipe-Arch

Span x Rise (In. x In.)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (In)	Max. Cover (Ft) 2 Tons Corner Bearing Pressure	Max. Cover (Ft) 3 Tons Corner Bearing Pressure ⊘
40 x 31	5	0.079	12	25	12
46 x 36	6	0.079	12	25	13
53 x 41	7	0.079	12	25	13
60 x 46	8	0.079	15	25	13
66 x 51	9	0.079	15	25	13
73 x 55	12	0.079	18	24	16
81 x 59	14	0.079	18	21	17
87 x 63	14	0.079	18	20	16
95 x 67	16	0.079	18	20	17
103 x 71	16	0.079	18	20	15
112 x 75	18	0.079	21	20	16
117 x 79	18	0.109	21	19	15
128 x 83	18	0.138	24	19	14
137 x 87	18	0.138	24	19	13
142 x 91	18	0.138	24	19	12
150 x 96	18	0.138	30	19	
157 x 96	18	0.138	30	19	
164 x 105	18	0.138	30	19	
171 x 110	18	0.138	30	19	

Minimum & Maximum Cover For 5" x 1" Steel Pipe-Arch

Span x Rise (In. x In.)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (In)	Max. Cover (Ft) 2 Tons Corner Bearing Pressure	Max. Cover (Ft) 3 Tons Corner Bearing Pressure ⊘
40 x 31	5	0.109	12	25	12
46 x 36	6	0.109	15	25	13
53 x 41	7	0.109	15	25	13
60 x 46	8	0.109	18	25	13
66 x 51	9	0.109	18	25	13
73 x 55	12	0.109	18	24	16
81 x 59	14	0.109	18	21	17
87 x 63	14	0.109	18	20	16
95 x 67	16	0.109	18	20	17
103 x 71	16	0.109	18	20	15
112 x 75	18	0.109	21	20	16
117 x 79	18	0.109	21	19	15
128 x 83	18	0.109	24	19	14
137 x 87	18	0.109	24	19	13
142 x 91	18	0.109	24	19	12
150 x 96	18	0.138	30	19	
157 x 96	18	0.138	30	19	
164 x 105	18	0.138	30	19	
171 x 110	18	0.138	30	19	

Minimum & Maximum Cover For 6" x 2" Steel Structural Plate Pipe-Arch**

Span x Rise (Ft-In x Ft-In)	Corner Radius (In)	Minimum Gage (In)	2 Tons Corner Bearing Pressure Min. Cover (In)	2 Tons Corner Bearing Pressure Max. Cover (Ft)	3 Tons Corner Bearing Pressure ⊘ Min. Cover (In)	3 Tons Corner Bearing Pressure ⊘ Max. Cover (Ft)
6-1 x 4-7	18	0.111	18	16	12	24
7-0 x 5-1	18	0.111	18	14	12	21
7-11 x 5-7	18	0.111	18	13	12	19
8-10 x 6-1	18	0.111	24	11	18	17
9-9 x 6-7	18	0.111	24	10	18	15
10-11 x 7-1	18	0.111	24	9	18	14
11-10 x 7-7	18	0.111	24	7	18	13
12-10 x 8-4	18	0.111	30	6	24	12
14-1 x 8-9	18	0.111	30	5	24	11
15-4 x 9-3	18	0.111	NS	NS	24	10
15-10 x 9-10	18	0.111	NS	NS	24	9
16-7 x 10-1	18	0.111	NS	NS	24	9
13-3 x 9-4	31	0.111	24	13	24	17
14-2 x 9-10	31	0.111	24	12	24	16
15-4 x 10-4	31	0.111	24	11	24	15
16-3 x 10-10	31	0.111	24	11	24	14
17-2 x 11-4	31	0.111	30	10	30	13
18-1 x 11-10	31	0.111	30	10	30	12
19-3 x 12-4	31	0.111	30	9	30	13
19-11 x 12-10	31	0.140	30	9	30	13
20-7 x 13-2	31	0.140	36	7	36	13

NS = Not Suitable

⊘ This column shall not be used unless specified on the plans or approved by the Region Geotechnical Engineer.

**Longitudinal seams use (4) 3/4" dia. bolts per foot.

METAL THICKNESSES & GAGES

STEEL		
ZINC COATED	UNCOATED	GAGE NO. (For Info Only)
0.064	0.0598	16
0.079	0.0747	14
0.109	0.1047	12
0.138	0.1345	10
0.168	0.1644	8
0.188	0.1838	7
0.218	0.2145	5
0.249	0.2451	3
0.280	0.2758	1

REVISIONS		
Date	Description	By
8/10/00	Pipe Tables & G. Notes.	DFD
10/31/03	Pipe Table Updates & New Sheet 4.	LRG

Sheet 2 of 4

State of Alaska
Department of Transportation & Public Facilities

PIPE AND ARCH TABLES

D-04.21

PIPE AND ARCH TABLES (2 OF 4)

STATE OF ALASKA 49TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\d0421_11147.01FB-V5 Wed, Nov/27/19 02:32pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V6	V

D-04.21

Maximum Cover for Type S Corrugated Polyethelene Pipe	
Size (in.)	Max. Cover (ft.)
12	30.0
15	30.0
18	30.0
24	30.0
30	30.0
36	30.0
40	20.0
48	20.0

GENERAL NOTES

1. All materials and workmanship shall be in accordance with the State of Alaska Standard Specifications for Highway Construction.

2. For foundation and structural backfill details see Standard Drawing "Culvert Pipe & Arch Installation Details".

3. Pipe cover height is measured from top of the pipe to top of rigid pavement, or to the top of subgrade for flexible pavement. In all cases the minimum cover shall be no less than 2 ft. Where loads traverse the culvert during construction minimum cover shall be no less than 4 ft.

REVISIONS		
Date	Description	By
10/31/03	New Sheet 4.	LRG

Sheet 3 of 4

State of Alaska
Department of Transportation
& Public Facilities

PIPE AND ARCH TABLES

D-04.20

PIPE AND ARCH TABLES
(3 OF 4)

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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\d0421_11147.01FB-V6 Wed, Nov/27/19 02:32pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V7	V

D-04.21

GENERAL NOTES

1. All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
5. See Standard Drawing "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the top of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflecton.
7. These tables have been developed for an H-20 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2000 AASHTO "LRFD Bridge Design Specifications".

Minimum & Maximum Cover For Aluminum Spiral Rib Circular Pipe*

GAGE	0.060"		0.075"		0.105"		0.135"	
Dia. (In)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)
12	24	35	24	50				
18	24	34	24	49				
24	24	25	24	36	24	63	24	82
30	24	19	24	28	24	50	24	65
36	24	15	24	24	24	41	24	54
42			24	19	24	35	24	46
48			24	17	24	30	24	40
54			24	14	24	27	24	35
60			24	12	24	24	24	30

*¾ x ¾ x 7½ in. or ¾ x 1 x 11½ in. Corrugations

Minimum & Maximum Cover For Aluminum Spiral Rib Pipe-Arch*

		Soil Corner Bearing Capacity of 2 Tons/ s.f.		
		0.060"	0.075"	0.105"
Span x Rise (In. x In.)	Min. Cover (In.)	Max. Cover (ft.)	Max. Cover (ft.)	Max. Cover (ft.)
20 x 16	12	13		
23 x 19	12	14		
27 x 21	12	13		
33 x 26	12	13		
40 x 31	12	13		
46 x 36	12	14		
53 x 41	18		13	
60 x 46	18		20	
66 x 51	18		21	
73 x 55	18			21
81 x 59	18			17
87 x 63	18			17
95 x 67	18			17

*¾ x ¾ x 7½ in. or ¾ x 1 x 11½ in. Corrugations

ALUMINUM SPIRAL RIB PIPE

STEEL SPIRAL RIB PIPE

Minimum & Maximum Cover For Steel and Aluminized Steel Spiral Rib Circular Pipe*

GAGE	0.064"		0.079"		0.109"		0.138"**	
Dia. (In)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)
18	12							
24	12	51	12	72	12	121		
30	12	41	12	58	12	97		
36	12	34	12	48	12	81		
42	12	29	12	41	12	69		
48	12	26	12	36	12	61		
54	18	23	18	32	18	54		
60	18	21	18	29	18	49	18	73
66	18	19	18	26	18	44	18	65
72			18	24	18	40	18	59
78			24	22	24	37	24	55
84			24	21	24	35	24	52
90					24	32	24	47
96					24	30	24	44
102					30	29	30	43
108					30	27	30	41

*¾ x ¾ x 7½ in. or ¾ x 1 x 11½ in. Corrugations
**¾ x ¾ x 7½ in. Corrugations Only.

Minimum & Maximum Cover For Steel Spiral Rib Arch-Pipe*

		Soil Corner Bearing Capacity of 2 Tons/ s.f.		
		0.064"	0.079"	0.109"
Span x Rise (In. x In.)	Min. Cover (In.)	Max. Cover (ft.)	Max. Cover (ft.)	Max. Cover (ft.)
20 x 16	12	13		
23 x 19	12	14		
27 x 21	12	13		
33 x 26	12	13		
40 x 31	12	13		
46 x 36	12	14		
53 x 41	18		13	
60 x 46	18		20	
66 x 51	18		21	
73 x 55	18			21
81 x 59	18			17
87 x 63	18			17
95 x 67	18			17

*¾ x ¾ x 7½ in. or ¾ x 1 x 11½ in. Corrugations

REVISIONS		
Date	Description	By
8/10/00	Pipe Tables & G. Notes.	DFD
10/31/03	New Sheet 4.	LRG

Sheet 4 of 4

State of Alaska
Department of Transportation
& Public Facilities

PIPE AND ARCH TABLES

D-04.21

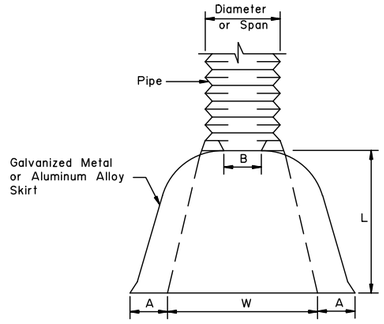
PIPE AND ARCH TABLES
(4 OF 4)

STATE OF ALASKA 49 TH 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\11147.04FB-UNIV_AVE-SEGMENT_2A\C\d0421_11147.01FB-V7 Wed, Nov/27/19 02:32pm

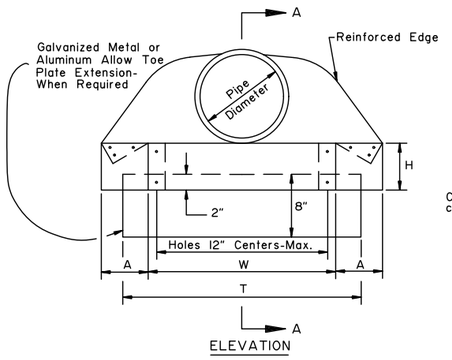
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V8	V

D-06.10



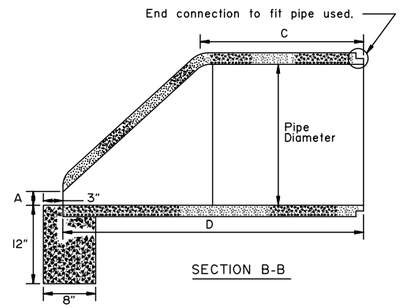
PLAN

ROUND AND PIPE ARCH



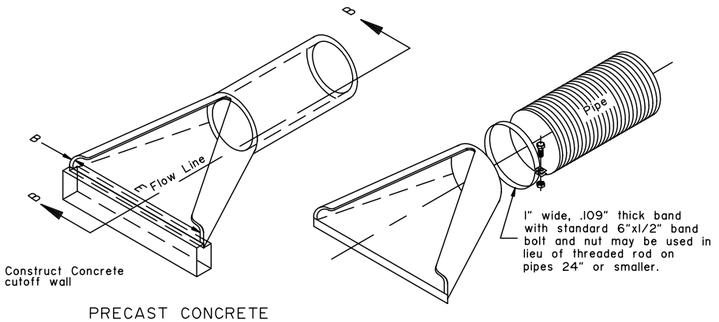
ELEVATION

ROUND PIPE



SECTION B-B

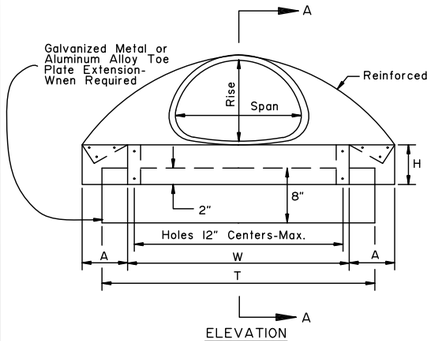
MINIMUM DIMENSIONS					
Pipe Diameter	A	B	C	D	E
12"	4"	1 3/4"	24"	46"	24"
18"	9"	2"	25"	50"	36"
24"	9 1/2"	2 1/2"	30"	72"	48"
30"	12"	3"	20"	73"	60"
36"	15"	3 3/8"	35"	97"	72"
42"	21"	3 3/4"	35"	98"	78"
48"	24"	4 1/4"	26"	98"	84"
54"	27"	4 5/8"	33"	99"	82"



PRECAST CONCRETE END SECTION

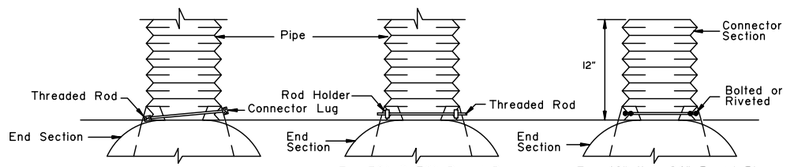
ROUND PIPE										
Pipe Diam. Inches	Thickness For Aluminum	Thk. for Galv. Metal	Dimension Inches A 1" Tol.	B Max.	H 1" Tol.	L 1 1/2" Tol.	W 2" Tol.	T 2" Tol.	Skirt	Approx. Slope
12"	0.060	0.064	6"	6"	6"	21"	24"	34"	1 Pc.	2 1/2
15"	0.060	0.064	7"	8"	6"	26"	30"	40"	1 Pc.	2 1/2
18"	0.060	0.064	8"	10"	6"	31"	36"	46"	1 Pc.	2 1/2
21"	0.060	0.064	9"	12"	6"	36"	42"	52"	1 Pc.	2 1/2
24"	0.075	0.064	10"	13"	6"	41"	48"	58"	1 Pc.	2 1/2
30"	0.075	0.079	12"	16"	8"	51"	60"	70"	1 Pc.	2 1/2
36"	0.105	0.079	14"	19"	9"	60"	72"	94"	2 Pc.	2 1/2
42"	0.105	0.109	16"	22"	11"	69"	84"	106"	2 Pc.	2 1/2
48"	0.105	0.109	18"	27"	12"	78"	90"	112"	2 Pc.	2 1/4
54"	0.105	0.109	18"	30"	12"	84"	102"	122"	2 Pc.	2 1/4
60"	0.135	0.109	18"	33"	12"	87"	114"	134"	3 Pc.	2 1/4
66"	0.135	0.109	18"	36"	12"	87"	120"	142"	3 Pc.	2 1/4
72"	0.135	0.109	18"	39"	12"	87"	126"	146"	3 Pc.	2 1/4
78"	— —	0.109	18"	42"	12"	87"	132"	152"	3 Pc.	1 1/4
84"	— —	0.109	18"	45"	12"	87"	138"	158"	3 Pc.	1 1/6

PIPE-ARCH											
Pipe-Arch Dimension Inches Span	Rise	Thickness for Aluminum	Thk. for Galv. Metal	Dimension Inches A 1" Tol.	B Max.	H 1" Tol.	L 1 1/2" Tol.	W 2" Tol.	T 2" Tol.	Skirt	Approx. Slope
17"	13"	0.060	0.064	7"	9"	6"	19"	30"	40"	1 Pc.	2 1/2
21"	15"	0.060	0.064	7"	10"	6"	23"	36"	46"	1 Pc.	2 1/2
24"	18"	0.060	0.064	8"	12"	6"	28"	42"	52"	1 Pc.	2 1/2
28"	20"	0.075	0.064	9"	14"	6"	32"	48"	58"	1 Pc.	2 1/2
35"	24"	0.075	0.079	10"	16"	6"	39"	60"	70"	1 Pc.	2 1/2
42"	29"	0.105	0.079	12"	18"	8"	46"	75"	85"	1 Pc.	2 1/2
49"	33"	0.105	0.109	13"	21"	9"	53"	85"	103"	2 Pc.	2 1/2
57"	38"	0.105	0.109	18"	26"	12"	63"	90"	114"	2 Pc.	2 1/2
64"	43"	0.105	0.109	18"	30"	12"	70"	102"	130"	2 Pc.	2 1/4
71"	47"	0.135	0.109	18"	33"	12"	77"	114"	144"	3 Pc.	2 1/4
77"	52"	0.135	0.109	18"	36"	12"	84"	120"	158"	3 Pc.	2 1/4
83"	57"	0.135	0.109	18"	39"	12"	90"	126"	170"	3 Pc.	2 1/4



ELEVATION

PIPE ARCH

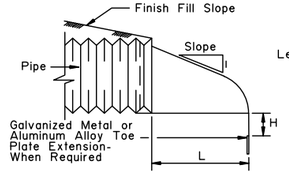


For 12" thru 24" Round Pipe with Annular Corrugations

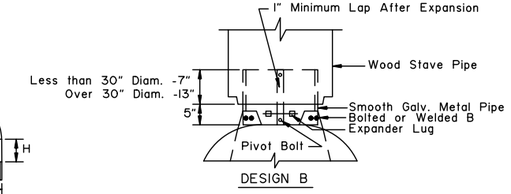
For 30" & 36" Round Pipe and 18"x11" thru 58"x36" Pipe Arch with Annular Corrugations.

For 42" thru 84" Round Pipe and 65"x40" thru 85"x54" Pipe Arch with Annular Corrugations and All Helically Corrugated Pipe and Pipe Arch.

DESIGN A



SECTION A-A



DESIGN B

METAL END SECTION CONNECTED TO WOOD STAVE PIPE

GENERAL NOTES:

1. Toe plate extensions will be required only when provided for on the plans. When required, the toe plate extensions shall be punched with holes to match those in lip of skirt and fastened with 3/8 inch or larger galvanized nuts and bolts and shall be the same gage as the end section.
2. Galvanized Metal or Aluminum Alloy End Sections may be used on Wood Stave and Plastic Pipe.
3. All 3 piece bodies shall have 12 gage sides and 10 gage center panels. Multiple panel bodies shall have lap seams which are to be tightly joined by 3/8" galvanized rivets or bolts.

REVISIONS		
Date	Description	By
3/11/83	Arch Dimensions	WJF/HK
8/10/00	Note 2	DFD

Sheet 1 of 3

State of Alaska
Department of Transportation & Public Facilities

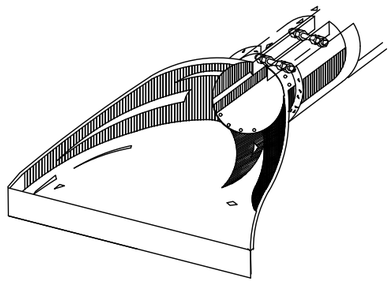
CULVERT END SECTIONS

D-06.10

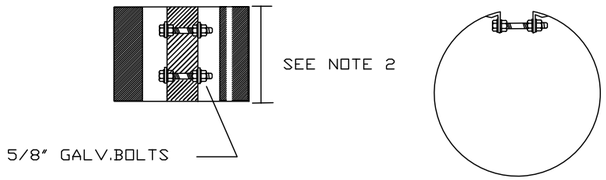
CULVERT END SECTIONS (1 OF 2)

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V9	V

D-06.10



FOR CONNECTING CONCRETE PIPE OR CORRUGATED POLYETHYLENE PIPE TO METAL END SECTION.



GENERAL NOTES

1. See general notes on sheet 1 of 3.
2. See sheet 1 of 3 for metal end section dimensions.
3. Insert bolts, washers and rivets shall be galvanized. Insert thickness is the same as the end section.
4. Use culvert inserts only at inlet.

METAL INSERTS FOR USE WITH CORRUGATED PLASTIC PIPE AND METAL END SECTIONS

REVISIONS		
Date	Description	By

Sheet 2 of 3

State of Alaska
Department of Transportation
& Public Facilities

CULVERT END SECTIONS

D-06.10

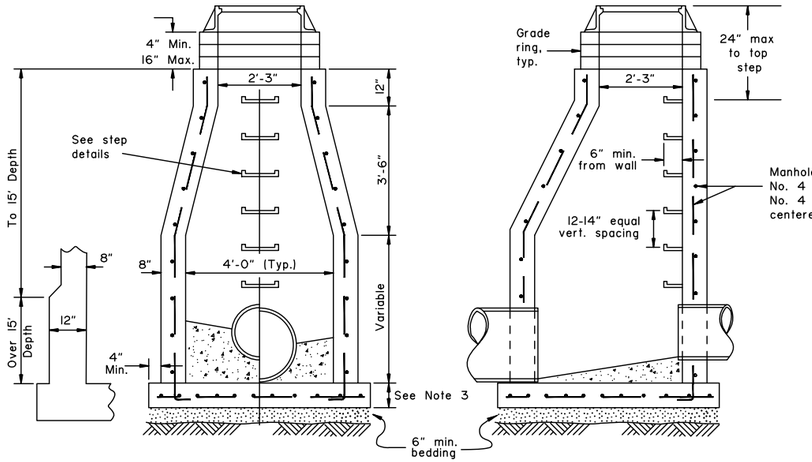
CULVERT END SECTIONS
(2 OF 2)

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\11147.04FB-UNV_AVE-SEGMENT_2A\C\d0610_11147.01FB-V9 Wed, Nov/27/19 02:32pm

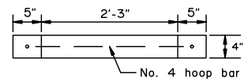
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V10	V

D-20.05

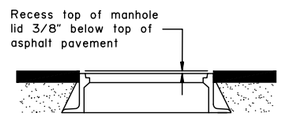
SHEET | of |



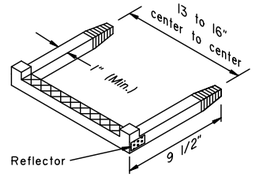
CAST-IN-PLACE MANHOLE



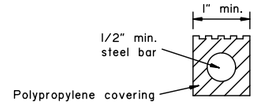
GRADE RING



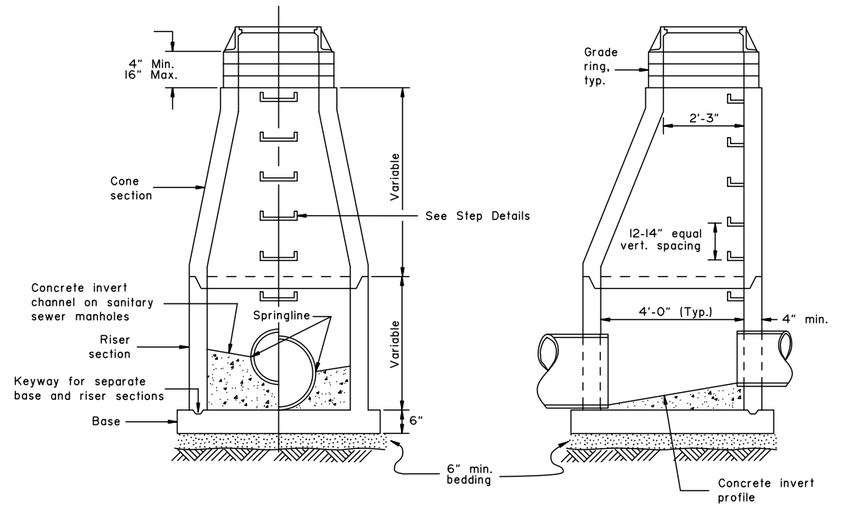
MANHOLE IN PAVEMENT



STEP DETAIL

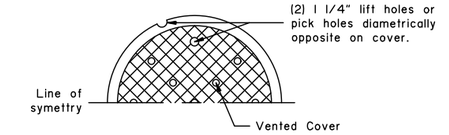


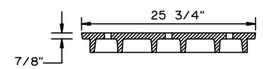
STEP CROSS SECTION



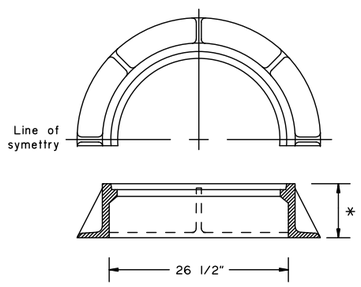
PRECAST CONCRETE MANHOLE

Reinforcement not shown for clarity
See Note 6





MANHOLE COVER



MANHOLE FRAME

MANHOLE FRAME & COVER MINIMUM WEIGHT		
* Depth	6"	380 lbs
	7"	400 lbs
	8"	440 lbs
	9"	470 lbs
	10"	500 lbs

GENERAL NOTES:

1. Either precast or cast-in-place manholes may be used.
2. Details for manhole frame, cover and step are generic in nature and may vary from shown depending on manufacturer
3. Use 8" thick cast-in-place concrete bases for depths less than 15' and 12" thick bases for depths 15' or greater.
4. Manhole frames shall have a depth of 6" unless otherwise indicated on the plans.
5. Step requirements:
   a. 18" max. vertical clearance to bottom of manhole or concrete invert.
   b. 3" minimum embedment.
   c. 1,500 lb. min. pullout force.
   d. ASTM A-615 grade 60 steel bar.
   e. Injection molded polypropylene covering meeting ASTM D-41010
   f. Slip resistant foot tread with "wings" to prevent feet from sliding off the edge.
   g. Reflectors at step corners
6. Reinforcement for precast manhole sections shall meet AASHTO M 199.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

MANHOLES, FRAME AND COVER

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher
Kenneth J. Fisher, P.E.
Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

Next Code and Standards Review date: 02/08/2029

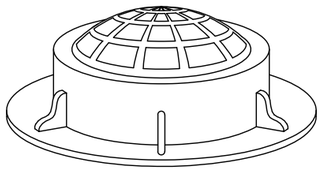
D-20.05

MANHOLE, FRAME AND COVER

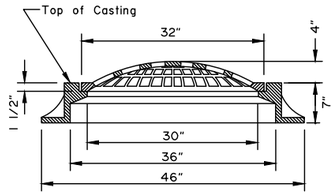
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\d2005_11147.04fb-V10 Wed, Nov/27/19 02:33pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V11	V

D-22.01

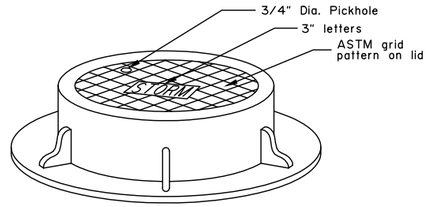


Surround field inlets with a 24" wide rock rubble collar 10" deep, 3" maximum size rock.



FIELD INLET FRAME & GRATE

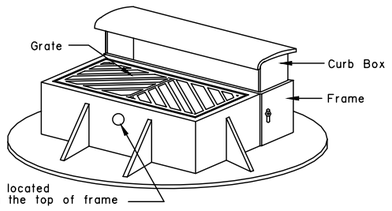
To be supplied for storm drain manholes where field inlets are specified. Field inlet frame and grate shall have a Minimum total weight of 525 lb.



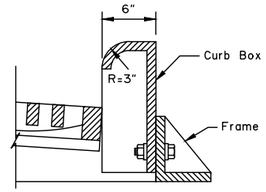
MANHOLE LID FRAME AND GRATE

NOTES:

1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers, except that inlet grate shall be within ¼"± of dimensions shown on this drawing.
2. Manhole lids shall be 32" in diameter and may be used with field inlet frames.
3. Type A field inlet frame inside dimensions shall be 24" x 36". Lugs will not protrude outside the concrete surface of the inlet box.
4. Grates shall be bicycle safe. Where high capacity grates are called for on the plans, they shall conform to Std. Dwg. D-25.
5. Frame and grate casting types are identified by the following abbreviations:
   C.I. = Curb Inlet
   F.I. = Field Inlet
   M.H. = Manhole
6. Flowline depression shall conform to Std. Dwg. D-23 for an on grade or sag point conditions.
7. These are the default frames and grates to be used unless shown otherwise on the drainage plans or drainage structure summary.

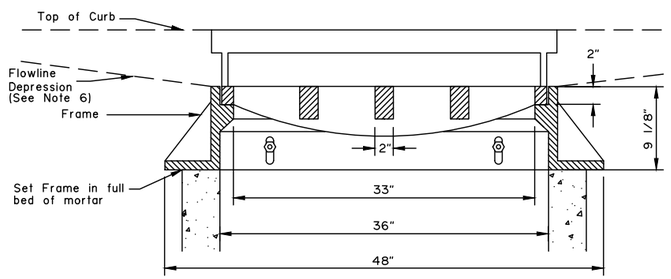


NOTE:
Curb Box, Grate and frame shall have a minimum total weight of 725 lb.

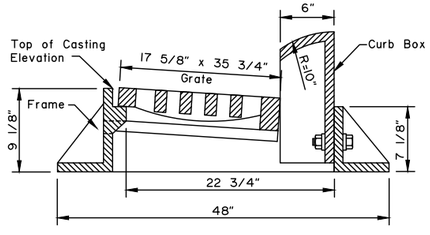


SIDE VIEW
MOUNTABLE CURB AND GUTTER

REQUIRED FRAME AND GRATES (See Note 7)			
STRUCTURE	INLET TYPE	CURB TYPE	TYPE FRAME AND GRATE
INLET BOX, TYPE A	Curb	Mountable	Standard Curb Inlet
	Curb	Expressway	Mountable Curb Inlet
	Curb	Rolled Curb	Depressed Inlet
	Field	------	Field Inlet
STORM DRAIN MANHOLES, TYPE I, II AND III	Curb	Mountable	Mountable Curb Inlet
	Curb	Expressway	Expressway Curb Inlet
	Curb	Rolled Curb	Depressed Inlet
	Field	------	Field Inlet
	Manhole Lids	------	Field Inlet Frame, Solid MH. Lid



FRONT VIEW



SIDE VIEW
EXPRESSWAY CURB AND GUTTER

CURB INLET FRAME AND GRATE

To be supplied for storm drain manholes Type I, Type II and Type III where curb inlets are specified.

NOT TO SCALE

REVISIONS		
Date	Description	By
10/31/03	Misc. Revisions/ Corrections	LRG

Sheet 1 of 1

State of Alaska
Department of Transportation & Public Facilities

STORMDRAIN MANHOLE FRAME AND GRATE DETAILS

D-22.01

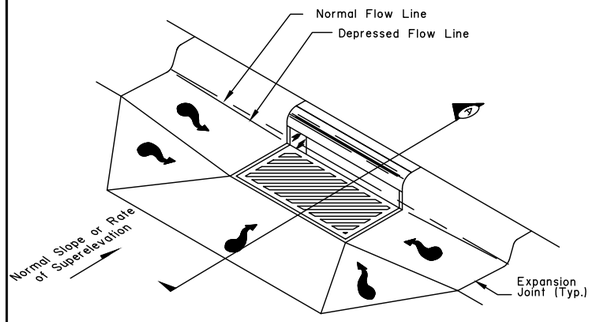
STORMDRAIN MANHOLE FRAME, AND GRATE DETAILS

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

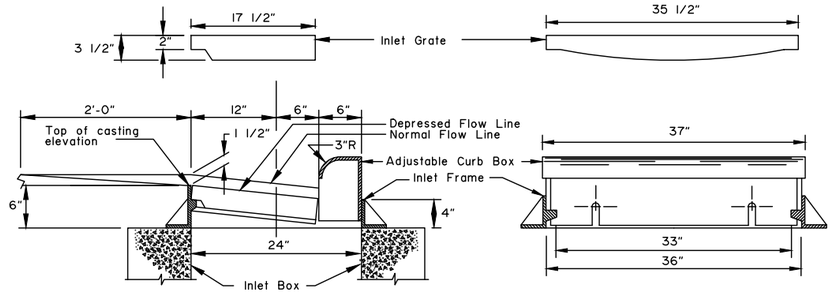
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\d2201_11147.04FB-V11 Wed, Nov/27/19 02:33pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V12	V

D-23.01



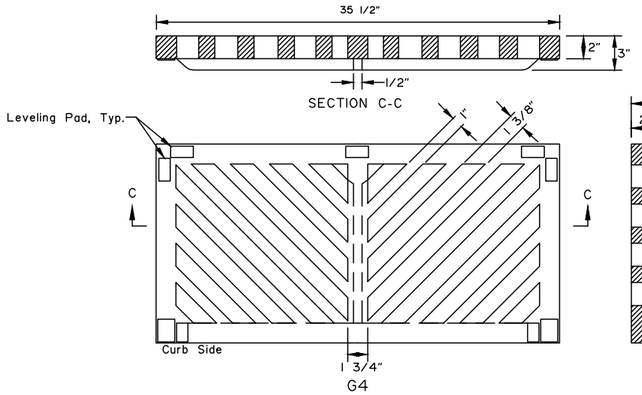
STANDARD CURB INLET INSTALLATION

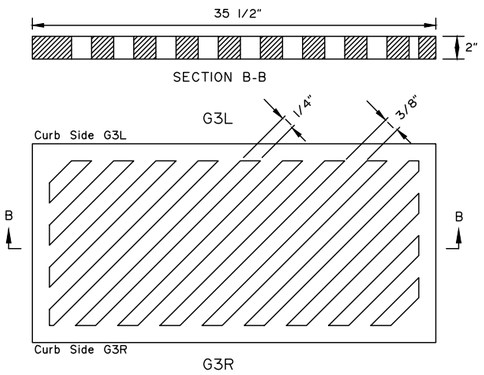


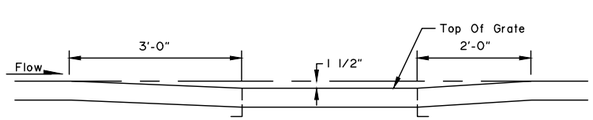
SECTION A

GENERAL NOTES:

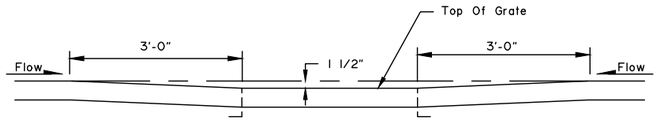
1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers.
2. Minimum casting weight shall be 330 lbs for Curb Inlet Frame with Curb Box and 200 lbs. for Inlet Grate.
3. The outside dimensions of Inlet Grate shall be 35 1/2" x 17 1/2" and all grates shall be inter-changeable.
4. Minimum drainage area of Inlet Grate shall be 255 square inches.
5. Inlet Grate type G-3R or G-3L shall be used in all cases except where drainage is from both directions, in which case type G-4 shall be used.







ON GRADE



AT LOW POINT

DEPRESSION IN FLOW LINE AT INLET CONSTRUCTION DETAILS

NOT TO SCALE

REVISIONS		
Date	Description	By
10/31/03	Misc. Minor Corrections	LRG

Sheet 1 of 1

State of Alaska
Department of Transportation
& Public Facilities

CURB INLET BOX
FRAME & GRATE

D-23.01

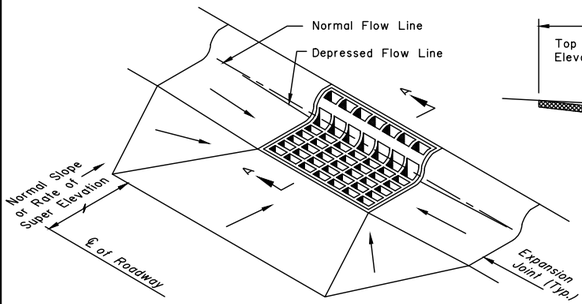
CURB INLET BOX
FRAME AND GRATE

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

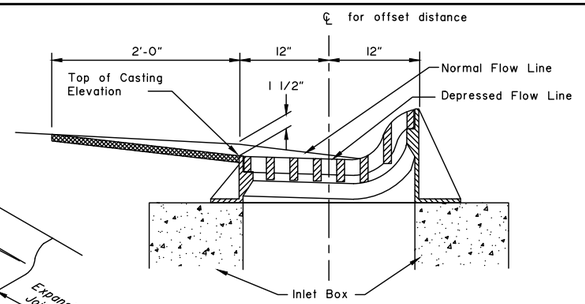
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V13	V

D-24.00

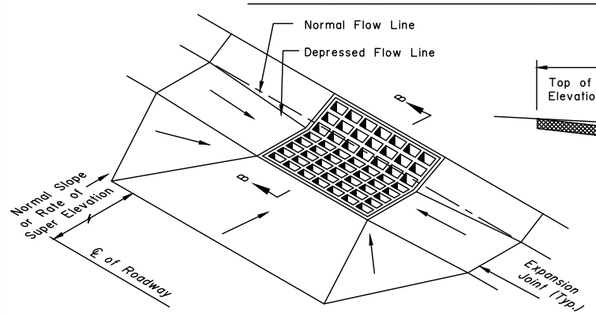
SHEET 1 of 1



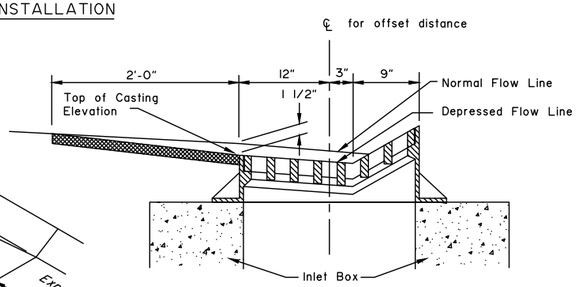
MOUNTABLE CURB INLET INSTALLATION



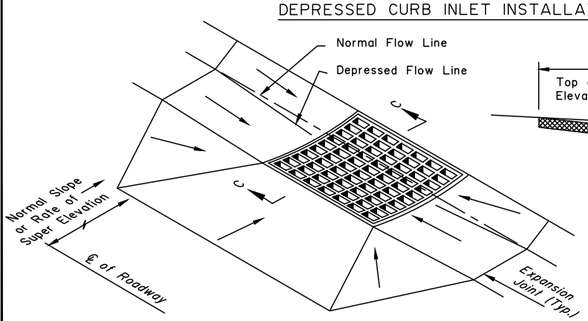
SECTION A-A



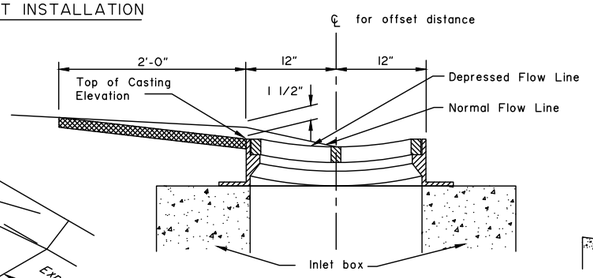
DEPRESSED CURB INLET INSTALLATION



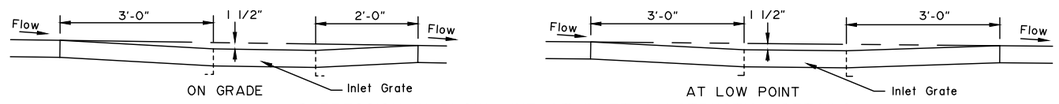
SECTION B-B



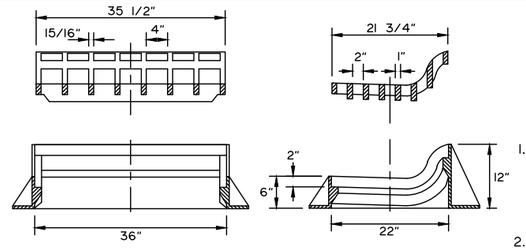
GUTTER INLET INSTALLATION



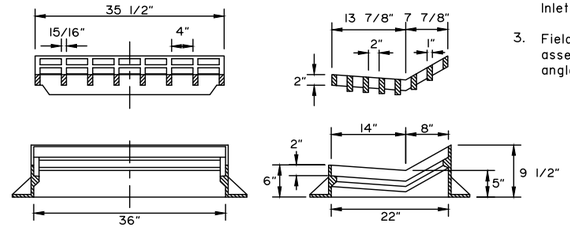
SECTION C-C



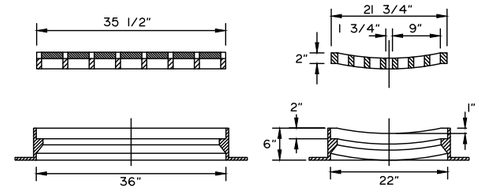
DEPRESSION IN FLOW LINE AT INLET CONSTRUCTION DETAILS



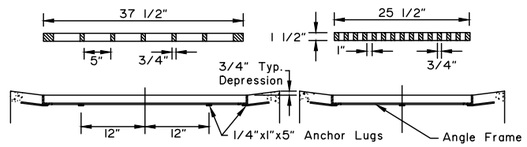
MOUNTABLE CURB INLET FRAME AND GRATE



DEPRESSED CURB INLET FRAME AND GRATE



GUTTER INLET FRAME AND GRATE



NOTE: All Angle Frame shall have Anchor Lugs

FIELD INLET FRAME AND GRATE

GENERAL NOTES:

1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers. Except inlet grate outside dimension shall be as shown on this drawing.
2. Minimum casting weight shall be 550lbs. for Curb Inlet Frame and Grate, 450lbs. for Gutter Inlet Frame and Grate, and 300lbs. for Field Inlet Frame and Grate.
3. Field Inlet Frame may be welded assembly of L 1 3/4"xl 3/4"xl/4" angle equivalent to ASTM A-36 steel.

REVISIONS		
Date	Description	By

State of Alaska
Department of Transportation
& Public Facilities

INLET FRAMES AND GRATES

7/15/82

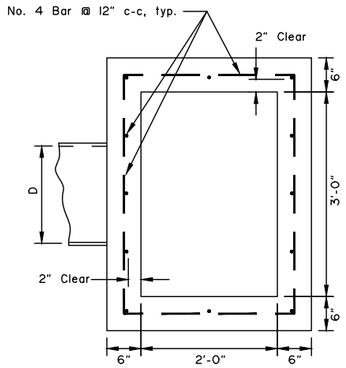
D-24.00

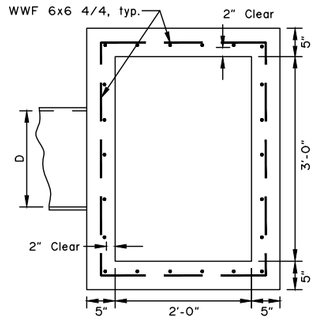
INLET FRAMES AND GRATES

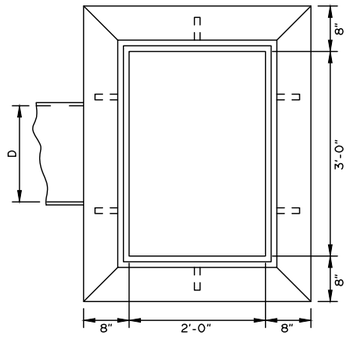
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V14	V

D-26.04

SHEET | of |

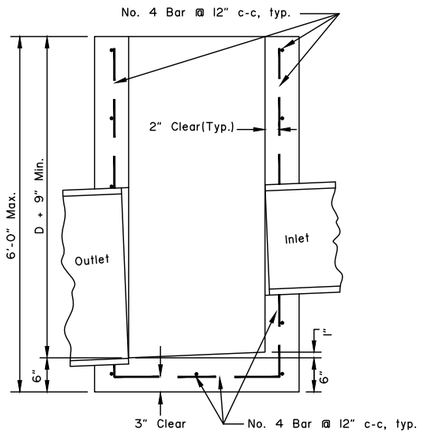




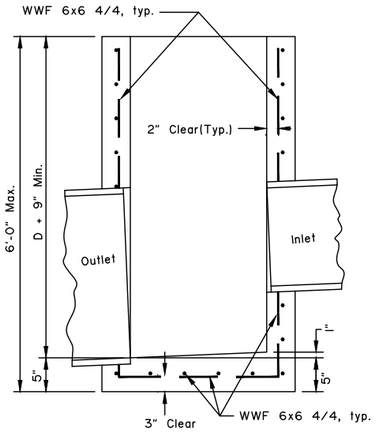


GENERAL NOTES:

1. Install inlet boxes parallel to the curb line.
2. The plans will indicate which inlet boxes require a sump.
3. Shape floors to drain.
4. Use Grade 40 minimum reinforcing steel.
5. The plans will indicate which inlet boxes require sumps.

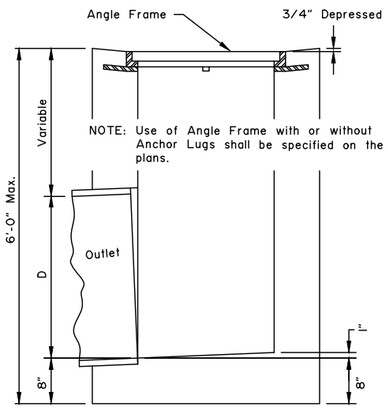


REINFORCED
CAST IN PLACE



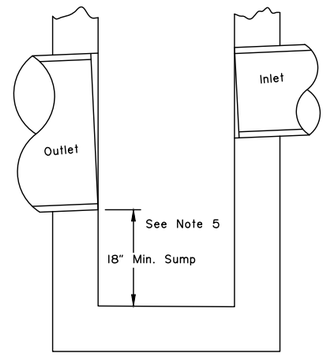
PRECAST

TYPE "A" CONCRETE INLET BOXES



FIELD INLET BOX
CAST* IN PLACE

* May be Precast or Reinforced Cast-In-Place Box.



SUMP DETAIL

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

TYPE "A"
INLET BOX

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E.
Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review
By: Date:

Next Code and Standards Review date: 02/08/2029

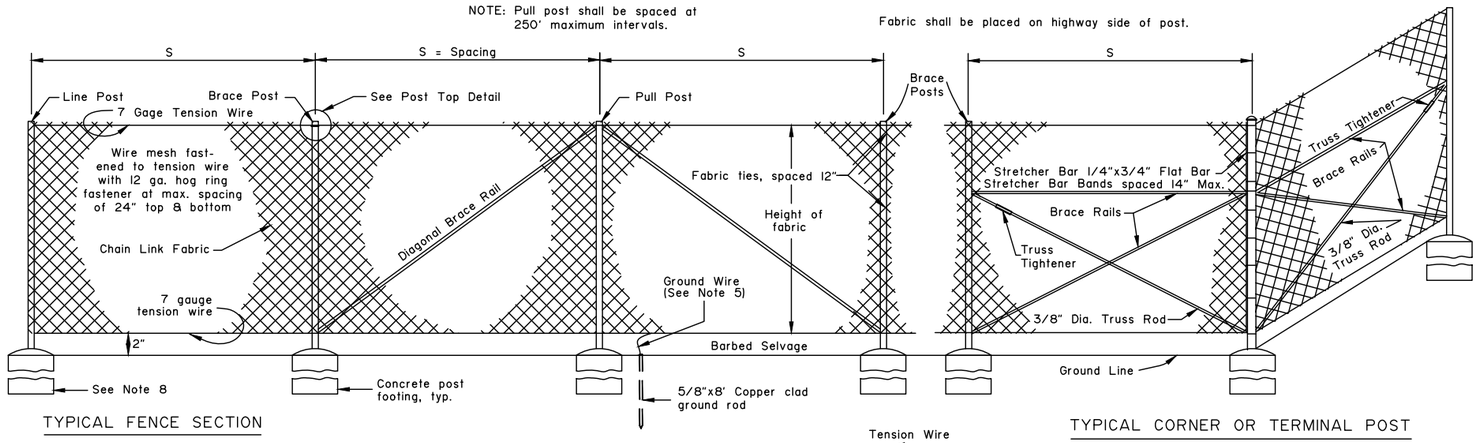
D-26.04

TYPE A INLET BOX

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V15	V

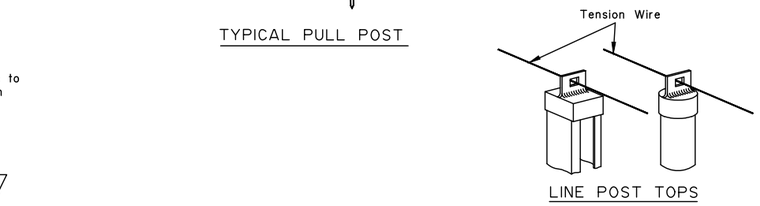
F-01.03

SHEET | of |



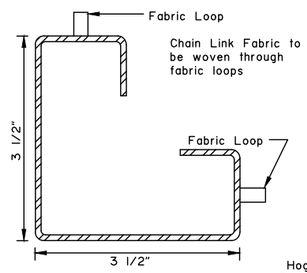
TYPICAL FENCE SECTION

TYPICAL CORNER OR TERMINAL POST

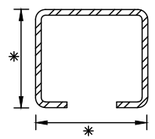


TYPICAL PULL POST

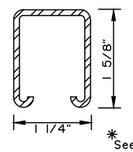
LINE POST TOPS



ROLL FORMED POST

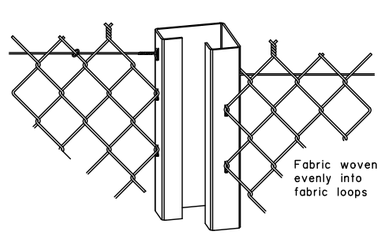


C POST

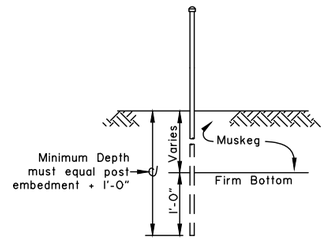


ROLL FORMED BRACE

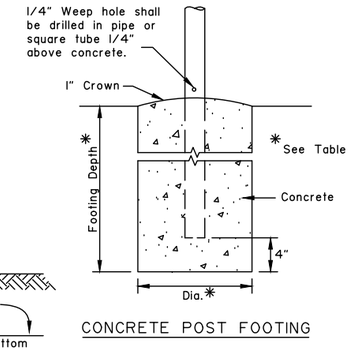
PIPE STYLE POST TOP



ROLL FORMED POST TOP

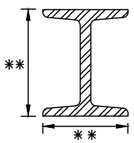


POST SETTING IN MUSKEG AREAS



CONCRETE POST FOOTING

FABRIC HEIGHT	POST								TOP OR BRACE RAIL						ALTERNATE POST	
	END-CORNER-PULL							LINE-BRACE							LINE-BRACE	
	PIPE		SQUARE TUBE		ROLL FORMED		FOOTING	PIPE		C POST		FOOTING		PIPE		ROLL FORMED		H POST		H POST	
	SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.	DEPTH DIA.	SIZE	WT/FT.	SIZE	WT/FT.	DEPTH	DIA	SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.
3'	2"	3.65#	2" x 2"	4.31#	3 1/2"x3 1/2"	4.84#	40" 10"	1 1/2"	2.72#	1 7/8"xl 5/8"	2.28#	28"	10"	1 1/4"	2.27#	1 5/8"	1.35#	1 1/2"x 1 5/16"	2.27#	1 7/8"xl 5/8"	2.72#
4'	"	"	"	"	"	"	" "	"	"	"	"	"	"	"	"	"	"	"	"	"	"
5'	2"	3.65#	2" x 2"	4.31#	3 1/2"x3 1/2"	4.84#	40" 10"	1 1/2"	2.72#	1 7/8"xl 5/8"	2.28#	28"	10"	"	"	"	"	"	"	1 7/8"xl 5/8"	2.72#
6'	2 1/2"	5.79#	2 1/2"x2 1/2"	5.59#	3 1/2"x3 1/2"	4.84#	48" 15"	2"	3.65#	2 1/4"xl 45/64"	2.64#	40"	12"	"	"	"	"	"	"	2 1/4"x2"	4.1#
7'	"	"	"	"	"	"	" "	"	"	"	"	"	"	"	"	"	"	"	"	"	"
8'	2 1/2"	5.79#	2 1/2"x2 1/2"	5.59#	3 1/2"x3 1/2"	4.84#	48" 15"	2"	3.65#	2 1/4"xl 45/64"	2.64#	40"	12"	"	"	"	"	"	"	2 1/4"x2"	4.1#



H POST

GENERAL NOTES:

1. Use equal pole spacing (S). Maximum pole spacing is 10 feet unless directed otherwise by the Engineer.
2. Securely fasten post tops to post.
3. Securely fasten brace rails and truss rods to post with brace bands.
4. Provide truss rods with a tensioning adjusting mechanism.
5. Attach ground wire to fence fabric with a split bolt.
6. Stretch fabric to a smooth uniform appearance.
7. Details shown indicate general design and dimensions may vary among manufacturers.
8. Set line, pull, corner, and terminal posts in concrete footings unless in muskeg or shown otherwise in the plans.

REVISIONS		
Date	Description	By
2/01/15	8' Ground rod fix	LRG
1/16/17	Remove concrete class	LRG

State of Alaska DOT&PF

CHAIN LINK FENCE

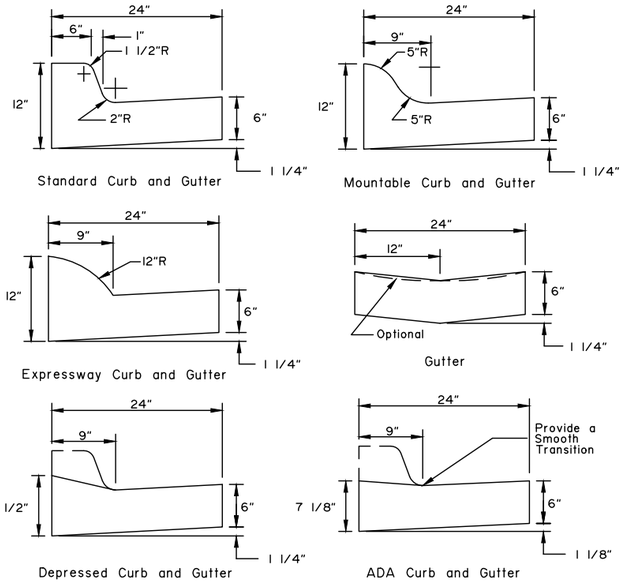
F-01.03

CHAIN LINK FENCE

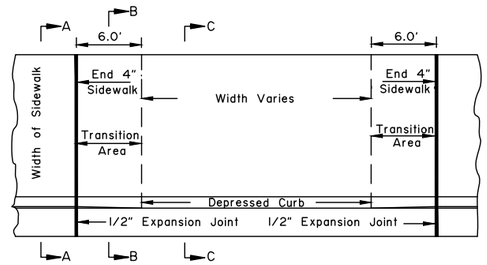
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V16	V

I-20.20

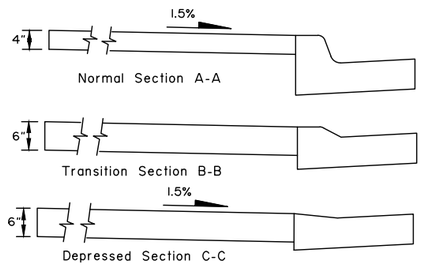
SHEET | of |

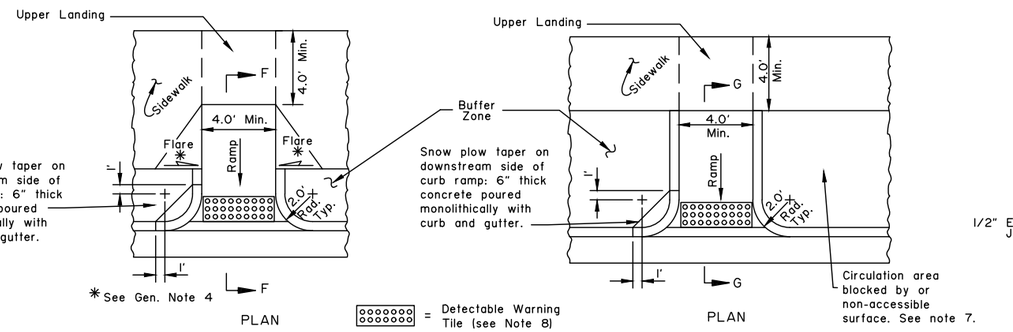


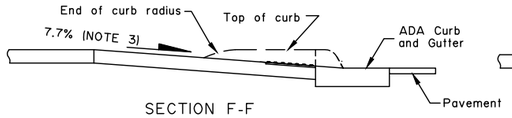
CURB and GUTTER DETAILS



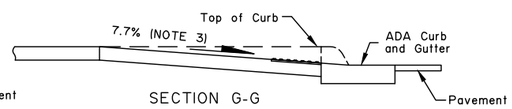
DRIVEWAY CURB CUT DETAILS







SECTION F-F
Returned Curb Ramp with Sidewalk for Pedestrians



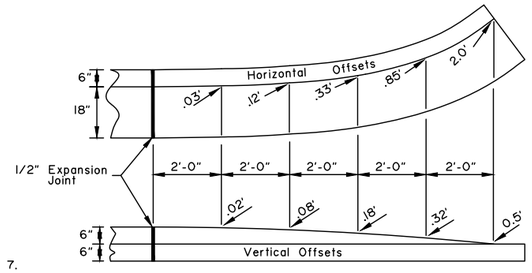
SECTION G-G
Returned Curb Ramp for Pedestrians

CONSTRUCTION NOTES:

1. Use the type of curb and gutter shown 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 ADA Curb and Gutter 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 ADA 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. When approved by the Engineer, curb returns may be replaced with flares at locations where access to the side of a ramp run is free of poles, utility boxes, other obstructions, or non-accessible surfaces such as a dirt planter strips. See Standard Drawing I-22 for flare details.
8. 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.
9. Maximum cross slope on upper landings, measured in any direction, is 2.0%. Maximum cross slope on ramps is 2.0% measured perpendicular to the ramp run.

DESIGN NOTES:

1. Use Mountable or Expressway curbs on medians and traffic islands.
2. These details are compliant with the 2006 ADA Standards for Transportation Facilities.



CURB and GUTTER
TERMINATION TRANSITIONS

Note: Drawing not to scale

REVISIONS		
Date	Description	By
5/31/12	ADA Updates	JCJ
3/31/15	Slopes and cross slope	JCJ
7/1/16	2006 ADA Stds Update	LRG

State of Alaska DOT&PF

CURB CUT, CURB & GUTTER AND CURB RAMP DETAILS

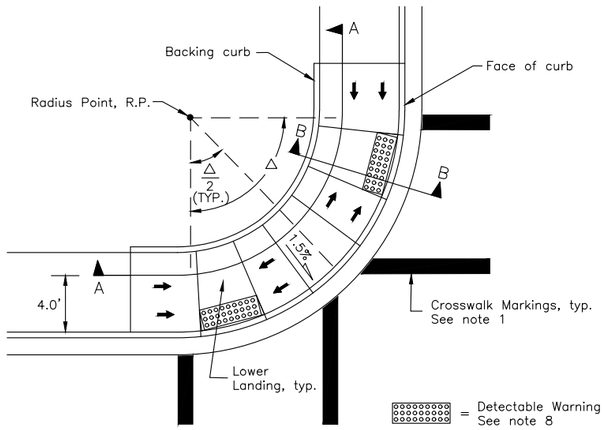
I-20.20

CURB CUT & GUTTER & CURB RAMP DETAILS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V17	V

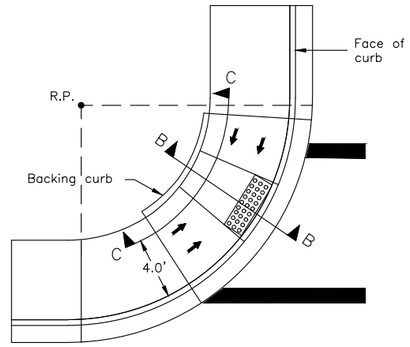
I-21.11

SHEET 1 of 1

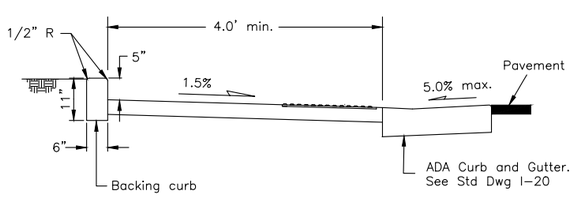


= Detectable Warning Tile See note 8

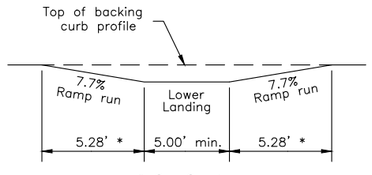
TWO CROSSING DIRECTIONS
At corner



ONE CROSSING DIRECTION
At corner – generic location shown

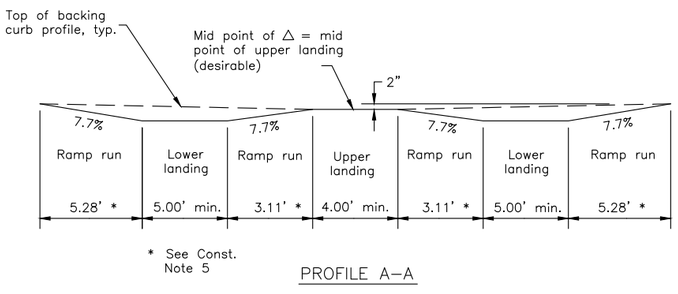


SECTION B–B



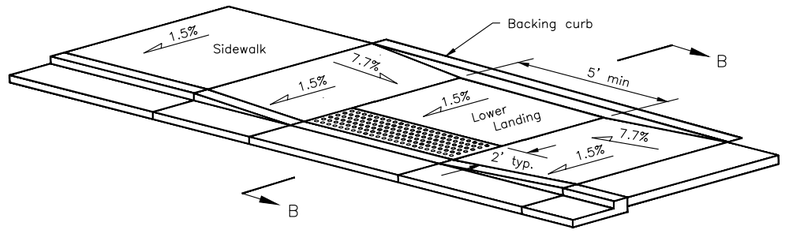
* See Const. Note 5

PROFILE C–C



* See Const. Note 5

PROFILE A–A



MID–BLOCK

Note: Drawing not to scale

CONSTRUCTION NOTES:

1. See plans for ramp type at specific locations. See striping plans for crosswalk layouts.
2. Construct ramp runs and landings of concrete, regardless of whether the sidewalk is asphalt or concrete.
3. When one parallel curb ramp will serve two directions, use the One Crossing Direction detail and refer to the striping plans for crosswalk layouts.
4. Ramp run lengths are shown for a flat sidewalk grade. For other sidewalk grades, increase or decrease ramp and flare lengths to maintain the slopes shown.
5. 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. The resulting ramp grade at a 15.0 foot ramp length is acceptable even if it exceeds 8.3%.
6. Construct sidewalk cross slopes at 1.5% nominal (1.0% min. and 2.0% max).
7. Provide a coarse broomed finish running perpendicular to the curb on ramp runs and upper landings and parallel to the curb on lower landings.
8. Install 24" detectable warning tiles meeting Section 705.1 of the 2006 ADA Standards for Transportation Facilities for the full width of the ramp.
9. Maximum cross slope on lower landings is 2.0% as measured in any direction. Maximum cross slope on ramps is 2.0% measured perpendicular to the ramp run.
10. Provide 4" minimum thick concrete on ramps and landings.

DESIGN NOTES

1. Parallel curb ramps are typically used when the sidewalk is at least 4' wide but can not be constructed wide enough for perpendicular ramps.
2. When one curb ramp is installed in a curb radius to serve both directions of pedestrian traffic, construct it in accordance with the One Crossing Direction detail.
3. Locate lower landings within the inner edges of marked crosswalks or, if crosswalks are not marked, within the area a standard marked crosswalk would enclose. See Standard Drawing T–23 for standard crosswalk layout.
4. Avoid drainage grates within marked crosswalks or, if crosswalks aren't marked, within the area a standard marked crosswalk would enclose. If a drainage grate is located directly in the pedestrian accessible route (e.g. a wheel chair must pass over it), install a grate meeting the requirements of Section 302.3 of the 2006 ADA Standards.
5. These details are compliant with the 2006 ADA Standards for Transportation Facilities, except for the 15' maximum ramp length noted in Construction Note 5, which is from the Draft 2011 PROWAG.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PARALLEL CURB RAMP

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E.
Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review
By: Date:

Next Code and Standards Review date:02/08/2029

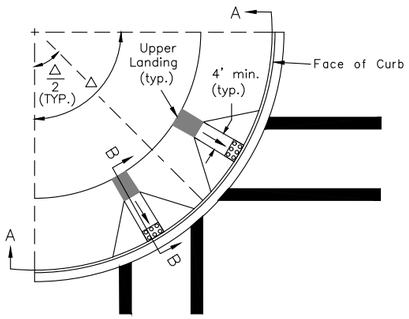
I-21.11

PARALLEL CURB RAMP

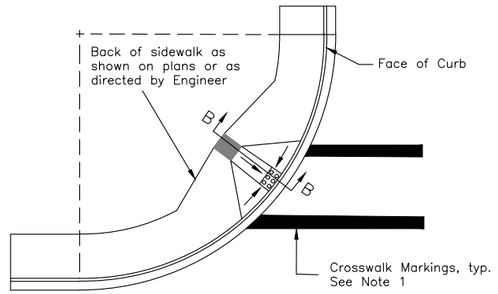
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.04FB-UNIV_AVE-SEGMENT_2A\C\2111_11147.04FB-V17 Wed, Nov/27/19 02:33pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00468	2020	V18	V

I-22.11 SHEET 1 of 1

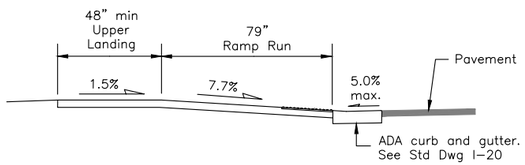


TWO CROSSING DIRECTIONS
At corner

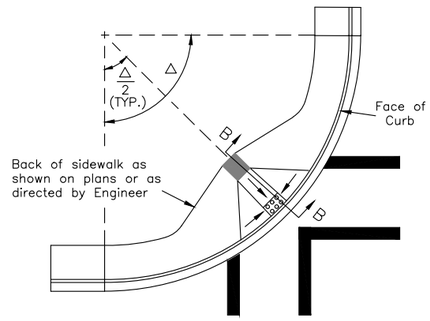


ONE CROSSING DIRECTION
At corner

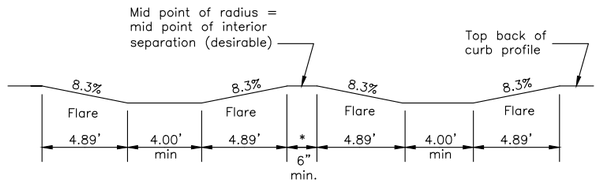
= Detectable Warning Tile See Note 9



SECTION B–B

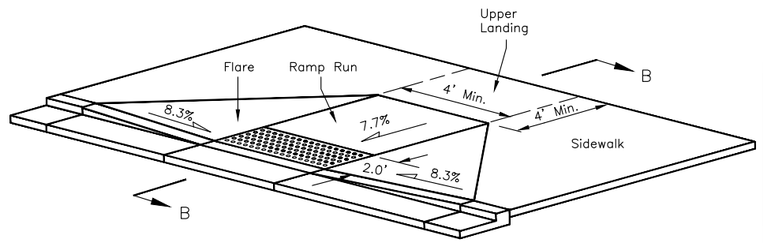


ONE RAMP – TWO DIRECTIONS
At corner



PROFILE A–A

* This dimension is adjustable depending on the curb radius and location of ramps



MID–BLOCK

Note: Drawing not to scale

CONSTRUCTION NOTES

1. See plans for ramp type at specific locations. See striping plans for crosswalk layouts.
2. Construct ramp runs perpendicular to the curb face.
3. Construct ramp runs, flares, and upper landings of concrete, regardless of whether the sidewalk is asphalt or concrete.
4. Ramp run and flare lengths are shown for a flat sidewalk grade. For other sidewalk grades, increase or decrease ramp and flare lengths to maintain the slopes shown.
5. Construct ramp slopes at a nominal 7.7% grade, or flatter. Ramps 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%.
6. Construct flare slopes at 8.3% (measured parallel to the curb line adjacent to the top back of curb) or flatter, and sidewalk cross slopes at a nominal 1.5% (1.0% min., 2.0% max). Do not construct flare slopes steeper than 10.0%, or sidewalk cross slopes steeper than 2.0%,
7. Provide a coarse broomed finish running parallel to the curb on ramp runs and flares.
8. When approved by the Engineer, flares may be replaced with a curb at locations where access to the side of a ramp run is blocked by poles, utility boxes, other obstructions, or by a non–accessible surface such as a dirt planter strip. See Standard Drawing I–20 for details.
9. Install 24" 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.
10. Maximum cross slope on upper landings, measured in any direction, is 2.0%. Maximum cross slope on ramps is 2.0% measured perpendicular to the ramp run.
11. Provide 4" minimum thick concrete on ramps, flares and landings

DESIGN NOTES

1. When marked crosswalks are used, a 4'x4' landing area at the bottom of ramps must fall within the inner edges of the crosswalk markings. See Section 406.6 of the 2006 ADA Standards.
2. Avoid drainage grates within marked crosswalks, or if crosswalks are not marked, within the area a standard marked crosswalk would enclose. If a drainage grate is located directly in the pedestrian accessible route (e.g. a wheelchair use must necessarily pass over it), install a grate meeting the requirements of Section 302.3 of the 2006 ADA Standards.
3. These details are compliant with the 2006 ADA Standards for Transportation Facilities, except for the 15' maximum ramp slope noted in Construction Note 5, which is from the Draft 2011 PROWAG.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PERPENDICULAR CURB RAMP

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E. Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

Next Code and Standards Review date:02/08/2029

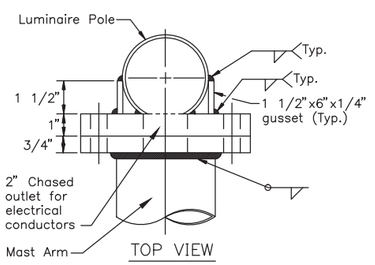
I-22.11

PERPENDICULAR CURB RAMP

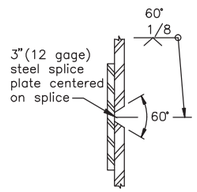
STATE OF ALASKA 49 TH REGISTERED PROFESSIONAL ENGINEER

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	V19	V36

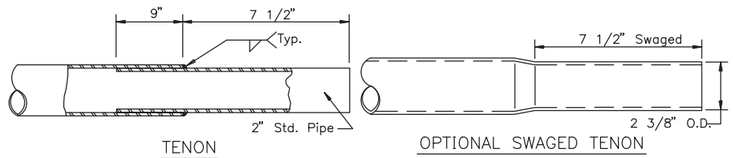
L-03.10



TOP VIEW

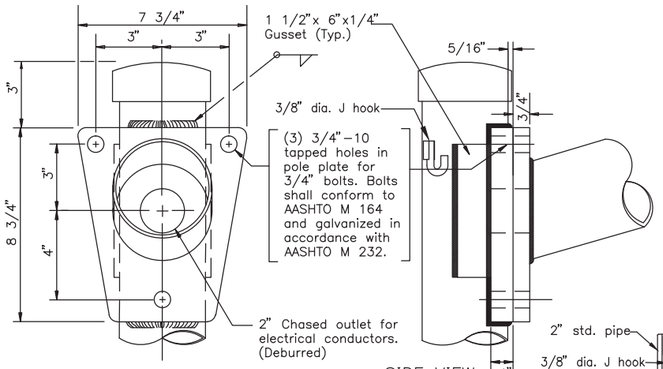


SPLICE DETAILS



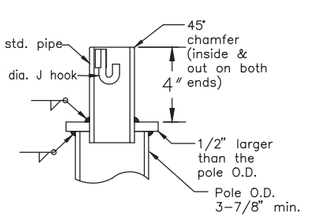
TENON OPTIONAL SWAGED TENON

END OF MAST ARM DETAIL

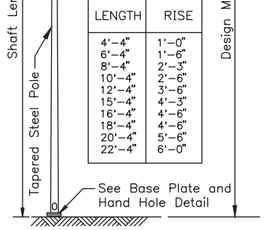


FRONT VIEW SIDE VIEW

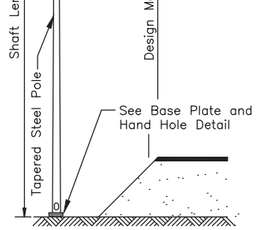
MAST ARM CONNECTION DETAIL



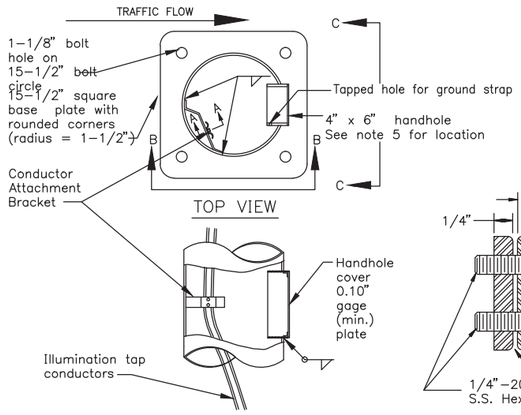
OFFSET LIGHTING STANDARD POLE TOP DETAIL
(CUTAWAY FOR CLARITY)



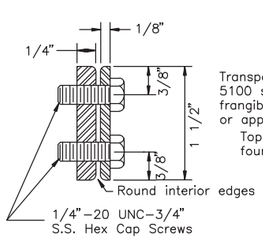
ELECTROLIER ELEVATION
COBRA HEAD



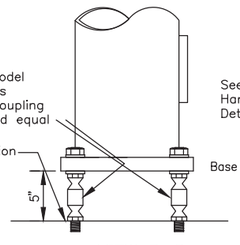
ELECTROLIER ELEVATION
OFFSET



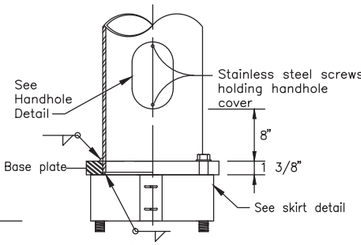
TOP VIEW BASE PLATE AND HAND HOLE DETAIL



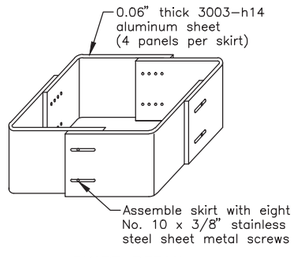
SECTION A-A



VIEW B-B



VIEW C-C



SKIRT DETAIL

GENERAL NOTES

1. Design and fabricate all shafts to support a mast arm 22' long with luminaire. Assume each offset fixture weighs 60 lbs. and has an effective projected area of 2.8 SF. Assume each Cobra head weighs 55 lbs. and has an effective projected area of 1.2 square feet. With this dead load, limit the angular rotation of the pole top to 1° 40' maximum.
2. Weld size to be determined by manufacturer.
3. Mounting height, if specified in the plans, refers to the height of luminaire above the roadway. Adjust each pole's shaft length to maintain this difference in elevation whenever slope and/or offset varies.
4. Minimum outside diameter at the top of pole equals 3-7/8". Pole diameter shall taper uniformly from the top of pole to the base plate, with a maximum taper rate of 0.15" per foot.
5. Mast arm rise may vary ±0.5ft from the values listed in the table.
6. Locate the handhole at 90 degrees to the mast arm on the side of pole downstream from traffic flow.
7. Furnish all poles with a j-hook to support the illumination tap conductors. Furnish all mast arm poles with a removable raintight cap.
8. Frangible couplings shall be NCHRP 350, Test Level 3 compliant and have no measured torque requirement.
9. Frangible couplings shall be installed into flush mounted female anchors so that no fixed hardware extends above the foundation top.
10. Install all components of the breakaway support system in accordance with the manufacturer's written instructions.
11. Fabricate the skirt from four pieces of 0.06" thick 3003 h-14 aluminum sheet. Bend each plate to provide corners with a 3/4" radius. Assemble the skirt with #10 x 3/8" self tapping stainless screws or pop rivets. The assembled skirt measures about 12-7/8" square.

REVISIONS		
Date	Description	By

Sheet 1 of 1

State of Alaska
Department of Transportation & Public Facilities

LIGHTING STANDARD

2/28/03

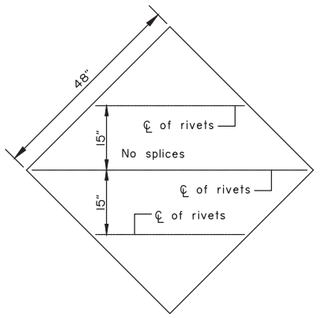
L-03.10

STANDARD DRAWING
L-03.10

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

S-00.11



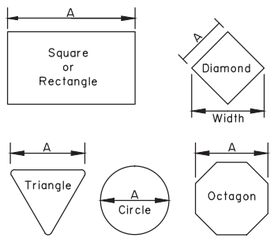
TUBE SIGN POST SPACING								
Sign Width (feet)	No. of Posts	Distance Between Posts	Sign Overhang	Post Type				Notes
				P.S.T.	Wood	Steel Tube	W-Shape	
0.5 to 4.0	1	-	0.5W	X	X	X		See Note 2.
4.5 to 10.0	2	0.6W	0.2W	X	X	X		See Note 3.
10.5 to 11.0	2	6	Varies	X	X	X		See Note 3.
11.5 to 13.0	2	8	Varies				X	
13.5 to 20.0	2	0.6W	0.2W				X	
20.5 to 22.5	3	8	Varies				X	
23.0 to 29.5	3	0.35W	0.15W				X	
30.0 to 31.5	4	8	Varies				X	
32.0 to 40.0	4	0.25W	0.125W				X	

SIGN POST SPACING NOTES:

1. Install sign support in accordance with the table above, unless otherwise required by plans or specifications.
2. Exceptions:
   a. Use one post for all E5-1 gore signs, regardless of width.
   b. Use one 2.5" P.S.T. for all STOP signs, with or without street name signs.
3. Supports placed within 7' of each other must be acceptable for that use. See Standard Drawing S-30 for the sizes of wood posts and P.S.T.s that may be used within 7'. See Manufacturer's documentation for breakaway couplings and tubes that may be used within 7'.
4. See Standard Drawing S-31 for frangible couplings, hinges, and foundations for tube and W-shape sign supports.

GENERAL NOTES

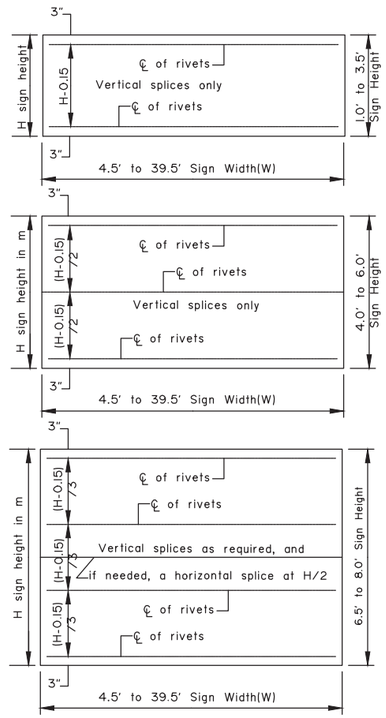
1. See the standard specifications for the aluminum alloys that you may use for sign sheeting and wind framing members.
2. Fabricate all signs from 0.125" thick aluminum sheeting.
3. Sign fabricators may use alternates to the zee shaped framing member with approval of the engineer, if the frame manufacturer certifies their design equals or exceeds the strength of the zee shaped design.
4. Install one piece wind framing members on all signs up to 23.5' wide. Use one splice in each wind frame on all signs wider than 23.5'. Locate splices at least 18" from all posts and panel edges. Stagger splices in adjacent framing members at least 8.0' apart.
5. Attach wind framing members with rivets or with an engineer approved, double sided, high strength, adhesive tape. Clean and handle sheeting and framing members and apply tape in accordance with the tape manufacturer's written instructions. Install two rivets in both ends of each framing member.
6. Use 3/16" diameter rivets conforming to aluminum alloy 6061-T6 for cold driven rivets, or aluminum alloy 6061-T43 for hot driven rivets.
7. Sign fabricators may use sign panels extruded with integral framing with approval of the engineer, if the manufacturer certifies their design equals or exceeds the strength of the 0.125" thick panel with framing attached to it.
8. Frame all signs taller than 8.0' with five wind framing members located (H-0.15)/4 spaces. If needed, make a horizontal splice at the middle wind frame.
9. Do not use round pipes for sign supports.



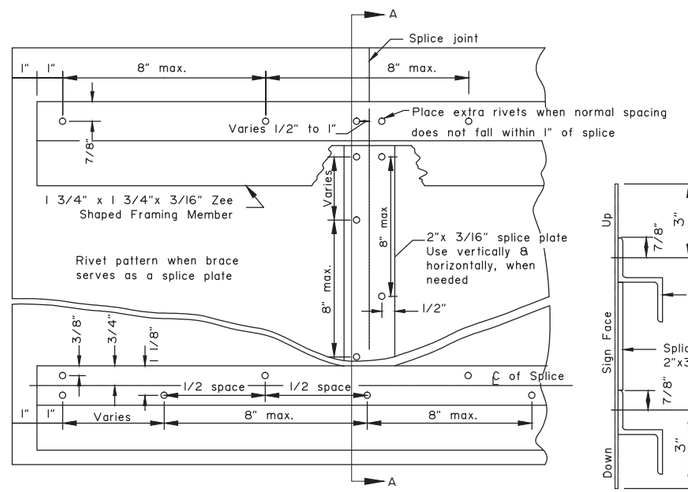
Maximum size unframed signs using 0.125" thick aluminum sheeting.	
Sign Shape	A
Squares, Shields, and Route Markers	48"
Rectangles	48"
Diamonds	48"
Triangles	48"
Rounds and Octagons	48"

Install wind framing on all signs that exceed the dimensions listed.

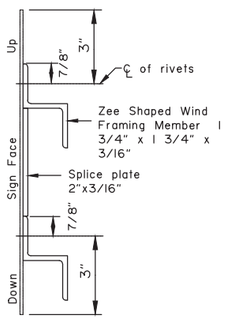
LIGHT SIGNS



WIND FRAMING LOCATIONS



RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE



SECTION A-A

REVISIONS		
Date	Description	By
4/28/10	Delete pipe, rev notes	KJS

Sheet 1 of 1

State of Alaska
Department of Transportation & Public Facilities

SIGN FRAMING AND POST SPACING

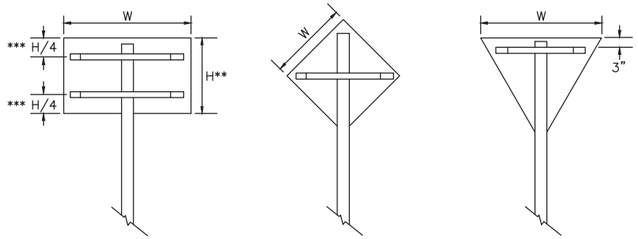
S-00.11

STANDARD DRAWING
S-00.11

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95% PS&E SUBMITTAL

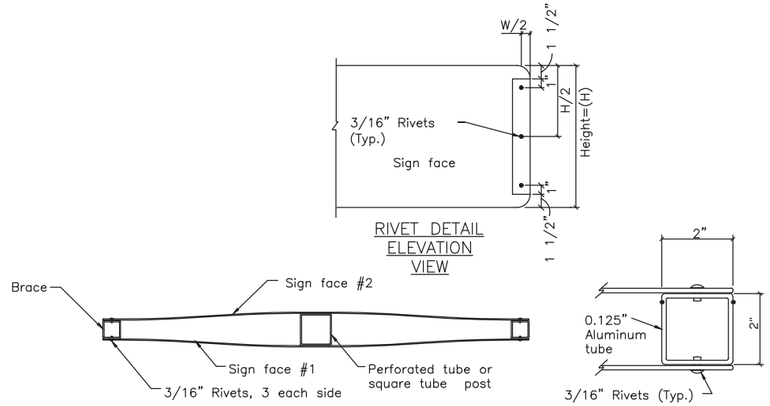
S-01.01



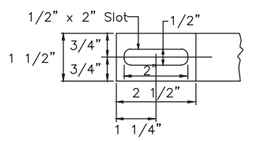
*** Use one brace when H ≤ 18"
Use two braces when 18"< H < 48"
Use three braces when H ≥ 48"

** Position of brace may be varied to match Predrilled mounting holes in panel

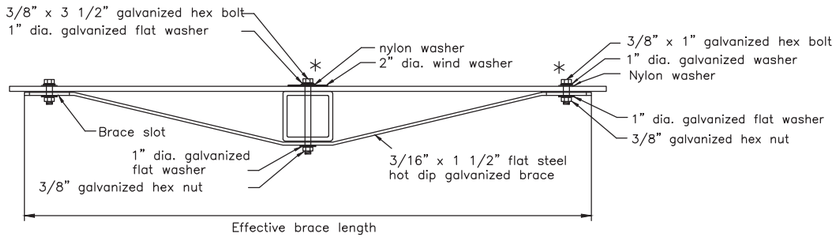
SIGN BRACING PLACEMENT



SMALL STREET NAME SIGN (D3-1, D3-1A, D3-1D) BRACING DETAILS



DETAIL OF BRACE SLOT
Elevation view



TUBE POST SIGN BRACING
Plan view

* Adjust location of bracing so that bolts and washers will miss the sign legend

Sign Width(W)	Effective Brace Length		
	Warning	Yield	Other
30"	36"	24"	24"
36"	42"	30"	30"
42"	48"	–	36"
48"	Two posts	36"	42"

< 30" No bracing required and use square tube

DRAWING NOT TO SCALE

REVISIONS		
Date	Description	By
1/16/17	Bolt size & type	LRG

State of Alaska DOT&PF

BRACING FOR SIGNS MOUNTED ON SINGLE POST

S-01.01

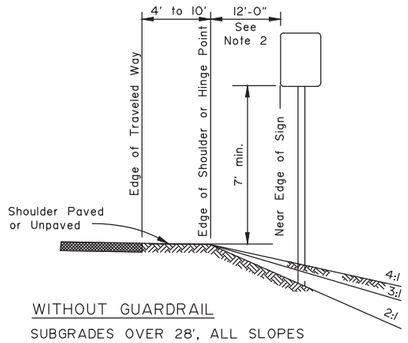
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

STANDARD DRAWING
S-01.01

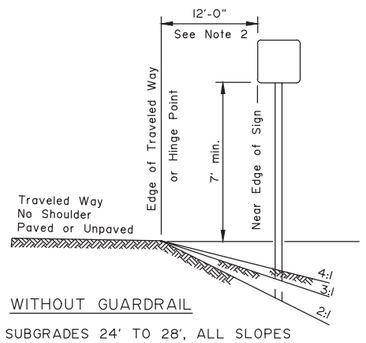
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	V22	V36

S-05.01



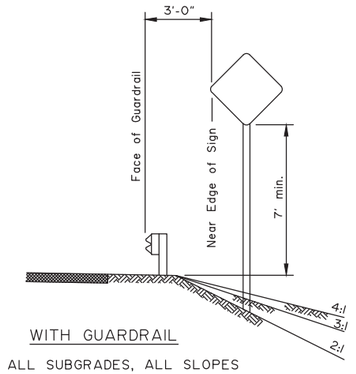
WITHOUT GUARDRAIL

SUBGRADES OVER 28', ALL SLOPES



WITHOUT GUARDRAIL

SUBGRADES 24' TO 28', ALL SLOPES

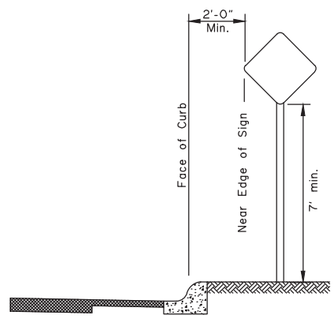


WITH GUARDRAIL

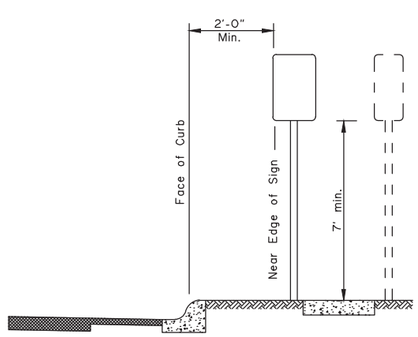
ALL SUBGRADES, ALL SLOPES

GENERAL NOTES

1. Unless shown otherwise on the plans, the standard sign offset is 12'. The minimum is 6'.
2. If signs extend over sidewalks, the minimum vertical clearance is 7'-0".
3. Add 6" to mounting height on unpaved roads.
4. If signs extend over bike paths, the minimum vertical clearance is 8' 0".
5. When signs are placed 30' or more from the edge of traveled way, mount them with the bottom of the sign at least 5' above the road surface at the near edge of the road.
6. When multiple hinged sign supports are used, mount hinges at least 7' above the ground.

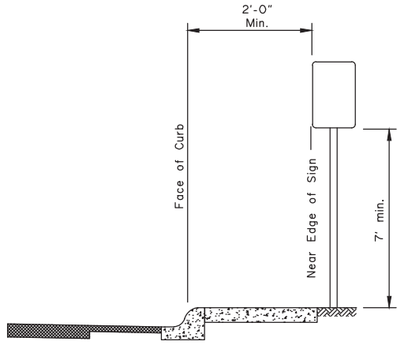


CURB WITHOUT SIDEWALK

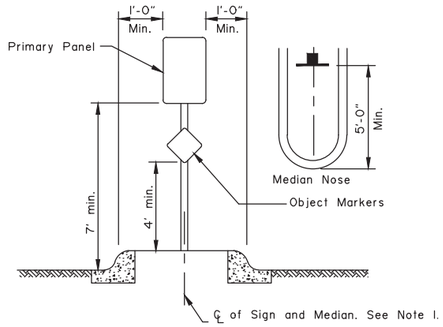


CURB WITH PARKWAY AND SIDEWALK

(If R/W width permits, signs should be placed behind sidewalk.)

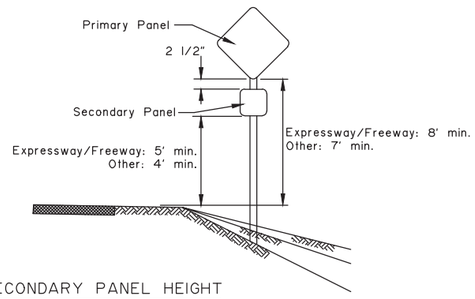


CURB WITH SIDEWALK WITHOUT PARKWAY



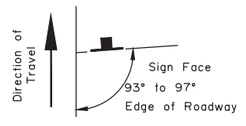
RAISED MEDIANS

Minimum 4' Width for Signing



SECONDARY PANEL HEIGHT

ALL TWO PANEL MOUNTING



SIGN POSITIONING

REVISIONS		
Date	Description	By
4/3/01	*Revised Sign Heights*	*KJS*

Sheet 1 of 1

State of Alaska
Department of Transportation
& Public Facilities

POST MOUNTED SIGN
OFFSET AND HEIGHT

S-05.01

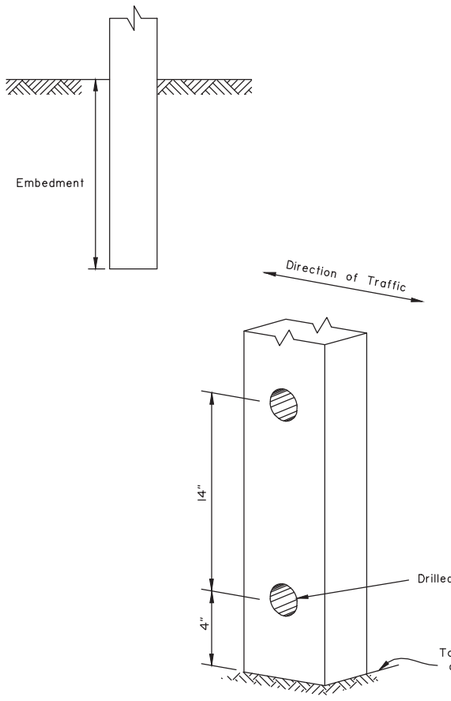
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

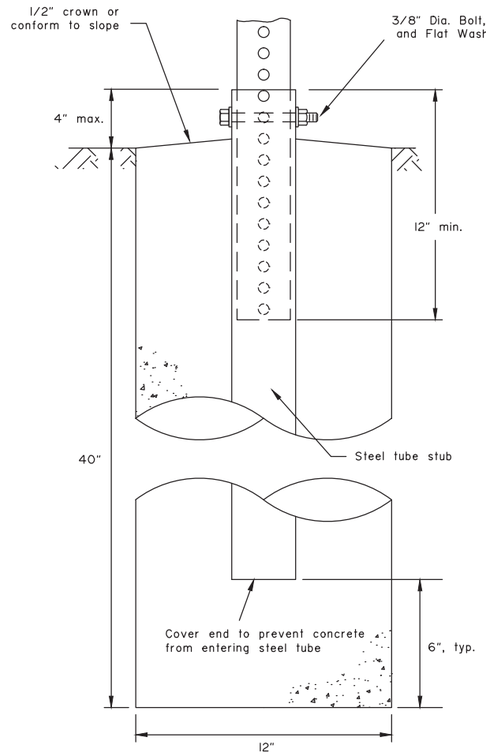
12/10/2019
95%
PS&E
SUBMITTAL

STANDARD DRAWING
S-05.01

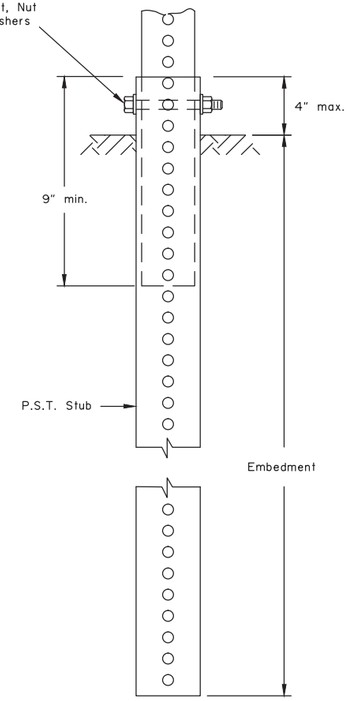
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	V23	V36

S-30.04





SLEEVE TYPE
CONCRETE FOUNDATION



SLEEVE TYPE* SOIL EMBEDMENT

WOOD SIGN POSTS			
SIZE	HOLE DIA.	EMBEDMENT*	NO. OF POSTS WITHIN 7 Ft. PATH
4"x4"	NONE	36"	2
4"x6"	1 1/2"	36"	2
6"x6"	1 1/2"	40"	1
6"x8"	3"	48"	1

* Embedment depth applies in both strong and weak soil.

WOOD POSTS

PERFORATED STEEL TUBES (P.S.T.)		
POST SIZE	Embedment Depth	No. of P.S.T.s permitted within 7 ft path
1 1/2" x 1 1/2"	3'-0"	2
1 3/4" x 1 3/4"	3'-0"	2
2" x 2"	3'-6"	2
2 1/4" x 2 1/4"	4'-0"	1
2 1/2" x 2 1/2"	4'-6"	1

* Use 3"x3"x3/16" Stub for 2 1/2"x2 1/2" PST Applications.

PERFORATED STEEL TUBE (PST) POSTS

GENERAL NOTES:

1. Refer to Std Dwg S-00 for sign framing details.
2. See plans for type of post, size and embedment type.
3. To maintain crashworthiness, install no more than the number of P.S.T.s or wood posts specified in the tables within 7' of each other.
4. Do not install wood posts larger than 6"x8".
5. Do not use the supports on this drawing for multiple support signs if supports are separated by more than 7 feet.
6. Treat all field cuts and field drilled holes in wood posts in accordance with Section 730-2.04 of the Standard Specifications.

REVISIONS		
Date	Description	By
4/2/01	Revised PST table Added Note 3	KJS
2/12/02	Revised wood posts	KJS
1/16/17	Rev. note 1, et. al.	LRG

State of Alaska DOT&PF

LIGHT SIGN STRUCTURE
POST EMBEDMENT

S-30.04

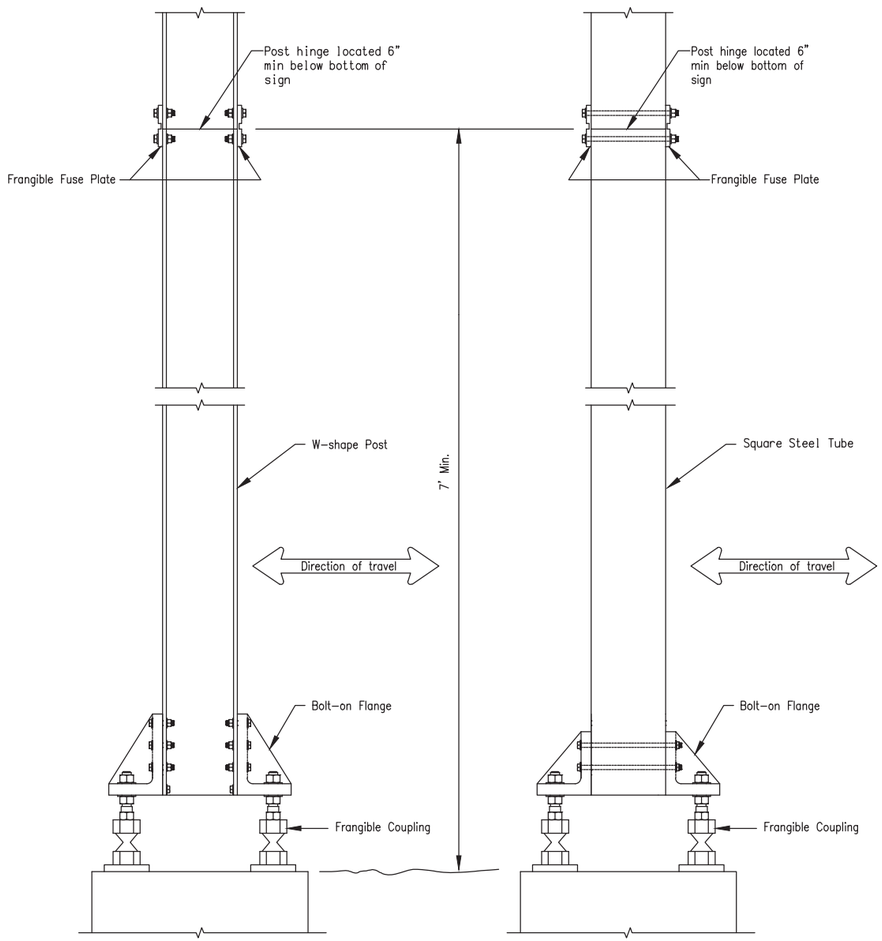
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

STANDARD DRAWING
S-30.04

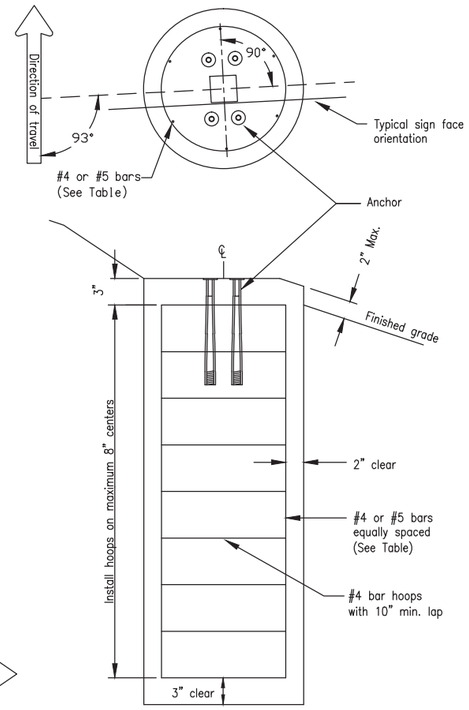
S-31.01

NOTE:
Install hinges when more than one post is used to support a sign. Do not install hinges on single post installations.



FRANGIBLE COUPLING SYSTEM FOR W-SHAPE POST

FRANGIBLE COUPLING SYSTEM FOR SQUARE STEEL TUBES



SIGN POST FOUNDATION

See Table for depth and diameter

POST SIZE & TYPE	FOUNDATION *			REINFORCEMENT					
	DIA.	MIN. DEPTH	CY^3 CONC.	VERTICAL BARS QTY.	VERTICAL BARS SIZE	VERTICAL BARS LGTH.	HOOPS QTY.	HOOPS SIZE	HOOPS DIA.
2 1/2" TUBE	1'-6"	4'-0"	0.26	6	#4	3'-6"	7	#4	1'-2"
3" TUBE	1'-6"	4'-0"	0.26	6	#4	3'-6"	7	#4	1'-2"
3 1/2" TUBE	1'-6"	4'-6"	0.30	6	#4	4'-0"	8	#4	1'-2"
4" TUBE	2'-6"	4'-0"	0.72	7	#5	3'-6"	7	#4	2'-2"
4 1/2" TUBE	2'-6"	4'-6"	0.81	7	#5	4'-0"	8	#4	2'-2"
5" TUBE	2'-6"	5'-6"	1.00	7	#5	5'-0"	9	#4	2'-2"
W6 x 9	2'-6"	4'-0"	0.95	8	#5	3'-6"	7	#4	2'-2"
W6 x 12	2'-6"	4'-6"	1.07	8	#5	4'-0"	8	#4	2'-2"
W6 x 15	3'-0"	6'-6"	1.69	8	#5	6'-0"	11	#4	2'-8"
W6 x 30	3'-0"	7'-6"	1.95	8	#5	7'-0"	12	#4	2'-8"

FOUNDATION TABLE

* Foundations sized for use where there are no loose, high moisture, or fine grained soils.

GENERAL NOTES

1. Furnish sign posts with NCHRP 350 or MASH compliant FHWA-approved frangible couplings designed to break away safely when struck from any direction. The frangible couplings shall not have specific installation torque requirements.
2. Furnish frangible coupling systems with bolt-on flanges.
3. Details on this sheet illustrate only the general components of a frangible coupling system, and are not intended to specify a particular product.
4. Install frangible fuse plates as specified by the manufacturer and hinged joints when multiple posts are used to support a sign. Do not use round pipes.
5. Install the components of the breakaway system, including hinges, in accordance with the written instructions of the system manufacturer.
6. Use Class A concrete conforming to section 501 of the Standard Specifications. Furnish ASTM A615 grade 60 steel bars for concrete reinforcement conforming to AASHTO M31.
7. Spiral reinforcing steel may be substituted for hoops in concrete foundation. Spiral option shall consist of #3 plain spiral with 6" pitch with three flat turns at the top and one flat turn at the bottom.
8. Install the concrete anchors using a rigid template. Locate the anchors on centers and within tolerances specified by the manufacturer.
9. Install the anchors in fresh concrete as recommended by the manufacturer. Adjust the template's final position until it is level. Remove and replace all foundations that need more than 2 shims under any 1 coupling or more than a total of 3 shims under any pair of couplings to plumb the post.
10. Drill the holes for attaching brackets before the sign posts are hot dip galvanized. Test fit templates in the holes to ensure the brackets can be installed square to the posts.

REVISIONS		
Date	Description	By
4/28/10	Delete pipe, Add hinge	KJS

Sheet 1 of 1

State of Alaska
Department of Transportation
& Public Facilities

SIGN POST BASE AND FOUNDATION

S-31.01

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

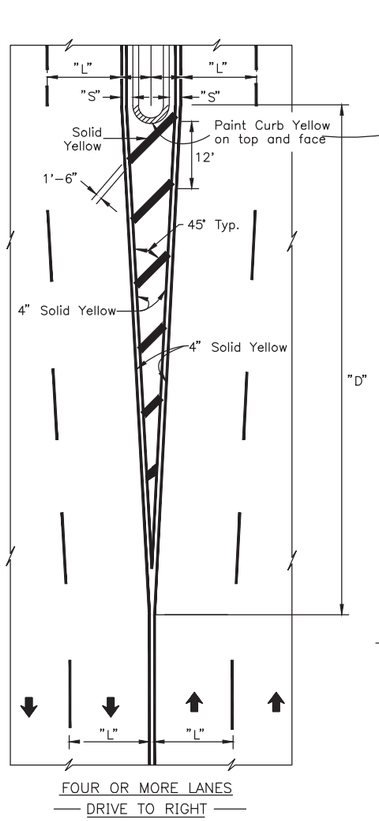
12/10/2019
95%
PS&E
SUBMITTAL

STANDARD DRAWING
S-31.01

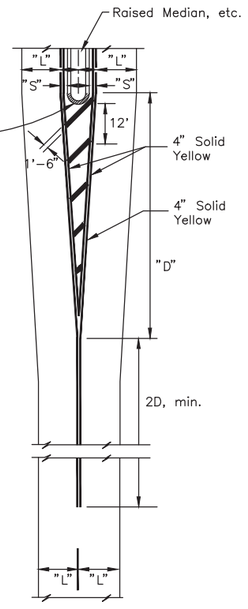
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	V25	V36

T-20.04

SHEET 1 of 1



FOUR OR MORE LANES
DRIVE TO RIGHT

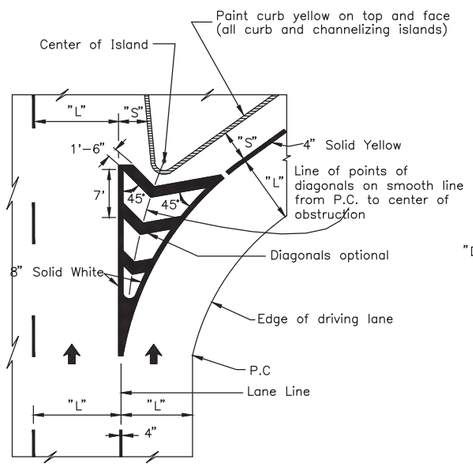


TWO LANES
DRIVE TO RIGHT

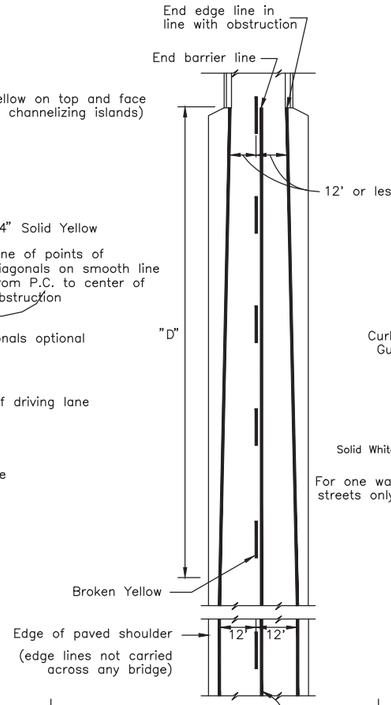
White longitudinal and diagonal markers identical to Four Lane Arrangement.

NOTES: "D" = Speed limit (mph) X "S" (offset width in feet) or as indicated on the plans. Minimum "D" = 100 feet urban, 200 feet rural.

APPROACH TO OBSTRUCTIONS

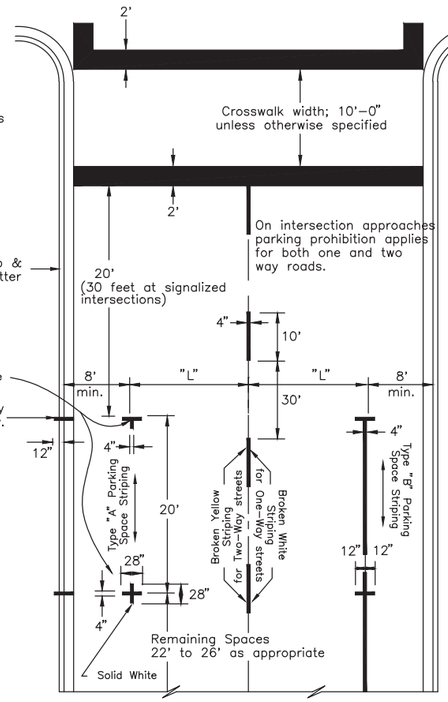


CHANNELIZING ISLAND



Note: On bridges over 24' wide use standard pavement markings. Barrier lines not used unless otherwise required.

EDGE LINE TRANSITION TO NARROW BRIDGE AND APPROACH BARRIER LINE

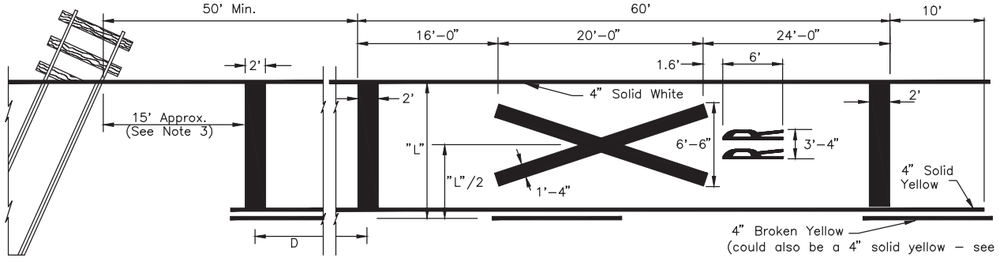


CENTERLINES FOR TWO LANE TWO WAY URBAN ROADS–PARKING LIMIT LINES

RAILROAD CROSSING NOTES:

1. All markings solid while unless indicated otherwise.
2. On 4–lane roadways place railroad crossing approach markings in each lane of the approach.
3. Locate Stop Bar 15' from railroad track or 8' from gate, if present.
4. Place edge lines and lane lines on a uni–directional approach in a normal manner except that the lane line(s) shall be solid 4" white in lieu of broken for a distance of (D+60') in advance of the stop bands.

POSTED LIMIT	D
30 M.P.H.	225'
40	350'
50	475'
60	625'



APPROACH TO RAILROAD CROSSING ON 2 LANE 2 WAY HIGHWAY

GENERAL NOTES:

1. "S"= offset distance as shown on the plans, otherwise 1 to 2 feet.
2. "L"= driving lane width.
3. See the Alaska Traffic Manual for additional guidance and/or restrictions on the use of traffic control devices.

NOT TO SCALE

State of Alaska DOT&PF

PAVEMENT MARKING APPLICATIONS

T-20.04

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

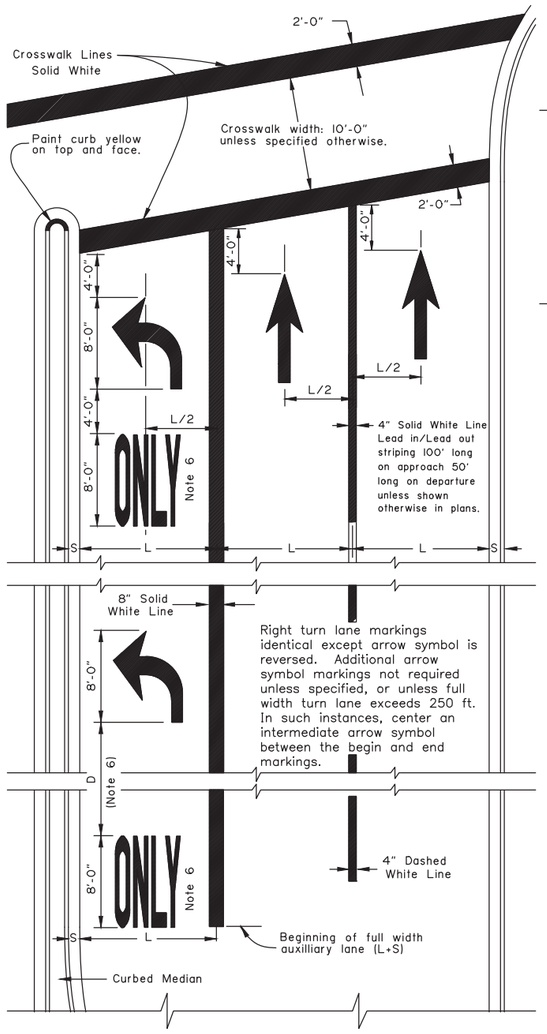
12/10/2019
95% PS&E SUBMITTAL

STANDARD DRAWING
T–20.04

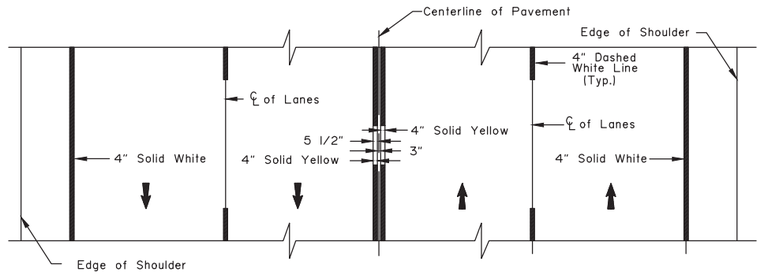
FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2-SEG-2A\DWGS\C\SHEETS\63213_V_T-20.04.DWG PLOTTED: Dec 10, 2019 – 6:15:00 PM (Brian Lewis) KE#: 00245

T-21.03

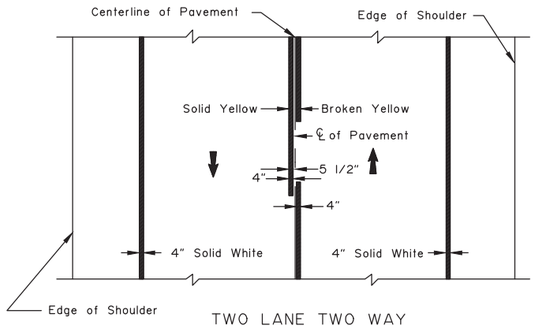
SHEET | of |



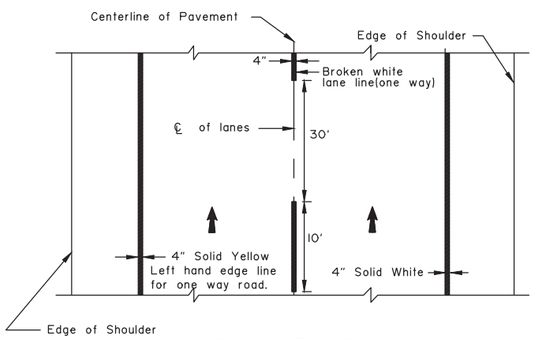
APPROACH TO INTERSECTION



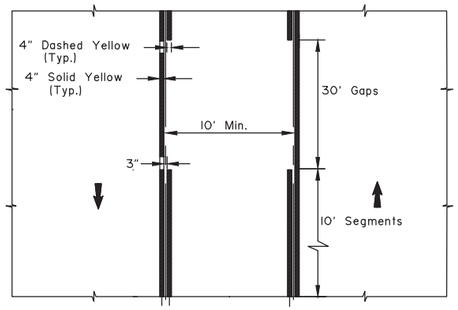
FOUR LANE TWO WAY



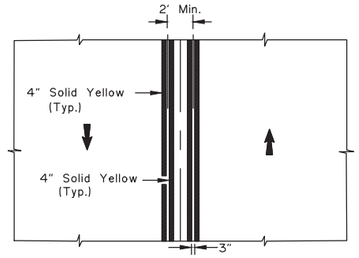
TWO LANE TWO WAY



TWO LANE ONE WAY



TWO-WAY LEFT TURN LANE



STRIPED MEDIAN

GENERAL NOTES:

1. All markings white unless indicated otherwise.
2. Lengths of stripe and gap for lane and center lines identical.
3. Lane lines for auxiliary lanes are unbroken solid lines.
4. "L" = driving lane width.
5. "S" = shy distance as shown on plans, otherwise 1 to 2 feet.
6. ONLY markings are required where through lanes change to turn lanes. In other cases, apply ONLY markings as indicated on plans.
7. See ALASKA TRAFFIC MANUAL for additional instruction on the use of TRAFFIC CONTROL DEVICES.
8. 6. Adjust distance D between ONLY and Turn Arrow based on SPEED vs. D table.

SPEED	D
25 or less	35'
30	45'
35	50'
40	60'
45	65'
50	75'
55 or more	80'

REVISIONS		
Date	Description	By
1/1/86	Arrow Dimension	Gdo
1/1/96	Intersect. Note	Gdo
4/28/10	Details, labels, notes	KJS

State of Alaska
Department of Transportation
& Public Facilities

PAVEMENT MARKING APPLICATIONS

T-21.03

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

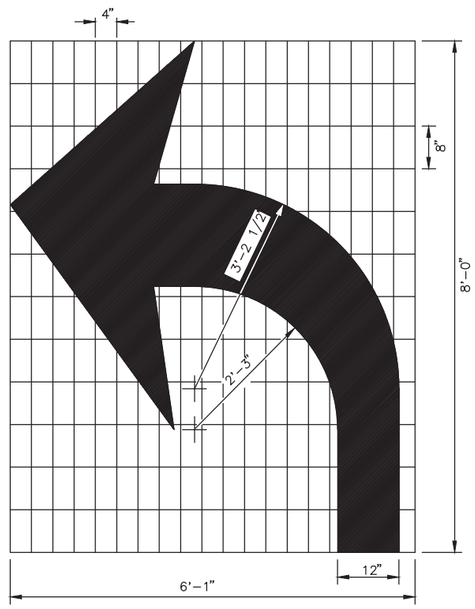
STANDARD DRAWING
T-21.03

FILE: Z:\PROJECTS\00245_UNIV_AVE\PHASE_2_PHASE_2-SEG-2A\DWGS\C\SHEETS\63213_V_T-22.04.DWG PLOTTED: Dec 10, 2019 - 5:19:41 PM (Brian Lewis) KE#: 00245

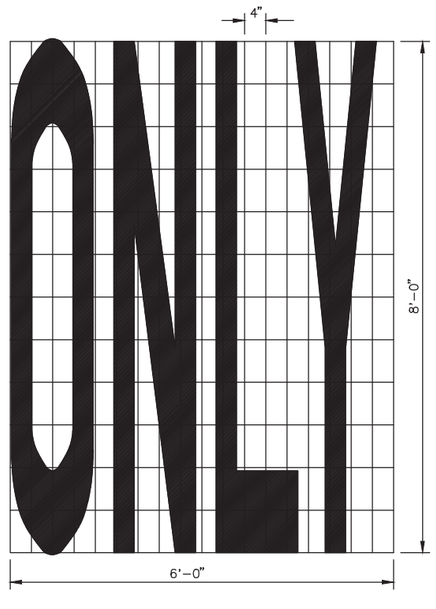
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	V27	V36

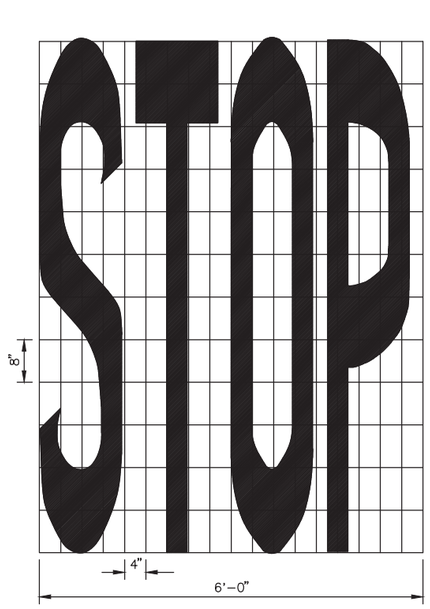
T-22.04

SHEET 1 of 1

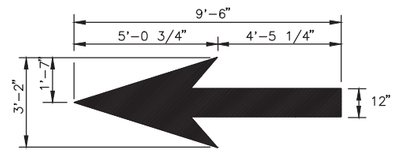


Right turn auxilliary lane usage markings identical except arrow symbol is reversed.

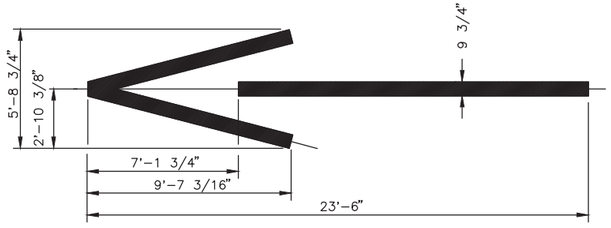




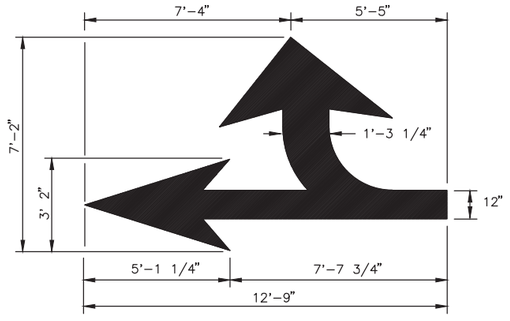
LAYOUT TEMPLATES FOR STENCILS



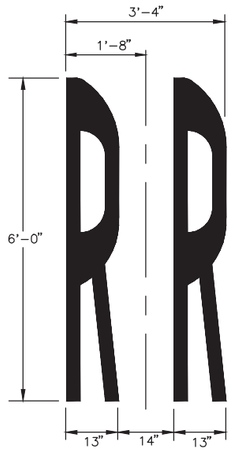
STRAIGHT AHEAD ARROW



WRONG WAY ARROW



COMBINATION ARROW



RAILROAD SYMBOL

GENERAL NOTES:

1. All symbols shown shall be white and reflectorized in accordance with the Special Provisions.
2. See the Alaska Sign Design Specifications (ASDS) for lettering and symbols for pavement marking details not provided on this drawing.

REVISIONS		
Date	Description	By
12/11/18	*Revise RR Symbol*	*SP*

State of Alaska DOT&PF

PAVEMENT MARKING SYMBOL DIMENSIONS

T-22.04

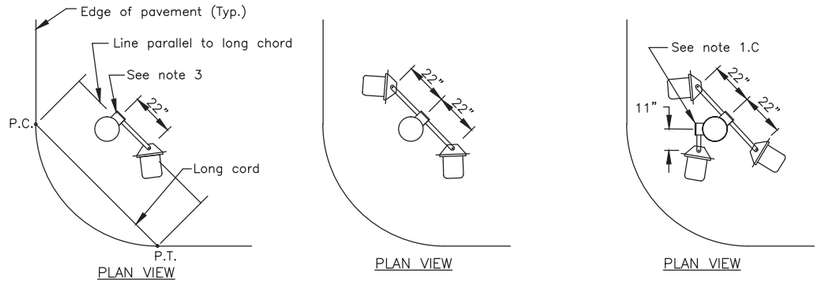
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC

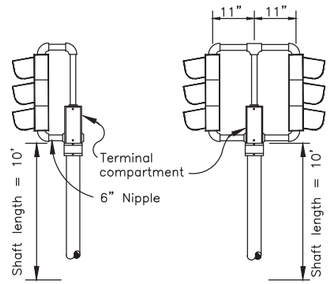
12/10/2019 95% PS&E SUBMITTAL

STANDARD DRAWING
T-22.04

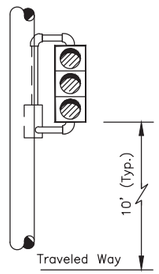
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	V28	V36

T-30.11

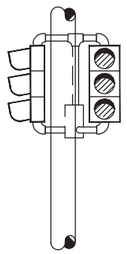




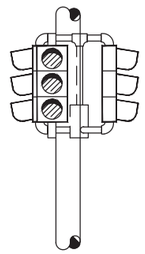
T-1 T-2



S-1
Use a one way, L.O.D. frame for installing one face

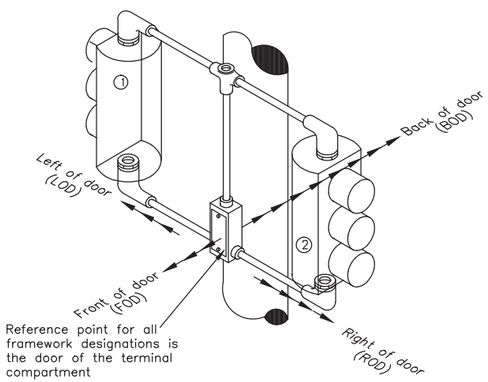


S-2
Use a two way frame for installing two faces



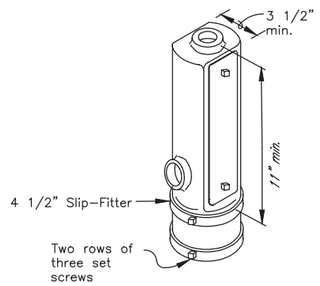
S-3
Use two frames for installing three faces: a two way and a one way R.O.D.

POST MOUNTED SIGNALS
(Shown without backplate)

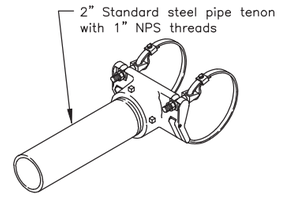


FRAMEWORK DESCRIPTION
Head no. ① offset L.O.D.
Head no. ② offset R.O.D.

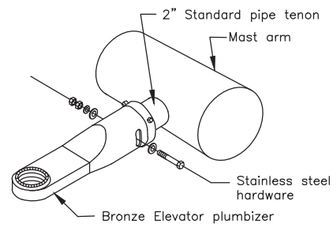
SIDE MOUNTED SIGNAL FRAMES WITH VEHICULAR SIGNALS
(Shown without backplates)



TERMINAL COMPARTMENT WITH SLIP FITTER
(See notes 1.C. and 2)



CLAMP ASSEMBLY FOR FIELD INSTALLED PLUMBIZER MOUNT
(See notes 4 and 8)



ELEVATOR PLUMBIZER
(See note 1.A.)

GENERAL NOTES

1. Install the signal faces in the plans as detailed on this sheet.
   A. Use elevator plumbizers to install faces on mast arms and whenever 2" pipe tenons are specified. Install the plumbizer between the red and yellow signal indications.
   B. Use signal frames to install signal faces on the sides of poles and on the tops of posts.
   C. Use a second signal frame to install the third face when three side mounted signal faces are shown.
2. Furnish all signal frames with terminal compartments.
3. Install one terminal compartment on the side of the pole opposite the midpoint of the radius. Position the terminal compartment at the location where a line parallel to the long cord (P.C. to P.T.) of the radius is tangent to the pole.
4. Field drill the holes needed for attaching all signal hardware. Remove burrs after drilling. Treat the bare steel surfaces in accordance with AASHTO M36.
5. Provide back plates sized for the number of signal sections and mounting type, so that no light is visible between the back plate and the signal face.
6. Attach all back plates using stainless steel rivets with large flange button heads. Install 3/16" diameter by 9/16" long stainless steel rivets that provide at least 535 lb. and 675 lb. shear and tensile strengths, respectively. Bore out the mounting hole in the back plates and signal heads to the diameter recommended by the rivet manufacturer.
7. Before installing the machine screws that secure the visors, coat the threads with an anti-seizing compound.
8. Furnish clamp assemblies for field-installed plumbizer mounts with stainless steel hardware, AB-3007-L as manufactured by Pelco Products, Inc., or approved equivalent. The tenon shall be a 6" length of 2" rigid metal conduit with 1" tapered threads on one end. Drill the tenon to accept the plumbizer through bolt and debur all openings. Coat the tenon threads with Z.R.C. Galvilite, Crown-Gold Calvanizing Compound, or approved equivalent.

REVISIONS		
Date	Description	By

Sheet 1 of 2

State of Alaska
Department of Transportation
& Public Facilities

TRAFFIC SIGNAL HARDWARE

T-30.11 Sheet 1

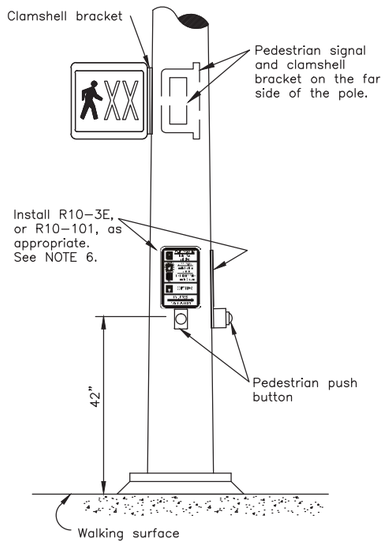
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

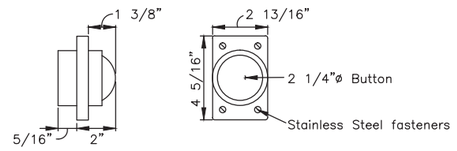
STANDARD DRAWING
T-30.11 1 OF 2

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	V29	V36

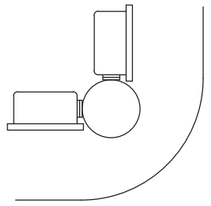
T-30.11



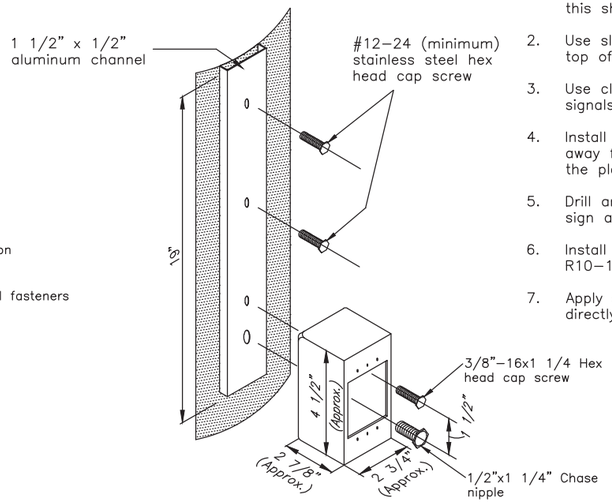
SIGNAL POLE MOUNTED PEDESTRIAN HARDWARE & SIGNAGE



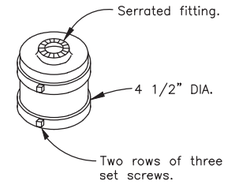
PEDESTRIAN PUSH BUTTON SWITCH



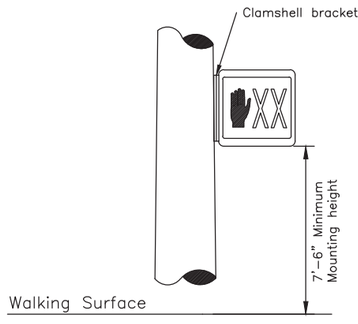
PLAN VIEW



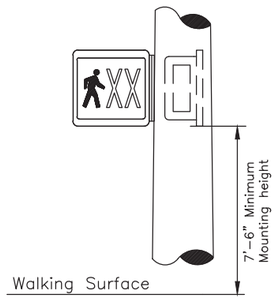
PEDESTRIAN PUSH BUTTON HOUSING



SLIP FITTER
(See note 2)

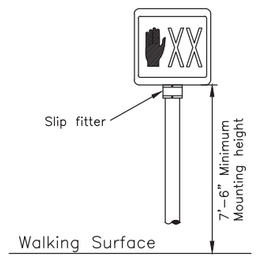


SW-1

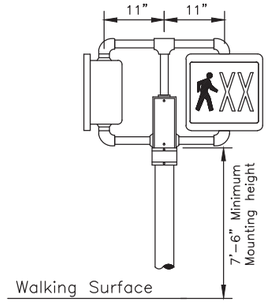


SW-2

SIDE MOUNTED SIGNALS



TW-1



TW-2

POST MOUNTED SIGNALS

GENERAL NOTES

1. Install the signal faces in the plans as detailed on this sheet.
2. Use slip fitters to install pedestrian signals on the top of posts.
3. Use clamshell brackets to install all pedestrian signals except those that are post-top mounted.
4. Install pedestrian signals on the side of poles away from traffic, unless indicated otherwise in the plans.
5. Drill and tap the pole for all mounting holes for sign and pedestrian push button housing.
6. Install R10-3E if a push button is installed. Install R10-101 if no push button is installed.
7. Apply caint-seize compound to cap screws tapped directly into pole.

REVISIONS		
Date	Description	By
4/28/10	Notes, signal, signage	KJS

Sheet 2 of 2

State of Alaska
Department of Transportation & Public Facilities

TRAFFIC SIGNAL HARDWARE

T-30.11 Sheet 2

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

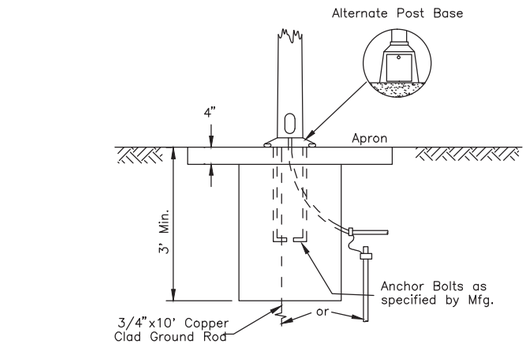
12/10/2019
95%
PS&E
SUBMITTAL

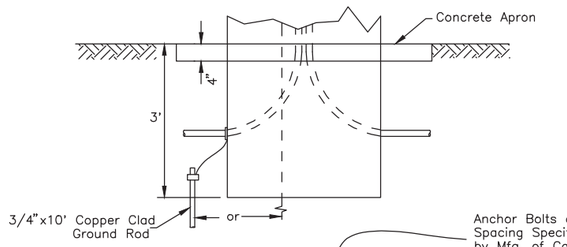
STANDARD DRAWING
T-30.11 2 OF 2

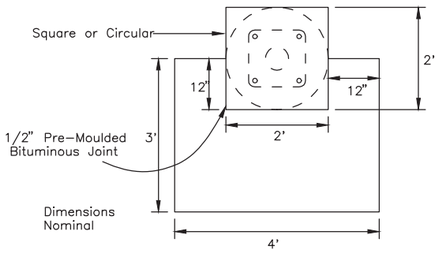
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	V30	V36

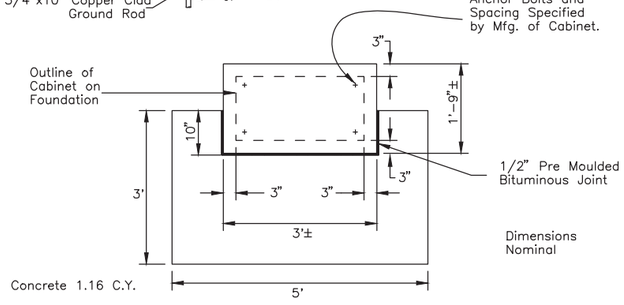
T-31.00

SHEET 1 of 1

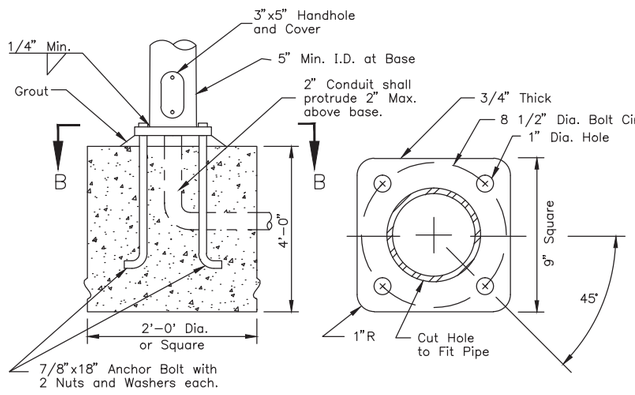






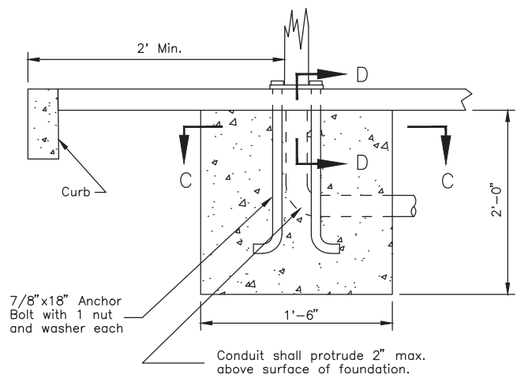


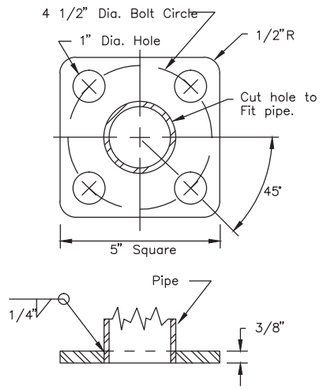
CONTROLLER BASE POST TYPE "C"



SIGNAL BASE POST TYPE "A"

CONTROLLER BASE APRON TYPE "D"





PUSH BUTTON BASE POST TYPE "B"

Use Class 'A' Concrete

GENERAL NOTES:

1. Install ground rod when continuous electrically secure system is not provided between controller and service ground.
2. Meter base shall not be installed in door of control cabinet.
3. Anchor bolts, nuts and washers shall be high strength steel and shall conform to A.S.T.M. A-325. Galvanizing of same shall conform to A.S.T.M. A-153.
4. Anchor bolts may be field cut and bent.
5. Damage to galvanized surfaces as a result of field drilling and or cutting shall be repaired in accordance with Federal Specifications TT-P-641.

REVISIONS		
Date	Description	By

State of Alaska
Department of Transportation & Public Facilities

TRAFFIC SIGNAL & ACCESSORIES FOUNDATION

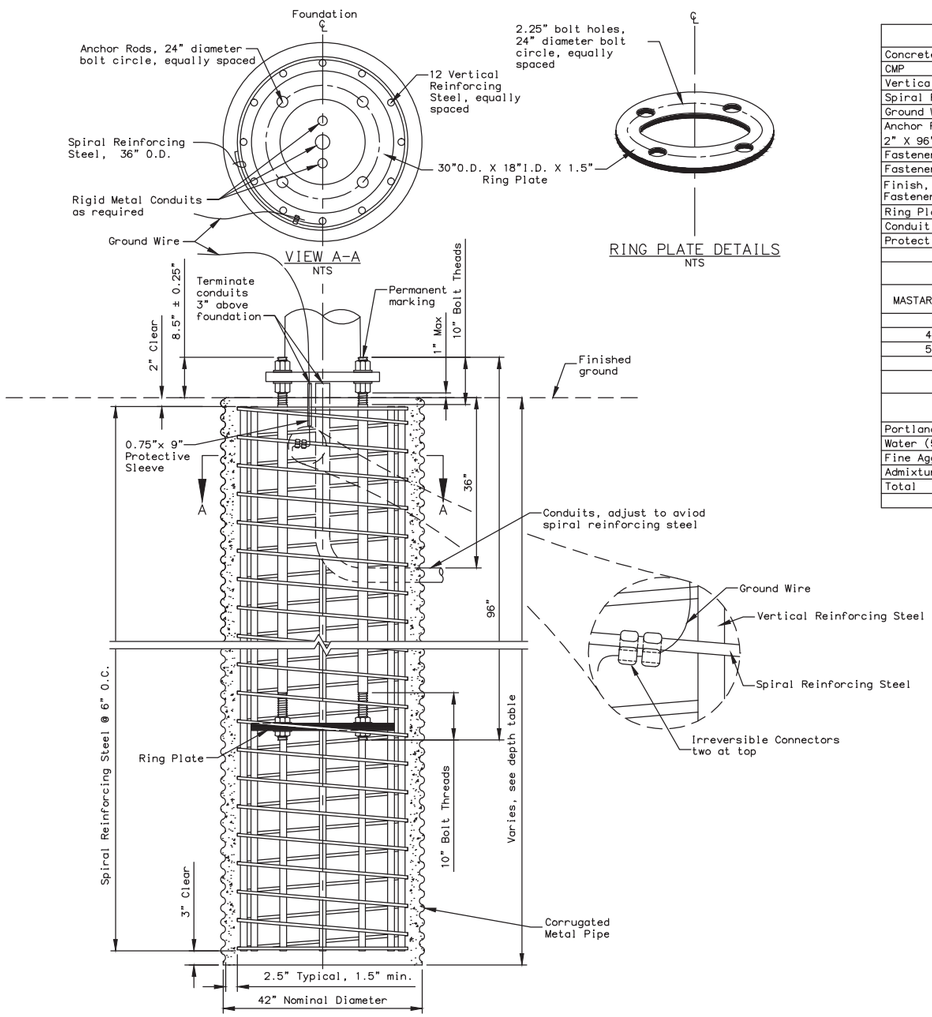
T-31.00

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

STANDARD DRAWING
T-31.00

T-52.20



MATERIAL REQUIREMENTS		
Concrete	Class A	f'c = 4000 psi
CMP	AASHTO M218	14 ga.
Vertical Reinforcing Steel	AASHTO M31 #11	GR 60
Spiral Reinforcing Steel	AASHTO M31 #5	GR 60
Ground Wire		#4 awg
Anchor Rods 2" X 96"	ASTM F1554 S2, S3, & S5	GR 105
Fasteners, Washers	AASHTO M293	
Fasteners, Nuts	AASHTO M292	
Finish, Anchor Rods & Fasteners	AASHTO M232	
Ring Plate	AASHTO M270	GR 36
Conduit	Sch 40	RMC
Protective Sleeve	Sch 40	PVC

DEPTH TABLE		
MASTARM(S) LENGTH (ft.)	FOUNDATION DEPTH BY APPLICATION (ft.)	
	SINGLE MASTARM	DOUBLE MASTARM
L <= 40	10	13
45 <= L <= 50	11	14
55 <= L <= 65	12	15

SAND SLURRY MIX DESIGN		
ITEM	BATCHING QUANTITIES PER CYD BATCH (lbs.)	APPLICABLE SPECS.
Portland Cement Concrete	188	701-2.01
Water (52.1 gal.)	435	712-2.01
Fine Aggregate SSD	3041	703-2.01
Admixture: Microair	2.0 oz.	711-2.02
Total	3664	

DESIGN NOTES:

Design Standard: 2001 Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals with 2006 Interim.

Design Load: 6,500 lbs axial, 6,500 lbs shear, 175,000 ft-lbs moment.

Construction Standards: Latest edition of the State Of Alaska Standard Specifications for Highway Construction with Special Provisions.

NOTES:

1. This foundation is approved for traffic signal applications in cohesionless soils with an N1-60 value of 10 or greater per AASHTO T-206, "Standard Penetration Test" (SPT). This foundation shall not be used if any of the following are encountered; water table above the bottom of foundation, very loose soils, organic soils or, cohesive soils (clay), or soils susceptible to frost jacking. If any of these conditions are encountered, stop foundation work and contact the Engineer.
2. Place foundation in drilled or excavated hole with centerline of foundation located at the station, offset, and elevation specified in plans. Set foundation flush with surrounding surface. Grade to drain away from foundation without exposing more than 4" of the foundation from the surrounding ground surface.
3. Form the foundation in corrugated metal pipe conforming to Subsection 707-2.01 of the Specifications.
4. Provide 1.5 extra turns at each end of the spiral reinforcing steel. Reinforcing steel shall not be spliced. Tie vertical reinforcing steel to each intersection of the spiral reinforcing steel.
5. Connect ground wire near the top spiral reinforcing steel with two irreversible connectors as shown. Fasten connectors according to the manufacturers' recommendations including the use of manufacturer specified tools. The ground wire may be bare solid, stranded, or braided copper. Protect ground wire with protective sleeve as shown and fill with silicon sealant.
6. The Ring Plate May be "built up" of multiple steel plates. The minimum thickness for any one plate is 0.5 inches. Fasten the ring plate to anchor rods with nuts and washers on both sides of ring plate as shown. Torque ring plate nuts to 600 ft-lbs.
7. Anchor rods are subject to Charpy V-Notch Impact Testing. Submit mill certifications for anchor rods, nuts and washers. Galvanize anchor rods full length. Provide permanent manufacturer's identification and permanent grade identification on each end of anchor rod by steel die stamp. Secure exposed anchor rods with a "ring plate" when not in service. Install anchor rods plumb. Anchor rods greater than 1:40 out-of-plumb will result in foundation rejection.
8. Complete all concrete work in conformance with Sections 501, 503, and 660 of the Specifications. Use a tube with a hopper head or other approved device when dropping concrete more than 5 feet per Subsection 501-3.08. Vibrate concrete during placement by mechanical vibration per Subsection 501-3.08. Ensure upper anchor rod threads are protected from contact with concrete during pour.
9. Backfill and compact according to Section 205, and Subsections 203-3.04 and 660-3.01 of the Specifications. Use select material, Type A or sand slurry as backfill material. Ensure area below foundation meets compaction requirements and is free of loose material and debris prior to concrete work.

REVISIONS		
Date	Description	By
05/31/12	Complete Modification	CMW

SHEET 1 OF 1

State of Alaska
Department of Transportation
& Public Facilities

CONCRETE 42" DIA.
SIGNAL POLE FOUNDATION

APPROVED
Date 05/31/12

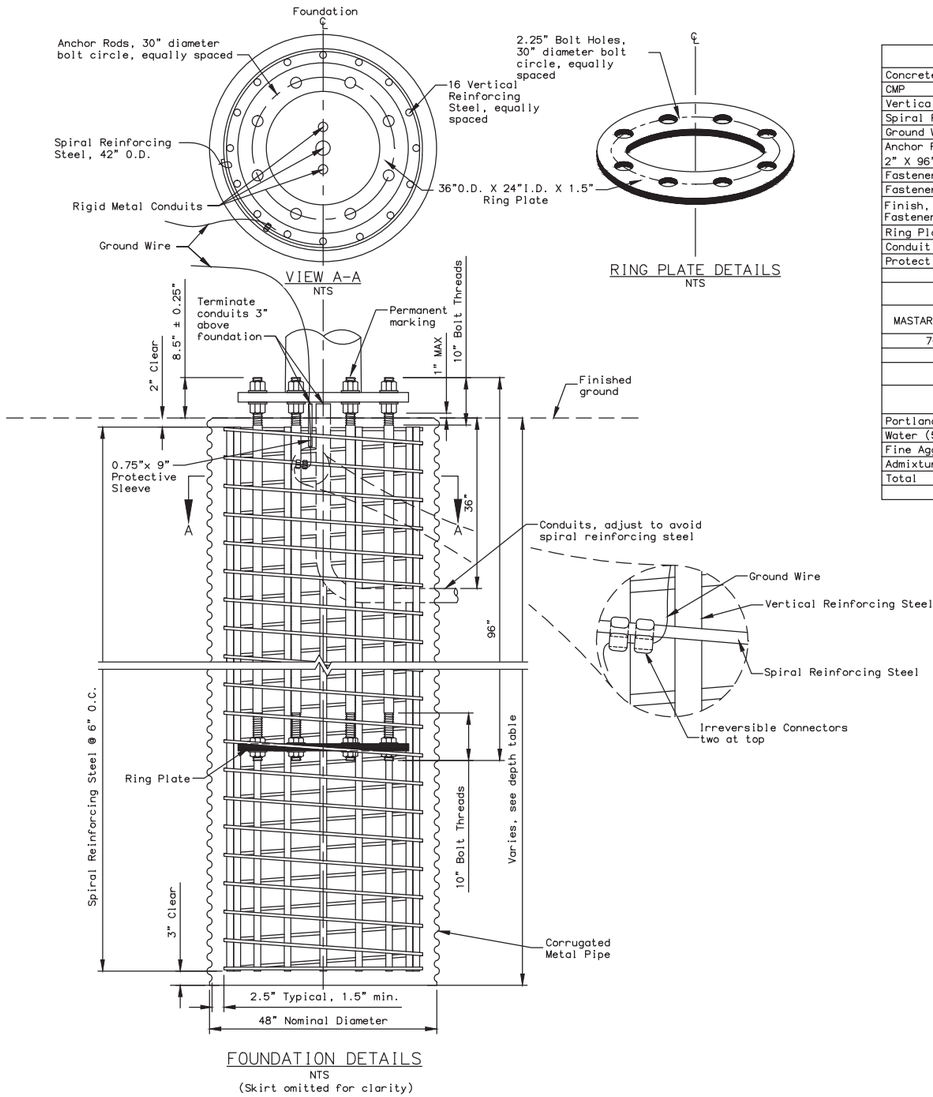
T-52.20

STANDARD DRAWING
T-52.20

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

T-53.00



FOUNDATION DETAILS
NTS
(Skirt omitted for clarity)

MATERIAL REQUIREMENTS		
Concrete	Class A	f'c = 4000 psi
CMP	AASHTO M218	14 ga.
Vertical Reinforcing Steel	AASHTO M31 #11	GR 60
Spiral Reinforcing Steel	AASHTO M31 #5	GR 60
Ground Wire		#4 awg
Anchor Rods 2" X 96"	ASTM F1554 S2, S3, & S5	GR 105
Fasteners, Washers	AASHTO M293	
Fasteners, Nuts	AASHTO M292	
Finish, Anchor Rods & Fasteners	AASHTO M232	
Ring Plate	AASHTO M270	GR 36
Conduit	Sch 40	RMC
Protective Sleeve	Sch 40	PVC

DEPTH TABLE		
MASTARM(S) LENGTH (ft.)	FOUNDATION DEPTH BY APPLICATION (ft.)	
	SINGLE MASTARM	DOUBLE MASTARM
70 <= L <= 75	12	15

SAND SLURRY MIX DESIGN		
ITEM	BATCHING QUANTITIES PER CYD BATCH (lbs.)	APPLICABLE SPECS.
Portland Cement Concrete	188	701-2.01
Water (52.1 gal.)	435	712-2.01
Fine Aggregate SSD	3041	703-2.01
Admixture: Microair	2.0 oz.	711-2.02
Total	3664	

DESIGN NOTES:

Design: 2001 Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals with 2006 Interim.

Design Load: 7,500 lbs axial, 7,500 lbs shear, 200,000 ft-lbs moment.

Construction Standard: Latest edition of the State Of Alaska Standard Specifications for Highway Construction with Special Provisions.

NOTES:

1. This foundation is approved for traffic signal applications in cohesionless soils with an N1-60 value of 10 or greater per AASHTO T-206, "Standard Penetration Test" (SPT). This foundation shall not be used if any of the following are encountered; water table above the bottom of foundation, very loose soils, organic soils, cohesive soils (clay), or soils susceptible to frost jacking. If any of these conditions are encountered, stop foundation work and contact the Engineer.
2. Place foundation in drilled or excavated hole with centerline of foundation located at the station, offset, and elevation specified in plans. Set foundations flush with surrounding surface. Grade to drain away from foundation without exposing more than 4" of the foundation from the surrounding ground surface.
3. Form the foundation in corrugated metal pipe conforming to Subsection 707-2.01 of the Specifications.
4. Provide 1.5 extra turns at each end of the spiral reinforcing steel. Reinforcing steel shall not be spliced. Tie vertical reinforcing steel to each intersection of the spiral reinforcing steel.
5. Connect ground wire near the top of spiral reinforcing steel with two irreversible connectors as shown. Fasten connectors according to the manufacturers' recommendations including the use of manufacturer specified tools. The ground wire may be bare solid, stranded, or braided copper. Protect ground wire with protective sleeve as shown and fill with silicon sealant.
6. The ring plate may be "built up" of multiple steel plates. The minimum thickness for any one plate is 0.5 inches. Fasten the ring plate to anchor rods with nuts and washers on both sides of ring plate as shown. Torque ring plate nuts to 600 ft-lbs.
7. Anchor rods are subject to Charpy V-Notch Impact Testing. Submit mill certifications for anchor rods, nuts and washers. Galvanize anchor rods full length. Provide permanent manufacturer's identification and permanent grade identification on each end of anchor rod by steel die stamp. Secure exposed anchor rods with a "ring plate" when not in service. Install anchor rods plumb. Anchor rods greater than 1:40 out-of-plumb will result in foundation rejection.
8. Complete all concrete work in conformance with Sections 501, 503, and 660 of the Specifications. Use a tube with a hopper head or other approved device when dropping concrete more than 5 feet per Subsection 501-3.08. Vibrate concrete during placement by mechanical vibration per Subsection 501-3.08. Ensure upper anchor rod threads are protected from contact with concrete during pour.
9. Backfill and compact according to Section 205, and Subsections 203-3.04 and 660-3.01 of the Specifications. Use select material, Type A or sand slurry as backfill material. Ensure area below foundation meets compaction requirements and is free of loose material and debris prior to concrete work.

REVISIONS		
Date	Description	By

SHEET 1 OF 1

State of Alaska
Department of Transportation
& Public Facilities

CONCRETE 48" DIA.
SIGNAL POLE FOUNDATION

APPROVED
Date 05/31/12

T-53.00

STANDARD DRAWING
T-53.00

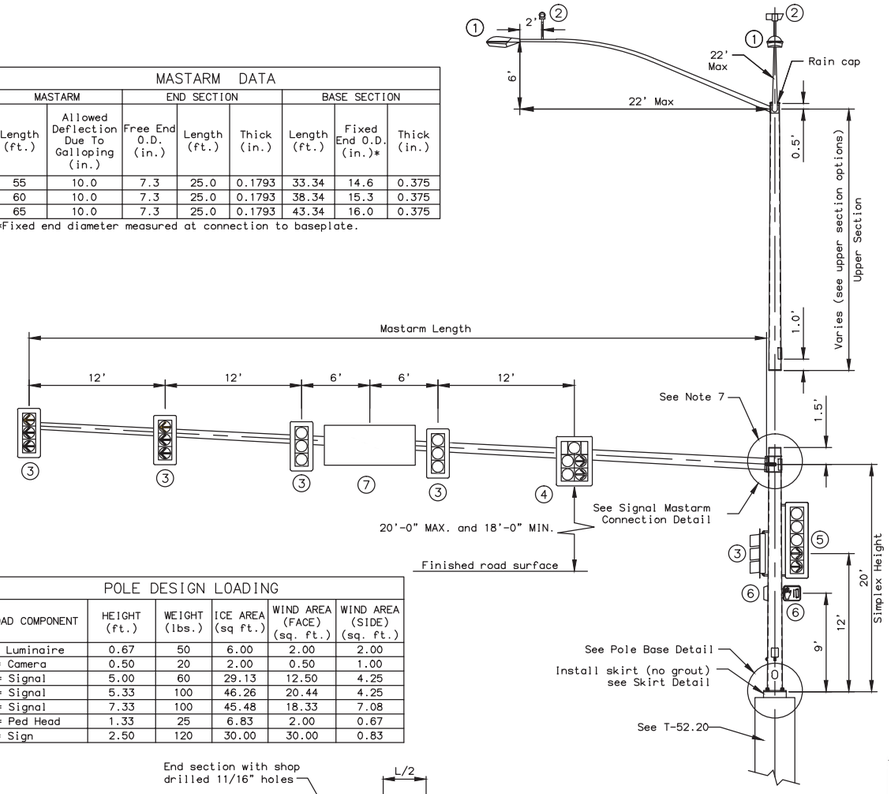
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

T-56.00

MASTARM DATA							
MASTARM		END SECTION			BASE SECTION		
Length (ft.)	Allowed Deflection Due To Galloping (in.)	Free End O.D. (in.)	Length (ft.)	Thick (in.)	Length (ft.)	Fixed End O.D. (in.)*	Thick (in.)
55	10.0	7.3	25.0	0.1793	33.34	14.6	0.375
60	10.0	7.3	25.0	0.1793	38.34	15.3	0.375
65	10.0	7.3	25.0	0.1793	43.34	16.0	0.375

*Fixed end diameter measured at connection to baseplate.



ELEVATION VIEW
NTS

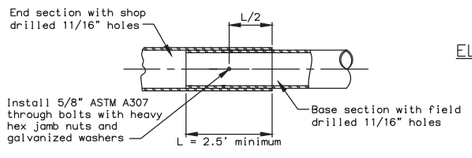
POLE DESIGN LOADING					
LOAD COMPONENT	HEIGHT (ft.)	WEIGHT (lbs.)	ICE AREA (sq ft.)	WIND AREA (FACE) (sq. ft.)	WIND AREA (SIDE) (sq. ft.)
1 = Luminaire	0.67	50	6.00	2.00	2.00
2 = Camera	0.50	20	2.00	0.50	1.00
3 = Signal	5.00	60	29.13	12.50	4.25
4 = Signal	5.33	100	46.26	20.44	4.25
5 = Signal	7.33	100	45.48	18.33	7.08
6 = Ped Head	1.33	25	6.83	2.00	0.67
7 = Sign	2.50	120	30.00	30.00	0.83

MATERIAL REQUIREMENTS	
ALL ASSEMBLIES	
Steel Through 1/2" Thick	ASTM A572 or A595
Steel Over 1/2" Thick	AASHTO M270 F3 (50ksi)
Finish	AASHTO M111 & M232
Mastarm Bolts	AASHTO M164
Anchor Rods	See T-52.20
POLE (LOWER SECTION)	
Design Length	21.5'
Section Shape	Round
Simplex Height	20'
Fixed End Diameter	19.0" O.D.
Taper	0.14"/ft
Tube Thickness	0.375"
Base Plate	24" X 24" X 2.25"
Bolt Circle	24"
Signal Arm Plate	24" X 24" X 2.25"
Top Ring Thickness	0.375"
Bottom Ring Thickness	0.375"
Gusset Plate Thickness	0.375"
Handhole Cover Thickness	10 ga
Pole Skirt Thickness	10 ga
MASTARM	
Design Length	65'
Section Shape	Round
Taper	0.14"/ft
Tube Thickness	Mastarm Data
Mastarm Rise	3.0 Degrees
Base Plate	24" X 24" X 2.25"
Bolt Circle	6 Vertical O.C.
Mastarm Bolts	1.5" X 4.5"

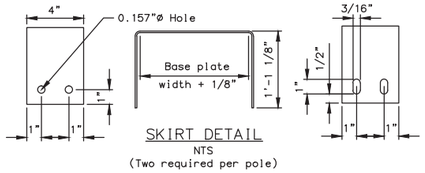
NOTES:

1. Provide pole assemblies meeting the following design criteria; 2001 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, the latest edition of the Alaska Standard Specifications for Highway Construction including Standard Modifications and, Special Provisions. Design for a basic wind speed of 100 mph, Fatigue Category III, with galloping. Measure allowed deflection due to galloping at the free end of mastarm.
2. Provide poles to accommodate the maximum length shown in the Mastarm Data with the given loads, dimensions and material requirements.
3. This drawing shows loads (signs and signals) to be used by manufacturers when designing poles. It does not show actual loading of poles/mastarms on individual projects. This pole/mastarm design may be used without further analysis if the following conditions are met:
   - The guide sign (load #7) is attached to the mastarm base section and,
   - Not more than 4 traffic signals and/or signs are attached to the end section of the mastarm.

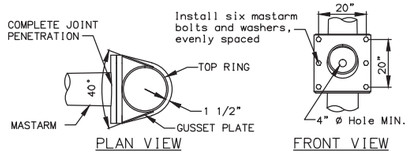
   If these conditions are not met, this standard pole/mastarm design may only be used if design computations are submitted that demonstrate conformance to design criteria (Note 1) using actual loads. Note: Devices with less than 1 square foot of projected area may be added to the mastarm without causing a need for additional design computations.
4. The manufacturer is to determine weld sizes. All welds and testing shall conform to the latest edition of the Structural Welding Code AWS D1.1. Provide visual test (VT) of 100% of all welds. Provide magnetic particle test (MT) of 100% of all fillet welds. Provide Radiographic (RT) or ultrasonic test (UT) of 100% of all complete joint penetration welds and a random 25% of all partial joint penetration longitudinal seam welds.
5. Fabricate pole tubes from no more than 2 pieces of steel. When using 2 pieces, place the longitudinal welded seams directly opposite one another.
6. Fabricate luminaire arms and connections according to Standard Drawing L-03.10.
7. Provide permanent tags on all pole sections per Section 740 Table 740-1 of the Specifications. Provide a rain cap when no upper section is specified.
8. The Department will reject damaged or defective poles for any of the following; variances from approved shop drawings, variances from material requirements, sections more than 2-percent out of round, sections bowed more than 1-inch throughout the length of the pole, mastarm, or segment and, damaged or dented finishes.
9. Drill a 1" maximum diameter hole at each traffic signal location. Orient the hole on the horizontal axis of mastarms.
10. Install pole plumb by ensuring the side opposite the mastarm is vertical in its final deflected position.
11. Align welded seams on adjacent sections of mastarms to form continuous straight seams the length of the mastarm. Mechanically force mastarm sections together for a snug fit.
12. Clean and remove dirt, burrs, mill scale, and excess galvanization on all faying surfaces and threaded parts before assembly. Lubricate the threads of all bolts and nuts with lubricant containing a visible dye. Tighten all bolts according to section 504 of the specifications.



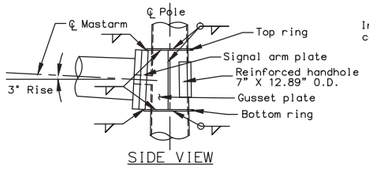
MASTARM SLIP SPLICE ELEVATION DETAIL
NTS



SKIRT DETAIL
NTS
(Two required per pole)

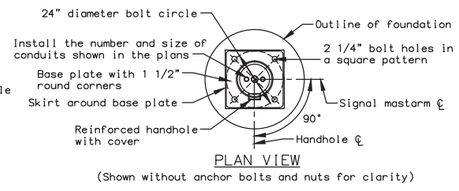


PLAN VIEW FRONT VIEW

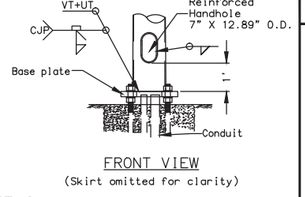


SIDE VIEW

SIGNAL MASTARM CONNECTION DETAIL
NTS
(Elevation view of a ring stiffened built-up box)



PLAN VIEW
(Shown without anchor bolts and nuts for clarity)



FRONT VIEW
(Skirt omitted for clarity)

POLE BASE DETAIL
NTS

REVISIONS		
Date	Description	By

SHEET 1 OF 2

State of Alaska
Department of Transportation & Public Facilities

SIGNAL POLE
WITH 55' TO 65' MASTARM?
LOWER SECTION

APPROVED

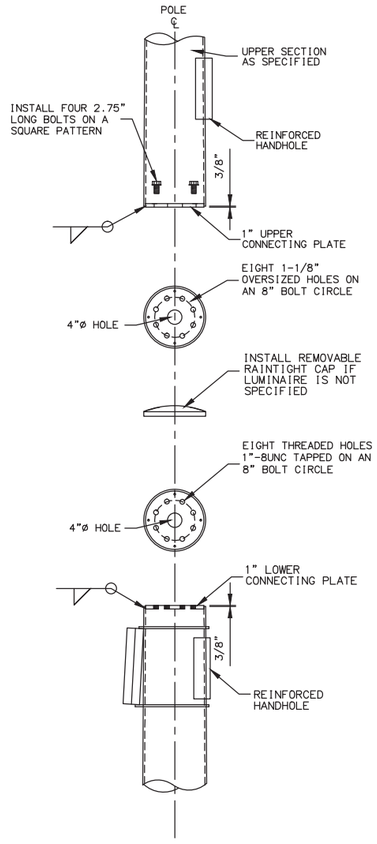
Date 05/31/12

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

STANDARD DRAWING
T-56.00 1 OF 2

T-56.00



POLE CONNECTING DETAIL

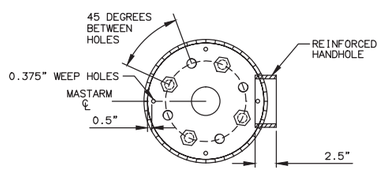
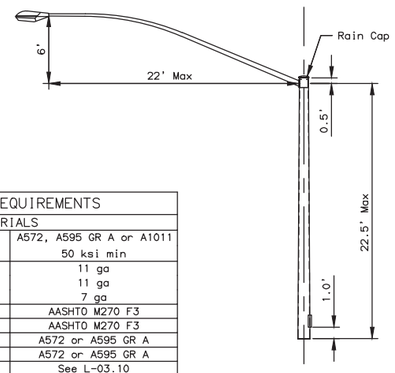
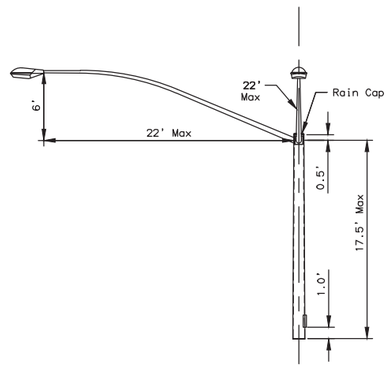


PLATE DETAILS

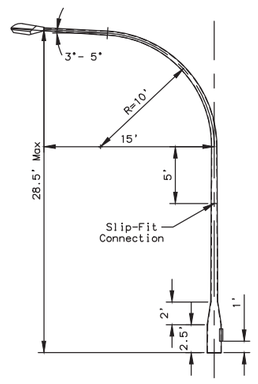
MATERIAL REQUIREMENTS	
MATERIALS	
Tube Material	A572, A595 GR A or A1011 50 ksi min
Single Luminaire Tube	11 ga
Double Luminaire Tube	11 ga
Davit Luminaire Tube	7 ga
Lower Connecting Plate	AASHTO M270 F3
Upper Connecting Plate	AASHTO M270 F3
Concentric Reducer	A572 or A595 GR A
Connection Tube	A572 or A595 GR A
Luminaire Arm Materials	See L-03.10
Upper Section Attachment Bolts	1"-8UNC / AASHTO M164
Luminaire Attachment Bolts	3/4"-10 / AASHTO M164
Slip-fit Through Bolt	5/8" / AASHTO M164
Finish	AASHTO M111 & M232
Handhole	7" X 12.89" O.D.
SINGLE LUMINAIRE	
Design Length	22.5'
Section Shape	Round
Fixed End Diameter	15.99" O.D.
Taper	0.14"/ft
Luminaire Arm Details	See L-03.10
DOUBLE LUMINAIRE	
Design Length	17.5'
Section Shape	Round
Fixed End Diameter	15.99" O.D.
Taper	0.14"/ft
Luminaire Arm Details	See L-03.10
DAVIT LUMINAIRE ARM	
Design Height	28.5'
Design Offset	15'
Radius	10'
Section Shape	Round
Fixed End Diameter	15.99" O.D.
Free End Diameter	2.375" O.D.
Taper	0.14"/ft
Concentric Reducer	7 ga
Connection Tube	7 ga



SINGLE LUMINAIRE

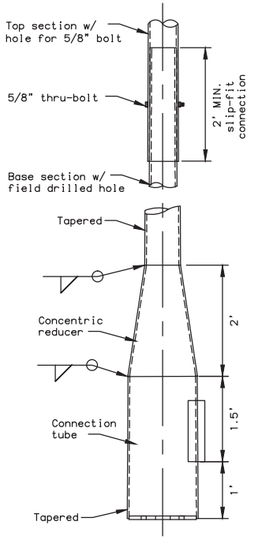


DOUBLE LUMINAIRE

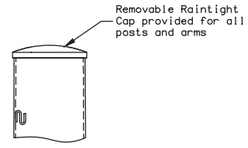


DAVIT LUMINAIRE

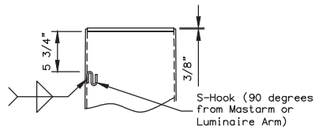
UPPER SECTION OPTIONS
NTS



DAVIT CONNECTION DETAIL
NTS



RAIN CAP DETAIL



LOWER SECTION POST TOP
NTS

REVISIONS		
Date	Description	By

SHEET 2 OF 2

State of Alaska
Department of Transportation
& Public Facilities

SIGNAL POLE
WITH 55' TO 65' MASTARM?
UPPER SECTION

APPROVED

Date 05/31/12

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

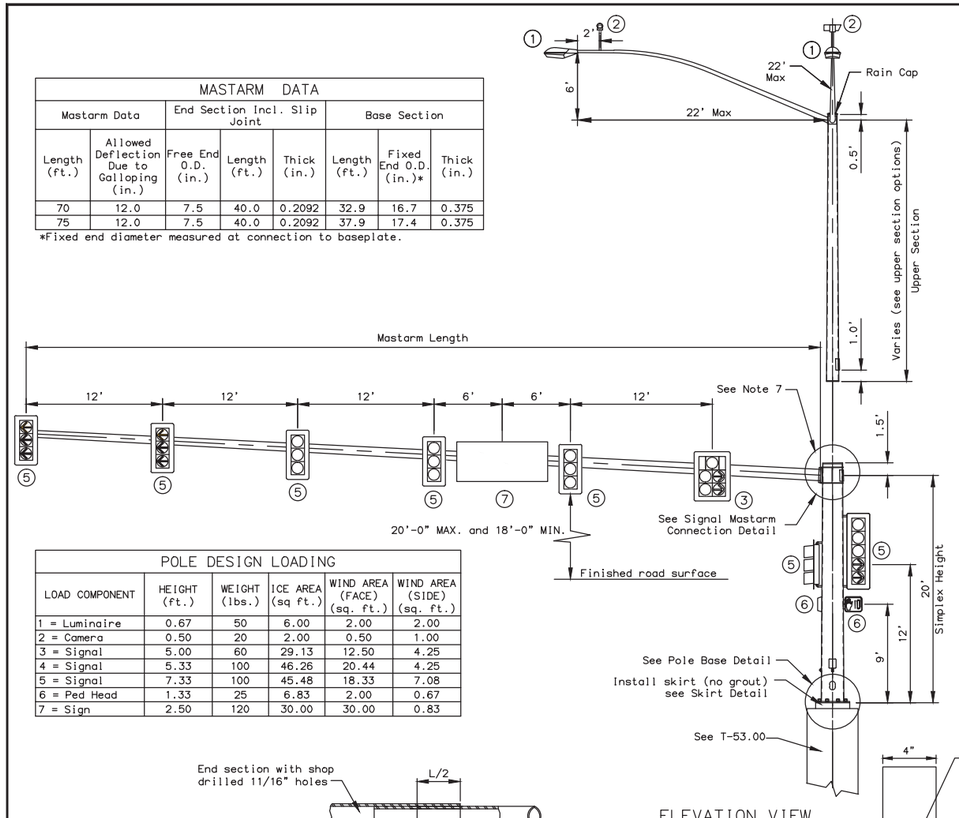
12/10/2019
95%
PS&E
SUBMITTAL

STANDARD DRAWING
T-56.00 2 OF 2

T-57.01

MASTARM DATA							
Mastarm Data		End Section Incl. Slip Joint			Base Section		
Length (ft.)	Allowed Deflection Due to Galloping (in.)	Free End O.D. (in.)	Length (ft.)	Thick (in.)	Length (ft.)	Fixed End O.D. (in.)*	Thick (in.)
70	12.0	7.5	40.0	0.2092	32.9	16.7	0.375
75	12.0	7.5	40.0	0.2092	37.9	17.4	0.375

*Fixed end diameter measured at connection to baseplate.



ELEVATION VIEW
NTS

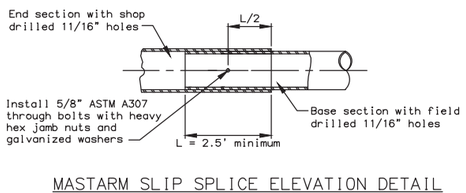
POLE DESIGN LOADING					
LOAD COMPONENT	HEIGHT (ft.)	WEIGHT (lbs.)	ICE AREA (sq ft.)	WIND AREA (FACE) (sq. ft.)	WIND AREA (SIDE) (sq. ft.)
1 = Luminaire	0.67	50	6.00	2.00	2.00
2 = Camera	0.50	20	2.00	0.50	1.00
3 = Signal	5.00	60	29.13	12.50	4.25
4 = Signal	5.33	100	46.26	20.44	4.25
5 = Signal	7.33	100	45.48	18.33	7.08
6 = Ped Head	1.33	25	6.83	2.00	0.67
7 = Sign	2.50	120	30.00	30.00	0.83

MATERIAL REQUIREMENTS	
ALL ASSEMBLIES	
Steel Through 1/2" Thick	ASTM A572 or A595
Steel Over 1/2" Thick	AASHTO M270 F3 (50ksi)
Finish	AASHTO M111 & M232
Mastarm Bolts	AASHTO M164
Anchor Rods	See T-53.00
POLE (LOWER SECTION)	
Design Length	21.5'
Section Shape	Round
Simplex Height	20'
Fixed End Diameter	21" O.D.
Taper	0.14"/ft
Tube Thickness	0.375"
Base Plate	36" O.D. X 2.25"
Bolt Circle	30"
Signal Arm Plate	26" X 26" X 2.25"
Top Ring Thickness	0.375"
Bottom Ring Thickness	0.375"
Gusset Plate Thickness	0.375"
Handhole Cover Thickness	10 ga
Pole Skirt Thickness	10 ga
MASTARM	
Design Length	75'
Section Shape	Round
Taper	0.14"/ft
Tube Thickness	Mastarm Data
Mastarm Rise	3.0 Degrees
Base Plate	26" X 26" X 2.25"
Bolt Circle	8 Vertical O.C.
Mastarm Bolts	1.5" X 4.5"

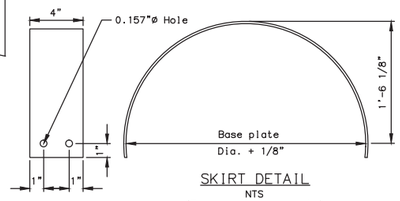
NOTES:

1. Provide pole assemblies meeting the following design criteria; 2001 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, the latest edition of the Alaska Standard Specifications for Highway Construction including Standard Modifications and, Special Provisions. Design for a basic wind speed of 100 mph, Fatigue Category III, with galloping. Measure allowed deflection due to galloping at the free end of mastarm.
2. Provide poles to accommodate the maximum length shown in the Mastarm Data with the given loads, dimensions and material requirements.
3. This drawing shows loads (signs and signals) to be used by manufacturers when designing poles. It does not show actual loading of poles/mastarms on individual projects. This pole/mastarm design may be used without further analysis if the following conditions are met:
   - The guide sign (load #7) is attached to the mastarm base section and,
   - Not more than 4 traffic signals and/or signs are attached to the end section of the mastarm.

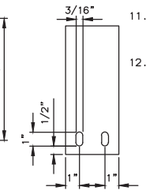
   If these conditions are not met, this standard pole/mastarm design may only be used if design computations are submitted that demonstrate conformance to design criteria (Note 1) using actual loads. Note: Devices with less than 1 square foot of projected area may be added to the mastarm without causing a need for additional design computations.
4. The manufacturer is to determine weld sizes. All welds and testing shall conform to the latest edition of the Structural Welding Code AWS D1.1. Provide visual test (VT) of 100% of all welds. Provide magnetic particle test (MT) of 100% of all fillet welds. Provide Radiographic (RT) or ultrasonic test (UT) of 100% of all complete joint penetration welds and a random 25% of all partial joint penetration longitudinal seam welds.
5. Fabricate pole tubes from no more than 2 pieces of steel. When using 2 pieces, place the longitudinal welded seams directly opposite one another.
6. Fabricate luminaire arms and connections according to Standard Drawing L-03.10.
7. Provide permanent tags on all pole sections per Section 740 Table 740-1 of the Specifications. Provide a rain cap when no upper section is specified.
8. The Department will reject damaged or defective poles for any of the following; variances from approved shop drawings, variances from material requirements, sections more than 2-percent out of round, sections bowed more than 1-inch throughout the length of the pole, mastarm, or segment and, damaged or dented finishes.
9. Drill a 1" maximum diameter hole at each traffic signal location. Orient the hole on the horizontal axis of mastarms.
10. Install pole plumb by ensuring the side opposite the mastarm is vertical in its final deflected position.
11. Align welded seams on adjacent sections of mastarms to form continuous straight seams the length of the mastarm. Mechanically force mastarm sections together for a snug fit.
12. Clean and remove dirt, burrs, mill scale, and excess galvanization on all faying surfaces and threaded parts before assembly. Lubricate the threads of all bolts and nuts with lubricant containing a visible dye. Tighten all bolts according to section 504 of the specifications.

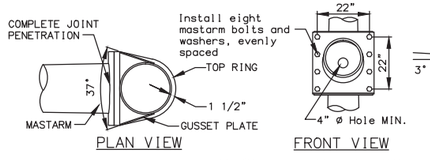


MASTARM SLIP SPLICE ELEVATION DETAIL
NTS



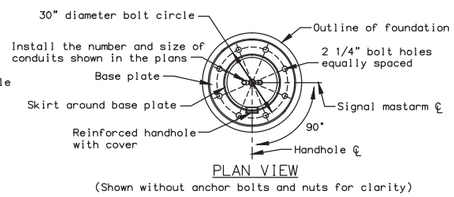
SKIRT DETAIL
NTS
(Two required per pole)



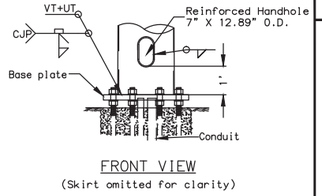


PLAN VIEW — FRONT VIEW — SIDE VIEW

SIGNAL MASTARM CONNECTION DETAIL
NTS
(Elevation view of a ring stiffened built-up box)



PLAN VIEW
(Shown without anchor bolts and nuts for clarity)



FRONT VIEW
(Skirt omitted for clarity)

POLE BASE DETAIL
NTS

REVISIONS		
Date	Description	By
07/15/14	Bolt circle leader corrected	CMW

SHEET 1 OF 2

State of Alaska
Department of Transportation
& Public Facilities

SIGNAL POLE
WITH 70' TO 75' MASTARM?
LOWER SECTION

APPROVED
Date 07/15/14

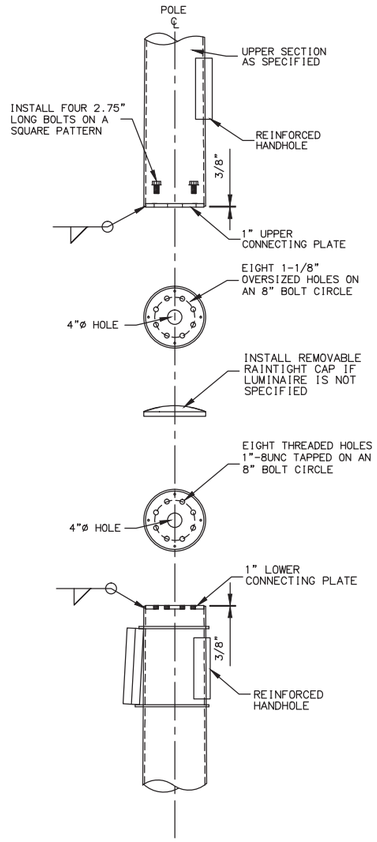
PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

12/10/2019
95%
PS&E
SUBMITTAL

STANDARD DRAWING
T-57.01

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHY00468	2020	V36	V36

T-57.01



POLE CONNECTING DETAIL

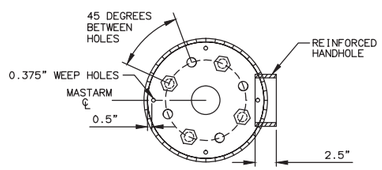
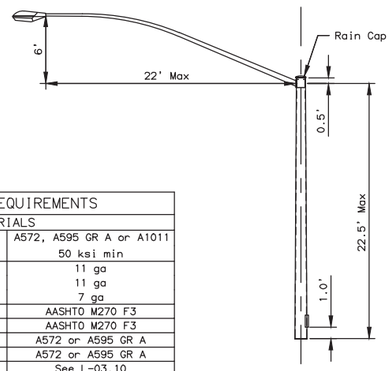
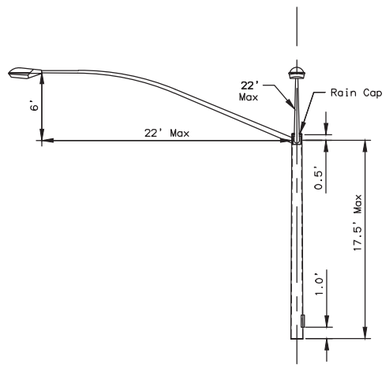


PLATE DETAILS

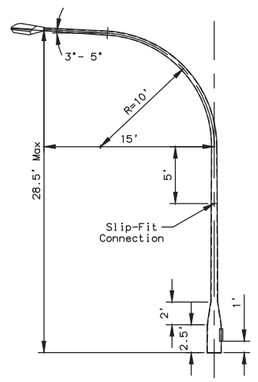
MATERIAL REQUIREMENTS	
MATERIALS	
Tube Material	A572, A595 GR A or A1011 50 ksi min
Single Luminaire Tube	11 ga
Double Luminaire Tube	11 ga
Davit Luminaire Tube	7 ga
Lower Connecting Plate	AASHTO M270 F3
Upper Connecting Plate	AASHTO M270 F3
Concentric Reducer	A572 or A595 GR A
Connection Tube	A572 or A595 GR A
Luminaire Arm Materials	See L-03.10
Upper Section Attachment Bolts	1"-8UNC / AASHTO M164
Luminaire Attachment Bolts	3/4"-10 / AASHTO M164
Slip-fit Through Bolt	5/8" / AASHTO M164
Finish	AASHTO M111 & M232
Handhole	7" X 12.89" O.D.
SINGLE LUMINAIRE	
Design Length	22.5'
Section Shape	Round
Fixed End Diameter	17.99" O.D.
Taper	0.14"/ft
Luminaire Arm Details	See L-03.10
DOUBLE LUMINAIRE	
Design Length	17.5'
Section Shape	Round
Fixed End Diameter	17.99" O.D.
Taper	0.14"/ft
Luminaire Arm Details	See L-03.10
DAVIT LUMINAIRE ARM	
Design Height	28.5'
Design Offset	15'
Radius	10'
Section Shape	Round
Fixed End Diameter	17.99" O.D.
Free End Diameter	2.375" O.D.
Taper	0.14"/ft
Concentric Reducer	7 ga
Connection Tube	7 ga



SINGLE LUMINAIRE

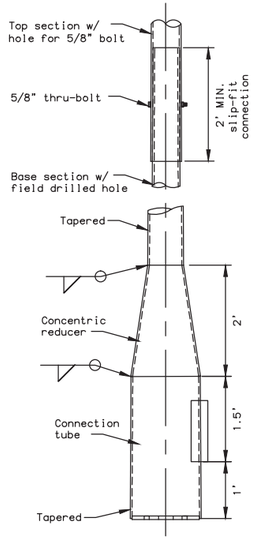


DOUBLE LUMINAIRE

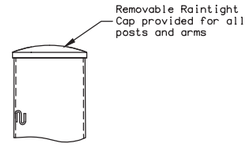


DAVIT LUMINAIRE

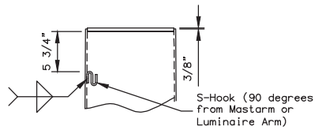
UPPER SECTION OPTIONS
NTS



DAVIT CONNECTION DETAIL
NTS



RAIN CAP DETAIL



LOWER SECTION POST TOP
NTS

REVISIONS		
Date	Description	By
07/15/14	Bolt circle leader corrected	CMW

SHEET 2 OF 2

State of Alaska
Department of Transportation
& Public Facilities

SIGNAL POLE
WITH 70' TO 75' MASTARM?
UPPER SECTION

APPROVED

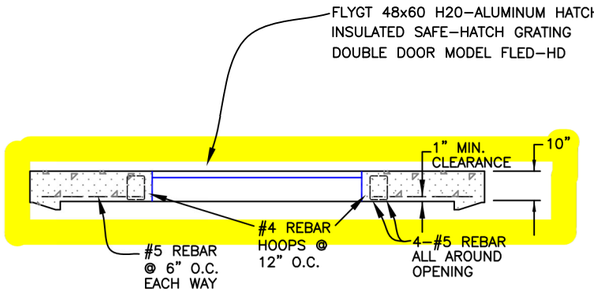
Date 07/15/14

PLANS DEVELOPED BY:
KINNEY ENGINEERING, LLC

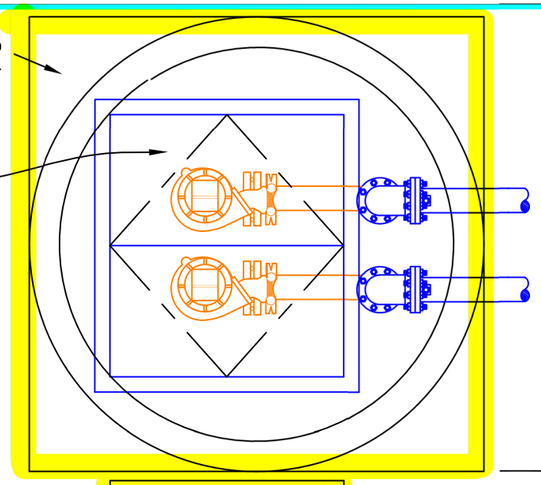
12/10/2019
95%
PS&E
SUBMITTAL

STANDARD DRAWING
T-57.01

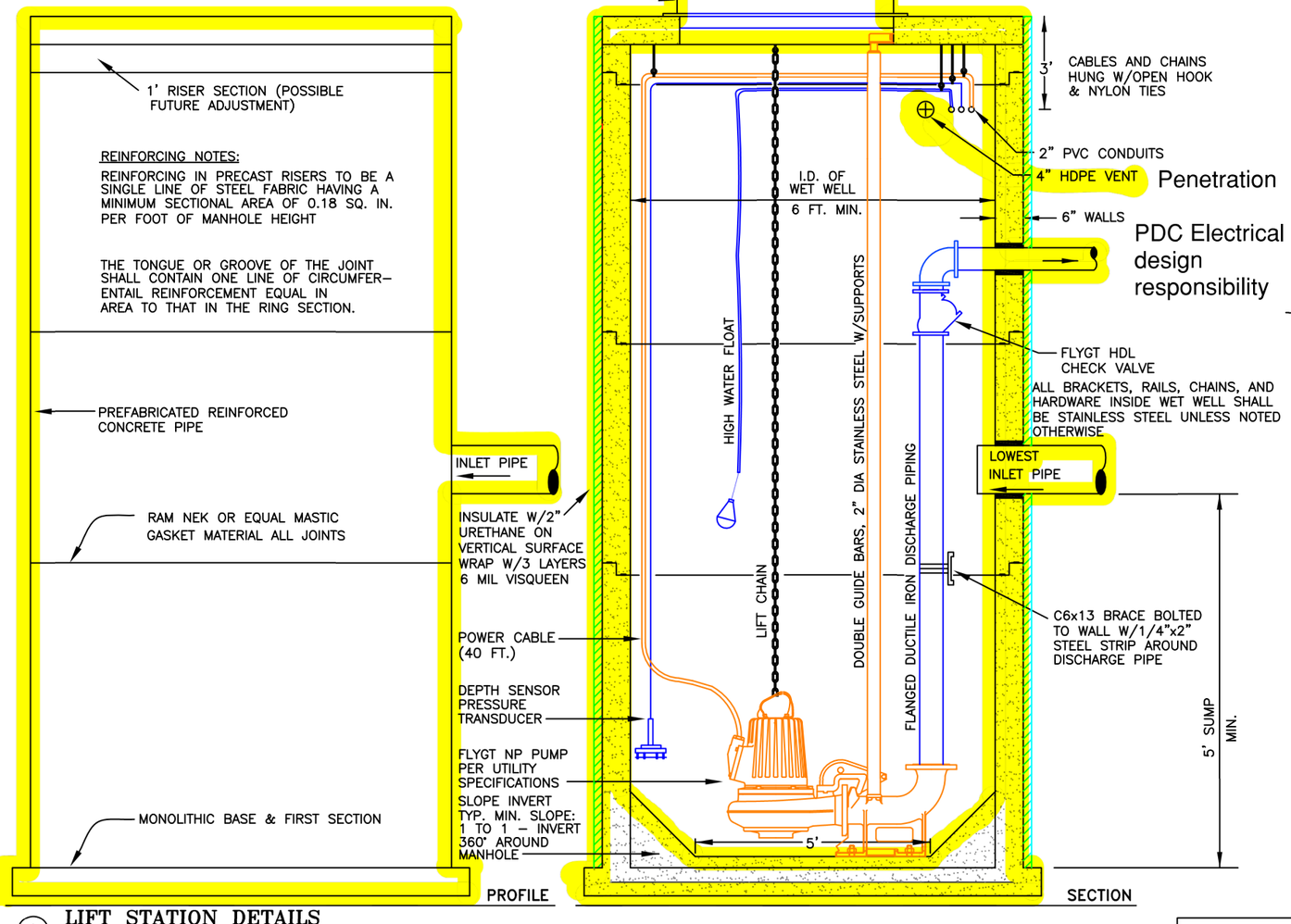
Note:
This sheet is provided as supplemental information for the distribution of work to build the lift station.



HEAVY DUTY LIFT STATION LID DETAIL (SECTION)



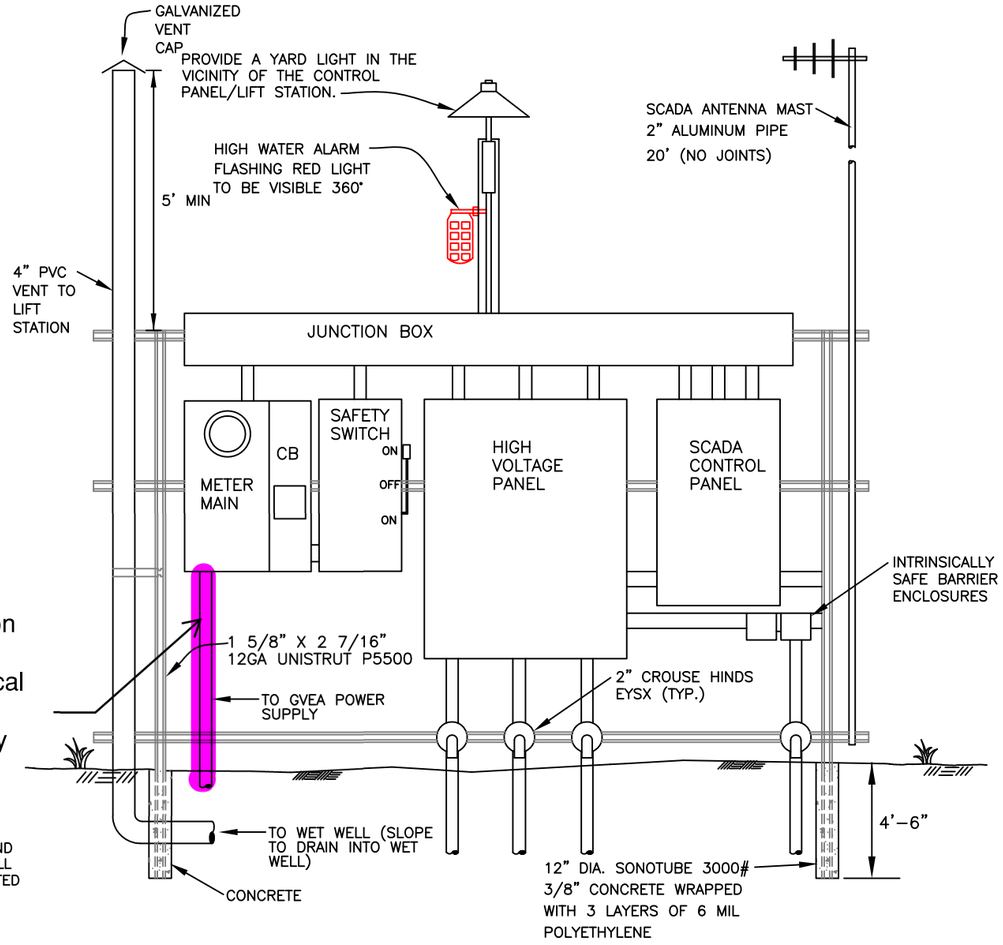
PLAN



Penetration

PDC Electrical design responsibility

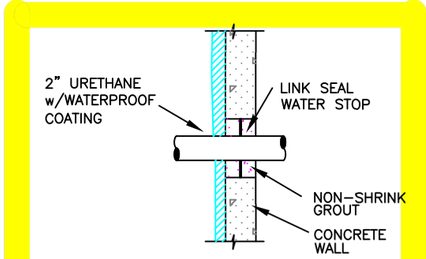
A LIFT STATION DETAILS
NOT TO SCALE



B CONTROL PANEL
NOT TO SCALE

Key:
PINK= PDC Electrical Design Responsibility
(Service to Lift Station)

Yellow= GNI Responsibility
-Influent Pipe
-Discharge Pipe
-Precast Wet Well, Insulation
- HDPE Pipe Vent Penetration



C PIPE PENETRATION DETAIL
NOT TO SCALE

DATE	REVISION	BY
3/17/17	UPDATE	RTS
4/3/08	UPDATE	CWH
JAN 07	UPDATE	MJB
4-02	UPDATE	MJB

NOT TO SCALE

DESIGNED		APPROVED
DRAWN		
CHECKED		USA ENGINEER
DATE	ARP 2017	FILENAME: LIFTSTA

Golden Heart UTILITIES AN ALASKAN CORPORATION

College Utilities Corporation

LIFT STATION DETAILS

LS1