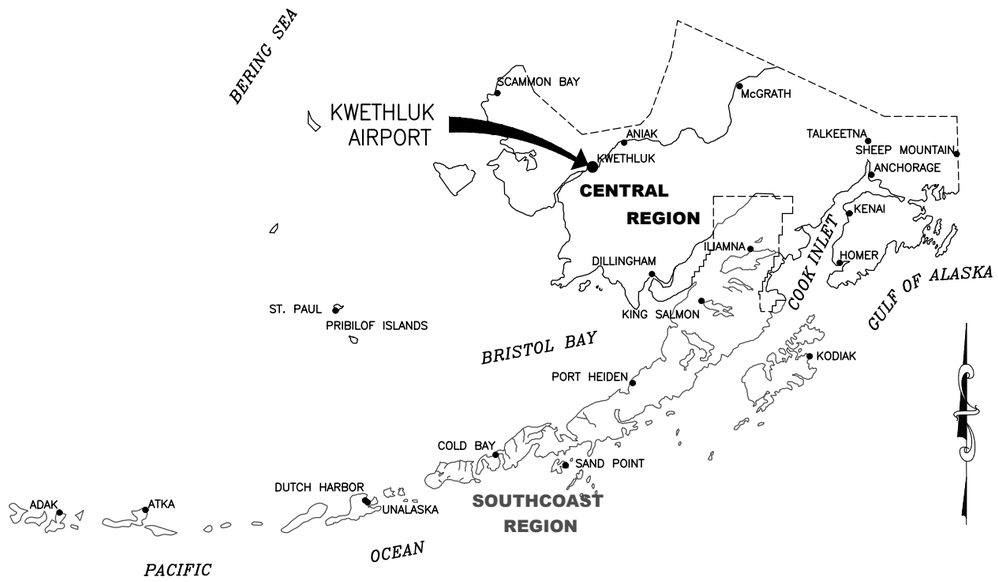
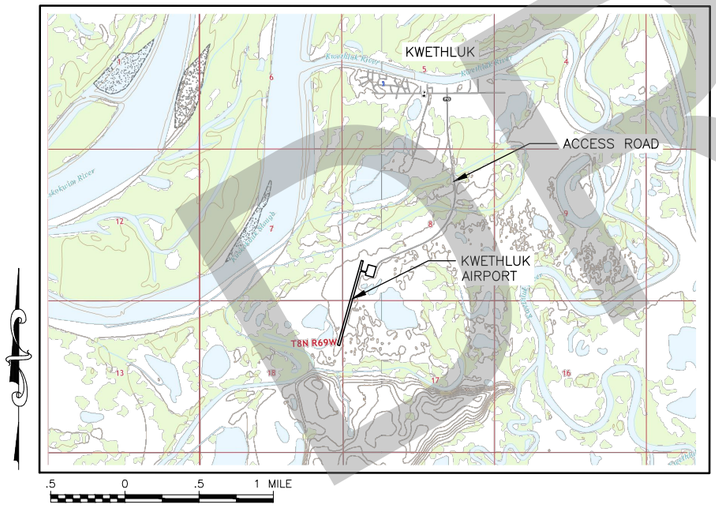


ALASKA CENTRAL REGION LOCATION MAP

NOT TO SCALE



VICINITY MAP

SCALE 1" = 1/2 MILE
T 8 N, R 69 W, SEC. 8, 17, & 18
SEWARD MERIDIAN
U.S.G.S. BETHEL D-7 (SE, SW) 2017, ALASKA

CONSTRUCTION PLANS

KWETHLUK AIRPORT

KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIRPORT IMPROVEMENT PROGRAM
No. 3-02-0435-002-2023
2023

PS&E REVIEW
JANUARY 2023

CONCUR		**DATE**
JOEL G. ST. AUBIN, P.E.		REGIONAL CONSTRUCTION ENGINEER
APPROVED		**DATE**
LUKE S. BOWLAND, P.E.		REGIONAL PRECONSTRUCTION ENGINEER
APPROVED		**DATE**
JENELLE R. BRINKMAN, P.E.		AVIATION DESIGN GROUP CHIEF
APPROVED		**DATE**
JOY VAUGHN, P.E.		PROJECT MANAGER

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
COVER

DATE: 1/4/2023
SHEET: 1 OF 60

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Drawn By: AVA
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SHEET TITLE	SHEET No.
SIGN POST BASE AND FOUNDATION	S-31.02

REFERENCE DRAWINGS

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
INDEX

DATE: 1/5/2023

LEGEND

DESCRIPTION	EXISTING	PROPOSED
AIRCRAFT TIE–DOWN		
AIRPORT PROPERTY BOUNDARY		
AIRPORT PROPERTY PARCEL		
BOLLARD		
BUILDING		
CENTERLINE		
CULVERT		
CUT LIMIT		
DETAIL CALLOUT		DETAIL NUMBER / SHEET LOCATION (X / XX)
ELECTRIC HAND HOLE	(H)	
ELECTRIC JUNCTION BOX		
ELECTRIC METER		
ELECTRIC SWITCH	(E)	
FILL LIMIT		
GRADE BREAK		GB
GRAVEL EDGE		
GUY WIRE		
HAUL ROUTE (TWO–WAY)		
LEASE LOT		
MONUMENT		
OVERHEAD ELECTRIC	OE	OHE
OVERHEAD TELEPHONE	OT	
PRECISION APPROACH PATH INDICATOR		
ROTATING BEACON		
RUNWAY EDGE LIGHT		
RUNWAY END IDENTIFIER LIGHT		
RUNWAY OBJECT FREE AREA		OFA
RUNWAY OBSTACLE FREE ZONE		OFZ
RUNWAY PROTECTION ZONE		RPZ
RUNWAY SAFETY AREA		RSA
RUNWAY THRESHOLD LIGHTS		
RUNWAY THRESHOLD MARKERS		
SANITARY SEWER	SS	
SEPTIC CLEAN OUT	(S)	
SEGMENTED CIRCLE WITH WIND CONE		
SIGN POST		
TAXIWAY EDGE LIGHTS		
TAXIWAY OBJECT FREE AREA		TOFA
TAXIWAY SAFETY AREA		TSA
TEMPORARY CONSTRUCTION EASEMENT		

LEGEND

DESCRIPTION	EXISTING	PROPOSED
UNDERGROUND ELECTRIC	UGE	UGE
UNDERGROUND TELEPHONE	UT	
UTILITY POLE		
VEGETATION		
WATER EDGE		
WEATHER STATION		
WIND CONE		

ESTIMATING FACTORS

SHEET TITLE		SHEET No.
P152.200.0000	BORROW	1.90 T/CY
P152.275.0000	POROUS BACKFILL	1.80 T/CY
P154.020.0000	SUBBASE COURSE	2.00 T/CY
P299.020.0000	CRUSHED AGGREGATE SURFACE COURSE	2.00 T/CY

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AC	ADVISORY CIRCULAR/ACRE
AEP	ANNUAL EXCEEDANCE PROBABILITY
AIP	AIRPORT IMPROVEMENT PROGRAM
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWOS	AUTOMATED WEATHER OBSERVING SYSTEM
BOP	BEGINNING OF PROJECT
BRL	BUILDING RESTRICTION LINE
BVCS	BEGIN VERTICAL CURVE STATION
BVCE	BEGIN VERTICAL CURVE ELEVATION
CASC	CRUSHED AGGREGATE SURFACE COURSE
CFS	CUBIC FEET PER SECOND
℄	CENTERLINE
CS	CONTINGENT SUM
CSPP	CONSTRUCTION SAFETY AND PHASING PLAN
CY	CUBIC YARD
DIA, ø	DIAMETER
DOT&PF	ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
E	EASTING
EA	EACH
EEB	ELECTRICAL EQUIPMENT BUILDING
ELEV	ELEVATION
EOP	END OF PROJECT
ESCP	EROSION AND SEDIMENT CONTROL PLAN
EVCS	END VERTICAL CURVE STATION
EVCE	END VERTICAL CURVE ELEVATION
F	FAHRENHEIT
FAA	FEDERAL AVIATION ADMINISTRATION
FG	FINISHED GRADE
FOD	FOREIGN OBJECT DEBRIS
FT	FEET
GB	GRADE BREAK
HDPE	HIGH–DENSITY POLYETHYLENE
HR	HOUR
IN	INCH
L	LENGTH
LB	POUND
LF	LINEAR FOOT
LHA	LIGHT HOUSING ASSEMBLY
LS	LUMP SUM
LT	LEFT
M&O	MAINTENANCE AND OPERATIONS
MAINT	MAINTENANCE
MAX	MAXIMUM
MIN	MINIMUM
MIRL	MEDIUM INTENSITY RUNWAY LIGHTING
MITL	MEDIUM INTENSITY TAXIWAY LIGHTING
N	NORTHING
NAVAID	NAVIGATIONAL AID
NOTAM	NOTICE TO AIRMEN
NTP	NOTICE TO PROCEED
NTS	NOT TO SCALE
OC	ON CENTER
OFZ	OBSTACLE FREE ZONE
OG	ORIGINAL GROUND
OE, OHE	OVERHEAD ELECTRIC
OT	OVERHEAD TELEPHONE
PAPI	PRECISION APPROACH PATH INDICATOR
PC	POINT OF CURVATURE
PE	POLYETHYLENE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PT	POINT OF TANGENCY
R	RADIUS
RD	ROAD
REF	REFERENCE
REIL	RUNWAY END IDENTIFIER LIGHTS
RPZ	RUNWAY PROTECTION ZONE
RSA	RUNWAY SAFETY AREA
ROFA	RUNWAY OBJECT FREE AREA
RP	RADIUS POINT
RT	RIGHT
RW	RUNWAY
SCH	SCHEDULE
SF	SQUARE FEET
SREB	SNOW REMOVAL EQUIPMENT BUILDING
SS	SANITARY SEWER
SSP	STRUCTURAL STEEL PLATE
STA	STATION
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
SY	SQUARE YARD
T	TON
TCE	TEMPORARY CONSTRUCTION EASEMENT
TOFA	TAXIWAY OBJECT FREE AREA
TSA	TAXIWAY SAFETY AREA
TW	TAXIWAY
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
UT	UNDERGROUND TELEPHONE
VIS	VISUAL

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
LEGEND AND ABBREVIATIONS

DATE: 1/4/2023

ESTIMATED QUANTITIES NTP #1

No.	ITEM	UNIT	QUANTITY
F162.010.0008	8–FEET CHAIN–LINK FENCE	LF	106
F162.030.0004	SINGLE SWING GATE, 4–FEET WIDE	EA	4
F170.010.0000	STEEL BOLLARD	EA	52
G100.010.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D
G105.010.0000*	POST AWARD CONFERENCE	LS	ALL REQ'D
G115.010.0000	WORKERS MEALS AND LODGING, OR PER DIEM	LS	ALL REQ'D
G130.010.0000	FIELD OFFICE	LS	ALL REQ'D
G130.020.0000	FIELD LABORATORY	LS	ALL REQ'D
G130.040.0000	MEAL	EA	1,890
G130.050.0000	LODGING	EA	540
G130.060.0000	NUCLEAR TESTING EQUIPMENT STORAGE SHED	EA	1
G130.110.0000	FIELD COMMUNICATIONS	CS	ALL REQ'D
G131.010.0000	ENGINEERING TRANSPORTATION (TRUCK)	EA	1
G131.020.0000	ENGINEERING TRANSPORTATION (ATV)	EA	2
G135.010.0000	CONSTRUCTION SURVEYING BY THE CONTRACTOR	LS	ALL REQ'D
G135.020.0000	EXTRA THREE PERSON SURVEY PARTY	HR	65
G135.050.0000	CONTRACTOR FURNISHED ENGINEERING TOOLS	CS	ALL REQ'D
G150.010.0070	EQUIPMENT RENTAL, DOZER 70–HP MINIMUM	HR	50
G300.010.0000	CPM SCHEDULING	LS	ALL REQ'D
G700.010.0000	AIRPORT FLAGGER	CS	ALL REQ'D
G710.010.0000	HIGHWAY TRAFFIC MAINTENANCE	LS	ALL REQ'D
G710.020.0000	HIGHWAY FLAGGER	CS	ALL REQ'D
G710.030.0000	HIGHWAY TRAFFIC PRICE ADJUSTMENT	CS	ALL REQ'D
G710.040.0000	HIGHWAY TRAFFIC CONTROL	CS	ALL REQ'D
L101.020.0000	ROTATING BEACON, MEDIUM INTENSITY, L–801A	EA	1
L103.010.0030	30–FEET HINGED POLE BEACON TOWER	EA	1
L107.010.0008	8–FEET LIGHTED WIND CONE, IN PLACE	EA	1
L107.011.0008	8–FEET LIGHTED WIND CONE, SUPPLEMENTAL, IN PLACE	EA	1
L108.010.2008	UNDERGROUND CABLE #8 AWG, COPPER, 5kV FAA TYPE C, L–824	LF	9,037
L108.030.0006	#6 BARE COPPER GROUND CONDUCTOR	LF	15,607
L108.050.1010	UNDERGROUND CABLE #10 AWG, COPPER, 600V, TYPE C, L–824	LF	1,170
L108.070.0000	GROUND ROD	EA	25
L109.030.0000	ELECTRICAL ENCLOSURE AND FOUNDATION IN PLACE	EA	1
L109.040.0000	INSTALLATION OF ELECTRICAL EQUIPMENT IN NEW OR EXISTING STRUCTURE	EA	1
L110.050.1004	RIGID STEEL CONDUIT, 4–INCH	LF	297
L110.080.1002	HDPE CONDUIT, 2–INCH	LF	8,328
L125.020.0000	REGULATOR, L–828	EA	1
L125.030.0000	MEDIUM INTENSITY RUNWAY EDGE AND THRESHOLD LIGHT, L–861 AND L–861E	EA	47
L125.040.0000	TAXIWAY EDGE LIGHT, L–861T	EA	14
L125.070.0000	REMOVE RUNWAY AND TAXIWAY LIGHT	EA	64
L125.150.0000	HANDHOLE, L–867, SIZE B	EA	9
L125.170.0000	SPARE PARTS	CS	ALL REQ'D
L125.180.0000	TEMPORARY RUNWAY LIGHTING SYSTEM	LS	ALL REQ'D
L132.010.0010	INSTALL APPROACH LIGHTING AIDS, PAPI	LS	ALL REQ'D
L132.010.0020	INSTALL APPROACH LIGHTING AIDS, REIL	LS	ALL REQ'D
L132.020.0010	REMOVE APPROACH LIGHTING AIDS, PAPI	LS	ALL REQ'D
L132.020.0020	REMOVE APPROACH LIGHTING AIDS, REIL	LS	ALL REQ'D
P151.010.0000	CLEARING	AC	0.05
P151.030.0000	CLEARING AND GRUBBING	AC	9.80
P152.010.0000	UNCLASSIFIED EXCAVATION	CY	5,451
P152.200.0000	BORROW	TON	5,107
P152.275.0000	POROUS BACKFILL	TON	6,534
P154.020.0000	SUBBASE COURSE	TON	2,239
P167.010.0000	DUST PALLIATIVE	SY	64,822
P299.020.0000	CRUSHED AGGREGATE SURFACE COURSE	TON	38,802
P299.070.0000*	CRUSHED AGGREGATE SURFACE COURSE STOCKPILE	TON	200
P620.070.0000	TEMPORARY RUNWAY & TAXIWAY PAINTING	LS	ALL REQ'D
P640.020.0000	SEGMENTED CIRCLE (PANEL–TYPE)	LS	ALL REQ'D
P641.010.0000	EROSION, SEDIMENT, AND POLLUTION CONTROL ADMINISTRATION	LS	ALL REQ'D
P641.050.0000	TEMPORARY EROSION, SEDIMENT, AND POLLUTION CONTROL BY DIRECTIVE	CS	ALL REQ'D
P641.060.0000	WITHHOLDING	CS	ALL REQ'D
P641.070.0000	SWPPP MANAGER	LS	ALL REQ'D
P650.010.0000	AIRCRAFT TIE–DOWN	EA	16
P660.030.0000	REFLECTIVE MARKER, TYPE II	EA	20
P670.010.0000	HAZARD MARKER BARRIER, PLASTIC	EA	31
P671.010.0000	RUNWAY CLOSURE MARKER, VINYL MESH	EA	8
P671.020.0000	RUNWAY CLOSURE MARKER, ILLUMINATED	EA	2
P681.010.0000	GEOTEXTILE, SEPARATION	SY	1,226
P687.010.0010	GEOGRID, STABILIZATION, CLASS 1	SY	801
S142.050.0010	EQUIPMENT STORAGE BUILDING NO.1	LS	ALL REQ'D
S142.050.0020	EQUIPMENT STORAGE BUILDING NO.2	LS	ALL REQ'D
S142.120.0000*	AIR COMPRESSOR	LS	ALL REQ'D
S143.010.1000	HEATING FUEL TANK, 1000 GAL	EA	1
S143.020.0000*	FUEL	LS	ALL REQ'D
S143.040.0000*	ELECTRIC DISPENSING SYSTEM	EA	1
S143.060.0000	SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN	LS	ALL REQ'D
U500.010.0000	ELECTRICAL POWER SYSTEM	LS	ALL REQ'D

* NON–PARTICIPATING ITEM

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
ESTIMATED QUANTITIES - NTP #1

DATE: 1/4/2023

ESTIMATED QUANTITIES NTP #2

No.	ITEM	UNIT	QUANTITY
D701.030.0036	HDPE PIPE, 36–INCH	LF	197
D701.210.0108	SSP PIPE, 108–INCH	LF	118
D701.210.0114	SSP PIPE, 114–INCH	LF	131
P151.010.0000	CLEARING	AC	6.17
P152.010.0000	UNCLASSIFIED EXCAVATION	CY	365
P152.200.0000	BORROW	TON	13,424
P152.275.0000	POROUS BACKFILL	TON	3,517
P154.020.0000	SUBBASE COURSE	TON	436
P167.010.0000	DUST PALLIATIVE	SY	15,841
P299.020.0000	CRUSHED AGGREGATE SURFACE COURSE	TON	5,926
P661.010.0000	STANDARD SIGN	SF	48.83
P687.010.0010	GEOGRID, STABILIZATION, CLASS 1	SY	1,880

No.	ITEM	UNIT	QUANTITY

No.	ITEM	UNIT	QUANTITY

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
ESTIMATED QUANTITIES - NTP #2

DATE: 1/4/2023

PROJECT WORK ITEMS:

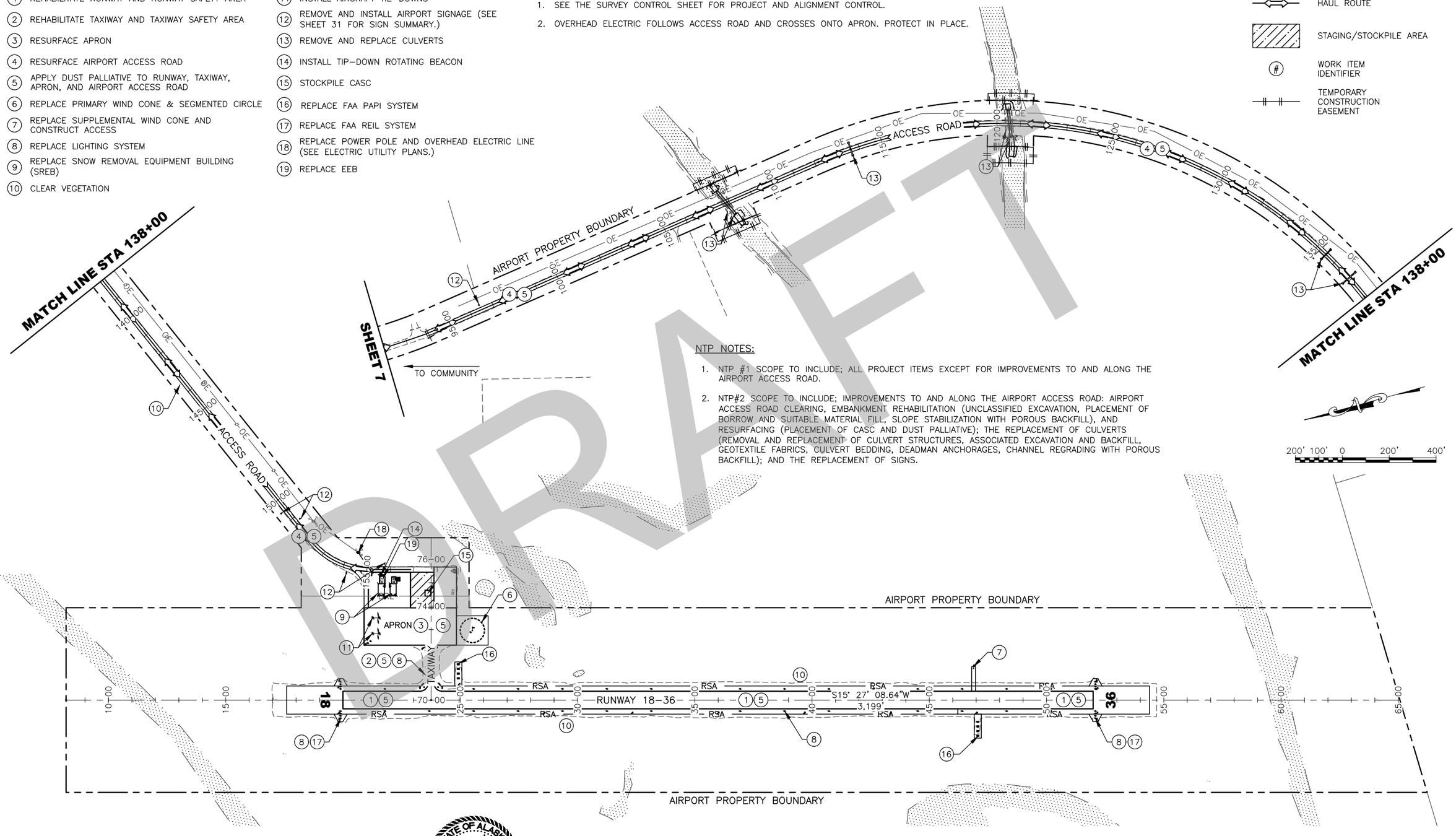
1. REHABILITATE RUNWAY AND RUNWAY SAFETY AREA
2. REHABILITATE TAXIWAY AND TAXIWAY SAFETY AREA
3. RESURFACE APRON
4. RESURFACE AIRPORT ACCESS ROAD
5. APPLY DUST PALLIATIVE TO RUNWAY, TAXIWAY, APRON, AND AIRPORT ACCESS ROAD
6. REPLACE PRIMARY WIND CONE & SEGMENTED CIRCLE
7. REPLACE SUPPLEMENTAL WIND CONE AND CONSTRUCT ACCESS
8. REPLACE LIGHTING SYSTEM
9. REPLACE SNOW REMOVAL EQUIPMENT BUILDING (SREB)
10. CLEAR VEGETATION
11. INSTALL AIRCRAFT TIE-DOWNS
12. REMOVE AND INSTALL AIRPORT SIGNAGE (SEE SHEET 31 FOR SIGN SUMMARY.)
13. REMOVE AND REPLACE CULVERTS
14. INSTALL TIP-DOWN ROTATING BEACON
15. STOCKPILE CASC
16. REPLACE FAA PAPI SYSTEM
17. REPLACE FAA REIL SYSTEM
18. REPLACE POWER POLE AND OVERHEAD ELECTRIC LINE (SEE ELECTRIC UTILITY PLANS.)
19. REPLACE EEB

NOTES:

1. SEE THE SURVEY CONTROL SHEET FOR PROJECT AND ALIGNMENT CONTROL.
2. OVERHEAD ELECTRIC FOLLOWS ACCESS ROAD AND CROSSES ONTO APRON. PROTECT IN PLACE.

LEGEND:

- HAUL ROUTE
- STAGING/STOCKPILE AREA
- (#) WORK ITEM IDENTIFIER
- TEMPORARY CONSTRUCTION EASEMENT



NTP NOTES:

1. NTP #1 SCOPE TO INCLUDE; ALL PROJECT ITEMS EXCEPT FOR IMPROVEMENTS TO AND ALONG THE AIRPORT ACCESS ROAD.
2. NTP#2 SCOPE TO INCLUDE; IMPROVEMENTS TO AND ALONG THE AIRPORT ACCESS ROAD: AIRPORT ACCESS ROAD CLEARING, EMBANKMENT REHABILITATION (UNCLASSIFIED EXCAVATION, PLACEMENT OF BORROW AND SUITABLE MATERIAL FILL, SLOPE STABILIZATION WITH POROUS BACKFILL), AND RESURFACING (PLACEMENT OF CASC AND DUST PALLIATIVE); THE REPLACEMENT OF CULVERTS (REMOVAL AND REPLACEMENT OF CULVERT STRUCTURES, ASSOCIATED EXCAVATION AND BACKFILL, GEOTEXTILE FABRICS, CULVERT BEDDING, DEADMAN ANCHORAGES, CHANNEL REGRADING WITH POROUS BACKFILL); AND THE REPLACEMENT OF SIGNS.

200' 100' 0 200' 400'

Date Revised:
Layout Name: PLP
File Path and Name: Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Project Layout Plan.dwg
Designed By: RLC
Drawn By: AVA
Checked By: MIM
1/04/2023, 1:01 PM

STATE OF ALASKA 49TH
Matthew I. Majoros
CE - 14441
REGISTERED PROFESSIONAL ENGINEER

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BY	DATE	REVISION

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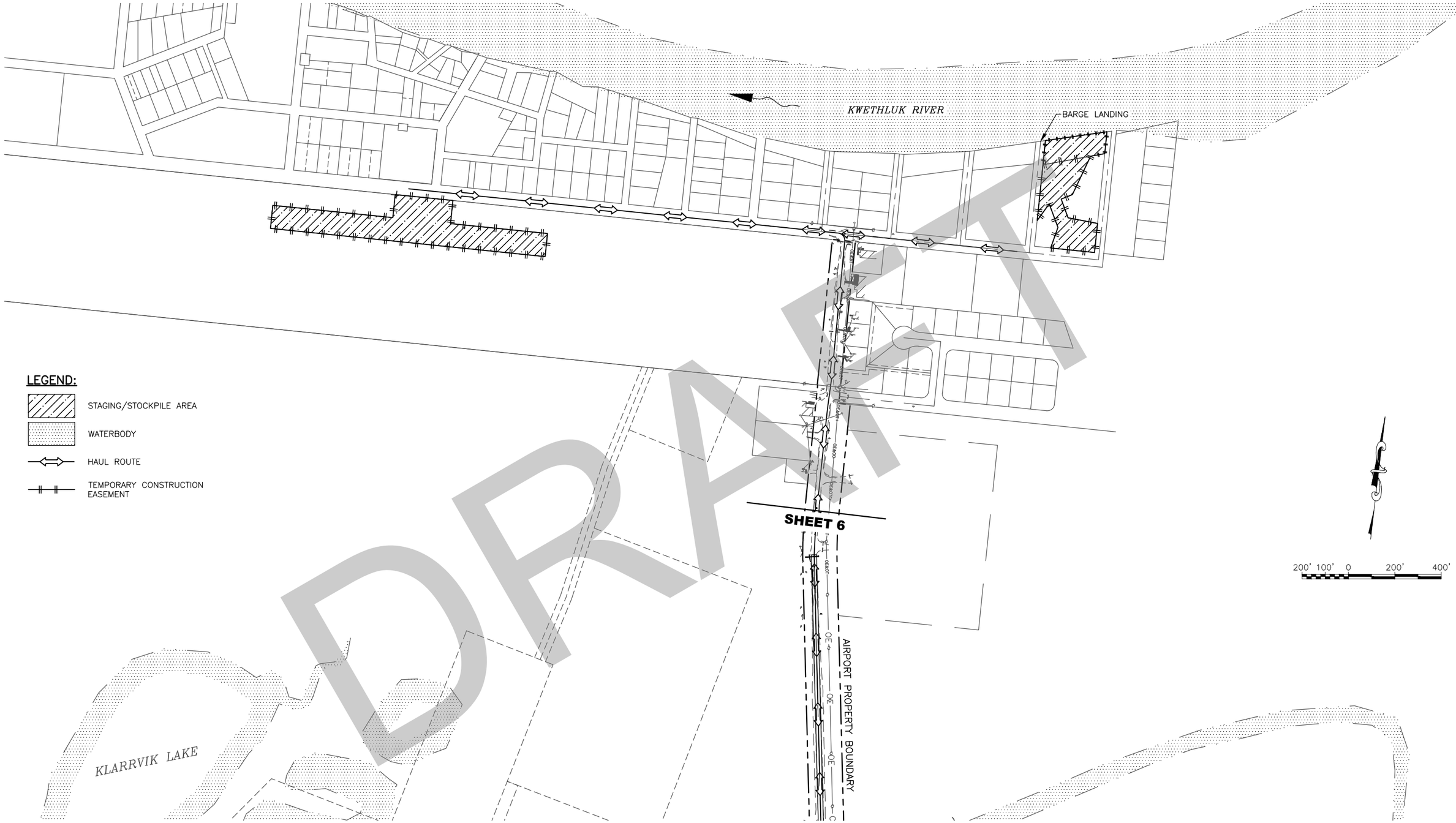
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
PROJECT LAYOUT PLAN

DATE: 1/4/2023
SHEET: 6 OF 60



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Checked By: MIM

Date Revised: 1/04/2023, 1:01 PM
Layout Name: Layout1
File Path and Name: Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT_Routes.dwg

STATE OF ALASKA 49TH
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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
HAUL ROUTE & STAGING AREA LAYOUT PLAN

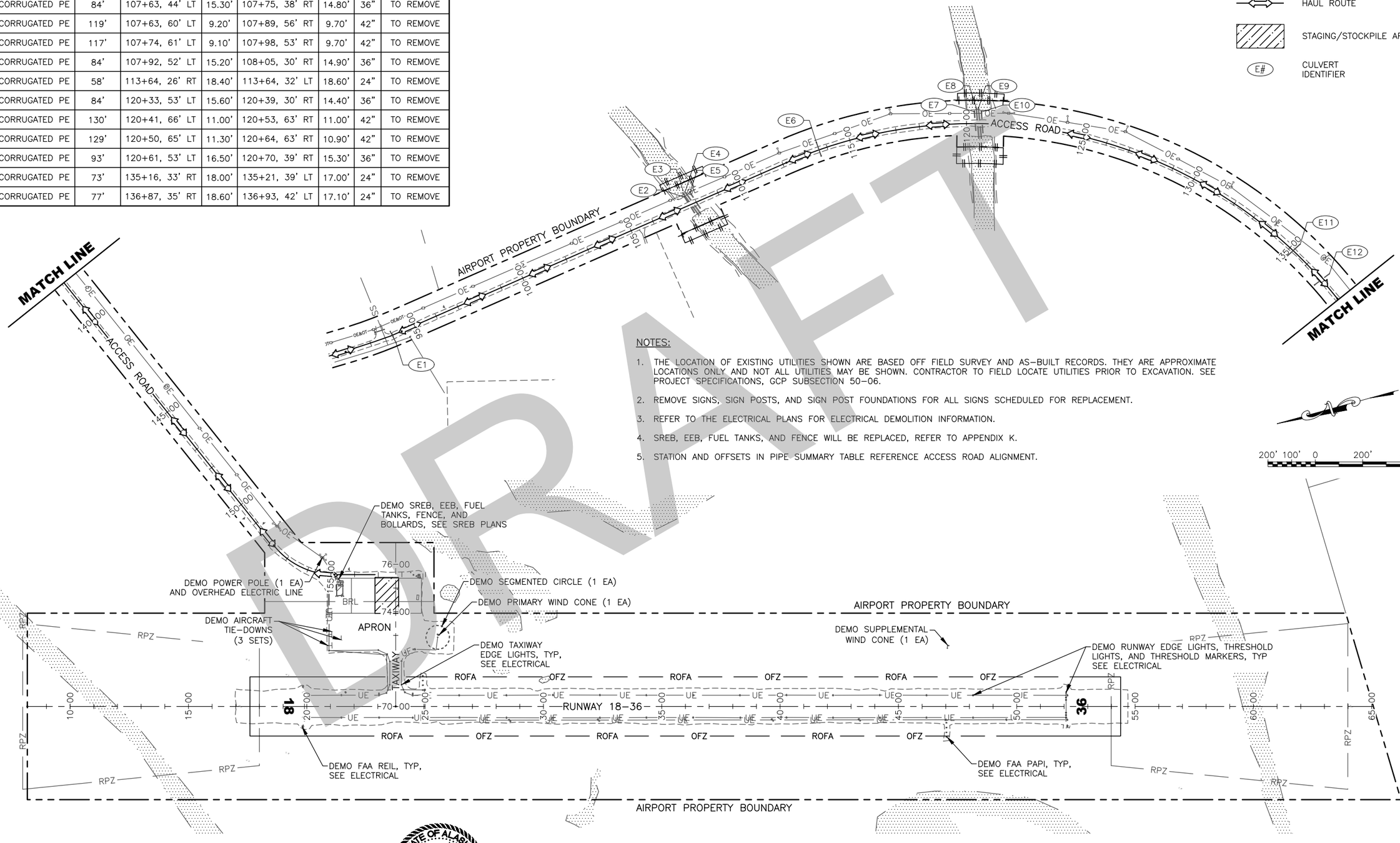
DATE: 1/4/2023
SHEET: 7 OF 60

Designed By:	RLC
Drawn By:	AVA
Checked By:	MIM

Date Revised:	1/04/2023, 1:01 PM
Layout Name:	DEMO1
File Path and Name:	Z:\project\2340.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Demolition & Clearing Plan.dwg

PIPE REMOVAL TABLE

ID	TYPE	LENGTH	INLET	ELEV.	OUTLET	ELEV.	DIA.	DISPOSITION
E2	CORRUGATED PE	84'	107+63, 44' LT	15.30'	107+75, 38' RT	14.80'	36"	TO REMOVE
E3	CORRUGATED PE	119'	107+63, 60' LT	9.20'	107+89, 56' RT	9.70'	42"	TO REMOVE
E4	CORRUGATED PE	117'	107+74, 61' LT	9.10'	107+98, 53' RT	9.70'	42"	TO REMOVE
E5	CORRUGATED PE	84'	107+92, 52' LT	15.20'	108+05, 30' RT	14.90'	36"	TO REMOVE
E6	CORRUGATED PE	58'	113+64, 26' RT	18.40'	113+64, 32' LT	18.60'	24"	TO REMOVE
E7	CORRUGATED PE	84'	120+33, 53' LT	15.60'	120+39, 30' RT	14.40'	36"	TO REMOVE
E8	CORRUGATED PE	130'	120+41, 66' LT	11.00'	120+53, 63' RT	11.00'	42"	TO REMOVE
E9	CORRUGATED PE	129'	120+50, 65' LT	11.30'	120+64, 63' RT	10.90'	42"	TO REMOVE
E10	CORRUGATED PE	93'	120+61, 53' LT	16.50'	120+70, 39' RT	15.30'	36"	TO REMOVE
E11	CORRUGATED PE	73'	135+16, 33' RT	18.00'	135+21, 39' LT	17.00'	24"	TO REMOVE
E12	CORRUGATED PE	77'	136+87, 35' RT	18.60'	136+93, 42' LT	17.10'	24"	TO REMOVE



NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE BASED OFF FIELD SURVEY AND AS-BUILT RECORDS. THEY ARE APPROXIMATE LOCATIONS ONLY AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR TO FIELD LOCATE UTILITIES PRIOR TO EXCAVATION. SEE PROJECT SPECIFICATIONS, GCP SUBSECTION 50-06.
2. REMOVE SIGNS, SIGN POSTS, AND SIGN POST FOUNDATIONS FOR ALL SIGNS SCHEDULED FOR REPLACEMENT.
3. REFER TO THE ELECTRICAL PLANS FOR ELECTRICAL DEMOLITION INFORMATION.
4. SREB, EEB, FUEL TANKS, AND FENCE WILL BE REPLACED, REFER TO APPENDIX K.
5. STATION AND OFFSETS IN PIPE SUMMARY TABLE REFERENCE ACCESS ROAD ALIGNMENT.

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STATE OF ALASKA
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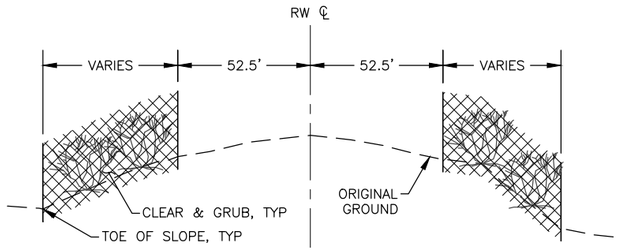
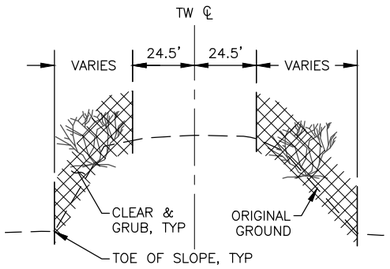
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
DEMOLITION PLAN

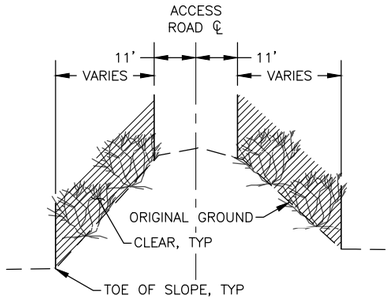
DATE: 1/4/2023



CLEARING & GRUBBING RUNWAY



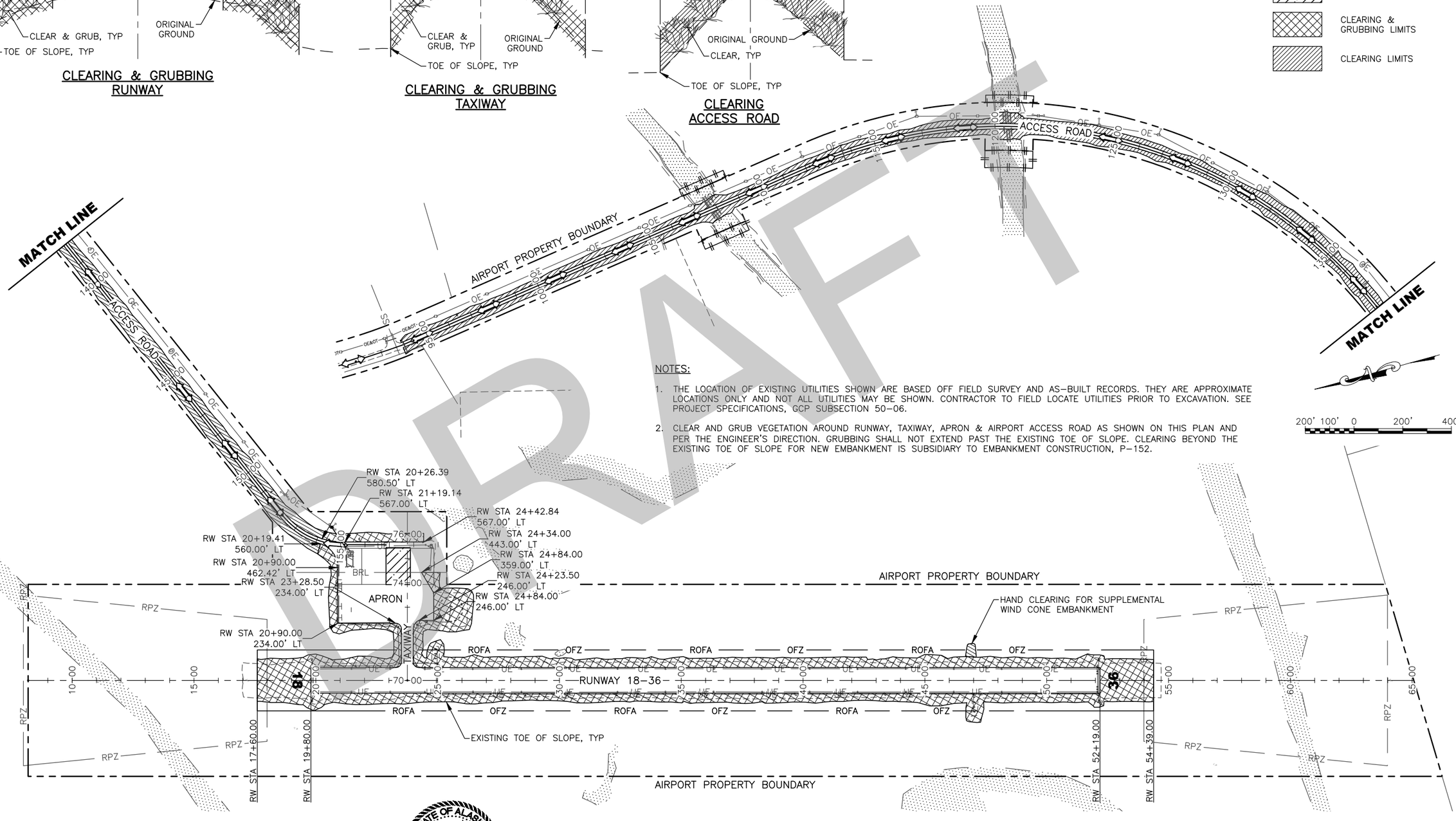
CLEARING & GRUBBING TAXIWAY



CLEARING ACCESS ROAD

LEGEND:

- HAUL ROUTE
- STAGING/STOCKPILE AREA
- CLEARING & GRUBBING LIMITS
- CLEARING LIMITS



NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE BASED OFF FIELD SURVEY AND AS–BUILT RECORDS. THEY ARE APPROXIMATE LOCATIONS ONLY AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR TO FIELD LOCATE UTILITIES PRIOR TO EXCAVATION. SEE PROJECT SPECIFICATIONS, GCP SUBSECTION 50–06.
2. CLEAR AND GRUB VEGETATION AROUND RUNWAY, TAXIWAY, APRON & AIRPORT ACCESS ROAD AS SHOWN ON THIS PLAN AND PER THE ENGINEER'S DIRECTION. GRUBBING SHALL NOT EXTEND PAST THE EXISTING TOE OF SLOPE. CLEARING BEYOND THE EXISTING TOE OF SLOPE FOR NEW EMBANKMENT IS SUBSIDIARY TO EMBANKMENT CONSTRUCTION, P–152.

Designed By:	RLC
Drawn By:	AVA
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Date Revised:	
Layout Name:	1/04/2023, 1:01 PM
File Path and Name:	DEM02
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STATE OF ALASKA 49TH
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BY	DATE	REVISION

STATE OF ALASKA
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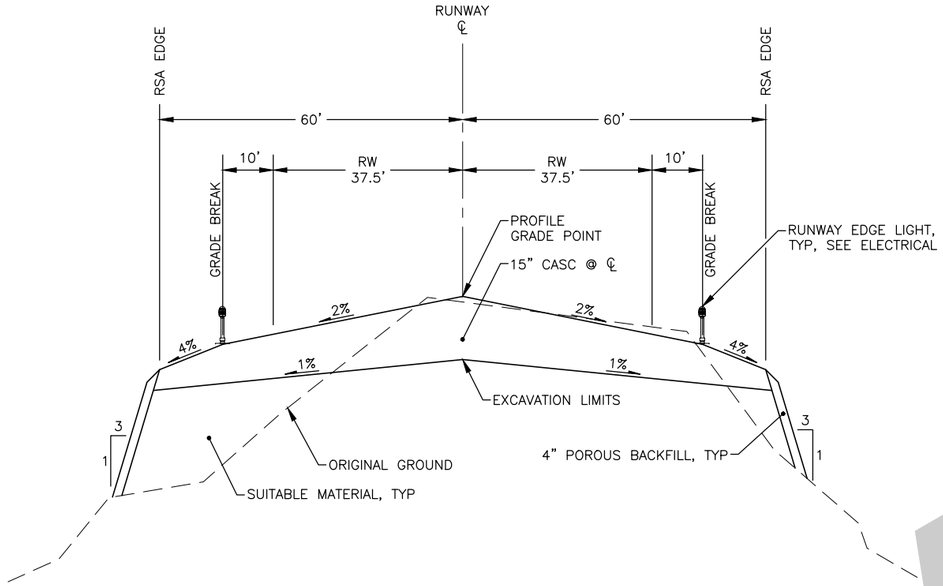
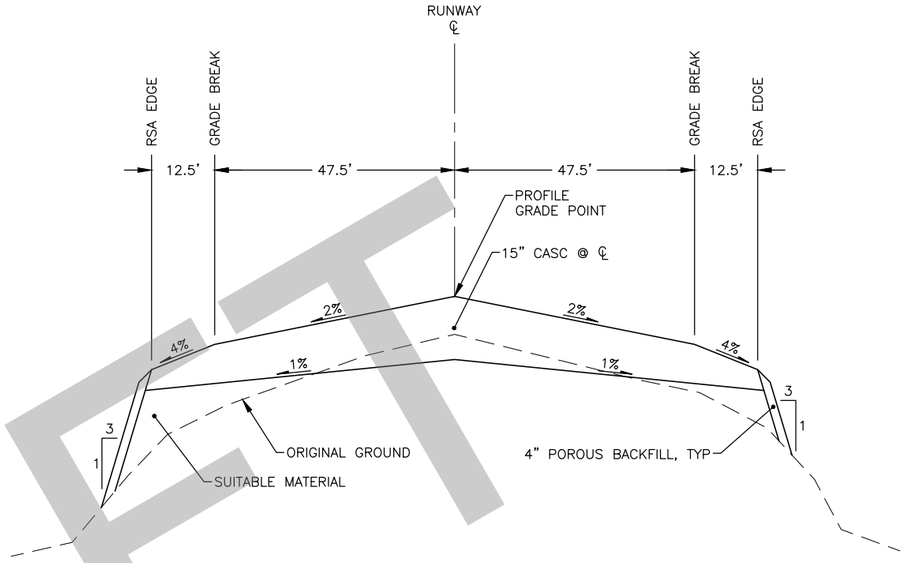
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
CLEARING PLAN

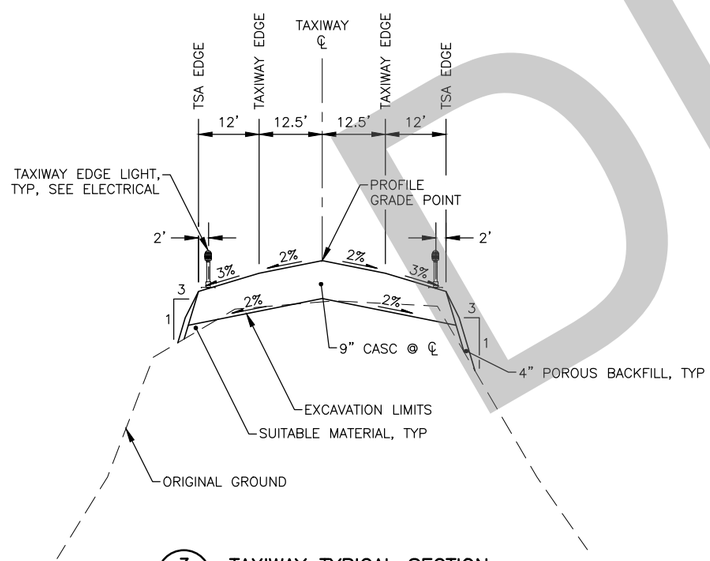
DATE: 1/4/2023



1/10 **RUNWAY TYPICAL SECTION**
NTS
RW STA 20+00 TO 51+99



2/10 **RSA TYPICAL SECTION**
NTS
RW STA 17+60 TO 20+00
RW STA 51+99 TO 54+39



3/10 **TAXIWAY TYPICAL SECTION**
NTS
TW STA 70+47.50 TO STA 72+46

NOTES:

1. SEE ELECTRICAL PLANS FOR RUNWAY AND TAXIWAY LIGHT PLACEMENT.
2. SEE TAXIWAY GRADING PLAN FOR VARYING DIMENSIONS AND GRADES.
3. APPLY DUST PALLIATIVE TO ALL AREAS RECEIVING NEW CASC.
4. IN AREAS WHERE EXCAVATION WILL NOT occur THE EXISTING EMBANKMENT SHALL BE SCARIFIED DOWN TO 2 INCHES PRIOR TO FILL BEING PLACED. THIS WORK IS SUBSIDIARY TO UNCLASSIFIED EXCAVATION AND WILL NOT BE MEASURED FOR PAYMENT.
5. PLACE 4" POROUS BACKFILL ON ALL DISTURBED SLOPES.

STATE OF ALASKA 49TH
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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
TYPICAL SECTIONS

DATE: 1/4/2023
SHEET: 10 OF 60

Designed By: RLC
Drawn By: AVA
Checked By: MIM

Date Revised: 1/04/2023, 1:01 PM
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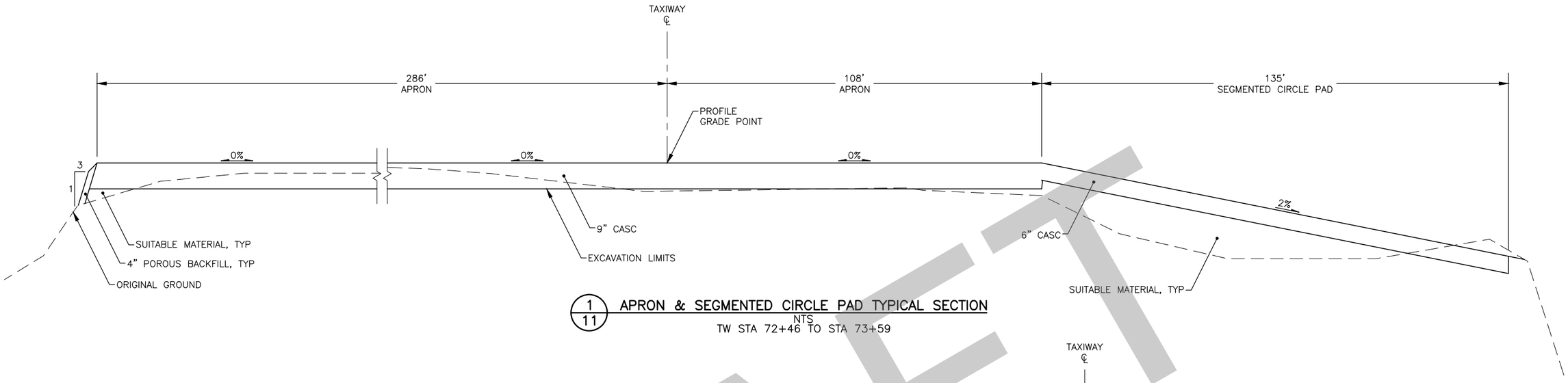
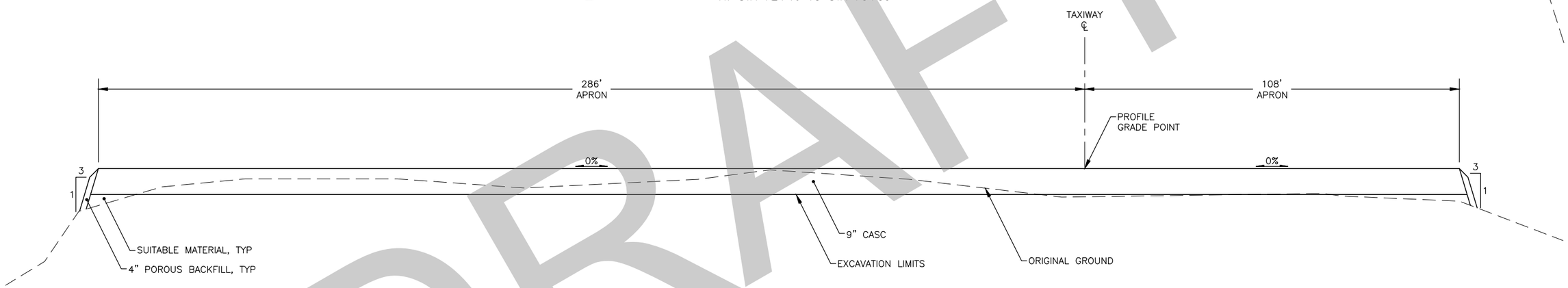
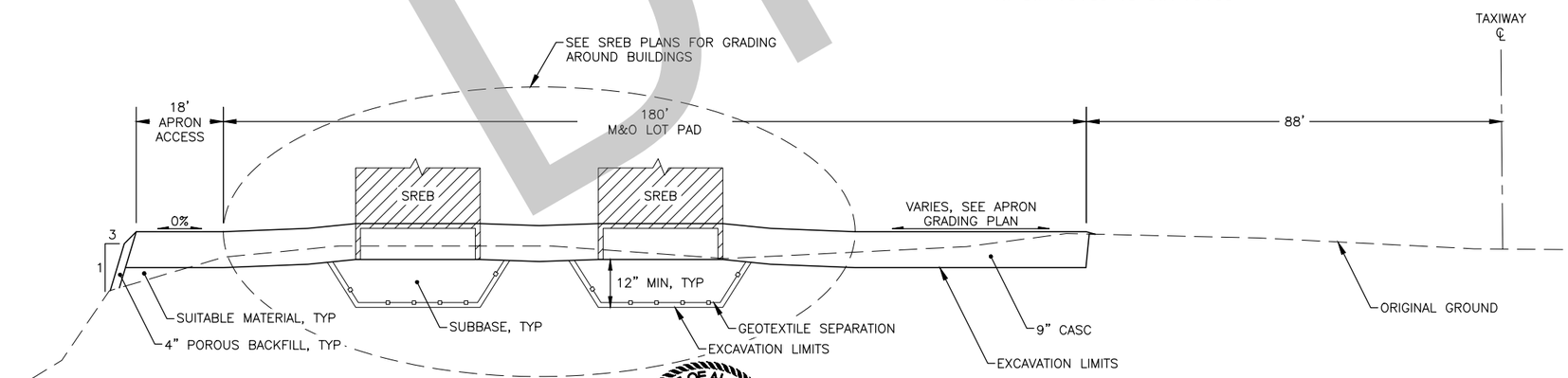


1/11 APRON & SEGMENTED CIRCLE PAD TYPICAL SECTION
NTS
TW STA 72+46 TO STA 73+59



2/11 APRON TYPICAL SECTION
NTS
TW STA 73+59 TO STA 73+93



3/11 MAINTENANCE LOT PAD TYPICAL SECTION
NTS
TW STA 73+93 TO STA 75+43

NOTES:

1. SEE APRON GRADING PLAN FOR NON-TYPICAL GRADING.
2. APPLY DUST PALLIATIVE TO ALL AREAS RECEIVING NEW CASC.
3. PLACE 4" POROUS BACKFILL ON ALL DISTURBED SLOPES.
4. IN AREAS WHERE EXCAVATION WILL NOT OCCUR THE EXISTING EMBANKMENT SHALL BE SCARIFIED DOWN TO 2" PRIOR TO FILL BEING PLACED. THIS WORK IS SUBSIDIARY TO UNCLASSIFIED EXCAVATION AND WILL NOT BE MEASURED FOR PAYMENT.
5. STATIONS REFERENCE TAXIWAY ALIGNMENT.

STATE OF ALASKA 49TH
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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
TYPICAL SECTIONS

DATE: 1/4/2023
SHEET: 11 OF 60

Designed By: RLC
Drawn By: AVA
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Date Revised:
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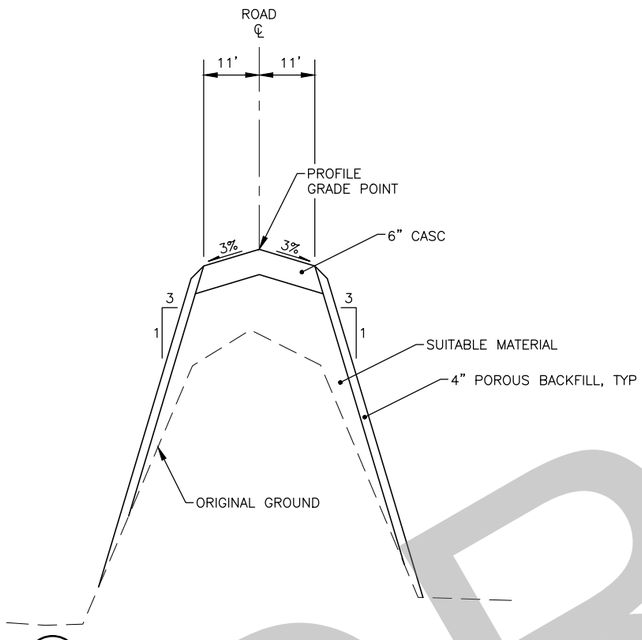
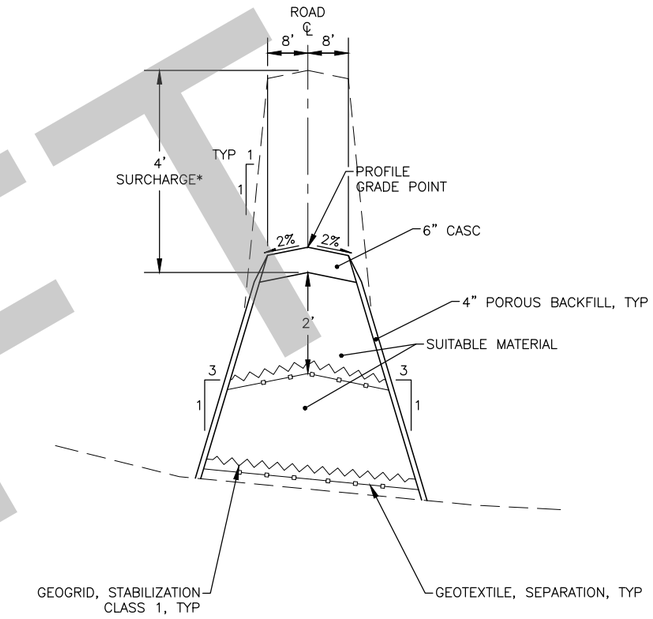


1/12 AIRPORT ACCESS ROAD TYPICAL SECTION

NTS

STA 93+90.56 TO STA 157+76.16



2/12 SUPPLEMENTAL WIND CONE ACCESS ROAD TYPICAL SECTION

NTS

* SURCHARGED MATERIAL TO BE CUT BACK FOR CASC

NOTES:

1. APPLY DUST PALLIATIVE TO ALL AREAS RECEIVING NEW CASC.
2. PLACE 4" POROUS BACKFILL ON ALL DISTURBED SLOPES.
3. IN AREAS WHERE EXCAVATION WILL NOT OCCUR THE EXISTING EMBANKMENT SHALL BE SCARIFIED DOWN TO 2 INCHES PRIOR TO FILL BEING PLACED. THIS WORK IS SUBSIDIARY TO UNCLASSIFIED EXCAVATION AND WILL NOT BE MEASURED FOR PAYMENT.
4. SURCHARGE MATERIAL SHALL BE PLACED FOR A MINIMUM OF ONE SEASONAL FREEZE THAW CYCLE. SURCHARGE MATERIAL SHALL CONSIST OF SUITABLE MATERIAL.

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
TYPICAL SECTIONS

DATE: 1/4/2023

SHEET: 12 OF 60

Designed By: RLC
Drawn By: AVA
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Date Revised: 1/04/2023, 1:01 PM
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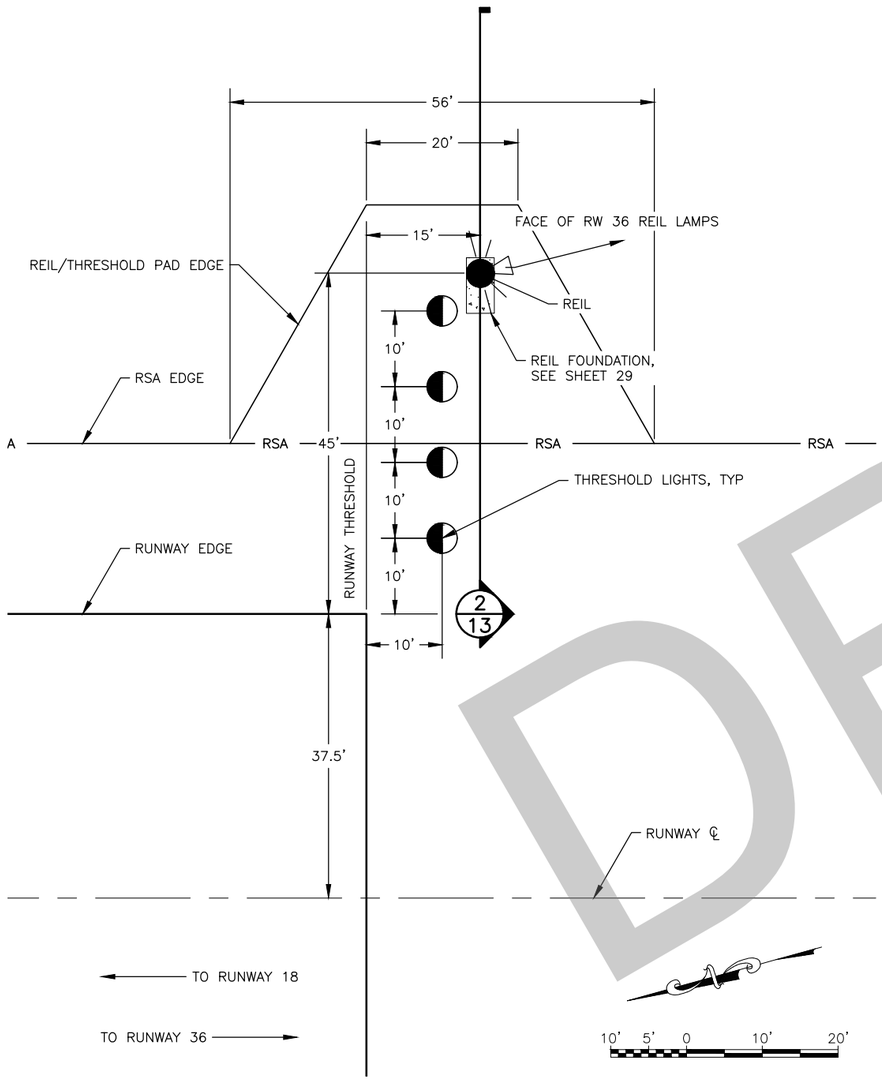
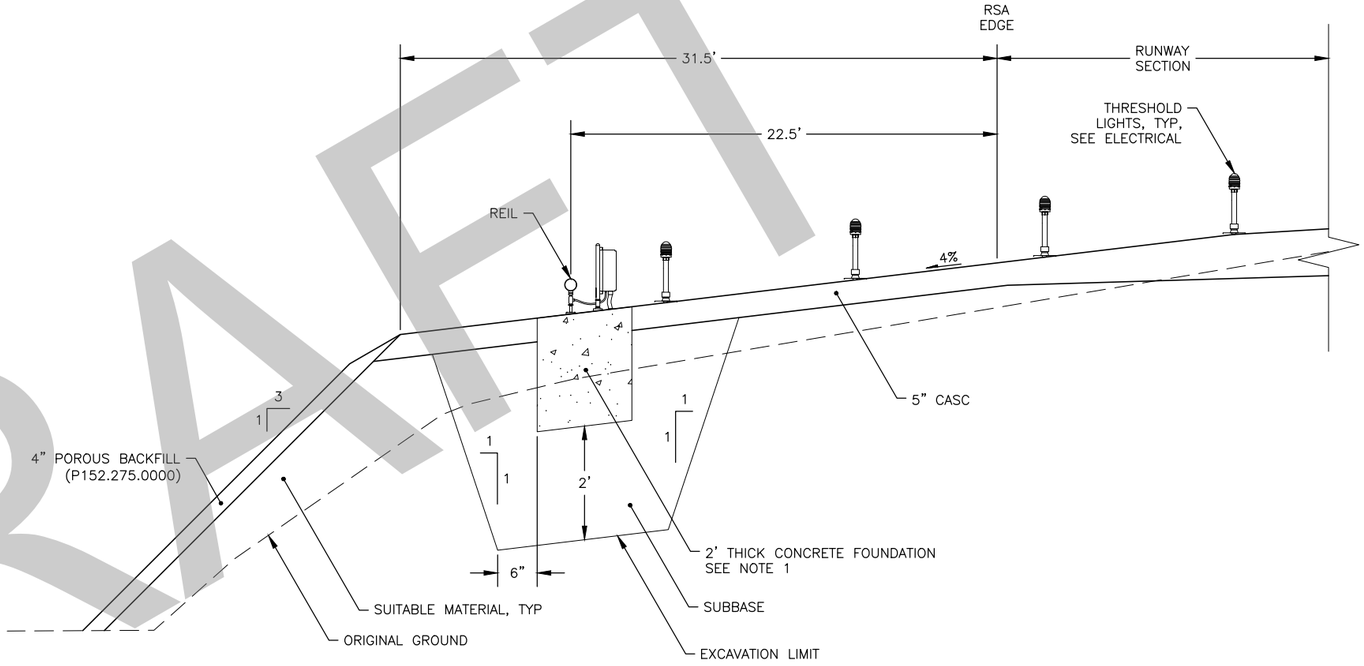


1/13 THRESHOLD PAD PLAN & REIL PAD PLAN*
NTS
RW 18 REIL STA 19+85
RW 36 REIL STA 52+14

*RW 36 LT REIL SHOWN. MIRROR FOR RW 36 RT AND RW 18 REIL. REIL LAMPS TO POINT AWAY FROM RW THRESHOLD.



2/13 THRESHOLD PAD SECTION & REIL PAD TYPICAL SECTION
NTS

NOTES:

1. SEE SHEET 29 FOR REIL CONCRETE FOUNDATION DETAILS.
2. MATCH RUNWAY TYPICAL SECTION AT RSA.

STATE OF ALASKA 49TH
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PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111	BY	DATE	REVISION

STATE OF ALASKA
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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
REIL PAD PLAN & SECTION

DATE: 1/4/2023
SHEET: 13 OF 60

Designed By: RLC
Drawn By: AVA
Checked By: MIM

Date Revised:
Layout Name: REIL
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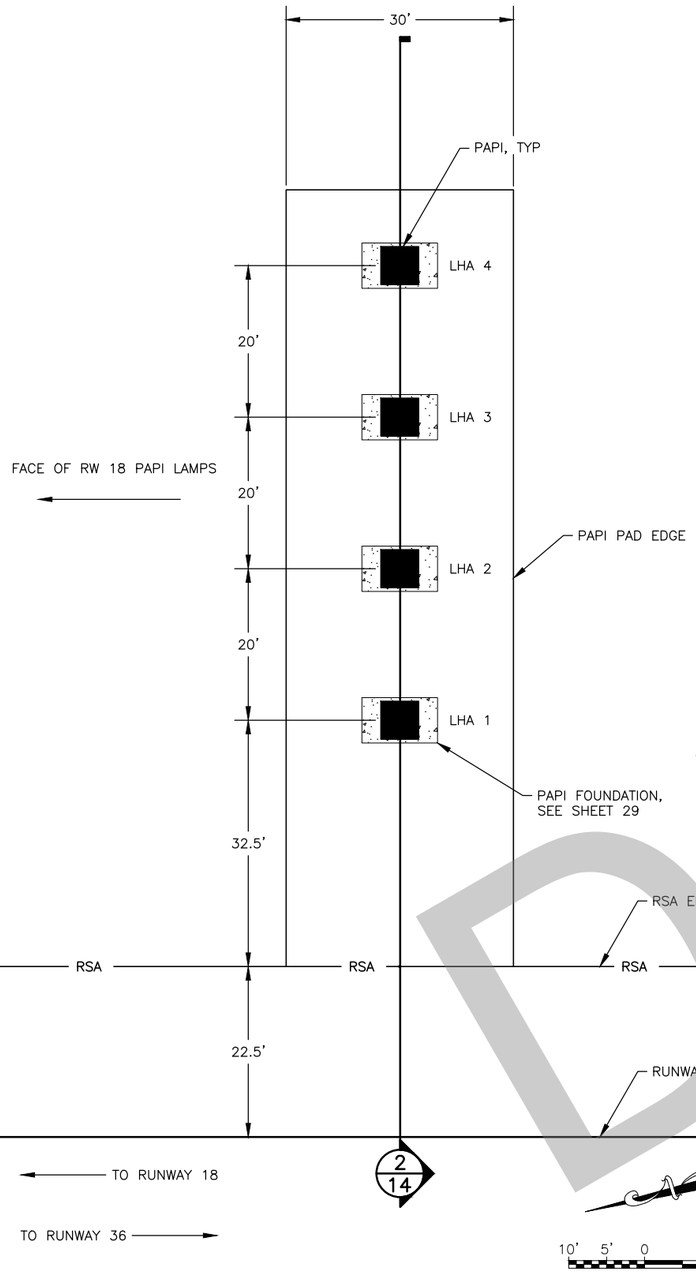
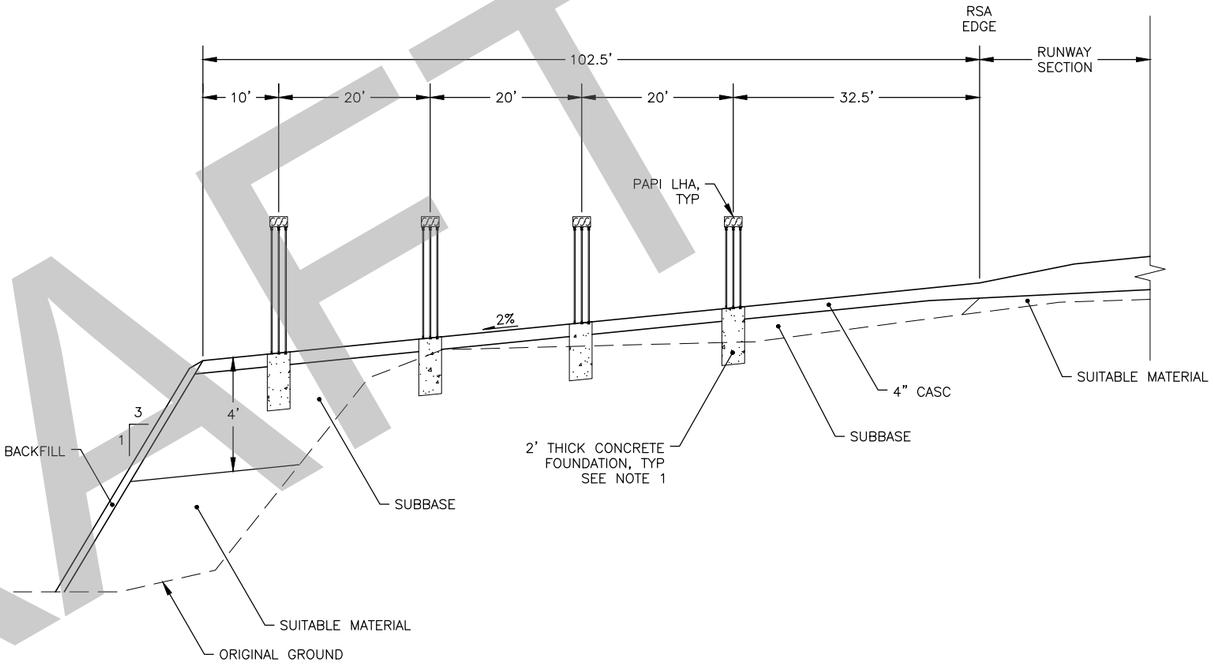


1 / 14 PAPI PAD PLAN*
NTS
RW 18 PAPI STA 24+92
RW 36 PAPI STA 47+07

*RW 18 PAPI SHOWN. ROTATE DETAIL 180 DEGREES FOR RW 36 PAPI. PAPI LAMPS TO POINT AWAY FROM INTERIOR OF RUNWAY.



2 / 14 PAPI PAD TYPICAL SECTION
NTS

NOTES:

1. SEE SHEET 29 FOR PAPI CONCRETE FOUNDATION DETAILS.
2. MATCH RUNWAY TYPICAL SECTION AT RSA.
3. USE SUBBASE FOR ANY BACKFILL NECESSARY FOR THE INSTALLATION OF THE NEW PAPI CONCRETE FOUNDATIONS.

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
PAPI PAD PLAN & SECTION

DATE: 1/4/2023
SHEET: 14 OF 60

Designed By: RLC
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Date Revised:
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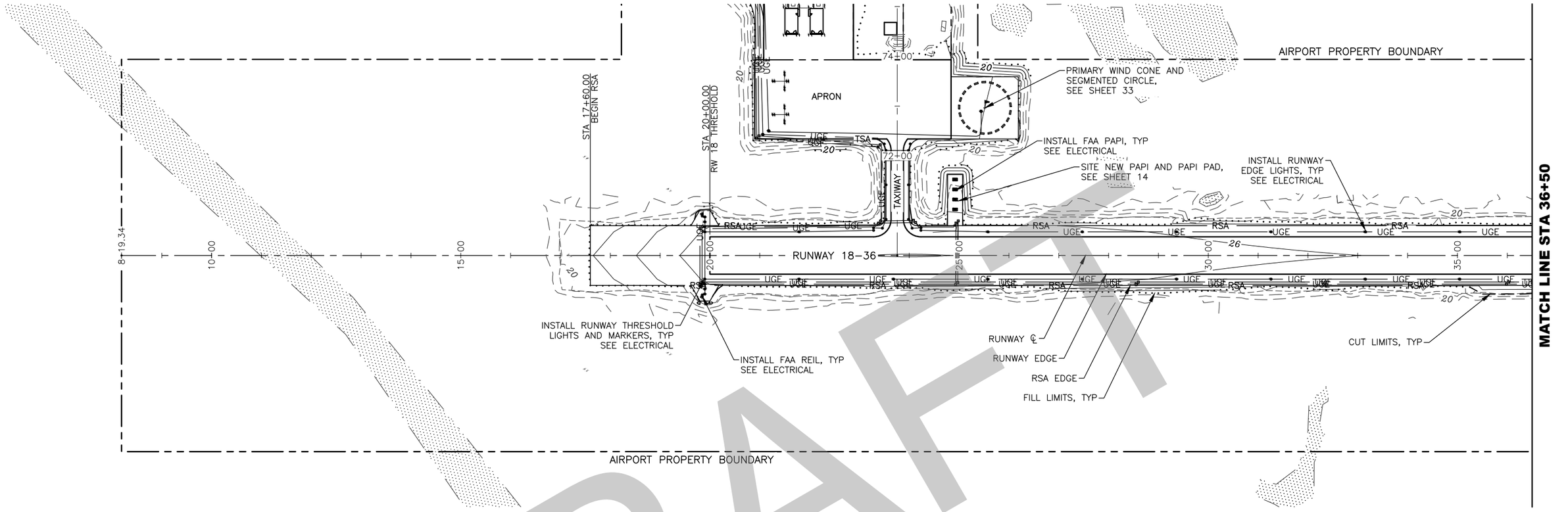

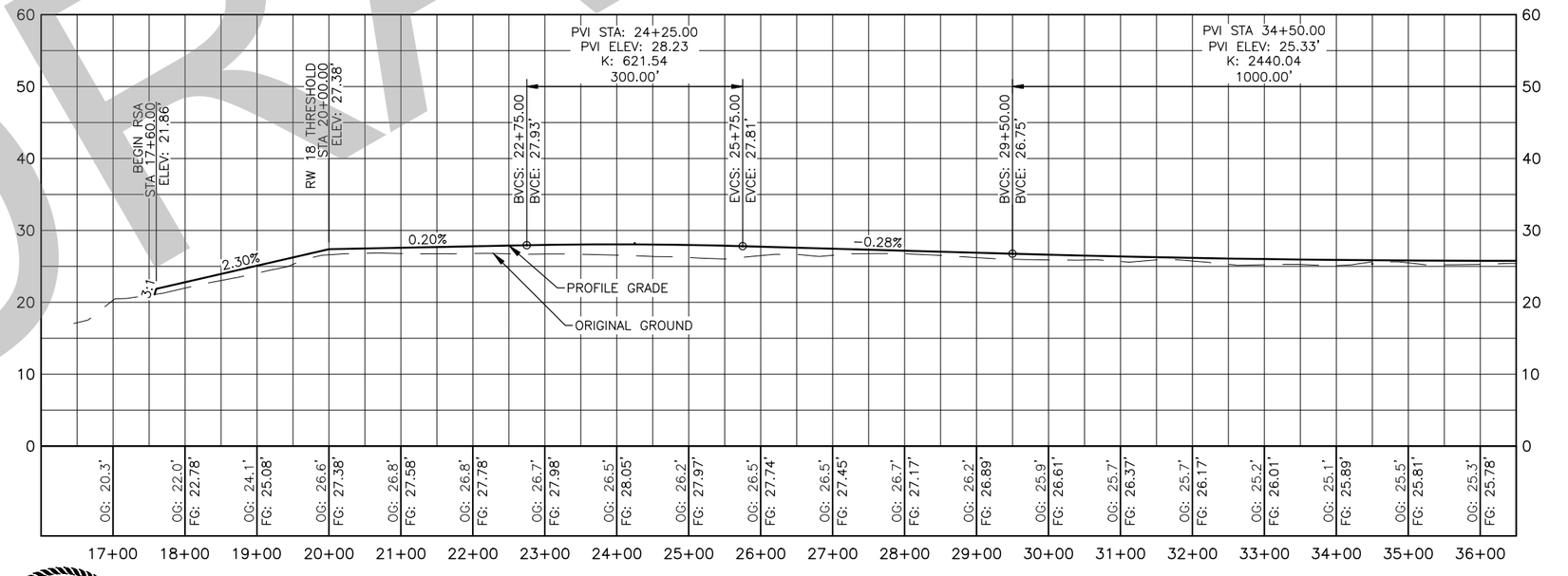

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Drawn By:	AVA
Checked By:	MIM

Date Revised:	1/04/2023, 1:02 PM
Layout Name:	RW P&P 1
File Path and Name:	Z:\project\2340.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Runway Plan & Profile.dwg

STATE OF ALASKA
49TH
Matthew I. Majoros
CE - 14441
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

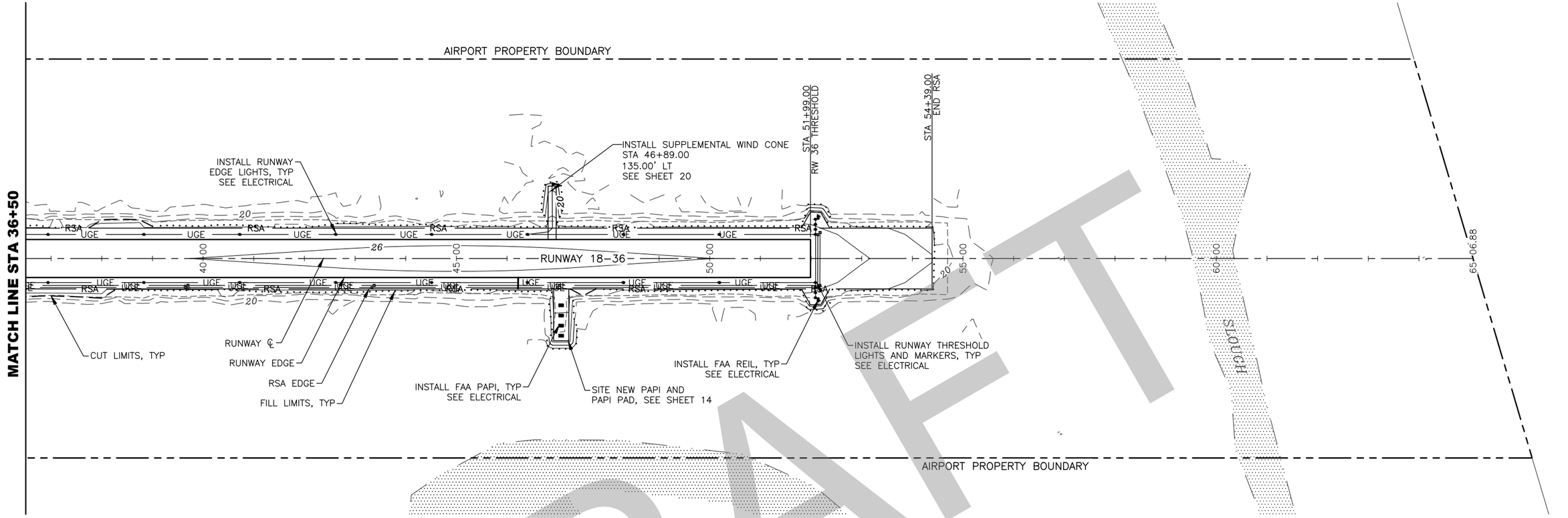
BY	DATE	REVISION

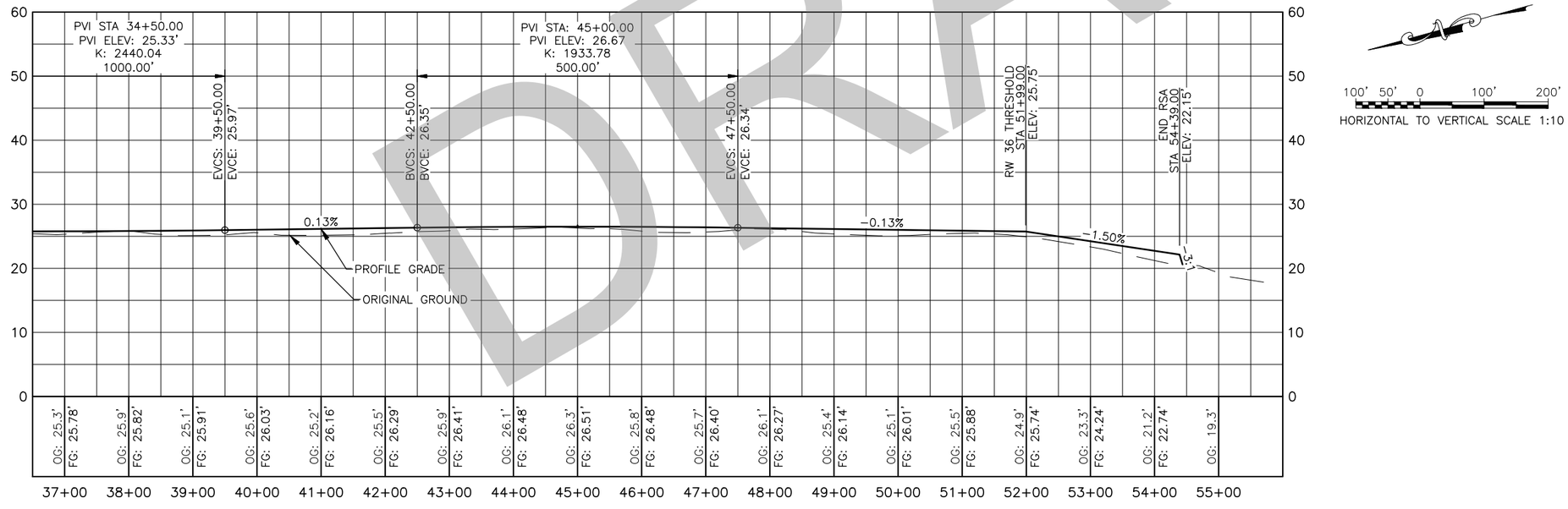
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
RUNWAY PLAN AND PROFILE
STA 17+60 TO 36+50

DATE: 1/4/2023

SHEET: 15 OF 60





100' 50' 0 100' 200'

HORIZONTAL TO VERTICAL SCALE 1:10

Designed By:	RLC
Drawn By:	AVA
Checked By:	MIM

Date Revised:	1/04/2023, 1:02 PM
Layout Name:	RW P&P 2
File Path and Name:	Z:\project\2340.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Runway Plan & Profile.dwg

STATE OF ALASKA 49TH
Matthew I. Majoros CE - 14441
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

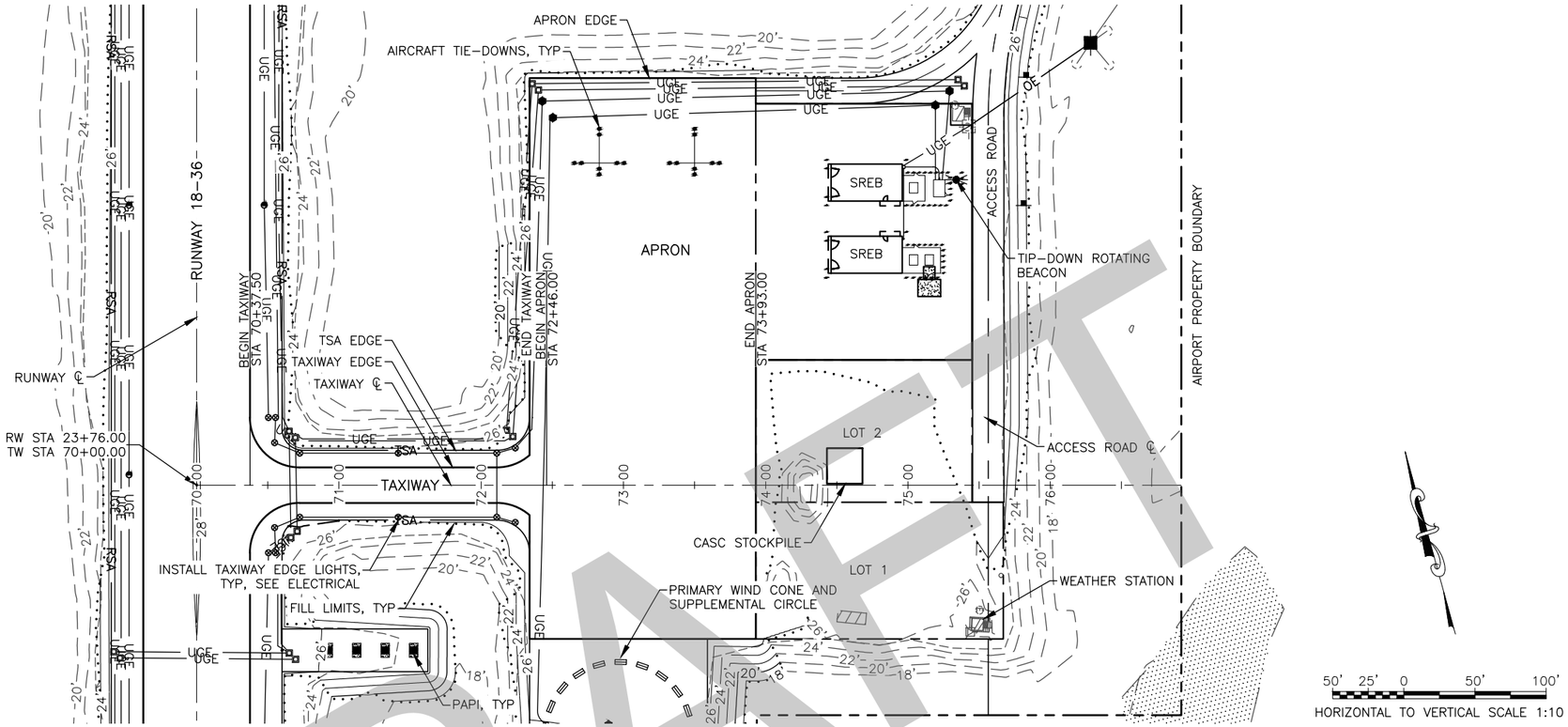
BY	DATE	REVISION

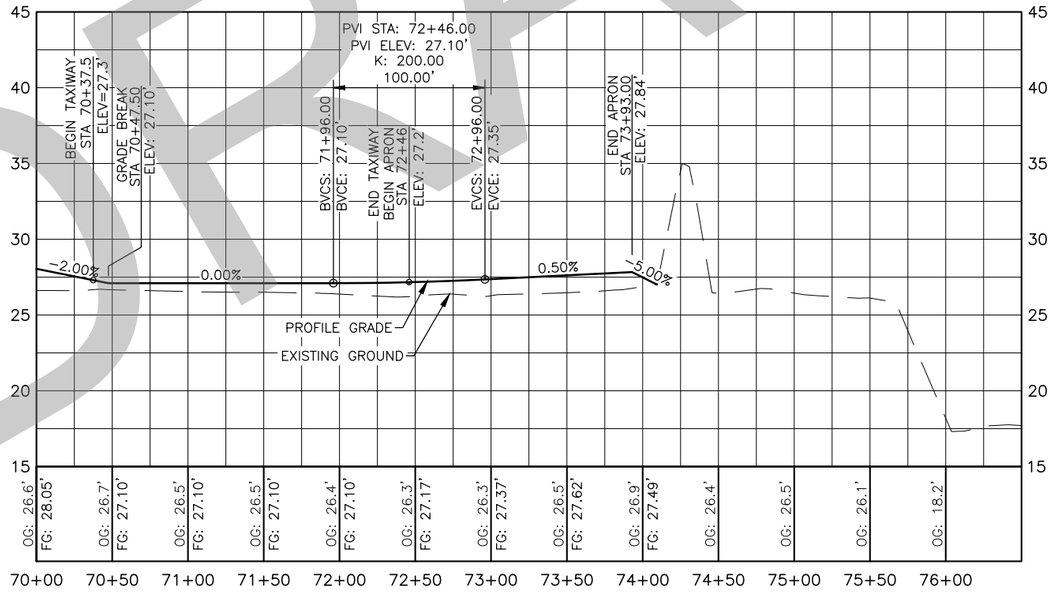
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
RUNWAY PLAN AND PROFILE
STA 36+50 TO 54+39

DATE: 1/4/2023

SHEET: 16 OF 60





Designed By:	RLC
Drawn By:	AVA
Checked By:	MIM
Date Revised:	1/04/2023, 1:02 PM
Layout Name:	TW P&P1
File Path and Name:	Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\06682-KWT-Taxiway Plan & Profile.dwg

STATE OF ALASKA 49TH Matthew I. Majoros CE - 14441 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
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ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

BY	DATE	REVISION

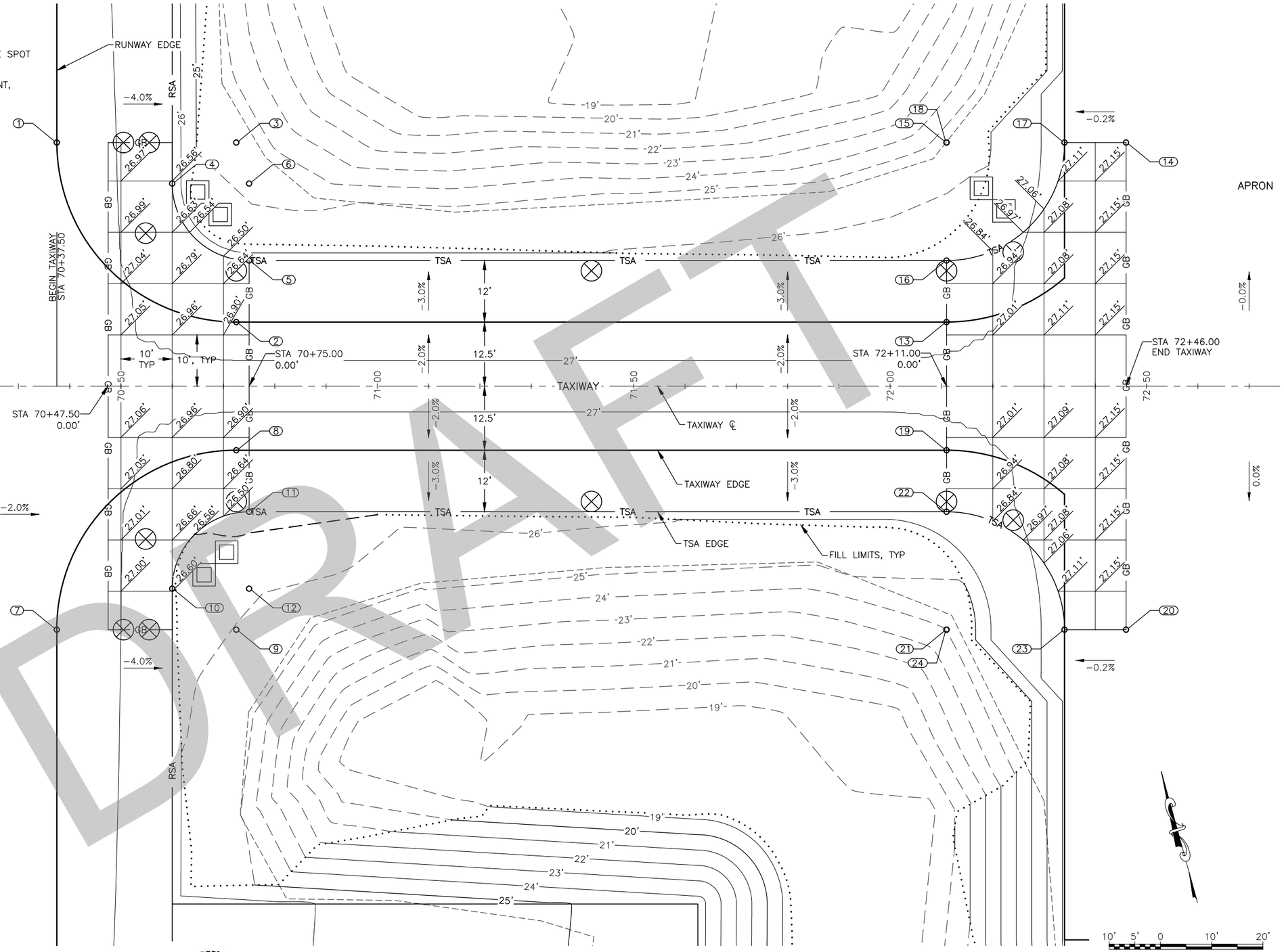
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
TAXIWAY PLAN & PROFILE

DATE: 1/4/2023

NOTE:

1. PROVIDE SMOOTH TRANSITIONS BETWEEN ALL FINISH GRADE SPOT ELEVATION LOCATIONS.
2. STATIONS AND OFFSETS REFERENCE THE TAXIWAY ALIGNMENT, UNLESS LABELED OTHERWISE.



LAYOUT SCHEDULE

POINT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	70+37.50	47.50' LT	27.26'	TW PC
2	70+72.50	12.50' LT	26.85'	TW PT
3	70+72.50	47.50' LT	–	TW RP, R=35'
4	70+60.00	39.50' LT	26.56'	TSA PC
5	70+75.00	24.50' LT	26.49'	TSA PT
6	70+75.00	39.50' LT	–	TSA RP, R=15'
7	70+37.50	47.50' RT	27.30'	TW PC
8	70+72.50	12.50' RT	26.85'	TW PT
9	70+72.50	47.50' RT	–	TW RP, R=35'
10	70+60.00	39.50' RT	26.60'	TSA PC
11	70+75.00	24.50' RT	26.49'	TSA PT
12	70+75.00	39.50' RT	–	TSA RP, R=15'
13	72+11.00	12.50' LT	26.91'	TW PC
14	72+46.00	47.50' LT	27.16'	TW PT
15	72+11.00	47.50' LT	–	TW RP, R=35'
16	72+11.00	24.50' LT	26.63'	TSA PC
17	72+34.00	47.50' LT	27.14'	TSA PT
18	72+11.00	47.50' LT	–	TSA RP, R=23'
19	72+11.00	12.50' RT	26.91'	TW PC
20	72+46.00	47.50' RT	27.16'	TW PT
21	72+11.00	47.50' RT	–	TW RP, R=35'
22	72+11.00	24.50' RT	26.63'	TSA PC
23	72+34.00	47.50' RT	27.14'	TSA PT
24	72+11.00	47.50' RT	–	TSA RP, R=23'

Designed By: RLC
Drawn By: AVA
Checked By: MIM
Date Revised: 1/04/2023, 1:02 PM
Layout Name: TW
File Path and Name: Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Taxiway Grading Plan.dwg

STATE OF ALASKA 49TH Matthew I. Majoros CE - 14441 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
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(907) 522-1707
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BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
TAXIWAY GRADING PLAN

DATE: 1/4/2023
SHEET: 18 OF 60

ACCESS ROAD

INSTALL TIP-DOWN ROTATING BEACON STA 75+33.90 214.58' LT SEE ELECTRICAL

END MAINTENANCE LOT STA 75+45.00

WEATHER STATION

FILL LIMITS, TYP

SEE SREB PLANS FOR GRADING INFORMATION

LOT 4A

SREB NO.1 (NORTH)

SREB NO.2 (SOUTH)

M&O LOT

SEE SREB PLANS FOR LAYOUT OF SREBs AND ASSOCIATED INFRASTRUCTURE

CASC STOCKPILE (25' x 25')

LOT 2

LOT 1

BEGIN MAINTENANCE LOT STA 73+93.00

END APRON STA 73+93.00

AIRPORT PROPERTY BOUNDARY

APRON

TAXIWAY ℄

TAXIWAY

67'

STA 72+83.00 250.34' LT

INSTALL AIRCRAFT TIE-DOWNS, TYP, SEE DETAIL 2/28

INSTALL PRIMARY WIND CONE AND SEGMENTED CIRCLE STA 72+96.50 175.86' RT SEE ELECTRICAL

125'

135'

BEGIN APRON STA 72+34.00

75+00

74+00

73+00

72+00

-2.0%

-0.3%

-0.2%

-5.0%

-0.6%

0.0%

20' 10' 0 20' 40'

PROPOSED LEASE LOT MONUMENT LOCATION

ID	RW STATION	RW OFFSET
1	24+84.00	393.0' LT
2	23+88.00	393.0' LT
3	22+88.00	393.0' LT
4	21+08.00	393.0' LT
5	21+08.00	545.0' LT
6	22+88.00	545.0' LT
7	23+88.00	545.0' LT
8	23+88.00	567.0' LT
9	24+84.00	567.0' LT

NOTE:

1. REMOVE THE EXISTING LEASE LOT MONUMENTS AND REPLACE WITH NEW MONUMENTS AT THE LOCATIONS INDICATED ON THIS SHEET.

NOTES:

1. STATION AND OFFSETS REFERENCE TAXIWAY ALIGNMENT.
2. PROVIDE SMOOTH TRANSITION BETWEEN ALL FINISH GRADE SPOT ELEVATION LOCATIONS

STATE OF ALASKA 49TH Matthew I. Majoros CE - 14441 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
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(907) 522-1707
CERT. OF AUTH. NO. AECC111

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

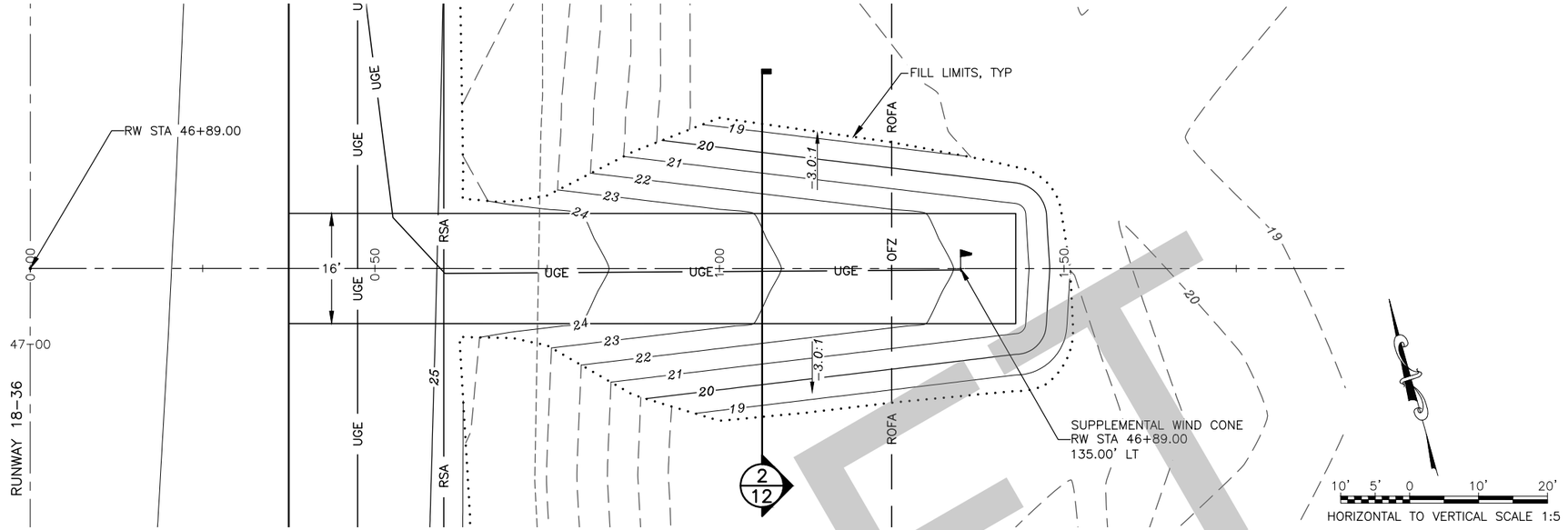
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
APRON GRADING PLAN

DATE: 1/4/2023

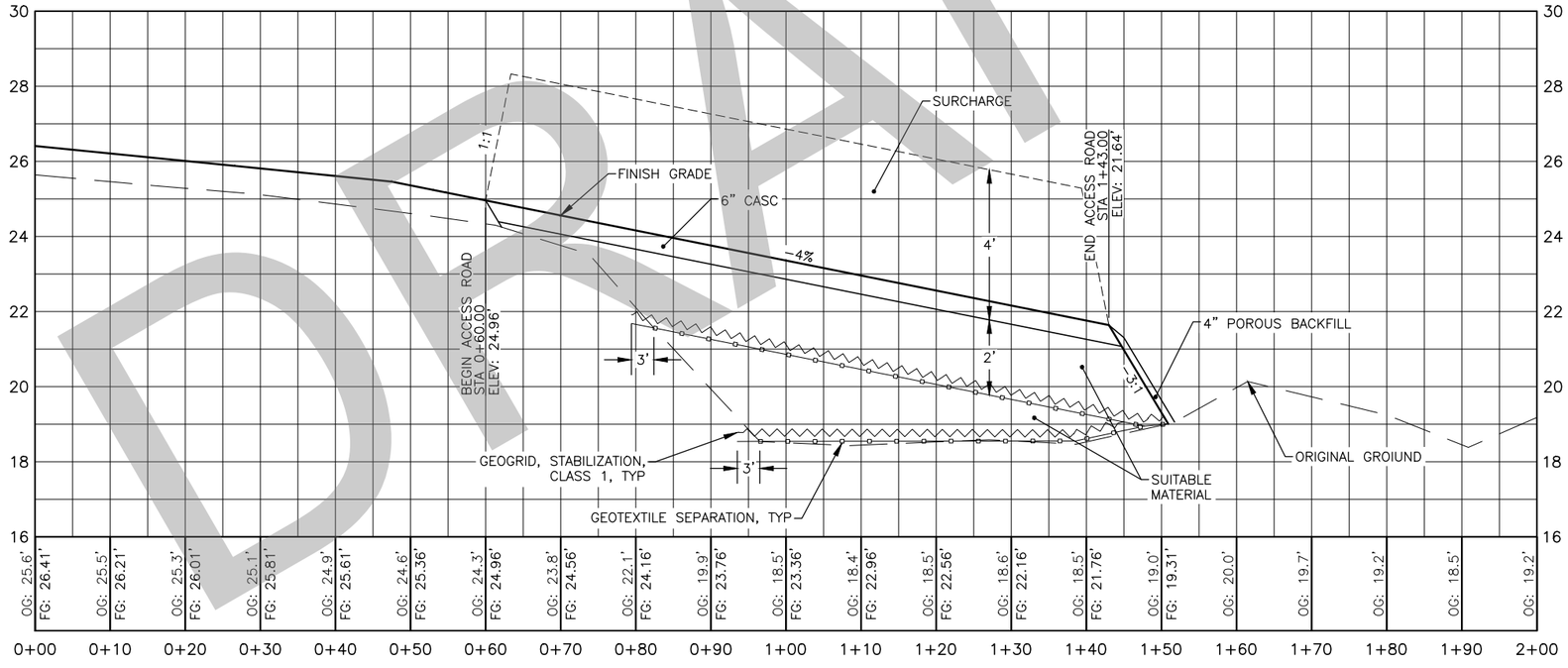
SHEET: 19 OF 60

Designed By: RLC
Drawn By: AVA
Checked By: MIM

Date Revised: 1/04/2023, 1:02 PM
Layout Name: APRN
File Path and Name: Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Apron Grading Plan.dwg



PLAN



PROFILE

1/20 SUPPLEMENTAL WIND CONE ACCESS ROAD & PAD
NTS

STATE OF ALASKA 49TH
Matthew I. Majoros
CE - 14441
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
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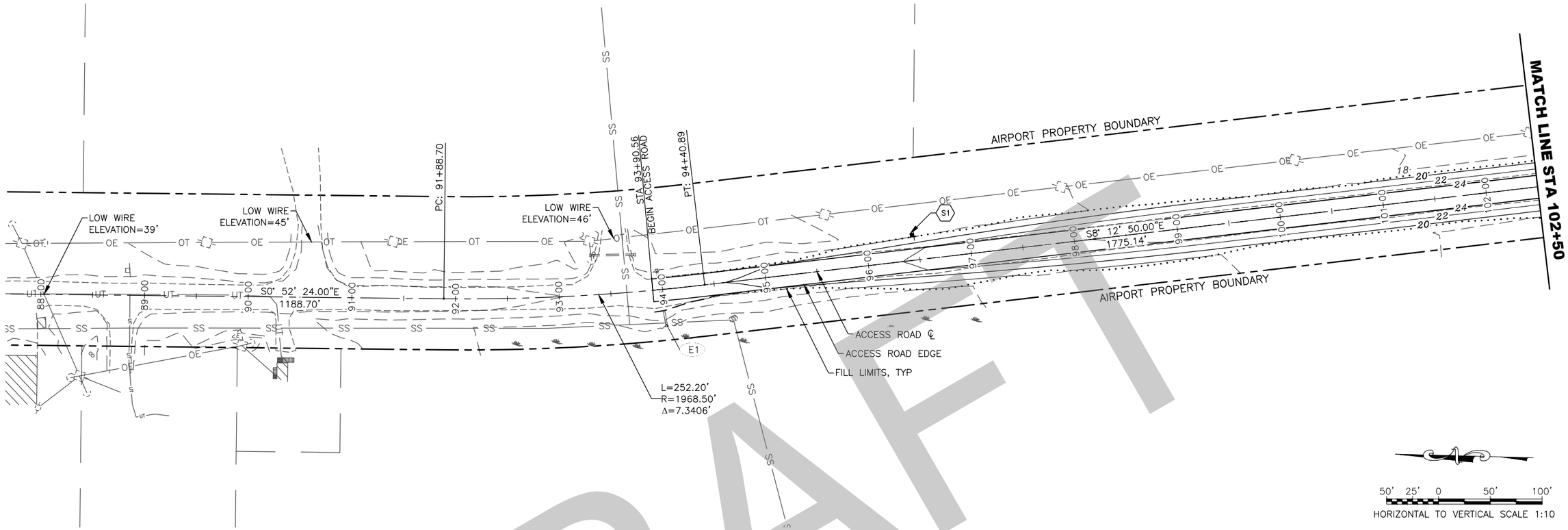
BY	DATE	REVISION

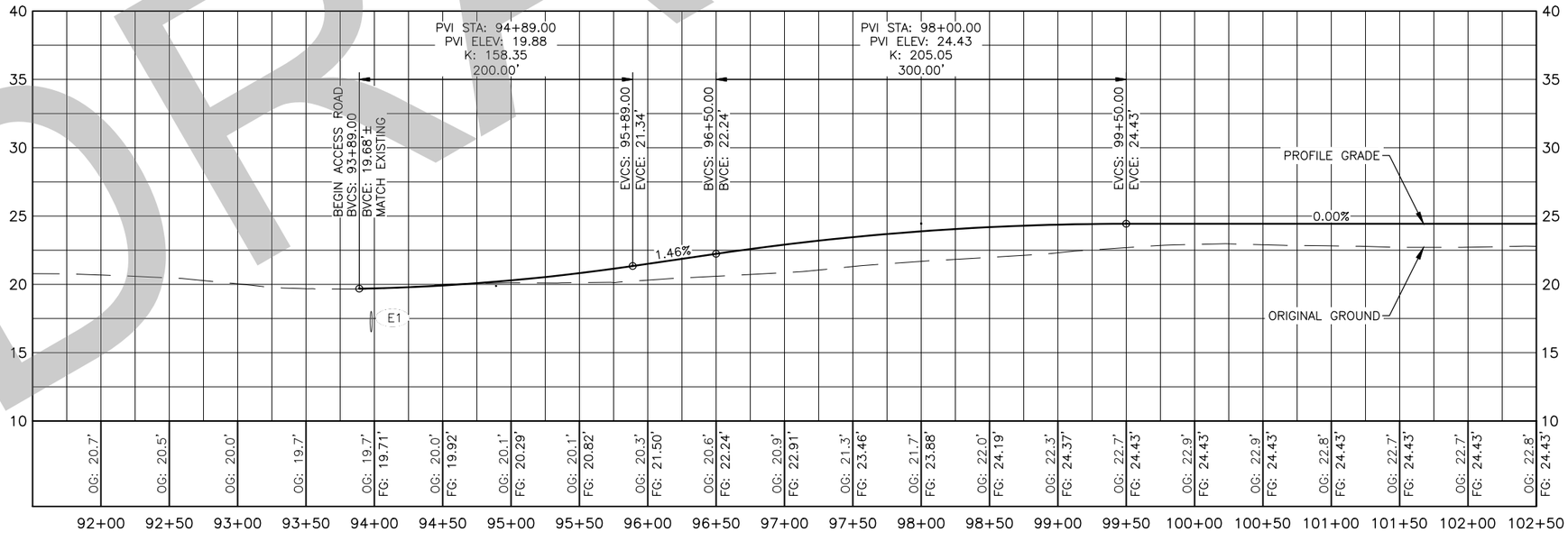
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
SUPPLEMENTAL WIND CONE PAD AND ACCESS

DATE: 1/4/2023
SHEET: 20 OF 60

Designed By: RLC
Drawn By: AVA
Checked By: MIM
Date Revised: 1/04/2023, 1:03 PM
Layout Name: Cones
File Path and Name: Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Wind Cone Pads.dwg





NOTES:

1. SEE SHEET 31 FOR SIGN SUMMARY TABLE.
2. PIPE E1 IS EXISTING TO REMAIN.

STATE OF ALASKA 49TH — Matthew I. Majoros CE - 14441 — REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
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CERT. OF AUTH. NO. AECC111

BY	DATE	REVISION

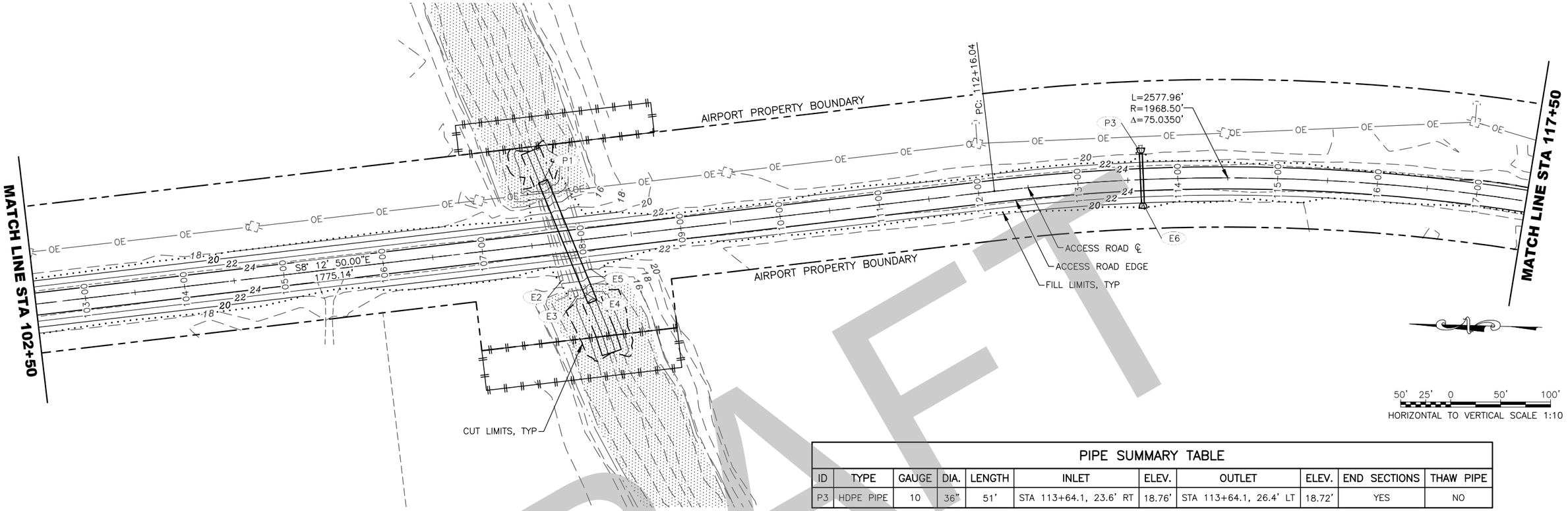
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
ACCESS ROAD PLAN AND PROFILE
STA 93+90.56 TO STA 102+50

DATE: 1/4/2023
SHEET: 21 OF 60

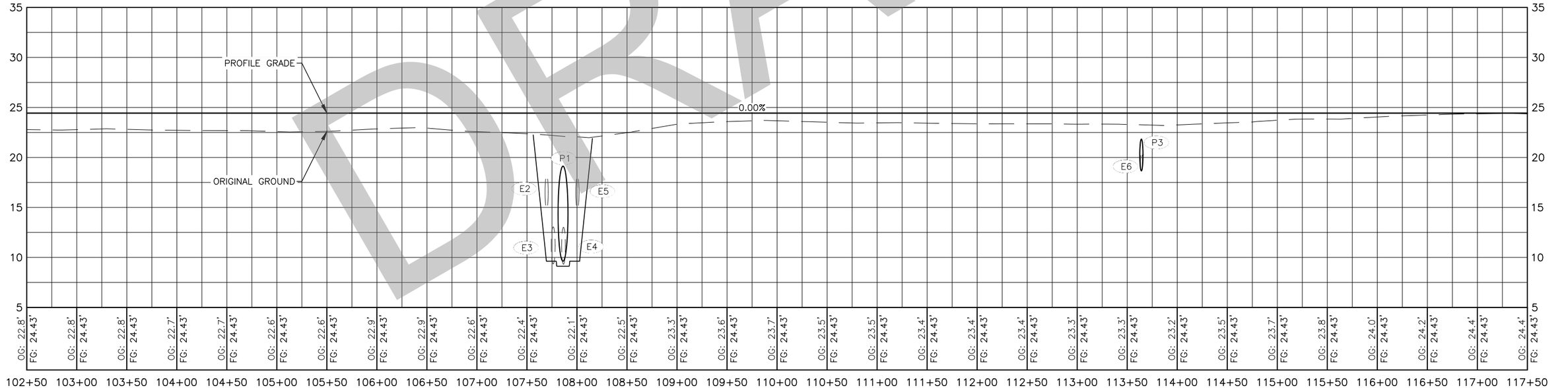
Designed By: RLC
Drawn By: AVA
Checked By: MIM

Date Revised: 1/04/2023, 1:03 PM
Layout Name: AR P&P 1
File Path and Name: Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\06682-KWT-Access Road Plan & Profile.dwg



PIPE SUMMARY TABLE

ID	TYPE	GAUGE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P3	HDPE PIPE	10	36"	51'	STA 113+64.1, 23.6' RT	18.76'	STA 113+64.1, 26.4' LT	18.72'	YES	NO



NOTES:

1. SEE SHEET 26 FOR P1 PIPE SUMMARY TABLE.
2. SEE PIPE REMOVAL TABLE ON SHEET 8.

STATE OF ALASKA 49TH Matthew I. Majoros CE - 14441 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
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(907) 522-1707
CERT. OF AUTH. NO. AECC111

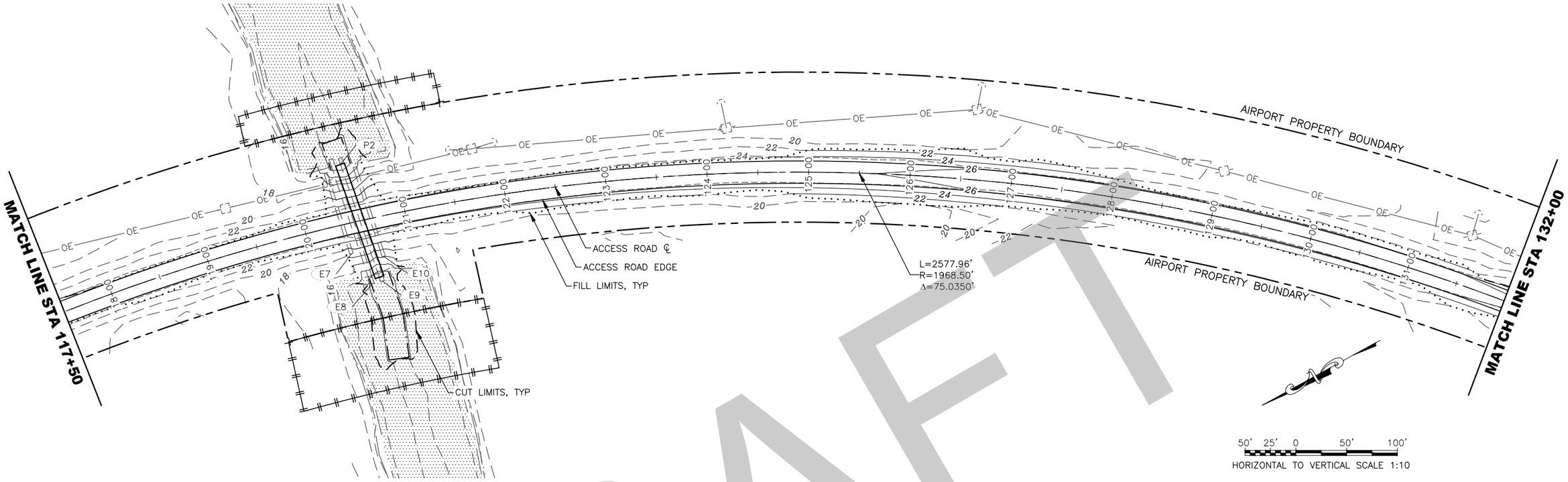
BY	DATE	REVISION

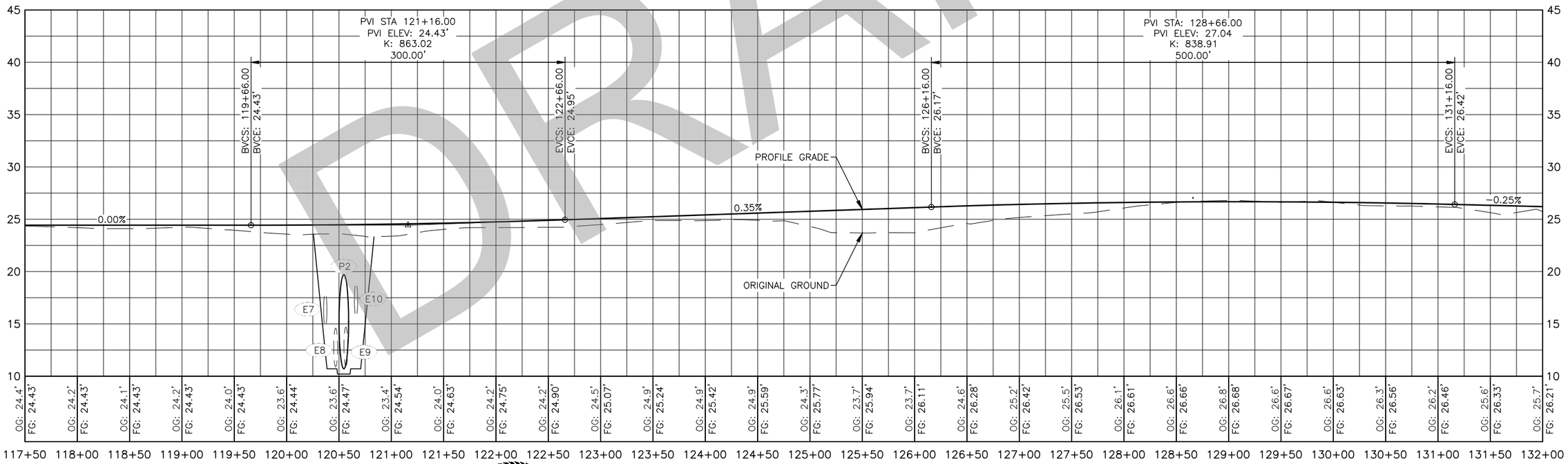
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
ACCESS ROAD PLAN AND PROFILE
STA 102+50 TO STA 117+50

DATE: 1/4/2023
SHEET: 22 OF 60

Designed By: RLC
Drawn By: AVA
Checked By: MIM
Date Revised:
Layout Name: AR P&P 2
File Path and Name: Z:\project\2340.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Access Road Plan & Profile.dwg 1/04/2023, 1:03 PM





NOTES:

1. SEE SHEET 27 FOR P2 PIPE SUMMARY TABLE.
2. SEE PIPE REMOVAL TABLE ON SHEET 8.

STATE OF ALASKA 49TH
Matthew I. Majoros
CE - 14441
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
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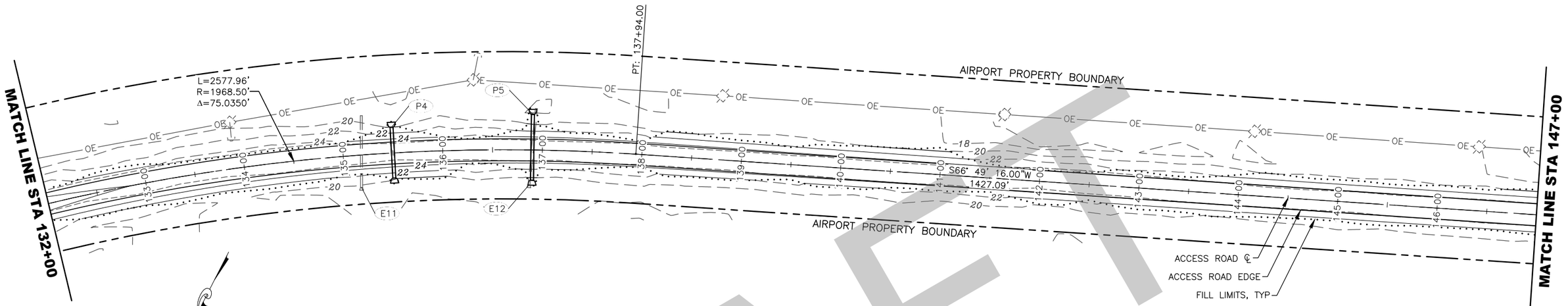
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
ACCESS ROAD PLAN AND PROFILE
STA 117+50 TO STA 132+00

DATE: 1/4/2023
SHEET: 23 OF 60

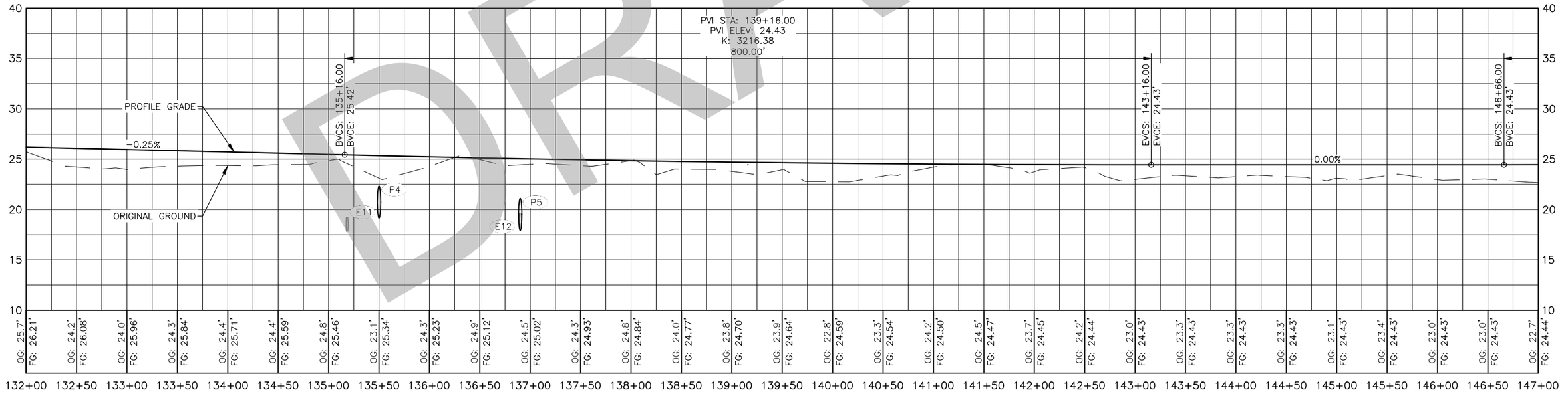
Designed By: RLC
Drawn By: AVA
Checked By: MIM
Date Revised: 1/04/2023, 1:03 PM
Layout Name: AR P&P 3
File Path and Name: Z:\project\2340.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\06682-KWT-Access Road Plan & Profile.dwg



50' 25' 0 50' 100'

HORIZONTAL TO VERTICAL SCALE 1:10

PIPE SUMMARY TABLE									
ID	TYPE	GAUGE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P4	HDPE PIPE	10	36"	52'	STA 135+50.0, 25.2' RT	19.52'	STA 135+50.0, 25.8' LT	18.95'	YES	NO
P5	HDPE PIPE	10	36"	67'	STA 136+90.0, 30.3' RT	18.60'	STA 136+90.0, 35.7' LT	17.34'	YES	NO



NOTE:

1. SEE PIPE REMOVAL TABLE ON SHEET 8.

STATE OF ALASKA 49TH
Matthew I. Majoros
CE - 14441
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
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STATE OF ALASKA
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CENTRAL REGION
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PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
ACCESS ROAD PLAN AND PROFILE
STA 132+00 TO 147+00

DATE: 1/4/2023

SHEET: 24 OF 60

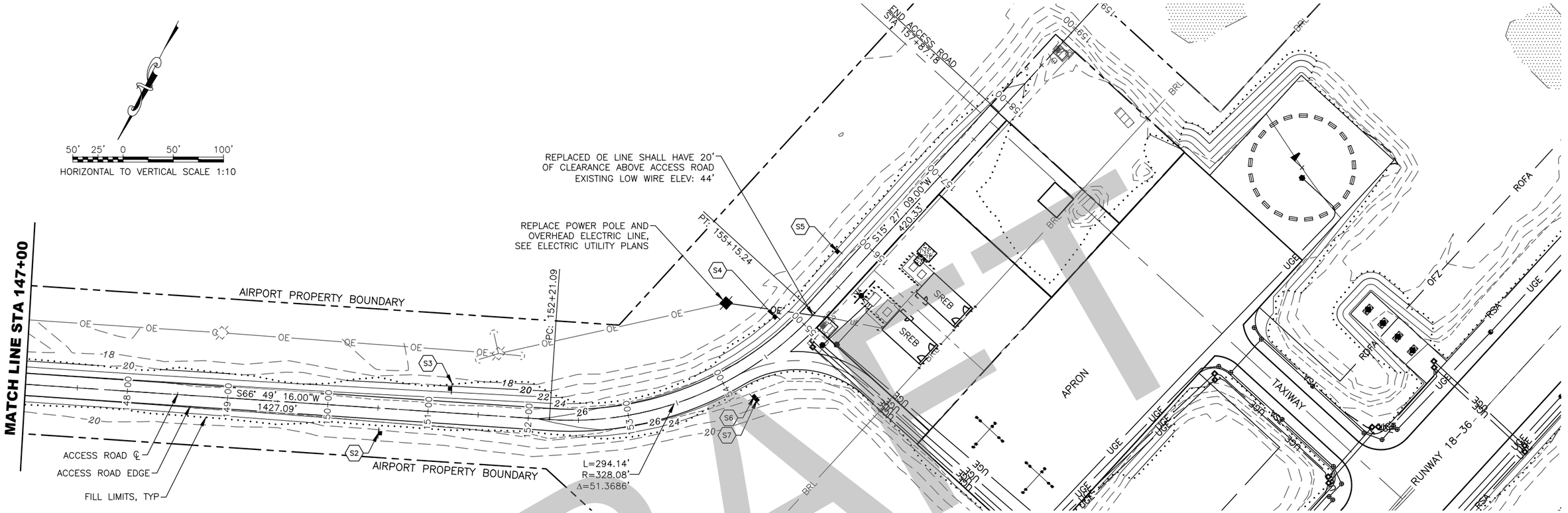
Designed By: RLC
Drawn By: AVA
Checked By: MIM

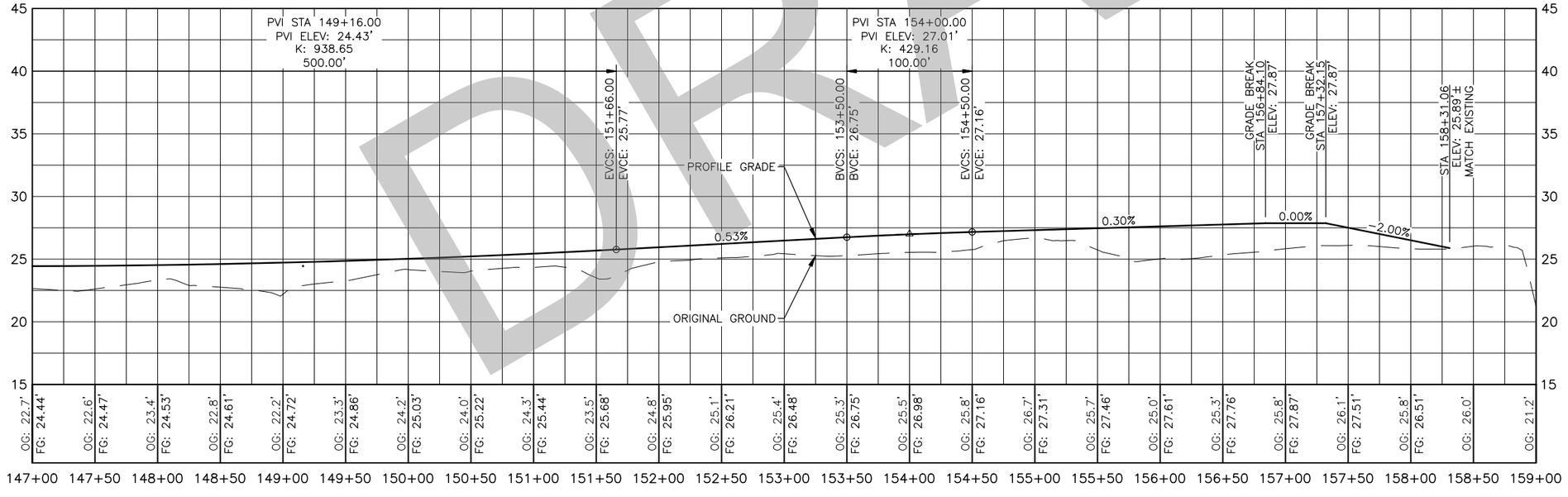
Date Revised:
Layout Name: AR P&P 4
File Path and Name: Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Access Road Plan & Profile.dwg
1/04/2023, 1:03 PM

Designed By: RLC
Drawn By: AVA
Checked By: MIM

Date Revised: 1/04/2023, 1:03 PM
Layout Name: AR P&P 5
File Path and Name: Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\06682-KWT-Access Road Plan & Profile.dwg

50' 25' 0 50' 100'
HORIZONTAL TO VERTICAL SCALE 1:10





NOTE:

1. SEE SHEET 31 FOR SIGN SUMMARY TABLE.

STATE OF ALASKA 49TH Matthew I. Majoros CE - 14441 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
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BY	DATE	REVISION

STATE OF ALASKA
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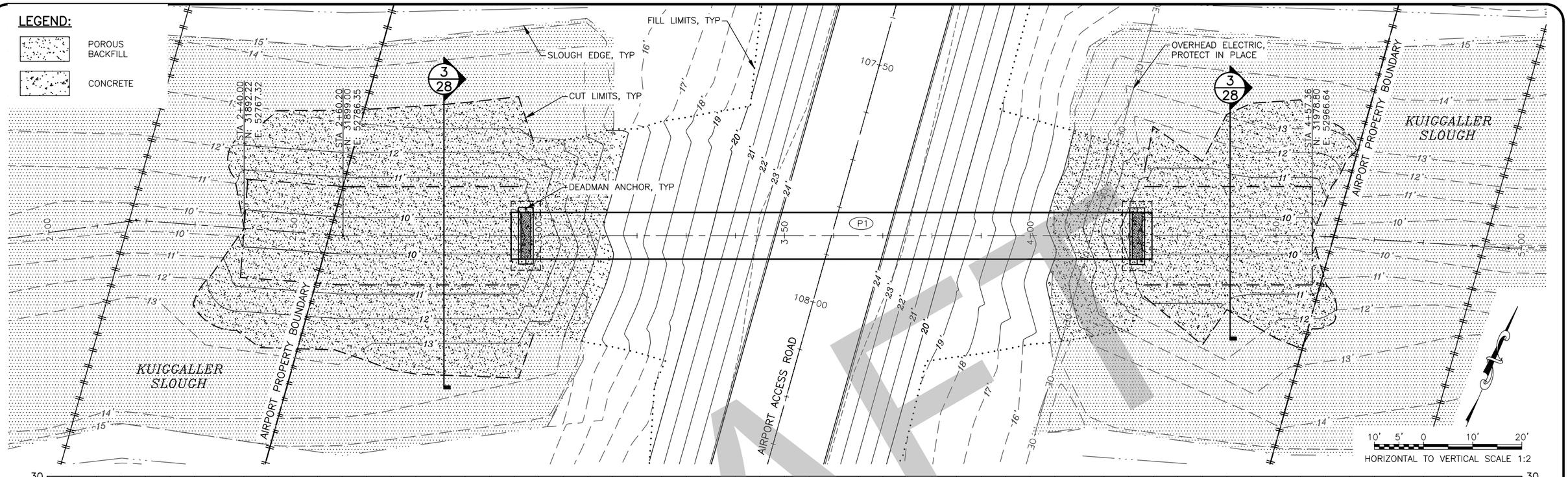
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
ACCESS ROAD PLAN AND PROFILE
STA 147+00 TO STA 156+87.08

DATE: 1/4/2023
SHEET: 25 OF 60



HYDROLOGIC AND HYDRAULIC SUMMARY

DRAINAGE AREA = N/A AC			
EXCEEDANCE PROBABILITY	2%	1%	REGULATORY DISCHARGE
RETURN PERIOD	50 YEAR (Q_{50})	100 YEAR (Q_{100})	N/A
DESIGN DISCHARGE	N/A CFS	N/A CFS	N/A
DESIGN HIGH WATER ELEVATION	N/A FT	N/A FT	N/A
ANTICIPATED ADDITIONAL BACKWATER AT 1% AEP = N/A FEET			
OVERTOPPING FLOW = N/A CFS			
HW/D @ 1.0 = N/A			

H&H NOTES:

1. CULVERT ONLY CARRIES FLOW DURING LARGE FLOODS ON THE KUSKOKWIM AND KWETHLUK RIVER.
2. DESIGN HIGH WATER ELEVATION (DHWE) = 23.7 FT (FLOOD OF RECORD)
3. CULVERT HW/D = 1.5 @ DHWE

PIPE SUMMARY TABLE

ID	TYPE	GAUGE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P1	STRUCTURAL PLATE	10	114"	131'	STA 108+03.6, 62.8' RT	9.63'	STA 107+68.4, 62.8' LT	9.63'	NO	NO

NOTE:

1. ALLOW TRAFFIC ACCESS BETWEEN THE AIRPORT AND COMMUNITY AT ALL TIMES DURING CULVERT REPLACEMENT.
2. AS-BUILTS INDICATE EXISTING GEOSYNTHETICS WITHIN AND AT THE BOTTOM OF THE ACCESS ROAD EMBANKMENT. IF GEOSYNTHETICS ARE ENCOUNTERED DURING DIG OUTS FOR ALL CULVERT REPLACEMENTS, REPLACE WITH NEW GEOSYNTHETICS AND TIE BACK INTO EXISTING GEOSYNTHETICS AT EXTENTS OF EXCAVATION LIMITS WITH A MINIMUM OVERLAP OF 5 FEET.

STATE OF ALASKA 49TH — Matthew I. Majoros CE - 14441 — REGISTERED PROFESSIONAL ENGINEER

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BY	DATE	REVISION

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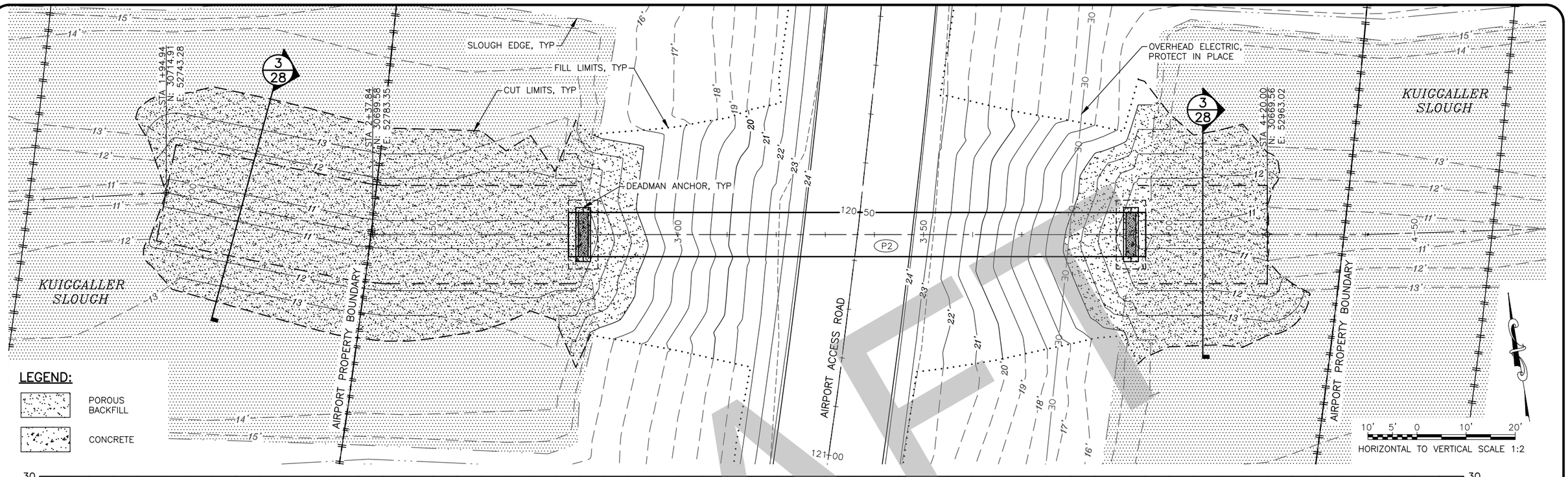
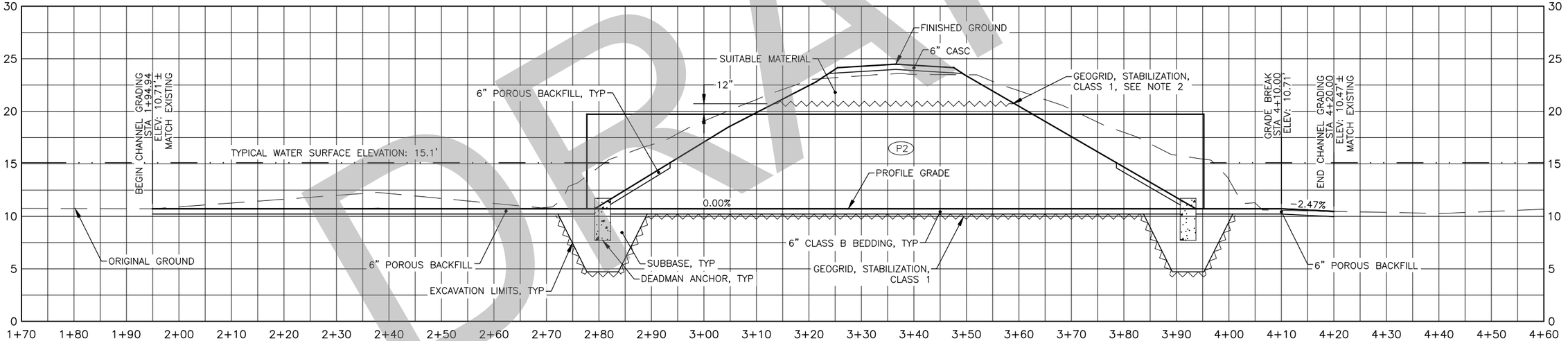
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
CULVERT PLAN AND PROFILE
- NORTHERN CROSSING

DATE: 1/4/2023
SHEET: 26 OF 60

Designed By: RLC
Drawn By: AVA
Checked By: MIM
Date Revised:
Layout Name: CLVT1
File Path and Name: Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Culvert Plan & Profile.dwg 1/04/2023, 1:03 PM





HYDROLOGIC AND HYDRAULIC SUMMARY

DRAINAGE AREA = N/A AC			
EXCEEDANCE PROBABILITY	2%	1%	REGULATORY DISCHARGE
RETURN PERIOD	50 YEAR (Q_{50})	100 YEAR (Q_{100})	N/A
DESIGN DISCHARGE	N/A CFS	N/A CFS	N/A
DESIGN HIGH WATER ELEVATION	N/A FT	N/A FT	N/A
ANTICIPATED ADDITIONAL BACKWATER AT 1% AEP = N/A FEET			
OVERTOPPING FLOW = N/A CFS			
HW/D @ 1.0 = N/A			

H&H NOTES:

1. CULVERT ONLY CARRIES FLOW DURING LARGE FLOODS ON THE KUSKOKWIM AND KWETHLUK RIVER.
2. DESIGN HIGH WATER ELEVATION (DHWE) = 23.7 FT (FLOOD OF RECORD)
3. CULVERT HW/D = 1.4 @ DHWE

PIPE SUMMARY TABLE

ID	TYPE	GAUGE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P2	STRUCTURAL PLATE	10	108"	118'	STA 120+61.8, 58.4' RT	10.71'	STA 120+48.0, 58.3' LT	10.71'	NO	NO

NOTE:

1. ALLOW TRAFFIC ACCESS BETWEEN THE AIRPORT AND COMMUNITY AT ALL TIMES DURING CULVERT REPLACEMENT.
2. AS-BUILTS INDICATE EXISTING GEOSYNTHETICS WITHIN AND AT THE BOTTOM OF THE ACCESS ROAD EMBANKMENT. IF GEOSYNTHETICS ARE ENCOUNTERED DURING DIG OUTS FOR ALL CULVERT REPLACEMENTS, REPLACE WITH NEW GEOSYNTHETICS AND TIE BACK INTO EXISTING GEOSYNTHETICS AT EXTENTS OF EXCAVATION LIMITS WITH A MINIMUM OVERLAP OF 5 FEET.

STATE OF ALASKA 49TH — Matthew I. Majoros CE - 14441 — REGISTERED PROFESSIONAL ENGINEER

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
CULVERT PLAN AND PROFILE
- SOUTHERN CROSSING

DATE: 1/4/2023

SHEET: 27 OF 60

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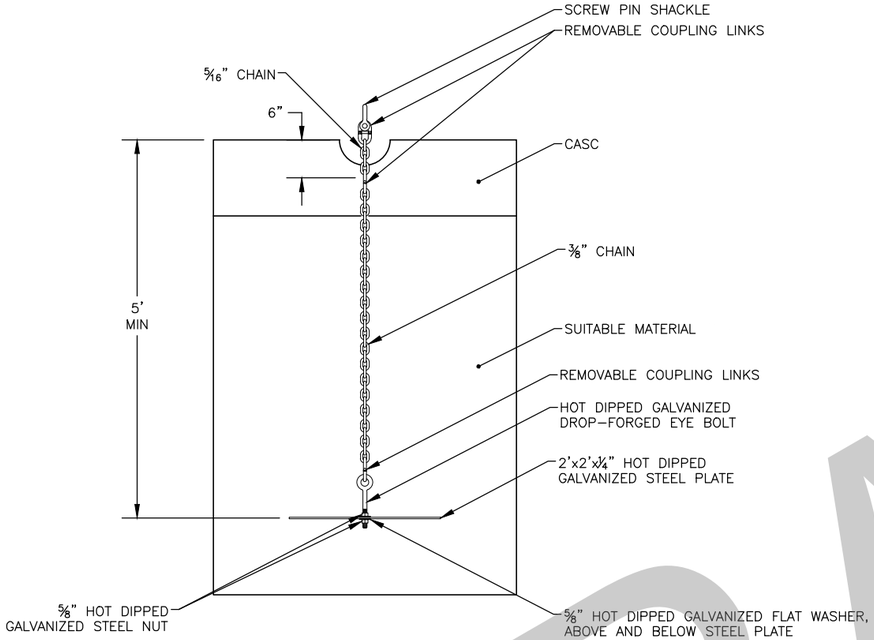
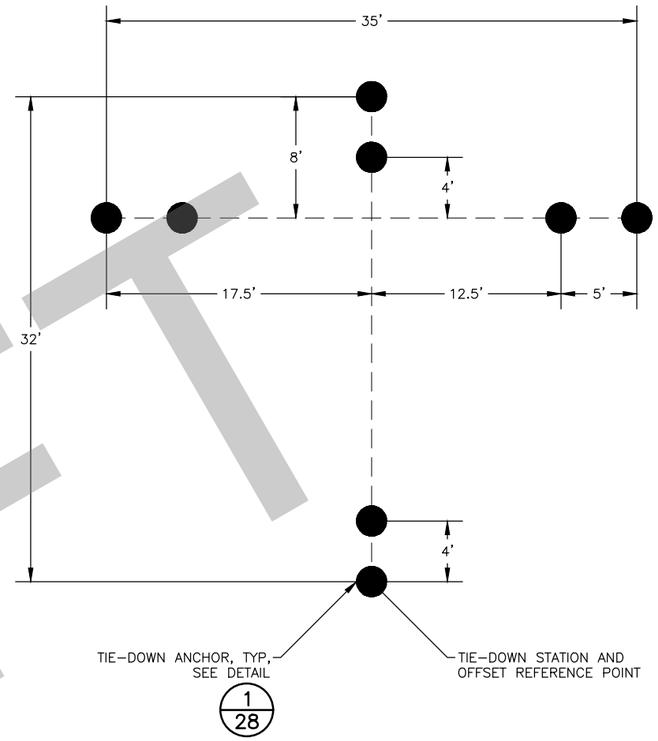
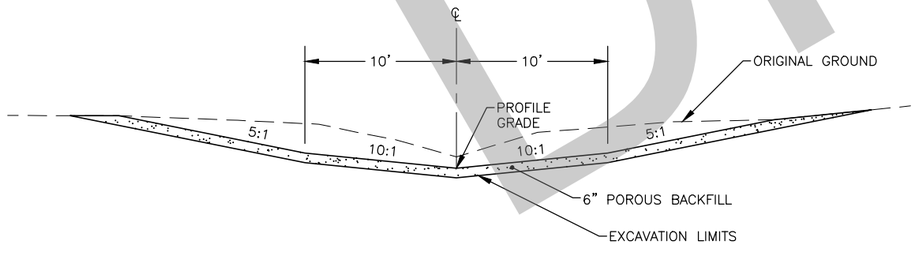


1/28 AIRCRAFT ANCHOR TIE-DOWNS
NTS

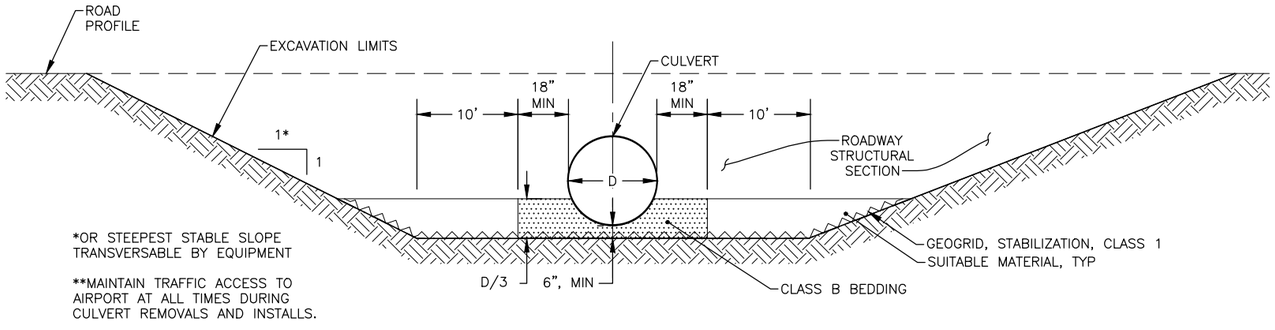


1/28

2/28 AIRCRAFT TIE-DOWNS LAYOUT
NTS



3/28 CHANNEL REGRADING DETAIL
NTS



4/28 CULVERT BEDDING DETAIL
NTS

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STATE OF ALASKA 49TH
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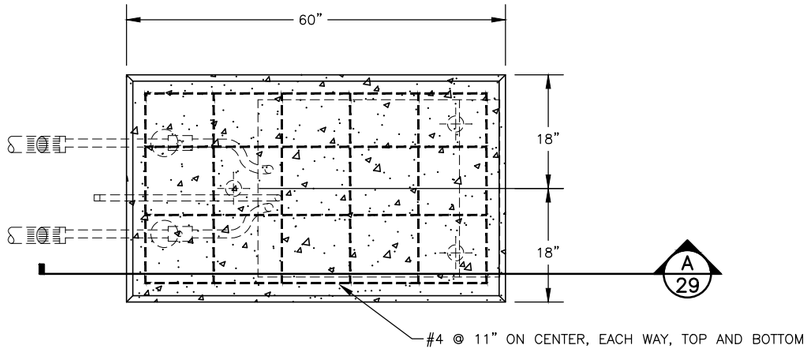
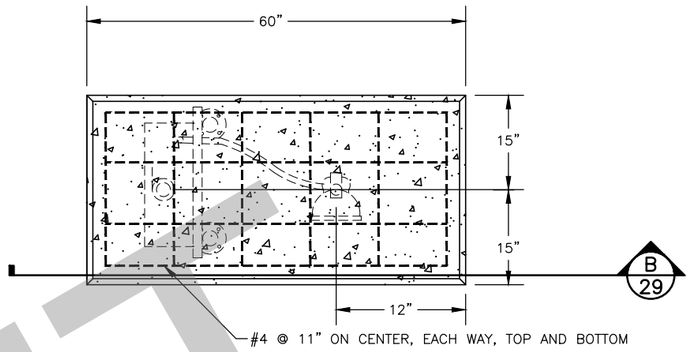
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
CIVIL DETAILS

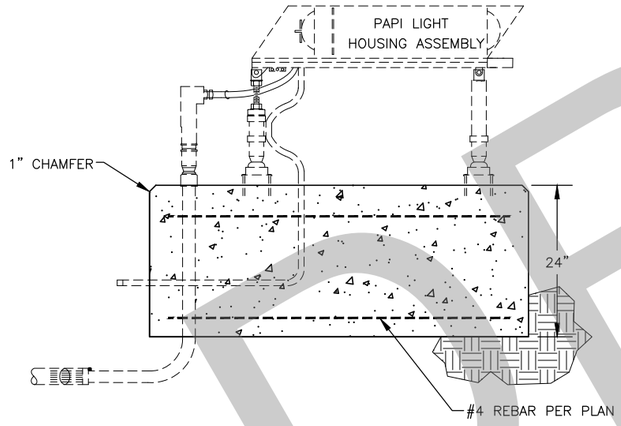
DATE: 1/4/2023
SHEET: 28 OF 60



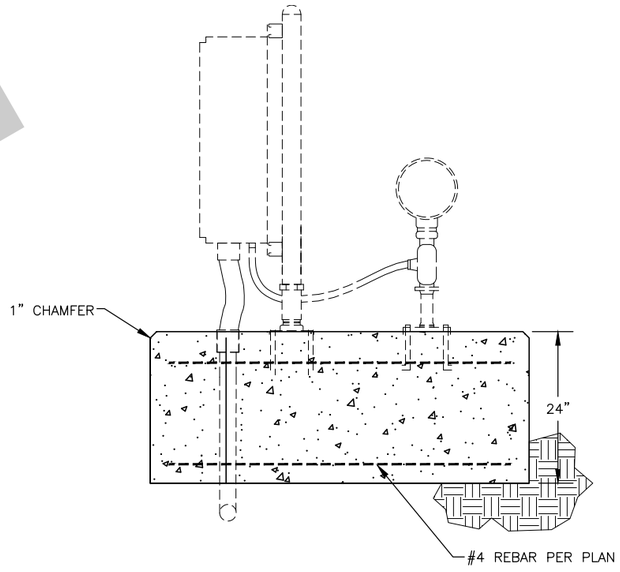
1/29 PAPI FOUNDATION PLAN
NTS



2/29 REIL FOUNDATION PLAN
NTS



SECTION A/29



SECTION B/29

NOTES:

1. CONCRETE AT 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
   SLUMP: 3 INCHES @ 60°F ± 1 INCH
   WITH 1 ½ INCH MAXIMUM AGGREGATE
2. USE CONCRETE IN CONFORMANCE WITH SPECIFICATION P-610.
3. REINFORCING STEEL ASTM A615, GRADE 60, DEFORMED STEEL BARS.
4. PLACE REINFORCEMENT 2" CLEAR FROM SURFACE OF CONCRETE.
5. CHAMFER ALL EXPOSED CONCRETE CORNERS 1".
6. TOP OF BOTH REIL AND PAPI PADS SHALL BE LEVEL AND 1" ABOVE SURROUNDING GRADE.
7. DRILL ANCHOR BOLTS AND INSTALL ADHESIVE ANCHORS AFTER UNITS HAVE BEEN ACCURATELY LOCATED.

STATE OF ALASKA 49TH
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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
REIL AND PAPI FOUNDATION DETAILS

DATE: 1/4/2023

SHEET: 29 OF 60

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Drawn By: AVA
Checked By: MIM

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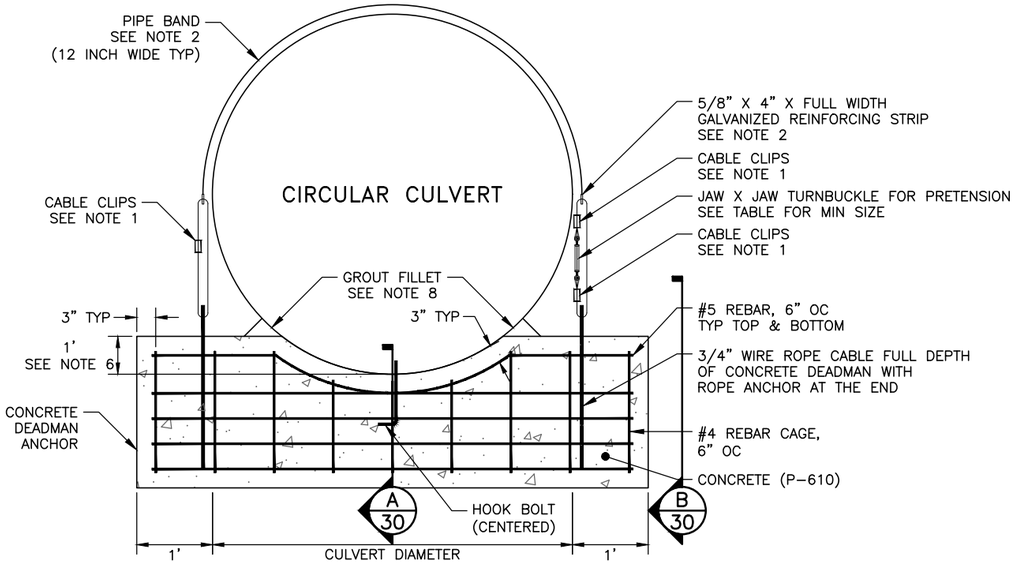
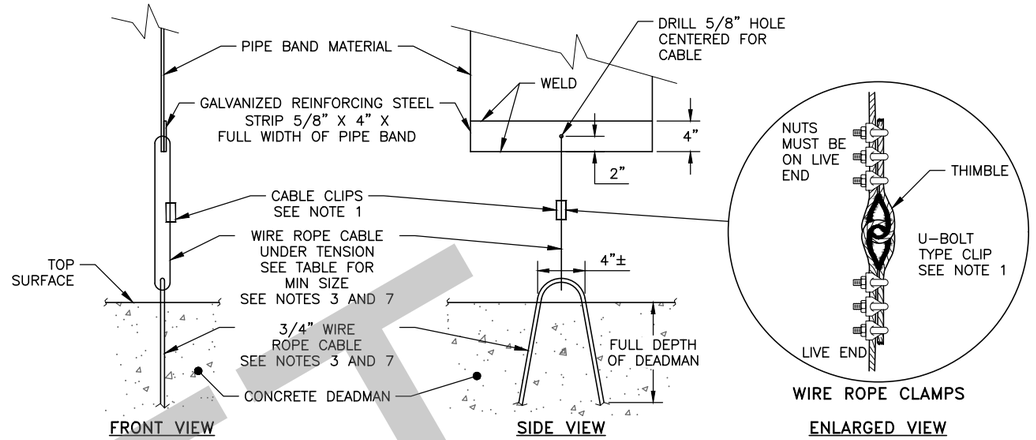
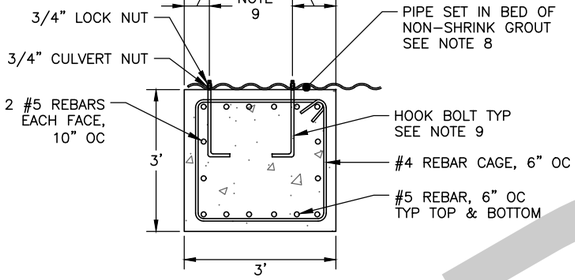


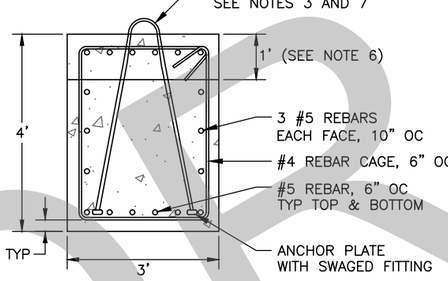
DEADMAN DETAIL



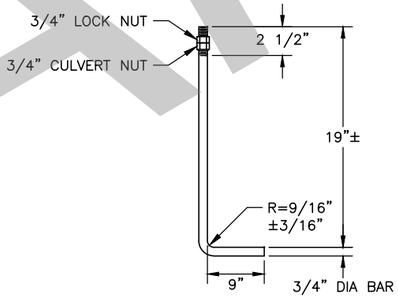
PIPE BAND DETAILS



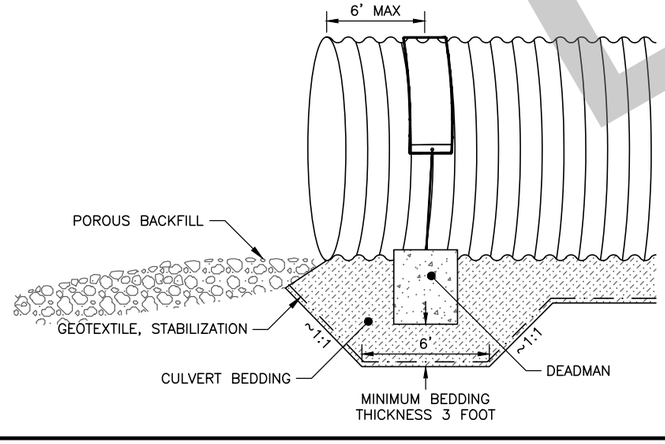
NOTE: REBAR SIZES ARE MINIMUMS



CONCRETE DEADMAN ANCHOR DETAILS



HOOK BOLT
SEE NOTE 4



NOTES:

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

   AMOUNT OF WIRE ROPE TO TURN BACK OR SPLICE: SEE TABLE.
   TORQUE REQUIRED TO REACH HOLDING POWER: SEE TABLE.
   SPACING: DIAMETER OF THE ROPE (INCHES) TIMES 6.
   THE BASE OF THE CLAMPS AND NUTS MUST BE ON THE LIVE END OF THE WIRE INSTALL THIMBLE.

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

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

4. ALL HARDWARE SHALL BE GALVANIZED TO MEET AASHTO M232

5. CONCRETE IN CONFORMANCE WITH P-610 SHALL BE USED TO CONSTRUCT THE CONCRETE DEADMAN ANCHOR. REINFORCEMENT SHALL BE ASTM A615 GRADE 40, EPOXY COATED.

6. CONCRETE DEADMAN SHALL BE CAST TO CONFORM TO THE OUTER RADIUS OF THE CULVERT.

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

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

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

TABLE 1: MINIMUM HARDWARE SIZE				
CULVERT DIA/SPAN (FT)	WIRE ROPE DIA. (IN)	TURNBUCKLE DIA. (IN)	MINIMUM WIRE ROPE TURNBACK/SPLICE (IN)	U-BOLT NUT TORQUE (FT-LB)
6.01 TO 10.00	3/8	1	6 1/4	45

Date Revised: 1/04/2023, 1:04 PM
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Drawn By: AVA
Checked By: MIM

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BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
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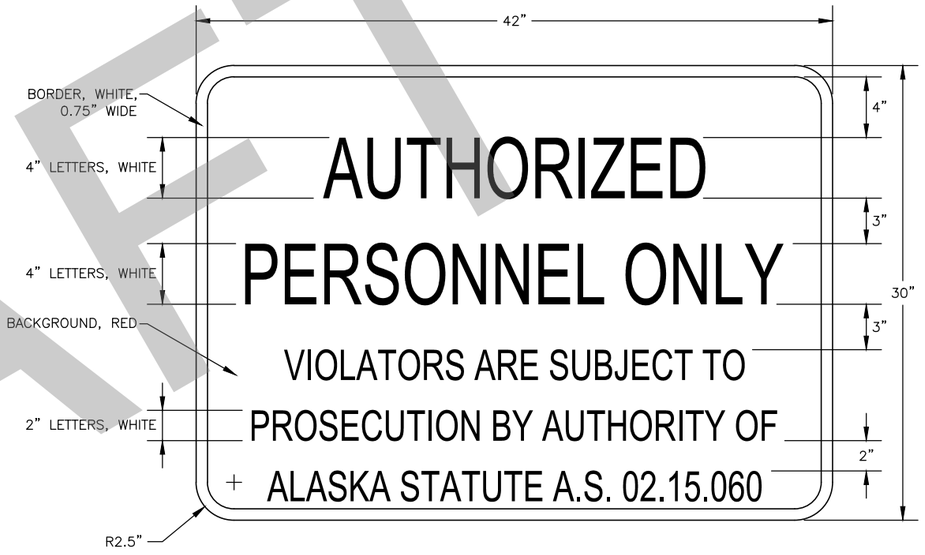
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
DEADMAN DETAILS

DATE: 1/4/2023
SHEET: 30 OF 60

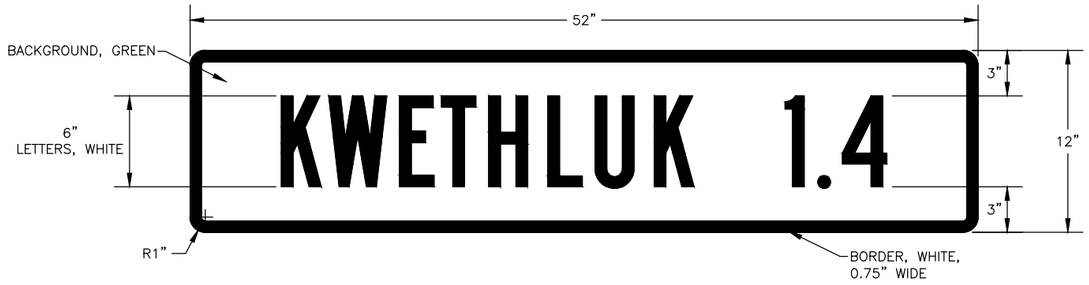
AIRPORT SIGN SUMMARY

SIGN No.	STATION/OFFSET	TYPE	SIGN	LEGEND	SIZE (IN)	COLOR		AREA (SF)	SIGN FACES	POSTS: No. SIZE, TYPE	FRAMED		REMARKS
						LEGEND	BACKGROUND				YES	NO	
S1	96+45/24' LT	S1-1		SCHOOL ZONE SIGN	30x30	BLACK	YELLOW	6.25	S	1-3" STEEL TUBE SQUARE		X	REFERENCE ACCESS ROAD ALIGNMENT.
S2	150+54/25' RT	W1-2L		HORIZONTAL ALIGNMENT	30x30	BLACK	YELLOW	6.25	NE	1-3" STEEL TUBE SQUARE		X	REFERENCE ACCESS ROAD ALIGNMENT.
S3	151+20/24' LT	R2-1		SPEED LIMIT 30 MPH	24x30	BLACK	WHITE	5.00	SW	1-3" STEEL TUBE SQUARE		X	REFERENCE ACCESS ROAD ALIGNMENT.
S4	154+86/28' LT	D2-1		KWETHLUK 1.4	52x12	WHITE	GREEN	4.33	S	1-3" STEEL TUBE SQUARE		X	REFERENCE ACCESS ROAD ALIGNMENT.
S5	155+79/27' LT	W1-2R		HORIZONTAL ALIGNMENT	30x30	BLACK	YELLOW	6.25	S	1-3" STEEL TUBE SQUARE		X	REFERENCE ACCESS ROAD ALIGNMENT.
S6	154+20/25' RT	SPECIAL		SELECTIVE EXCLUSION	36x48	BLACK	WHITE	12.00	N	1-3" STEEL TUBE SQUARE	X		REFERENCE ACCESS ROAD ALIGNMENT.
S7	154+20/29' RT	SPECIAL		AUTHORIZED PERSONNEL ONLY	42x30	BLACK	WHITE	8.75	N	1-3" STEEL TUBE SQUARE	X		REFERENCE ACCESS ROAD ALIGNMENT.

1/31 SELECTIVE EXCLUSIONS SIGN (S6) DETAILS
NTS



2/31 AUTHORIZED PERSONNEL ONLY SIGN (S7) DETAILS
NTS



3/31 KWETHLUK 1.4 MILE SIGN (S4) DETAILS
NTS

NOTES:

1. FABRICATE SIGNS FROM 0.125" THICK ALUMINUM SHEETING.
2. SIGN LOCATIONS ARE APPROXIMATE AND SUBJECT TO FIELD ADJUSTMENTS BY THE ENGINEER.
3. REMOVE EXISTING POST AND INSTALL NEW POSTS FROM AIRPORT SIGN SUMMARY TABLE.
4. INSTALL ON FRANGIBLE COUPLING SYSTEM WITH CONCRETE SIGN POST FOUNDATION. SEE ALASKA STANDARD PLAN S-31.02.

STATE OF ALASKA 49TH Matthew I. Majoros CE - 14441 REGISTERED PROFESSIONAL ENGINEER

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
SIGN SUMMARY

DATE: 1/4/2023
SHEET: 31 OF 60

Designed By: RLC
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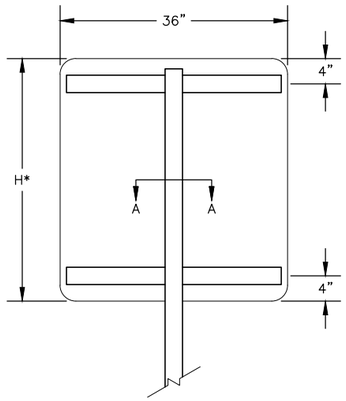
Date Revised: 1/04/2023, 1:04 PM
Layout Name: SIGN1
File Path and Name: Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Civil Details.dwg

NOTES:

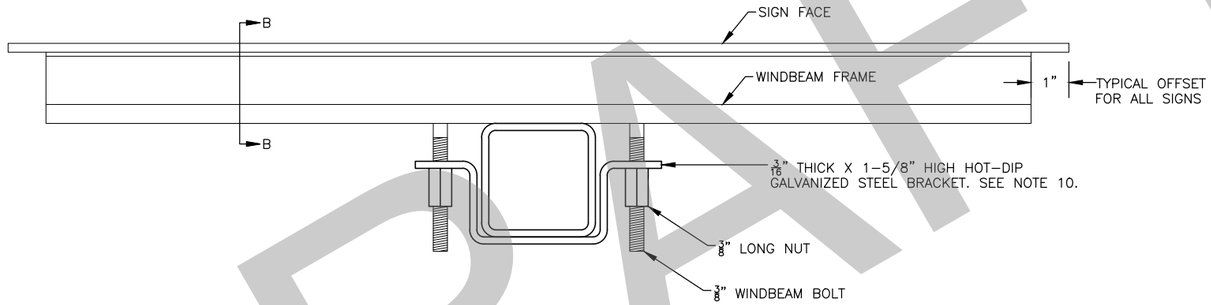
1. ONLY USE SQUARE STEEL TUBES TO SUPPORT SIGNS MOUNTED ON SINGLE POSTS.
2. INSTALL WINDBEAM ON SIGNS 36 INCHES WIDE AND WIDER.
3. THE ENGINEER MAY APPROVE OTHER FRAMING MEMBERS. SUBMIT DOCUMENTS THAT DETAIL THE FRAME'S CROSS SECTION AND STRENGTH, AND METHOD OF ATTACHING THE FRAME TO A POST.
4. USE FRAMING MEMBERS MADE FROM ALUMINUM ALLOY 6061–T6.
5. EACH FRAMING MEMBER SHALL BE ONE CONTINUOUS PIECE.
6. ATTACH FRAMING MEMBERS TO THE SIGN PANELS WITH RIVETS OR AN ENGINEER APPROVED, DOUBLE SIDED, HIGH STRENGTH, ADHESIVE TAPE.
7. WITH THE ADHESIVE TAPE, INSTALL TWO RIVETS IN BOTH ENDS OF EACH FRAMING MEMBER, AND ATTACH THE FRAMING MEMBERS TO THE SIGN PANELS ACCORDING TO THE TAPE MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING:
   A. THE CLEANING AND HANDLING OF THE SIGN PANELS AND FRAMING MEMBERS.
   B. THE APPLICATION OF THE ADHESIVE TAPE.
8. WHEN RIVETS ARE USED TO ATTACH FRAMING MEMBERS, INSTALL 2 RIVETS IN EACH END AND THE BALANCE ON 8" MAXIMUM CENTERS.
9. USE 3/16" DIAMETER RIVETS CONFORMING TO ALUMINUM ALLOY 6061–T6 FOR COLD DRIVEN RIVETS, OR ALUMINUM ALLOY 6061–T43 FOR HOT DRIVEN RIVETS.
10. THE BRACKETS USED ON EVEN INCH SIZE TUBES MAY ALSO BE USED ON TUBES ½" SMALLER IN SIZE.
11. POST LENGTHS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR USING THE CRITERIA FOR RURAL ROADS, UNLESS DETERMINED OTHERWISE BY THE ENGINEER.
12. REMOVE AND DISPOSE OF ALL EXISTING SIGNS, POSTS, AND FOUNDATIONS SCHEDULED FOR REPLACEMENT.



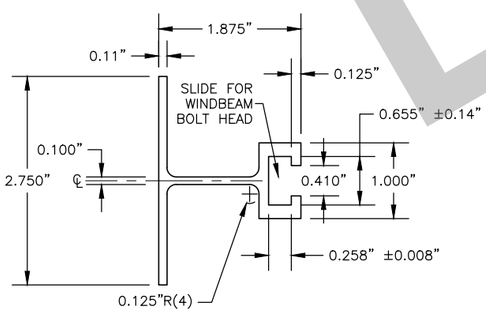
RECTANGLES AND TRAPEZOIDS

* WHEN H > 42 INCHES, INSTALL A THIRD WINDBEAM CENTERED ON THE SIGN

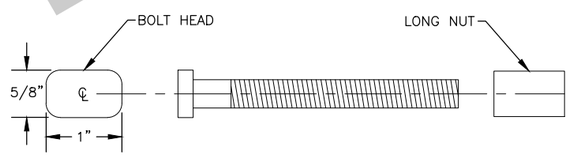
1/32 WINDBEAM LOCATIONS
ELEVATION VIEW



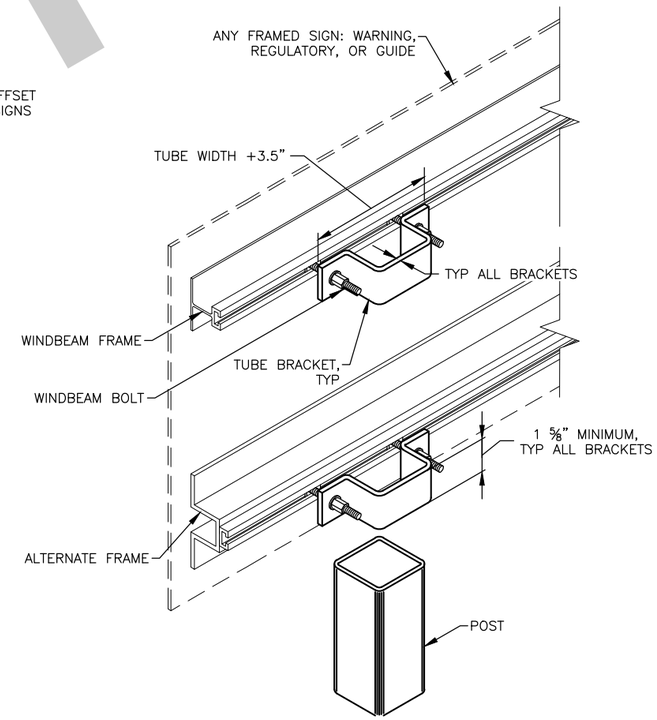
2/32 SECTION A – A TYPICAL SIGN ATTACHMENT DETAILS AT EACH WINDBEAM
NTS



3/32 SECTION B – B WINDBEAM CROSS SECTION
NTS



4/32 3/8" WINDBEAM BOLT AND LONG NUT
NTS



5/32 FRAMED SIGN ATTACHMENT BRACKETS
ISOMETRIC VIEW – NTS

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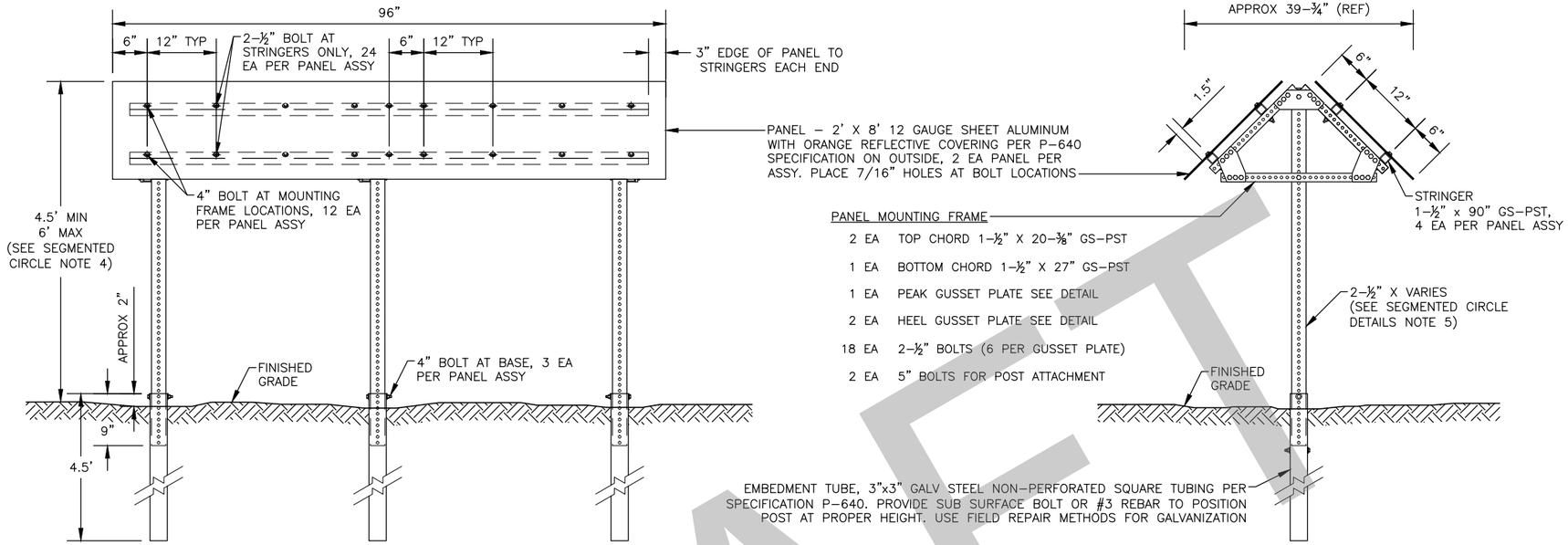
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
SIGN DETAILS

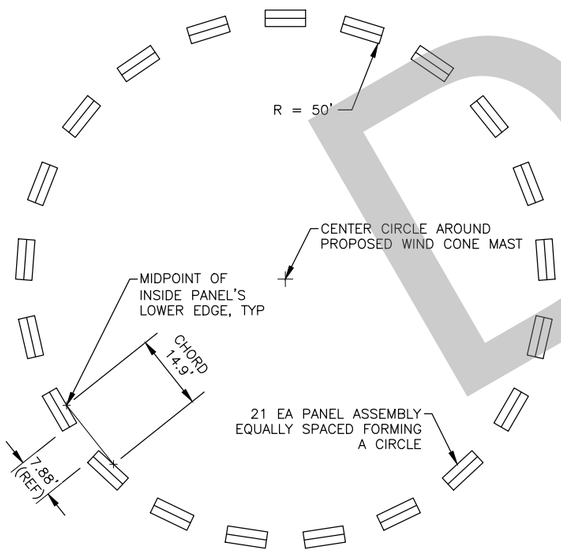
DATE: 1/4/2023
SHEET: 32 OF 60

Designed By: RLC
Drawn By: AVA
Checked By: MIM

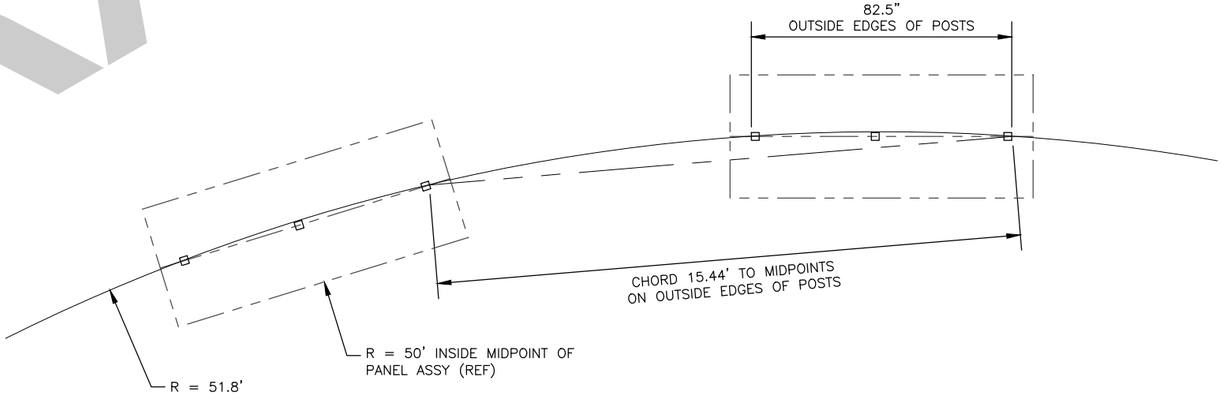
Date Revised: 1/04/2023, 1:04 PM
Layout Name: SIGN2
File Path and Name: Z:\project\2940.01 007_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Civil Details.dwg



1/33 SEGMENTED CIRCLE PANEL ASSEMBLY
NTS



2/33 SEGMENTED CIRCLE LAYOUT
NTS



3/33 POST PLACEMENT LAYOUT
NTS

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KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
SEGMENTED CIRCLE DETAILS

DATE: 1/4/2023
SHEET: 33 OF 60

Designed By: RLC
Drawn By: AVA
Checked By: MIM
Date Revised: 1/04/2023, 1:04 PM
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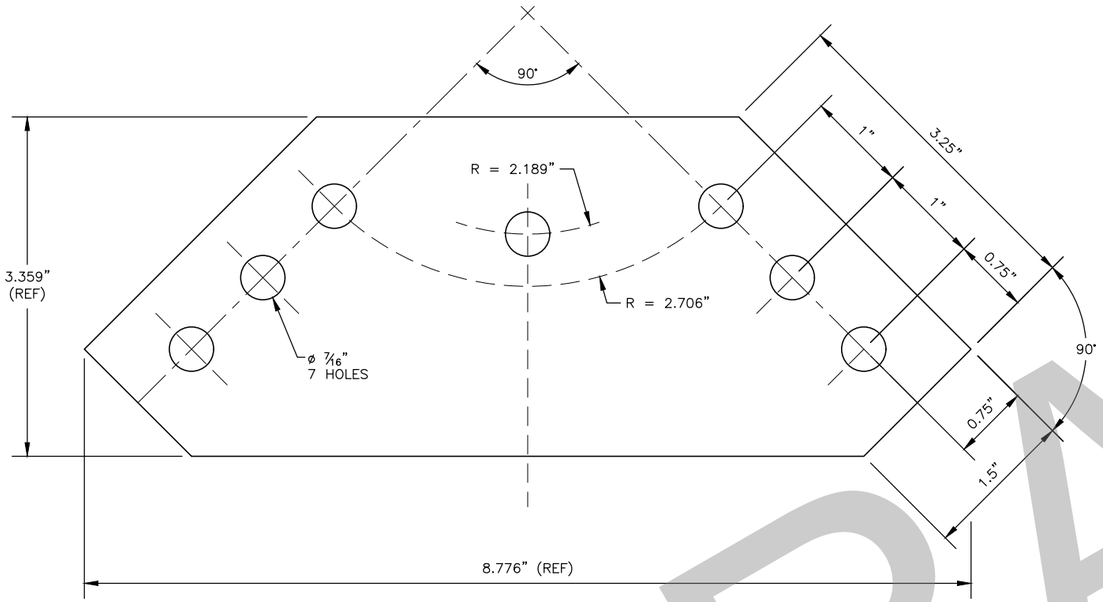
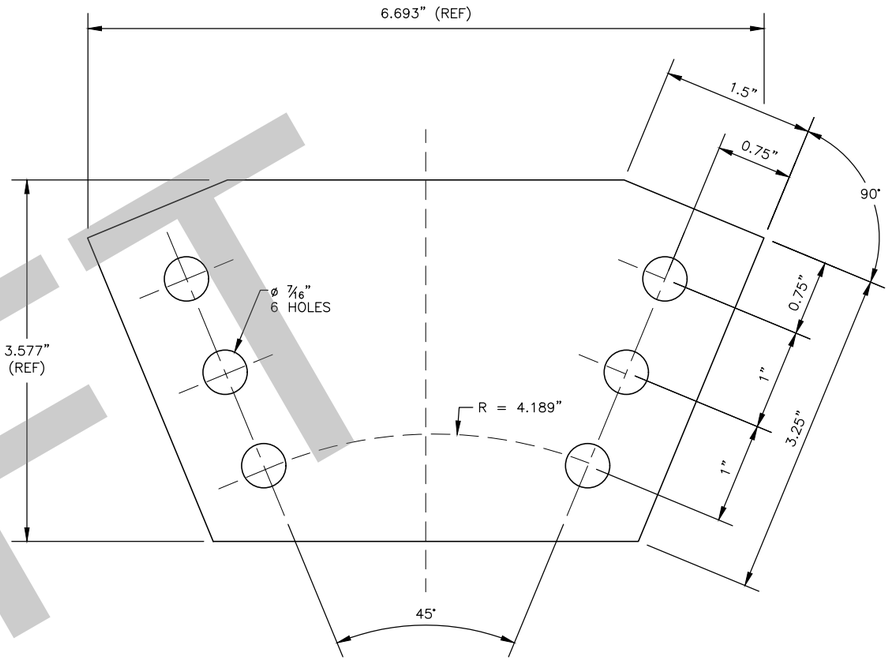


1/34 PEAK GUSSET PLATE PANEL MOUNTING FRAME
NTS



2/34 LOWER GUSSET PLATE PANEL MOUNTING FRAME
NTS

SEGMENTED CIRCLE NOTES:

1. ALL STRUCTURAL MEMBERS OF PANEL ASSEMBLY ARE GS–PST (GALVANIZED SQUARE – PERFORATED STEEL TUBING), SIZE AS INDICATED IN DRAWING, IN CONFORMANCE WITH SECTION P–640.
2. ALL BOLTS, NUTS, AND WASHERS SHALL CONFORM TO FASTENER SPECIFICATION TABLE INCLUDED IN THIS PLAN SET. ALL BOLTS USED IN PANEL ASSEMBLY SHALL BE ⅜" DIA. C LENGTH CALLED OUT IN PLANS, UNLESS OTHERWISE NOTED. FOR EACH BOLT INCLUDE 1 EA ⅜" WASHERS (7/16" ID X 1" OD) – ONE AT THE BOLT HEAD AND ONE AT THE NUT.
3. GUSSET PLATES SHALL CONFORM TO AIRPORT SPECIFICATION P–640 INCLUDED WITH THIS PLAN SET.
4. FINISH HEIGHT OF ALL INSTALLED PANEL ASSEMBLIES COMPRISING A SINGLE SEGMENTED CIRCLE SHALL BE UNIFORM WITH A MAXIMUM VARIANCE OF 6" THROUGHOUT CIRCLE LAYOUT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. PANEL ASSEMBLIES ARE TO BE REMOVABLE FROM EMBEDMENT TUBES FOR MAINTENANCE PURPOSES.
6. DIMENSIONS LABELED "(REF)" ARE FOR INFORMATIONAL PURPOSES ONLY.
7. INSTALLATION OF POSTS MAY REQUIRE MINOR TRENCHING IF OCCASIONAL ROCK IS ENCOUNTERED IN THE PAD BORROW EMBANKMENT. BACKFILL EXCAVATED MATERIAL AND RESTORE LEVEL SURFACE. THIS WORK IS SUBSIDIARY TO THE RESPECTIVE P–640 PAY ITEM AT EACH LOCATION.

FASTENER SPECIFICATION TABLE	
FASTENER TYPE	STEEL HOT DIPPED GALVANIZED
BOLTS	ASTM A 307
NUTS	ASTM A 563
WASHERS	ASTM F 844

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PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
SEGMENTED CIRCLE DETAILS

DATE: 1/4/2023
SHEET: 34 OF 60

Designed By: RLC
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Date Revised:
Layout Name: SEGC2
File Path and Name: Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-Civil Details.dwg
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DEMOLITION GENERAL NOTES:

1. DECOMMISSIONED CONDUCTORS AND CONDUIT SHALL BE REMOVED. ABANDONED WIRING AND CONDUIT RUNS EXPOSED DURING EXCAVATION SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. THIS WORK SHALL BE SUBSIDIARY TO EXCAVATION AND NO SEPARATE PAYMENT WILL BE MADE.
2. THE CONTRACTOR SHALL RESTORE GRADE AND FINISH SURFACES DISTURBED BY THE REMOVAL OF STRUCTURES. THIS WORK SHALL BE SUBSIDIARY TO THE CONTRACT AND NO SEPARATE PAYMENT WILL BE MADE.
3. DEMOLISHED FIXTURES, TRANSFORMERS, REGULATOR, WIND CONES, AND BEACON SHALL BE SALVAGED AND OFFERED TO DOT MAINTENANCE. EQUIPMENT DEEMED OF NO SALVAGE VALUE BY DOT MAINTENANCE PERSONNEL, AND ALL OTHER EQUIPMENT AND MATERIALS NOT LISTED ABOVE, INCLUDING LIGHT BASES, HANDHOLES, WIND CONE FOUNDATIONS, WIRE, AND RACEWAYS, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL STATUTES. DISPOSAL SHALL NOT TAKE PLACE IN KWETHLUK.
4. REMOVAL OF EXISTING CONDUCTORS AND GROUND WIRE SHALL BE SUBSIDIARY TO THE REMOVAL OF THE ASSOCIATED EQUIPMENT AND NO SEPARATE PAYMENT WILL BE MADE.
5. REMOVAL OF HANDHOLES, IF NOT SUBSIDIARY TO OTHER ITEMS, SHALL BE PAID UNDER ITEM L125.070.0000.
6. REMOVAL OF REFLECTIVE MARKERS AND CONES SHALL BE SUBSIDIARY TO ITEM L125.070.0000 AND NO SEPARATE PAYMENT WILL BE MADE.
7. LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK.

DEMOLITION SHEET NOTES:

(1) REMOVE RUNWAY EDGE LIGHTS, THRESHOLD LIGHTS, TAXIWAY LIGHTS, BASES, HANDHOLES, TRANSFORMERS, CONDUIT, AND UNUSED WIRING.

GENERAL NOTES:

1. CONDUITS AND LIGHT BASES SHALL BE INSTALLED PRIOR TO PLACEMENT OF FINISH COURSE.
2. REMOVE POWER FROM LIGHTING CIRCUITS DURING ASSOCIATED WORK, RESTORE POWER WHEN WORK IS COMPLETE.
3. AIRFIELD LIGHTING CABLE SHALL BE #8 AWG, 5kV, FAA TYPE "C" AIRPORT CABLE.
4. CONNECT HDPE CONDUIT TO DISSIMILAR CONDUIT USING A LISTED TRANSITION FITTING. HDPE TO HDPE CONNECTIONS SHALL BE BUTT WELDED.
5. PROVIDE LIGHT BASES WITH HUB CONFIGURATIONS TO ACCOMMODATE THE LAYOUT AS SHOWN IN THE PLANS. ROUTE CONDUIT FROM POINT TO POINT, IN A STRAIGHT LINE, EXCEPT AS REQUIRED TO AVOID AN OBSTRUCTION.
6. ALL BOLTS, NUTS, AND THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE LUBRICANT PER SPECIFICATIONS.
7. HANDHOLE LOCATIONS MAY BE FIELD ADJUSTED AS APPROVED BY THE ENGINEER.
8. CONDUIT ROUTING SHOWN FOR CLARITY. ROUTE CONDUITS ON SHOULDER. CONDUITS THAT RUN IN CLOSE PROXIMITY MAY BE INSTALLED IN SAME TRENCH.
9. PROVIDE LIGHTNING PROTECTION COUNTERPOISE FOR ALL RUNWAY AND TAXIWAY LIGHTING CIRCUITS PER DETAIL 2/43 AND 5/43. #6 BARE COPPER WIRE IS PAID UNDER ITEM L108.030.0006, GROUND RODS ARE PAID UNDER ITEM L108.070.0000.
10. CONTRACTOR SHALL PROVIDE A LIST OF PROPOSED SPARE PARTS AND THE COST FOR EACH CATEGORY TO THE ENGINEER FOR REVIEW PRIOR TO PLACING THE ORDER FOR THE PARTS. QUANTITIES SHALL BE REDUCED IF NECESSARY UNTIL THE COSTS ARE WITHIN THE LIMITS OF THE FAA REQUIREMENTS. SEE SECTION L-125 FOR ADDITIONAL INFORMATION.
11. SLOPE CONDUITS TO DRAIN TO LOW SPOT. PROVIDE 2" HDPE CONDUIT DRAINS TO DAYLIGHT AS SHOWN OR AS DIRECTED BY THE ENGINEER. INSTALL CONDUIT TO PROVIDE POSITIVE DRAINAGE FROM LIGHT BASES. PROVIDE 1/4" GALVANIZED SCREEN, FIRMLY ATTACH TO OPEN END OF DRAIN CONDUIT WITH STAINLESS STEEL BAND CLAMP. DRAIN CONDUITS ARE PAID UNDER ITEM L110.080.1002. SCREENS AND BAND CLAMPS SHALL BE SUBSIDIARY TO L110.080.1002 AND NO SEPARATE PAYMENT WILL BE MADE.

LEGEND:

EXISTING	DEMOLITION	NEW	
———	– – –	—/—	2" HDPE CONDUIT. HASH MARKS INDICATE NUMBER OF NEW #8 AWG. 5KV AIRPORT CABLES, TYPE "C", PLUS ONE #6 BARE COPPER GROUND CONDUCTOR.
———	– – –	—//—	2" HDPE CONDUIT, THROUGH A 4" RSC SLEEVE. HASH MARKS INDICATE NUMBER OF NEW #8 AWG. 5KV AIRPORT CABLES, TYPE "C", PLUS ONE #6 BARE COPPER GROUND CONDUCTOR.
○	⊠	R/G	THRESHOLD LIGHT, GREEN/RED
○	⊠	W/Y	RUNWAY EDGE LIGHT, WHITE/YELLOW
○	⊠	◐	RUNWAY EDGE LIGHT, WHITE/WHITE
Ⓑ	⊠	⊗	TAXIWAY EDGE LIGHT
⬡	⊠	⬢	HANDHOLE, L-867
			WIND CONE, L-807
			ROTATING BEACON
			RADIO CONTROLLER ANTENNA
			FAA REIL IDENTIFIER (LAMP HEAD) AND INDIVIDUAL CONTROL CABINET (ICC)
			FAA PAPI LIGHT HOUSING ASSEMBLY (LHA)
Ⓗ	⊠	Ⓗ	CONCRETE HANDHOLE
			3/4" X 10' COPPER COATED GROUND ROD
		RXXX	LIGHT OR HANDHOLE NUMBER "X" – SEE SCHEDULE
		Ⓦ	TEMPORARY RUNWAY EDGE LIGHT
		Ⓑ	TEMPORARY TAXIWAY EDGE LIGHT
			TEMPORARY THRESHOLD LIGHT
—OT—	– – – – –	—OT—	OVERHEAD TELEPHONE
—OE—	– – – – –	—OE—	OVERHEAD ELECTRIC
—UGE—	– – – – –	—UGE—	UNDERGROUND ELECTRIC
—UGE—	----------	———	UNDERGROUND FAA POWER AND COMM

ABBREVIATIONS

AWG	AMERICAN WIRE GAUGE
BCU	BARE COPPER GROUND
C	CONDUIT
CABC	CRUSHED AGGREGATE BASE COURSE
CCR	CONSTANT CURRENT REGULATOR
CSPP	CONSTRUCTION SAFETY AND PHASING PLAN
CU	COPPER
DEB	DIRECT EARTH BURY
DEG	DEGREES
EEB	ELECTRICAL EQUIPMENT BUILDING
ETR	EXISTING TO REMAIN
FAA	FEDERAL AVIATION ADMINISTRATION
FT	FOOT
HDPE	HIGH DENSITY POLYETHYLENE
ICC	INDIVIDUAL CONTROL CABINET (REIL)
IN	INCH
KV	KILOVOLT
KW	KILOWATT
LED	LIGHT EMITTING DIODE
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LTS	LIGHTS
NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY
MAX	MAXIMUM
MIN	MINIMUM
MIRL	MEDIUM INTENSITY RUNWAY LIGHTING
MITL	MEDIUM INTENSITY TAXIWAY LIGHTING
OC	ON CENTER
UON	UNLESS OTHERWISE NOTED
PAPI	PRECISION APPROACH PATH INDICATOR
PCT	PERCENT
PRI	PRIMARY
REIL	RUNWAY END IDENTIFIER LIGHT
RSC, RMC	RIGID GALVANIZED STEEL CONDUIT
RW	RUNWAY
RW(X)	RW CIRCUIT, NUMBER IN () INDICATES # OF CONDUCTORS
SCO	SERIES CUT OUT
SREB	SNOW REMOVAL EQUIPMENT BUILDING
SS	STAINLESS STEEL
STA	STATION
TH	THRESHOLD
TOC	TOP OF CONCRETE
TW(X)	TW CIRCUIT, NUMBER IN () INDICATES # OF CONDUCTORS
TW	TAXIWAY
TYP	TYPICAL
XFMR	TRANSFORMER

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Checked By: EWC

Date Revised: 1/04/2023, 12:54 PM
Layout Name: 35
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-DEMO.dwg

STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9354 REGISTERED PROFESSIONAL ENGINEER

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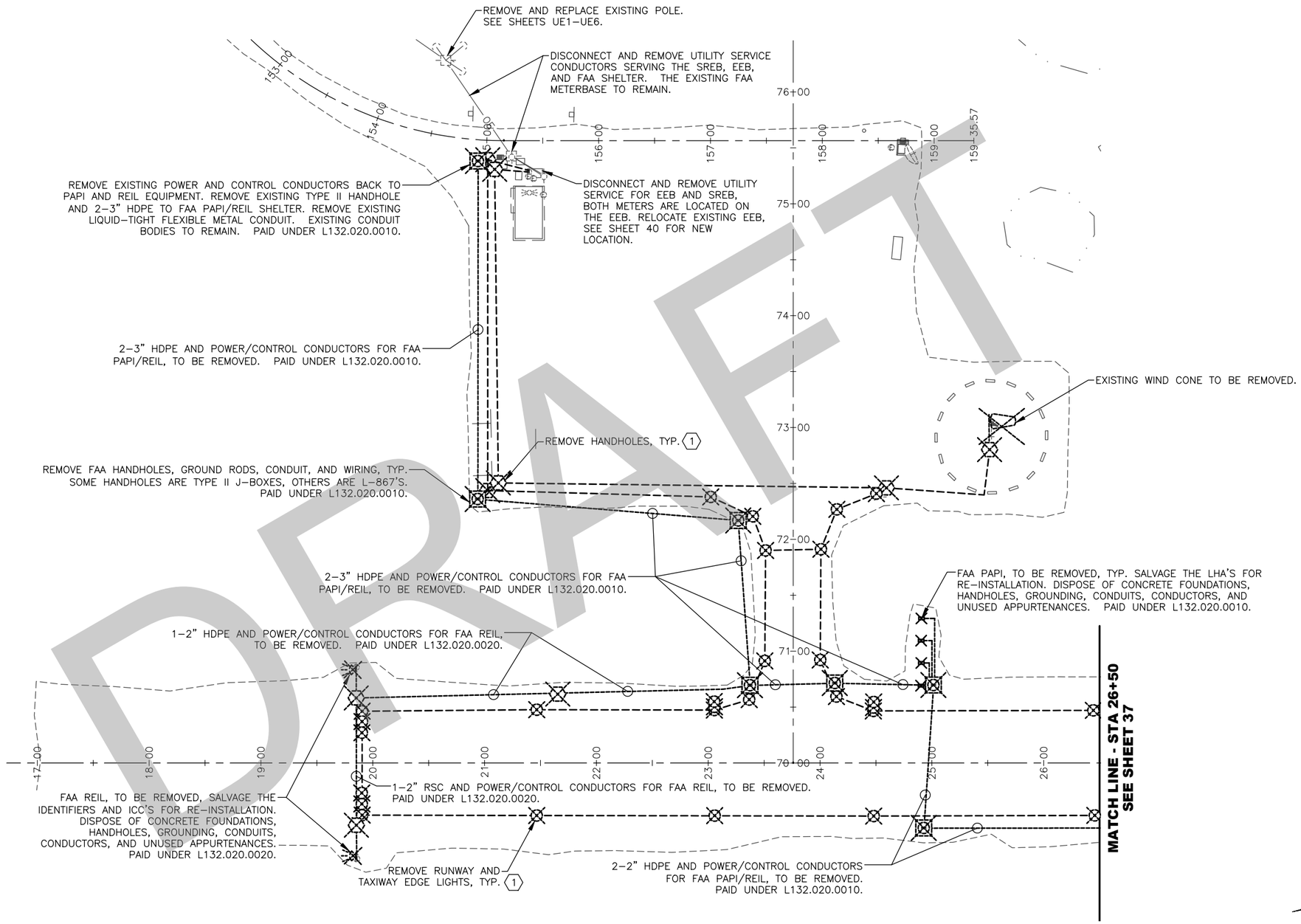
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
LIGHTING NOTES AND LEGEND

DATE: 1/4/2023
SHEET: 35 OF 60



50' 0 50' 100' 150'

GRAPHIC SCALE: 1" = 50'

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:54 PM
Layout Name: 36
File Path and Name: Z:\21016KAR – Kwethluk Airport Rehabilitation\E–Working\Drawings\00682–KWT–LTG–DEMO.dwg

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
RUNWAY LIGHTING DEMO PLAN
STA 17+00 TO STA 26+50

DATE: 1/4/2023
SHEET: 36 OF 60

Designed By:	DMH
Drawn By:	DMH
Checked By:	EWC

Date Revised:	1/04/2023, 12:54 PM
Layout Name:	37
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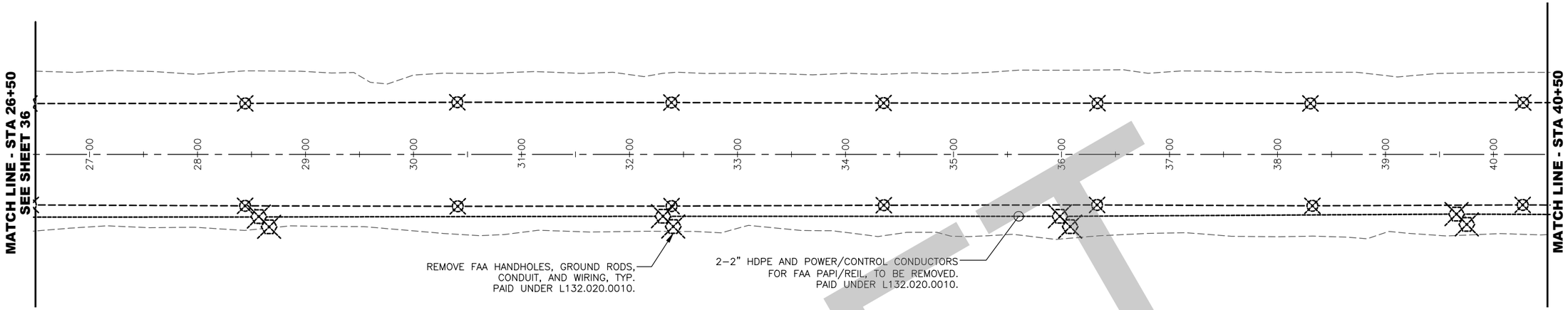

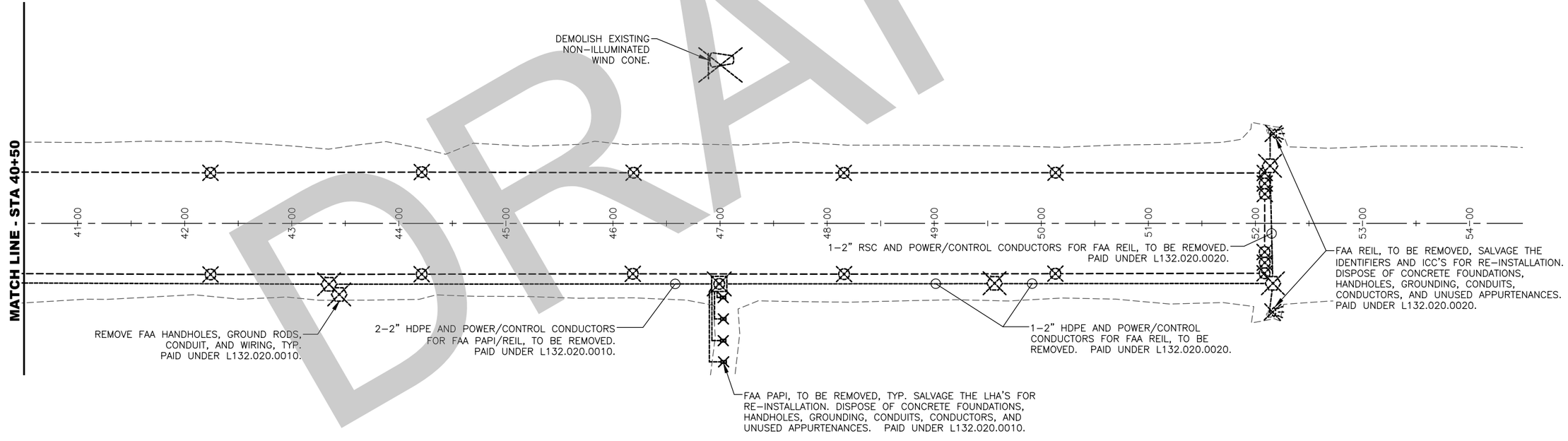

50' 0 50' 100' 150'

GRAPHIC SCALE: 1" = 50'

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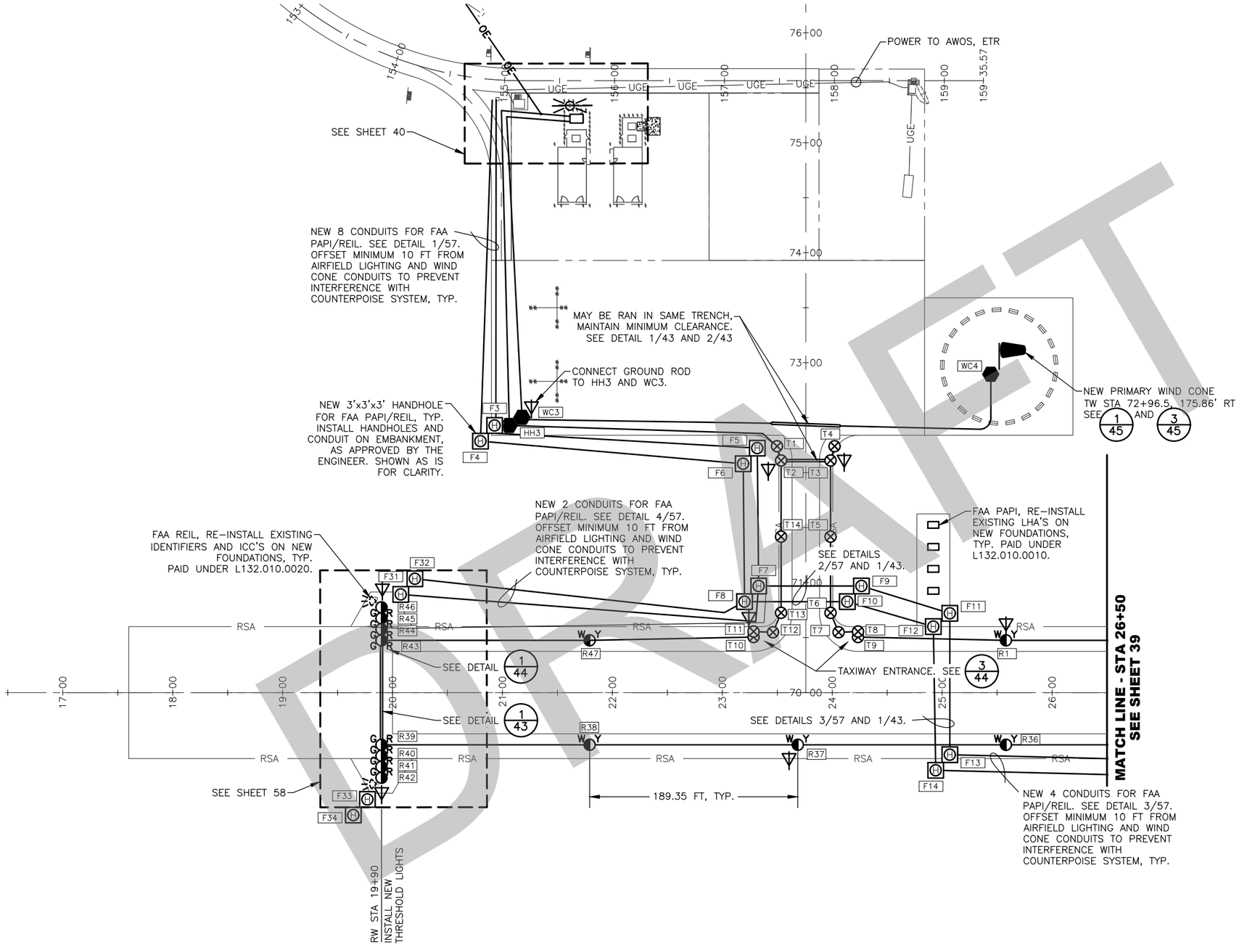
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
RUNWAY LIGHTING DEMO PLAN
STA 26+50 TO STA 54+50

DATE: 1/4/2023

SHEET: 37 OF 60



50' 0 50' 100' 150'

GRAPHIC SCALE: 1" = 50'

Designed By:	DMH
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Checked By:	EWC
Date Revised:	1/04/2023, 12:54 PM
Layout Name:	38
File Path and Name:	Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-RWT-LTG-NEW.dwg

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KWETHLUK AIRPORT
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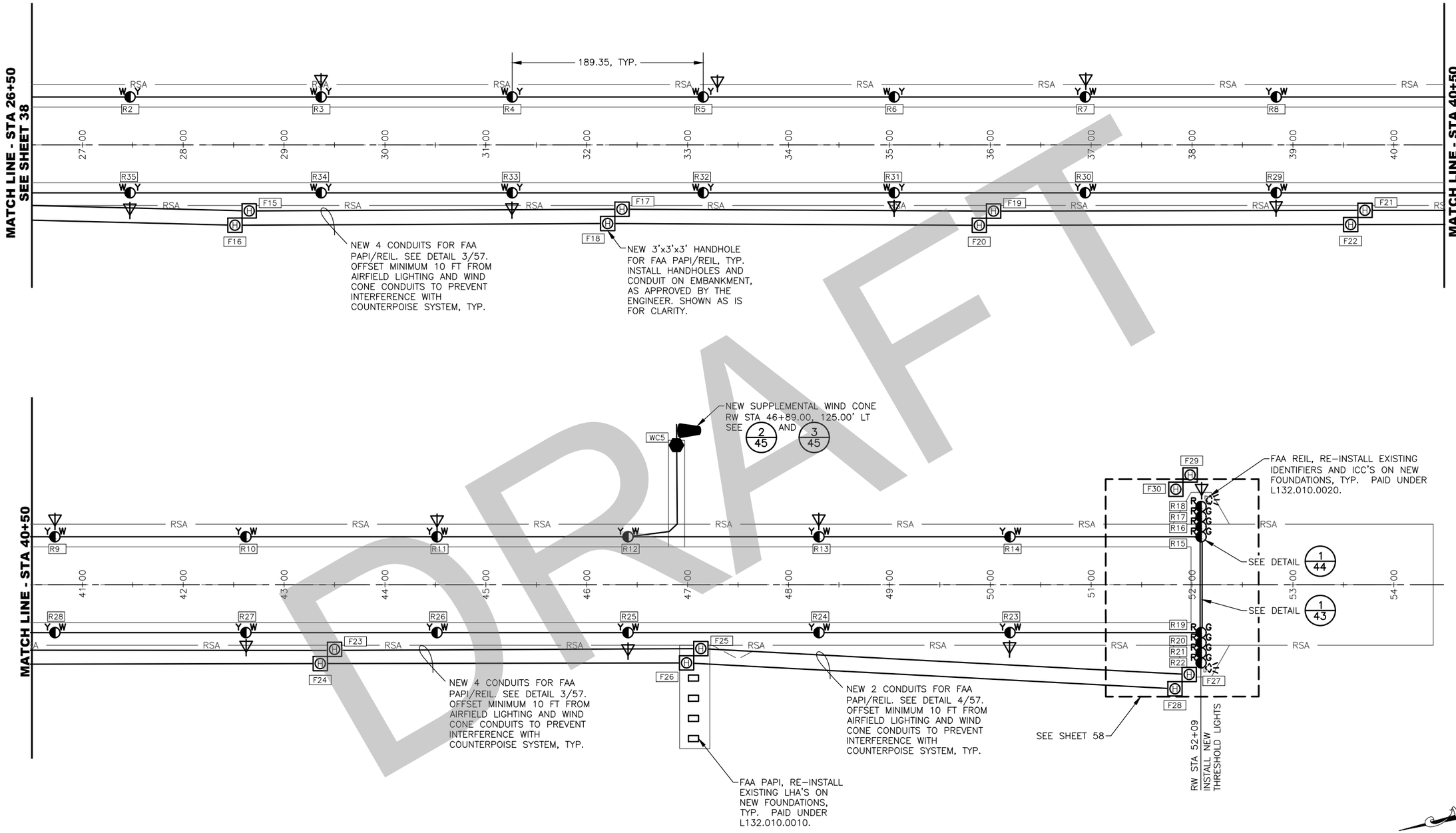
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
RUNWAY AND TAXIWAY LIGHTING PLAN
STA 17+50 TO STA 26+50

DATE: 1/4/2023

SHEET: 38 OF 60



50' 0 50' 100' 150'

GRAPHIC SCALE: 1" = 50'

Designed By: DMH
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Checked By: EWC

Date Revised: 1/04/2023, 12:54 PM
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STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9354 REGISTERED PROFESSIONAL ENGINEER

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
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PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
RUNWAY LIGHTING PLAN
STA 26+50 TO STA 54+50

DATE: 1/4/2023

SHEET: 39 OF 60

NEW ROTATING BEACON, MOUNTED ON A NEW 30' HINGED POLE TOWER. BEACON POLE SHOWN IN TIPPED-DOWN POSITION. INSTALL BEACON TO TIP DOWN TO AN ACCESSIBLE LOCATION AS SHOWN OR AS APPROVED BY THE ENGINEER. CONDUIT, AND CONDUCTORS ARE SUBSIDIARY TO L101.020.0000. FOUNDATION IS SUBSIDIARY TO L103.010.0030. SEE DETAILS 1/46 AND 2/46 AND 3/46

FAA POWER TO AWOS, ETR

UTILITY POWER POLE, ETR. SEE SHEETS UE1-UE6.

F1

F2

FAA SHELTER

CONNECT GROUND ROD TO HH1 AND WC1.

HH1

BH1

HH2

WC2

WC1

NEW EEB

CONNECT GROUND ROD TO HH2 AND WC2.

PROVIDE NEW UNDERGROUND SERVICE FEED TO NEW SREB.

FUEL DISPENSING TANK

HEATING FUEL TANK

2" HDPE (WIND CONE)
2 #10 XHHW-2,
1 #10 XHHW-2 GROUND

2" HDPE (AIRFIELD LIGHTING)
2 #8, 5KV,
1 #6 BCU

POWER AND CONTROL TO PAPI AND REIL. SEE SHEET 38.

NEW SREB

NEW SREB

UGE OE

5' 0 5' 10' 15'

GRAPHIC SCALE: 1" = 5'

STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9354 REGISTERED PROFESSIONAL ENGINEER

MBA CONSULTING ENGINEERS, INC.
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, AK 99517
(907) 274-2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
LARGE SCALE APRON PLAN

DATE: 1/4/2023

SHEET: 40 OF 60

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised:
Layout Name: 40
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-NEW.dwg
1/04/2023, 12:54 PM

Designed By:	DMH
Drawn By:	DMH
Checked By:	EWC

Date Revised:	1/04/2023, 12:54 PM
Layout Name:	41
File Path and Name:	Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-NEW.dwg

KWETHLUK AIRPORT TAXIWAY EDGE LIGHT SCHEDULE

LIGHT #	LENS	TYPE	LAMP	XFMR	ALIGNMENT	STATION	OFFSET	CONE COLOR
T1	BLUE	L-861T	45	45	TW	72+24.00	26.15 L	BLUE
T2	BLUE	L-861T	45	45	TW	72+11.00	22.50 L	BLUE
T3	BLUE	L-861T	45	45	TW	72+11.00	22.50 R	BLUE
T4	BLUE	L-861T	45	45	TW	72+24.00	26.15 R	BLUE
T5	BLUE	L-861T	45	45	TW	71+41.75	22.50 R	BLUE
T6	BLUE	L-861T	45	45	TW	70+72.50	22.50 R	BLUE
T7	BLUE	L-861T	45	45	TW	70+54.82	29.82 R	BLUE
T8	BLUE	L-861T	45	45	TW	70+55.50	47.50 R	BLUE
T9	BLUE	L-861T	45	45	TW	70+50.50	47.50 R	BLUE
T10	BLUE	L-861T	45	45	TW	70+50.50	47.50 L	BLUE
T11	BLUE	L-861T	45	45	TW	70+55.50	47.50 L	BLUE
T12	BLUE	L-861T	45	45	TW	70+54.82	29.82 L	BLUE
T13	BLUE	L-861T	45	45	TW	70+72.50	22.50 L	BLUE
T14	BLUE	L-861T	45	45	TW	71+41.75	22.50 L	BLUE

KWETHLUK AIRPORT HANDHOLE SCHEDULE

NO.	SYSTEM	PAY ITEM	REMARKS	LOCATION
BH1	ROT. BEACON	L125.150.0000	PER EACH	FIELD LOCATE
HH1	RW/TW LTG	L125.150.0000	PER EACH	FIELD LOCATE
HH2	RW/TW LTG	L125.150.0000	PER EACH	FIELD LOCATE
HH3	RW/TW LTG	L125.150.0000	PER EACH	FIELD LOCATE
WC1	WIND CONE	L125.150.0000	PER EACH	FIELD LOCATE
WC2	WIND CONE	L125.150.0000	PER EACH	FIELD LOCATE
WC3	WIND CONE	L125.150.0000	PER EACH	FIELD LOCATE
WC4	WIND CONE	L125.150.0000	PER EACH	FIELD LOCATE
WC5	WIND CONE	L125.150.0000	PER EACH	FIELD LOCATE

KWETHLUK AIRPORT RUNWAY EDGE LIGHT SCHEDULE

UNIT #	LENS	TYPE	WATTS	XFMR	ALIGNMENT	STATION	OFFSET	CONE COLOR
R1	W/Y	L-861	45	45	RW	25+58.06	47.50 L	WHITE/YELLOW
R2	W/Y	L-861	45	45	RW	27+47.41	47.50 L	WHITE/YELLOW
R3	W/Y	L-861	45	45	RW	29+36.76	47.50 L	WHITE/YELLOW
R4	W/Y	L-861	45	45	RW	31+26.12	47.50 L	WHITE/YELLOW
R5	W/Y	L-861	45	45	RW	33+15.47	47.50 L	WHITE/YELLOW
R6	W/Y	L-861	45	45	RW	35+04.82	47.50 L	WHITE/YELLOW
R7	Y/W	L-861	45	45	RW	36+94.18	47.50 L	YELLOW/WHITE
R8	Y/W	L-861	45	45	RW	38+83.53	47.50 L	YELLOW/WHITE
R9	Y/W	L-861	45	45	RW	40+72.88	47.50 L	YELLOW/WHITE
R10	Y/W	L-861	45	45	RW	42+62.24	47.50 L	YELLOW/WHITE
R11	Y/W	L-861	45	45	RW	44+51.59	47.50 L	YELLOW/WHITE
R12	Y/W	L-861	45	45	RW	46+40.94	47.50 L	YELLOW/WHITE
R13	Y/W	L-861	45	45	RW	48+30.29	47.50 L	YELLOW/WHITE
R14	Y/W	L-861	45	45	RW	50+19.65	47.50 L	YELLOW/WHITE
R15	R/G	L-861E	45	45	RW	52+09.00	47.50 L	RED/GRN
R16	R/G	L-861E	45	45	RW	52+09.00	57.50 L	RED/GRN
R17	R/G	L-861E	45	45	RW	52+09.00	67.50 L	RED/GRN
R18	R/G	L-861E	45	45	RW	52+09.00	77.50 L	RED/GRN
R19	R/G	L-861E	45	45	RW	52+09.00	77.50 R	RED/GRN
R20	R/G	L-861E	45	45	RW	52+09.00	67.50 R	RED/GRN
R21	R/G	L-861E	45	45	RW	52+09.00	57.50 R	RED/GRN
R22	R/G	L-861E	45	45	RW	52+09.00	47.50 R	RED/GRN
R23	Y/W	L-861	45	45	RW	50+19.65	47.50 R	YELLOW/WHITE
R24	Y/W	L-861	45	45	RW	48+30.29	47.50 R	YELLOW/WHITE
R25	Y/W	L-861	45	45	RW	46+40.94	47.50 R	YELLOW/WHITE
R26	Y/W	L-861	45	45	RW	44+51.59	47.50 R	YELLOW/WHITE
R27	Y/W	L-861	45	45	RW	42+62.24	47.50 R	YELLOW/WHITE
R28	Y/W	L-861	45	45	RW	40+72.88	47.50 R	YELLOW/WHITE
R29	Y/W	L-861	45	45	RW	38+83.53	47.50 R	YELLOW/WHITE
R30	Y/W	L-861	45	45	RW	36+94.18	47.50 R	YELLOW/WHITE
R31	W/Y	L-861	45	45	RW	35+04.82	47.50 R	WHITE/YELLOW
R32	W/Y	L-861	45	45	RW	33+15.47	47.50 R	WHITE/YELLOW
R33	W/Y	L-861	45	45	RW	31+26.12	47.50 R	WHITE/YELLOW
R34	W/Y	L-861	45	45	RW	29+36.76	47.50 R	WHITE/YELLOW
R35	W/Y	L-861	45	45	RW	27+47.41	47.50 R	WHITE/YELLOW
R36	W/Y	L-861	45	45	RW	25+58.06	47.50 R	WHITE/YELLOW
R37	W/Y	L-861	45	45	RW	23+68.71	47.50 R	WHITE/YELLOW
R38	W/Y	L-861	45	45	RW	21+79.35	47.50 R	WHITE/YELLOW
R39	G/R	L-861E	45	45	RW	19+90.00	47.50 R	GRN/RED
R40	G/R	L-861E	45	45	RW	19+90.00	57.50 R	GRN/RED
R41	G/R	L-861E	45	45	RW	19+90.00	67.50 R	GRN/RED
R42	G/R	L-861E	45	45	RW	19+90.00	77.50 R	GRN/RED
R43	G/R	L-861E	45	45	RW	19+90.00	47.50 L	GRN/RED
R44	G/R	L-861E	45	45	RW	19+90.00	57.50 L	GRN/RED
R45	G/R	L-861E	45	45	RW	19+90.00	67.50 L	GRN/RED
R46	G/R	L-861E	45	45	RW	19+90.00	77.50 L	GRN/RED
R47	W/Y	L-861	45	45	RW	21+79.35	47.50 L	WHITE/YELLOW

STATE OF ALASKA
49 TH
EDWARD W. CARLSON
EE-9354
REGISTERED PROFESSIONAL ENGINEER

MBA CONSULTING ENGINEERS, INC.
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ANCHORAGE, AK 99517
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BY	DATE	REVISION

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4111 AVIATION AVE., ANCHORAGE ALASKA 99502
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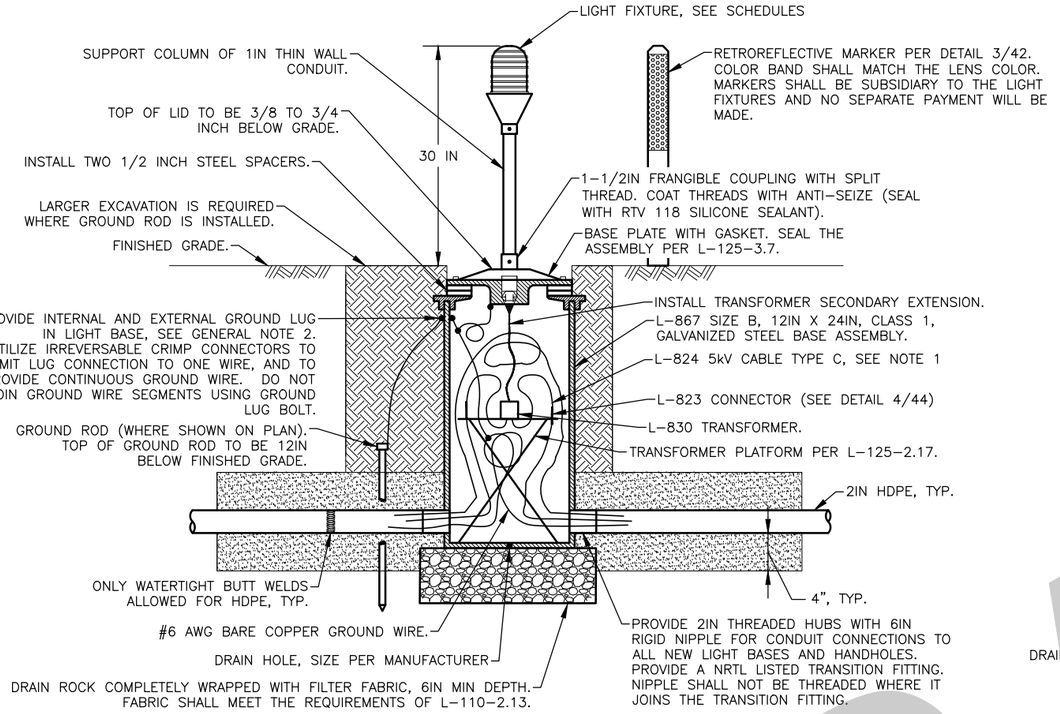
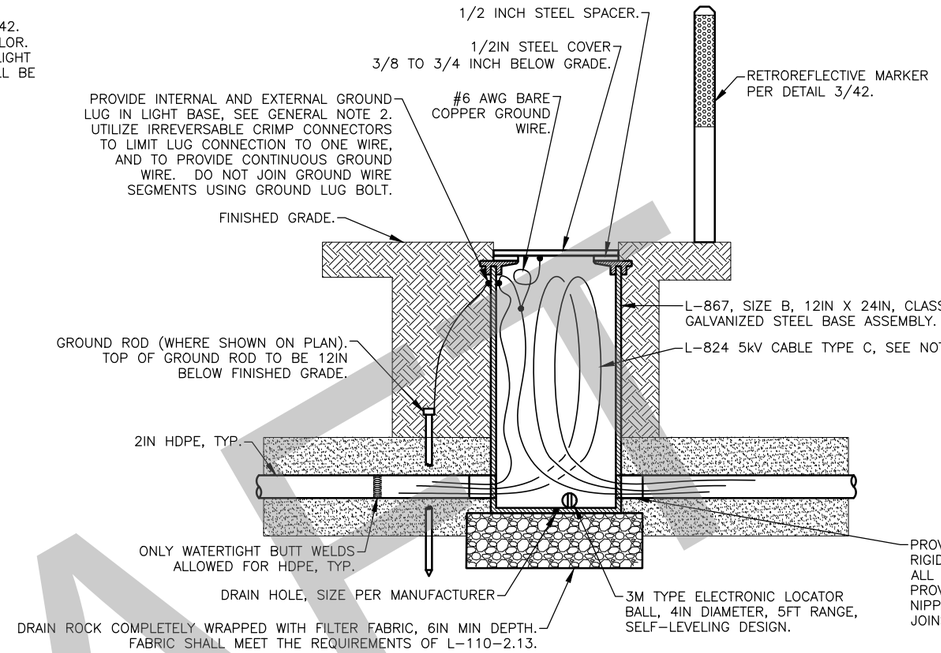
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
EDGE LIGHT AND HANDHOLE SCHEDULES

DATE: 1/4/2023



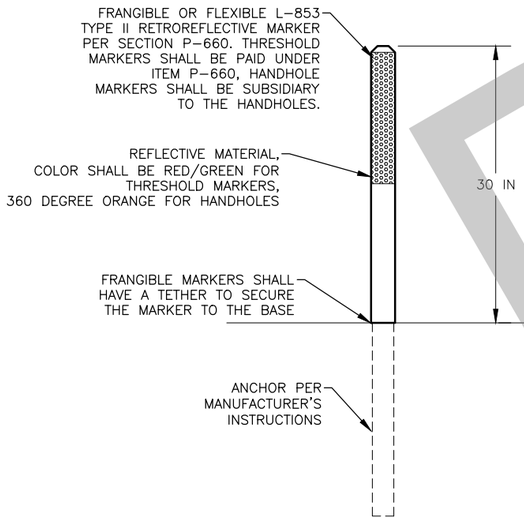
1/42 STEEL L-867 BASE MOUNTED LIGHT DETAIL
NTS



2/42 STEEL L-867 HANDHOLE DETAIL
NTS

NOTES:

1. CABLES AND GROUND STRAPS SHALL HAVE SUFFICIENT SLACK TO ALLOW CONNECTORS TO BE DRAWN 36IN ABOVE FINISHED GRADE. ALL CABLES SHALL BE TAGGED 6IN FROM CONNECTOR.
2. GROUND FIXTURES AND HANDHOLE COVERS WITH MINIMUM #6 AWG STRANDED COPPER, GREEN INSULATED CONDUCTOR OR WITH EQUIVALENT COPPER BRAIDED GROUND STRAP. BOND TO FIXTURE PER MANUFACTURER'S INSTRUCTIONS.



3/42 RETROREFLECTIVE MARKER DETAIL
NTS

STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9354 REGISTERED PROFESSIONAL ENGINEER

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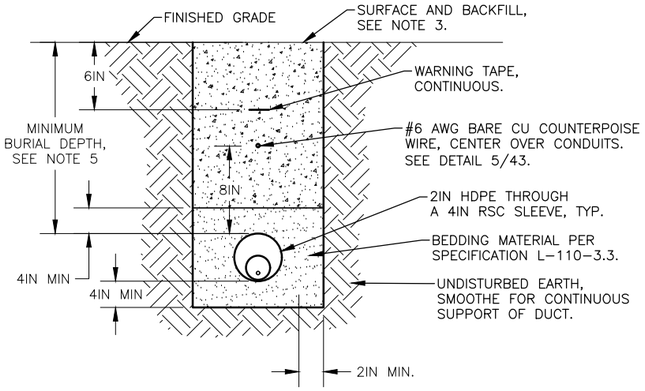
PHONE (907) 269-0590

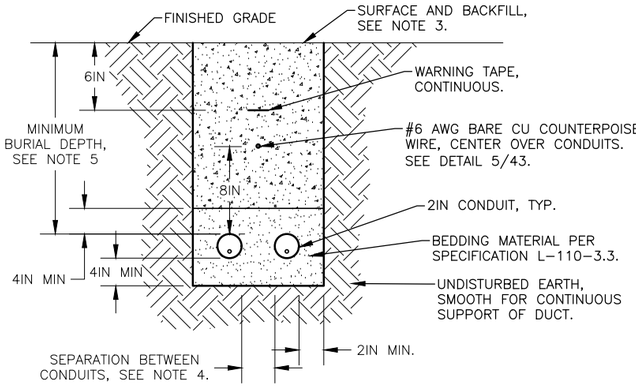
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
LIGHT BASE, HANDHOLE, AND MARKER DETAILS

DATE: 1/4/2023
SHEET: 42 OF 60

Designed By: DMH
Drawn By: DMH
Checked By: EWC
Date Revised:
Layout Name: 42
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-DETL.dwg
1/04/2023, 12:54 PM



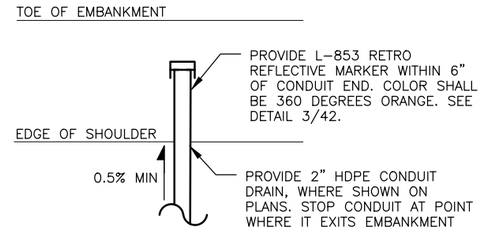
1/43 CONDUIT CROSSING DETAIL
NTS



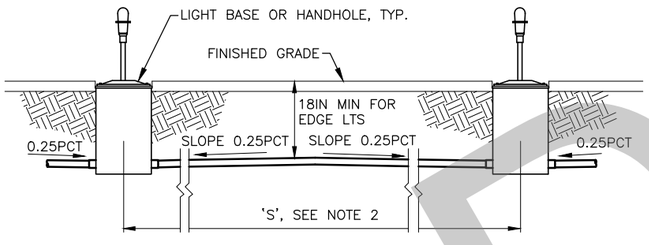
2/43 TRENCH DETAIL
NTS

NOTES FOR DETAILS 1 AND 2:

1. NUMBER OF CONDUITS PER TRENCH TO BE DETERMINED IN FIELD (2 SHOWN). WIDTH OF TRENCH PER SPECIFICATION L-110.
2. INSTALL NEW LIGHT BASES AND CONDUITS PRIOR TO PLACEMENT OF SURFACE COARSE.
3. IN AREAS OF NEW CONSTRUCTION, SEE CIVIL FOR SURFACING AND BACKFILL. IN EXISTING AREAS, MATCH EXISTING SURFACE AND BACKFILL.
4. SEPARATION BETWEEN CONDUITS SHALL BE AS FOLLOWS. UTILIZE COMMERCIALLY AVAILABLE DUCT SPACERS, 5' O.C., TO MAINTAIN SEPARATION.
   - BETWEEN LIGHTING CONDUITS – 4" MIN.
   - BETWEEN SYSTEMS OF DIFFERENT VOLTAGES – 12" MIN.
   - BETWEEN AIRPORT LIGHTING AND FAA CONDUITS – 12" MIN.
   - BETWEEN FAA POWER AND FAA COMM CONDUITS – 6" MIN.
   - BETWEEN FAA POWER CONDUITS – 6" MIN.
5. MINIMUM BURIAL DEPTH SHALL BE AS FOLLOWS:
   - AIRPORT LIGHTING AND WIND CONE CONDUITS: 18IN
   - ALL OTHER CONDUITS: 30IN OR AS INDICATED
6. PROVIDE TWO RUNS OF WARNING TAPE AND COUNTERPOISE WIRE IF WIDTH OF CONDUITS IS OVER 36IN WIDE.
7. 4" RSC SLEEVE SHALL EXTEND 3' OUTSIDE OF STRUCTURAL SECTION.



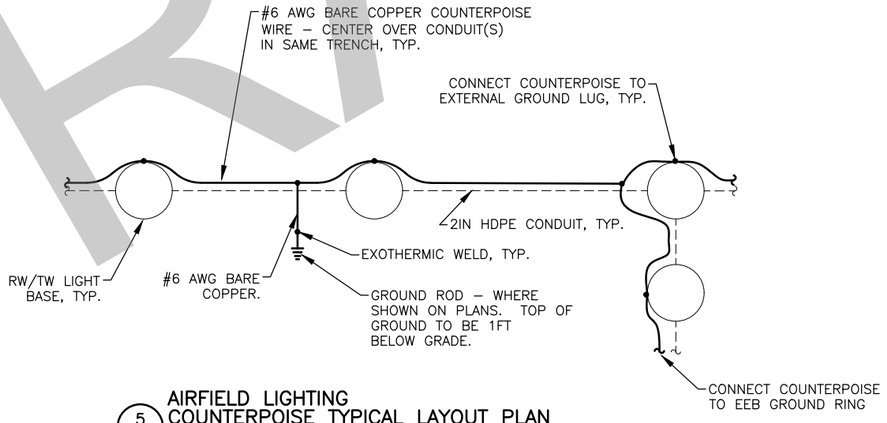
3/43 CONDUIT DRAIN DETAIL
NTS



DETAIL NOTES:

1. CONDUIT SHALL BE INSTALLED WITH CROWN TO DRAIN TO LIGHT BASES AS SHOWN.
2. IF 'S' IS LESS THAN 20FT, OR IF 0.25PCT SLOPE CAN BE MAINTAINED IN ONE DIRECTION DUE TO SLOPE OF GRADE, LAY CONDUIT STRAIGHT WITHOUT CROWN BETWEEN BASES/HANDHOLES.

4/43 TYPICAL INTERCONNECTION DETAIL
NTS



5/43 AIRFIELD LIGHTING COUNTERPOISE TYPICAL LAYOUT PLAN
NTS

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:54 PM
Layout Name: 43
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\100682-KWT-LTG-DETL.dwg

STATE OF ALASKA 49TH EDWARD W. CARLSON REGISTERED PROFESSIONAL ENGINEER EE-9354

MBA CONSULTING ENGINEERS, INC.
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CERTIFICATE OF AUTHORIZATION NO. AECC578

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
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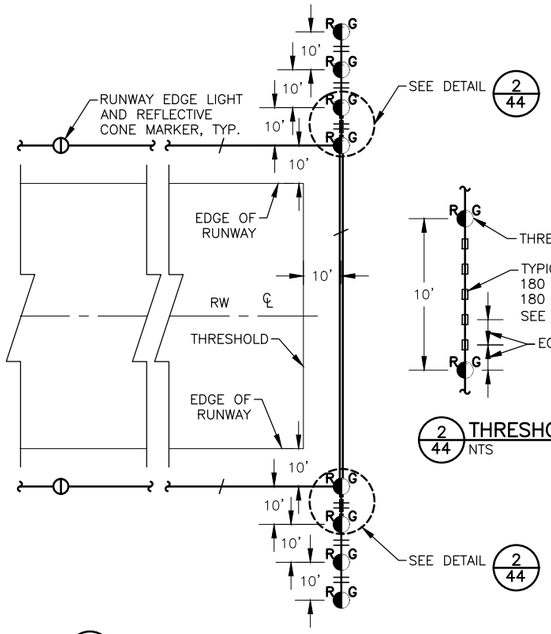
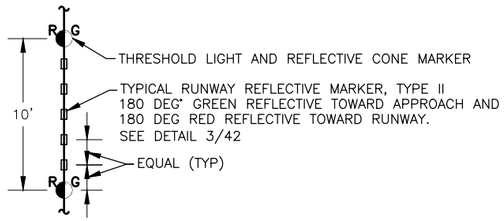
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
TRENCH, CONDUIT INSTALLATION, AND COUNTERPOISE DETAILS

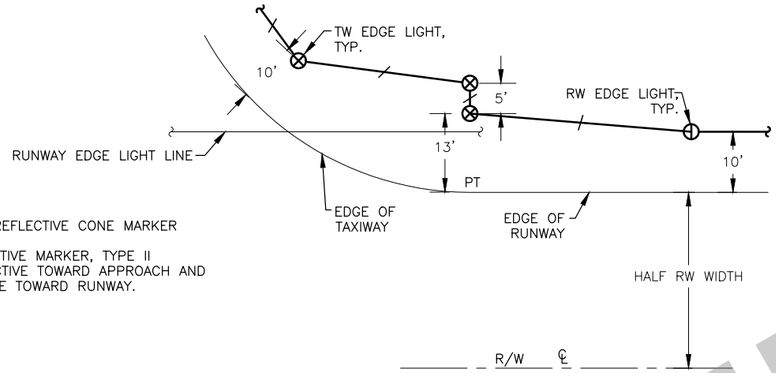
DATE: 1/4/2023
SHEET: 43 OF 60



1/44 THRESHOLD LIGHT DETAIL
NTS



2/44 THRESHOLD MARKER DETAIL
NTS



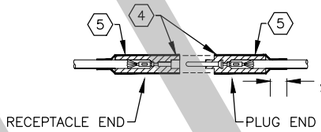
3/44 TW ENTRANCE/EXIT LIGHT DETAIL
NTS

DETAIL NOTES:

1. CABLE SHALL MEET SPECIFICATION L–824. INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE. CONNECTOR SHALL BE SUPPLIED TO MATCH CABLE PER MANUFACTURER'S INSTRUCTIONS.
2. 5 kV CONDUCTORS SHALL BE PENCILED USING A PENCILING TOOL MANUFACTURED FOR USE ON #8 AWG, 5 kV, TYPE C AIRPORT CABLE.
3. CONNECTORS SHALL BE CRIMPED USING A RATCHET TYPE CRIMPING TOOL PER MANUFACTURER'S RECOMMENDATION. EACH CRIMP SHALL BE MADE WITH TWO CRIMPS, ROTATED 90DEG.

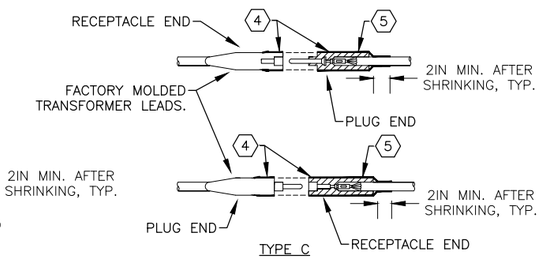
(4) WRAP WITH A MINIMUM OF ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE–HALF LAPPED, EXTENDING AT LEAST 1.5IN ON EACH SIDE OF JOINT. COVER WITH HEAT SHRINK, SEE NOTE 5.

(5) HEAT SHRINKABLE TUBING SHALL BE 16IN LONG, HAVE INTERNAL ADHESIVE FULL LENGTH, AND APPLIED FULL LENGTH TO CONNECTORS & CABLE TO HAVE A COMPLETE SEAL.



TYPE B

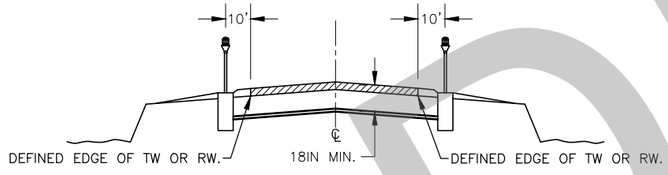
FOR SPLICES FOR USE AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT



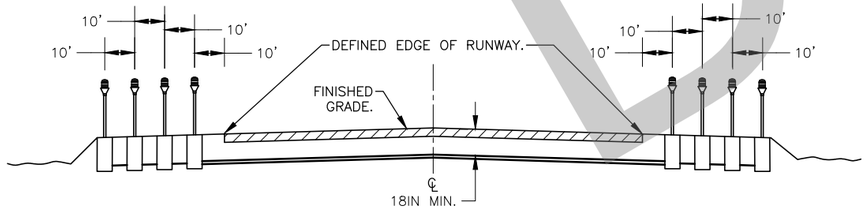
TYPE C

FOR SPLICES AT RUNWAY LIGHTS

4/44 L–823 CONNECTOR DETAILS
NTS



TAXIWAY OR RUNWAY



RUNWAY THRESHOLD

5/44 LIGHTING SECTIONS
NTS

STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9354 REGISTERED PROFESSIONAL ENGINEER

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3812 SPENARD ROAD, SUITE 200
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CERTIFICATE OF AUTHORIZATION
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CENTRAL REGION
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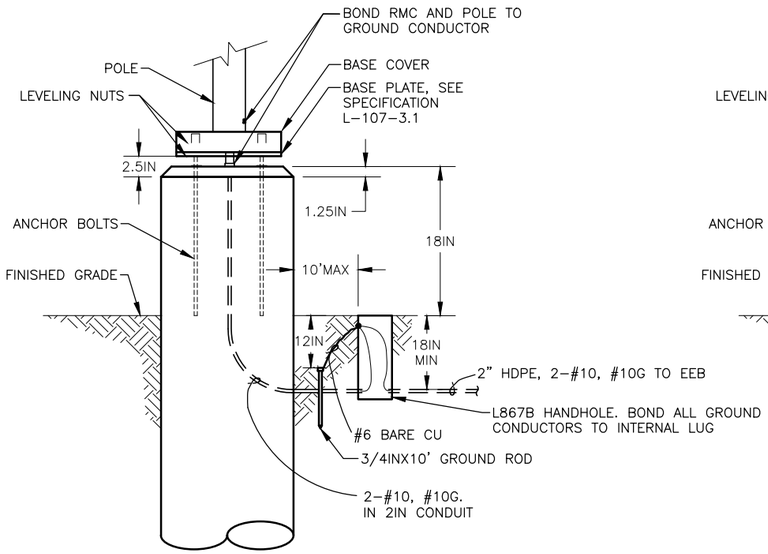
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
LIGHTING AND CONNECTOR DETAILS

DATE: 1/4/2023
SHEET: 44 OF 60

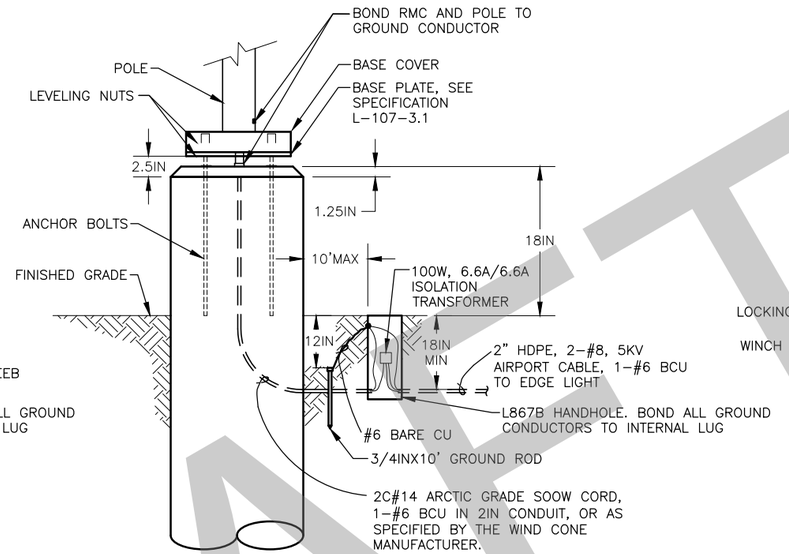
Designed By: DMH
Drawn By: DMH
Checked By: EWC
Date Revised: 1/04/2023, 12:54 PM
Layout Name: 44
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-DETL.dwg



NOTES:

1. PROVIDE STRUCTURAL FOUNDATION PER SECTION L-107.
2. VERIFY ANCHOR BOLT SIZE, BOLT CIRCLE, AND FOUNDATION SIZE WITH MANUFACTURER'S SHOP DRAWINGS.

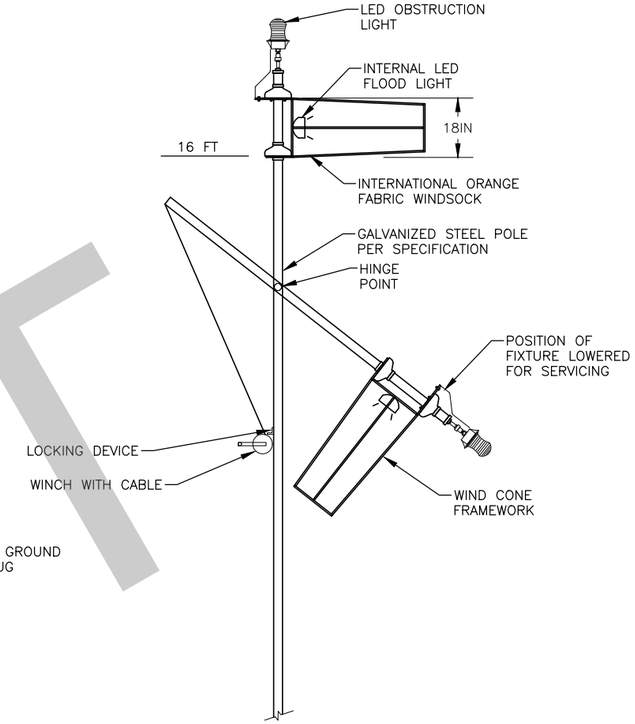
1 / 45 PRIMARY WIND CONE FOUNDATION DETAIL
NTS



NOTES:

1. PROVIDE STRUCTURAL FOUNDATION PER SECTION L-107.
2. VERIFY ANCHOR BOLT SIZE, BOLT CIRCLE, AND FOUNDATION SIZE WITH MANUFACTURER'S SHOP DRAWINGS.

2 / 45 SUPPLEMENTAL WIND CONE FOUNDATION DETAIL
NTS



1. WIND CONE: L-807, SIZE 1, INTERNALLY LIGHTED. PROVIDE WITH MARINE TREATED POWDER COAT FINISH, SS WINCH, SS CABLE, AND SS HARDWARE.

3 / 45 PRIMARY AND SUPPLEMENTAL WIND CONE DETAIL
NTS

STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9354 REGISTERED PROFESSIONAL ENGINEER

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CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

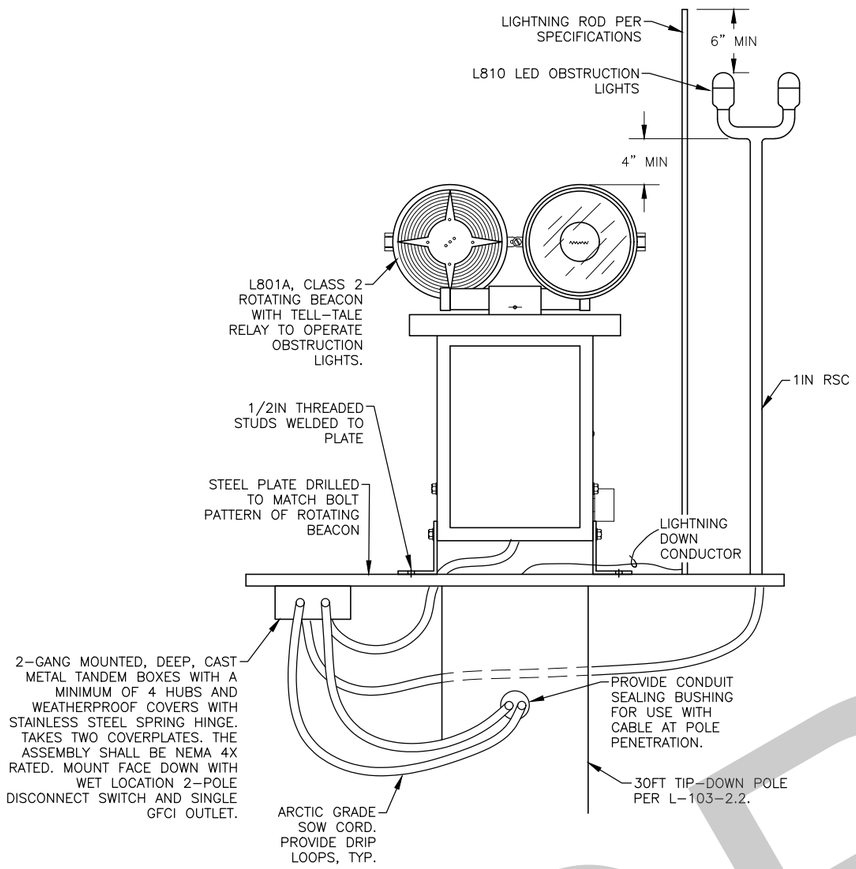
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
WIND CONE DETAILS

DATE: 1/4/2023

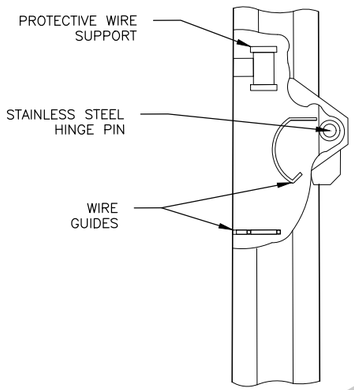
SHEET: 45 OF 60

Designed By: DMH
Drawn By: DMH
Checked By: EWC

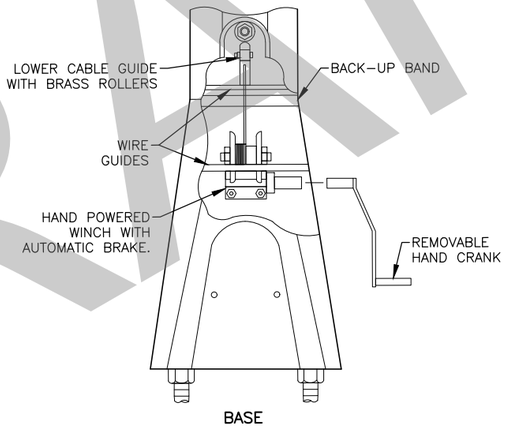
Date Revised: 1/04/2023, 12:54 PM
Layout Name: 45
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-DETL.dwg



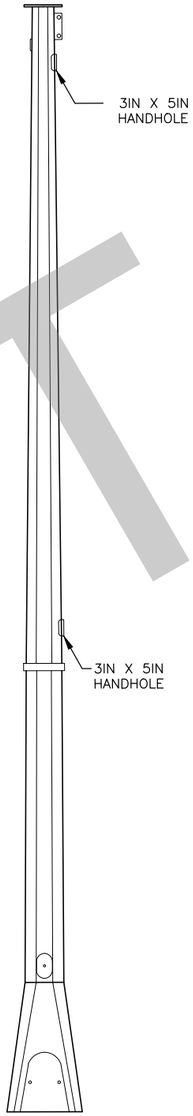
1/46 ROTATING BEACON MOUNTING DETAIL
NTS



HINGE



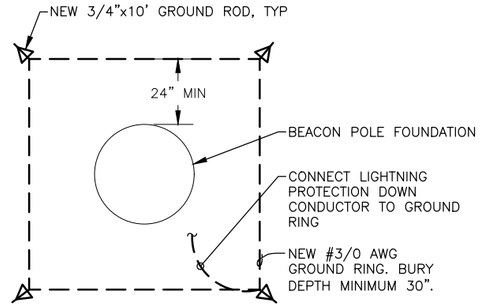
BASE



NOTES:

1. PROVIDE STRUCTURAL FOUNDATION PER SECTION L-103. PROVIDE 2" RSC CONDUIT EMBEDDED IN FOUNDATION. CONDUIT SHALL ENTER THE FOUNDATION HORIZONTALLY AT 18" BELOW GRADE, AND TERMINATE AT TOP OF CONCRETE, CENTERED UNDER BEACON TOWER, WITH INSULATED GROUNDING BUSHING. BOND CONDUIT TO GROUND CONDUCTOR.
2. VERIFY ANCHOR BOLT SIZE, BOLT CIRCLE, AND FOUNDATION SIZE WITH MANUFACTURER'S SHOP DRAWINGS.

2/46 HINGED POLE BEACON TOWER DETAIL
NTS



3/46 BEACON TOWER GROUND RING DETAIL
NTS

Designed By:	DMH
Drawn By:	DMH
Checked By:	EWC

Date Revised:	1/04/2023, 12:54 PM
Layout Name:	46
File Path and Name:	Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-DETL.dwg

STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9354 REGISTERED PROFESSIONAL ENGINEER

MBA CONSULTING ENGINEERS, INC.
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, AK 99517
(907) 274-2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

BY	DATE	REVISION

STATE OF ALASKA
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4111 AVIATION AVE., ANCHORAGE ALASKA 99502
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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
ROTATING BEACON DETAILS

DATE: 1/4/2023

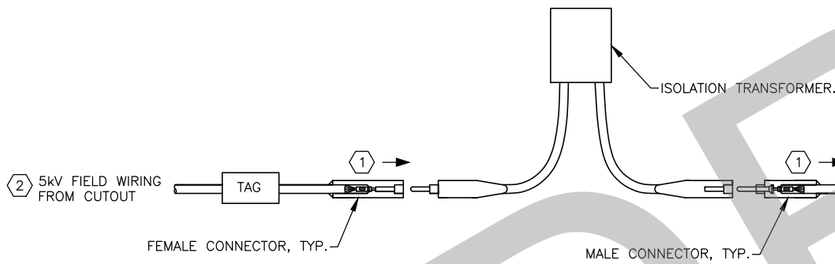
SHEET: 46 OF 60

Designed By: DMH
Drawn By: DMH
Checked By: EWC

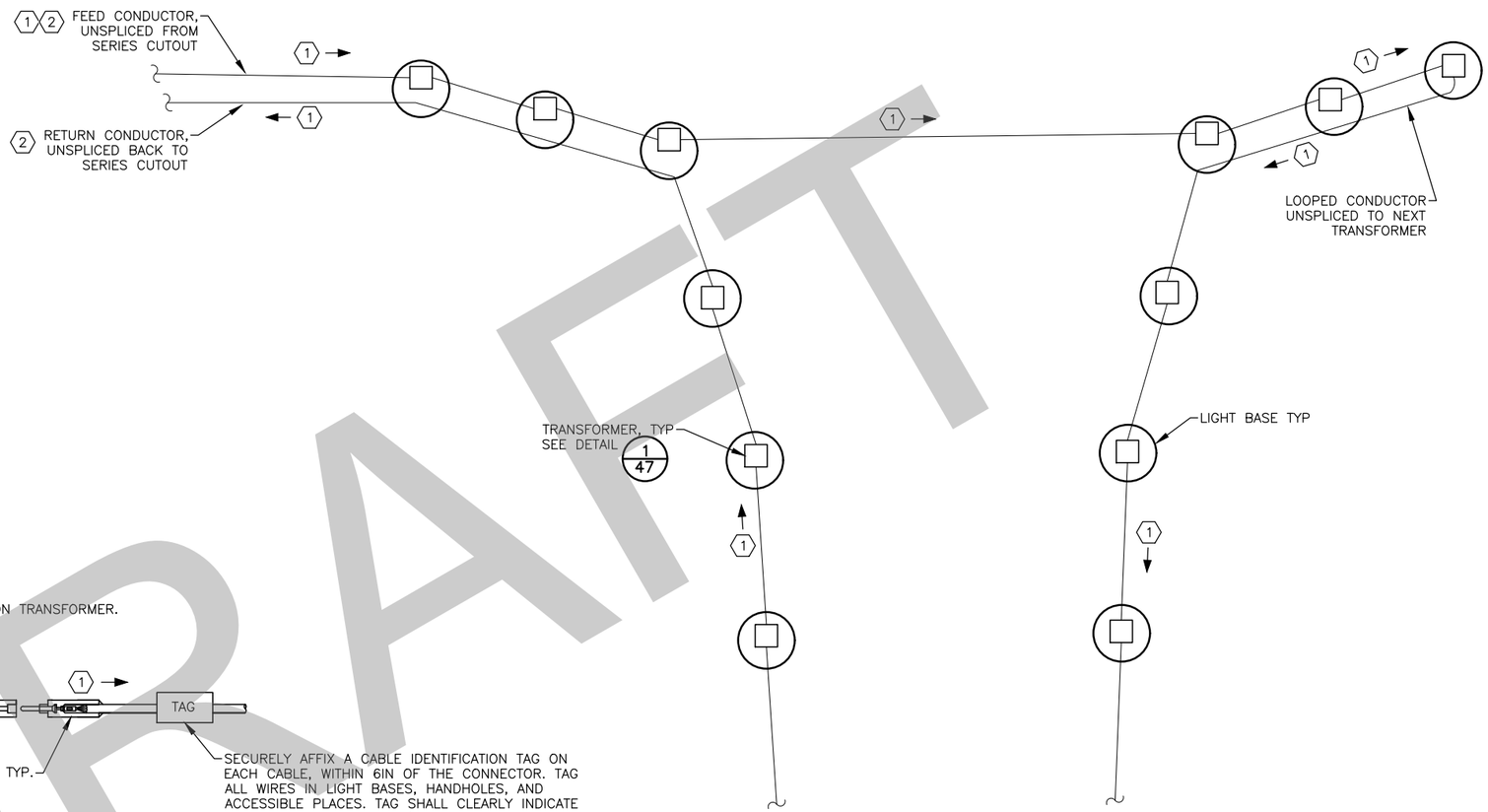
Date Revised: 1/04/2023, 12:54 PM
Layout Name: 47
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-DETL.dwg

SHEET NOTES:

1. ARRANGE THE LIGHTING CIRCUIT TO FLOW CLOCKWISE AROUND THE RUNWAY AND TAXIWAY WITH THE FEMALE CONNECTOR ON THE REGULATOR SIDE OF THE TRANSFORMER.
2. ALL TRANSFORMER CONNECTIONS SHALL BE MADE ON THE FEED SIDE OF THE SERIES LOOP. RETURN AND LOOP CONDUCTORS SHALL BE CONTINUOUS AND UNSPLICED.



1/47 CONNECTOR ORIENTATION DETAIL
NTS



2/47 FIELD WIRING SCHEMATIC
NTS

STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9354 REGISTERED PROFESSIONAL ENGINEER

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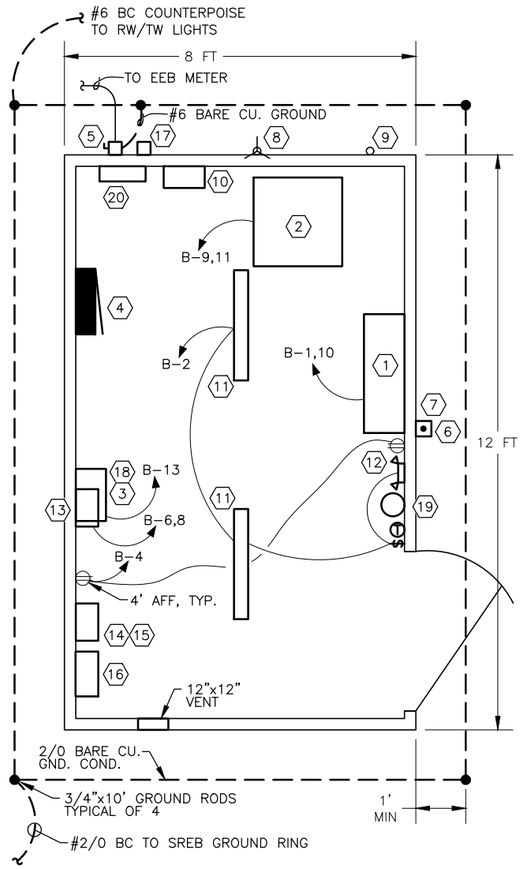
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
FIELD WIRING SCHEMATIC AND DETAIL

DATE: 1/4/2023
SHEET: 47 OF 60



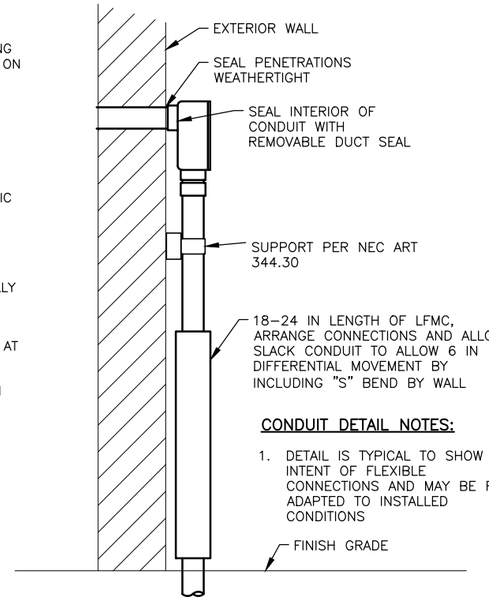
1/48 ELECTRICAL EQUIPMENT BUILDING (EEB) PLAN
NTS

EQUIPMENT LIST

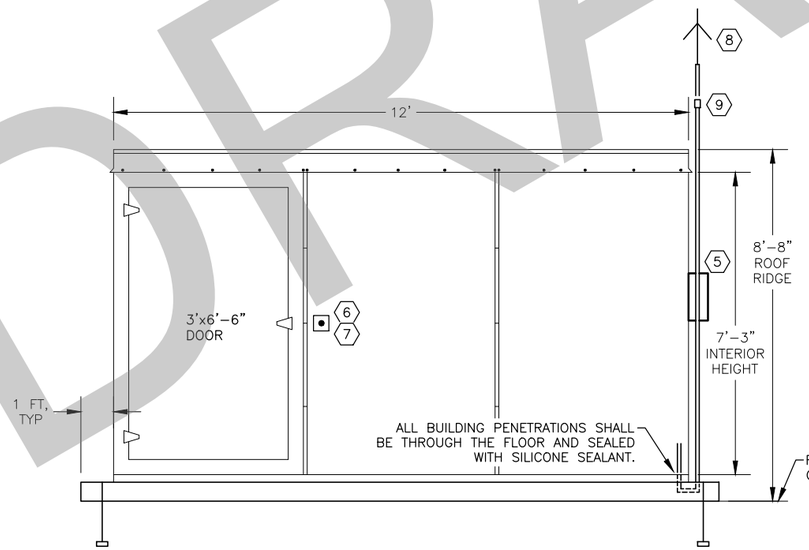
1. LIGHTING CONTROL PANEL, SEE SPECIFICATIONS.
2. CONSTANT CURRENT REGULATOR (CCR). TYPE L-828, CLASS 1, STYLE 1, 4 KW, 240V, 1 PHASE, 60HZ. PROVIDE WITH LOCAL MONITORING PER SPECIFICATIONS.
3. L-854 RADIO CONTROLLER WITH INTEGRATED HEATER, FREQUENCY: 122.9 MHZ.
4. CIRCUIT BREAKER PANELBOARD, PANEL B.
5. 100A/2P NEMA 4X UNFUSED DISCONNECT, SERVICE ENTRANCE RATED.
6. PUSH BUTTON STATION (NEMA 4X) – GENERAL ELECTRIC NO. CR2943AJ301B OR APPROVED EQUAL.
7. SIGN TO READ: PUSH TO TURN RUNWAY LIGHTS ON, AUTO OFF IN 15 MIN.
8. RADIO CONTROL ANTENNA – R.A. MILLER INDUSTRIES, INC., MODEL AV-1 OR APPROVED EQUAL.
9. PHOTOELECTRIC CONTROL – PER L-109-3.27.
10. SERIES CUTOUT – 5kV, ADB #S1 OR APPROVED EQUAL, IN 14"x12"x8" NEMA 1 LOCKABLE ENCLOSURE WITH HINGED COVER.
11. 4FT LED WRAPAROUND FIXTURE METALUX NO. 4WNLED-LD4-40SL-F-UNV-L840-CD1-U OR EQUAL.
12. EMERGENCY LIGHT WITH NI-CAD BATTERIES, 90 MIN. RATING. SURE-LITES NO. CU2-LED OR EQUAL.
13. 2000-WATT 240-VOLT WALL MOUNTED FAN-FORCED ELECTRIC HEATER.
14. METAL WALL DESK MCMASTER-CARR CATALOG NO. 4796T15 20x17x15 IN SLOPE TOP WITH PIGEON HOLE SHELVES, OR NO. 4808T15 34.5x30x32.5 IN DESK WITH LOCKING DRAWER MOUNT DESK TOP AT 43 IN AFF, (ELBOW HEIGHT WHEN STANDING) OR APPROVED EQUAL.
15. METAL CHAIR (ADJUSTABLE LEGS) WITH BACK SUPPORT FOR DESK: MCMASTER-CARR MODEL 4826T24 OR APPROVED EQUAL.
16. METAL WALL CABINET (LOCKABLE) WITH TWO SHELVES MCMASTER-CARR MODEL 4312T1 30X12X30 IN OR APPROVED EQUAL.
17. 100A GENERATOR INLET.
18. PRECISION VOLTAGE REGULATOR, AUTOMATIC BYPASS TYPE. TSi POWER CORP. MODEL NO. VRP-1500-0132 OR APPROVED EQUAL. PROVIDE FOR CORD CONNECTION OF RADIO CONTROLLER.
19. FIRE EXTINGUISHER, FIVE POUND, CLASS A,B,C. MOUNT IN NEW CABINET, ON WALL NEAR DOOR.
20. 100A MANUAL TRANSFER SWITCH.

ENCLOSURE NOTES:

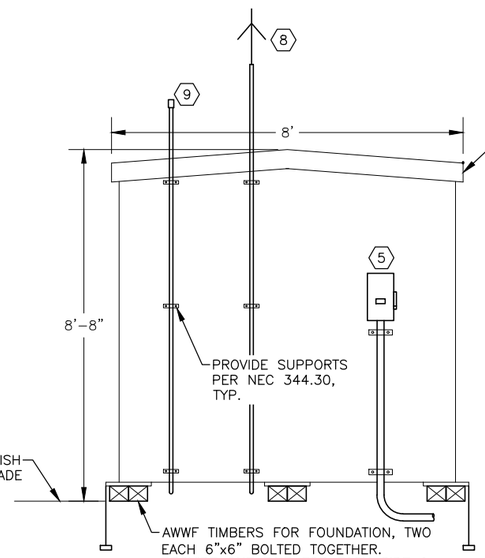
1. ALL FIXTURES AND DEVICES SHALL BE SURFACE MOUNTED. ALL 120/240V WIRING SHALL BE SURFACE MOUNTED AND ITS LOCATION SHALL BE COMPLETELY SHOWN ON CONTRACTOR'S REDLINE DRAWINGS.
2. PROVIDE AND INSTALL A GREEN-COLOR-CODED EQUIPMENT GROUNDING WIRE IN EACH CONDUIT.
3. ALL INSTALLED ELECTRICAL FIXTURES AND DEVICES, INCLUDING JUNCTION BOXES, SHALL BE NRTL LISTED.
4. ALL CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, THERMAL MAGNETIC TYPE, BOLT-ON WITH TRIP INDICATING FEATURE. SQUARE "D" QOB OR EQUAL.
5. ALL ELECTRICAL METHODS, TECHNIQUES, AND MATERIAL SHALL CONFORM TO THE CURRENT EDITION OF THE NEC.
6. ALL BUILDING PENETRATIONS SHALL BE THROUGH THE FLOOR UNLESS SPECIFICALLY NOTED OTHERWISE.
7. ALL FOUNDATION HARDWARE SHALL BE HOT DIP GALVANIZED. ALL BOLTED CONNECTIONS THROUGH FOUNDATION BEAMS SHALL BE PROVIDED WITH WASHERS AT BOTH ENDS AND LOCK WASHERS AT NUT END.
8. EYEBOLTS SHALL BE A SHOULDER TYPE WITH 3/4 IN DIAMETER SHANK AND 2 IN THREADED LENGTH. USE PLAIN WASHERS ON BOTH SIDES OF BUILDING SKID AS REQUIRED TO SECURE TO TOW POINT, LOCKWASHER AND HEX NUT.
9. TURNBUCKLES SHALL BE HOOK/HOOK TYPE, 6 IN TAKE UP, 1/2 IN DIAMETER, GALVANIZED.



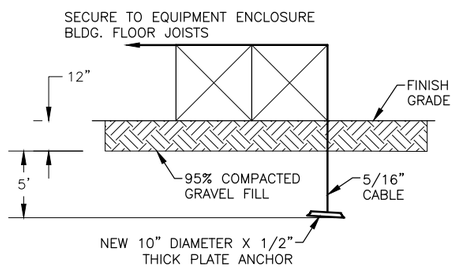
5/48 WALL PENETRATION DETAIL
NTS



2/48 EQUIPMENT BUILDING SIDE ELEVATION
NTS



3/48 BUILDING END ELEVATION
NTS



4/48 EXISTING (EEB) TIE DOWN DETAIL
NTS

STATE OF ALASKA 49TH — EDWARD W. CARLSON — EE-9354 — REGISTERED PROFESSIONAL ENGINEER

MBA CONSULTING ENGINEERS, INC.
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(907) 274-2622
CERTIFICATE OF AUTHORIZATION NO. AECC578

BY	DATE	REVISION

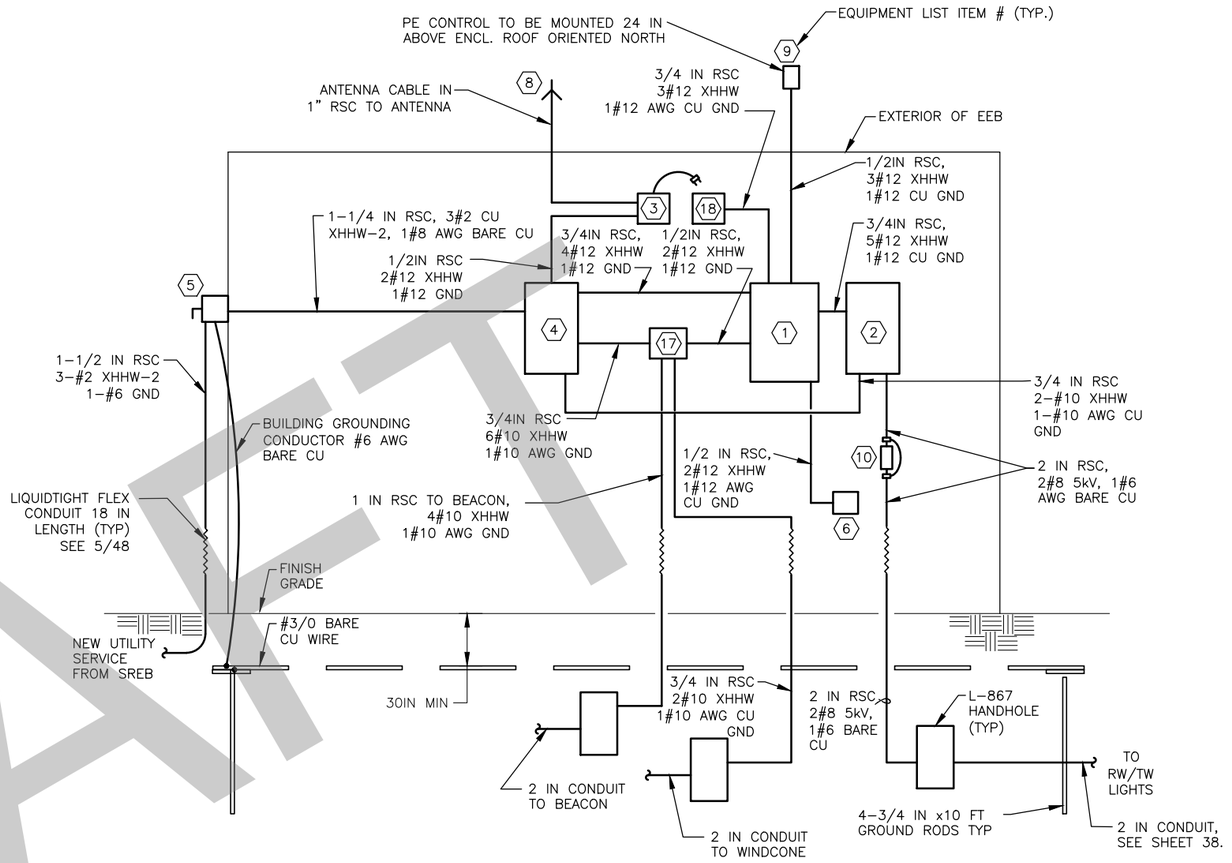
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
EEB PLAN, ELEVATIONS, EQUIPMENT LIST, AND WALL PENETRATION DETAIL

DATE: 1/4/2023
SHEET: 48 OF 60

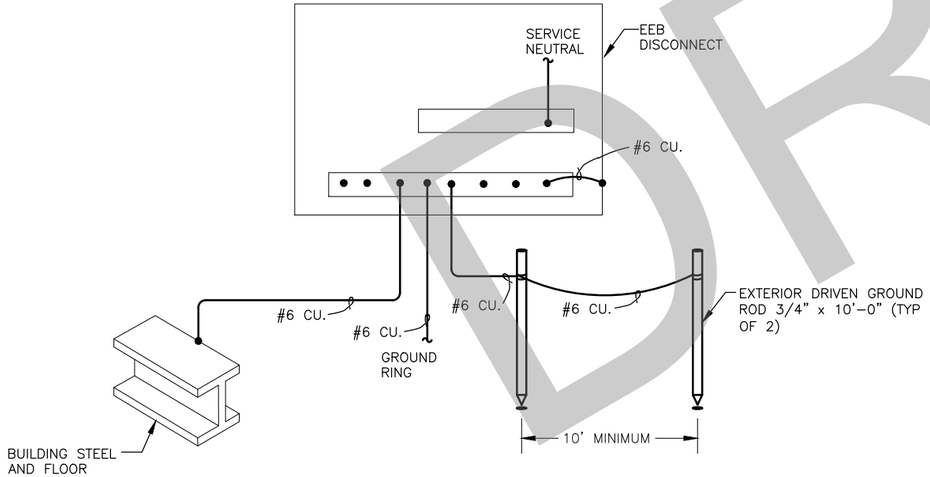
Designed By: DMH
Drawn By: DMH
Checked By: EWC
Date Revised:
Layout Name: 48
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-DETL.dwg 1/04/2023, 12:54 PM

PANEL: B	MOUNTING		MAINS			OPTIONS			
PROJECT: KWETHLUK AIRPORT	SURFACE		LUGS			1. SOLID NEUTRAL 2. GROUND BAR			
LOCATION: EEB									
VOLTAGE: 240/120 VOLT	1 PHASE		3 WIRE		100 A	MLO		22k AIC	
CIRCUIT DESCRIPTION	KVA	AMP	P	CKT	CKT	AMP	P	KVA	CIRCUIT DESCRIPTION
LIGHTING CONTROL PANEL	0.6	20	1	1	2	20	1	0.4	ENCLOSURE LIGHTS
ROTATING BEACON & MOTOR	0.4	20	1	3	4	20	1	0.4	CONV. RECEPTS
BEACON STRIP HEATER AND RECEPTACLE	0.4	20	1	5	6	20	2	2.0	ELECTRIC HEAT
WIND CONE (PRIMARY)	0.1	20	1	7	8				
4 kW REGULATOR (RW AND TW)	4.9	30	2	9	10	20	1	0.1	CONTROL PANEL STRIP HEATER
				11	12	20	1		SPARE
RADIO CONTROLLER	0.1	20	1	13	14	20	1		SPARE
SPARE		20	1	15	16	20	1		SPARE
SPARE		20	1	17	18				SPACE
SPACE				19	20				SPACE
SPACE				21	22				SPACE
SPACE				23	24				SPACE
SPACE				25	26				SPACE
SPACE				27	28				SPACE
SPARE		20	1	29	30				SPACE
CONNECTED LOAD:		9.4	KVA	39.2	A	REMARKS:			
DEMAND LOAD:		11.2	KVA	46.8	A				
DATE:									
REV:									



1/49 ONE LINE DIAGRAM
NTS

NOTE: SEE SHEET 48 FOR EQUIPMENT LIST.



2/49 EEB DISCONNECT GROUNDING DETAIL
NTS

STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9354 REGISTERED PROFESSIONAL ENGINEER

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STATE OF ALASKA
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CENTRAL REGION
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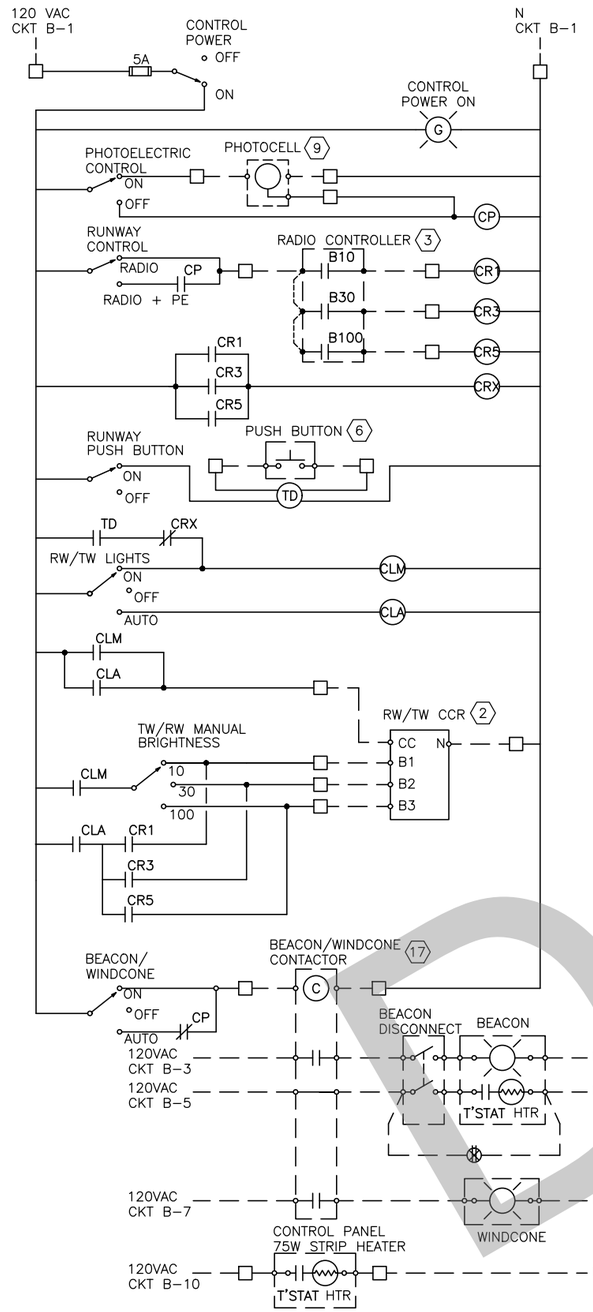
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
EEB ONE-LINE DIAGRAM, GROUNDING DETAIL, AND PANEL SCHEDULE

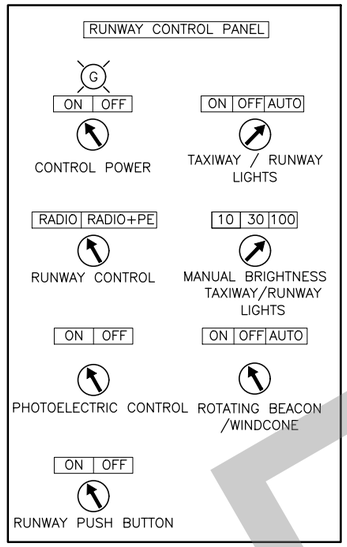
DATE: 1/4/2023
SHEET: 49 OF 60

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:54 PM
Layout Name: 49
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-DETL.dwg



1/50 AIRFIELD LIGHTING CONTROL LADDER DIAGRAM
NTS



2/50 LIGHTING CONTROL PANEL ELEVATION
NTS

CONTROL DIAGRAM LEGEND

□	TERMINAL BLOCK – 20A, 12 POINT, NO. AS REQUIRED	GE CR151B2 OR APPROVED EQUAL
— —o	FIELD WIRING	
(CX)	RELAY COIL – 3PDT RELAY, PLUG–IN TYPE WITH BASE	IDEC RR5PAU–AC120V OR APPROVED EQUAL
(TD)	RELAY COIL – TIME DELAY RELAY, OFF DELAY, DPDT, SET AT 15 MINUTES	MAGNACRAFT TDRSRXP–120V OR APPROVED EQUAL
X	NORMALLY OPEN CONTACT, "X" = COIL	
X	NORMALLY CLOSED CONTACT, "X" = COIL	
o o	SELECTOR SWITCH, PANEL MOUNT, NUMBER OF POSITIONS AS INDICATED	TWO POSITION: C–H 10250T20LB THREE POSITION: C–H 10250T21LB OR APPROVED EQUAL
XA	FUSE HOLDER WITH SLO–BLO FUSE, "X" = FUSE RATED AMPS	
(G)	PILOT LIGHT, PANEL MOUNT, LED, 120V, GREEN COLOR, 30mm	C–H 10250T197LGP2A OR APPROVED EQUAL
(X)	AIRFIELD LIGHTING EQUIPMENT "X", SEE SHEET 34	
	PUSH BUTTON STATION, OFF–ON MOMENTARY CONTACT, WATER–DUST TIGHT, NEMA 4X	GE CR2943AJ301B OR APPROVED EQUAL
	WEATHERPROOF GFCI RECEPTACLE	

CONTROL SEQUENCE DESCRIPTION

RUNWAY AND TAXIWAY LIGHTS

ON–LIGHTS ON AT PRESET BRIGHTNESS.

OFF–LIGHTS OFF.

AUTO–EXTERIOR PUSH BUTTON SWITCH WILL TURN ON RUNWAY AND TAXIWAY LIGHTS FOR 15 MINUTES (ADJUSTABLE) AT PRESET BRIGHTNESS.

RADIO CONTROL ENABLED
3 CLICKS OF MIC TURNS ON RW/TW LIGHTS AT STEP 1.
5 CLICKS OF MIC TURNS ON RW/TW LIGHTS AT STEP 2.
7 CLICKS OF MIC TURNS ON RW/TW LIGHTS AT STEP 3.
LIGHTS REMAIN ON FOR 15 MINUTES AFTER LAST CLICK.

IF PUSHBUTTON CONTROL AND RADIO CONTROL ARE BOTH ACTIVE RADIO CONTROL HAS PRIORITY.

SUPPLEMENTAL WINDCONE

WINDCONE LIGHTS ON WHEN RUNWAY AND TAXIWAY LIGHTS ARE ON.

ROTATING BEACON AND PRIMARY WINDCONE

ON–BEACON AND WINDCONE ON.

OFF–BEACON AND WINDCONE OFF.

AUTO– PHOTOELECTRIC CONTROL IS ENABLED. BEACON AND WINDCONE ARE ON FROM DUSK TO DAWN.

BEACON OUTLET AND HEATER ARE ON WITH SWITCH IN ANY POSITION.

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:54 PM
Layout Name: 50
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STATE OF ALASKA 49TH
EDWARD W. CARLSON
EE-9354
REGISTERED PROFESSIONAL ENGINEER

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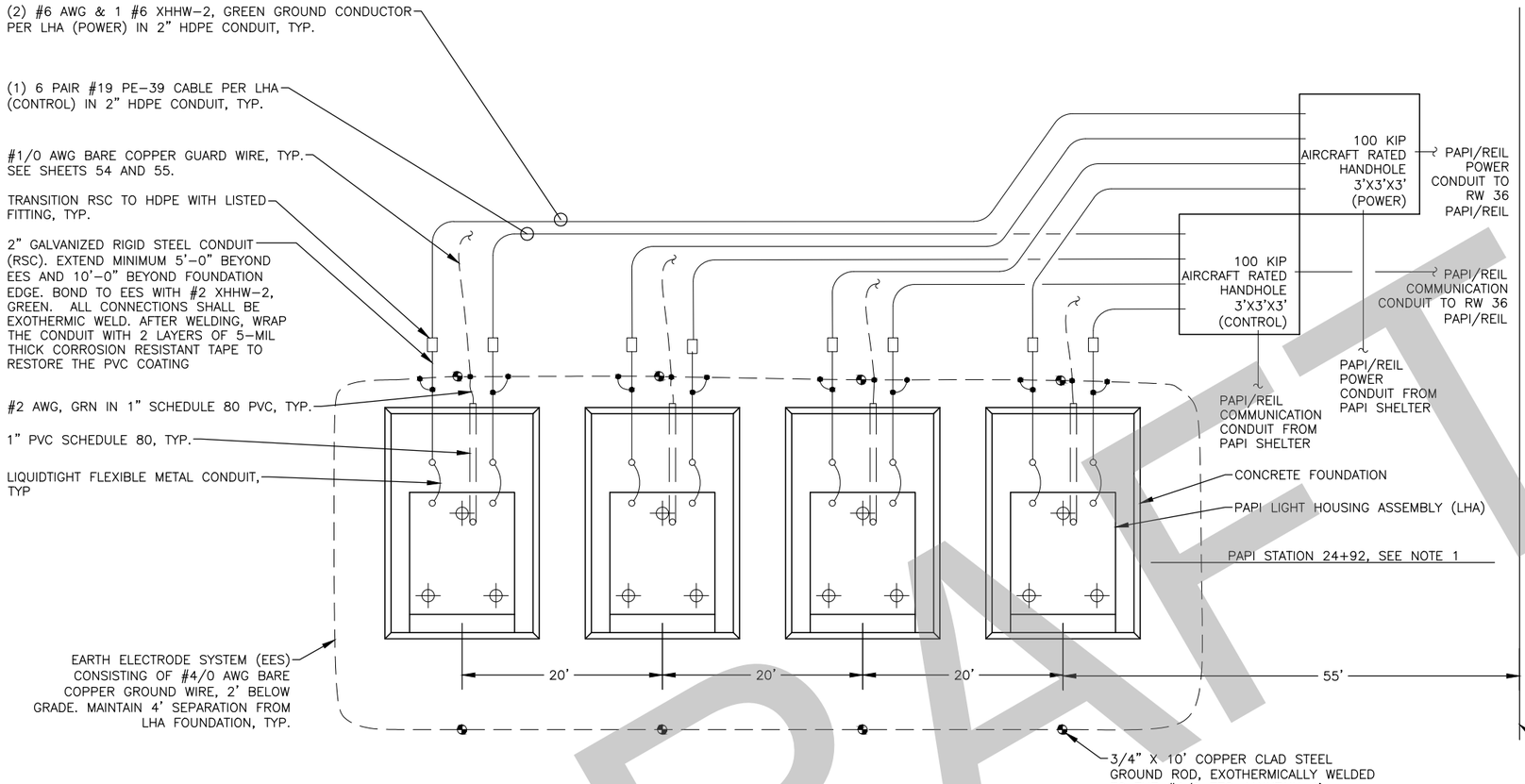
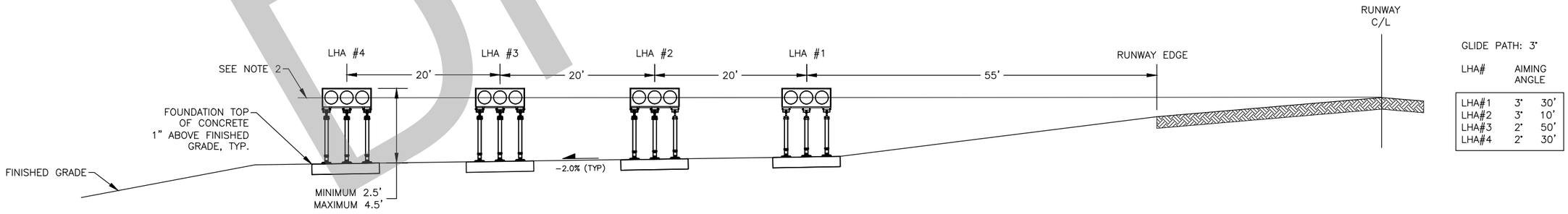
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
AIRFIELD LIGHTING CONTROL DIAGRAM

DATE: 1/4/2023
SHEET: 50 OF 60



1/51 RUNWAY 18 PAPI LAYOUT
NTS



2/51 RUNWAY 18 PAPI ELEVATION
NTS

NOTES:

1. THE CENTER OF ALL PAPI LAMPS SHALL BE LOCATED ON A LINE PERPINDICULAR TO THE RUNWAY CENTERLINE. THE FRONT FACES OF EACH LIGHT UNIT MUST BE WITHIN +/-1" OF THIS LINE PER FAA JOINT ORDER (JO) 6850-2 (LATEST VERSION). A THEODOLITE MUST BE USED TO ALIGN EACH UNIT PARALLEL TO THE RUNWAY CENTERLINE.
2. THE BEAM CENTERS OF ALL LIGHT UNITS SHALL BE WITHIN 1 INCH OF A HORIZONTAL PLANE. THIS HORIZONTAL PLANE SHALL BE WITHIN 1 FOOT OF THE ELEVATION OF THE RUNWAY CROWN ADJACENT TO THE PAPI UNITS.
3. ALL MOUNTINGS SHALL BE 2" FRANGIBLE COUPLINGS.
4. TRANSITION HDPE TO RSC MINIMUM 10' OUT FROM FOUNDATION AND 5' OUT FROM COUNTERPOISE AT EACH LHA.
5. CONNECT THE #1/0 AWG GUARD WIRE TO THE EES AT THE PAPI LHA'S AND ALSO TO THE EXISTING EES AT THE PAPI SHELTER USING EXOTHERMIC WELDS.
6. FOLD BACK UNUSED SHIELDED PAIRS AND TAPE IN THE LHA.
7. SEE CIVIL FOR FOUNDATION DETAILS.
8. ALL HDPE CONDUIT SHALL BE SDR 11.
9. ALL RIGID STEEL CONDUIT SHALL BE PVC COATED ON EXTERIOR, URETHANE COATED INTERIOR.
10. ALL GALVANIZED STEEL SHALL BE HOT DIPPED.

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:54 PM
Layout Name: 51
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-FAA-DETL.dwg

STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9364 REGISTERED PROFESSIONAL ENGINEER

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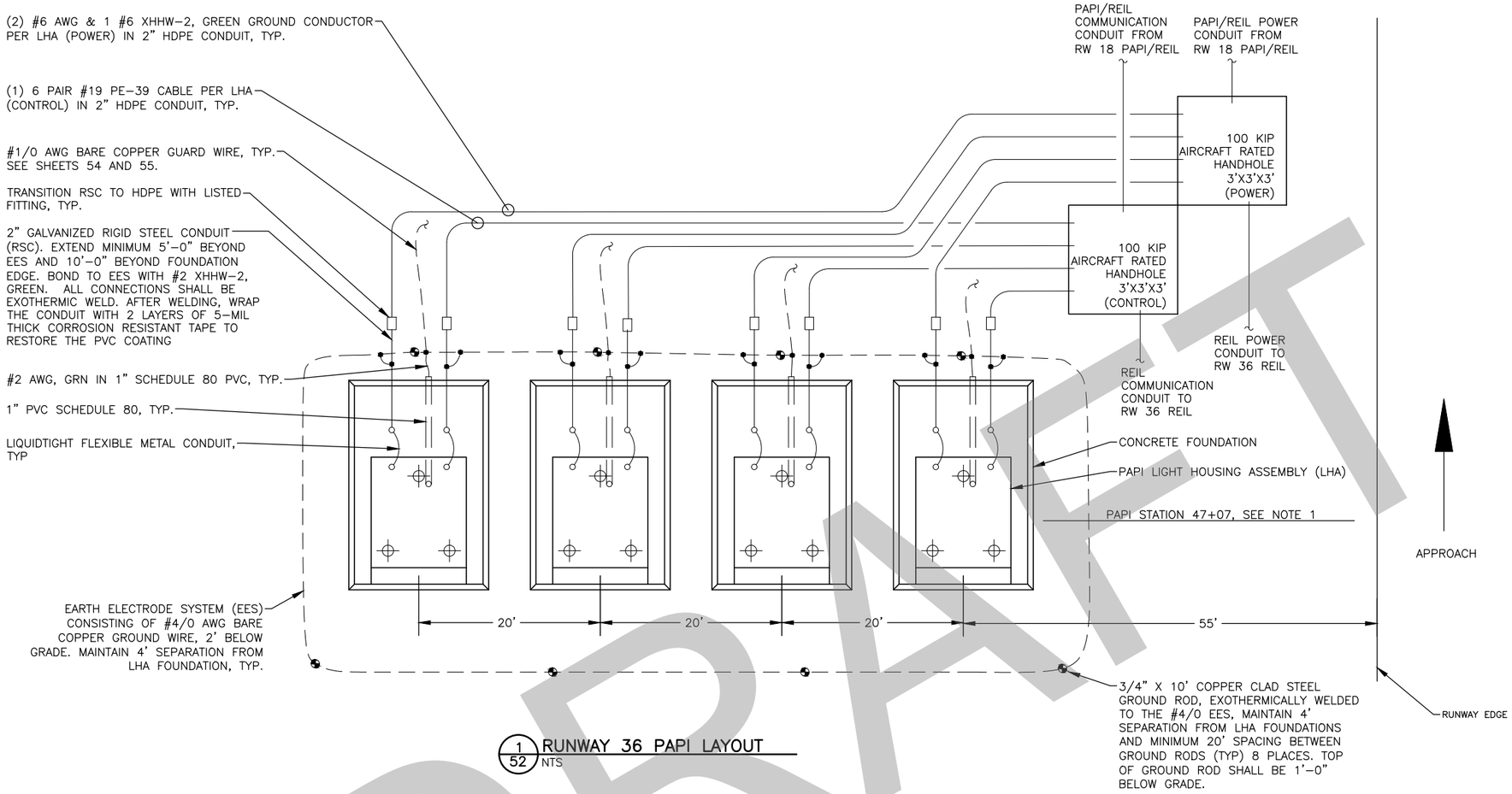
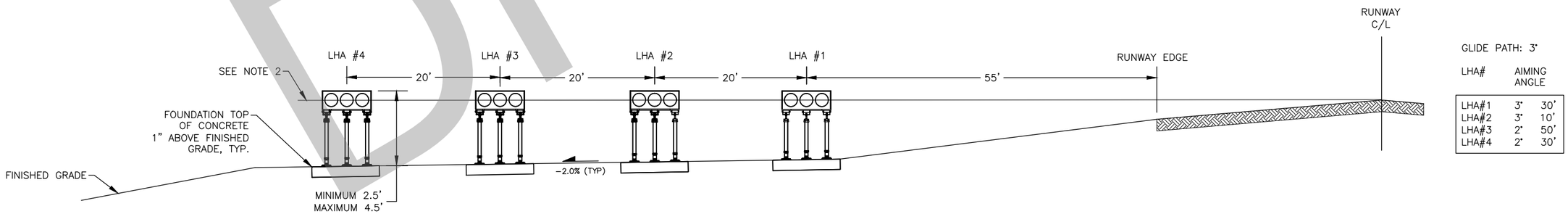
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
RW 18 PAPI LAYOUT

DATE: 1/4/2023
SHEET: 51 OF 60



1/52 RUNWAY 36 PAPI LAYOUT
NTS



GLIDE PATH: 3°

LHA#	AIMING ANGLE
LHA#1	3° 30'
LHA#2	3° 10'
LHA#3	2° 50'
LHA#4	2° 30'

2/52 RUNWAY 36 PAPI ELEVATION
NTS

NOTES:

1. THE CENTER OF ALL PAPI LAMPS SHALL BE LOCATED ON A LINE PERPINDICULAR TO THE RUNWAY CENTERLINE. THE FRONT FACES OF EACH LIGHT UNIT MUST BE WITHIN +/-1" OF THIS LINE PER FAA JOINT ORDER (JO) 6850-2 (LATEST VERSION). A THEODOLITE MUST BE USED TO ALIGN EACH UNIT PARALLEL TO THE RUNWAY CENTERLINE.
2. THE BEAM CENTERS OF ALL LIGHT UNITS SHALL BE WITHIN 1 INCH OF A HORIZONTAL PLANE. THIS HORIZONTAL PLANE SHALL BE WITHIN 1 FOOT OF THE ELEVATION OF THE RUNWAY CROWN ADJACENT TO THE PAPI UNITS.
3. ALL MOUNTINGS SHALL BE 2" FRANGIBLE COUPLINGS.
4. TRANSITION HDPE TO RSC MINIMUM 10' OUT FROM FOUNDATION AND 5' OUT FROM COUNTERPOISE AT EACH LHA.
5. CONNECT THE #1/0 AWG GUARD WIRE TO THE EES AT THE PAPI LHA'S AND ALSO TO THE EXISTING EES AT THE PAPI SHELTER USING EXOTHERMIC WELDS.
6. FOLD BACK UNUSED SHIELDED PAIRS AND TAPE IN THE LHA.
7. SEE CIVIL FOR FOUNDATION DETAILS.
8. ALL HDPE CONDUIT SHALL BE SDR 11.
9. ALL RIGID STEEL CONDUIT SHALL BE PVC COATED ON EXTERIOR, URETHANE COATED INTERIOR.
10. ALL GALVANIZED STEEL SHALL BE HOT DIPPED.

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CERTIFICATE OF AUTHORIZATION
NO. AECC578

BY	DATE	REVISION

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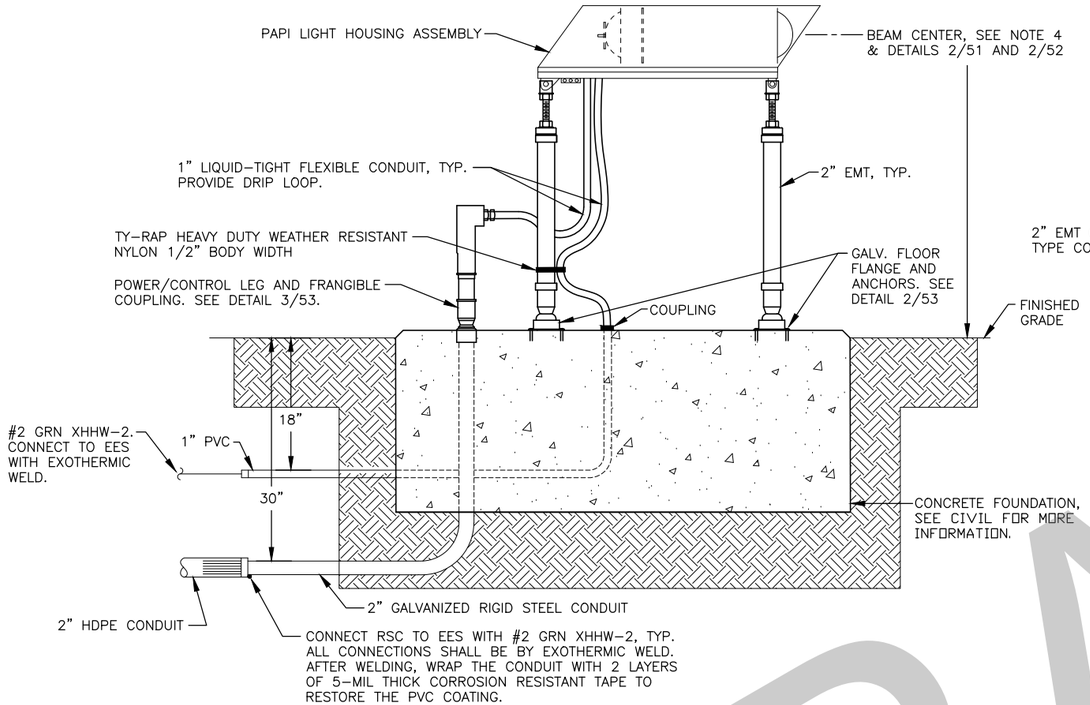
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
RW 36 PAPI LAYOUT

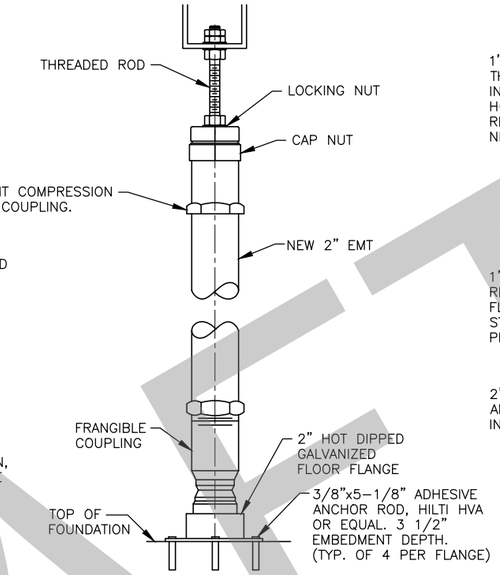
DATE: 1/4/2023
SHEET: 52 OF 60

Designed By: DMH
Drawn By: DMH
Checked By: EWC

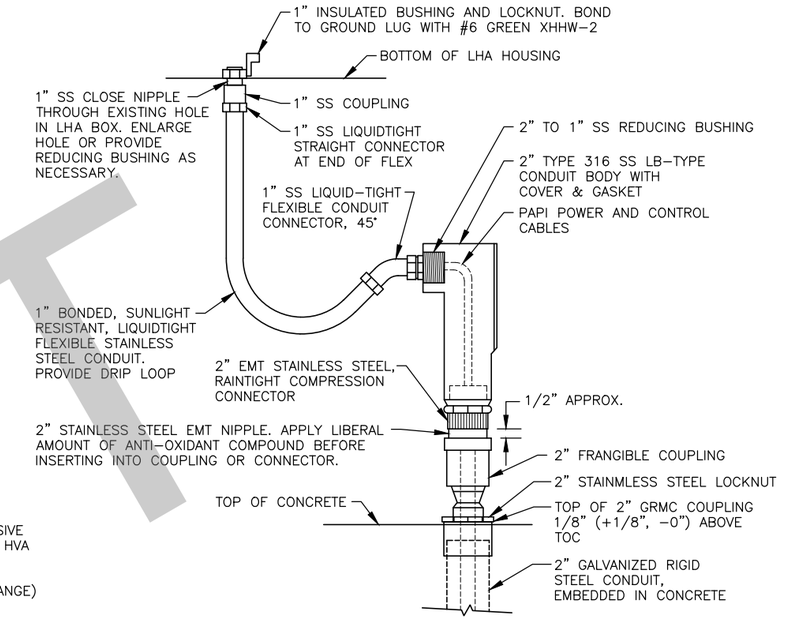
Date Revised: 1/04/2023, 12:54 PM
Layout Name: 52
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-FAA-DETL.dwg



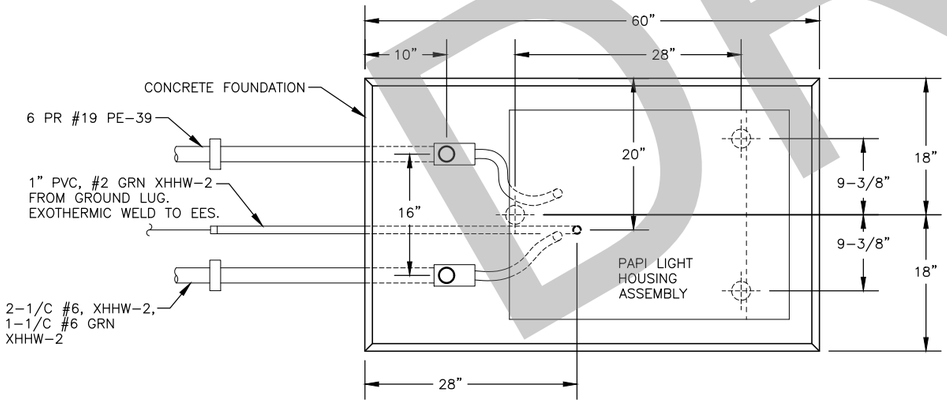
1/53 PAPI LIGHT HOUSING ASSEMBLY (LHA) SECTION
NTS



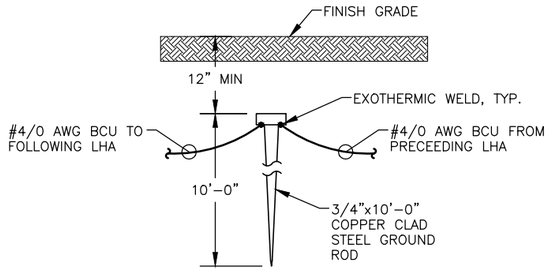
2/53 STRUCTURAL LEG DETAIL
NTS



3/53 POWER AND CONTROL WIRE LEG
NTS



4/53 PAPI LIGHT HOUSING ASSEMBLY (LHA) PLAN
NTS



5/53 GROUND ROD INSTALLATION DETAIL
NTS

NOTES:

1. RE-USE EXISTING LHA'S. PROVIDE NEW FOUNDATIONS, LEGS, MOUNTING HARDWARE, GROUNDING SYSTEM, COUNTERPOISE SYSTEM, CONDUIT AND CONDUCTORS.
2. FOLD BACK UNUSED SHIELDED PAIRS AND TAPE IN THE LHA.
3. ALL MOUNTINGS TO BE 2 INCH FRANGIBLE COUPLINGS.
4. NEW 2" EMT LEGS, LENGTH AS REQUIRED SO THAT THE BEAM CENTERS OF ALL LIGHT UNITS SHALL BE WITHIN 1 INCH OF A HORIZONTAL PLANE. THIS HORIZONTAL PLANE SHALL BE WITHIN 1 FOOT OF THE ELEVATION OF THE RUNWAY CROWN ADJACENT TO THE PAPI UNITS. FINAL ELEVATION AS APPROVED BY THE FAA.
5. TO PREVENT SEIZURE, ADD ANTI-SEIZE COMPOUND, NSN# 8030-00-251-3980 MANUFACTURED BY JET-LUBE, INC., HOUSTON, TX OR EQUAL.
6. PROVIDE 10 FEET SLACK LOOPS FOR LHA #1, LHA #2, LHA #3, AND LHA #4 IN THE HANDHOLES NEAREST TO THE LHA'S.
7. NEW LIQUITIGHT FLEXIBLE CONDUIT, LENGTH AS REQUIRED TO PROVIDE ADEQUATE SLACK AND DRIP LOOP.
8. UTILIZE EXISTING PENETRATIONS INTO EXISTING LHA WHERE POSSIBLE. WHERE REQUIRED, NEW PENETRATIONS SHALL BE DRILLED AND DE-BURRED.
9. ALL GALVANIZED STEEL SHALL BE HOT DIPPED.

STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9354 REGISTERED PROFESSIONAL ENGINEER

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(907) 274-2622
CERTIFICATE OF AUTHORIZATION NO. AECC578

BY	DATE	REVISION

STATE OF ALASKA
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CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

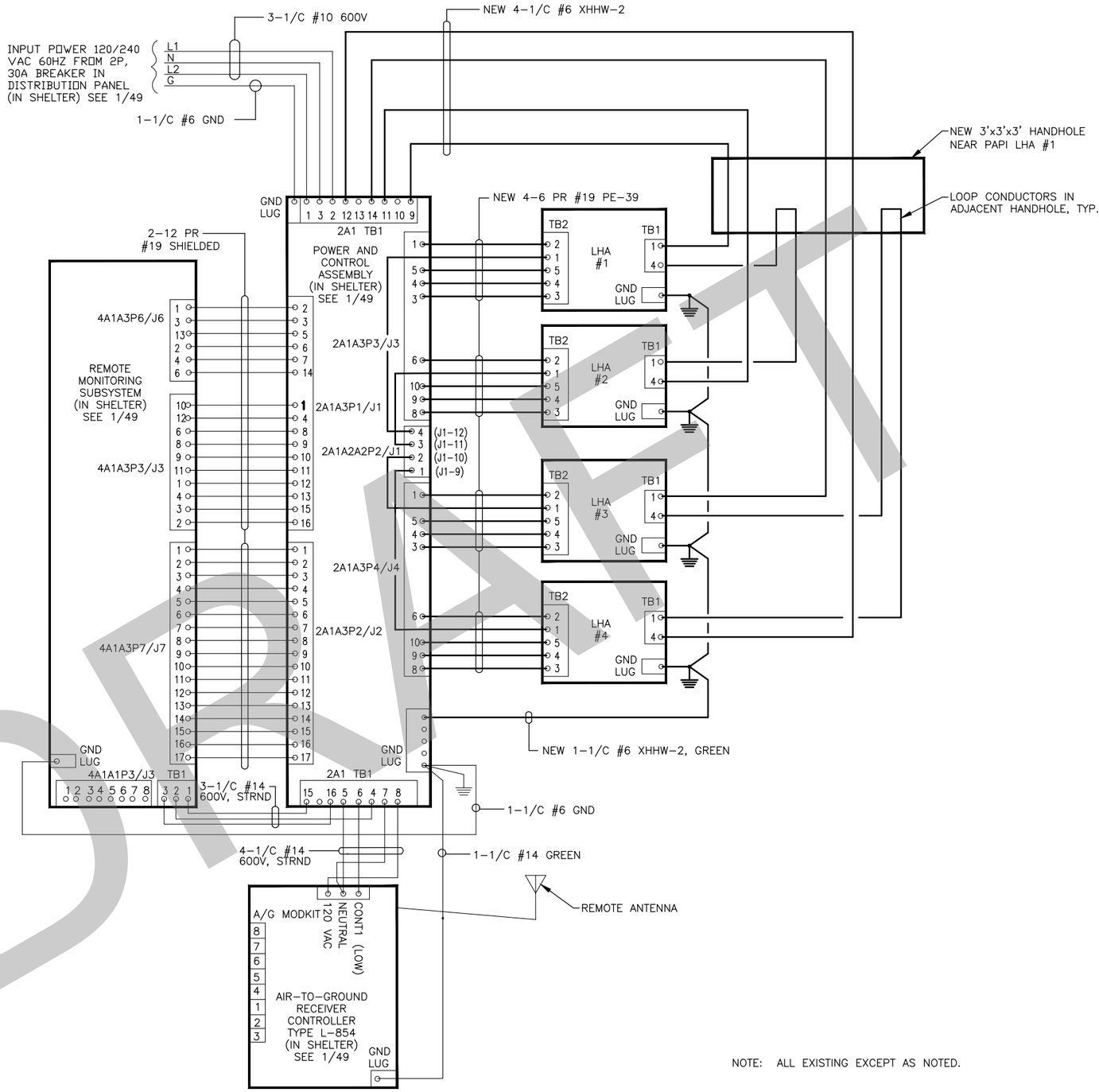
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
PAPI DETAILS

DATE: 1/4/2023

SHEET: 53 OF 60

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:54 PM
Layout Name: 53
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-FAA-DETL.dwg



NOTE: ALL EXISTING EXCEPT AS NOTED.

1/54 PAPI WIRING SCHEMATIC
NTS

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KWETHLUK AIRPORT
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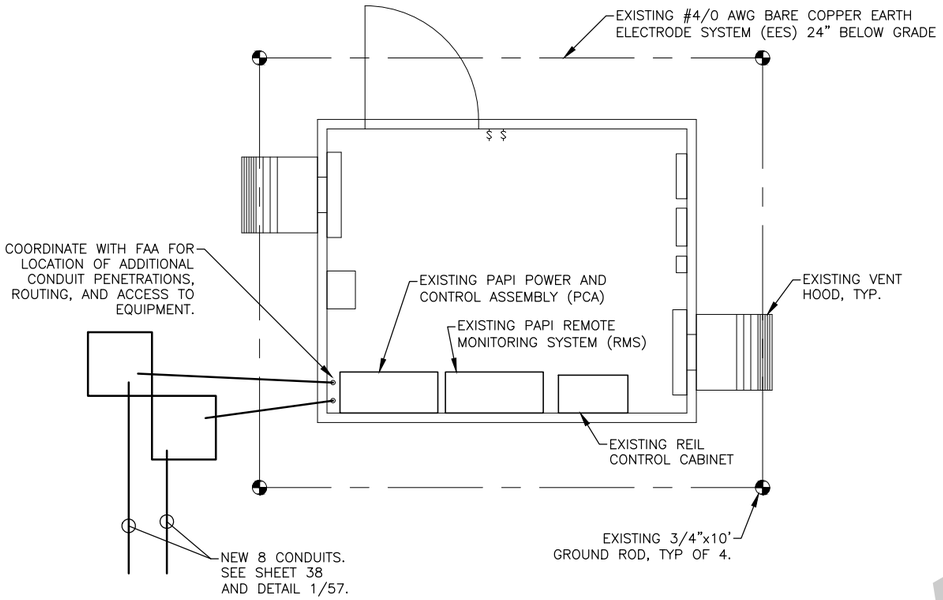
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
PAPI WIRING SCHEMATIC

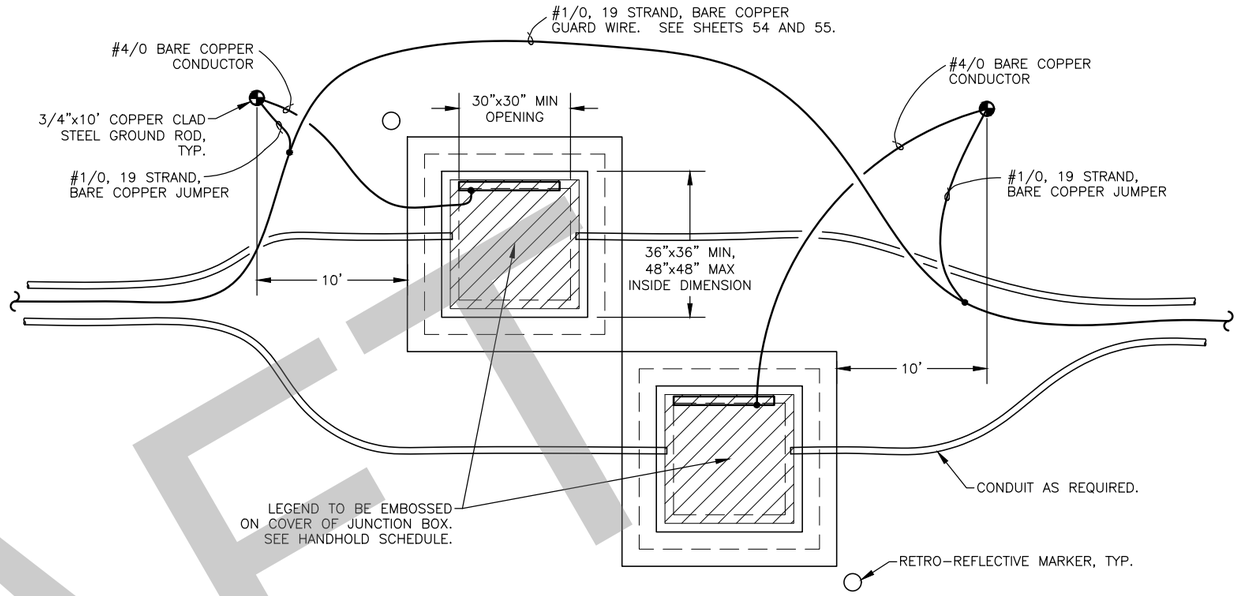
DATE: 1/4/2023
SHEET: 54 OF 60

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:54 PM
Layout Name: 54
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-FAA-DETL.dwg



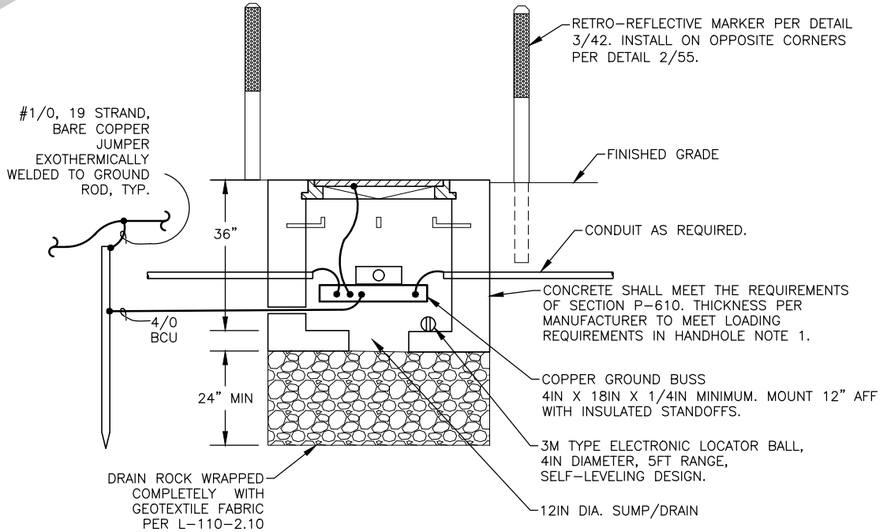
1/55 EXISTING FAA PAPI SHELTER PLAN
NTS



2/55 CONCRETE HANDHOLE – PLAN
NTS

HANDHOLE NOTES:

1. UNLESS OTHERWISE NOTED, HANDHOLES SHALL MEET THE REQUIREMENTS OF L-110-2.9. HANDHOLES SHALL BE RATED FOR AASHTO H-20 TRAFFIC LOADS.
2. CONDUITS SHALL ENTER THE SIDES AND EXTEND 2" INTO THE HANDHOLE. HDPE CONDUIT ENDS SHALL BE REAMED. PROVIDE THREADED, INSULATED, GROUNDING BUSHINGS FOR RSC, BOND PER NEC REQUIREMENTS. GROUT AROUND CONDUIT ON INSIDE AND OUTSIDE OF HANDHOLE WITH NON-SHRINK GROUT.
3. CONNECT GROUND CONDUCTORS TO BUSS BAR WITH 2-HOLE LONG BARREL LUGS HYDRAULICALLY CONCENTRICALLY CRIMPED WITH A MINIMUM 12-TONS OF FORCE. APPROPRIATE DIES MUST BE USED FOR EACH CABLE SIZE.
4. PROVIDE NON-METALLIC CABLE MANAGEMENT SYSTEM IN ALL NEW HANDHOLES, MINIMUM ONE RACK PER WALL.
5. PROVIDE CABLE PULLING EYES ON EACH WALL.
6. PROVIDE 1/2IN PVC CONDUIT SLEEVE FOR GROUND WIRE. GROUT CONDUIT AFTER INSTALLATION OF GROUND WIRE.
7. COVERS SHALL BE HINGED WITH SPRING ASSIST AND BOLT SECURELY IN-PLACE WHEN CLOSED.
8. INTERIOR DEPTH OF HANDHOLE SHALL NOT EXCEED 48" MEASURED FROM THE INTERIOR FLOOR TO THE EXTERIOR (TOP) OF LID.



3/55 CONCRETE HANDHOLE – SECTION
NTS

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
PAPI SHELTER AND HANDHOLE DETAILS

DATE: 1/4/2023
SHEET: 55 OF 60

Designed By: DMH
Drawn By: DMH
Checked By: EWC
Date Revised: 1/04/2023, 12:54 PM
Layout Name: 55
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-FAA-DETL.dwg

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Drawn By:	DMH
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Layout Name:	56
File Path and Name:	Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-FAA-DETL.dwg

KWETHLUK AIRPORT FAA PAPI/REIL HANDHOLE SCHEDULE

NO.	SYSTEM	PAY ITEM	LOCATION	COVER LEGEND
F1	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F2	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F3	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F4	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F5	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F6	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F7	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F8	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F9	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F10	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F11	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F12	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F13	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F14	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F15	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F16	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F17	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F18	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F19	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F20	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F21	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F22	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F23	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F24	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F25	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL POWER
F26	PAPI/REIL	L132.010.0010	FIELD LOCATE	PAPI/REIL COMM
F27	PAPI/REIL	L132.010.0020	FIELD LOCATE	PAPI/REIL POWER
F28	PAPI/REIL	L132.010.0020	FIELD LOCATE	PAPI/REIL COMM
F29	PAPI/REIL	L132.010.0020	FIELD LOCATE	PAPI/REIL POWER
F30	PAPI/REIL	L132.010.0020	FIELD LOCATE	PAPI/REIL COMM
F31	PAPI/REIL	L132.010.0020	FIELD LOCATE	PAPI/REIL POWER
F32	PAPI/REIL	L132.010.0020	FIELD LOCATE	PAPI/REIL COMM
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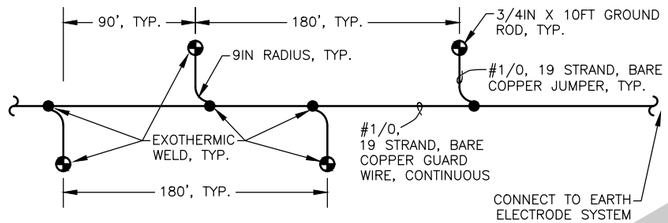
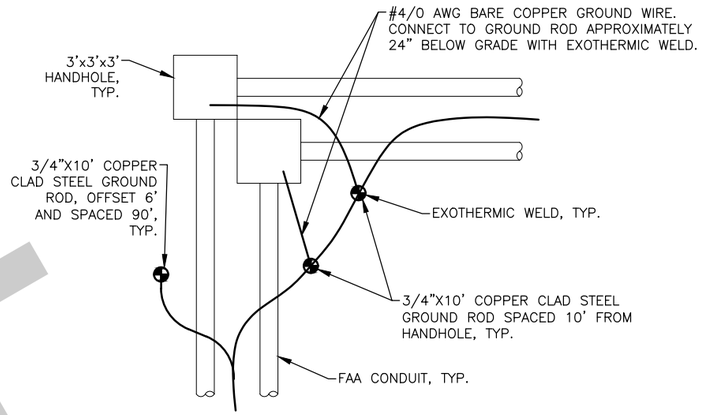
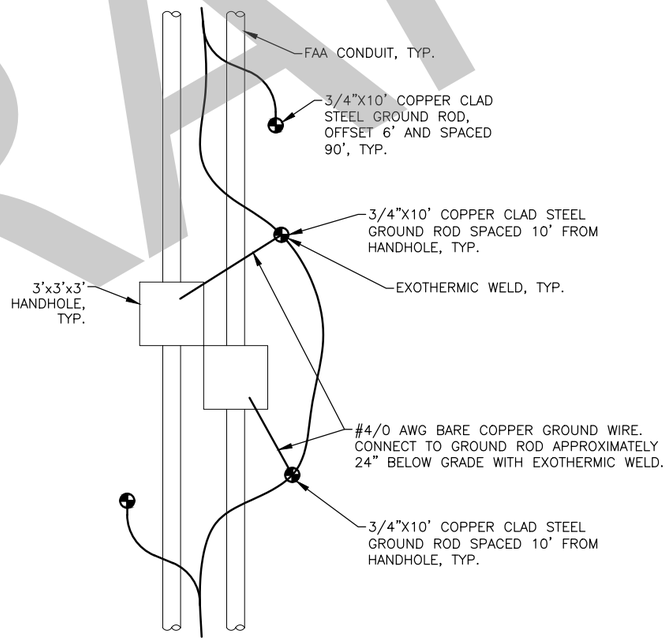


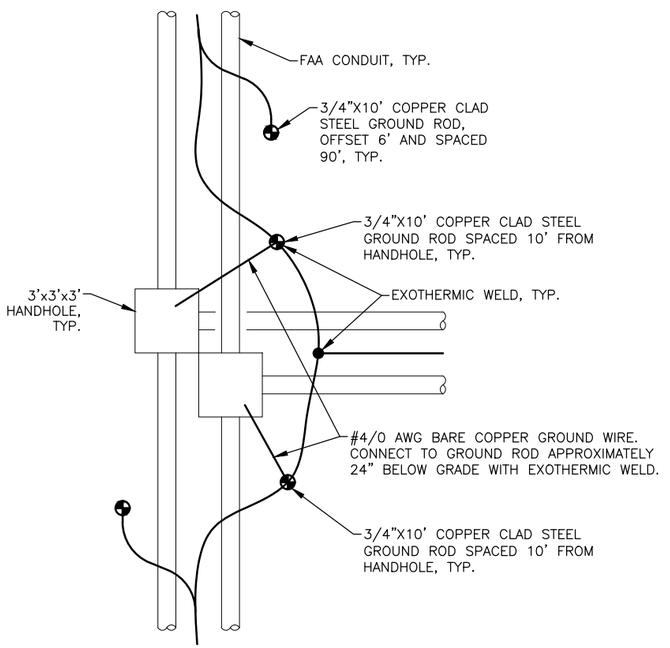
1/56 GUARD WIRE DETAIL



2/56 GUARD WIRE AT MH 0°–90°
NTS



3/56 GUARD WIRE AT MH 0°–180°
NTS



4/56 GUARD WIRE AT MH 0°–90°–180°
NTS

GUARD WIRE NOTES:

1. ALL CONNECTIONS TO GUARD WIRE AND GROUND RODS TO BE ACHIEVED BY EXOTHERMIC WELDS.
2. GUARD WIRE SHALL RUN CONTINUOUSLY ALONG DUCT RUN WITH NO DEVIATIONS FROM THE RUN OF DUCT AND WITH NO GAPS.
3. SPACING BETWEEN GROUND RODS ALONG A DUCT BANK SHALL VARY BY 10%.
4. GROUND RODS SHALL BE INSTALLED APPROXIMATELY 6' FROM DUCT ON ALTERNATING SIDES OF THE TRENCH AND CONNECT TO GUARD WIRE AS SHOWN IN DETAILS. MAINTAIN A MINIMUM 9" BEND RADIUS IN JUMPER WIRE SWEEPS.

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KWETHLUK AIRPORT
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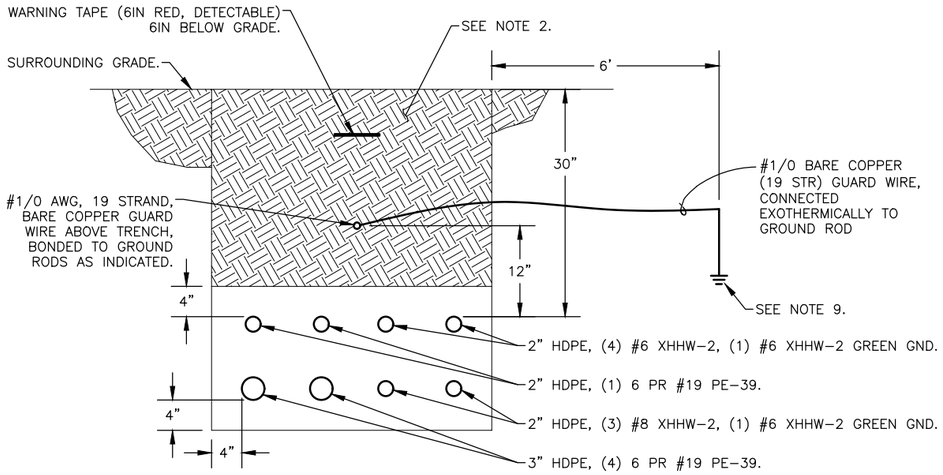
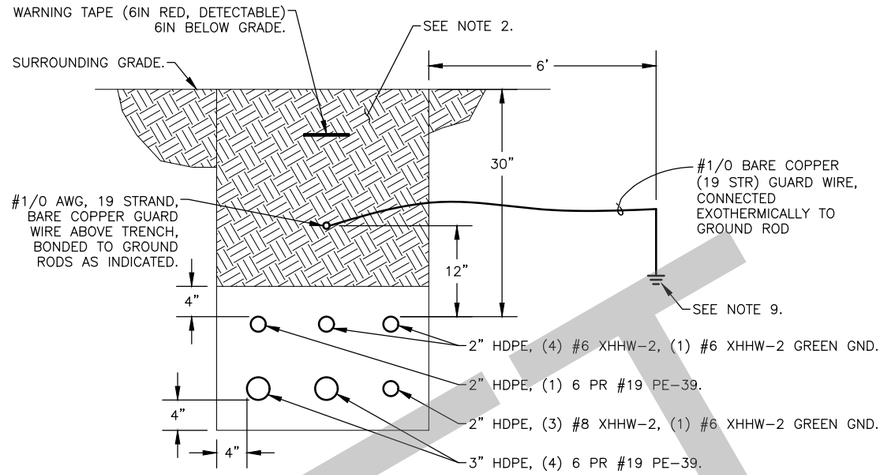
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
FAA GUARD WIRE DETAILS AND HANDHOLE SCHEDULE

DATE: 1/4/2023

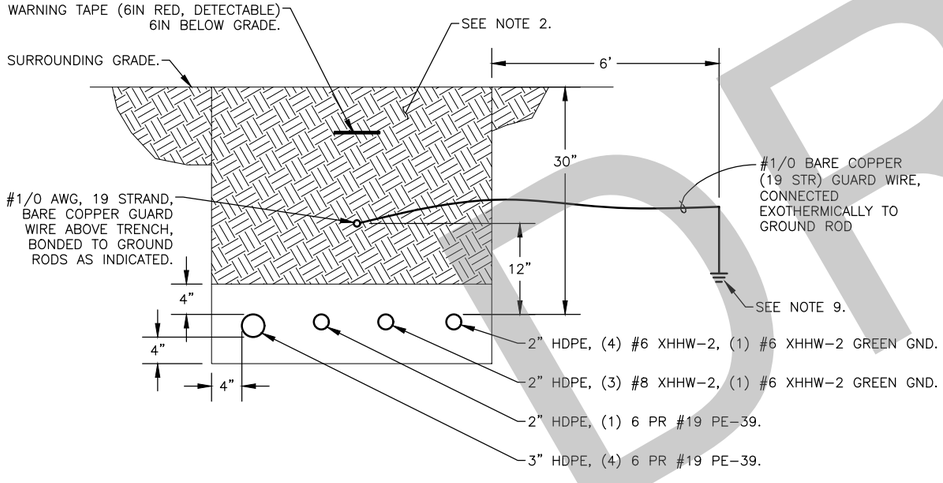
SHEET: 56 OF 60



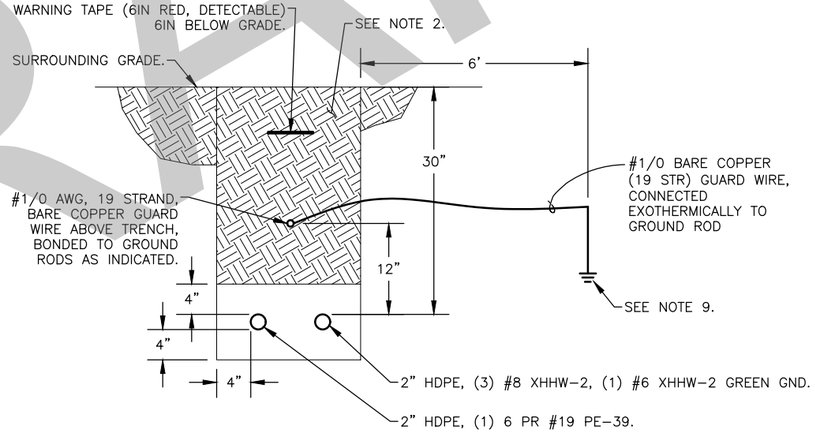
1/57 FAA TRENCH DETAIL
NTS



2/57 FAA TRENCH DETAIL
NTS



3/57 FAA TRENCH DETAIL
NTS



4/57 FAA TRENCH DETAIL
NTS

TRENCH NOTES:

1. WIDTH OF TRENCH AND NUMBER OF CONDUITS PER TRENCH TO BE DETERMINED IN FIELD.
2. IN AREAS OF NEW CONSTRUCTION, SEE CIVIL FOR SURFACING AND BACKFILL. IN EXISTING AREAS, MATCH EXISTING SURFACING AND BACKFILL.
3. BEDDING MATERIAL PER SECTION L-110-3.3.
4. SEPARATION BETWEEN CONDUITS SHALL BE AS FOLLOWS. UTILIZE COMMERCIALLY AVAILABLE DUCT SPACERS, 5' O.C., TO MAINTAIN SEPARATION.
   - BETWEEN AIRPORT LIGHTING AND FAA CONDUITS – 12" MIN.
   - BETWEEN FAA POWER AND FAA COMM CONDUITS – 6" MIN.
   - BETWEEN FAA POWER CONDUITS – 6" MIN.
5. PLOWING OF CONDUITS WILL NOT BE ALLOWED.
6. INSTALL CONDUITS TO DRAIN TO HANDHOLES.
7. PROVIDE TWO RUNS OF GUARD WIRE AND WARNING TAPE FOR TRENCHES OVER 36" WIDE.
8. INSTALL CONDUIT PER SECTION L-110 UNLESS NOTED OTHERWISE.
9. 3/4IN X 10 FT GROUND ROD PLACED 6 FT FROM TRENCH AT APPROXIMATE 90FT INTERVALS, VARY SPACING 10-20% TO PREVENT RESONANCE. SEE DETAIL 1/54. THE JUMPER WIRES SHALL BE SWEPT AWAY FROM THE GUARD WIRE IN A REPEATABLE PATTERN SUCH THAT A LIGHTNING IMPULSE WILL ALWAYS BE ABLE TO FOLLOW A CURVED PATH TO GROUND WITHIN 180 FT. OF ANY POINT ALONG THE RUN. MAINTAIN A MINIMUM 9IN. RADIUS BEND IN THE JUMPER SWEEPS. PROVIDE TWO GUARD WIRES WHEN WIDTH OF DUCTS EXCEEDS 3 FT. PROVIDE 12" MINIMUM BETWEEN GUARD WIRES. EACH GUARD WIRE SHALL BE 12IN-18IN INSIDE THE OUTERMOST EDGES OF THE DUCTS.

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:54 PM
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KWETHLUK AIRPORT
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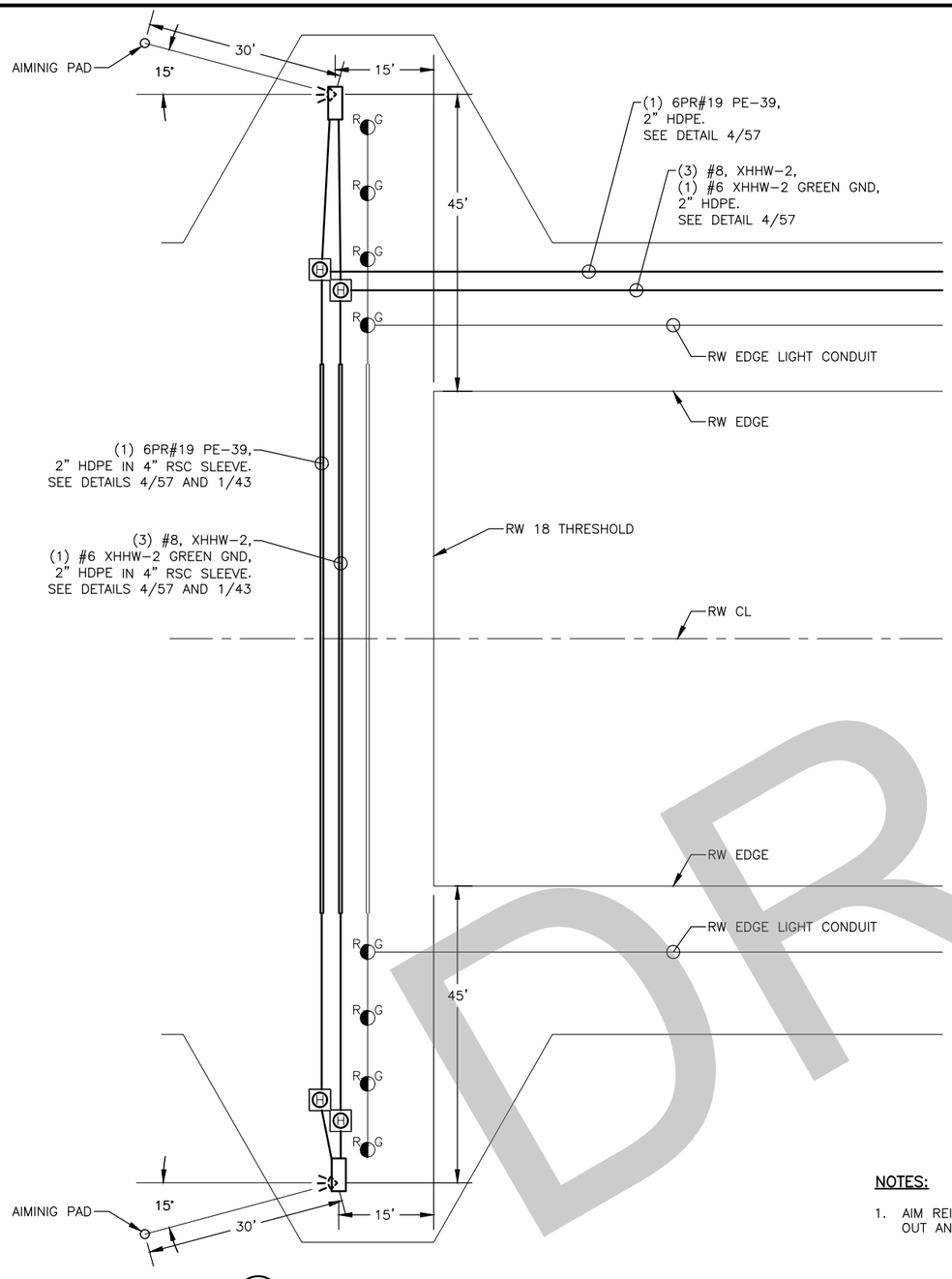
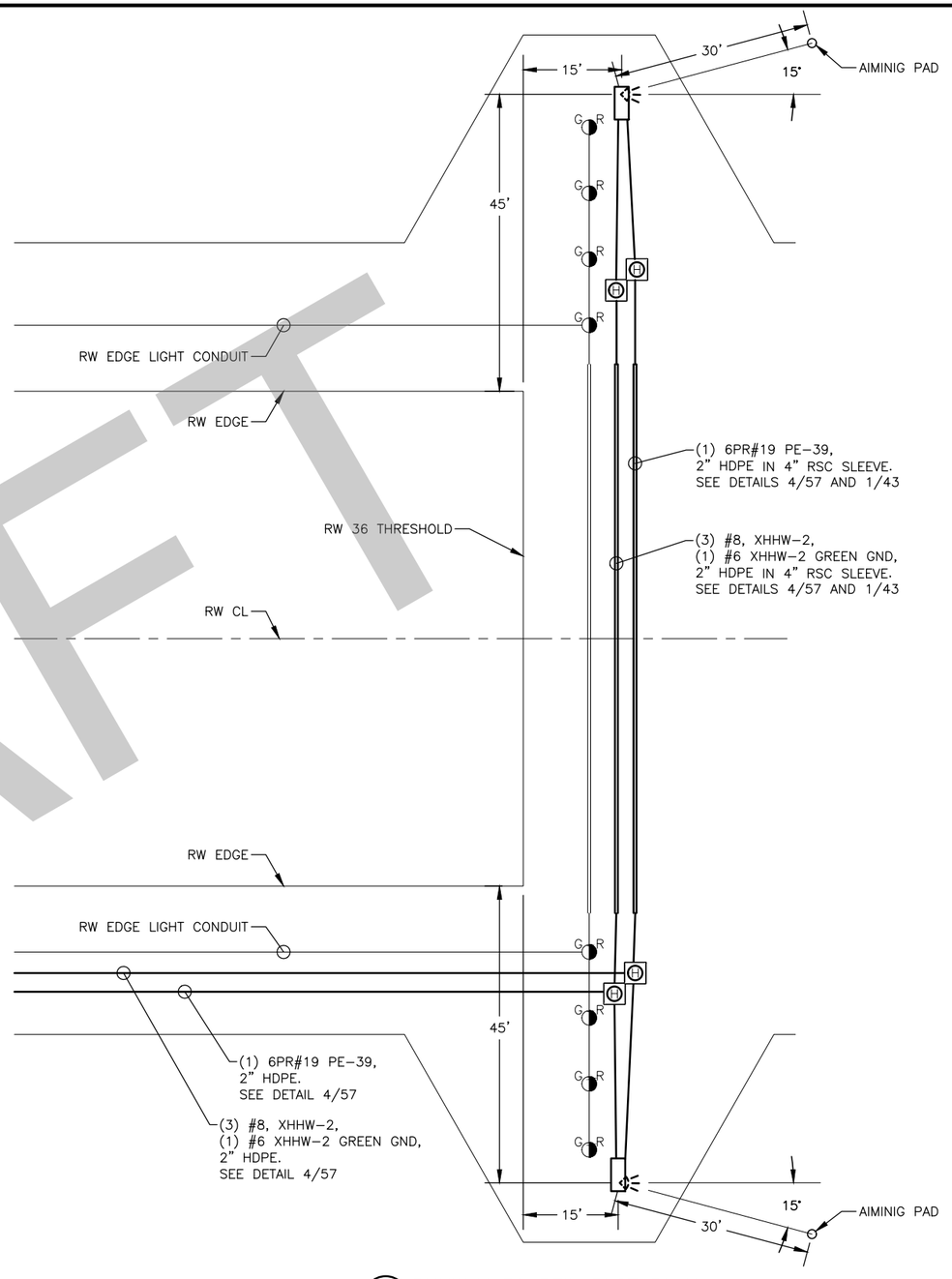
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
FAA TRENCH DETAILS

DATE: 1/4/2023
SHEET: 57 OF 60



1/58 RUNWAY 18 REIL PLOT PLAN
NTS



2/58 RUNWAY 36 REIL PLOT PLAN
NTS

NOTES:

1. AIM REIL IDENTIFIERS 15 DEGREES OUT AND 10 DEGREES VERTICAL.

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:54 PM
Layout Name: 58
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\100682-KWT-FAA-DETL.dwg

STATE OF ALASKA
49 TH
EDWARD W. CARLSON
EE-9354
REGISTERED PROFESSIONAL ENGINEER

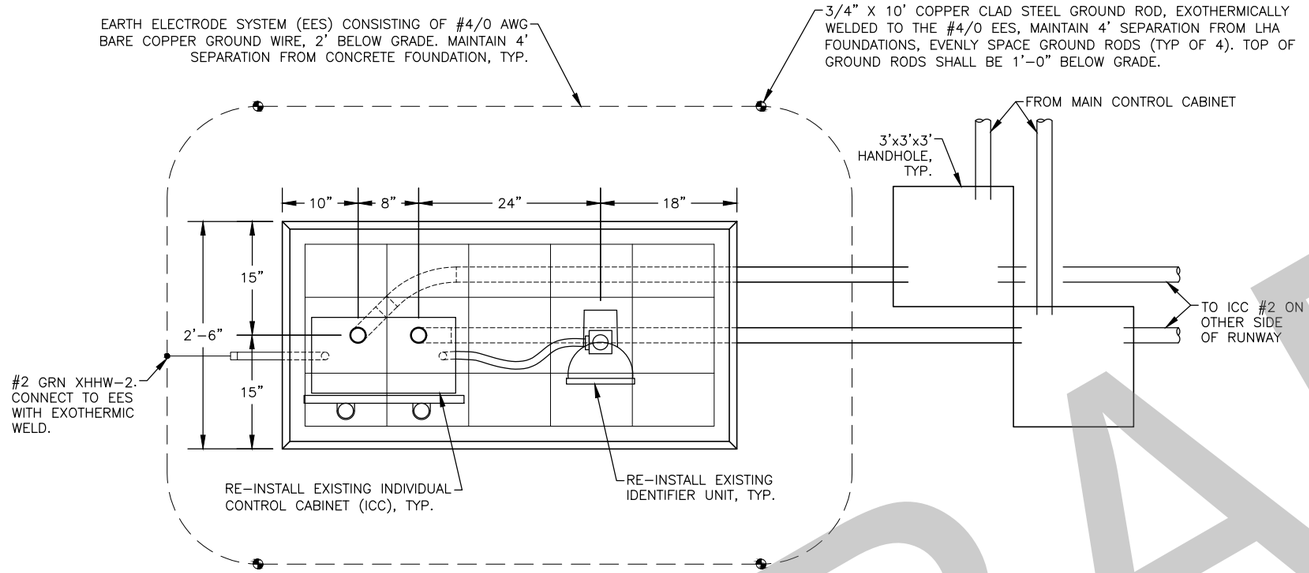
MBA CONSULTING ENGINEERS, INC.
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, AK 99517
(907) 274-2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

BY	DATE	REVISION

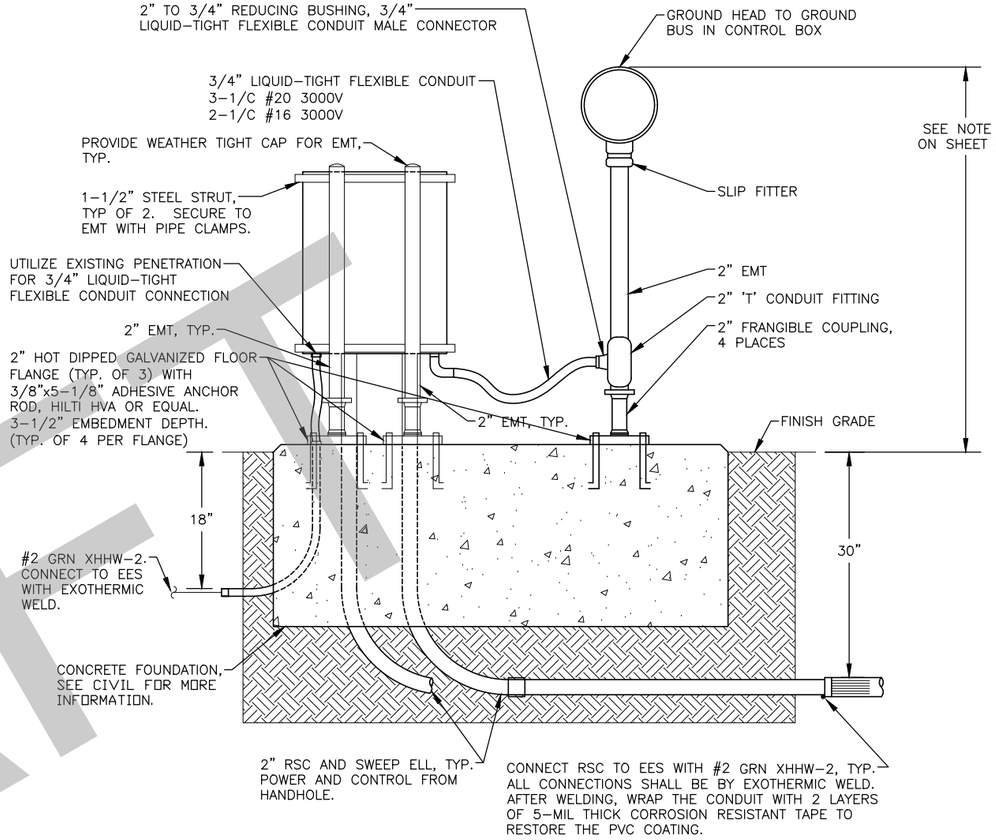
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
REIL PLOT PLANS

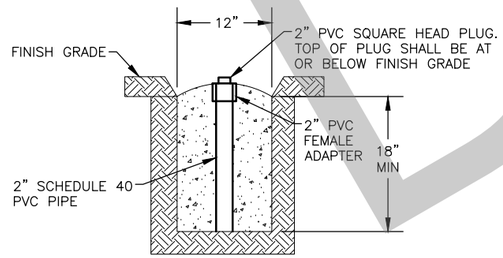
DATE: 1/4/2023
SHEET: 58 OF 60



1/59 PAD PLAN FOR INDIVIDUAL CONTROL CABINET AND IDENTIFIER
NTS



2/59 PAD SECTION FOR INDIVIDUAL CONTROL CABINET AND IDENTIFIER
NTS



3/59 AIMING PAD DETAIL
NTS

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Date Revised:	1/04/2023, 12:54 PM
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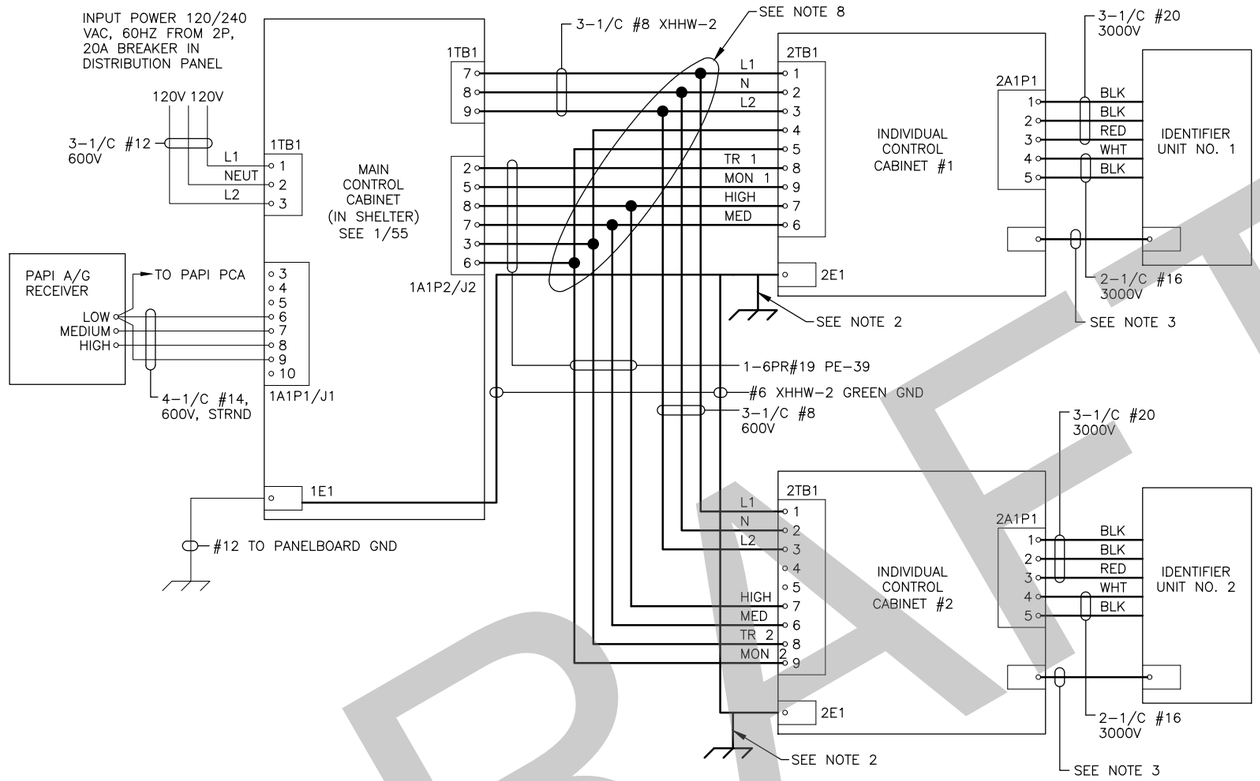
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
REIL DETAILS

DATE: 1/4/2023
SHEET: 59 OF 60



1/60 REIL WIRING SCHEMATIC
NTS

REIL INSTALLATION NOTES:

1. ALL EQUIPMENT INSIDE THE PAPI/REIL SHELTER, INCLUDING THE MAIN CONTROL CABINET AND A/G RECEIVER, IS ETR. THE IINDIVIDUAL CONTROL CABINETS AND IDENTIFIERS (REIL HEADS) ARE ETR. ALL OTHER EQUIPMENT, CONDUIT, CONDUCTORS, AND MATERIALS ARE NEW, PROVIDED BY CONTRACTOR.
2. INSTALL A #2 XHHW-2 GREEN GND WIRE FROM THE GROUND LUG IN EACH CABINET. CONNECT TO EES WITH EXOTHERMIC WELD.
3. GROUND FLASHER HEADS WITH A #12 GREEN INSULATED COPPER WIRE. ROUTE THE WIRE THROUGH THE FLEXIBLE CONDUIT AND ATTACH IT TO THE GROUND CLAMP INSIDE THE INDIVIDUAL CONTROL CABINETS.
4. CONDUITS SHALL ENTER THROUGH EXISTING PENETRATIONS IN THE BOTTOM OF THE CABINETS.
5. A WATERTIGHT SEALANT SHALL BE APPLIED AT CONDUIT-TO-CABINET FITTINGS.
6. THE IDENTIFIERS SHALL BE AIMED 15 DEGREES OUTWARD FROM THE RUNWAY CENTERLINE AND 10 DEGREES ABOVE THE HORIZONTAL.
7. INSTALL A GROUNDING BUSHING AT BOTH ENDS OF ALL CONDUITS IN ALL CABINETS.
8. ALL SPLICES SHALL OCCUR INSIDE THE REIL ICC #1 USING TERMINAL STRIP 2TB1, FOLD BACK, SECURE, AND TAPE ALL UNUSED #19 CONDUCTORS.
9. THE ELEVATION OF BOTH LAMP HEADS SHALL BE WITHIN 3 FEET OF A HORIZONTAL PLANE THROUGH THE RUNWAY CENTERLINE, OR A MAXIMUM OF 5 FEET ABOVE THE SURROUNDING GRADE. FIELD MEASURE AND INSTALL AT HIGHEST ACCEPTABLE ELEVATION.

Designed By: DMH
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Date Revised: 1/04/2023, 12:54 PM
Layout Name: 60
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STATE OF ALASKA 49TH EDWARD W. CARLSON EE-9354 REGISTERED PROFESSIONAL ENGINEER

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CENTRAL REGION
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PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
REIL WIRING SCHEMATIC

DATE: 1/4/2023
SHEET: 60 OF 60

Designed By:	DMH
Drawn By:	DMH
Checked By:	EWC

Date Revised:	1/04/2023, 12:56 PM
Layout Name:	UE1
File Path and Name:	Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-UTIL.dwg

ELECTRIC UTILITY GENERAL NOTES:

1. COORDINATE ALL WORK WITH THE LOCAL UTILITY COMPANY.
2. COORDINATE ALL OUTAGES WITH THE FAA THROUGH THE ENGINEER.
3. VERIFY STATUS OF ALL EXISTING SYSTEMS PRIOR TO THE START OF POWER LINE WORK.
4. LOCATE UNDERGROUND UTILITIES AT ALL POLE AND ANCHOR LOCATIONS PRIOR TO EXCAVATION.
5. ALL WORK SHALL COMPLY WITH THE LATEST EDITIONS OF ANSI C2–NESC, NFPA 70–NEC, RUS BULLETIN 1728F–804 SPECIFICATIONS AND DRAWINGS FOR 12.47/7.2 kV OVERHEAD DISTRIBUTION SYSTEMS, INCLUDING ANY STATE OF ALASKA AMENDMENTS, AND LOCAL UTILITY REQUIREMENTS.
6. SOIL CONDITIONS AT POLE AND GUY ANCHOR LOCATIONS HAVE NOT BEEN VERIFIED. PRELIMINARY INFORMATION INDICATES THAT CLASS 7 OR CLASS 8 SOILS (RUS BULLETIN 1728F–804, SECTION F) ARE LIKELY TO BE ENCOUNTERED. VERIFY SOIL HOLDING POWER AT POLE AND ANCHOR LOCATIONS PRIOR TO START OF WORK. PROVIDE POLE EMBEDMENT AND GUY ANCHORING AS REQUIRED FOR SOIL TYPES.
7. SEE SREB DRAWINGS FOR SECONDARY SERVICE DETAILS.
8. SEE SHEET UE6 FOR STAKING SHEET.

ELECTRIC UTILITY SHEET NOTES:

1. PROVIDE TEMPORARY POWER TO THE AIRFIELD LIGHTING EQUIPMENT (EEB) USING A TEMPORARY GENERATOR. EXPECT APPROXIMATELY 15 KW LOAD, 120/240V, SINGLE PHASE. THE EXISTING EEB HAS A 100A GENERATOR INLET AND TRANSFER SWITCH. TEMPORARY POWER SHALL BE AVAILABLE 24/7 EXCEPT DURING SCHEDULED OUTAGES. CONTRACTOR TO COORDINATE OUTAGES THROUGH THE ENGINEER.
2. DISCONNECT AND REMOVE EXISTING SECONDARY CONDUCTORS TO THE SREB METER, EEB METER, AND THE METER SERVING THE FAA PAPI/REIL SHELTER AND AWOS.
3. DISCONNECT AND REMOVE EXISTING PRIMARY CONDUCTORS BACK TO NEXT POLE, COIL AND PROTECT FOR RE–INSTALLATION.
4. DISCONNECT AND REMOVE EXISTING TRANSFORMER AND APPURTENANCES.
5. REMOVE EXISTING POWER POLE, GUYS, ANCHORS, CUTOUTS, ATTACHMENTS, AND APPURTENANCES.
6. PROVIDE NEW 45' POWER POLE IN EXISTING LOCATION, INSTALL TRUE AND PLUMB. PROVIDE GUYS AS SHOWN. PROVIDE NEW TRANSFORMER, CUTOUTS, SURGE ARRESTOR (MOUNTED ON TRANSFORMER), MOUNTING HARDWARE, AND APPURTENANCES AS SHOWN AND AS SPECIFIED. POLE SHALL BE SET SUCH THAT IT LEANS AWAY FROM THE STRAIN OF THE PRIMARY CONDUCTORS. IT SHALL BE SET SUCH THAT THE FINAL RAKE IS NOT LESS THAN 1 INCH FOR EACH 10 FEET OF POLE HEIGHT ABOVE GROUND AFTER THE CONDUCTORS ARE INSTALLED AT THE REQUIRED TENSION.
7. RECONNECT EXISTING PRIMARY CONDUCTORS TO NEW CUTOUTS.
8. PROVIDE NEW SERVICE CONDUCTORS TO THE METER AT THE FAA PAPI/REIL SHELTER AND TO THE METER ON THE NEW SREB. OVERHEAD TO EXISTING POLE P–0, THEN UNDERGROUND TO NEW SREB METER, SEE SHEETS 38, E2, AND E6. EXISTING FAA METER IS MOUNTED ON POLE P–0. ATTACH TO POLE P–0 AT 21 FEET ABOVE GRADE TO MAINTAIN 20 FEET MINIMUM ABOVE THE ACCESS ROAD.
9. PROVIDE NEW CUTOUTS TO DISCONNECT THE PRIMARY LINE FEEDING THE AIRPORT. PRIMARY TO BE DISCONNECTED WHILE POLE P–1 IS BEING REPLACED AND WHILE WORK IS BEING PERFORMED AT CULVERTS ALONG THE ACCESS ROAD.

ELECTRIC UTILITY LEGEND:

	EXISTING POWER POLE
	NEW POWER POLE
	POLE GROUNDING ELECTRODE
	DOWN GUY AND ANCHOR
X	TRANSFORMER; X = kVA
P–X	POLE DESIGNATION
	NEW MULTI–METER BASE
OHE	EXISTING OVERHEAD ELECTRIC LINE
UGE	EXISTING UNDERGROUND ELECTRIC LINE
OHE	NEW OVERHEAD ELECTRIC LINE
UGE	NEW UNDERGROUND ELECTRIC LINE
	EXISTING ROAD SIGN

ELECTRIC UTILITY ABBREVIATIONS:

ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AWOS	AUTOMATED WEATHER OBSERVING SYSTEM
BIL	BASIC IMPULSE LEVEL
BS	BACK SPAN
CB	CIRCUIT BREAKER
EEB	ELECTRICAL EQUIPMENT BUILDING
ETR	EXISTING TO REMAIN
EX	EXISTING
FT	FEET
LT	LEFT
MISC	MISCELLANEOUS
NEC	NATIONAL ELECTRICAL CODE
NESC	NATIONAL ELECTRICAL SAFETY CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NFS	NON–FROST SUSCEPTIBLE SOIL
NO	NUMBER
OHE	OVERHEAD ELECTRIC
RT	RIGHT
RUS	RURAL UTILITIES SERVICE
SREB	SNOW REMOVAL EQUIPMENT BUILDING
SZ	SIZE
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
XFMR	TRANSFORMER

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CENTRAL REGION
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PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
UTILITY LEGEND AND NOTES

DATE: 1/4/2023

SHEET: UE1 OF UE6

Designed By:	DMH
Drawn By:	DMH
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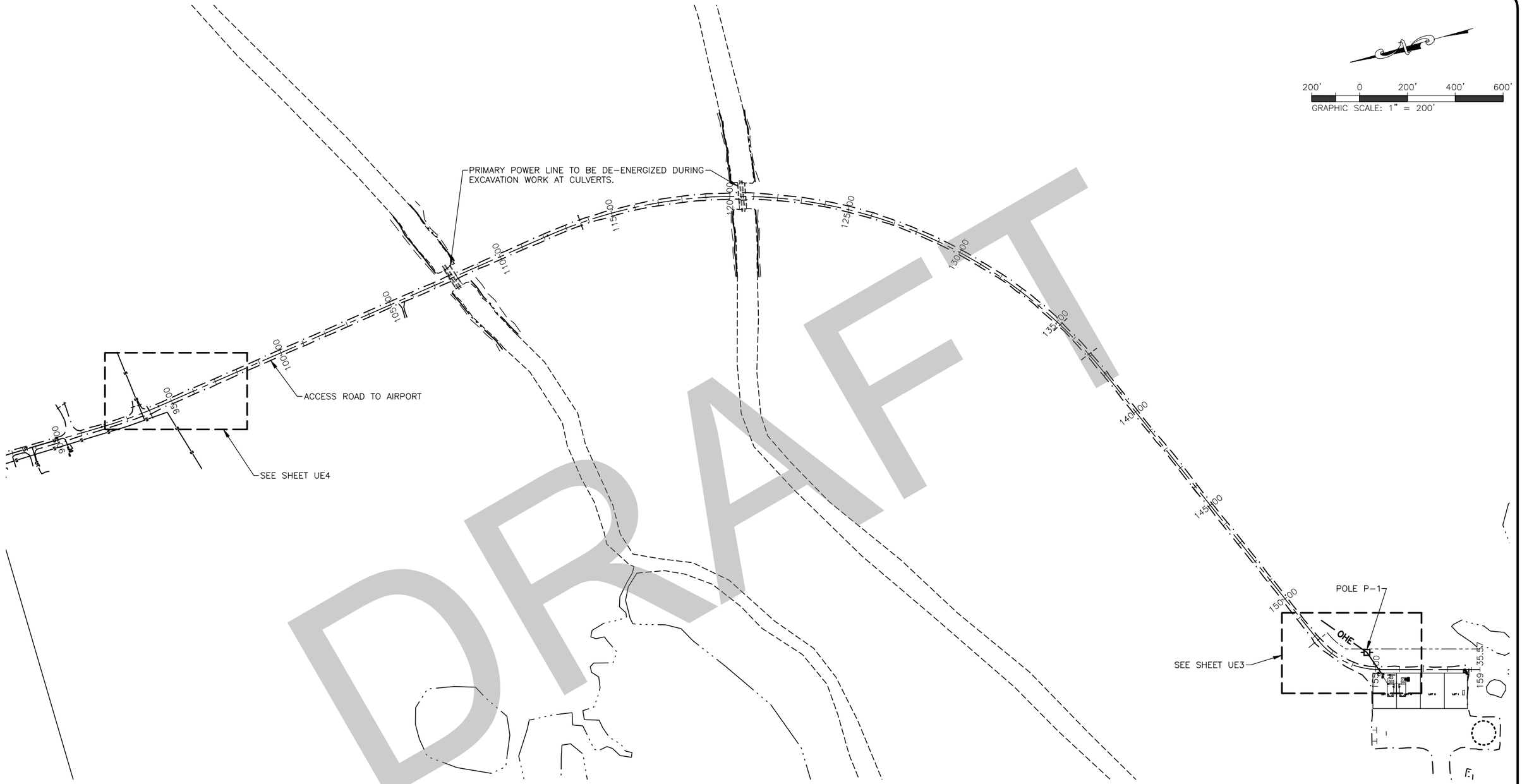
Date Revised:	1/04/2023, 12:56 PM
Layout Name:	UE2
File Path and Name:	Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-UTIL.dwg



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CENTRAL REGION
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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
UTILITY/ACCESS ROAD OVERALL PLAN

DATE: 1/4/2023

SHEET: UE2 OF UE6

EXISTING OVERHEAD PRIMARY TO REMAIN

EXISTING POLE TO REMAIN

OHE

OHE

3

152+50

153+00

153+50

154+00

154+50

POLE P-1, REMOVE AND REPLACE POLE, GUYS, TRANSFORMER, AND GROUNDING.
APPROXIMATE STATION: 154+49.5, 66.5 LT.

4 5 6 7

75
KVA

8 #750 KCMIL AL TRIPLEX, XHHW-2

155+00

155+50

156+00

156+50

157+00

157+50

158+00

158+50

UGE

1 2 8

PROVIDE NEW UNDERGROUND SERVICE TO SREB METER BASE. 3 #500 KCMIL XHHW-2 COPPER, IN 3" RSC. ROUTE TO AVOID NEW GUY AND ANCHOR.

EXISTING FAA PAPI/REIL SHELTER TO REMAIN.

EXISTING POLE P-0 AND FAA METER BASE TO REMAIN. PROVIDE NEW RISER FOR SREB SERVICE. PROVIDE NEW GUY.

EEB

FUEL TANKS

1 2

NEW MULTI-METER BASE MOUNTED ON NEW SREB, SEE SHEET 40

SREB 1

SREB 2

EXISTING POWER FEED TO AWOS TO REMIAN

AWOS

20' 0 20' 40' 60'

GRAPHIC SCALE: 1" = 20'

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49 TH
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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
LARGE SCALE UTILITY PLAN AT APRON

DATE: 1/4/2023

SHEET: UE3 OF UE6

Designed By: DMH
Drawn By: DMH
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Date Revised:
Layout Name: UE3
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-UTIL.dwg
1/04/2023, 12:56 PM

EXISTING POLE P-2, PROVIDE NEW PRIMARY CUTOUTS AND DE-ENERGIZE THE POWER LINE FOR CULVERT EXCAVATION AND UTILITY WORK. RE-ENERGIZE WHEN WORK IS COMPLETE. (9)

OHE

ENTRANCE TO THE SCHOOL

92+00
93+00
94+00
95+00
96+00
97+00
98+00

20' 0 20' 40' 60'

GRAPHIC SCALE: 1" = 20'

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
LARGE SCALE UTILITY PLAN AT SCHOOL

DATE: 1/4/2023

SHEET: UE4 OF UE6

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised:
Layout Name: 1/04/2023, 12:56 PM
File Path and Name: UE4
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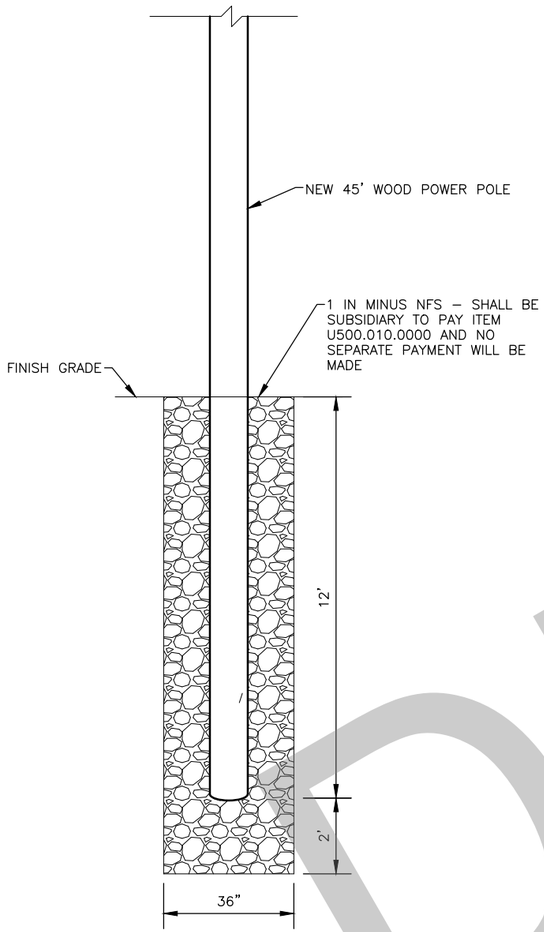
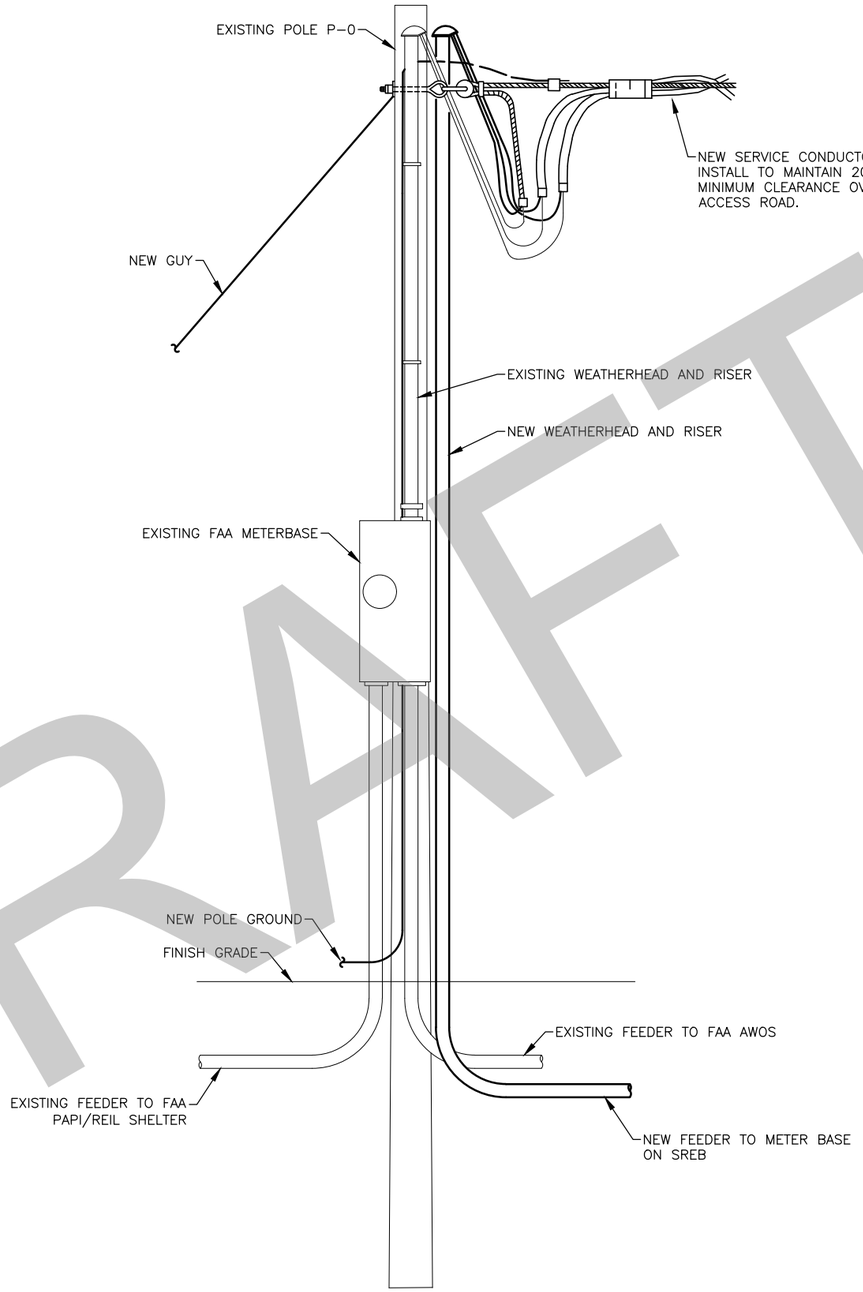


1 UE5 POWER POLE EMBEDMENT DETAIL
NTS



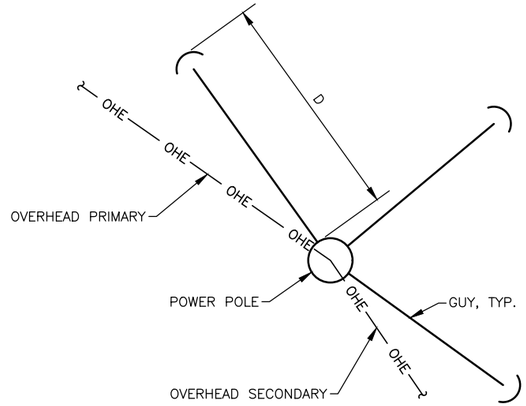
2 UE5 RISER DETAIL
NTS

DETAIL 2 NOTES:

DIMENSION "D": EQUAL TO OR GREATER THAN GUY ATTACHMENT HEIGHT, TYPICAL ALL.

USE DOUBLE PLATE TYPE ANCHORS WHERE REQUIRED AFTER 50% DERATING FOR CLASS 7 SOIL.

PROVIDE RUS F6.10 SWAMP ANCHORS IN CLASS 8 SOIL.



3 UE5 GUY/ANCHOR DETAIL – PLAN VIEW
NTS

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Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:56 PM
Layout Name: UE5
File Path and Name: Z:\21016KAR – Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-UTIL.dwg

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
UTILITY POLE EMBEDMENT AND GUY DETAILS

DATE: 1/4/2023
SHEET: UE5 OF UE6

EXIST/NEW	CONDUCTOR: SERVICE NO.	SERVICE SZ. TYPE	SERVICE BACK SPAN	SECONDARY NO.	SECONDARY SZ. TYPE	SECONDARY BACK SPAN	PRIMARY NO.	PRIMARY SZ. TYPE	PRIMARY BACK SPAN	LOCATION	HEIGHT & CLASS	PRIMARY ASSEMBLY NO.	PRIMARY ASSEMBLY UNITS	GUYS (E) NO.	GUYS (E) UNITS	ANCHORS (F) NO.	ANCHORS (F) UNITS	XFORMERS (G) NO.	XFORMERS (G) UNITS	SECONDARY (J) NO.	SECONDARY (J) UNITS	SERVICE (K) NO.	SERVICE (K) UNITS	MISC (M) NO.	MISC (M) UNITS	REMARKS
NEW POLE P-1							2	#2 ACSR	232	LOCATION OF EXISTING POLE	45-4	1	A5.1	2	E1.1L	2	F6.10	1	G1.6	1	J3.1			1	H1.1	75 KVA XFMR (NOTE 8), FUSED CUTOUT W/40A FUSE (NOTE 6), SURGE ARRESTOR (NOTE 7). SERVICE CONDUCTOR TO BE 90C XHHW-2 TRIPLEX CONDUCTOR. (NOTE 10)
												1	N5.2											1	W1.1G	
EXISTING POLE P-2							2	#2 ACSR		BEGINNING OF ACCESS ROAD NEAR SCHOOL		1	A6.1											1	S1.1	NEW PRIMARY CUTOUT
EXISTING SERVICE POLE P-0		1	750KCM TRIPLEX	110						ON APRON NEAR FAA SHELTER				1	E1.1	1	F3.12			1	J3.1			1	H1.1	NEW GUY AND ANCHOR

NOTES:

1. #2 ACSR SHALL BE CODE WORD SPARATE, 7/1 AL/STL STR.
2. GROUND WIRES AT POLES SHALL BE #4 BARE CU.
3. INSTALL NEUTRAL ON LOAD SIDE.
4. JUMPER WITH #2 ACSR AND COMPRESSION CONNECTOR.
5. UNIT DESIGNATION ON STAKING SHEETS REFER TO RUS BULLETIN 1728F-804 DRAWING NUMBERS. REFERENCED DRAWINGS ARE IN PROJECT SPECIFICATIONS APPENDIX 0.
6. FUSED CUTOUT: 15KV, 95KV BIL, 200A, 10KA, TYP T FUSE.
7. SURGE ARRESTER.: DISTRIBUTION CLASS, 9KV.
8. TRANSFORMER: 75KVA, SINGLE PHASE, 7200V PRIMARY, 120/240V 3-WIRE SECONDARY, 95KV BIL. PROVIDE PRIMARY FUSES PER NEC AND MANUFACTURER'S RECOMMENDATIONS, PROVIDE 400A 2P SECONDARY CB.
9. LINE INSULATORS: 95KV BIL MINIMUM.
10. PROVIDE NUMBER OF GUY AND ANCHOR UNITS AS NEEDED FOR REQUIRED HOLDING POWER IN SOIL ENCOUNTERED AT POLE LOCATION.

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
UTILITY STAKING SHEET

DATE: 1/4/2023

SHEET: UE6 OF UE6

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:56 PM
Layout Name: UE6
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-UTIL.dwg

SURVEY CONTROL AND MONUMENTS

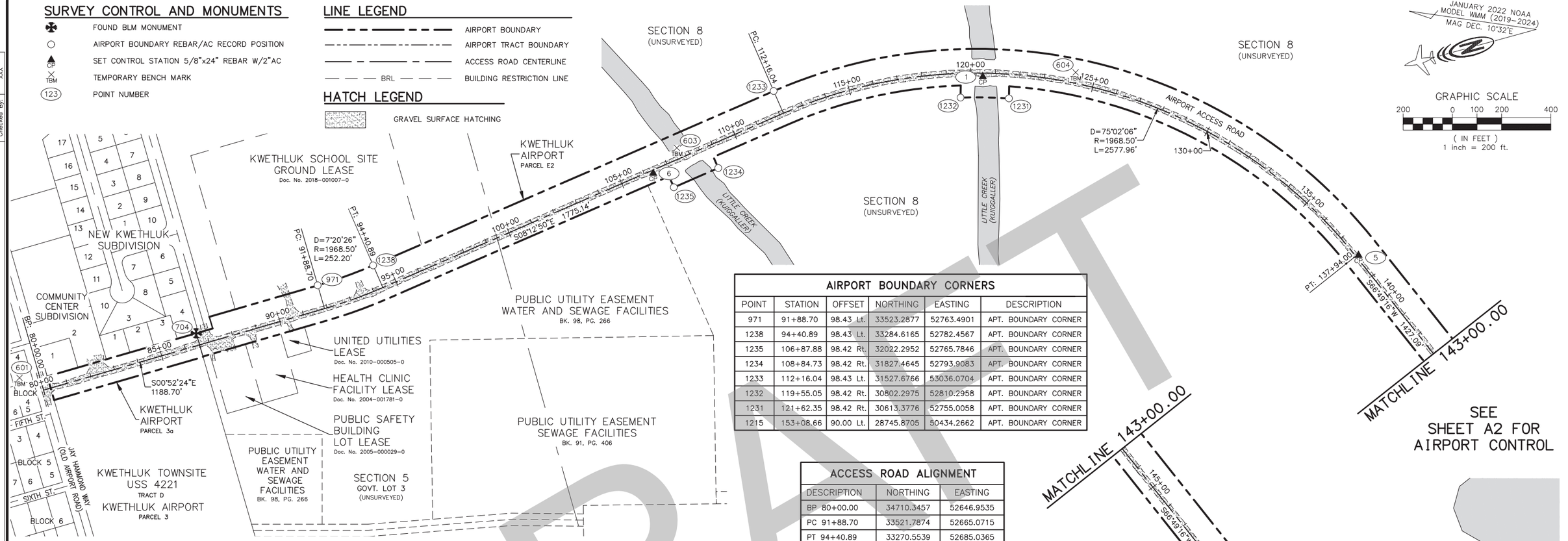
- FOUND BLM MONUMENT
- AIRPORT BOUNDARY REBAR/AC RECORD POSITION
- CP — SET CONTROL STATION 5/8"x24" REBAR W/2"AC
- TBM — TEMPORARY BENCH MARK
- (123) — POINT NUMBER

LINE LEGEND

- AIRPORT BOUNDARY
- AIRPORT TRACT BOUNDARY
- ACCESS ROAD CENTERLINE
- BRL — BUILDING RESTRICTION LINE

HATCH LEGEND

- GRAVEL SURFACE HATCHING



JANUARY 2022 NOAA
MODEL WMM (2019-2024)
MAG DEC. 10°32'E

GRAPHIC SCALE
200 0 100 200 400
(IN FEET)
1 inch = 200 ft.

SEE
SHEET A2 FOR
AIRPORT CONTROL

AIRPORT BOUNDARY CORNERS

POINT	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
971	91+88.70	98.43 Lt.	33523.2877	52763.4901	APT. BOUNDARY CORNER
1238	94+40.89	98.43 Lt.	33284.6165	52782.4567	APT. BOUNDARY CORNER
1235	106+87.88	98.42 Rt.	32022.2952	52765.7846	APT. BOUNDARY CORNER
1234	108+84.73	98.42 Rt.	31827.4645	52793.9083	APT. BOUNDARY CORNER
1233	112+16.04	98.43 Lt.	31527.6766	53036.0704	APT. BOUNDARY CORNER
1232	119+55.05	98.42 Rt.	30802.2975	52810.2958	APT. BOUNDARY CORNER
1231	121+62.35	98.42 Rt.	30613.3776	52755.0058	APT. BOUNDARY CORNER
1215	153+08.66	90.00 Lt.	28745.8705	50434.2662	APT. BOUNDARY CORNER

ACCESS ROAD ALIGNMENT

DESCRIPTION	NORTHING	EASTING
BP 80+00.00	34710.3457	52646.9535
PC 91+88.70	33521.7874	52665.0715
PT 94+40.89	33270.5539	52685.0365
PC 112+16.04	31513.6216	52938.6490
PT 137+94.00	29422.7808	51765.1506
PC 152+21.09	28861.0717	50453.2504
PT 155+15.24	28646.8855	50266.1614
EP 159+35.57	28241.7462	50154.1679

PROJECT VERTICAL CONTROL

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
601	N/A	N/A	34791	52721	23.26	Fd Spike: TBM 155
603	107+63	44 Lt.	31968	52917	18.44	Set Mark: TBM CULVERT
604	124+20	43 Lt.	30324	52786	20.43	Set Spike: TBM PP
605	155+08	24 Rt.	28661	50245	31.28	Set Mark: TBM POWER

PROJECT HORIZONTAL CONTROL

POINT	ACCESS RD. ALIGNMENT		LOCAL COORDINATES		NAD83(2003) GEOGRAPHIC COORDINATES		NAD83(2003) ZONE 7 COORDINATES		NAVD88 (GEOID12b) ELEV.	DESCRIPTION
	STATION	OFFSET	NORTHING	EASTING	NORTH LATITUDE	WEST LONGITUDE	NORTHING	EASTING		
704	86+60.05	49.22 Lt.	34051.1184	52706.2298	60° 48' 30.76580"	161° 25' 28.19205"	2487874.9114	1743181.5664	18.92	Fd BC[BLM]: C2 Tr2 S4221
6	106+33.80	12.60 Rt.	32088.0854	52842.9994	60° 48' 11.42351"	161° 25' 25.78248"	2485912.0542	1743318.3238	22.14	Set Rbr/AC[R&M]: CP 6
1	120+49.15	14.57 Rt.	30692.6646	52868.2517	60° 47' 57.68027"	161° 25' 25.52045"	2484516.7584	1743343.5738	23.00	Set Rbr/AC[R&M]: CP 1
5	137+98.21	10.63 Lt.	29411.3579	51765.4657	60° 47' 45.15772"	161° 25' 47.96792"	2483235.5664	1742240.8866	24.20	Set Rbr/AC[R&M]: CP 5

Sheet 1 Stations and Offsets reference the Airport Access Road alignment.

HORIZONTAL CONTROL STATEMENT

Coordinate System:
Project coordinates are on a local, ground-based, U.S. Survey Feet grid developed by DOT&PF in March 2005. This coordinate system is reported on Survey Control Diagram Record of Survey Plat 2008-1, BRD.

Basis of Coordinates:
Basis of Coordinates is Station KW1 (Point No. 51).
KW1 Kwethluk Coordinates:
30000.0000 N
50000.0000 E
KW1 NAD83(2003) State Plane Zone 7 Coordinates:
2483824.1558 N
1740475.5790 E
KW1 NAD83(2003) Geographic Coordinates:
Lat. = 60°47'51.10392" N
Long.= 161°26'23.44038" W

Basis of Bearings:
Basis of Bearings is high precision static GPS measurements adjusted by Least Squares method.

To convert Kwethluk Coordinates to Alaska State Plane Zone 7 Coordinates:
Add 2,454,046.6290 to Northings
Add 1,690,631.4713 to Eastings
Scale by 0.9999104392 (Base Pt. 0,0)

VERTICAL CONTROL STATEMENT

Elevations are NAVD88(Geoid12b) based on three OPUS solutions for GPS sessions at Control Point 2 (CP 2). These GPS sessions took place November 10th, 11th & 12th. Each observation exceeded six hours in duration. All three observations reported NAVD88 orthometric heights that agreed within 0.04' of each other. The mean OPUS NAVD88(Geoid12b) elevation for CP 2 = 24.47'.

Other elevations pertinent to this project:
2001 Kwethluk Airport design elevations are 1.97' above project elevations.
2005-2008 SCD ROS plat 2008-1 elevations are 9.64' below project elevations.
1971 flood highwater mark = 23.73' (project elevation).
1989 flood highwater mark = 23.14' (project elevation).
2002 flood highwater mark = 23.32' (project elevation).

SURVEY INFORMATION

1. This mapping is based on field surveys performed by R&M Consultants, Inc. November 2021 & June 2022. Static GPS and RTK GPS were performed using Trimble dual frequency receivers. Optical surveys were measured with a Trimble S7 total station. Differential levels were performed with a Leica DNA10 digital level.
2. Alignment Stationing
   A) Runway stationing is based on Kwethluk ALP dated 11-10-05. Station 20+00.00 is fixed at asbuilt R/W 18 threshold.
   B) Taxiway stationing is newly established this project. Beginning station 70+00.00.
   C) Access Road stationing is newly established this project. Beginning station 80+00.00.
3. Whether listed or not, all monuments or property markers, corner, or accessories which will be disturbed or buried, shall be referenced or re-established in their original position (A.S. 19.10.260) and recorded (A.S. 34.65.040).
4. All coordinates and dimensions listed here are in U.S. Survey Feet.
5. Reference Survey Control Diagram ROS plat 2022-10, Bethel Recording District for additional information.

SURVEYOR'S CERTIFICATE

I, Randal H. Brinker, hereby certify that I am a registered professional land surveyor in the state of Alaska and that this drawing represents a survey made by me or under my direct supervision, and that the monuments shown on this drawing actually exist as described, and that all dimensions and other details are true and correct to the best of my knowledge.

RANDAL H. BRINKER, L.S. 8852 — Date

STATE OF ALASKA 49TH Randal H. Brinker LS 8852 Registered Professional Land Surveyor

Date Revised:	9/01/2022, 4:14 PM
Layout Name:	AA1
File Path and Name:	Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Survey\ACAD\Kwethluk _SCS.dwg

Designed By:	XXX
Drawn By:	XXX
Checked By:	XXX

PLANS DEVELOPED BY:
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9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
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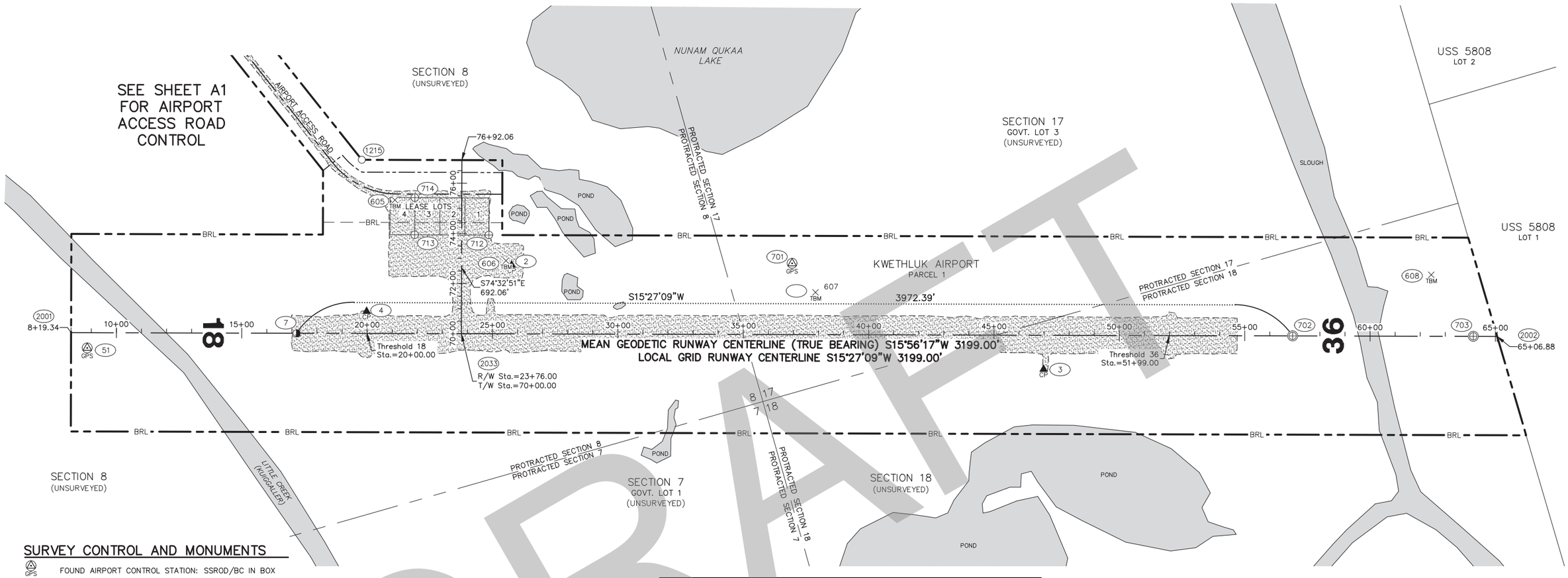
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-XXX-20XX
SURVEY CONTROL SHEET

DATE: 8-31-2022
SHEET: AA1 OF AA2



SURVEY CONTROL AND MONUMENTS

- GPS — FOUND AIRPORT CONTROL STATION: SSROD/BC IN BOX
- FOUND PRIMARY AIRPORT CENTERLINE MONUMENT
- AIRPORT BOUNDARY REBAR/AC: RECORD POSITION
- SET REBAR: RUNWAY CENTERLINE
- CP — SET CONTROL STATION 5/8"x24" REBAR W/2"AC
- TBM — TEMPORARY BENCH MARK
- (123) — POINT NUMBER

LINE LEGEND

- AIRPORT BOUNDARY
- BRL — AIRPORT BOUNDARY/BRL
- AIRPORT TRACT BOUNDARY
- R/W & T/W CENTERLINE
- ACCESS ROAD CENTERLINE
- BRL — BUILDING RESTRICTION LINE

HATCH LEGEND

- GRAVEL SURFACE HATCHING

JANUARY 2022 NOAA MODEL WMM (2019–2024)
MAG DEC. 10°32'E

GRAPHIC SCALE
200 0 100 200 400
(IN FEET)
1 inch = 200 ft.

TAXIWAY ALIGNMENT

DESCRIPTION	NORTHING	EASTING
BOP 70+00.00	28545.7042	49660.9195
EOP 76+92.06	28361.3133	50327.9630

RUNWAY ALIGNMENT

POINT	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
2001	8+19.34	0.00 Rt.	30046.0985	50075.6737	Intersect with airport boundary
7	17+18.76	0.00 Rt.	29179.1904	49836.0342	Set Rbr: Apt. CL
2033	23+76.00	0.00 Rt.	28545.7042	49660.9195	T/W CL Intersect
702	56+91.14	0.00 Rt.	25350.3984	48777.6408	Fd Almon[4408–S]: Apt. CL
703	64+12.07	0.20 Lt.	24655.4761	48585.7501	Fd Almon[4408–S]: Apt. CL
2002	65+06.88	0.00 Rt.	24564.1467	48560.2972	Intersect with airport boundary

LEASE LOT CORNERS

POINT	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
713	21+88.66	393.55' Lt.	28621.4124	50090.1569	Fd Almon/Box[DOT]: NW L3 Apt.
714	21+88.84	541.69' Lt.	28581.7667	50232.8977	Fd Almon/Box[DOT]: NE L3 Apt.
712	24+84.72	393.76' Lt.	28336.0027	50011.4742	Fd Almon/Box[DOT]: SW L1 Apt.

PROJECT VERTICAL CONTROL

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
605	21+09	532 Lt.	28661	50245	31.28	Set Mark: TBM POWER
606	25+53	291 Lt.	28298	49895	24.35	Set X: TBM CONE
607	37+88	169 Lt.	27140	49447	19.72	Set Spike: TBM STUMP1
608	62+43	245 Lt.	24753	48867	21.06	Set Spike: TBM STUMP2

PROJECT HORIZONTAL CONTROL

POINT	R/W ALIGNMENT		LOCAL COORDINATES		NAD83(2003) GEOGRAPHIC COORDINATES		NAD83(2003) ZONE 7 COORDINATES		NAVD88 (GEOID12b) ELEV.	DESCRIPTION
	STATION	OFFSET	NORTHING	EASTING	NORTH LATITUDE	WEST LONGITUDE	NORTHING	EASTING		
51	8+83.93	60.66 Rt.	30000.0000	50000.0000	60° 47' 51.10392"	161° 26' 23.44038"	2483824.1558	1740475.5790	22.09	Fd BC/SSrod[DOTPF]: KW1
7	17+18.76	0.00 Rt.	29179.1904	49836.0342	60° 47' 43.03494"	161° 26' 26.88533"	2483003.4197	1740311.6279		Set Rbr: Apt. CL
4	19+97.72	88.15 Lt.	28886.8269	49846.6714	60° 47' 40.15506"	161° 26' 26.72119"	2482711.0824	1740322.2641	24.48	Set Rbr/AC[R&M]: CP 4
2	25+75.69	274.10 Lt.	28280.2008	49871.9059	60° 47' 34.17931"	161° 26' 26.31691"	2482104.5106	1740347.4964	24.47	Set Rbr/AC[R&M]: CP 2
701	36+94.52	284.07 Lt.	27199.1589	49583.4156	60° 47' 23.55814"	161° 26' 32.31441"	2481023.5655	1740059.0319	21.31	Fd BC/SSrod[DOTPF]: KW2
3	46+98.29	135.38 Rt.	26343.4347	48911.6866	60° 47' 15.18757"	161° 26' 45.99253"	2480167.9180	1739387.3631	23.50	Set Rbr/AC[R&M]: CP 3
702	56+91.14	0.00 Rt.	25350.3984	48777.6408	60° 47' 05.41996"	161° 26' 48.86138"	2479174.9706	1739253.3293	18.77	Fd Almon[4408–S]: Apt. CL

Sheet 2 Stations and Offsets reference the Airport centerline alignment.

STATE OF ALASKA
49 TH
Randal H. Brinker
LS 8852
Registered Professional Land Surveyor

PLANS DEVELOPED BY:
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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-XXX-20XX
SURVEY CONTROL SHEET

DATE: 8-31-2022

SHEET: AA2 OF AA2

Designed By: XXX
Drawn By: XXX
Checked By: XXX

Date Revised:
Layout Name: AA2
File Path and Names: Z:\project\29440.01 DOT_C Kwethluk Airport Rehab\Survey\ACAD\Kwethluk _SCS.dwg
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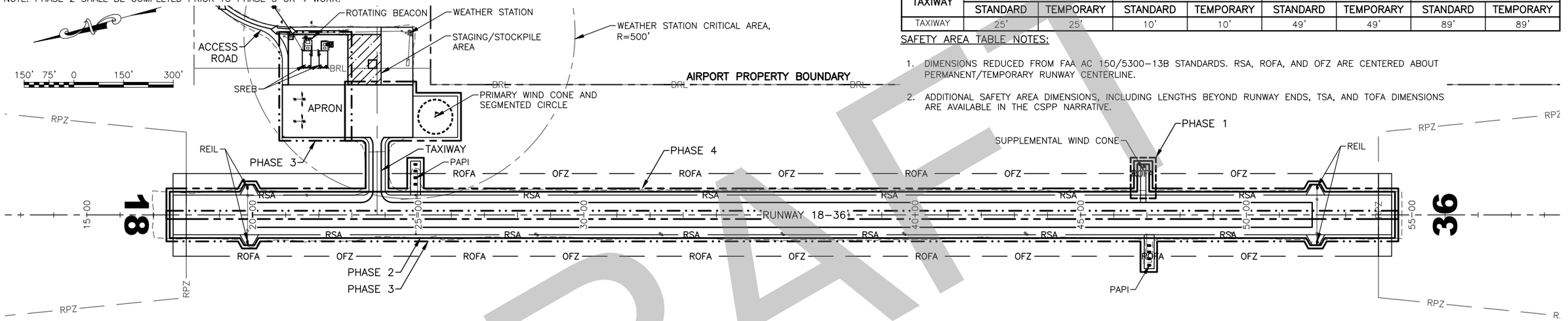
CONSTRUCTION PHASE TABLE

CONSTRUCTION PHASE	WORK TO BE COMPLETED	DURATION	RUNWAY CLOSURE	TAXIWAY CLOSURE	COMPLETION
PHASE 1	CONSTRUCT AND SURCHARGE SUPPLEMENTAL WIND CONE ACCESS ROAD EMBANKMENT	30 DAYS	NIGHTLY RUNWAY CLOSURE 7PM – 9AM	NONE	2023
PHASE 2	REESTABLISH EMBANKMENT GRADES FOR FUTURE HALF–WIDTH OPERATIONS. DEMO OF EXISTING AIRFIELD LIGHTING AND NAVAIDS	25 DAYS	NIGHTLY RUNWAY CLOSURE 7PM – 9AM	NONE	2024
PHASE 3	CONSTRUCT WEST HALF OF RUNWAY, WEST HALF OF RUNWAY LIGHTING, NORTH HALF OF APRON, AIRCRAFT TIE–DOWNS, SREB FACILITIES, & WEST HALF OF FAA NAVAIDS	40 DAYS	HALF–WIDTH DAY OPERATIONS. NIGHTLY CLOSURE 7PM – 9AM	NONE	2024
PHASE 4	CONSTRUCT EAST HALF OF RUNWAY, EAST HALF OF RUNWAY LIGHTING, TAXIWAY, TAXIWAY LIGHTING, SOUTH HALF OF APRON, SEGMENTED CIRCLE, PRIMARY WIND CONE, SUPPLEMENTAL WIND CONE, & EAST HALF OF FAA NAVAIDS	40 DAYS	HALF–WIDTH DAY OPERATIONS. NIGHTLY CLOSURE 7PM – 9AM	NIGHTLY CLOSURE 7PM – 9AM	2024
PHASE 5	CONSTRUCT ACCESS ROAD, REPLACE CULVERTS, & INSTALL SIGNS	45 DAYS	NONE	NONE	2024

NOTE: PHASE 2 SHALL BE COMPLETED PRIOR TO PHASE 3 OR 4 WORK.



RUNWAY SAFETY AREAS

RUNWAY	RW 18–36	TEMPORARY RW		
	EXISTING / PHASE 5	PHASE 1 / PHASE 2	PHASE 3	PHASE 4
RUNWAY DESIGN CODE	A–I(S)–5000	A–I(S)–5000	A–I(S)–5000	A–I(S)–5000
APPROACH TYPE	VIS	VIS	VIS	VIS
RUNWAY TYPE	UTILITY	UTILITY	UTILITY	UTILITY
RUNWAY DIMENSIONS	75' x 3,199'	35' x 3,199'	35' x 3,199'[1]	35' x 3,199'[1]
RUNWAY SAFETY AREA	120' x 3,679'	60' x 3,679'	60' x 3,679'[1]	60' x 3,679'[1]
RUNWAY OBJECT FREE AREA	250' x 3,679'	250' x 3,679'	125' x 3,679'[1]	125' x 3,679'[1]
RUNWAY OBSTACLE FREE ZONE	250' x 3,599'	250' x 3,599'	125' x 3,599'[1]	125' x 3,599'[1]
RUNWAY PROTECTION ZONE	250' x 450' x 1,000'	250' x 450' x 1,000'	250' x 450' x 1,000'	250' x 450' x 1,000'
PRIMARY SURFACE WIDTH	500'	500'	250'[1]	250'[1]

TAXIWAY SAFETY AREAS

TAXIWAY	WIDTH		SHOULDER		TSA		TOFA	
	STANDARD	TEMPORARY	STANDARD	TEMPORARY	STANDARD	TEMPORARY	STANDARD	TEMPORARY
TAXIWAY	25'	25'	10'	10'	49'	49'	89'	89'

SAFETY AREA TABLE NOTES:

1. DIMENSIONS REDUCED FROM FAA AC 150/5300–13B STANDARDS. RSA, ROFA, AND OFZ ARE CENTERED ABOUT PERMANENT/TEMPORARY RUNWAY CENTERLINE.
2. ADDITIONAL SAFETY AREA DIMENSIONS, INCLUDING LENGTHS BEYOND RUNWAY ENDS, TSA, AND TOFA DIMENSIONS ARE AVAILABLE IN THE CSPP NARRATIVE.

GENERAL SAFETY REQUIREMENTS:

1. SEE APPENDIX C OF THE SPECIFICATIONS FOR THE CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) REQUIREMENTS. THE CONTRACTOR SHALL COMPLY WITH THE SAFETY REQUIREMENTS AS REQUIRED IN THE CSPP. ALL SAFETY RELATED WORK SHALL BE SUBSIDIARY TO THE CONTRACT AND NO ADDITIONAL PAYMENT WILL BE MADE.
2. THE CONTRACTOR SHALL SUBMIT A SAFETY PLAN COMPLIANCE DOCUMENT, PER FAA AC 150/5370–2, TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ISSUANCE OF A NOTICE TO PROCEED. IF THE CONSTRUCTION PHASING PLAN DIFFERS FROM WHAT IS SHOWN OR IF SUBSEQUENT CHANGES ARE MADE, SUBMIT A REVISION TO THE ENGINEER FOR REVIEW AND APPROVAL.
3. DURING PHASES 1, 2, 3, AND 4, THE CLOSED PORTIONS OF THE RUNWAY AND TAXIWAY MAY BE USED AS A HAUL ROUTE. HAUL ROUTES WILL NOT BE ALLOWED ON ANY OPEN RUNWAY OR TAXIWAY, INCLUDING THE ACTIVE RSA OR TSA.
4. WHEN WORKING NEAR THE OPEN RUNWAY, EVACUATE ALL PERSONNEL AND EQUIPMENT TO THE SAFE ZONES DESCRIBED IN DETAILS 1 AND 2 ON SHEET AC6, 15 MINUTES PRIOR TO AND 15 MINUTES AFTER ALL ARRIVALS AND DEPARTURES. WHEN PERSONNEL AND EQUIPMENT CANNOT BE EVACUATED TO THE SAFE ZONES, THEY MUST EVACUATE THE RUNWAY SAFETY AREA (RSA) AND/OR TAXIWAY SAFETY AREA (TSA) AND MOVE AS FAR AWAY FROM THE RUNWAY CENTERLINE AS PRACTICAL DURING AIRCRAFT OPERATIONS. **IN NO CASE CAN PERSONNEL OR EQUIPMENT BE INSIDE THE RSA OR TSA DURING AIRCRAFT OPERATIONS.**
5. DETERMINE THE TIMES OF SCHEDULED FLIGHTS INTO KWETHLUK AIRPORT AND ALLOW AIRCRAFT TO USE THE RUNWAY DURING THE SCHEDULED TIMES. ADJUST START AND STOP TIMES TO ACCOMMODATE THE COMMERCIAL SERVICE SCHEDULE, AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL MONITOR THE COMMON TRAFFIC ADVISORY FREQUENCY (CTAF) AND PERFORM VISUAL MONITORING FOR UNSCHEDULED FLIGHTS. THE CONTRACTOR SHALL CLEAR THE RUNWAY ACCORDING TO NOTE 4 FOR ALL ARRIVALS AND DEPARTURES INCLUDING EMERGENCY MEDEVACS. THE CONTRACTOR SHALL BE AWARE OF AND ACCOMMODATE ALL SCHEDULED, UNSCHEDULED, AND CHARTERED OPERATIONS.
6. ALL CONSTRUCTION VEHICLES AND EQUIPMENT SHALL OPERATE A FLASHING YELLOW BEACON AND 3' X 3' CHECKERED FLAG WITH 1' X 1' ORANGE AND WHITE SQUARES WHEN WORKING ON THE AIRPORT. THE CONTRACTOR'S SAFETY OFFICER VEHICLE SHALL HAVE BOTH A YELLOW FLASHING BEACON AND A SEPARATE VISUAL AND/OR AUDIBLE SIGNAL (E.G., COLORED FLASHING BEACON OTHER THAN YELLOW, MEGAPHONE, AIR HORN, 2–WAY RADIO CONTACT, ETC) USED TO SIGNAL WORKERS TO CLEAR THE AREAS DESCRIBED IN NOTE 4 DURING AIRCRAFT TAKEOFFS AND LANDINGS.
7. KEEP AREAS WITHIN THE RUNWAY OBJECT FREE AREA (ROFA) AND ACTIVE TAXIWAY SAFETY AREA (TSA) LIMITS CLEAR OF CONSTRUCTION MATERIALS. REMOVE ANY DEBRIS FROM THESE AREAS WITHIN 15 MINUTES OF VERBAL NOTICE FROM THE ENGINEER OR ENGINEER'S REPRESENTATIVE.
8. CLEAR SAFETY AREAS AND OBJECT FREE AREAS AT ANY TIME DIRECTED BY THE ENGINEER.
9. DAMAGE TO FAA FACILITIES INCLUDING POWER DISRUPTION SHALL BE IMMEDIATELY REPAIRED IN A MANNER ACCEPTABLE TO THE FAA AT THE CONTRACTOR'S EXPENSE.
10. REMOVE MATERIAL STOCKPILES AND EQUIPMENT FROM OBJECT FREE AREAS DURING NON–WORK HOURS.
11. PROVIDE AIRPORT FLAGGERS FOR ALL OPEN TAXIWAYS AND RUNWAYS DURING ACTIVE CONSTRUCTION OPERATIONS IN THE RUNWAY, TAXIWAY, APRON, RSA, OR TSA AND WHERE THE ENGINEER DETERMINES A FLAGGER IS NECESSARY.
12. CONTRACTOR HAULING OPERATIONS ARE SHOWN ON THE PLANS. FOLLOWING CONSTRUCTION COMPLETION, THE CONTRACTOR IS REQUIRED TO RESTORE THE HAUL ROUTE TO ITS ORIGINAL CONDITION. TEMPORARY ACCESS ROUTES MUST BE REMOVED, AND THE GROUND RESTORED TO ITS ORIGINAL CONDITION.
13. THE CONTRACTOR MUST REPORT ANY SAFETY ISSUES TO THE ENGINEER UPON DISCOVERY. THE CONTRACTOR MUST TAKE IMMEDIATE ACTION TO RESOLVE SAFETY ISSUES.
14. IMMEDIATELY REMOVE ALL FOREIGN OBJECT DEBRIS (FOD) FROM ACTIVE SURFACES UPON DISCOVERY OR NOTIFICATION. FAILURE TO REMOVE FOD MAY BE CONSIDERED A SAFETY VIOLATION AS DETERMINED BY THE ENGINEER. STATION ADEQUATE CLEANING EQUIPMENT AT THE JOB SITE FOR IMMEDIATE CLEANUP OF ANY MATERIAL SPILLS ON ALL ACTIVE RUNWAY, TAXIWAY, AND APRON SURFACES.
15. THE NEW ROTATING BEACON MUST BE OPERATIONAL BEFORE DECOMMISSIONING THE OLD ROTATING BEACON.
16. MAINTAIN ACCESS FROM THE AIRPORT TO THE CITY OF KWETHLUK DURING ALL PHASES OF WORK, INCLUDING ACCESS ROAD REHABILITATION AND CULVERT REPLACEMENT. SEE SPECIFICATION G–710.
17. PROVIDE HIGHWAY FLAGGERS ALONG THE ACCESS ROAD DURING CULVERT WORK TO MAINTAIN ACCESS TO THE APRON. HIGHWAY FLAGGERS SHALL BE PROVIDED ALONG THE HAUL ROUTES AS REQUIRED BY THE ENGINEER. HAUL ROUTE SHALL BE APPROVED BY THE ENGINEER.

RUNWAY STATUS CHANGE PROCEDURES:

THE CONTRACTOR SHALL NOTIFY FAA (THROUGH THE ENGINEER) AT LEAST 45 DAYS PRIOR TO RUNWAY CLOSURES (PARTIAL OR FULL), RE–OPENING A CLOSED RUNWAY, INTERRUPTING FAA FACILITY SERVICE OR REMOVING AND DISPLACING A RUNWAY THRESHOLD BY EMAILING AN "AIRPORT SPONSOR STRATEGIC EVENT SUBMISSION FORM", FAA FORM 6000–26 TO 9–AJV–SEC–WSA@FAA.GOV.

FOLLOW THESE PROCEDURES ANY TIME THE STATUS OF THE RUNWAY OR TAXIWAY IS TO BE ALTERED.

1. CONTRACTOR NOTIFIES ENGINEER OF UPCOMING CHANGE IN AIRPORT STATUS. PROVIDE 5 DAYS ADVANCE NOTICE.
2. AIRPORT MANAGER FILES NOTAM WITH FAA.
3. CONTRACTOR RECEIVES TENTATIVE APPROVAL TO CHANGE RUNWAY STATUS AT A SPECIFIC TIME AND DATE.
4. ON THE DAY OF THE CHANGE IN STATUS, A MEETING IS CONDUCTED WITH ENGINEER TO REVIEW SCHEDULE AND SAFETY PROCEDURES.
5. ENGINEER CLOSES RUNWAY/TAXIWAY TEMPORARILY FOR REQUIRED GRADING AND/OR NEW TEMPORARY MARKINGS.
6. **CONTRACTOR TO GRADE TEMPORARY RUNWAY SO TRANSVERSE GRADES WITHIN TEMPORARY RUNWAY SHALL BE 1–2%. TRANSVERSE GRADES WITHIN TEMPORARY RSA SHALL NOT EXCEED 5%. LONGITUDINAL GRADES ALONG TEMPORARY RUNWAY SHALL NOT EXCEED 2%.**
7. CONTRACTOR INSTALLS APPROVED TEMPORARY MARKINGS AND/OR APPROVED TEMPORARY LIGHTING.
8. ENGINEER INSPECTS AND APPROVES MARKINGS AND LIGHTING.
9. CONTRACTOR IS PROVIDED NOTICE TO PROCEED WITH THE WORK.
10. CONTRACTOR CHANGES RUNWAY STATUS TO A NEW CONFIGURATION, OR CHANGES TO PERMANENT STATUS. AIRPORT MANAGER SHALL CANCEL OR REVISE NOTAM WITH FAA WHEN WORK IS COMPLETE.

Designed By:	RLC
Drawn By:	AVA
Checked By:	MIM
Date Revised:	1/05/2023, 1:34 PM
Layout Name:	OW
File Path and Name:	\\rm.rmnet\x\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682–KWT–CSPP.dwg

PLANS DEVELOPED BY:
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CERT. OF AUTH. NO. AECC111

BY	DATE	REVISION

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CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
CONSTRUCTION SAFETY AND PHASING PLAN OVERVIEW

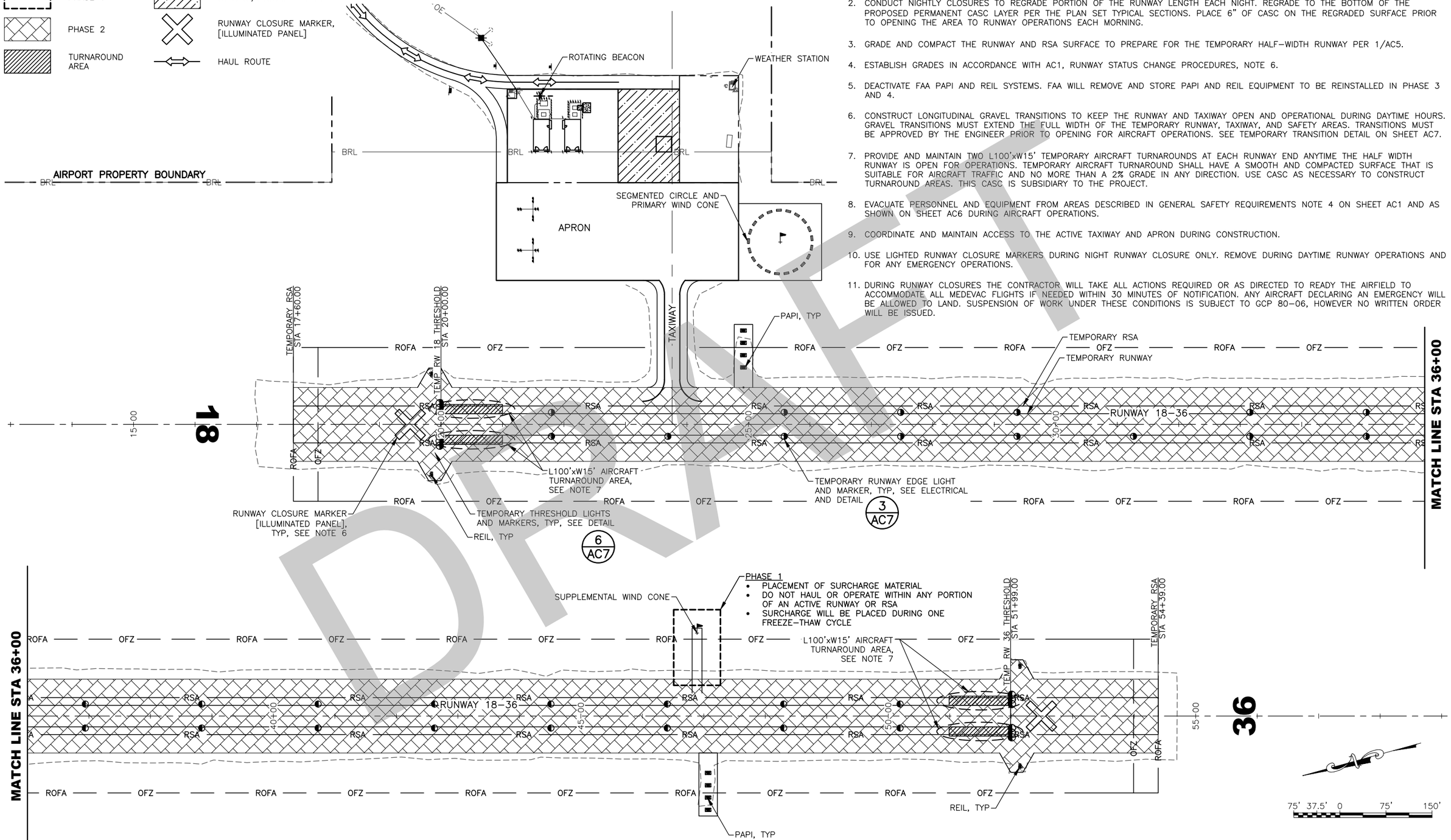
DATE: 1/5/2023

LEGEND:

- PHASE 1
- PHASE 2
- TURNAROUND AREA
- STAGING/STOCKPILE AREA
- RUNWAY CLOSURE MARKER, [ILLUMINATED PANEL]
- HAUL ROUTE

NOTES:

1. COMPLETE RUNWAY STATUS CHANGE PROCEDURES LISTED ON SHEET AC1 PRIOR TO PHASE CONSTRUCTION.
2. CONDUCT NIGHTLY CLOSURES TO REGRADE PORTION OF THE RUNWAY LENGTH EACH NIGHT. REGRADE TO THE BOTTOM OF THE PROPOSED PERMANENT CASC LAYER PER THE PLAN SET TYPICAL SECTIONS. PLACE 6" OF CASC ON THE REGRADED SURFACE PRIOR TO OPENING THE AREA TO RUNWAY OPERATIONS EACH MORNING.
3. GRADE AND COMPACT THE RUNWAY AND RSA SURFACE TO PREPARE FOR THE TEMPORARY HALF-WIDTH RUNWAY PER 1/AC5.
4. ESTABLISH GRADES IN ACCORDANCE WITH AC1, RUNWAY STATUS CHANGE PROCEDURES, NOTE 6.
5. DEACTIVATE FAA PAPI AND REIL SYSTEMS. FAA WILL REMOVE AND STORE PAPI AND REIL EQUIPMENT TO BE REINSTALLED IN PHASE 3 AND 4.
6. CONSTRUCT LONGITUDINAL GRAVEL TRANSITIONS TO KEEP THE RUNWAY AND TAXIWAY OPEN AND OPERATIONAL DURING DAYTIME HOURS. GRAVEL TRANSITIONS MUST EXTEND THE FULL WIDTH OF THE TEMPORARY RUNWAY, TAXIWAY, AND SAFETY AREAS. TRANSITIONS MUST BE APPROVED BY THE ENGINEER PRIOR TO OPENING FOR AIRCRAFT OPERATIONS. SEE TEMPORARY TRANSITION DETAIL ON SHEET AC7.
7. PROVIDE AND MAINTAIN TWO L100'xW15' TEMPORARY AIRCRAFT TURNAROUNDS AT EACH RUNWAY END ANYTIME THE HALF WIDTH RUNWAY IS OPEN FOR OPERATIONS. TEMPORARY AIRCRAFT TURNAROUND SHALL HAVE A SMOOTH AND COMPACTED SURFACE THAT IS SUITABLE FOR AIRCRAFT TRAFFIC AND NO MORE THAN A 2% GRADE IN ANY DIRECTION. USE CASC AS NECESSARY TO CONSTRUCT TURNAROUND AREAS. THIS CASC IS SUBSIDIARY TO THE PROJECT.
8. EVACUATE PERSONNEL AND EQUIPMENT FROM AREAS DESCRIBED IN GENERAL SAFETY REQUIREMENTS NOTE 4 ON SHEET AC1 AND AS SHOWN ON SHEET AC6 DURING AIRCRAFT OPERATIONS.
9. COORDINATE AND MAINTAIN ACCESS TO THE ACTIVE TAXIWAY AND APRON DURING CONSTRUCTION.
10. USE LIGHTED RUNWAY CLOSURE MARKERS DURING NIGHT RUNWAY CLOSURE ONLY. REMOVE DURING DAYTIME RUNWAY OPERATIONS AND FOR ANY EMERGENCY OPERATIONS.
11. DURING RUNWAY CLOSURES THE CONTRACTOR WILL TAKE ALL ACTIONS REQUIRED OR AS DIRECTED TO READY THE AIRFIELD TO ACCOMMODATE ALL MEDEVAC FLIGHTS IF NEEDED WITHIN 30 MINUTES OF NOTIFICATION. ANY AIRCRAFT DECLARING AN EMERGENCY WILL BE ALLOWED TO LAND. SUSPENSION OF WORK UNDER THESE CONDITIONS IS SUBJECT TO GCP 80-06, HOWEVER NO WRITTEN ORDER WILL BE ISSUED.



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Date Revised:	1/05/2023, 1:48 PM
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BY	DATE	REVISION

PLANS DEVELOPED BY:
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STATE OF ALASKA
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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
CONSTRUCTION SAFETY AND PHASING PLAN
PHASE 1 & 2

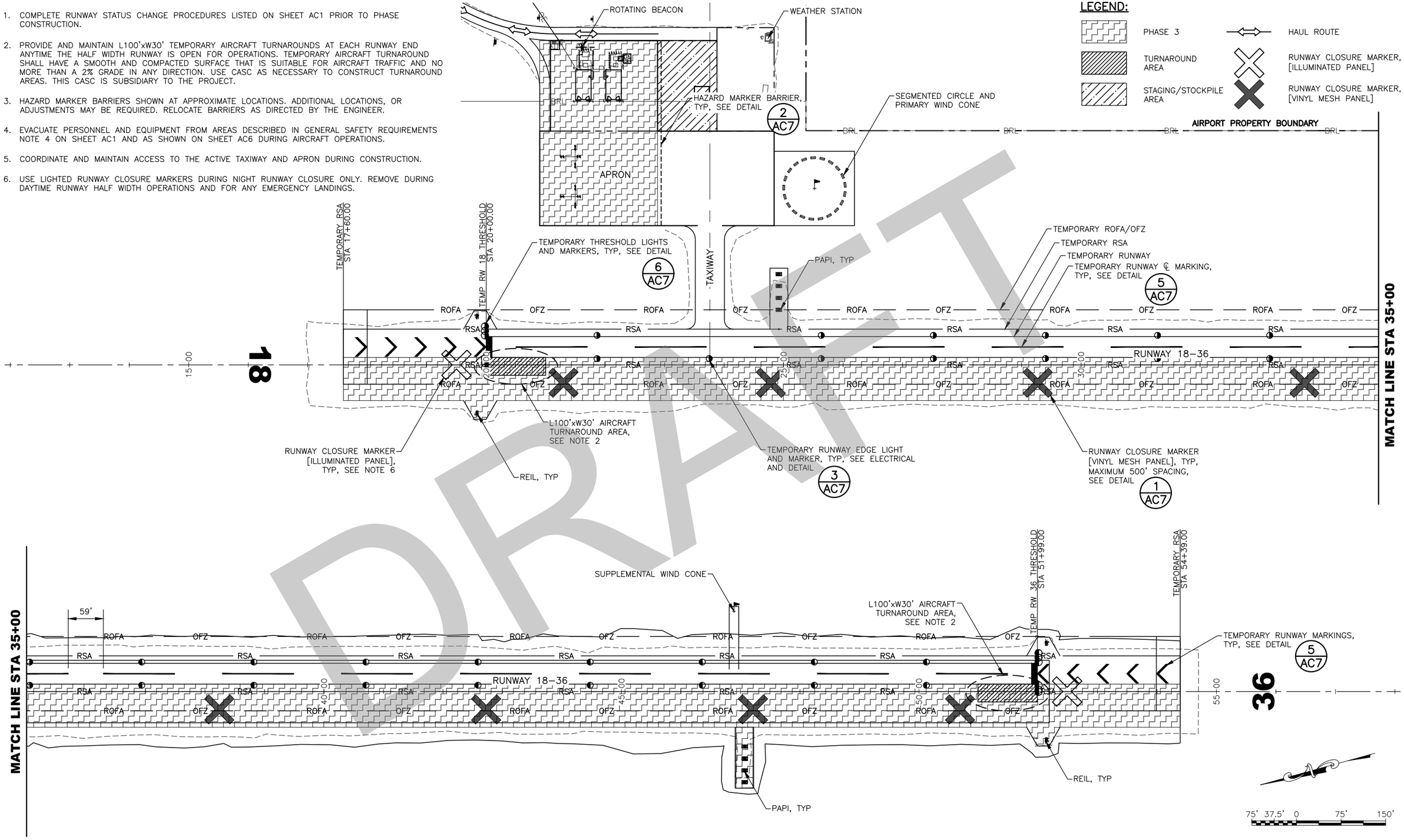
DATE: 1/5/2023

NOTES:

1. COMPLETE RUNWAY STATUS CHANGE PROCEDURES LISTED ON SHEET AC1 PRIOR TO PHASE CONSTRUCTION.
2. PROVIDE AND MAINTAIN L100'xW30' TEMPORARY AIRCRAFT TURNAROUNDS AT EACH RUNWAY END ANYTIME THE HALF WIDTH RUNWAY IS OPEN FOR OPERATIONS. TEMPORARY AIRCRAFT TURNAROUND SHALL HAVE A SMOOTH AND COMPACTED SURFACE THAT IS SUITABLE FOR AIRCRAFT TRAFFIC AND NO MORE THAN A 2% GRADE IN ANY DIRECTION. USE CASC AS NECESSARY TO CONSTRUCT TURNAROUND AREAS. THIS CASC IS SUBSIDIARY TO THE PROJECT.
3. HAZARD MARKER BARRIERS SHOWN AT APPROXIMATE LOCATIONS. ADDITIONAL LOCATIONS, OR ADJUSTMENTS MAY BE REQUIRED. RELOCATE BARRIERS AS DIRECTED BY THE ENGINEER.
4. EVACUATE PERSONNEL AND EQUIPMENT FROM AREAS DESCRIBED IN GENERAL SAFETY REQUIREMENTS NOTE 4 ON SHEET AC1 AND AS SHOWN ON SHEET AC6 DURING AIRCRAFT OPERATIONS.
5. COORDINATE AND MAINTAIN ACCESS TO THE ACTIVE TAXIWAY AND APRON DURING CONSTRUCTION.
6. USE LIGHTED RUNWAY CLOSURE MARKERS DURING NIGHT RUNWAY CLOSURE ONLY. REMOVE DURING DAYTIME RUNWAY HALF WIDTH OPERATIONS AND FOR ANY EMERGENCY LANDINGS.

LEGEND:

- PHASE 3
- TURNAROUND AREA
- STAGING/STOCKPILE AREA
- HAUL ROUTE
- RUNWAY CLOSURE MARKER, [ILLUMINATED PANEL]
- RUNWAY CLOSURE MARKER, [VINYL MESH PANEL]



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KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
CONSTRUCTION SAFETY AND PHASING PLAN PHASE 3

DATE: 1/5/2023
SHEET: AC3 OF AC14

NOTES:

1. COMPLETE RUNWAY STATUS CHANGE PROCEDURES LISTED ON SHEET AC1 PRIOR TO PHASE CONSTRUCTION.
2. PROVIDE AND MAINTAIN A L100'xW30' TEMPORARY AIRCRAFT TURNAROUND AT EACH RUNWAY END ANY TIME THE HALF WIDTH RUNWAY IS OPEN FOR OPERATIONS. TEMPORARY AIRCRAFT TURNAROUND SHALL HAVE A SMOOTH AND COMPACTED SURFACE THAT IS SUITABLE FOR AIRCRAFT TRAFFIC AND NO MORE THAN A 2% GRADE IN ANY DIRECTION. USE CASC AS NECESSARY TO CONSTRUCT TURNAROUND AREAS. THIS CASC IS SUBSIDIARY TO THE PROJECT.
3. HAZARD MARKER BARRIERS SHOWN AT APPROXIMATE LOCATIONS. ADDITIONAL LOCATIONS, OR ADJUSTMENTS MAY BE REQUIRED. RELOCATE BARRIERS AS DIRECTED BY THE ENGINEER.
4. EVACUATE PERSONNEL AND EQUIPMENT FROM AREAS DESCRIBED IN GENERAL SAFETY REQUIREMENTS NOTE 4 ON SHEET AC1 AND AS SHOWN ON SHEET AC6 DURING AIRCRAFT OPERATIONS.
5. COORDINATE AND MAINTAIN ACCESS TO TO THE ACTIVE TAXIWAY AND APRON DURING CONSTRUCTION. MAINTAIN A 25' WIDE AND 49' WIDE TEMPORARY TAXIWAY AND TSA, RESPECTIVELY DURING AIRCRAFT OPERATIONS AND EMERGENCY OPERATIONS. PROVIDE TEMPORARY TAXIWAY EDGE LIGHTS AND MARKERS. ADJUST TEMPORARY TAXIWAY AND TSA AS NECESSARY TO ACCOMMODATE CONSTRUCTION ACTIVITIES.
6. USE LIGHTED RUNWAY CLOSURE MARKERS DURING NIGHT RUNWAY CLOSURE ONLY. REMOVE DURING DAYTIME RUNWAY HALF WIDTH OPERATIONS AND FOR ANY EMERGENCY LANDING.

LEGEND:

- PHASE 4
- TURNAROUND AREA
- STAGING/STOCKPILE AREA
- HAUL ROUTE
- RUNWAY CLOSURE MARKER, [ILLUMINATED PANEL]
- RUNWAY CLOSURE MARKER, [VINYL MESH PANEL]

ROTATING BEACON
WEATHER STATION
HAZARD MARKER BARRIER, TYP, SEE DETAIL 2/AC7
SEGMENTED CIRCLE AND PRIMARY WIND CONE
AIRPORT PROPERTY BOUNDARY
APRON
BRL
TEMPORARY TAXIWAY EDGE LIGHT AND MARKER, TYP, SEE ELECTRICAL AND DETAIL 3/AC7
MAINTAIN 25'-WIDE TEMPORARY TAXIWAY FOR DAILY AIRCRAFT OPERATIONS AND EMERGENCY MEDEVAC OPERATIONS, SEE NOTE 5
TEMPORARY RSA STA 17+60.00
TEMP RW 18 THRESHOLD STA 20+00.00
TAXIWAY
TSA
PAPI, TYP
RUNWAY CLOSURE MARKER [VINYL MESH PANEL], TYP, MAXIMUM 500' SPACING, SEE DETAIL 1/AC7
L100'xW30' AIRCRAFT TURNAROUND AREA, SEE NOTE 2
18
15+00
25+00
30+00
RUNWAY 18-36
ROFA
OFZ
RSA
RUNWAY CLOSURE MARKER [ILLUMINATED PANEL], TYP, SEE NOTE 6
TEMPORARY THRESHOLD LIGHTS AND MARKERS, TYP, SEE DETAIL 6/AC7
REIL, TYP
TEMPORARY RUNWAY EDGE LIGHT AND MARKER, TYP, SEE ELECTRICAL AND DETAIL 3/AC7
TEMPORARY RUNWAY ℄ MARKING, TYP, SEE DETAIL 5/AC7
TEMPORARY RUNWAY
TEMPORARY RSA
TEMPORARY ROFA/OFZ
MATCH LINE STA 36+00

MATCH LINE STA 36+00
59'
SUPPLEMENTAL WIND CONE
L100'xW30' AIRCRAFT TURNAROUND AREA, SEE NOTE 2
TEMP RW 36 THRESHOLD STA 51+99.00
TEMPORARY RSA STA 54+39.00
TEMPORARY RUNWAY MARKINGS, TYP, SEE DETAIL 5/AC7
40+00
45+00
50+00
55+00
36
REIL, TYP
PAPI, TYP
75' 37.5' 0 75' 150'

Designed By: RLC
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Date Revised: 1/05/2023, 1:48 PM
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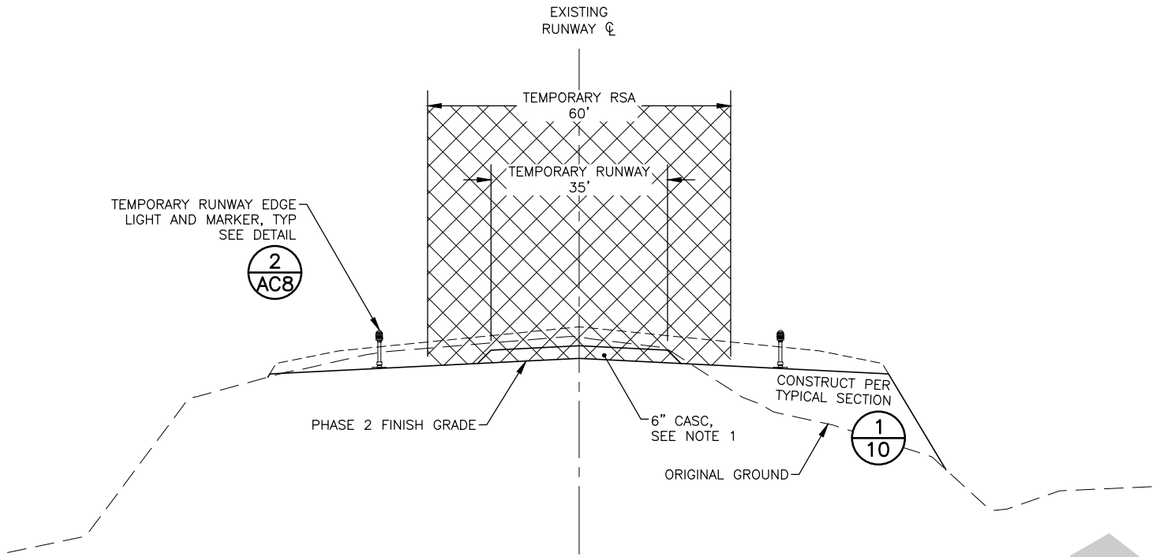
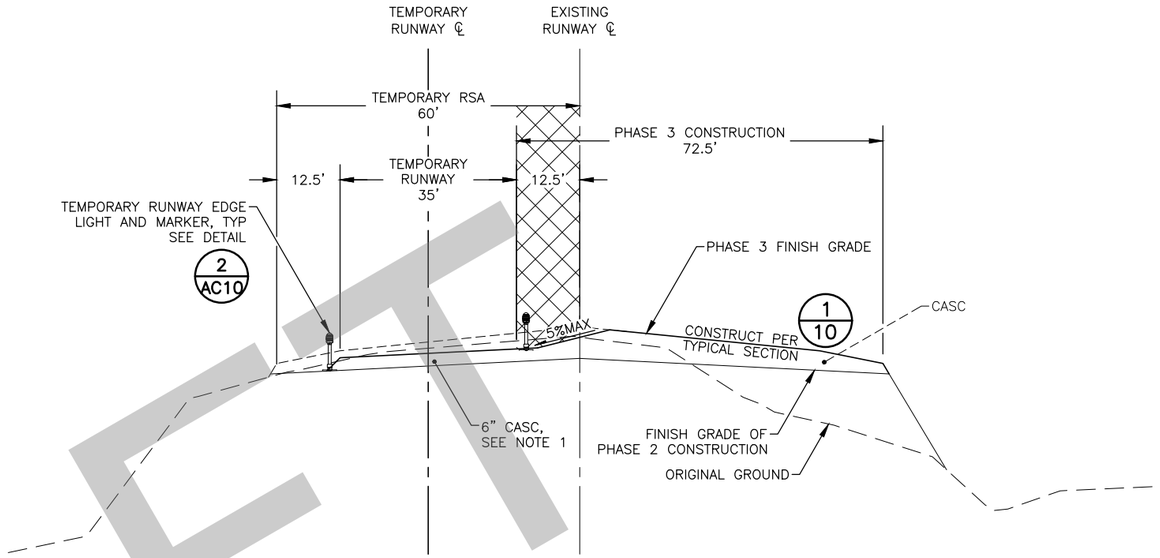
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
CONSTRUCTION SAFETY AND PHASING PLAN
PHASE 4

DATE: 1/5/2023
SHEET: AC4 OF AC14



1 AC5 PHASE 2 RUNWAY CONSTRUCTION
NTS



2 AC5 PHASE 3 RUNWAY CONSTRUCTION
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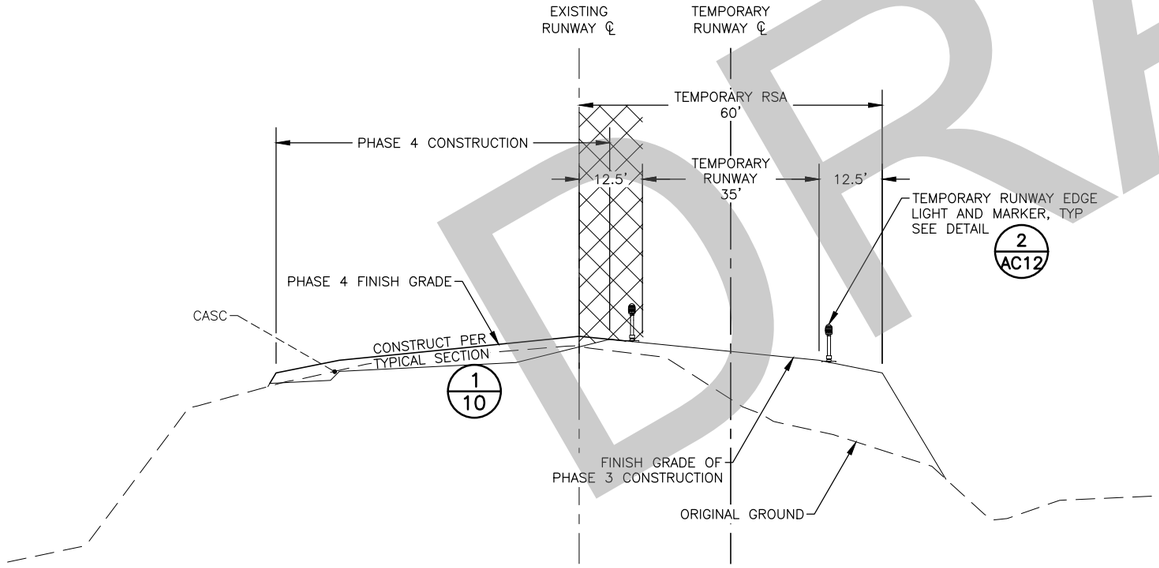

3 AC5 PHASE 4 RUNWAY CONSTRUCTION
NTS

NOTES:

1. AFTER REGRADING, PLACE 6" CASC WITHIN THE TEMPORARY RUNWAYS. THE CASC MUST BE IN PLACE PRIOR TO OPENING THE AREA TO AIRCRAFT OPERATIONS. THE CASC FOR THE TEMPORARY RUNWAYS MAY BE INCORPORATED INTO THE FINISHED SECTION. ALSO REGRADE, COMPACT, AND PLACE CASC WITHIN THE TEMPORARY TURNAROUND AREAS.

2. ESTABLISH GRADES IN ACCORDANCE WITH AC1 RUNWAY STATUS CHANGE PROCEDURES, NOTE 6.

LEGEND:

CONSTRUCTION PROHIBITED
DURING AIRCRAFT OPERATIONS

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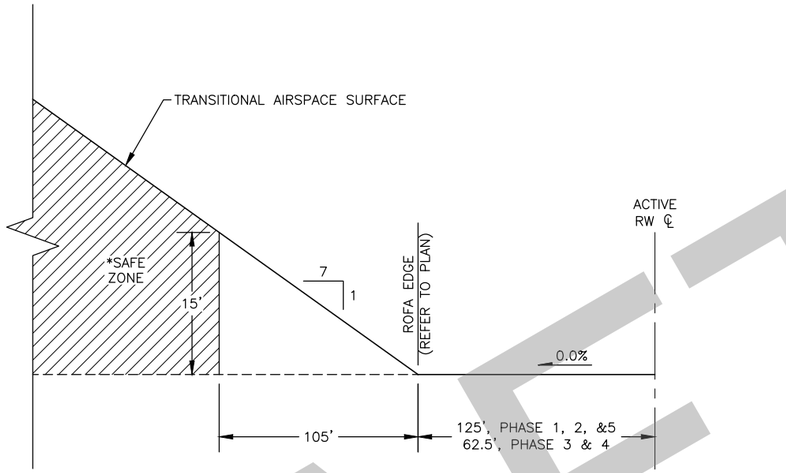
CONSTRUCTION SAFETY AND PHASING PLAN
RUNWAY PHASING SECTIONS

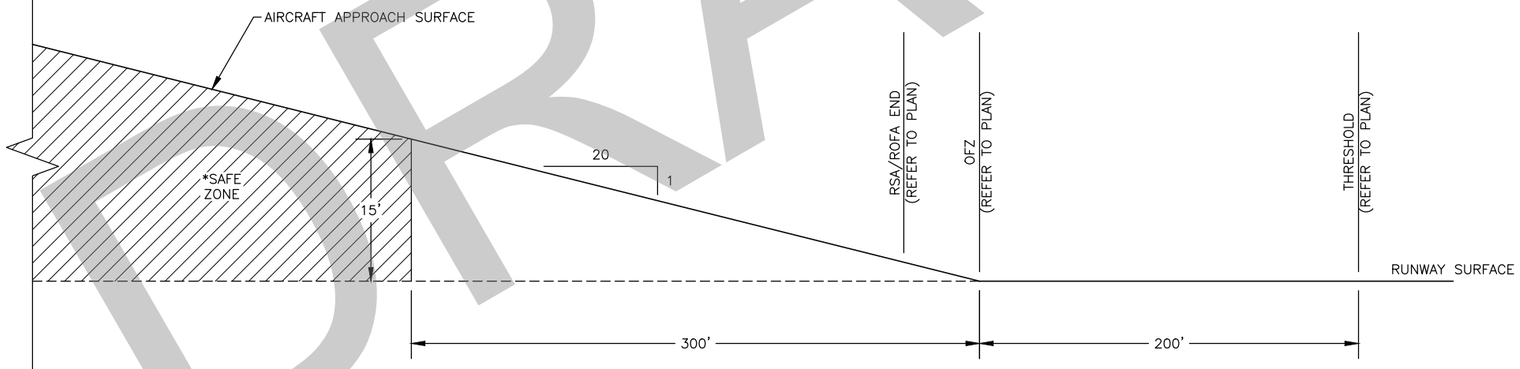
DATE: 1/5/2023

SHEET: AC5 OF AC14



*DURING AIRCRAFT OPERATIONS, VEHICLES TALLER THAN 15' (INCLUDING ALL PARTS OF THE EQUIPMENT, E.G. AN EXCAVATOR) MUST REMAIN FARTHER AWAY FROM THE RUNWAY CENTERLINE. WHEN THIS IS THE CASE, NOTIFY AND COORDINATE SAFE ZONE LIMITS WITH THE ENGINEER.

1 / AC6 SAFE ZONES ADJACENT TO ACTIVE RUNWAY EDGES
NTS



*DURING AIRCRAFT OPERATIONS, VEHICLES TALLER THAN 15' (INCLUDING ALL PARTS OF THE EQUIPMENT, E.G. AN EXCAVATOR) MUST REMAIN FARTHER AWAY FROM THE THRESHOLD. WHEN THIS IS THE CASE, NOTIFY AND COORDINATE SAFE ZONE LIMITS WITH THE ENGINEER. THE 20:1 APPROACH SURFACE IS BASED ON THE THRESHOLD ELEVATION. THE ALLOWABLE VEHICLE HEIGHT MAY NEED TO BE REDUCED IF THE GROUND ELEVATION RISES BEYOND THE THRESHOLD.

2 / AC6 SAFE ZONES ALONG EXTENDED RUNWAY OR ACTIVE THRESHOLD
NTS

Designed By:	RLC
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File Path and Name:	Z:\project\2940.01 DOT_C Kwethluk Airport Rehab\Civil\ACAD\00682-KWT-CSPP Details.dwg

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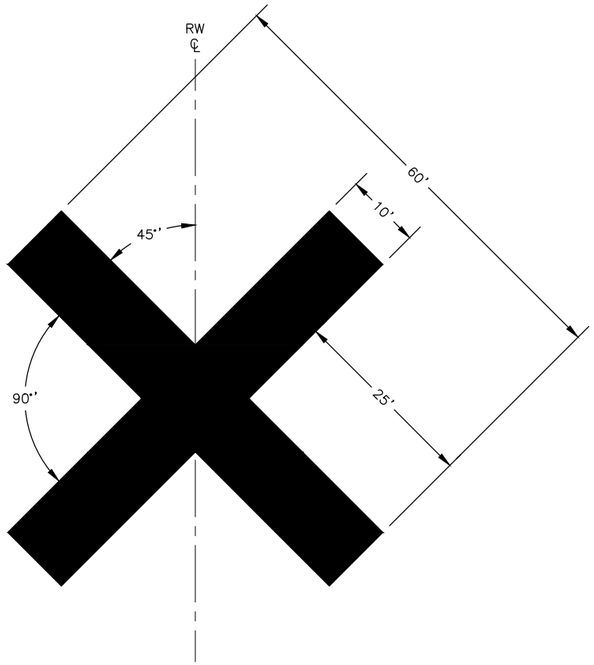
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
CONSTRUCTION SAFETY AND PHASING PLAN
SAFE ZONES

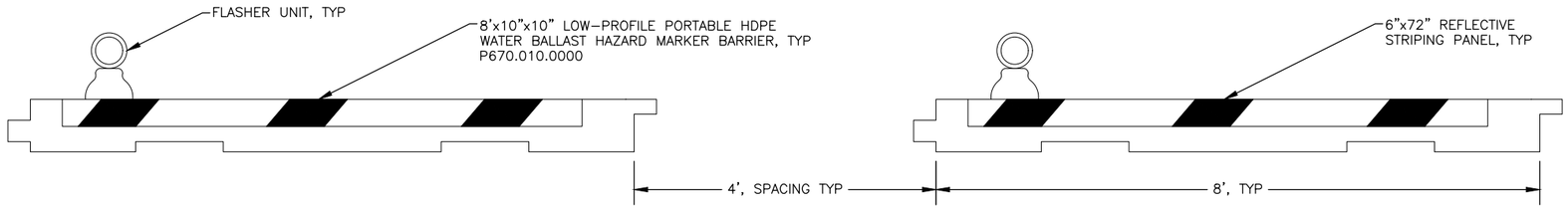
DATE: 1/3/2023



1 AC7 RUNWAY CLOSURE MARKER DETAIL
NTS

CLOSURE MARKER NOTES:

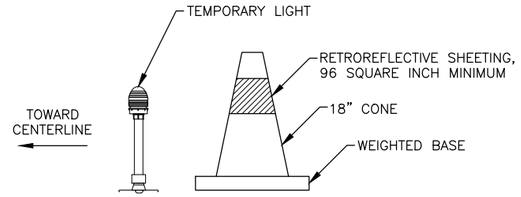
1. MAINTAIN RUNWAY CLOSURE MARKERS (P671.010.0000) AS CONSTRUCTION ALLOWS.
2. CLOSURE MARKER IS YELLOW, VINYL.
3. RUNWAY CLOSURE MARKERS ARE TO BE PLACED AT EACH RUNWAY END AND AT 500' INTERVALS.
4. SECURE CLOSURE MARKERS WITH 50-LB YELLOW SANDBAGS ALONG THE EDGE OF THE CLOSURE MARKERS, SPACED NO GREATER THAN 5 FEET APART.



2 AC7 HAZARD MARKER BARRIER DETAIL
NTS

HAZARD MARKER BARRIER NOTES:

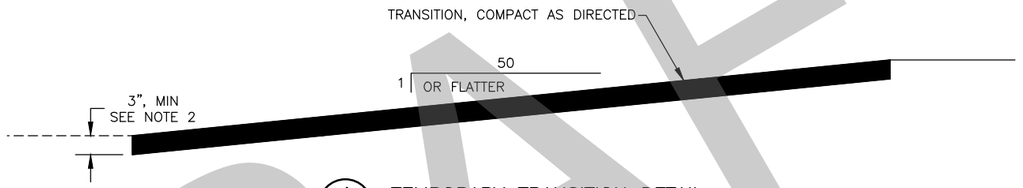
1. PLACE BARRIERS TO LIMIT ACCESS TO THE CLOSED APRON. USE LOW STYLE BARRIERS (LESS THAN 18 INCHES HIGH) WHEN ADJACENT TO AN ACTIVE MOVEMENT AREA.
2. HAZARD AREA BARRIERS ARE NOT TO BE PLACED WITHIN THE OFZ OF THE ACTIVE RUNWAY. CONSIDER PROP WASH WHEN PLACING BARRIERS.
3. SEE CSPP SECTION 16 FOR SPACING REQUIREMENTS.



3 AC7 TEMPORARY MARKER DETAIL
NTS

TEMPORARY MARKER NOTES:

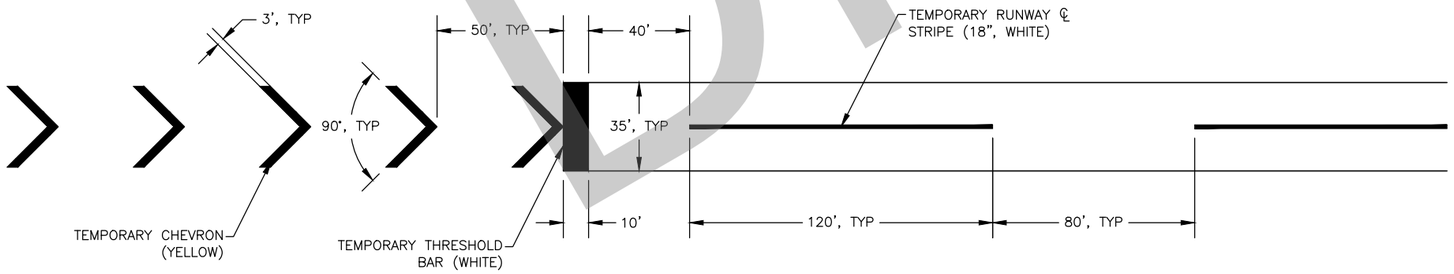
1. TEMPORARY RUNWAY EDGE MARKERS SHALL HAVE A WHITE RETRO REFLECTIVE SHEETING.
2. TEMPORARY THRESHOLD MARKERS SHALL HAVE A RED AND GREEN RETRO REFLECTIVE SHEETING. THE GREEN SIDE OF THE SHEETING SHALL FACE THE APPROACH OF THE RUNWAY, AND THE RED SIDE OF THE SHEETING SHALL FACE THE RUNWAY.
3. TEMPORARY TAXIWAY EDGE MARKERS SHALL HAVE A BLUE RETRO REFLECTIVE SHEETING. SEE ELECTRICAL DEMOLITION PLANS FOR TEMPORARY TAXIWAY EDGE LIGHTING.
4. TEMPORARY MARKERS PAID UNDER ITEM L-125.180.0000.
5. TEMPORARY LIGHTING FIXTURES TO BE EVENLY SPACED AT A MAXIMUM DISTANCE OF 200 FEET. SEE LIGHTING DEMOLITION AND TEMPORARY LIGHTING PLANS.



4 AC7 TEMPORARY TRANSITION DETAIL
NTS

TEMPORARY TRANSITION NOTES:

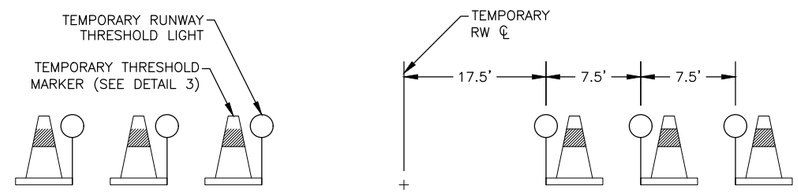
1. TEMPORARY TRANSITIONS SHALL BE SMOOTH AND FREE OF RUTS AND APPROVED BY THE ENGINEER PRIOR TO OPENING FOR AIRCRAFT OPERATIONS.
2. THICKNESS TO MATCH LAYER THICKNESS, OR AS NEEDED TO OBTAIN COMPACTION AS DIRECTED BY THE ENGINEER. USE CASC TO BUILD THE TEMPORARY TRANSITION. ALL ADDITIONAL WORK REQUIRED TO CONSTRUCT TEMPORARY TRANSITIONS IS SUBSIDIARY TO THE PROJECT. SUCH WORK MAY INCLUDE PLACEMENT, SCARIFYING, GRADING, COMPACTING, REMOVAL, REPLACEMENT, RE-COMPACTING, RE-GRADING, OR OTHER WORK AS REQUIRED TO ACCEPTABLY INCORPORATE MATERIALS INTO THE SUBSEQUENT WORK. NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE.



5 AC7 TEMPORARY RUNWAY MARKINGS DETAIL
NTS

TEMPORARY RUNWAY MARKING NOTES:

1. TEMPORARY RUNWAY CENTERLINE MARKINGS ARE TYPICAL 120' STRIPES WITH 80' GAPS. SEE PLAN VIEW FOR NON-STANDARD STRIPE AND GAP DIMENSIONS.
2. TEMPORARY RUNWAY SURFACE MARKINGS PAID UNDER ITEM P620.070.0000.
3. TEMPORARY RUNWAY LIGHTING PAID UNDER ITEM L125.180.0000.



6 AC7 TEMPORARY RUNWAY THRESHOLD DETAIL
NTS

TEMPORARY RUNWAY MARKING NOTES:

1. TEMPORARY RUNWAY THRESHOLD LIGHTS SHALL EMIT GREEN LIGHT OUTWARD FROM THE RUNWAY AND RED LIGHT TOWARD THE RUNWAY.
2. TEMPORARY RUNWAY THRESHOLD AND EDGE LIGHTS PAID UNDER ITEM L125.180.0000.
3. SEE ELECTRICAL FOR TEMPORARY RUNWAY THRESHOLD LIGHT DETAILS.

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Date Revised: 1/03/2023, 3:44 PM
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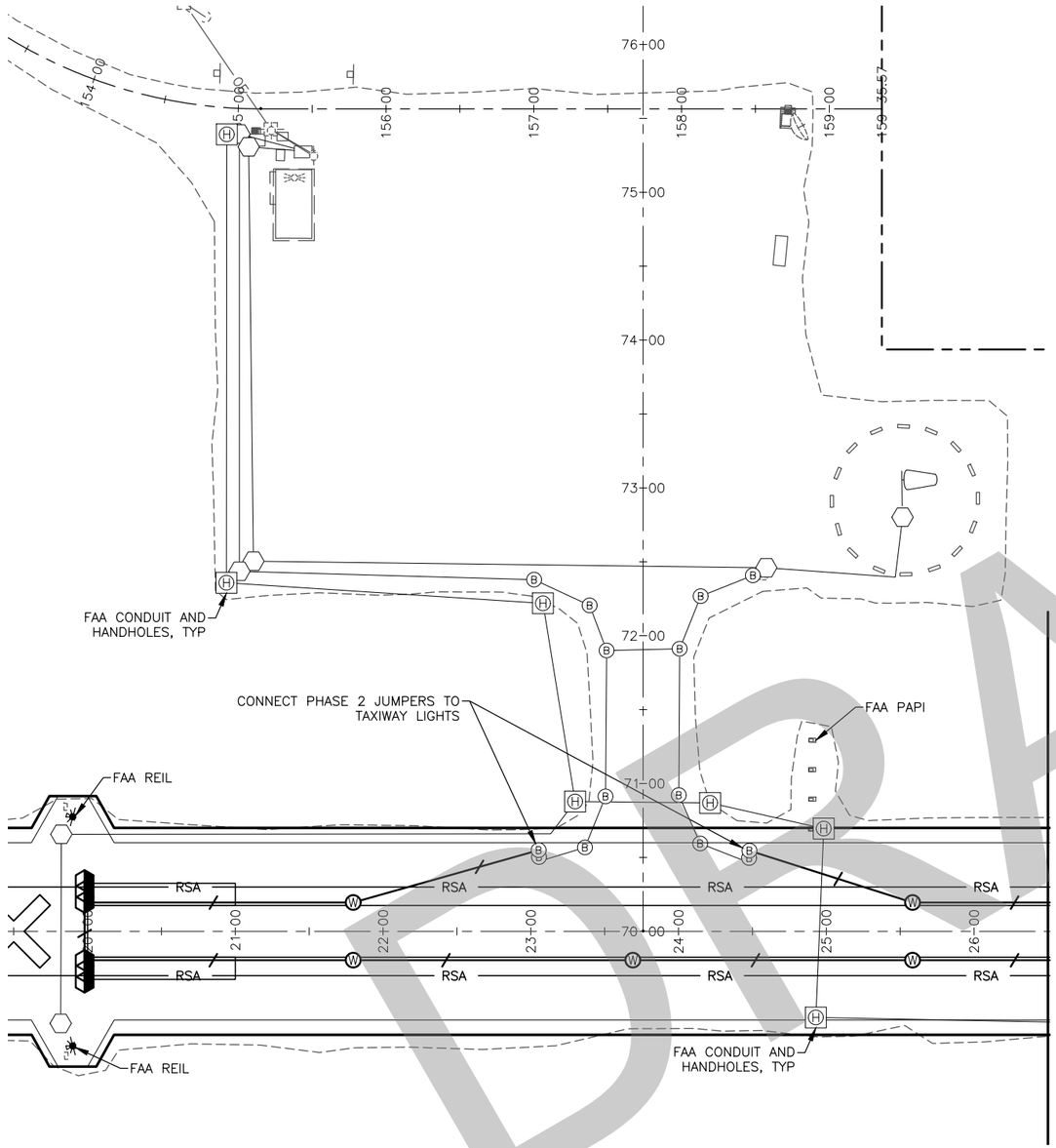
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-002-2023
CONSTRUCTION SAFETY AND PHASING PLAN DETAILS

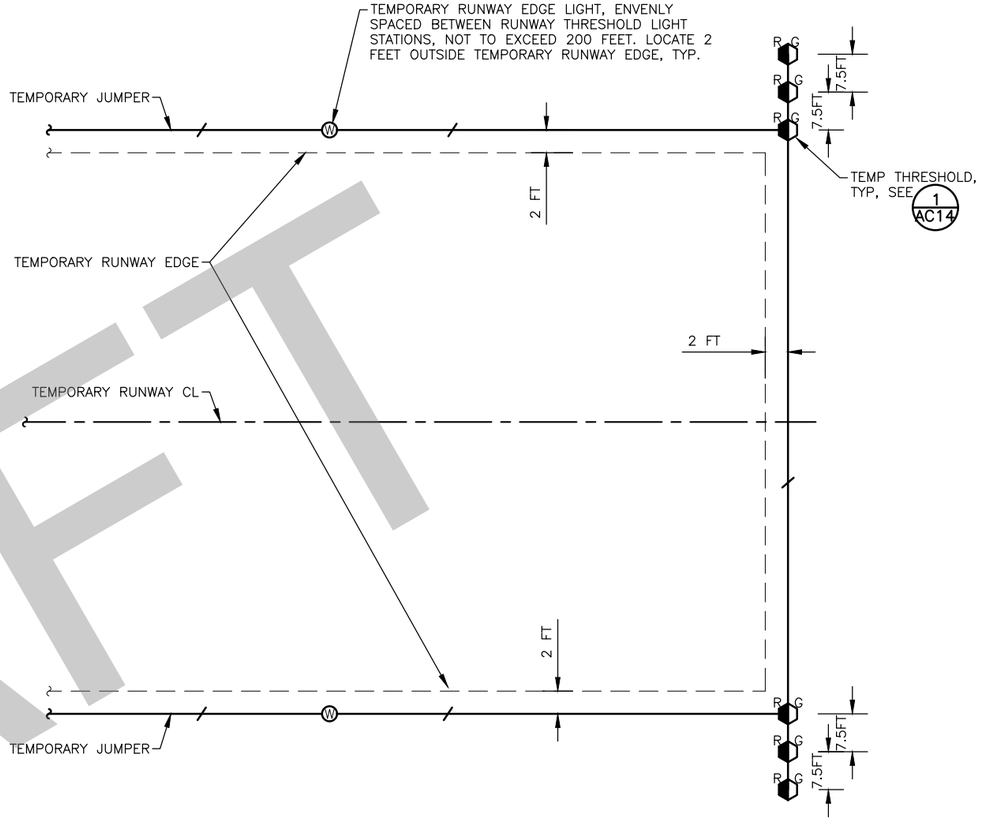
DATE: 1/3/2023
SHEET: AC7 OF AC14



1 AC8 TEMPORARY LIGHTING PHASE 2
1"=50'

NOTE:

SEE SHEET E01 FOR DEMOLITION NOTES.



2 AC8 TEMPORARY THRESHOLD LIGHTING DETAIL, PHASE 2
NTS

TEMP LIGHTING LEGEND:

W	TEMPORARY RUNWAY EDGE LIGHT
B	TEMPORARY TAXIWAY EDGE LIGHT
	TEMPORARY THRESHOLD LIGHT
//	TEMPORARY JUMPER, HASH MARKS INDICATE NUMBER OF #8 AWG. 5KV AIRPORT CABLES TYPE "C" PLUS ONE #6 BARE COPPER GROUND CONDUCTOR.

50' 0 50' 100' 150'
GRAPHIC SCALE: 1" = 50'

Designed By:	DMH
Drawn By:	DMH
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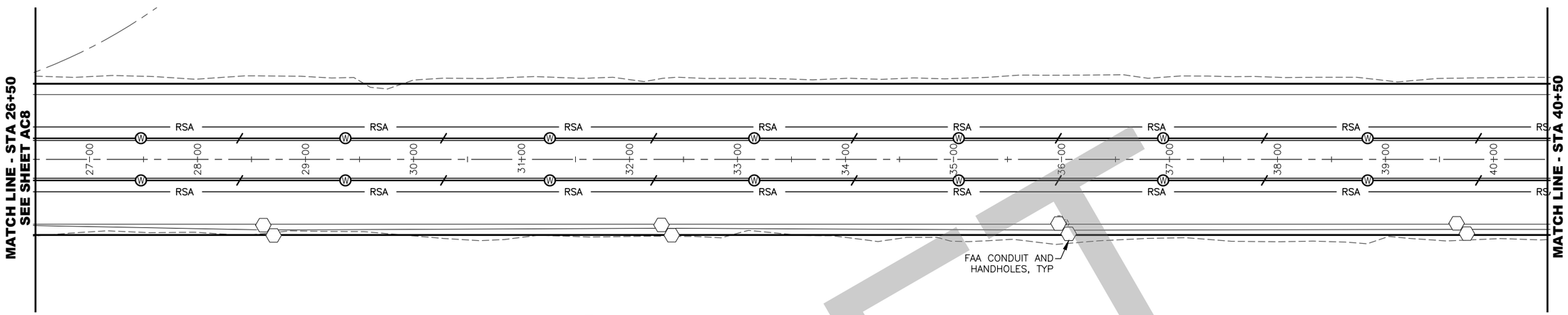
ANCHORAGE, AK 99517
(907) 274-2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

BY	DATE	REVISION

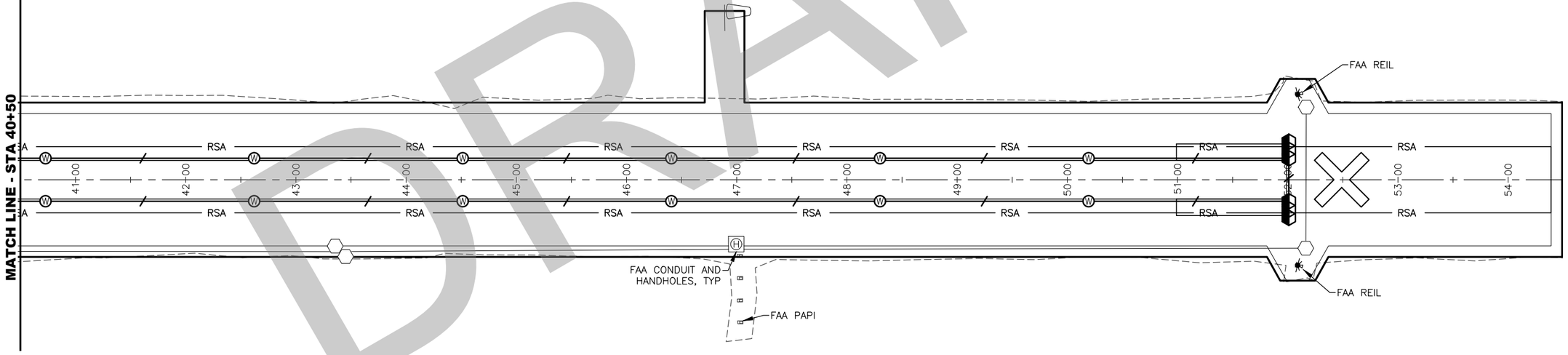
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-XXX-20XX
TEMPORARY LIGHTING PLAN, PHASE 2
STA 19+50 TO STA 26+50

DATE: 1/4/2023
SHEET: AC8 OF AC14



1 AC9 TEMPORARY LIGHTING PHASE 2
1"=50'



2 AC9 TEMPORARY LIGHTING PHASE 2
1"=50'

50' 0 50' 100' 150'
GRAPHIC SCALE: 1" = 50'

Designed By:	DMH
Drawn By:	DMH
Checked By:	EWC
Date Revised:	1/04/2023, 12:57 PM
Layout Name:	AC9
File Path and Name:	Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-CSPP.dwg

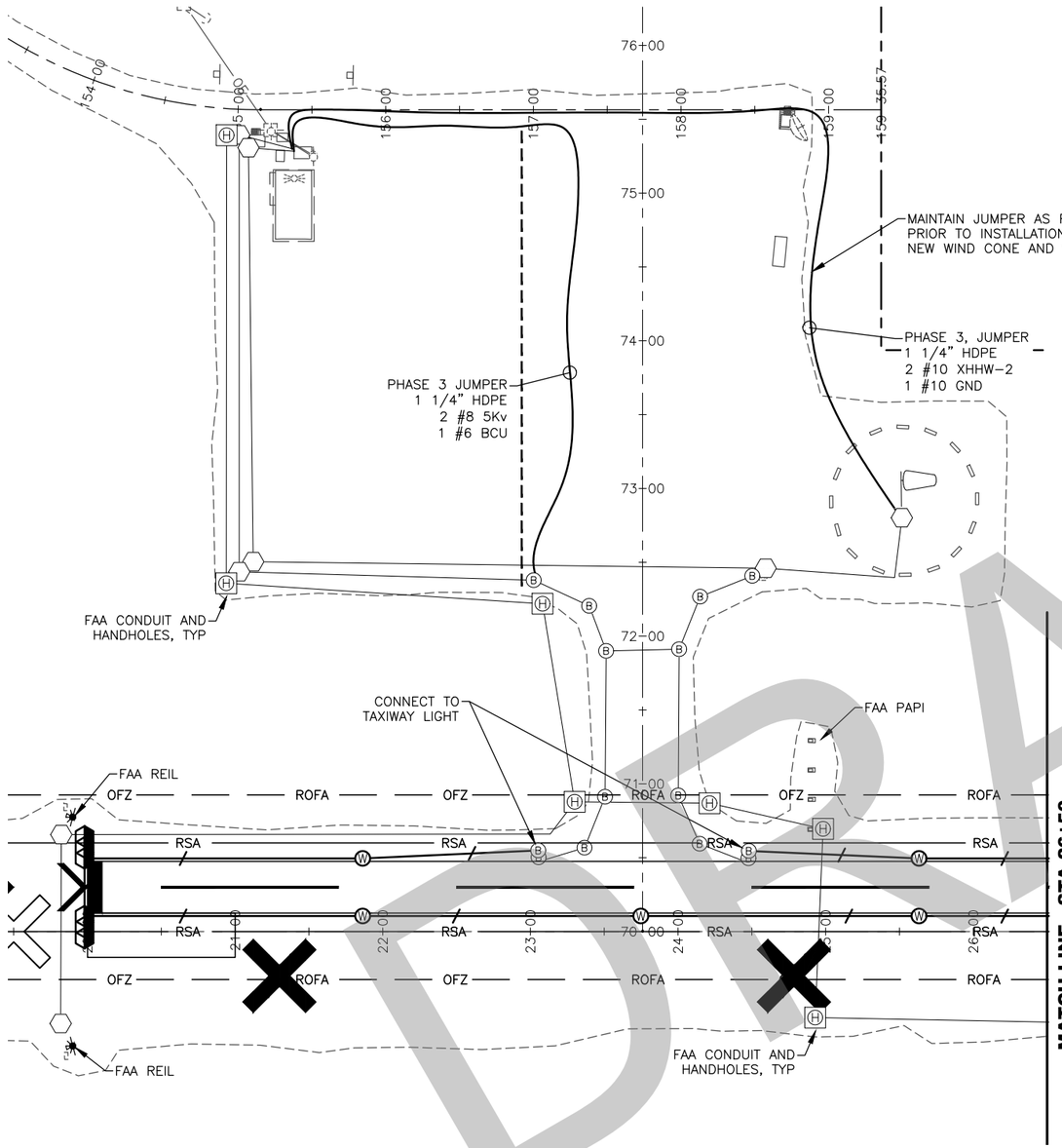
MBA CONSULTING ENGINEERS, INC.
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, AK 99517
(907) 274-2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

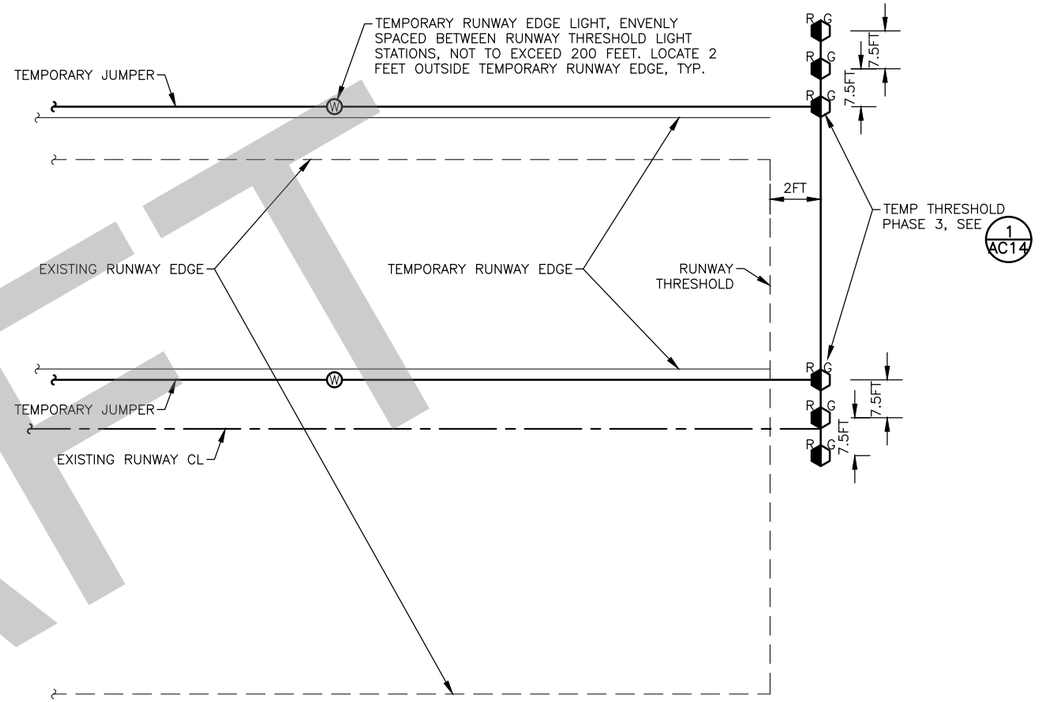
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-XXX-20XX
TEMPORARY LIGHTING PLAN, PHASE 2
STA 26+50 TO STA 54+50

DATE: 1/4/2023
SHEET: AC9 OF AC14



1 AC10 TEMPORARY LIGHTING PHASE 3
1"=50'

NOTE:
SEE SHEET E01 FOR DEMOLITION NOTES.



2 AC10 TEMPORARY THRESHOLD LIGHTING DETAIL, PHASE 3
NTS

50' 0 50' 100' 150'
GRAPHIC SCALE: 1" = 50'

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:57 PM
Layout Name: AC10
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-CSPP.dwg

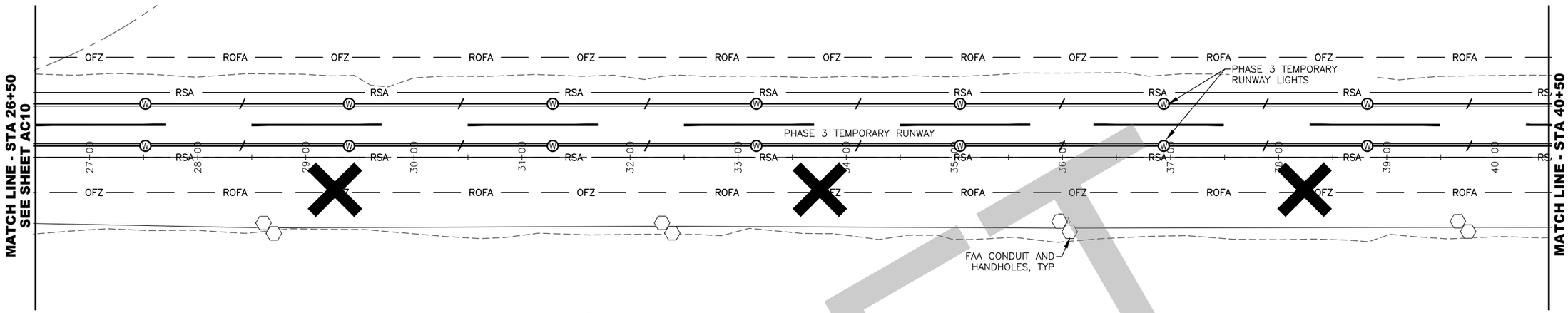
MBA CONSULTING ENGINEERS, INC.
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, AK 99517
(907) 274-2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

BY	DATE	REVISION

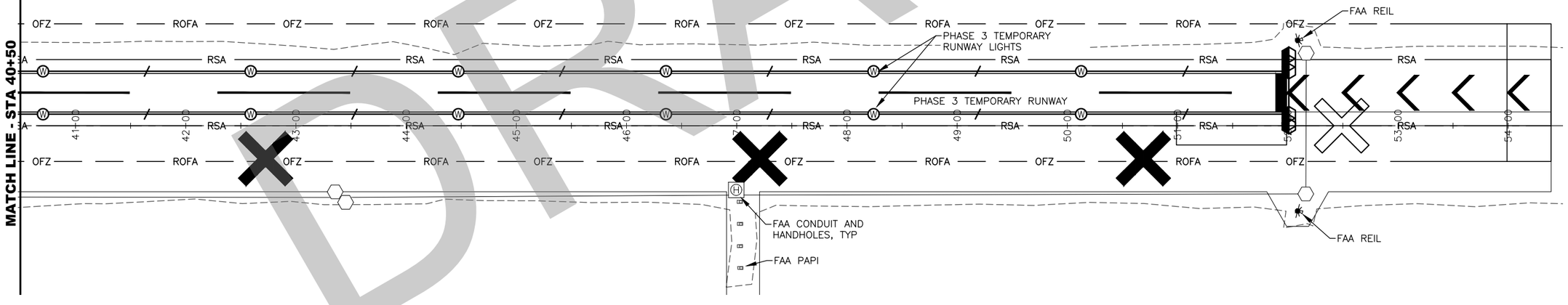
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-XXX-20XX
TEMPORARY LIGHTING PLAN, PHASE 3
STA 19+50 TO STA 26+50

DATE: 1/4/2023
SHEET: AC10 OF AC14



1 AC11 TEMPORARY LIGHTING PHASE 3
1"=50'



2 AC11 TEMPORARY LIGHTING PHASE 3
1"=50'

50' 0 50' 100' 150'
GRAPHIC SCALE: 1" = 50'

Designed By: DMH
Drawn By: DMH
Checked By: EWC
Date Revised: 1/04/2023, 12:57 PM
Layout Name: AC11
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-CSPP.dwg

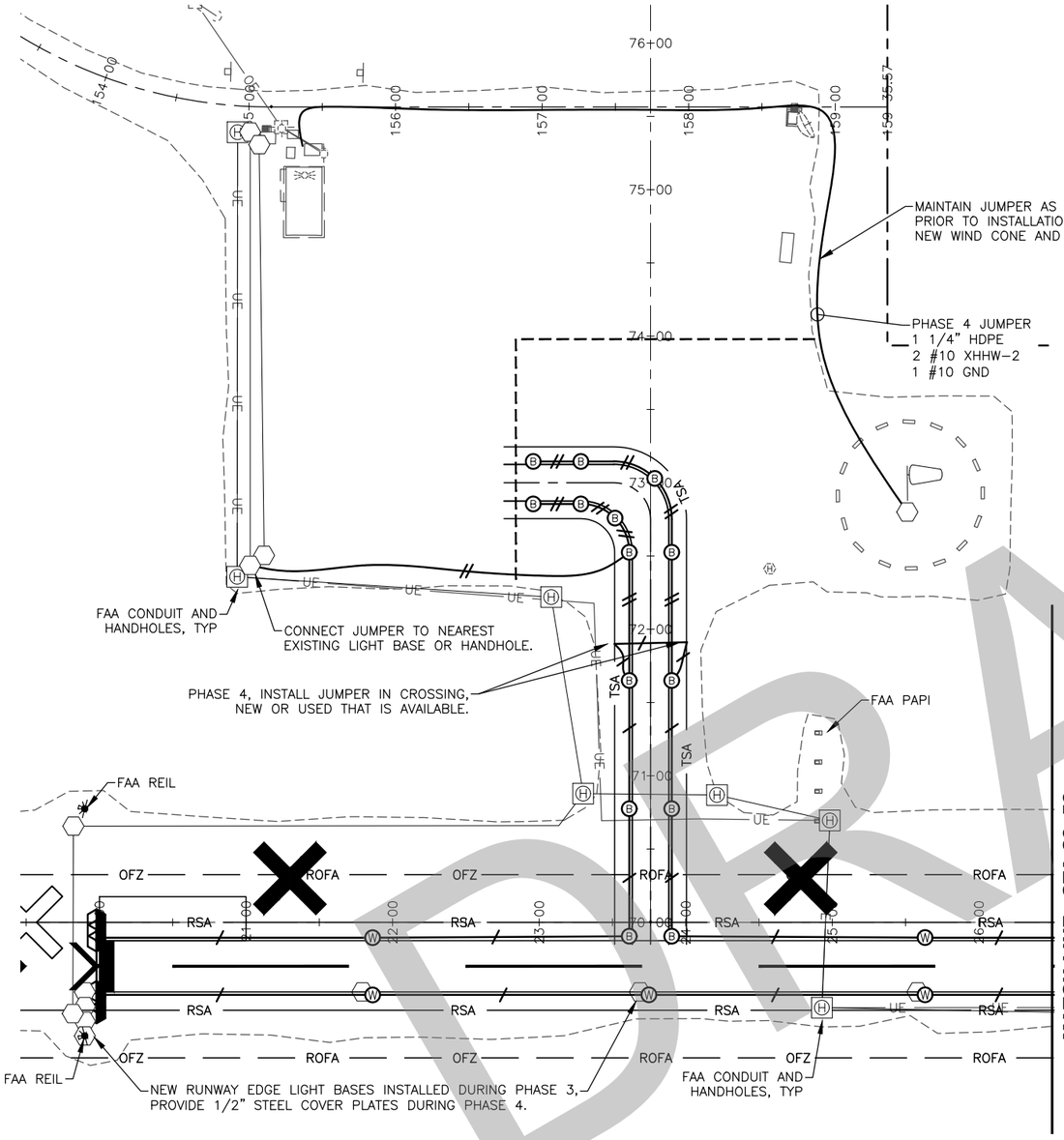
MBA CONSULTING ENGINEERS, INC.
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, AK 99517
(907) 274-2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

BY	DATE	REVISION

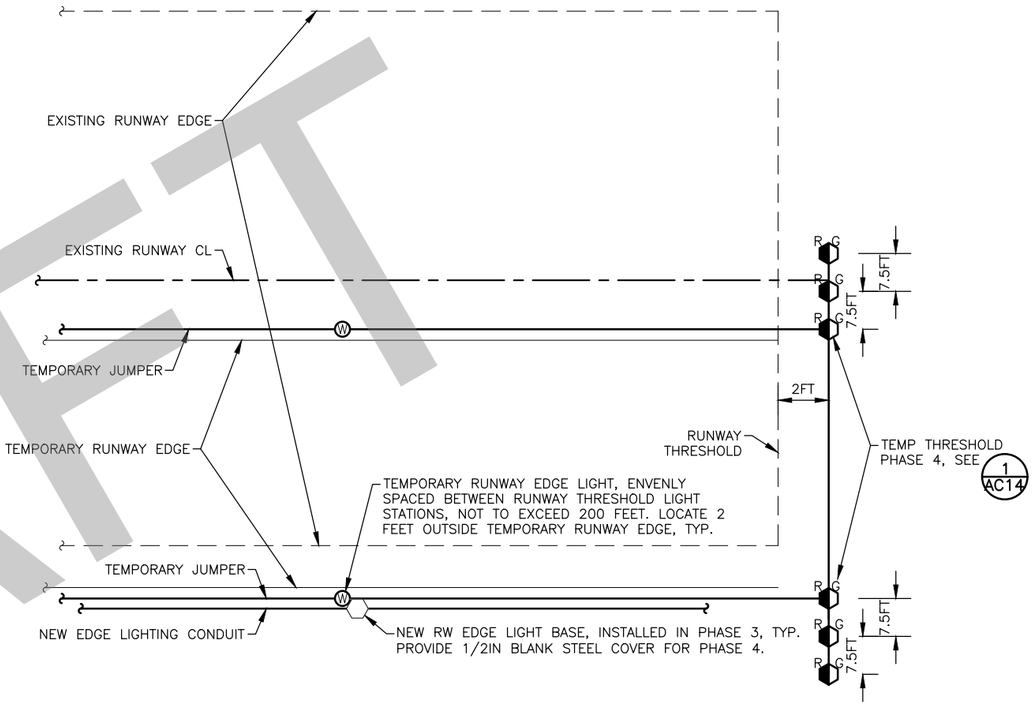
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-XXX-20XX
TEMPORARY LIGHTING PLAN, PHASE 3
STA 26+50 TO STA 54+50

DATE: 1/4/2023
SHEET: AC11 OF AC14



2 AC12 TEMPORARY LIGHTING PHASE 4
1"=50'



2 AC12 TEMPORARY THRESHOLD LIGHTING DETAIL, PHASE 4
NTS

NOTE:

SEE SHEET E01 FOR DEMOLITION NOTES.

50' 0 50' 100' 150'
GRAPHIC SCALE: 1" = 50'

Designed By:	DMH
Drawn By:	DMH
Checked By:	EWC
Date Revised:	1/04/2023, 12:57 PM
Layout Name:	AC12
File Path and Name:	Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-CSPP.dwg

MBA CONSULTING ENGINEERS, INC.
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, AK 99517
(907) 274-2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

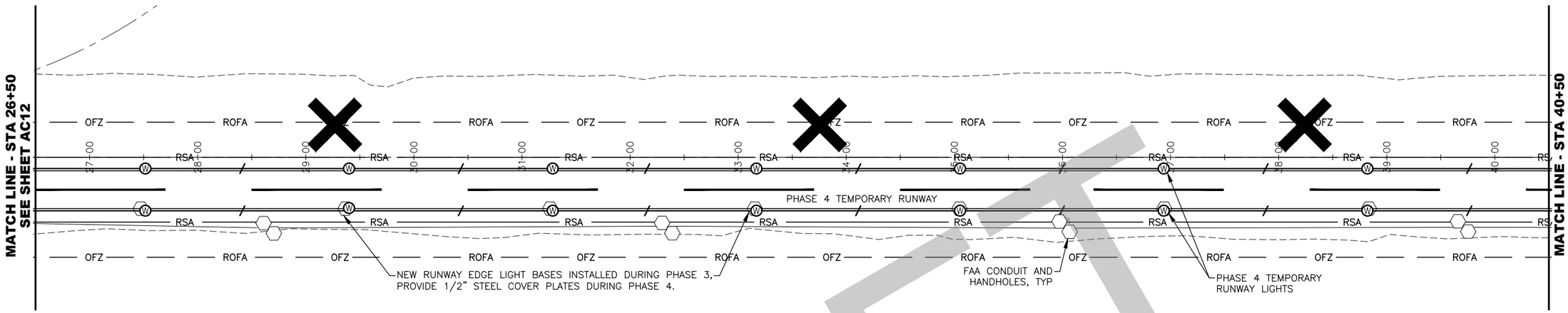
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

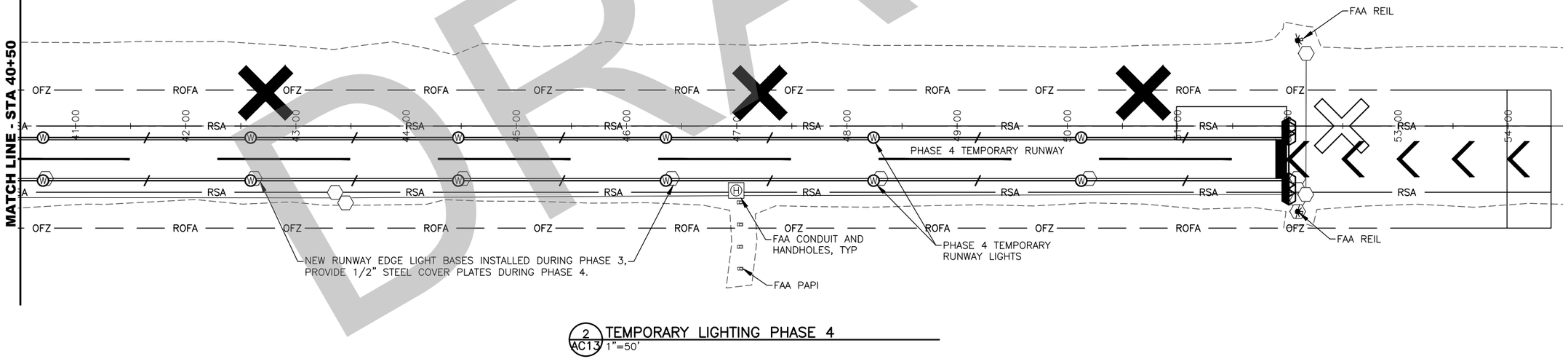
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-XXX-20XX
TEMPORARY LIGHTING PLAN, PHASE 4
STA 19+50 TO STA 26+50

DATE: 1/4/2023

SHEET: AC12 OF AC14



1 AC13 TEMPORARY LIGHTING PHASE 4
1"=50'



2 AC13 TEMPORARY LIGHTING PHASE 4
1"=50'

50' 0 50' 100' 150'
GRAPHIC SCALE: 1" = 50'

Designed By:	DMH
Drawn By:	DMH
Checked By:	EWC
Date Revised:	1/04/2023, 12:57 PM
Layout Name:	AC13
File Path and Name:	Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-CSPP.dwg

MBA CONSULTING ENGINEERS, INC.
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, AK 99517
(907) 274-2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

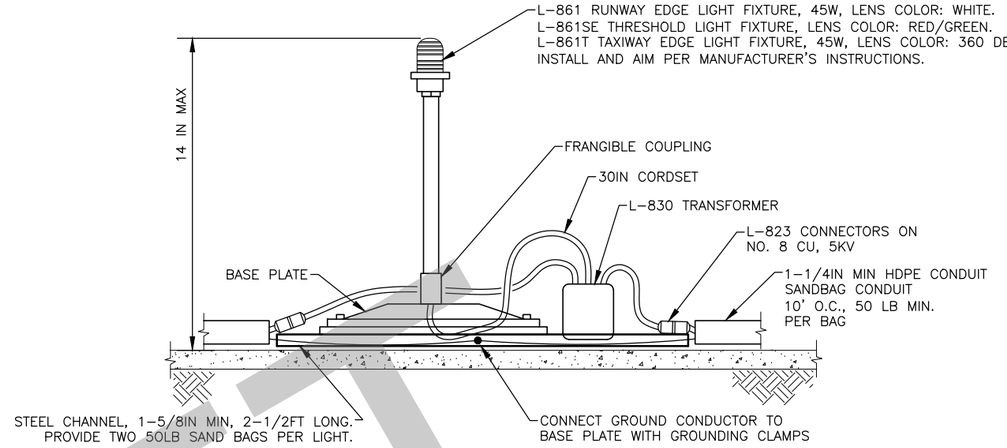
KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-XXX-20XX
TEMPORARY LIGHTING PLAN, PHASE 4
STA 26+50 TO STA 54+50

DATE: 1/4/2023

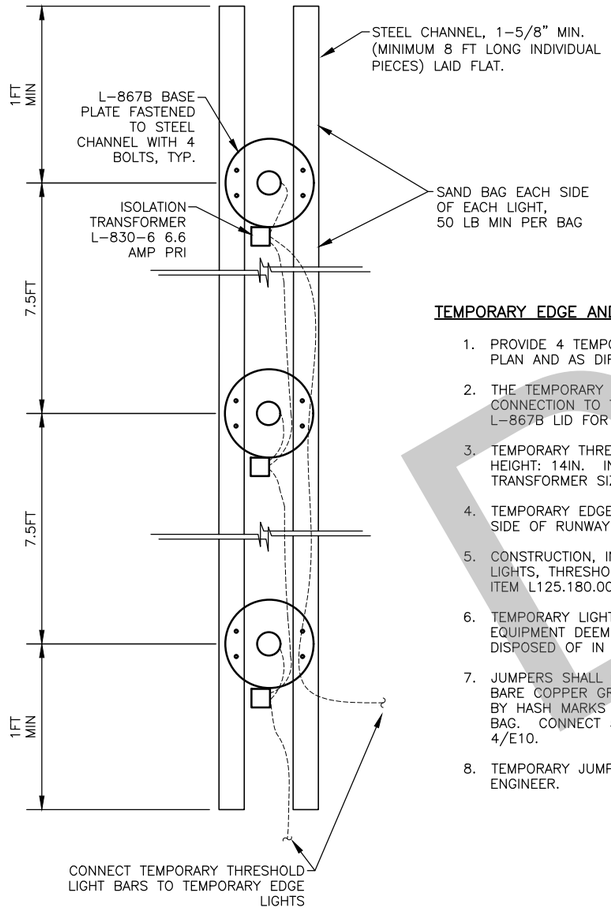
SHEET: AC13 OF AC14

TEMPORARY LIGHTING GENERAL NOTES:

1. PROVIDE A TEMPORARY RUNWAY AND TAXIWAY LIGHTING SYSTEM AND TEMPORARY JUMPERS AS REQUIRED TO PROVIDE A FULLY OPERATIONAL LIGHTING SYSTEM TO THE SATISFACTION OF THE ENGINEER. REVISE AS NECESSARY TO COORDINATE WITH PROJECT PHASING AND MAINTAIN THE SYSTEM FOR THE DURATION OF THE PROJECT. TEMPORARY LIGHTING SYSTEM SHALL MEET THE REQUIREMENTS OF A MEDIUM INTENSITY LIGHTING SYSTEM PER AC 150/5340-30J. PAID FOR UNDER L125.180.0000.
2. TEMPORARY LIGHTING SYSTEM WILL REQUIRE A 5KV REGULATOR BASED ON CALCULATIONS USING INCANDESCENT LAMPS AND L861SE THRESHOLD FIXTURES.
3. RESTORE AIRFIELD LIGHTING POWER AND CONTROL CIRCUITS ONE HOUR PRIOR TO ANY SCHEDULED FLIGHT, OR AS DIRECTED BY THE PROJECT ENGINEER.
4. WHEN TEMPORARY LIGHTING IS NO LONGER NEEDED, REMOVE UNUSED COMPONENTS, CONDUIT AND WIRING.
5. TEMPORARY JUMPERS SHALL BE #8 AWG, 5KV, TYPE 'C' AIRPORT CABLE. RUN JUMPERS IN HDPE CONDUIT, 1-1/4IN MINIMUM, AND 50 LBS SAND BAG EVERY 10 FT ON CENTER. ELECTRICAL CONNECTORS SHALL BE FIELD ATTACHED PLUG-IN SPLICES PER SECTION L-108. TEMPORARY JUMPERS SHALL BE SUBSIDIARY TO ITEM L125.180.0000 AND NO SEPARATE PAYMENT WILL BE MADE.
6. TEMPORARY LIGHT BASES SHALL BE CONSTRUCTED OF STEEL CHANNEL. BOLT THE FIXTURE BASE PLATE TO THE CHANNEL AND SECURE IN PLACE WITH SAND BAGS. AT THE CONTRACTOR'S OPTION, AND THE ENGINEER'S APPROVAL, A SELF-CONTAINED TEMPORARY LIGHTING SYSTEM MAY BE PROVIDED. SECURE THE LIGHTS IN PLACE PER THE MANUFACTURER'S INSTRUCTIONS.
7. PROVIDE 1/2IN BLANK STEEL COVERS PER SAFETY PLAN OR AS DIRECTED BY THE ENGINEER AND SECURE TO LIGHT BASES.
8. REMOVE EDGE LIGHTS THAT CONFLICT WITH CONSTRUCTION ACTIVITIES AND PROVIDE MEANS OF BLANKING OUT EXISTING TAXIWAY EDGE LIGHTS AND SIGNS ON CLOSED PORTIONS OF TAXIWAYS AND APRON AS INDICATED IN THE PHASING PLANS AND AS DIRECTED BY THE ENGINEER. THIS MAY BE ACCOMPLISHED BY REMOVING THE FIXTURES AND PROVIDING SHORTING CAPS, OR BY BAGGING THE FIXTURES AND SIGNS. IF FIXTURES ARE REMOVED, PROVIDE STEEL COVER PLATES. THE CONTRACTOR SHALL PROVIDE SAFE STORAGE AND RE-INSTALL THE FIXTURES OR REMOVE BAGS, AND CLEAN EACH FIXTURE AT THE END OF EACH PHASE. THIS WORK SHALL BE PAID UNDER ITEM L125.180.0000 AND NO SEPARATE PAYMENT WILL BE MADE.



2 AC14 TEMPORARY RUNWAY EDGE LIGHT DETAIL
NTS



TEMPORARY EDGE AND THRESHOLD LIGHT NOTES:

1. PROVIDE 4 TEMPORARY THRESHOLD LIGHT BARS IN ACCORDANCE WITH THE PROJECT SAFETY PLAN AND AS DIRECTED BY THE ENGINEER.
2. THE TEMPORARY LIGHT FIXTURES SHALL HAVE CORD SETS OF SUFFICIENT LENGTH TO ALLOW CONNECTION TO TRANSFORMER SECONDARY REMOTE FROM THE AREA UNDERNEATH THE L-867B LID FOR THE TEMPORARY THRESHOLD.
3. TEMPORARY THRESHOLD LIGHT FIXTURES SHALL BE L-861SE AND SHALL BE THE SAME HEIGHT: 14IN. INSTALL AND AIM PER MANUFACTURER'S INSTRUCTIONS. LAMP WATTAGE AND TRANSFORMER SIZE PER MANUFACTURER'S INSTRUCTIONS.
4. TEMPORARY EDGE LIGHTS SHALL BE LAID OUT SYMMETRICAL TO EDGE LIGHTS ON OPPOSITE SIDE OF RUNWAY. MAINTAIN A STRAIGHT LINE. MATCH EXISTING LENS COLOR.
5. CONSTRUCTION, INSTALLATION, MAINTENANCE AND DEMOLITION OF THE TEMPORARY EDGE LIGHTS, THRESHOLD LIGHTS, THRESHOLD LIGHT BARS AND JUMPERS IS SUBSIDIARY TO PAY ITEM L125.180.0000.
6. TEMPORARY LIGHTING SYSTEM SHALL BE SALVAGED AND OFFERED TO DOT MAINTENANCE. EQUIPMENT DEEMED OF NO SALVAGE VALUE BY DOT MAINTENANCE PERSONNEL SHALL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL STATUES.
7. JUMPERS SHALL CONSIST OF #8 AWG, 5 KV AIRPORT CABLE, TYPE C, PLUS ONE #6 AWG BARE COPPER GROUND INSTALLED IN HDPE CONDUIT. NUMBER OF CONDUCTORS INDICATED BY HASH MARKS ON PLANS. SAND BAG CONDUIT 10FT OC, 50 LB MINIMUM PER SAND BAG. CONNECT 5 kV AIRPORT CABLE WITH FAA L-823 CONNECTORS AS SHOWN IN DETAIL 4/E10.
8. TEMPORARY JUMPERS SHALL BE SALVAGED OR DISPOSED OF AT THE DIRECTION OF THE ENGINEER.

1 AC14 TEMPORARY THRESHOLD LIGHT BAR
NTS

Designed By: DMH
Drawn By: DMH
Checked By: EWC

Date Revised: 1/04/2023, 12:57 PM
Layout Name: AC14
File Path and Name: Z:\21016KAR - Kwethluk Airport Rehabilitation\E-Working\Drawings\00682-KWT-LTG-CSPP.dwg

MBA CONSULTING ENGINEERS, INC.
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, AK 99517
(907) 274-2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
AIRPORT REHABILITATION
PROJECT No. CFAPT00682
AIP No. 3-02-0435-XXX-20XX
TEMPORARY LIGHTING NOTES, DETAILS AND LEGEND

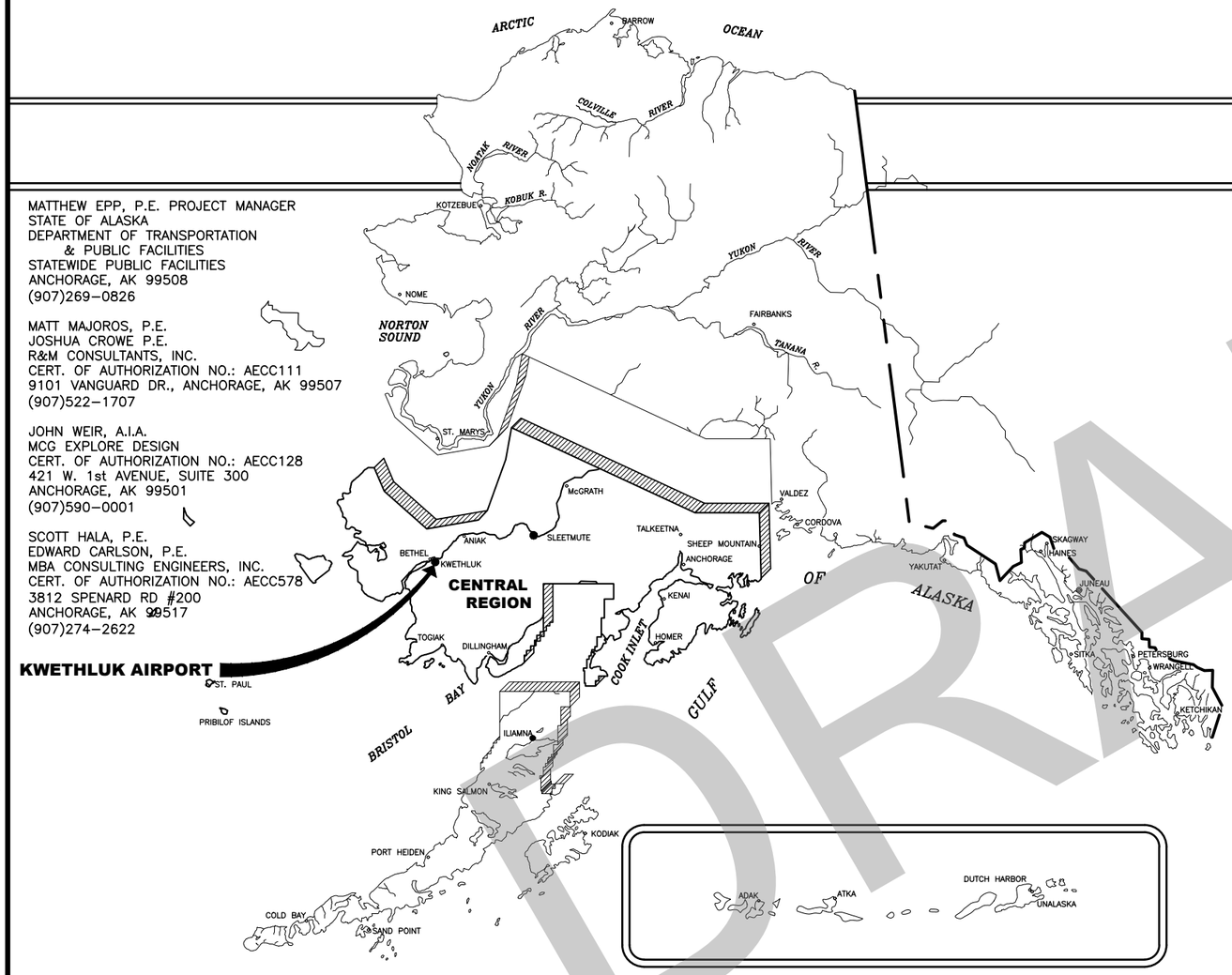
DATE: 1/4/2023
SHEET: AC14 OF AC14

MATTHEW EPP, P.E. PROJECT MANAGER
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
STATEWIDE PUBLIC FACILITIES
ANCHORAGE, AK 99508
(907)269–0826

MATT MAJOROS, P.E.
JOSHUA CROWE P.E.
R&M CONSULTANTS, INC.
CERT. OF AUTHORIZATION NO.: AECC111
9101 VANGUARD DR., ANCHORAGE, AK 99507
(907)522–1707

JOHN WEIR, A.I.A.
MCG EXPLORE DESIGN
CERT. OF AUTHORIZATION NO.: AECC128
421 W. 1st AVENUE, SUITE 300
ANCHORAGE, AK 99501
(907)590–0001

SCOTT HALA, P.E.
EDWARD CARLSON, P.E.
MBA CONSULTING ENGINEERS, INC.
CERT. OF AUTHORIZATION NO.: AECC578
3812 SPENARD RD #200
ANCHORAGE, AK 99517
(907)274–2622



PS&E REVIEW

KWETHLUK AIRPORT

KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIRPORT IMPROVEMENT PROGRAM
A.I.P. No. 3-02-0435-XXX-2023

SPONSORED BY
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED **DATE**
MELANIE ARNOLDS, P.E. **DIVISION OF FACILITIES SERVICES DIRECTOR**

APPROVED **DATE**
MATTHEW EPP, P.E. **PROJECT MANAGER**

KWETHLUK AIRPORT
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801

SHEET G1 OF G1

Plotted 8/26/2022 2:04 PM by Corey Prewett
Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\ACAD\2986.01-G1 Title Sheet.dwg

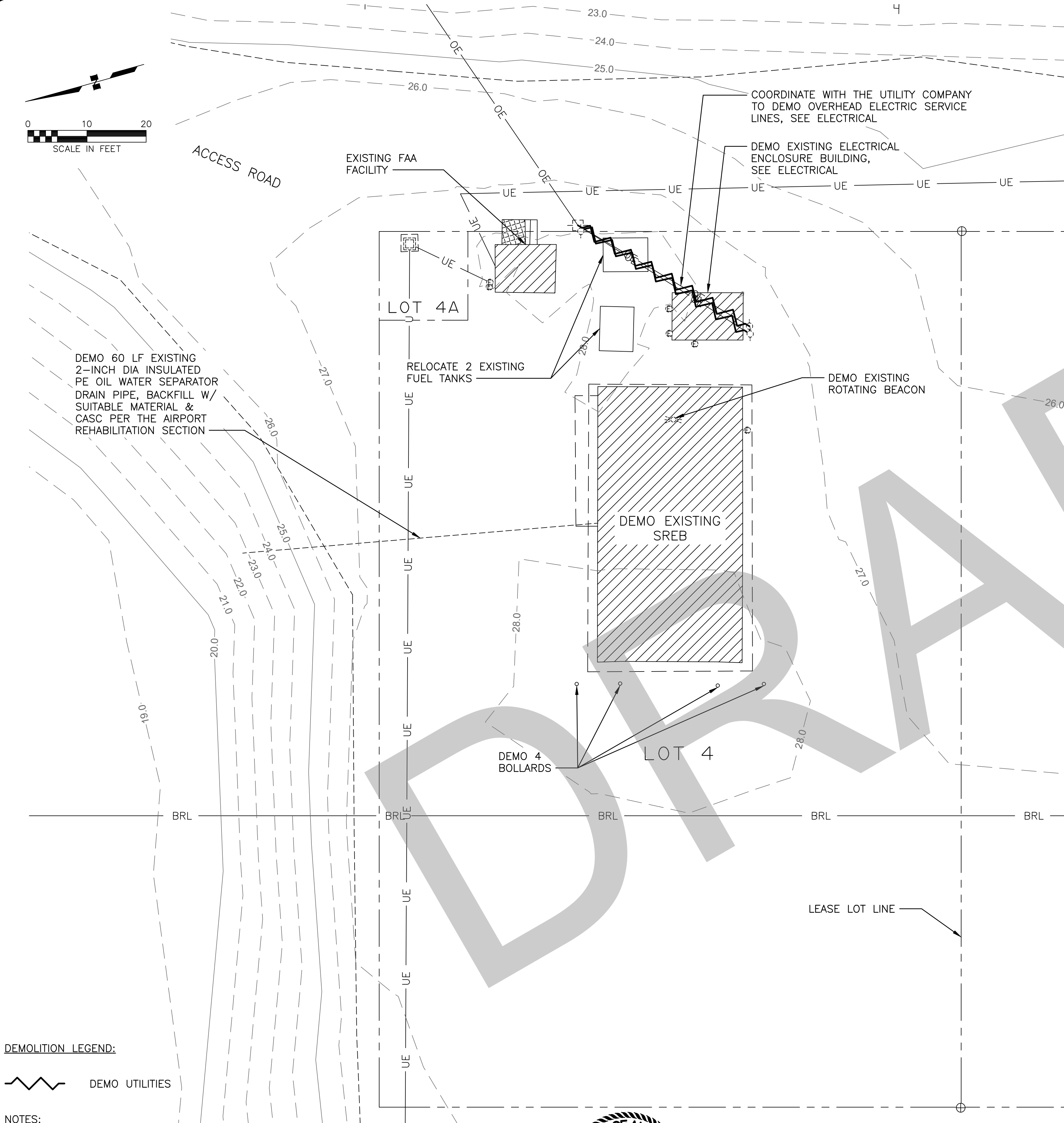


PHOTO 1: EXISTING SREB EXTERIOR – BACK

PHOTO 2: EXISTING SREB EXTERIOR – FRONT

DEMOLITION LEGEND:

DEMO UTILITIES

NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE BASED OFF FIELD SURVEY AND AS-BUILT RECORDS. THEY ARE APPROXIMATE LOCATIONS ONLY AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR TO FIELD LOCATE UTILITIES PRIOR TO EXCAVATION. SEE PROJECT SPECIFICATIONS, GCP SUBSECTION 50-06.
2. REFER TO THE AIRPORT REHABILITATION PLANS FOR OTHER DEMOLITION IN THE AREA NOT ASSOCIATED WITH THE SREB, INCLUDING REPLACEMENT OF THE AIRFIELD LIGHTING SYSTEM.
3. LEASE LOT 2 IS AVAILABLE FOR CONTRACTOR STAGING AND STOCKPILE AREA.

STATE OF ALASKA 49TH Matthew I. Majoros CE - 14441 REGISTERED PROFESSIONAL ENGINEER

PS&E REVIEW

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

BY	DATE	REVISION

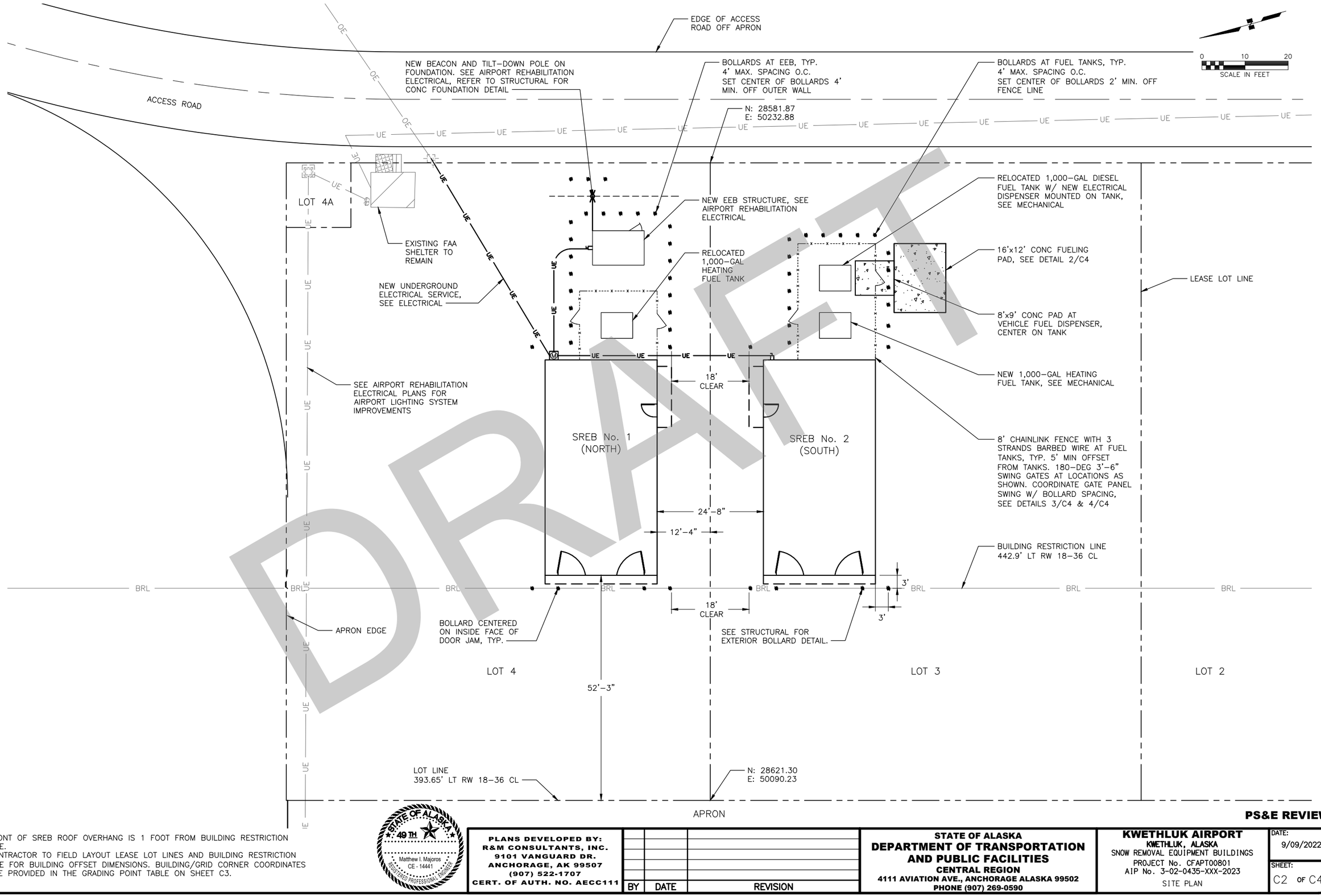
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
EXISTING SITE & DEMOLITION PLAN

DATE: 9/09/2022

SHEET: C1 OF C4

Date Revised: 8/26/2022, 2:05 PM
Layout Name: C1
File Path and Name: Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\ACAD\2986.01-C1-Existing Site And Demo.dwg
Designed By: MIM
Drawn By: CP
Checked By: NK



NOTES:

1. FRONT OF SREB ROOF OVERHANG IS 1 FOOT FROM BUILDING RESTRICTION LINE.
2. CONTRACTOR TO FIELD LAYOUT LEASE LOT LINES AND BUILDING RESTRICTION LINE FOR BUILDING OFFSET DIMENSIONS. BUILDING/GRID CORNER COORDINATES ARE PROVIDED IN THE GRADING POINT TABLE ON SHEET C3.

STATE OF ALASKA 49TH
Matthew I. Majoros
CE - 14441
REGISTERED PROFESSIONAL ENGINEER

PS&E REVIEW

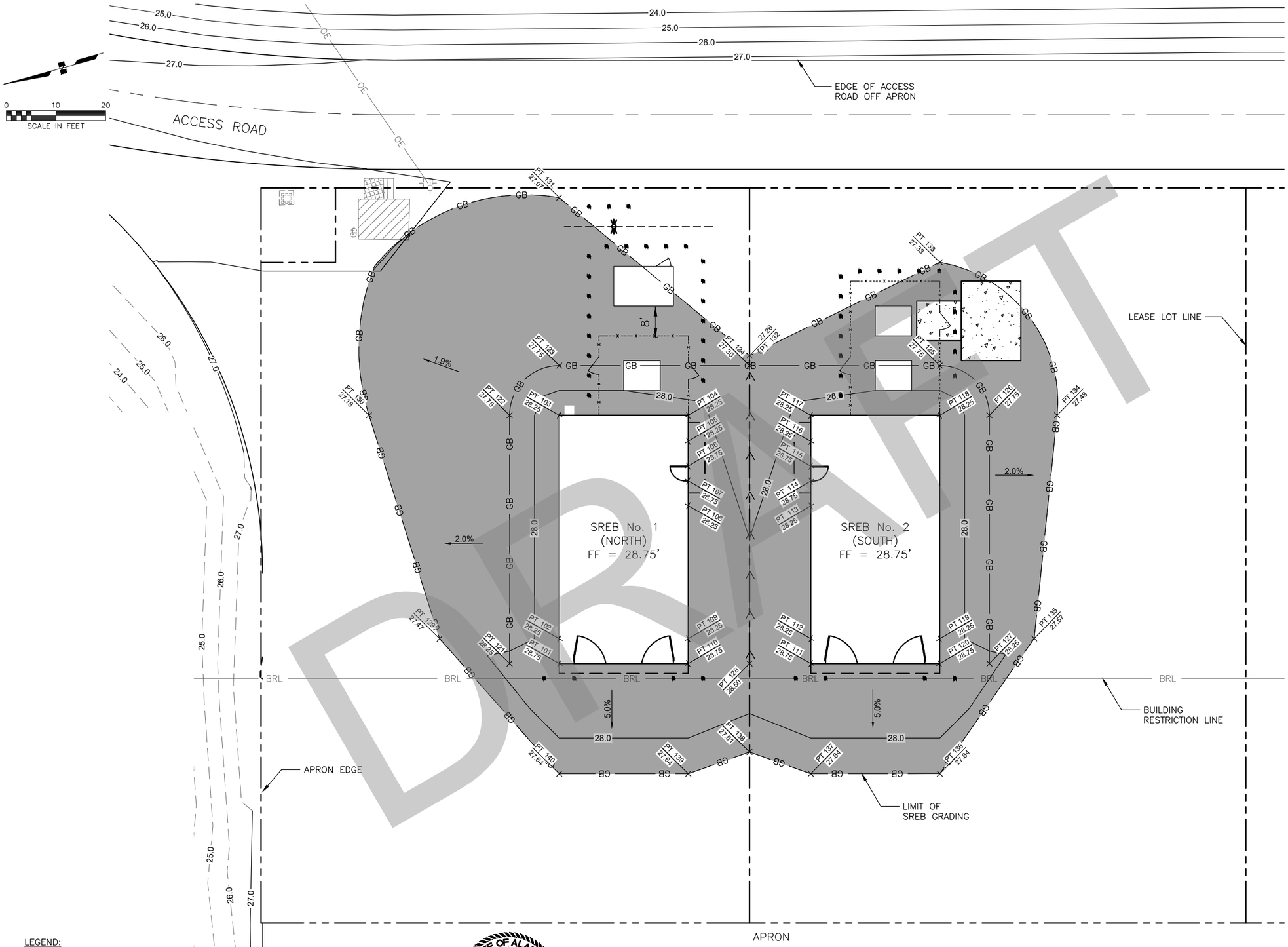
PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111	BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
SITE PLAN

DATE: 9/09/2022
SHEET: C2 OF C4

Designed By: MM
Drawn By: CP
Checked By: NK
Date Revised:
Layout Name: C2
File Path and Name: Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\ACAD\2986.01-C2-Site Plan.dwg
8/26/2022, 2:05 PM



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103	28631.01	50199.00	28.25	BLDG GRID D-1
104	28605.95	50192.07	28.25	BLDG GRID D-6
105	28607.34	50187.03	28.25	CASC
106	28608.67	50182.21	28.75	CASC
107	28609.47	50179.32	28.75	CASC
108	28610.80	50174.50	28.25	CASC
109	28617.94	50148.70	28.25	CASC
110	28619.27	50143.88	28.75	BLDG GRID A-6
111	28595.49	50137.31	28.75	BLDG GRID A-1
112	28594.16	50142.12	28.25	CASC
113	28587.03	50167.91	28.25	CASC
114	28585.70	50172.73	28.75	CASC
115	28584.90	50175.62	28.75	CASC
116	28583.57	50180.44	28.25	CASC
117	28582.17	50185.50	28.25	BLDG GRID D-1
118	28557.11	50178.57	28.25	BLDG GRID D-6
119	28569.10	50135.20	28.25	CASC
120	28570.43	50130.38	28.75	BLDG GRID A-6
121	28653.97	50153.47	28.25	GRADE BREAK
122	28640.64	50201.66	27.75	GRADE BREAK
123	28628.34	50208.64	27.75	GRADE BREAK
124	28591.39	50198.42	27.30	SWALE
125	28554.45	50188.21	27.75	GRADE BREAK
126	28547.47	50175.91	27.75	GRADE BREAK
127	28560.80	50127.71	28.25	GRADE BREAK
128	28607.38	50140.59	28.50	SWALE
129	28666.22	50162.04	27.47	CASC MATCH EXISTING
130	28667.94	50209.21	27.18	CASC MATCH EXISTING
131	28619.33	50241.25	27.07	CASC MATCH EXISTING
132	28590.86	50200.36	27.26	CASC MATCH EXISTING
133	28548.90	50208.26	27.33	CASC MATCH EXISTING
134	28534.33	50172.27	27.48	CASC MATCH EXISTING
135	28550.74	50130.18	27.57	CASC MATCH EXISTING
136	28576.35	50108.98	27.64	CASC MATCH EXISTING
137	28601.41	50115.91	27.64	CASC MATCH EXISTING
138	28612.13	50123.42	27.61	CASC MATCH EXISTING
139	28625.18	50122.48	27.64	CASC MATCH EXISTING
140	28650.24	50129.41	27.64	CASC MATCH EXISTING

LEGEND:

GB ——— GRADE BREAK

——— > ——— SWALE

NOTES:

1. SEE THE AIRPORT REHABILITATION PLANS FOR PROPOSED APRON GRADING OUTSIDE THE SREB GRADING LIMITS.
2. REFER TO THE SURVEY CONTROL SHEET FOR PROJECT COORDINATE CONTROL.

STATE OF ALASKA 49TH — Matthew I. Majoros CE-14441 — REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
GRADING PLAN

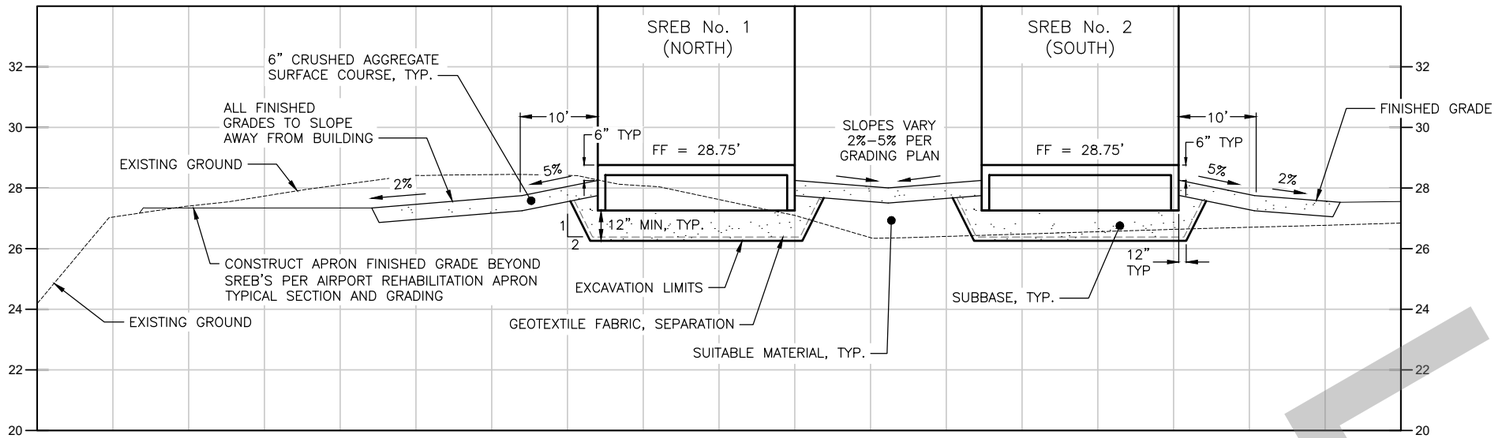
DATE: 9/09/2022

SHEET: C3 OF C4

PS&E REVIEW

Designed By: MM
Drawn By: CP
Checked By: NK

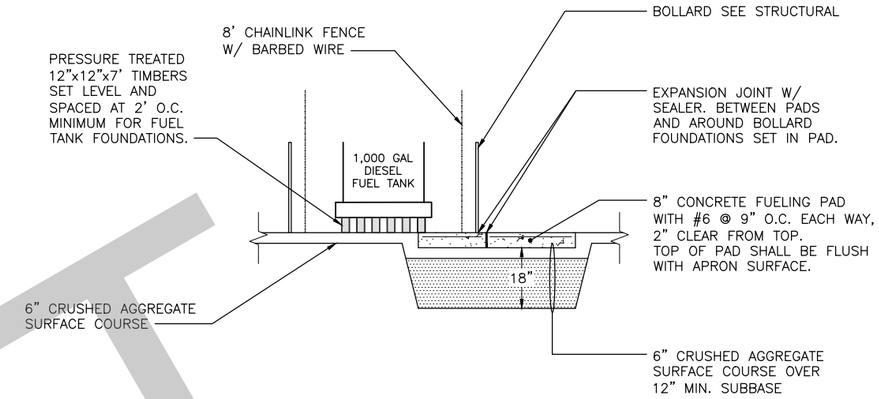
Date Revised:
Layout Name: C3
File Path and Name: Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\AGAD\2986.01-C3-Grading Plan.dwg
8/26/2022, 2:05 PM



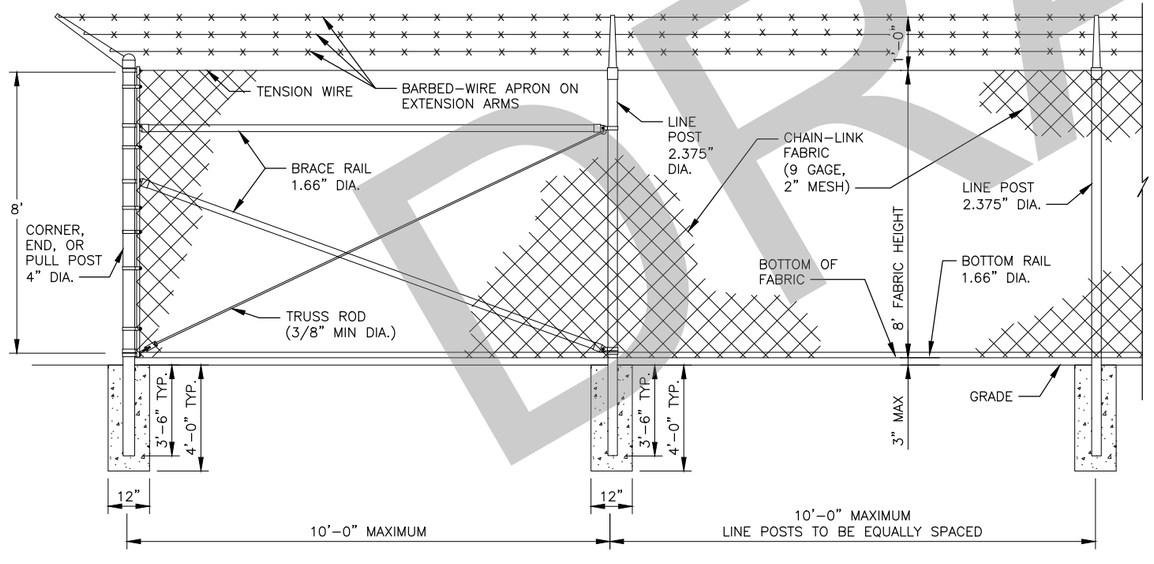
1 C4 TYPICAL SECTION AT SREB

HORIZONTAL SCALE IN FEET: 0 10 20

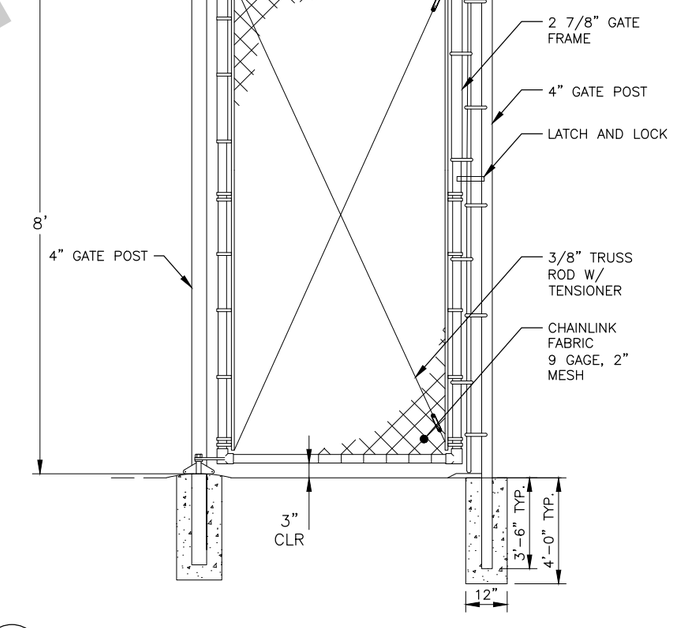
VERTICAL SCALE IN FEET: 0 1 2 3 4 5



2 C4 TYPICAL SECTION AT FUELING PAD



3 C4 CHAIN–LINK FUEL FENCING DETAIL



4 C4 FUEL FENCING PERSONNEL GATE DETAIL

PS&E REVIEW

STATE OF ALASKA 49TH
Matthew I. Majoros
CE - 14441
REGISTERED PROFESSIONAL ENGINEER

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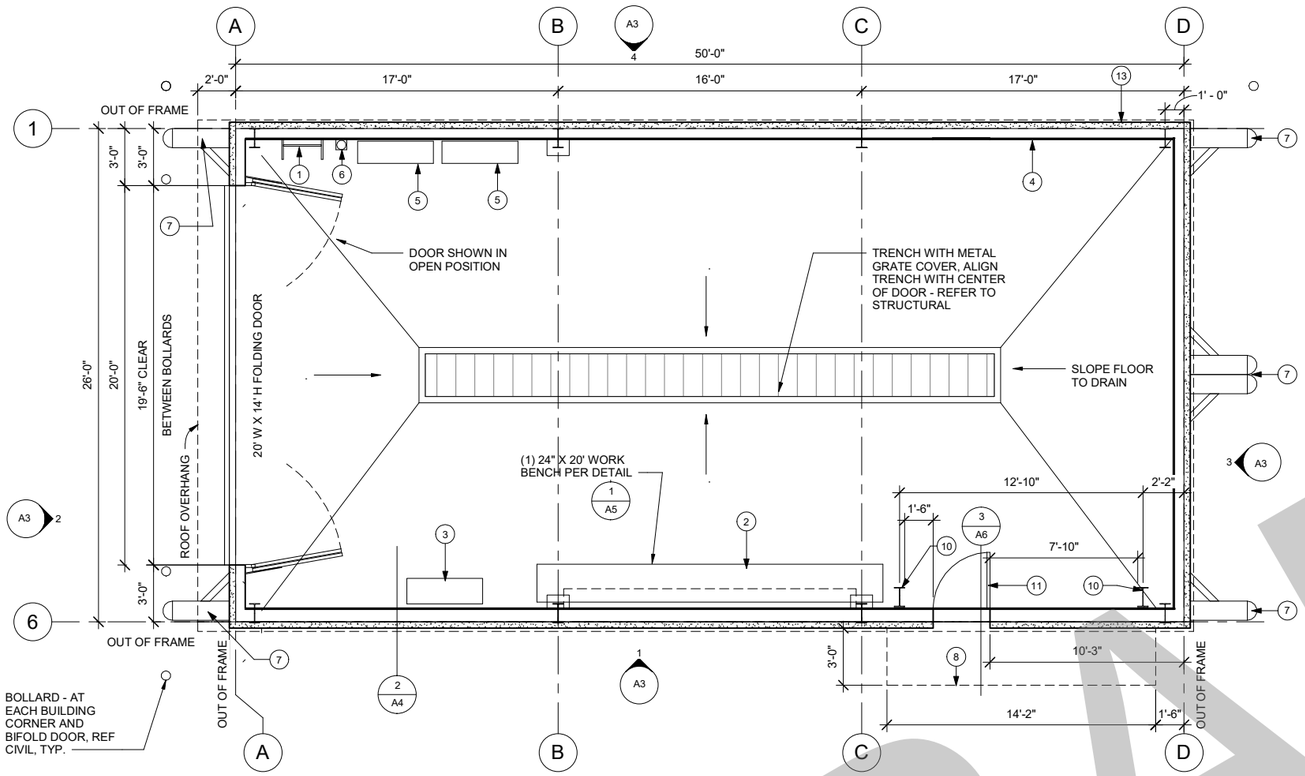
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
TYPICAL SECTIONS & DETAILS

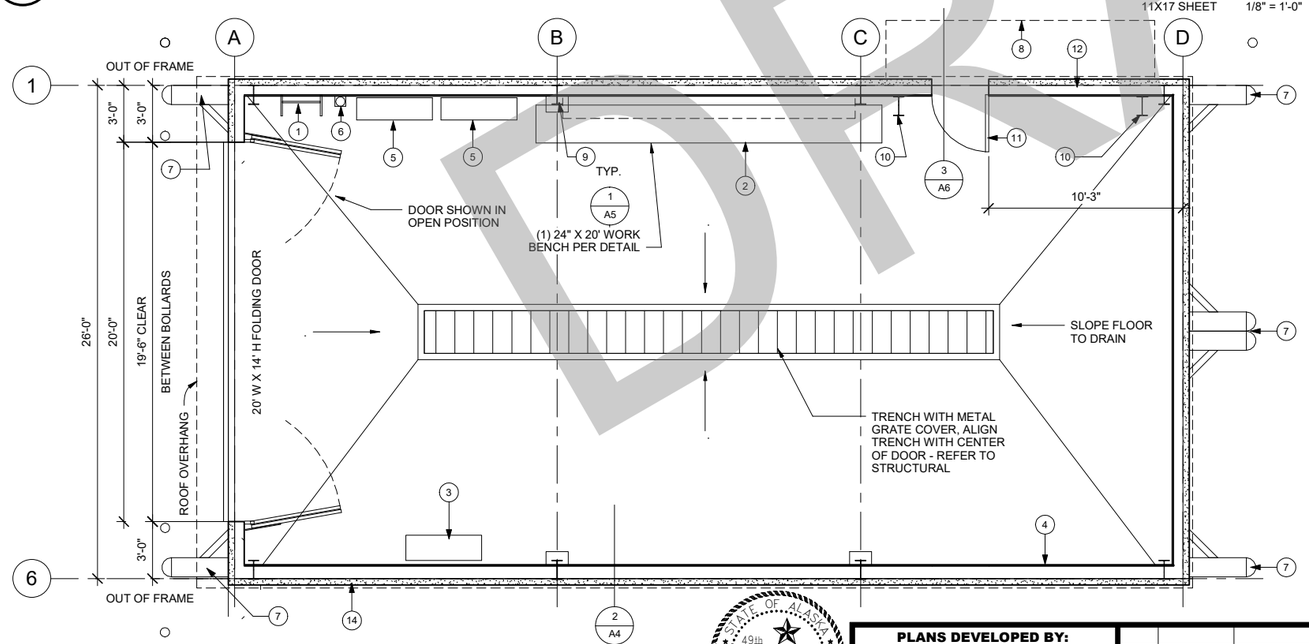
DATE: 9/09/2022
SHEET: C4 OF C4

Designed By: MM
Drawn By: CP
Checked By: NK
Date Revised:
Layout Name: C4
File Path and Name: Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\ACAD\2986.01-C2-Site Plan.dwg
8/26/2022, 2:05 PM



1 A1 FLOOR PLAN - SREB NO. 1 (NORTH)

1/4" = 1'-0"



2 A1 FLOOR PLAN - SREB NO. 2 (SOUTH)

1/4" = 1'-0"

0' 2' 4' 8'

22X34 SHEET 1/4" = 1'-0"

11X17 SHEET 1/8" = 1'-0"

CODE SYNOPSIS

2012 IBC AS AMENDED BY ALASKA DEPT. OF PUBLIC SAFETY

OCCUPANCY S-1 MOTOR VEHICLE GARAGE (IBC 311.2)

CONSTRUCTION TYPE V-11 NONCOMBUSTIBLE WITH NO FIRE RESISTANCE
MINIMUM FIRE SEPARATION = 10' CLEAR OR GREATER (IBC TABLE 602)

FIRE SEPARATION DISTANCE (702); 10'
BUILDING FACE TO
1) CLOSEST INTERIOR LOT LINE
2) CENTER OF PUBLIC WAY
3) IMAGINARY LINE BETWEEN 2 BUILDINGS = 20'

ACTUAL AREA: 26'x 50' = 1,300 S.F. GROSS EACH BUILDING. NET USABLE FLOOR AREA IS APPROXIMATELY 1,195 SF EACH

S-1 OF V-11 ALLOWABLE AREA = 26,000SF (IBC 503) = OK

FIRE SEPARATION NOT REQUIRED FOR FUEL - HEATING EQUIPMENT UNDER 400,000 BTU INPUT (IBC 509)

OCCUPANT EXIT LOAD (IBC 1004.1): 1,300SF/200 = 13 = SINGLE 36" HINGED EXIT DOOR OK (1015)

FOAM PLASTIC INSULATED WALL & ROOF PANELS SHALL COMPLY WITH IBC 2603 FOR NON-SPRINKLERED BUILDINGS

SHEET NOTES

PROVIDE EQUIPMENT UNPACKED, ASSEMBLED AND READY TO USE; LOCATE WHERE DIRECTED BY OWNER

1. PORTABLE LADDER: FURNISH ONE PORTABLE ALUMINUM ADJUSTABLE FREE STANDING A-FRAME LADDER 6 TO 11 FOOT A-FRAME HEIGHT RECOMMENDED BY MANUFACTURER FOR INDUSTRIAL HEAVY DUTY 300 POUND RATING. CERTIFIED ANSI A14 COMPLIANCE. little giant.com - MODEL 26 OR EQUAL INSTALL WITH STORAGE 1/8" X 3/4" GALVANIZED CHAIN AGAINST ON INSIDE WALL OF BUILDING WHERE DIRECTED BY OWNER.
2. TW0 16" WIDE X 3/4" PLYWOOD SHELVES - BETWEEN FRAMING - 12" X 12" STEEL SHELF BRACKETS EVENLY SPACED AT 24" O.C. - 55" AND 68" FROM TOP TO FLOOR - PAINT SAME AS PLYWOOD WAINSCOT
3. SPILL CONTAINMENT CABINET
   14 GAGE STEEL 48" WIDE X 24" DEEP X 78" HIGH WITH 2 PAD LOCKABLE DOORS.
   CENTER PARTITION, COAT ROD, FIXED TOP SHELF, 4 ADJUSTABLE SHELVES.
   YELLOW ENAMEL PAINT FINISH WITH "SPILL CONTAINMENT CABINET" IN 2' HIGH LETTERS.
   WWW.LKGOODWIN.COM MODEL ML248 OR EQUAL
   INSTALL WHERE DIRECTED
4. 5000 LB CAPACITY FLOOR MOUNT SINGLE SIDE CANTILEVER RACK:
   (2) 8' HIGH UPRIGHTS
   (1) BRACE SET BETWEEN UPRIGHTS; 6'
   (10) 24" STRAIGHT ARMS WITH LIPS
   ENAMEL PAINT FINISH
   WWW.LKGOODWIN.COM SERIES 1000 OR EQUAL
   INSTALL WHERE DIRECTED
5. (2 EACH) CLOSED SHELF UNITS: 18 GAGE STEEL 48" WIDE X 24" DEEP 89" HIGH WITH CLOSED SIDES & BACK.
   (3) INTERMEDIATE ADJUSTABLE SHELVES
   GRAY ENAMEL PAINT FINISH
   WWW.LKGOODWIN.COM IRONMAN OR EQUAL
   INSTALL WHERE DIRECTED
6. PROVIDE TWO FIRE EXTINGUISHERS IN WALL MOUNTED CABINETS:DRY CHEMICAL 2-A : 10-B,C MINIMUM WITH ALASKA FIRE MARSHALL - APPROVED SIGNS
7. STEEL SKIDS, REF STRUCTURAL
8. DOOR CANOPY, ABOVE
9. PRE ENGINEERED METAL BUILDING COLUMNS
10. STEEL POSTS FOR CANOPY SUPPORT FRAMING
11. CONTRACTOR TO COORDINATE KEYING WITH OWNER/SOUTHWEST DISTRICT KEYING STANDARDS
12. CANOPY ABOVE
13. ICE DEFLECTOR ABOVE
14. ICE DEFLECTOR OVER FUEL PIPING, REF STRUCTURAL

PS&E REVIEW

STATE OF ALASKA 49th John T. Weir No. 10242 PROFESSIONAL ENGINEER
09/09/2022

PLANS DEVELOPED BY:
MCG EXPLORE DESIGN
421 W 1ST AVE. SU. 300
ANCHORAGE, AK 99501
(907)563-8474
CERT. OF AUTH. NO. 2018

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

KWETHLUK, AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-0XX-2023
ARCHITECTURAL
FLOOR PLAN

DATE: **09/09/2022**

SHEET: A1 OF A6

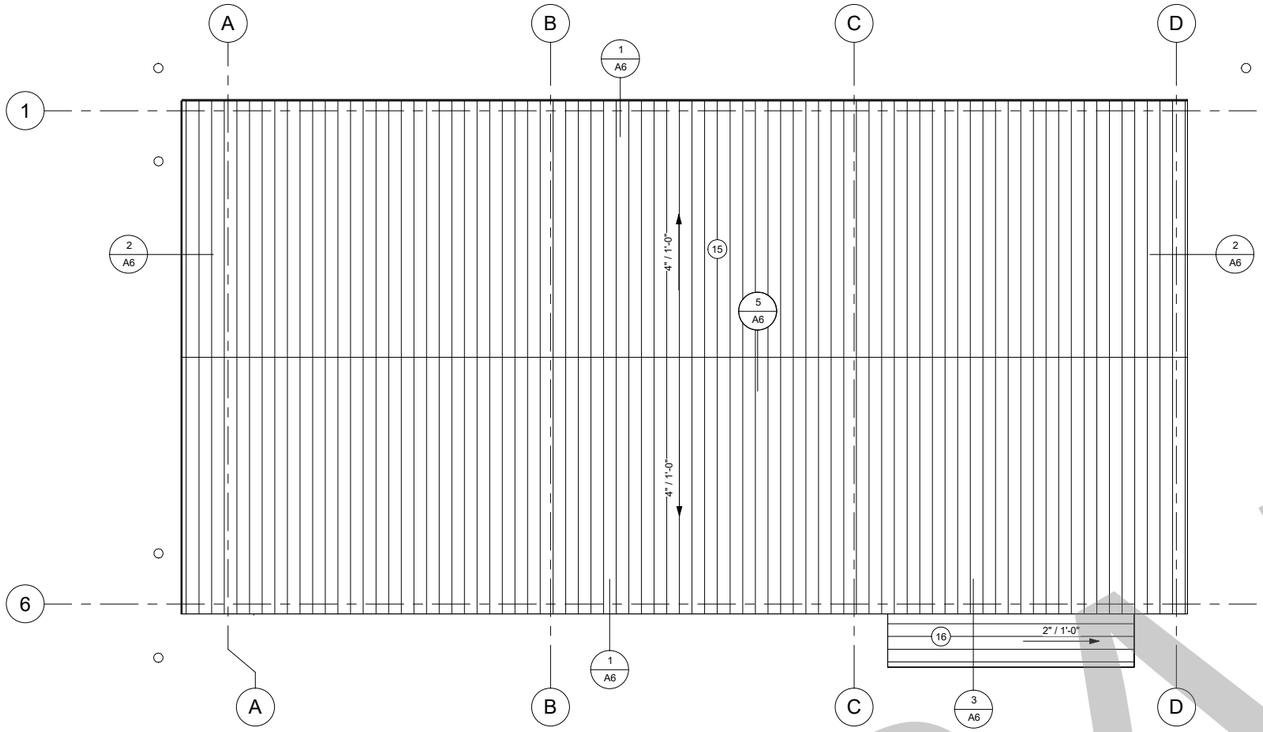
Designed By: JEM
Drawn By: WVZ
Checked By: DDG

Date Revised: 8/30/2022 5:19:30 PM
Layout Name: A1 FLOOR PLAN
File Path and Name: L:\ED-DC2\Profiles\Vtes\Documents\KWETHLUK_SREB_mmhorn.rvt

SHEET NOTES

(15) 6" INSULATED METAL ROOF PANELS

(16) ROOF CANOPY



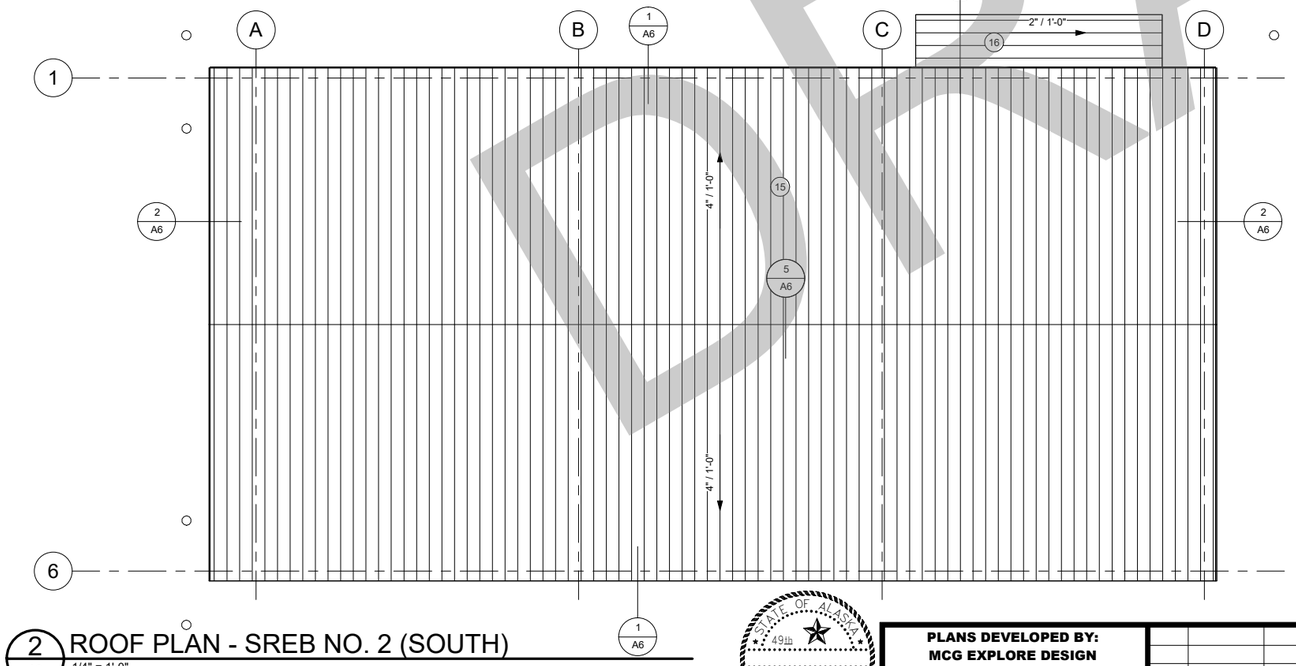
1 A2 ROOF PLAN - SREB NO. 1 (NORTH)

1/4" = 1'-0"

0' 2' 4' 8'

22X34 SHEET 1/4" = 1'-0"

11X17 SHEET 1/8" = 1'-0"



2 A2 ROOF PLAN - SREB NO. 2 (SOUTH)

1/4" = 1'-0"

0' 2' 4' 8'

22X34 SHEET 1/4" = 1'-0"

11X17 SHEET 1/8" = 1'-0"

STATE OF ALASKA
49th
John T. Weir
No. 10242
REGISTERED PROFESSIONAL ENGINEER
09/09/2022

PS&E REVIEW

PLANS DEVELOPED BY:	BY	DATE	REVISION
MCG EXPLORE DESIGN			
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ANCHORAGE, AK 99501			
(907)563-8474			
CERT. OF AUTH. NO. 2018			

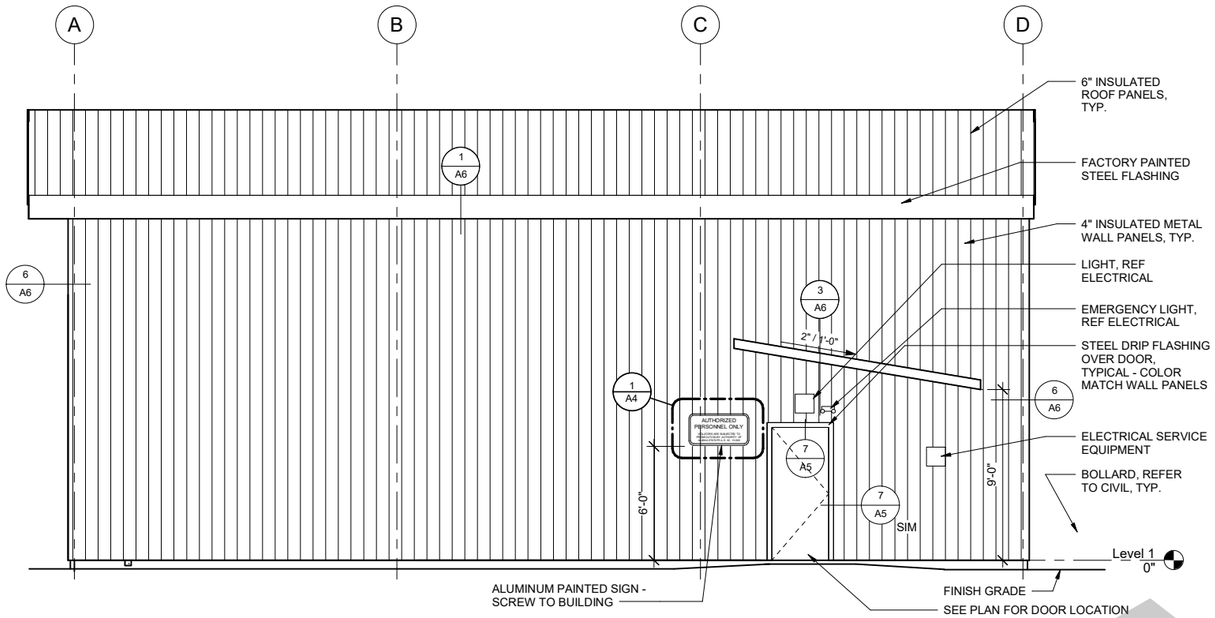
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

KWETHLUK, AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-0XX-2023
ARCHITECTURAL
ROOF PLAN

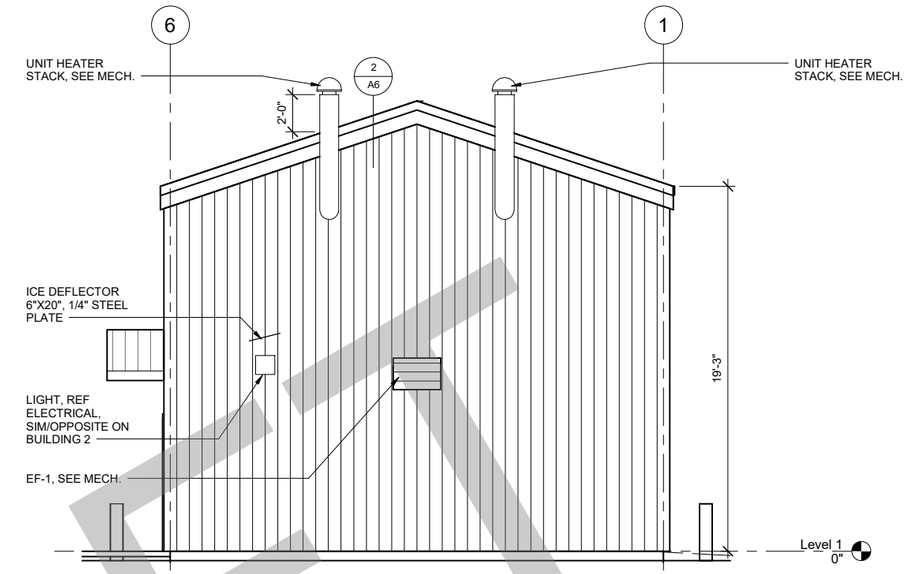
DATE: **09/09/2022**

SHEET: A2 OF A6

Designed By: Designer
Drawn By: Author
Checked By: Checker
Date Revised: 8/30/2022 5:19:30 PM
Layout Name: A2 ROOF PLAN
File Path and Name: I:\ED-DC2\Profiles\Vitec\Documents\KWETHLUK_SREB_mmorn.rvt

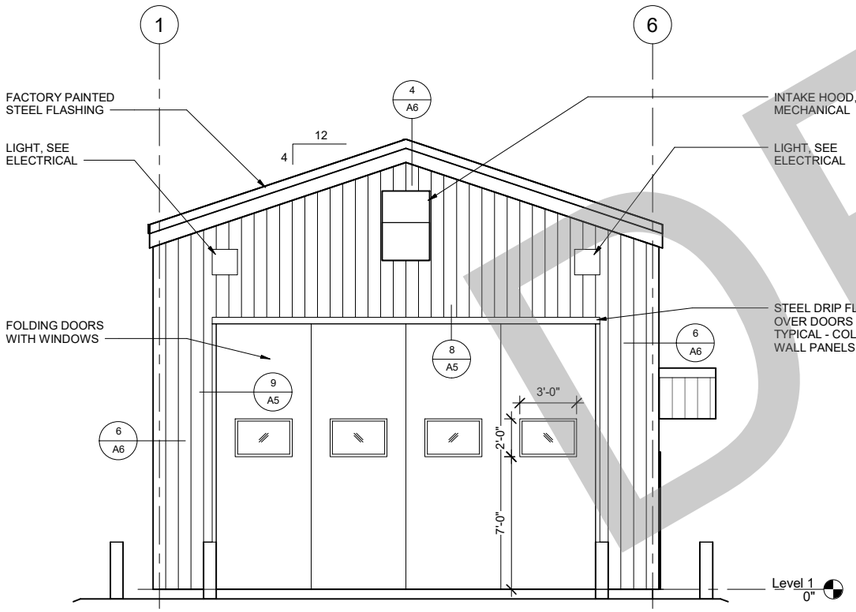


1 BUILDING SIDE ELEVATION
A3 — 1/4" = 1'-0"

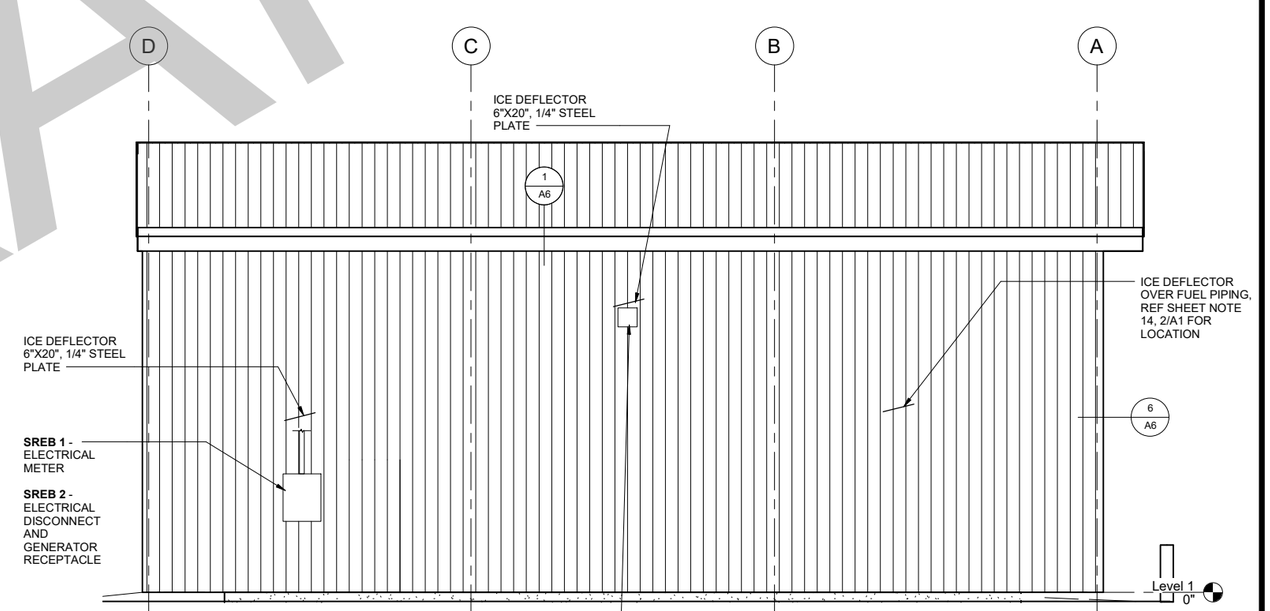


3 BUILDING REAR ELEVATION
A3 — 1/4" = 1'-0"

0' 2' 4' 8'
22X34 SHEET 1/4" = 1'-0"
11X17 SHEET 1/8" = 1'-0"



2 BUILDING FRONT ELEVATION
A3 — 1/4" = 1'-0"



4 BUILDING SIDE-ELEVATION
A3 — 1/4" = 1'-0"

0' 2' 4' 8'
22X34 SHEET 1/4" = 1'-0"
11X17 SHEET 1/8" = 1'-0"

PS&E REVIEW

GENERAL NOTES:
1. ELEVATIONS APPLY TO SREB BUILDING 1, SREB BUIDLING 2 ELEVATIONS OPP HAND. REF PLANS FOR ADDITIONAL INFORMATION
2. ELECTRICAL AND MECHANICAL INFORMATION SHOWN ON ELEVATIONS ARE SCHEMATIC ONLY, REF MECHANICAL AND ELECTRICAL FOR ALL LOCATIONS OF MECHANICAL AND ELECTRICAL ITEMS.

STATE OF ALASKA — 49th — John T. Weir — No. 10242 — PROFESSIONAL ENGINEER
09/09/2022

PLANS DEVELOPED BY:
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421 W 1ST AVE. SU. 300
ANCHORAGE, AK 99501
(907)563-8474
CERT. OF AUTH. NO. 2018

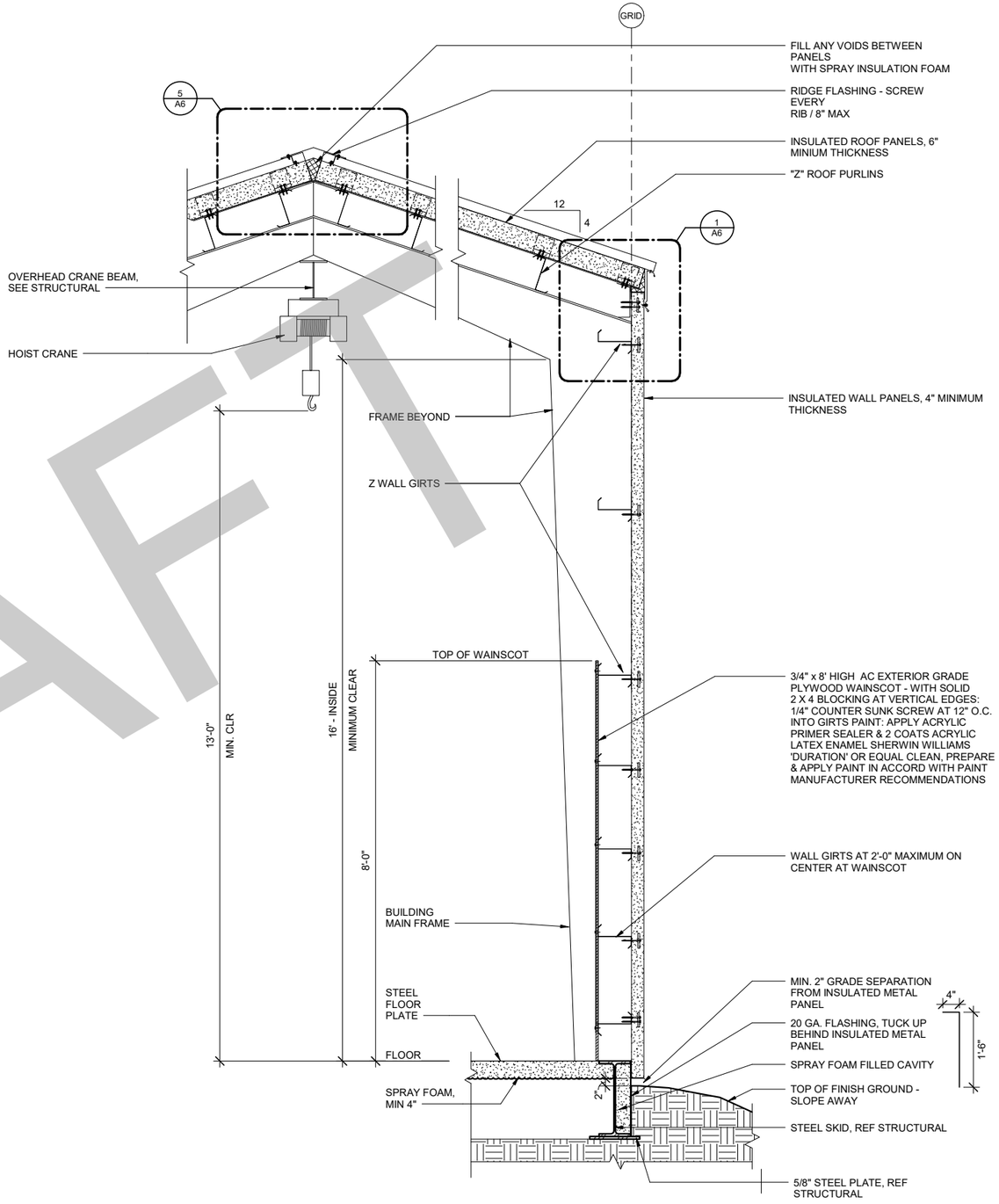
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

KWETHLUK, AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-0XX-2023
ARCHITECTURAL
EXTERIOR ELEVATIONS

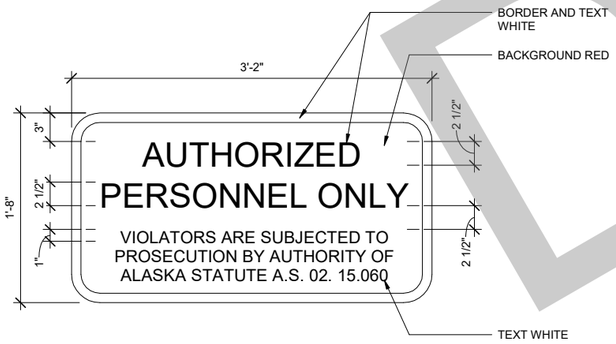
DATE: **09/09/2022**
SHEET: A3 OF A6

Designed By: JEM
Drawn By: WVZ
Checked By: DDG
Date Revised: 8/30/2022 5:19:31 PM
Layout Name: A3 EXTERIOR ELEVATIONS
File Path and Name: \\ED-0C2\Profiles$\tlex\Documents\KWETHLUK_SREB_mmhorn.rvt



2 A4 TYPICAL WALL SECTION
3/4" = 1'-0"

0' 1' 2' 4'
22X34 SHEET 3/4" = 1'-0"
11X17 SHEET 3/8" = 1'-0"



1 A4 SIGN MESSAGE
1 1/2" = 1'-0"

PS&E REVIEW

STATE OF ALASKA
49th
John T. Weir
No. 10242
PROFESSIONAL ENGINEER
09/09/2022

PLANS DEVELOPED BY:
MCG EXPLORE DESIGN
421 W 1ST AVE. SU. 300
ANCHORAGE, AK 99501
(907)563-8474
CERT. OF AUTH. NO. 2018

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

KWETHLUK, AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-0XX-2023
ARCHITECTURAL
BUILDING SECTIONS

DATE: 09/09/2022
SHEET: A4 OF A6

Designed By:	JEM
Drawn By:	WVZ
Checked By:	DDG

Date Revised:
Layout Name: A4 BUILDING SECTIONS 8/30/2022 5:19:31 PM
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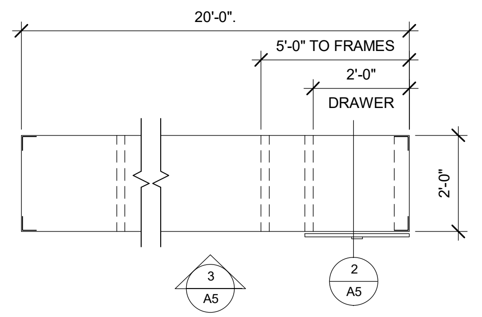
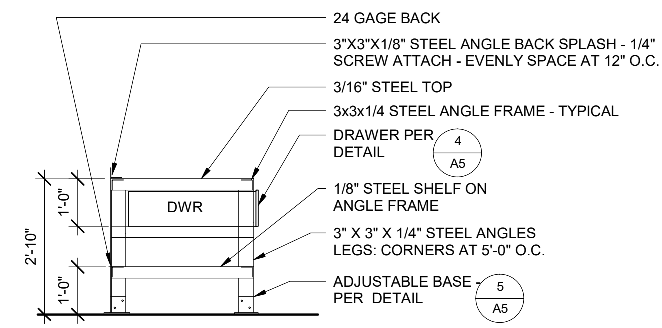
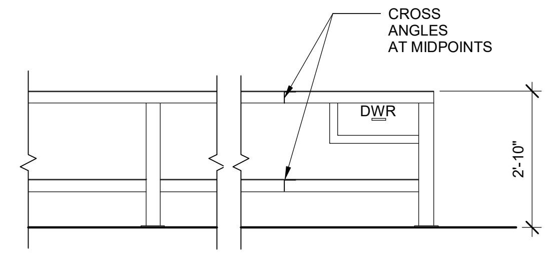


1 WORK BENCH PLAN
A5 1/2" = 1'-0"



2 WORK BENCH SECTION
A5 1/2" = 1'-0"



3 WORK BENCH FRONT
A5 1/2" = 1'-0"

WORK BENCH SPECIFICATIONS

INSTALL WHERE INDICATED ON FLOOR PLAN

FRAME: 3 x 3 x1/4" STEEL ANGLES - WELD 3/16" FILLET AT CONNECTIONS

TOP: 3/16" STEEL PLATE

SHELF: 1/8" STEEL PLATE

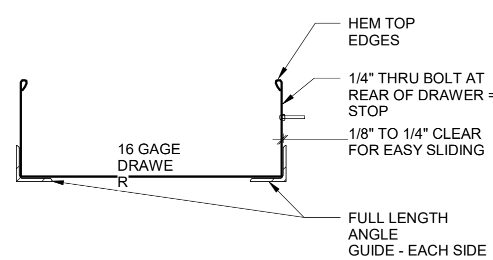
BACK: 24 GAGE STEEL SHEET

(TOP, SHELF, BACK:) 1/4" ROUND HEAD THRU BOLT ATTACH - EVENLY SPACE AT 12" MAXIMUM

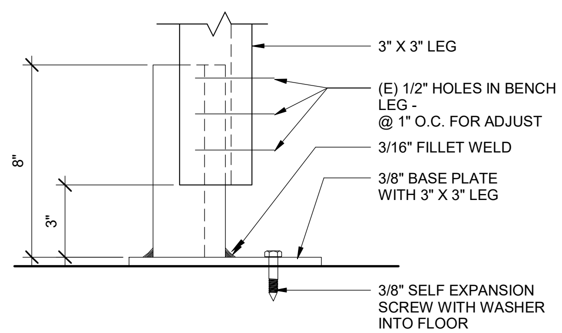
DRAWER: BOTTOM AND SIDES: 16 GAGE GALVANIZE SHEET STEEL BEND OR WELDED - HEM TOP EDGES
PULL: 6x5/16" WIRE: STANLEY 4486 OR EQUAL

EDGES: SMOOTH EDGES BY GRINDING - FREE FROM SHARP SURFACES

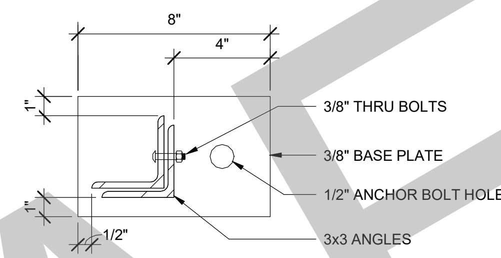
FINISH: SHOP APPLY: SOLVENT CLEAN POWER GRIND OR GRIT BLAST CLEAN, PRIME AND EPOXY ENAMEL PAINT



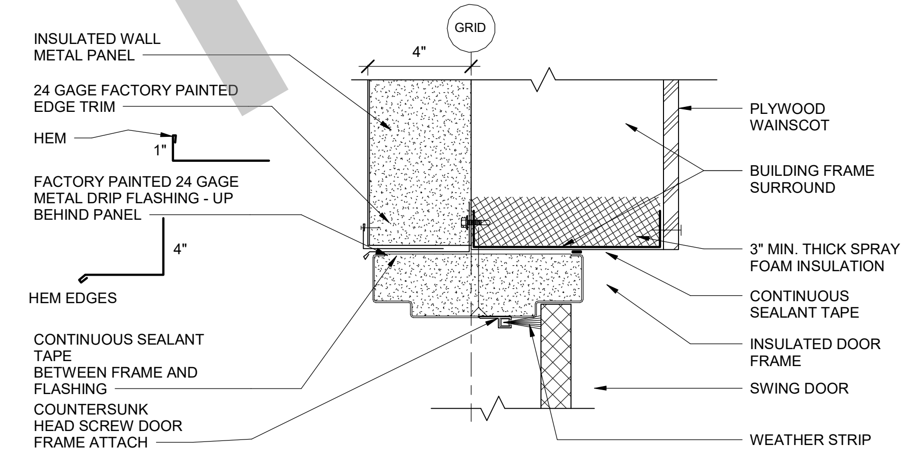
4 WORK BENCH DRAWER
A5 1 1/2" = 1'-0"



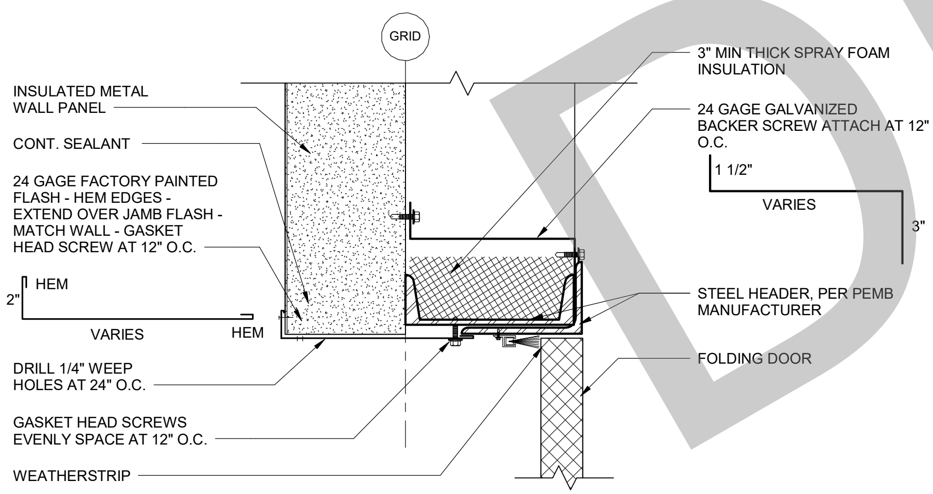
5 WORK BENCH LEG
A5 3" = 1'-0"



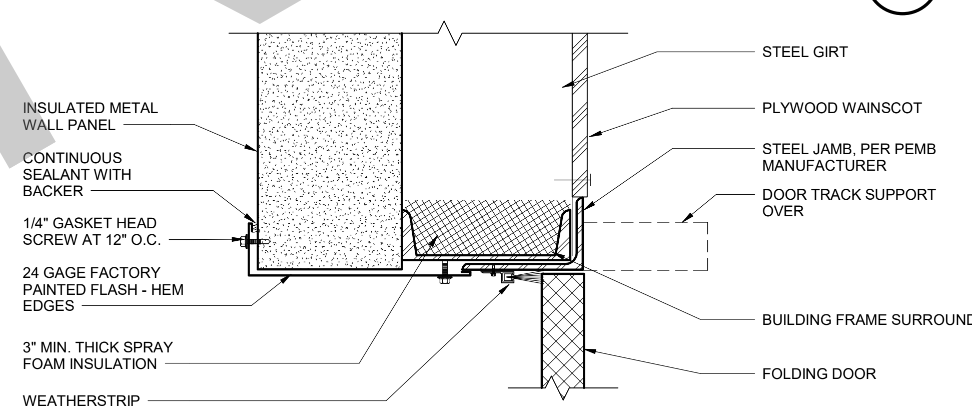
6 WORK BENCH LEGS BASE PLATE
A5 3" = 1'-0"



7 HINGED DOOR HEAD - JAMB SIMILAR
A5 3" = 1'-0"



8 FOLDING DOOR HEAD
A5 3" = 1'-0"



9 FOLDING DOOR JAMB
A5 3" = 1'-0"

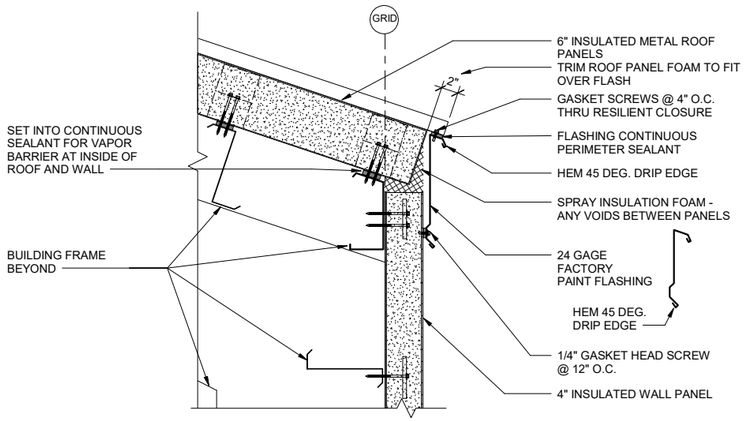
Date Revised: 8/30/2022 5:19:32 PM
Layout Name: A5 DETAILS
File Path and Name: \\ED-DC2\Profiles$\itec\Documents\KWETHLUK_SREB_nmhorn.rvt

Designed By: Designer
Drawn By: WVZ
Checked By: DDG

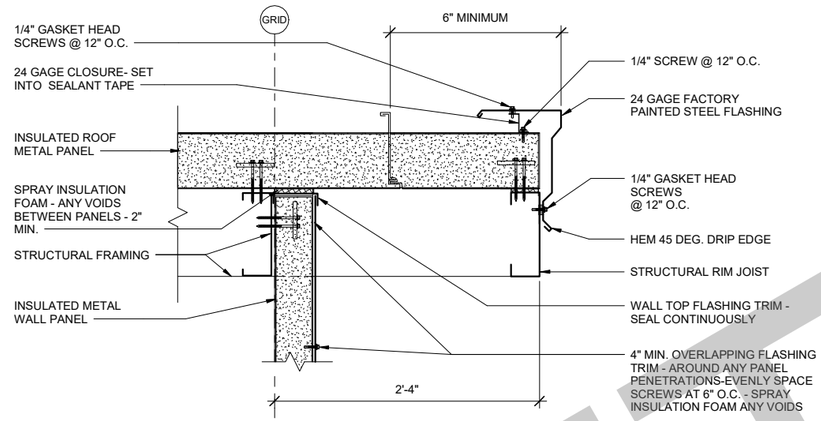
STATE OF ALASKA 49th John T. Weir No. 10242 PROFESSIONAL ARCHITECT 09/09/2022

PS&E REVIEW

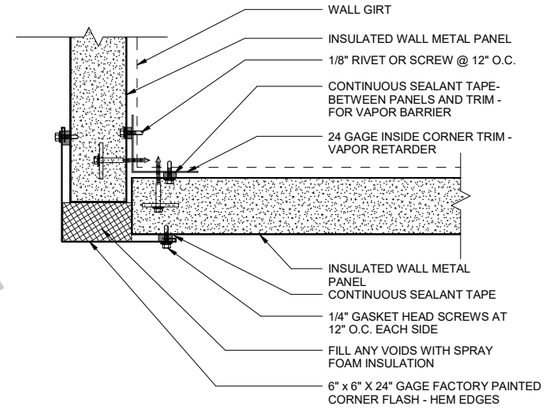
PLANS DEVELOPED BY:	BY	DATE	REVISION	STATE OF ALASKA	KWETHLUK, AIRPORT	DATE:
MCG EXPLORE DESIGN 421 W 1ST AVE. SU. 300 ANCHORAGE, AK 99501 (907)563-8474 CERT. OF AUTH. NO. 2018				DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES CENTRAL REGION	KWETHLUK, ALASKA SNOW REMOVAL EQUIPMENT BUILDINGS PROJECT No. CFAPT00801 AIP No. 3-02-0435-0XX-2023 ARCHITECTURAL DETAILS	09/09/2022 SHEET: A5 OF A6



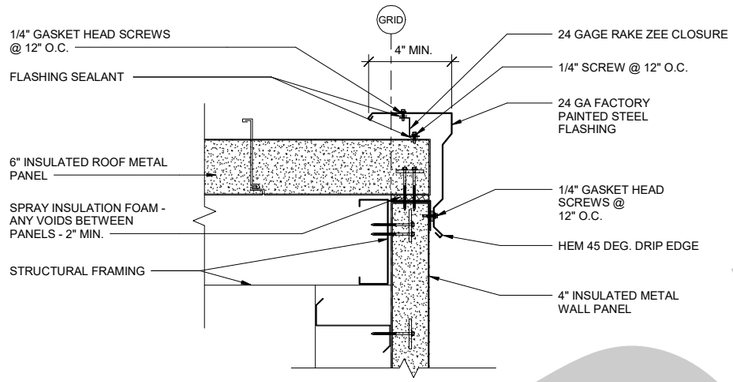
1 ROOF EAVES
A6
1 1/2" = 1'-0"



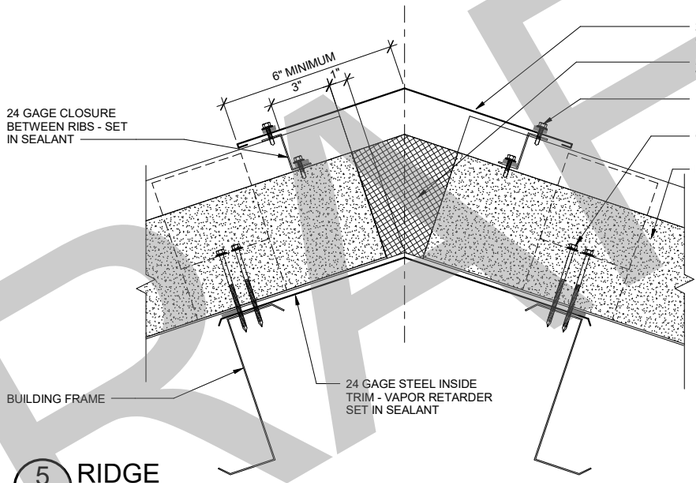
4 ROOF OVER AT OVERHEAD DOOR
A6
1 1/2" = 1'-0"



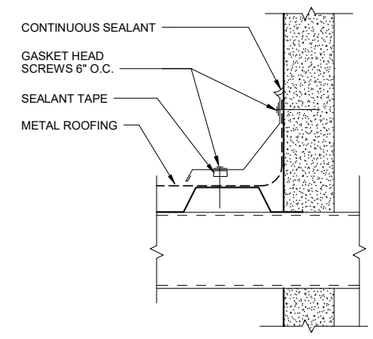
6 CORNER AT WALL PANEL
A6
3" = 1'-0"



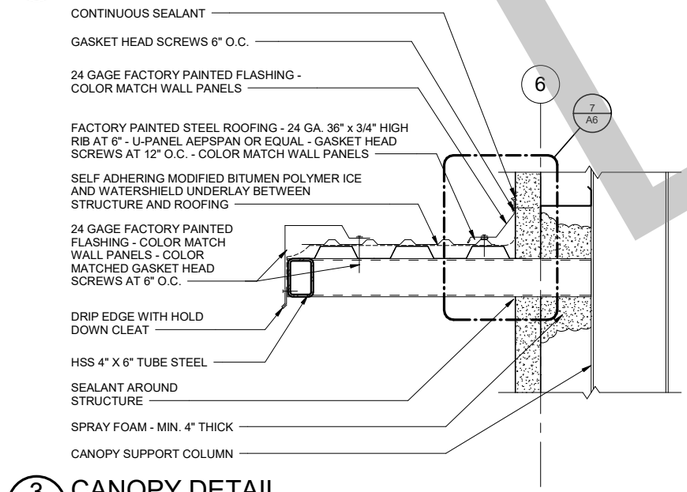
2 ROOF RAKE
A6
1 1/2" = 1'-0"



5 RIDGE
A6
3" = 1'-0"



7 CANOPY FLASHING DETAIL
A6
1 : 6



3 CANOPY DETAIL
A6
1" = 1'-0"

STATE OF ALASKA
49th
John T. Weir
No. 10242
PROFESSIONAL ENGINEER
09/09/2022

PS&E REVIEW

PLANS DEVELOPED BY:			
MCG EXPLORE DESIGN			
421 W 1ST AVE. SU. 300			
ANCHORAGE, AK 99501			
(907)563-8474			
CERT. OF AUTH. NO. 2018			

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

KWETHLUK, AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-0XX-2023
ARCHITECTURAL
DETAILS

DATE: 09/09/2022

SHEET: A6 OF A6

Designed By: JEM
Drawn By: WVZ
Checked By: DDG
Date Revised: 8/30/2022 5:19:33 PM
Layout Name: A6 DETAILS
File Path and Name: I:\ED--DCZ\Profiles$\tlec\Documents\KWETHLUK_SREB_mmhorn.rvt

Designed By: JAC
Drawn By: JAC
Checked By: JAC

Date Revised:
Layout Name: Layout 8/26/2022, 8:23 AM
File Path and Name: Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\ACAD\2986.01-S1_recover.dwg

CODE:

2016 INTERNATIONAL BUILDING CODE (IBC)

DESIGN LOADS:

OCCUPANCY CATEGORY II

LIVE LOAD	FLOOR	200 PSF
	ROOF	20 PSF
SNOW LOAD	GROUND SNOW LOAD, Pg	40 PSF
	IMPORTANCE FACTOR, Ie	1.00
	EXPOSURE FACTOR, Ce	0.9
	THERMAL FACTOR, Ct	1.0
	FLAT ROOF SNOW LOAD, Pf	32 PSF
	SNOW DRIFT	PER ASCE 7-16
WIND LOAD	WIND SPEED (3-SECOND GUST)	119 MPH
	ENCLOSURE CLASSIFICATION	ENCLOSED
	EXPOSURE CATEGORY	C
	IMPORTANCE FACTOR, Iw	1.00
	TOPOGRAPHIC FACTOR, Kzt	1.00
	DIRECTION FACTOR, Kd	0.85
	GUST FACTOR, G	0.88
	INTERNAL PRESSURE COEF, GCpi	+/- 0.18
SEISMIC	SS= 0.300g, S1=0.125g, SDS = 0.312g, SD1 = 0.195g	
	SEISMIC DESIGN CATEGORY	C
	SITE CLASS	D
	IMPORTANCE FACTOR, Is	1.00
	RESPONSE MOD FACTOR, R	
	MOMENT FRAME	3.5
	BRACED FRAME	3.25
	OVERSTRENGTH, OMEGA	
	MOMENT FRAME	3.0
	BRACED FRAME	2.0
SPECIAL LOADS:	MINIMUM COLLATERAL LOAD	5 PSF
	MONORAIL HOIST CAPACITY	4,000 LBS

MATERIALS

COMPLY WITH BUY AMERICAN PREFERENCE REQUIREMENTS OF FAA FUNDED PROJECT.

STRUCTURAL STEEL AND CONNECTORS:

STRUCTURAL STEEL SHALL CONFORM TO IBC CHAPTER 22, FOR ASTM SPECIFICATION A-36, Fy = 36 ksi EXCEPT WHERE NOTED OTHERWISE. ROLLED SHAPES SHALL BE ASTM A992, 50 ksi YIELD.

1. STEEL TUBING (HSS) SHALL CONFORM TO ASTM A500, GRADE B, Fy = 46 ksi.
2. DESIGN FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE IBC CHAPTER 22, DIVISION IX, ALLOWABLE STRESS DESIGN.
3. ALL BOLTS (UON) SHALL BE A325 HIGH STRENGTH BOLTS IN CONFORMANCE WITH AISC STANDARD "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
4. MACHINE BOLTS SHALL CONFORM TO ASTM 307, UNLESS NOTED OTHERWISE AND SHALL BE PROVIDED HEAVY HEX HEAD NUTS CONFORMING TO ASTM A563, GRADE A AND CIRCULAR STEEL WASHERS CONFORMING TO ASTM F436.
5. WELDING PER AWS 1.1 WITH E70 ELECTRODES.
6. METAL GRATE: 2"x5/16" BRG BARS @ 1 3/8" C/C, w/ WELDED CROSS BARS 3/4"x3/16" @ 4" C/C, ENDS BANDED w/ 1/8" FLAT BAR, HOT DIP GALVANIZED, FABRICATE IN 3' MAX LENGTHS.
7. PROVIDE ADEQUATE LATERAL BRACING FOR STRUCTURE DURING FABRICATION. PLAN WELDING SEQUENCE TO ELIMINATE WARPAGE OF SKID.

CONCRETE:

1. REFERENCE P-610FOR CONCRETE REQUIREMENTS. 3,000 PSI MINIMUM SACK CRETE OR BETTER. SUBMIT FOR REVIEW AND APPROVAL.

INSULATION:

1. AT UNDERSIDE OF FLOOR PLATE & ON JOIST FRAMING: SPRAY APPLY "URETHANE" FOAM INSULATION IN ACCORDANCE WITH SPEC 072129.

PAINTING:

1. PAINT ALL COMPONENTS PER SPEC SECTION 051210. FLOOR COLOR SHALL BE GRAY.

SKID ACCEPTANCE:

1. PRIOR TO ACCEPTANCE OF THE SREB SKIDS FOR SHIPPING FROM THE POINT OF FABRICATION, THE PERIMETER MEMBERS OF THE SKID FRAMEWORK FOR STRAIGHTNESS. WARPAGE OF THE SKID FRAME EXCEEDING 1/2" (ASSUMING THE BASE LINE IS A STRAIGHT LINE BETWEEN THE ENDS OF THE SKID DECK) SHALL BE CAUSE FOR REJECTION OR SHALL REQUIRE REPAIRS BY THE FABRICATOR TO MEET SUCH TOLERANCE. PROVIDE COPY OF MEASUREMENTS WITH CERTIFICATION LETTER BY QC MANAGER.
2. PRIOR TO ACCEPTANCE OF THE SREB SKIDS FOR ASSEMBLY OF THE BUILDING STRUCTURAL FRAMEWORK, THE PERIMETER MEMBERS OF THE SKID FRAMEWORK SHALL BE CHECKED FOR STRAIGHTNESS BY THE ENGINEER. WARPAGE OF THE SKID FRAME EXCEEDING 1/2" (ASSUMING THE BASE LINE IS A STRAIGHT LINE BETWEEN THE ENDS OF THE SKID DECK) SHALL BE CAUSE FOR REJECTION OR SHALL REQUIRE REPAIRS BY THE FABRICATOR TO MEET SUCH TOLERANCE.

SPECIAL INSPECTION

1. THE FOLLOWING SPECIAL INSPECTIONS SHALL BE PERFORMED BY QUALIFIED PERSONNEL EMPLOYED BY THE STATE OR ITS AGENT. THE CONTRACTOR SHALL COORDINATE WORK WITH THE SPECIAL INSPECTORS.
2. SPECIAL INSPECTORS SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. INSPECTION REPORTS SHALL BE FURNISHED TO THE OWNER AND THE ENGINEER OF RECORD. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, AND TO THE ATTENTION OF THE ENGINEER OF RECORD.
3. THE SPECIAL INSPECTORS SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISION OF THE APPLICABLE CODES.
4. PROVIDE THE FOLLOWING SPECIAL INSPECTIONS PER SECTION 1704 OF THE INTERNATIONAL BUILDING CODE. ITEMS MARKED BY AN ASTERIC (*) MAY BE INSPECTED BY THE RESIDENT PROJECT ENGINEER IF SPECIAL INSPECTOR IS NOT AVAILABLE.

BUILDING FRAME:

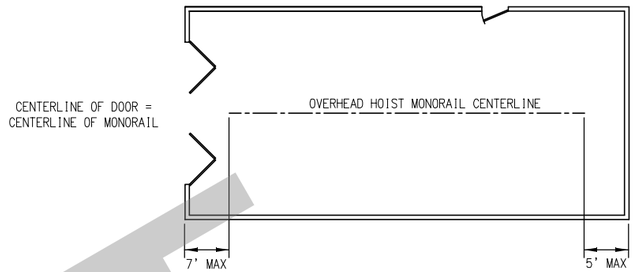
1. ANCHOR BOLTS: VERIFY SNUG TIGHT OR AS OTHERWISE SPECIFIED BY THE BUILDING DESIGNER (PERIODIC)*.
2. HIGH STRENGTH BOLTS: VERIFY MARKINGS INDICATING TYPE OF BOLT MEETS THOSE REQUIRED BY CONSTRUCTION DOCUMENTS. FOR BOLTS TIGHTENED BY TURN-OF-THE-NUT METHOD, VERIFY CONNECTION PLYS HAVE BEEN DRAWN TOGETHER AND PROPERLY SNUGGED AND MONITOR INSTALLATION OF BOLTS TO VERIFY PROPER PROCEDURES (CONTINUOUS). FOR LOAD INDICATING WASHERS OR TWIST-OFF BOLTS, VERIFY UPON COMPLETION (PERIODIC).
3. INSPECT STEEL FRAME JOINT DETAILS INCLUDING MOMENT FRAME CONNS, FRAME BRACING AND FLANGE BRACING OF PRIMARY BUILDING FRAMES (PERIODIC)*.
4. BUILDING IS PRE-ENGINEERED METAL BUILDING, PROVIDE ANY SPECIAL INSPECTIONS REQUIRED BY THE BUILDING DESIGNER.

SKID:

1. VISUAL INSPECTION OF WELDS
2. VERIFY WELDER QUALIFICATIONS
3. REVIEW WELDING PROCEDURES
4. VERIFY MATERIALS CERTIFICATIONS

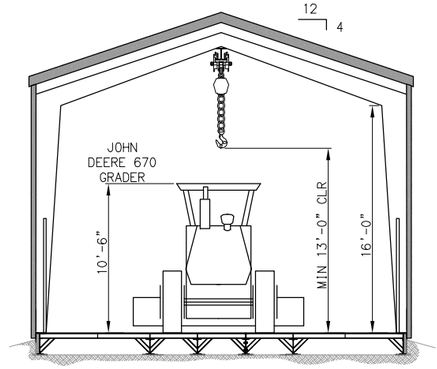
STRUCTURAL ABBREVIATIONS:

AISC	AMERICAN INSTITUTE OF STEEL CONSTR.
ALT	ALTERNATIVE
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
@	AT
BLKG	BLOCKING
BM	BEAM
BTWN	BETWEEN
BOT	BOTTOM
BRG	BEARING
C/C	CENTER TO CENTER
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONFIG	CONFIGURATION
CONN	CONNECTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CONSTR	CONSTRUCTION
D	DEPTH, DEEP
DBL	DOUBLE
DEFL	DEFLECTION, DEFLECTOR
DET	DETAIL
DIA, ø	DIAMETER
DIAG	DIAGONAL
EA	EACH
EE	EACH END
EG	FOR EXAMPLE
EW	EACH WAY
ECON	ECONOMY
ELEV, EL	ELEVATION
EQ	EQUAL
ES	EACH SIDE
EX, EXC	EXCEPT
EXP	EXPANSION
EXT	EXTERIOR
FAA	FEDERAL AVIATION ADMINISTRATION
FB	FLAT BAR
FDN	FOUNDATION
FLG	FLANGE
FLR	FLOOR
FS	FAR SIDE, FULL SIZE
g	GRAM
GA	GAGE
GALV	GALVANIZED
HD	HEAVY DUTY
HDG	HOT DIP GALVANIZE
HDR	HEADER
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
ID	INSIDE DIAMETER
IE	THAT IS, IN OTHER WORDS
INT	INTERIOR
JT	JOINT
ksi	KILOPOUND PER SQUARE INCH
L	ANGLE
LBS	POUNDS
LG	LONG
LONG	LONGITUDINAL
MI	MALEABLE IRON
MAX	MAXIMUM
MID	MIDDLE
MIN	MINIMUM
OC	ON CENTER
OPG	OPENING
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
PED	PEDESTRIAN
PEMB	PRE ENGINEERED METAL BUILDING
PEN	PENETRATION
PL	PLATE
PLWD	PLYWOOD
PR	PAIR
PSF	POUNDS PER SQUARE FOOT
PVC	POLYVINYL CHLORIDE
QTR	QUARTER
R	RADIUS
RAIL	RAILING
SHT	SHEET
SIM	SIMILAR
SQ	SQUARE
SREB	SNOW REMOVAL EQUIPMENT BLDG
STL	STEEL
STIFF	STIFFENER
SUPT	SUPPORT
SWL	SEA WATER LEVEL
SYM	SYMMETRICAL
T&B	TOP & BOTTOM
THK	THICK
TRANS	TRANSITION
TS	TUBE STEEL
TYP	TYPICAL
UNC	UNIFIED COARSE THREAD
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W/	WITH
W	WIDE
W	"W" STYLE BEAM
WF	WIDE FLANGE BEAM
WT	"WT" STYLE BEAM



NOTES:
1. CONTRACTOR SHALL COORDINATE AND VERIFY THE HOOK CLEARANCE WITH DOT&PF EQUIPMENT. BOTTOM OF HOOK HEIGHT SHALL BE A MINIMUM OF 13' ABOVE FINISH FLOOR, BUT MUST BE VERIFIED AND COORDINATED BY CONTRACTOR BEFORE PROCUREMENT.
2. SOUTH SREB SHOWN. MIRROR ABOUT BUILDING CENTERLINE FOR NORTH SREB
3. CONTRACTOR SHALL INSTALL MONORAIL IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. TROLLEY AND CHAIN HOIST ARE NOT TO BE INSTALLED, BUT SHALL BE DELIVERED TO THE DOT&PF EQUIPMENT FOREMAN IN BETHEL, AK:
   BETHEL DOT EQUIPMENT FOREMAN
   3500 STATE HWY
   BETHEL, AK 99559
   (907) 543-3760

A OVERHEAD CRANE (MONORAIL)
NOT TO SCALE



B TYPICAL SREB SECTION
NOT TO SCALE

NOTES:
1. OWNER EQUIPMENT SHOWN FOR REFERENCE PURPOSES.
2. EVAPORATION TRENCHES NOT SHOWN.

STATE OF ALASKA 49TH
Joshua Crowe
CE-13332
REGISTERED PROFESSIONAL ENGINEER

PS&E REVIEW

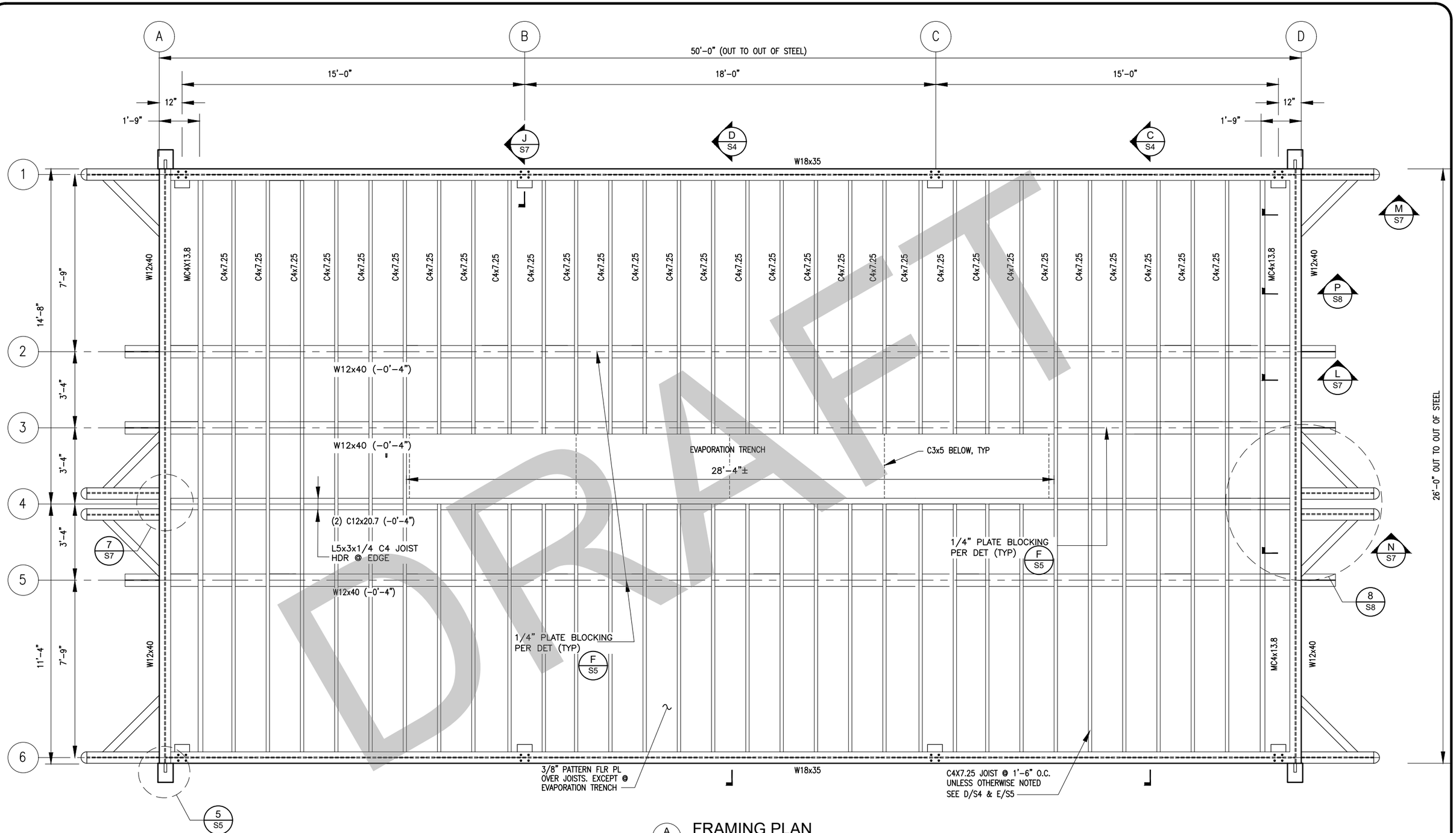
PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
STRUCTURAL NOTES AND CRANE PLAN

DATE: 09/09/2022
SHEET: S1 OF S9



A - FRAMING PLAN
SCALE: 1/2"=1'-0"

PS&E REVIEW

STATE OF ALASKA 49TH
Joshua Crowe
CE - 13332
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
FRAMING PLANS

DATE: 09/09/2022
SHEET: S2 OF S9

Designed By:	JAC
Drawn By:	JAC
Checked By:	JAC
Date Revised:	
Layout Name:	S2
File Path and Name:	Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\ACAD\2986.01-S2 Thru S9.dwg
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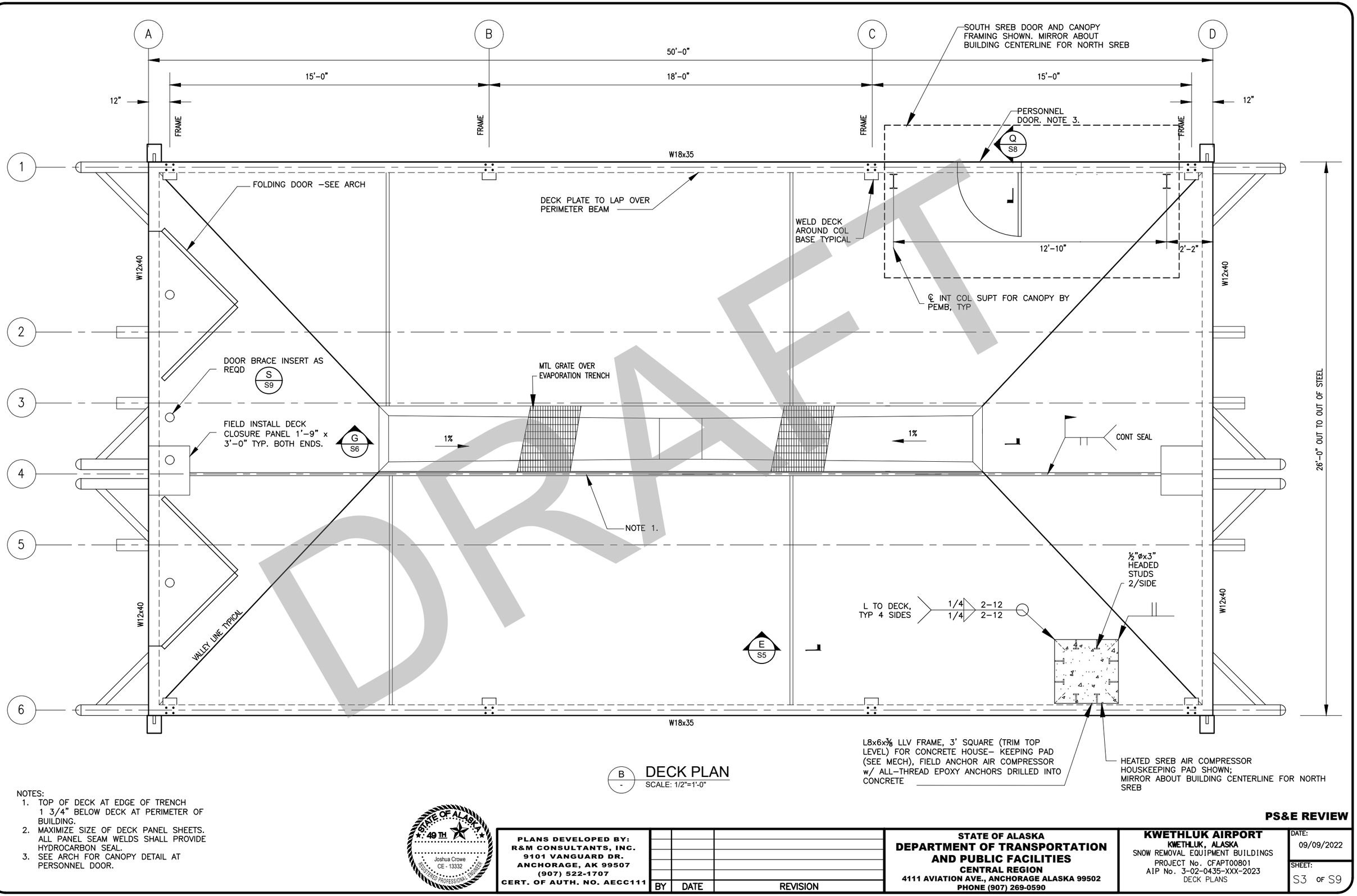

B
-
DECK PLAN
SCALE: 1/2"=1'-0"

NOTES:
1. TOP OF DECK AT EDGE OF TRENCH 1 3/4" BELOW DECK AT PERIMETER OF BUILDING.
2. MAXIMIZE SIZE OF DECK PANEL SHEETS. ALL PANEL SEAM WELDS SHALL PROVIDE HYDROCARBON SEAL.
3. SEE ARCH FOR CANOPY DETAIL AT PERSONNEL DOOR.

STATE OF ALASKA 49TH
Joshua Crowe
CE - 13332
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
DECK PLANS

DATE: 09/09/2022
SHEET: S3 OF S9

PS&E REVIEW

Designed By:	JAC
Drawn By:	JAC
Checked By:	JAC
Date Revised:	8/26/2022, 8:27 AM
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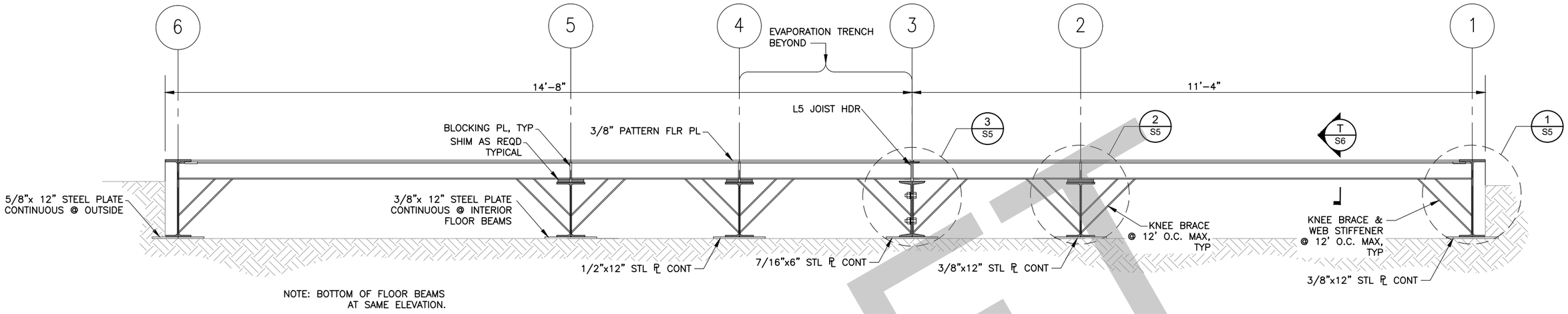
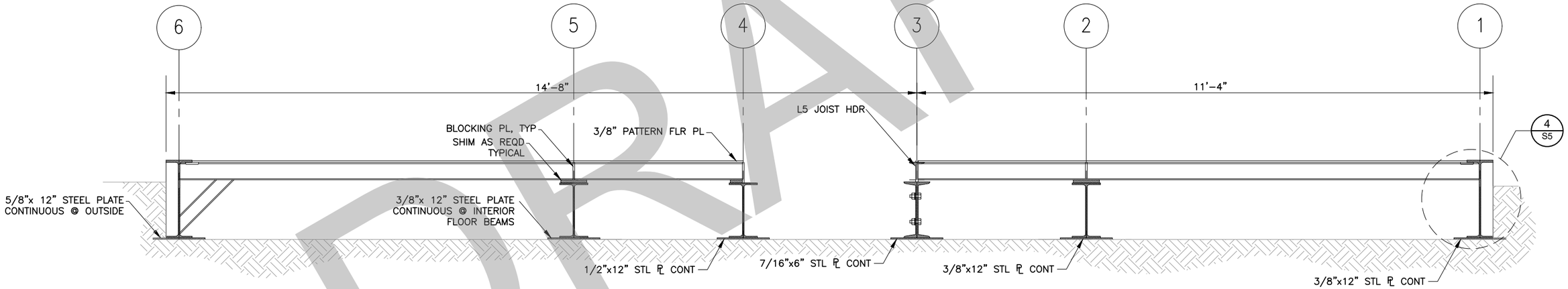


NOTE: BOTTOM OF FLOOR BEAMS AT SAME ELEVATION.

C S2 **SKID SECTION**
SCALE: 1"=1'-0"



NOTE: BOTTOM OF FLOOR BEAMS AT SAME ELEVATION.

D S2 **SKID SECTION**
SCALE: 1"=1'-0"

Designed By: JAC
Drawn By: JAC
Checked By: JAC

Date Revised: 8/26/2022, 8:27 AM
Layout Name: S4
File Path and Name: Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\ACAD\2986.01-S2 Thru S9.dwg

STATE OF ALASKA 49TH
Joshua Crowe
CE - 13332
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

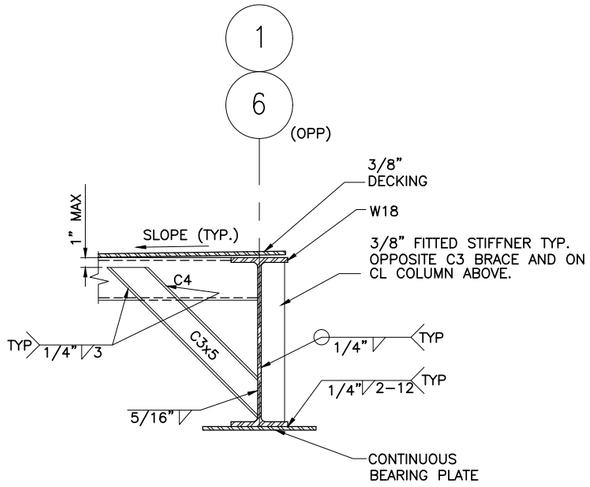
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

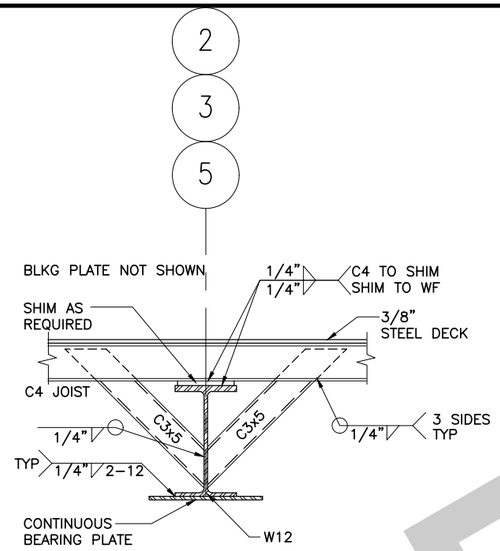
KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
SKID SECTION

DATE: 09/09/2022
SHEET: S4 OF S9

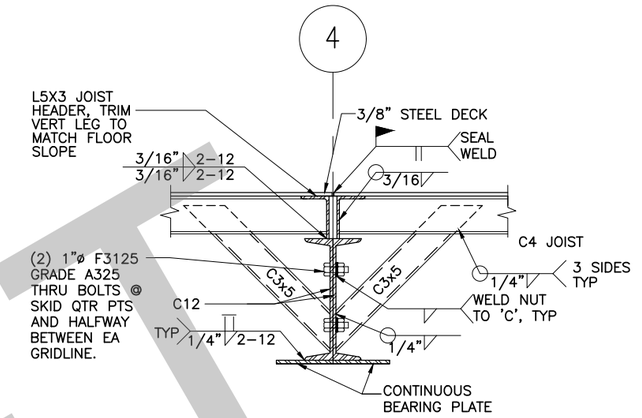
PS&E REVIEW



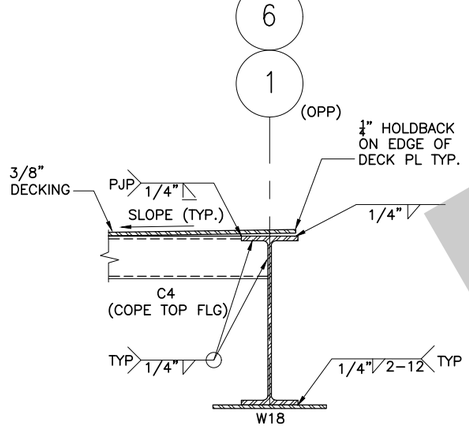
1 S4 **TYP BRACING DETAIL @ EXTERIOR**
SCALE: 1 1/2"=1'-0"



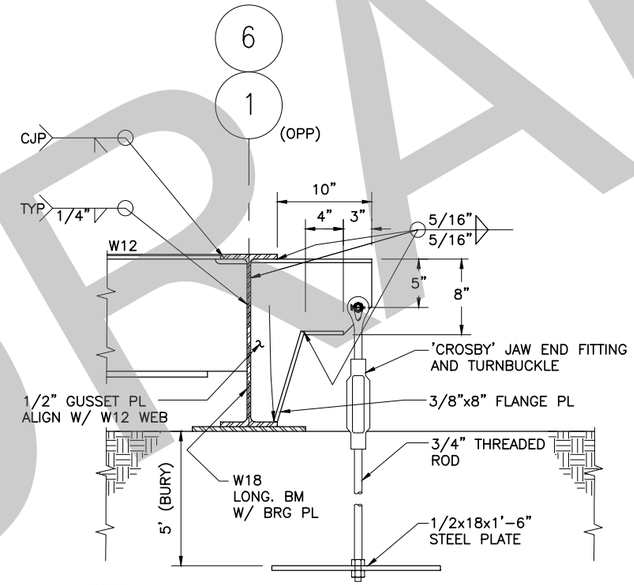
2 S4 **TYP BRACING DETAIL @ INTERIOR**
SCALE: 1 1/2"=1'-0"



3 S4 **TYP SKID SPLICE DETAIL**
SCALE: 1 1/2"=1'-0"

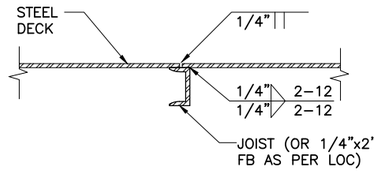


4 S4 **TYP JOINT CONNECTION**
SCALE: 1 1/2"=1'-0"

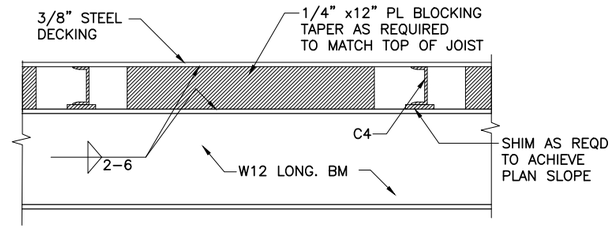


NOTES:
1. CHANCE HELICAL WITH 2 7/8"ø SHAFT, 10" HELIX WITH 8' BURY MAY MAY BE USED IN LIEU OF TURNBUCKLE/ SHACKLE DETAIL
2. BELOW GRADE STEEL SHALL BE HOT DIP GALV AFTER FABRICATION
3. DECK PLATE AND COLUMN BEARING PLATE NOT SHOWN FOR CLARITY.

5 S2 **TYP HOLD DOWN DETAIL**
SCALE: 1 1/2"=1'-0"



E S3 **TYP DECK PLATE JOINT SECTION**
SCALE: 1 1/2"=1'-0"



F S2 **TYP BLOCKING SECTION**
SCALE: 1 1/2"=1'-0"

PS&E REVIEW

STATE OF ALASKA 49TH — Joshua Crowe CE - 13332 — REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.
9101 VANGUARD DR.
ANCHORAGE, AK 99507
(907) 522-1707
CERT. OF AUTH. NO. AECC111

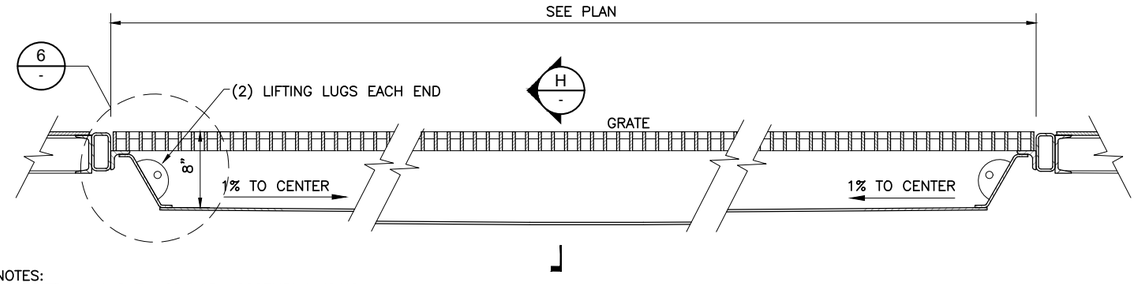
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
STRUCTURAL DETAILS

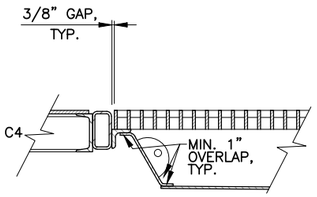
DATE: 09/09/2022
SHEET: S5 OF S9

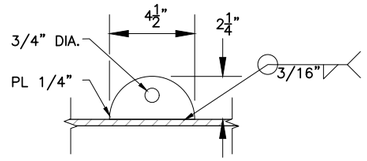
Designed By: JAC
Drawn By: JAC
Checked By: JAC
Date Revised:
Layout Name: 8/26/2022, 8:27 AM
File Path and Name: S5
Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\ACAD\2986.01-S2 Thru S9.dwg

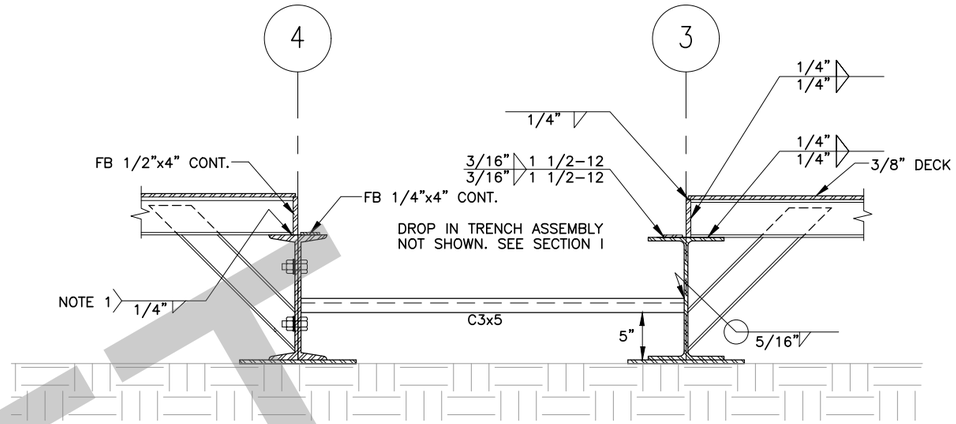


NOTES:
1. LIFT & HANDLE MODULAR ASSSEMBLY USING 4 LEG SLING.

G / S3 EVAP. TRENCH LONGITUDINAL SECTION
SCALE: 1 1/2"=1'-0"



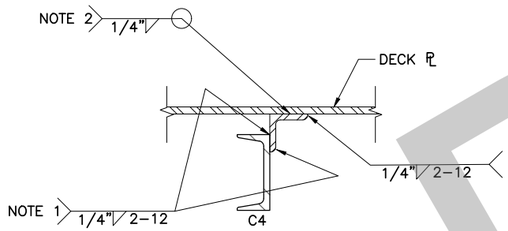




NOTES:
1. COMPLETE THIS WELD PRIOR TO PLACING C4

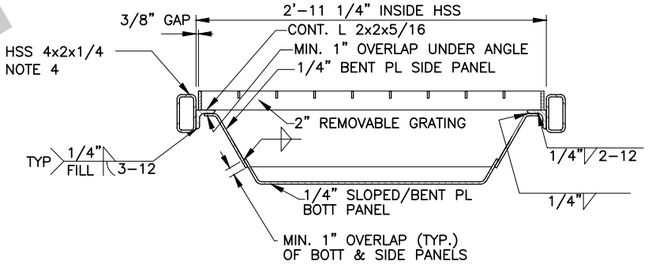
H / - EVAP. TRENCH SECTION
SCALE: 1 1/2"=1'-0"

6 / - EVAP. TRENCH DETAIL @ END
SCALE: 1 1/2"=1'-0"



NOTES:
1. WHERE TOP OF L2x2 IS WITHIN 1/4" OF TOP OF JOIST, SUBSTITUTE 1/4" PJP GROOVE WELD FOR FILLET WELD.
2. WELD INSIDE 1" DIA. HOLES IN PLATE @ 16" O.C.

- / - LIFTING LUG DETAIL
SCALE: 3"=1'-0"



NOTES:
1. TRENCH PAN ASSEMBLY INCLUSIVE OF PERIMETER HSS FRAME SHALL BE HOT-DIPPED GALVANIZED AND SHIPPED LOOSE.
2. TRENCH PAN ASSEMBLY SHALL BE WELDED AS FOR HYDROCARBON CONTAINMENT AND BE LEAK-TESTED PRIOR TO HOT-DIPPED GALVANIZE COATING.
3. FIELD-INSTALL TRENCH PAN ASSEMBLY INTO OPENING AFTER ASSEMBLY OF SKIDS AND SEAL PERIMETER JOINT WITH BACKER ROD AND HYDROCARBON RESISTANT SEALANT.
4. PERIMETER FRAME 4 SIDES. MITRE CORNERS AND WELD W/ FULL DEPTH PJP WELDS.

T / S4 FLOOR JOIST BEYOND END OF TRENCH
SCALE: 3"=1'-0"

I / - EVAP. TRENCH PAN ASSEMBLY SECTION
SCALE: 1 1/2"=1'-0"

Date Revised: 8/26/2022, 8:27 AM
Layout Name: S6
File Path and Name: Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\ACAD\2986.01-S2 Thru S9.dwg
Designed By: JAC
Drawn By: JAC
Checked By: JAC

STATE OF ALASKA 49TH
Joshua Crowe
CE - 13332
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
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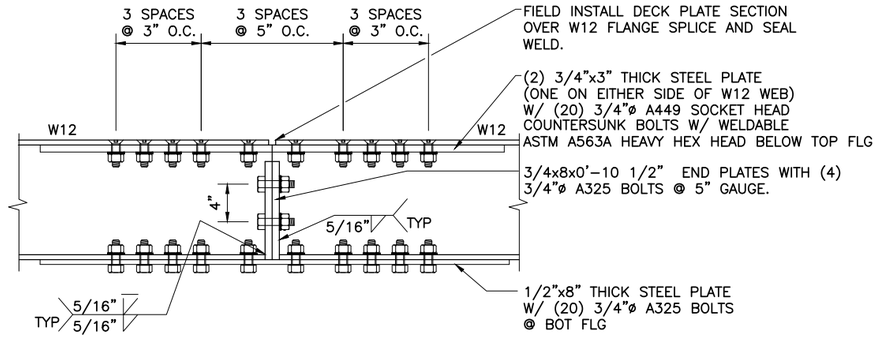
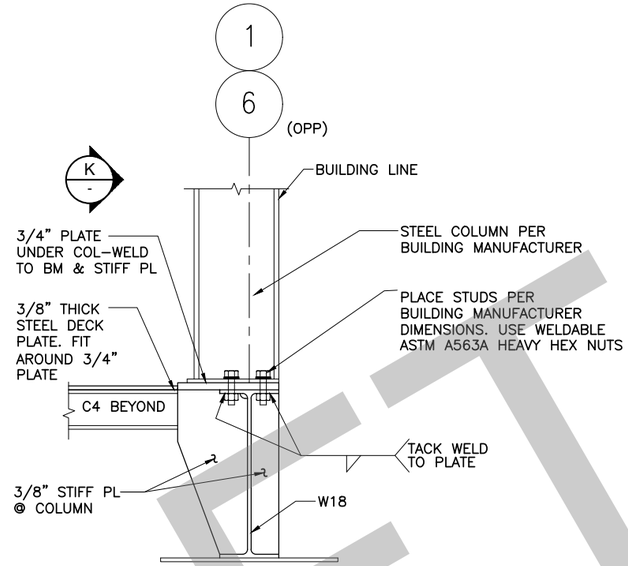
PS&E REVIEW

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
STRUCTURAL DETAILS

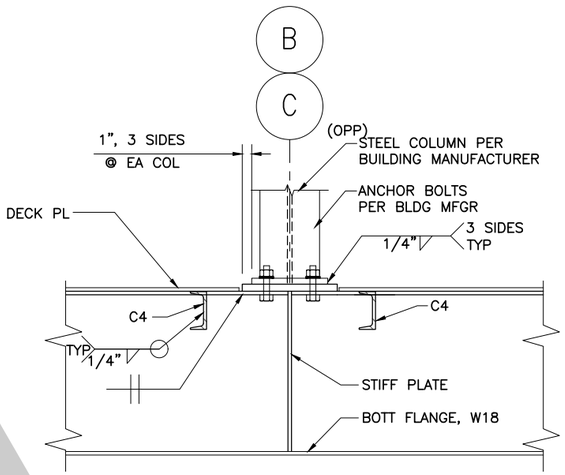
DATE: 09/09/2022
SHEET: S6 OF S9



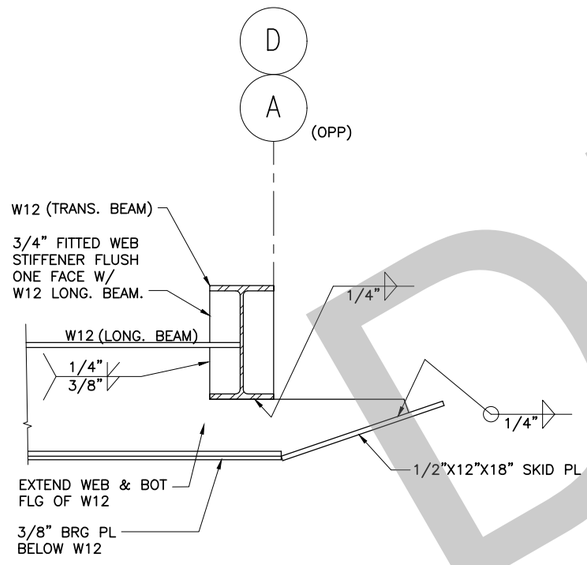
7/S2 TYP SPLICE DETAIL
SCALE: 1 1/2"=1'-0"



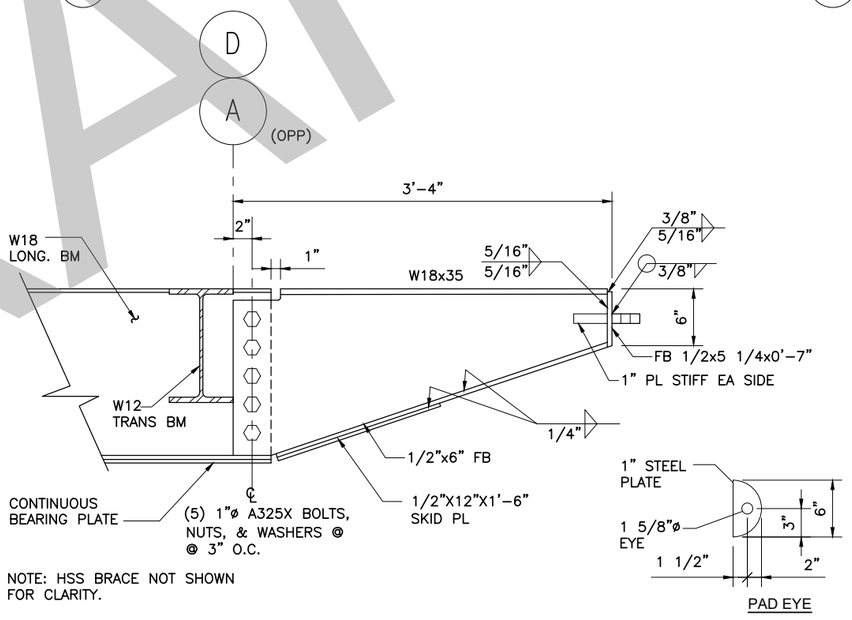
J/S2 TYP COLUMN BEARING SECTION
SCALE: 1 1/2"=1'-0"



K/- TYP COLUMN BEARING SECTION
SCALE: 1 1/2"=1'-0"



L/S2 W12 LONG BEAM TO W12 TRANS BEAM SECTION
SCALE: 1 1/2"=1'-0"



M/S2 TYP TOW BAR SECTION @ EXTERIOR
SCALE: 1 1/2"=1'-0"

PS&E REVIEW

STATE OF ALASKA 49TH — Joshua Crowe CE - 13332 — REGISTERED PROFESSIONAL ENGINEER

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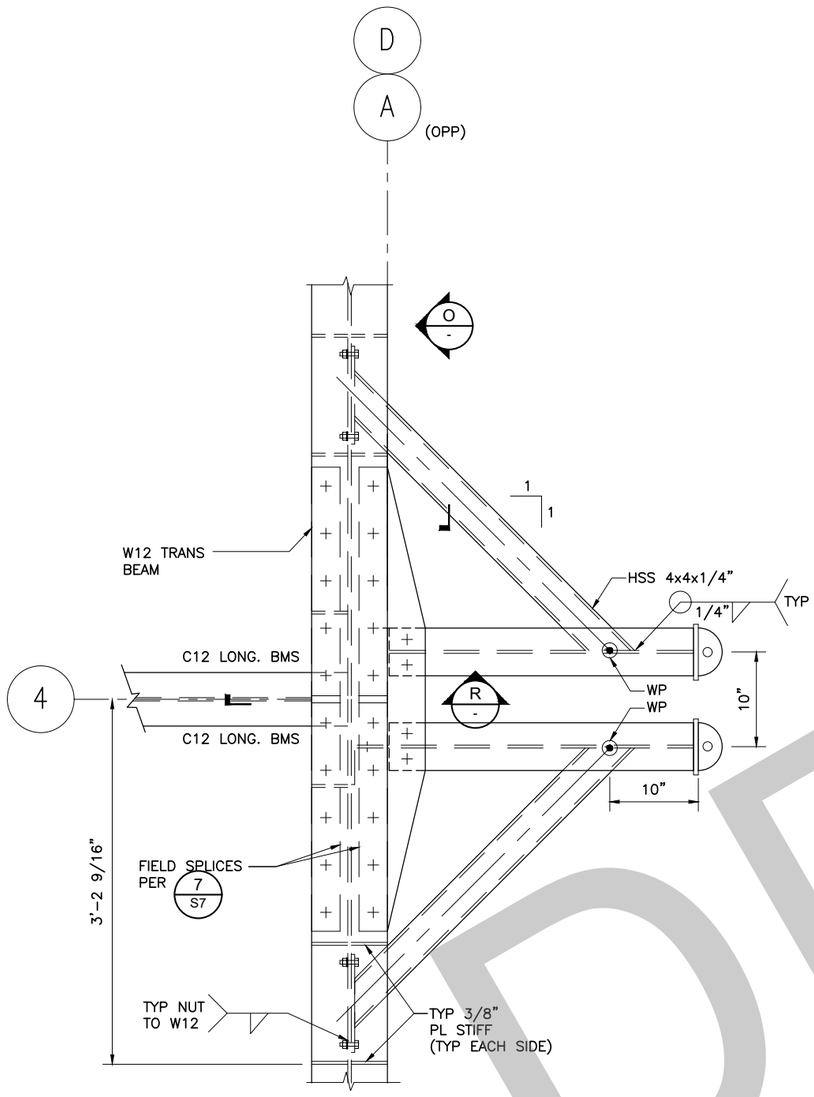
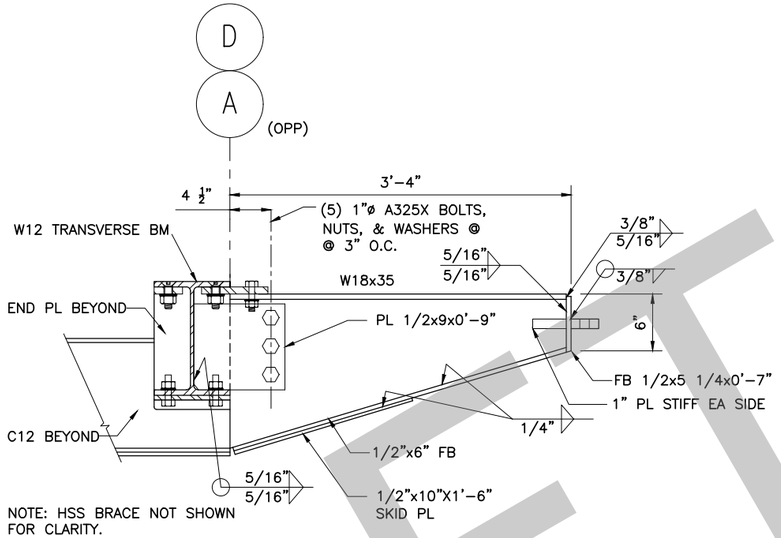
KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
STRUCTURAL DETAILS

DATE: 09/09/2022
SHEET: S7 OF S9

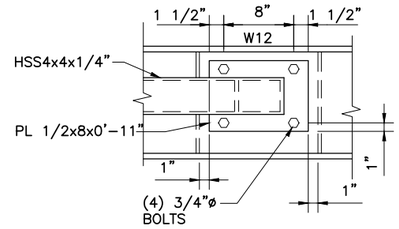
Designed By: JAC
Drawn By: JAC
Checked By: JAC
Date Revised: 8/26/2022, 8:28 AM
Layout Name: S7
File Path and Name: Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\ACAD\2986.01-S2 Thru S9.dwg



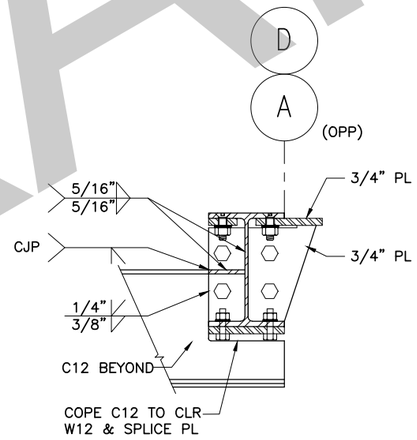
8 S2 TOW BAR DETAIL
SCALE: 1 1/2"=1'-0"



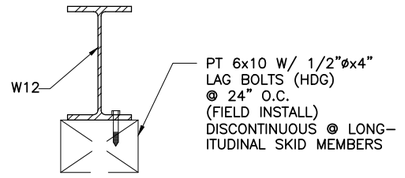
N S2 TYP TOW BAR SECTION @ INTERIOR
SCALE: 1 1/2"=1'-0"



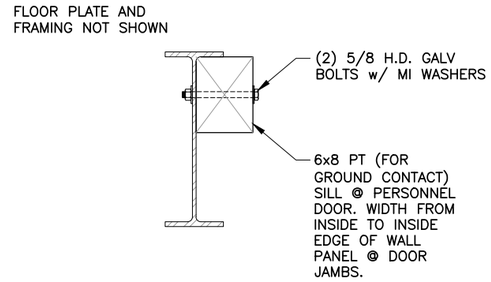
O - TYP HSS CONNECTION DETAIL
SCALE: 1 1/2"=1'-0"



R S2 TOW BAR SPLICE
SCALE: 1 1/2"=1'-0"



P S2 TYP W12 LUMBER SUPPORT
SCALE: 1 1/2"=1'-0"



Q S3 DOOR SILL
SCALE: 1 1/2"=1'-0"

PS&E REVIEW

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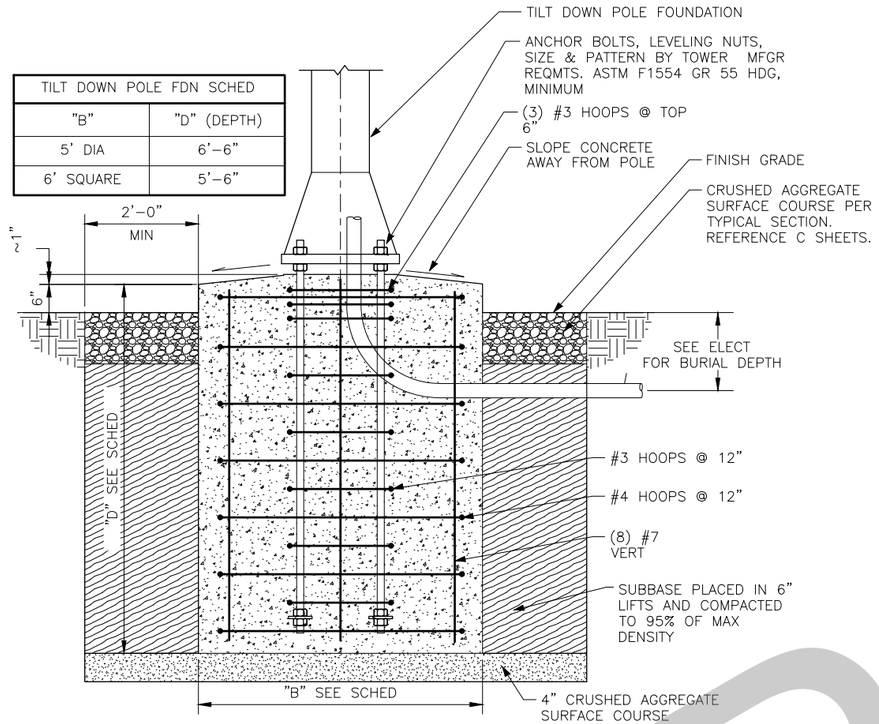
KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
STRUCTURAL DETAILS

DATE: 09/09/2022
SHEET: S8 OF S9

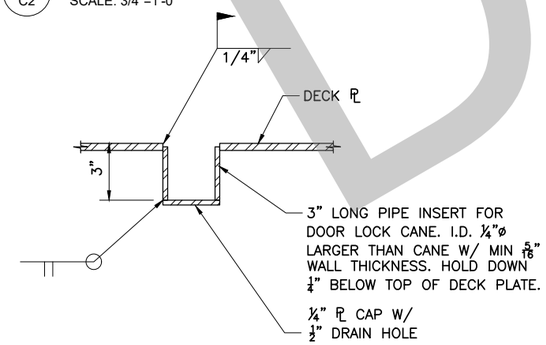
Designed By: JAC
Drawn By: JAC
Checked By: JAC
Date Revised:
Layout Name: 8/26/2022, 8:28 AM S8
File Path and Name: Z:\project\2986.01 DOT_SWPF Kwethluk SREB\Civil\ACAD\2986.01-S2 Thru S9.dwg

TILT DOWN POLE FDN SCHED	
"B"	"D" (DEPTH)
5' DIA	6'-6"
6' SQUARE	5'-6"

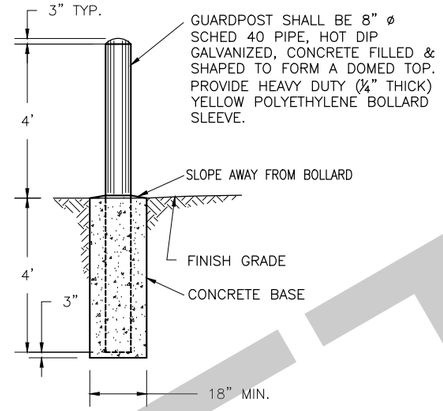


NOTES
1. REFERENCE AVIATION SPECIFICATIONS FOR EARTHWORK DEFINITIONS AND BACKFILL AND COMPACTION REQUIREMENTS.
2. REFERENCE P-610 FOR CONCRETE PERFORMANCE REQUIREMENTS.
3. FOUNDATION MAY BE CAST-IN-PLACE OR PRE-CAST. IF PRE-CAST, COORDINATE LOCATION, DEPTH, AND DIAMETER OF ELECTRICAL CONDUIT PRIOR TO CASTING.
4. SEE ELECTRICAL FOR CONDUIT MATERIAL, SIZE, AND QUANTITY. COORDINATE PRIOR TO CASTING FOUNDATION.

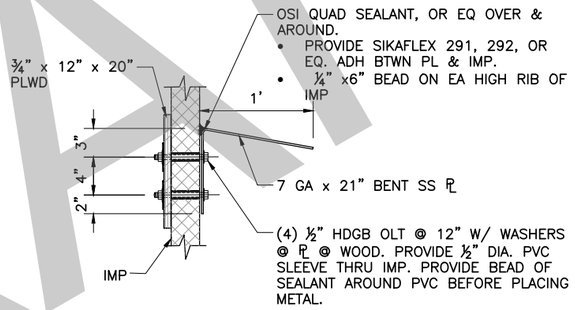
TILT DOWN POLE FOUNDATION
C2 SCALE: 3/4"=1'-0"



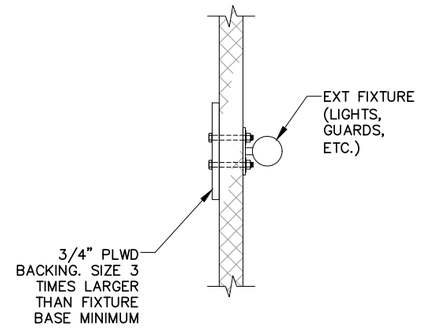
FOLDING DOOR BRACE
S3 SCALE: 3"=1'-0"

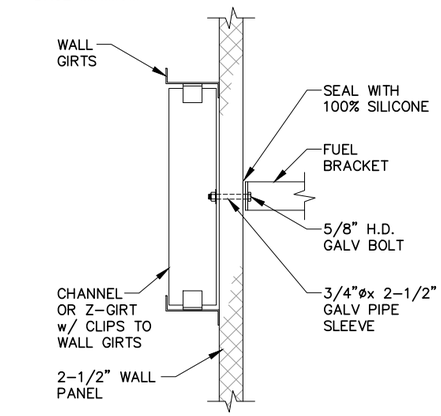


EXTERIOR BOLLARD DETAIL
C2 SCALE: 1 1/2"=1'-0"



ICE DEFLECTOR @ EXT LIGHTS & FUEL LINE
- SCALE: 1 1/2"=1'-0"





TYP WALL MOUNT DETAIL
- SCALE: 1 1/2"=1'-0"

STATE OF ALASKA 49TH
Joshua Crowe
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KWETHLUK AIRPORT
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SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
FOUNDATION & MISC DETAILS

DATE: 09/09/2022
SHEET: S9 OF S9

PS&E REVIEW

Designed By: JAC
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8/26/2022, 8:28 AM

LEGEND & ABBREVIATIONS

ABBR.	EXPLANATION	SYMBOL
A	AIR – COMPRESSED	A
	AIR FOIL TURNING VANES	
AAV	AUTOMATIC AIR VENT	
AFF	ABOVE FINISHED FLOOR	
BDD	BACKDRAFT DAMPER	
BD	BALANCING DAMPER	
	BALANCING/ISOLATION VALVE	
	BALL VALVE	
CFM	CUBIC FEET/MINUTE	
CO	CLEANOUT	
CV	CHECK VALVE	
DN	DOWN	
(E)	EXISTING	
E/A	EXHAUST AIR	
	EXPANSION COMPENSATOR	
FCO	FLOOR CLEANOUT	
FD	FLOOR DRAIN	
	FLEXIBLE CONNECTION	
	FLEXIBLE DUCT	
	FLOW CONTROL VALVE	
FOS	FUEL OIL SUPPLY	FOS
FOR	FUEL OIL RETURN	FOR
	GLOBE VALVE	
GPM	GALLONS PER MINUTE	
ID	INSIDE DIAMETER	
MOD	MOTOR OPERATED DAMPER	
MOV	2-WAY MOTOR OPERATED VALVE	
MOV	3-WAY MOTOR OPERATED VALVE	
N. GAS	NATURAL GAS	G
N.C.	NORMALLY CLOSED	
O/A	OUTSIDE AIR	
OD	OUTSIDE DIAMETER	
	PIPE ANCHOR	
	PIPE GUIDE	
POC/POD	POINT OF CONNECTION/DISCONNECT	
	PRESSURE GAGE	
PRV	PRESSURE RELIEF VALVE	
R/A	RETURN AIR	
RV	RELIEF VALVE	
	RETURN AIR SLOT	
	RETURN/EXHAUST AIR REG. OR GRILLE	
S	SANITARY SOIL	
S/A	SUPPLY AIR	
	SQUARE HEAD COCK	
	STRAINER WITH DRAIN VALVE	
SD	STORM DRAIN	SD
SL	ACOUSTICALLY LINED DUCT	
SS	STAINLESS STEEL	SS
	STATIC PRESSURE SENSOR	SP
	THERMALLY INSULATED DUCT OR PIPE	
	THERMOMETER	
T'STAT	THERMOSTAT	T
	UNION	
VTR	VENT THRU ROOF	
WCO	WALL CLEANOUT	
W	WASTE	
	CARBON MONOXIDE SENSOR	CO
	NITROGEN DIOXIDE SENSOR	NO2

THIS IS A STANDARD LEGEND, SOME SYMBOLS SHOWN ON LEGEND ARE NOT NECESSARILY ON THE DRAWING.

FAN SCHEDULE

SYMBOL	LOCATION	CFM	S.P. TOT	S.P. EXT	RPM	O.V. FPM	TYPE FAN	TYPE WHL	USE	MOTOR HP/VOLTS/PH	DESIGN BASIS PRODUCT
EF-1	STORAGE 101	975	–	0.4	1345	–	PROP	14	E/A	1/2 /115/1	GREENHECK MODEL SE1-14-440-VG, EC MOTOR, DIAL ON MOTOR FOR BALANCING, OSHA GUARD. TIMER: INTERMATIC FF30MC.
F-1	STORAGE 101	12,500	–	–	400	–	PADL	36	DE-STRAT	0.35A/120/1	VES ENVIRONMENTAL MODEL IND-A364-L WITH ICFC2.5 SPEED CONTROL. TIMER: INTERMATIC FF312H

HEATING UNIT SCHEDULE

SYMBOL	TYPE	HYDRONIC FLUID	EGT	LGT	MBH	GPM	ELEC. KW	OIL MBH IN	OIL MBH OUT	CFM	RPM	MOTOR HP/VOLTS/PH	DESIGN BASIS PRODUCT
UH-1, 2	UNIT HEATER	--	--	--	--	--	--	231	185	--	--	1/3/115/1	MODINE POR185, #1 DIESEL/FUEL OIL, 1.65 GPH. TIMER: INTERMATIC FF312H, THERMOSTAT: HONEYWELL T631C1012

TANK SCHEDULE

SYMBOL	FUNCTION	MEDIUM	TOTAL VOLUME GALLONS	MATERIALS	LABEL	DESIGN BASIS PRODUCT
(E)FT-1	HEATING FUEL	FUEL OIL	1000	STEEL	--	EXISTING 1000 GALLON HEATING TANK
(E)FT-2	FUEL DISPENSING	DIESEL	--	STEEL	--	EXISTING DISPENSING TANK
FT-3	HEATING FUEL	FUEL OIL	1000	STEEL	UL2085	ANCHORAGE TANK FIREGUARD AT1MFGR RECTANGULAR, 88Lx72Wx50H
DT-1	DAY TANK	FUEL OIL	10	STEEL	--	SIMPLEX STS SERIES W/ PCB 1 CONTROLS, WALL MOUNT, GRAVITY FEED TO UNIT HEATERS, 063 VENT CAP. DUPLEX REMOTE FUEL PUMPS: 1/3 HP MOTOR, 115V/60HZ/1PH.

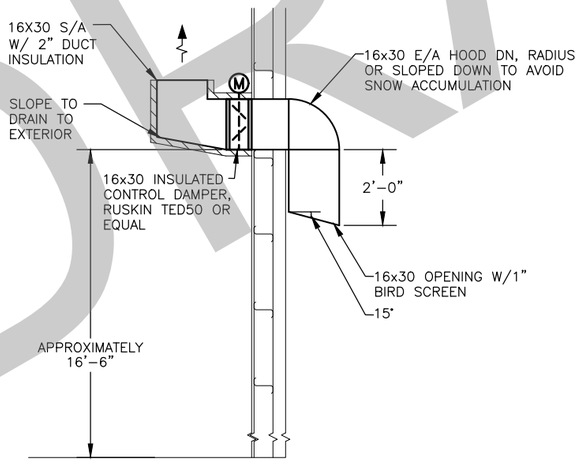
MECHANICAL EQUIPMENT LIST

TAG	DESIGN BASIS PRODUCT
AC-1	AIR COMPRESSOR: INGERSOLL RAND 2475N5P, 80 GALLON MINIMUM, 16.8 ACFM @ 175 PSI, 5 HP, 1.15 SF, 230V/1PH/60 HZ, CRANKCASE HEATER (115V, 3-PRONG CORD), LOW OIL LEVEL CUTOUT, AIR FILTER AND PRESSURE REGULATOR, AUTOMATIC CONDENSATE DRAIN W/ HIGH MOUNT ELECTRIC CONDENSATE DRAIN EDV-2000 (115V, 3-PRONG CORD). HOSE REEL WHERE SHOWN: AUTO RETRACTABLE SPEEDAIRE MODEL NO. 2CUA7 LOW PRESSURE, 50 FOOT, 3/8"

NOTE: FURNISH AND INSTALL MAKES AND MODELS CITED HERE OR IN THE SPECIFICATIONS OR APPROVED EQUALS

PUMP SCHEDULE

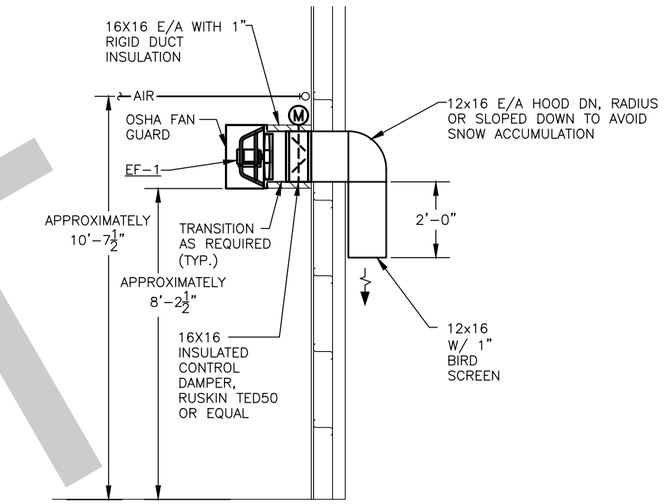
SYMBOL	SERVICE	FLUID	GPM	HEAD FT.	RPM	MOTOR HP/VOLTS/PH	DESIGN BASIS PRODUCT
PMP-1	FUEL DISPENSING	DIESEL	20.0	–	–	1/3 /115/1	FILL-RITE FR710VN W/ ARCTIC COLD WEATHER HOSE, REEL, NOZZLE AND METER.



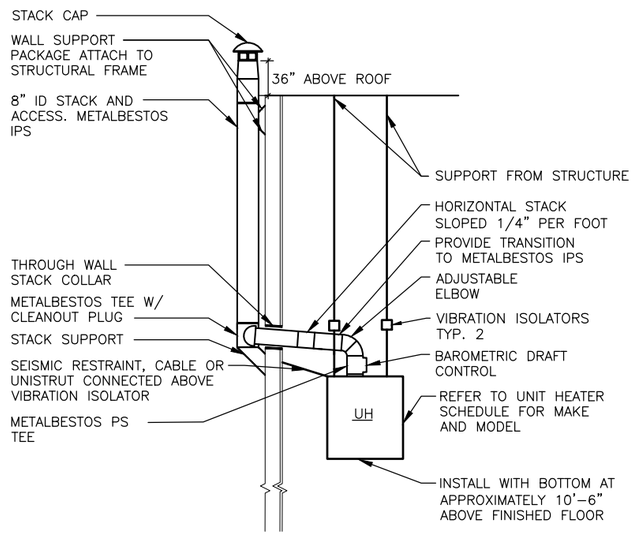
1 / M1 INTAKE HOOD SECTION
1/2" = 1'-0"

2 1 0 2 4

22X34 SHEET 1/2" = 1'-0"
11X17 SHEET 1/4" = 1'-0"



2 / M1 EF-1 SECTION
1/2" = 1'-0"



3 / M1 UNIT HEATER STACK INSTALLATION
NO SCALE

CODE SUMMARY

VENTILATION PROVIDED IN ACCORDANCE WITH IMC 402, NATURAL VENTILATION. BUILDING AREA, 1300 SF REQUIRED OPENING AREA (4% PER IMC 402.2), 52 SF ACTUAL OPENING AREA, 280 SF (FOLDING DOOR)
MOTOR VEHICLE OPERATION PER IMC 502.14: MOTOR VEHICLES ARE ASSUMED TO OPERATE INSIDE ONLY FOR THE DURATION NECESSARY TO MOVE THE MOTOR VEHICLE IN AND OUT OF THE BUILDING. PER EXCEPTION 3, THIS SECTION DOES NOT APPLY.
MECHANICAL VENTILATION WITH CO2/NOX DETECTION IS PROVIDED BY OWNER REQUEST.

PS&E REVIEW

PLANS DEVELOPED BY:
MBA CONSULTING ENGINEERS
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, ALASKA 99517
(907) 274 - 2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

SCOTT C. HALA
09/09/2022
ME-11405
REGISTERED PROFESSIONAL ENGINEER

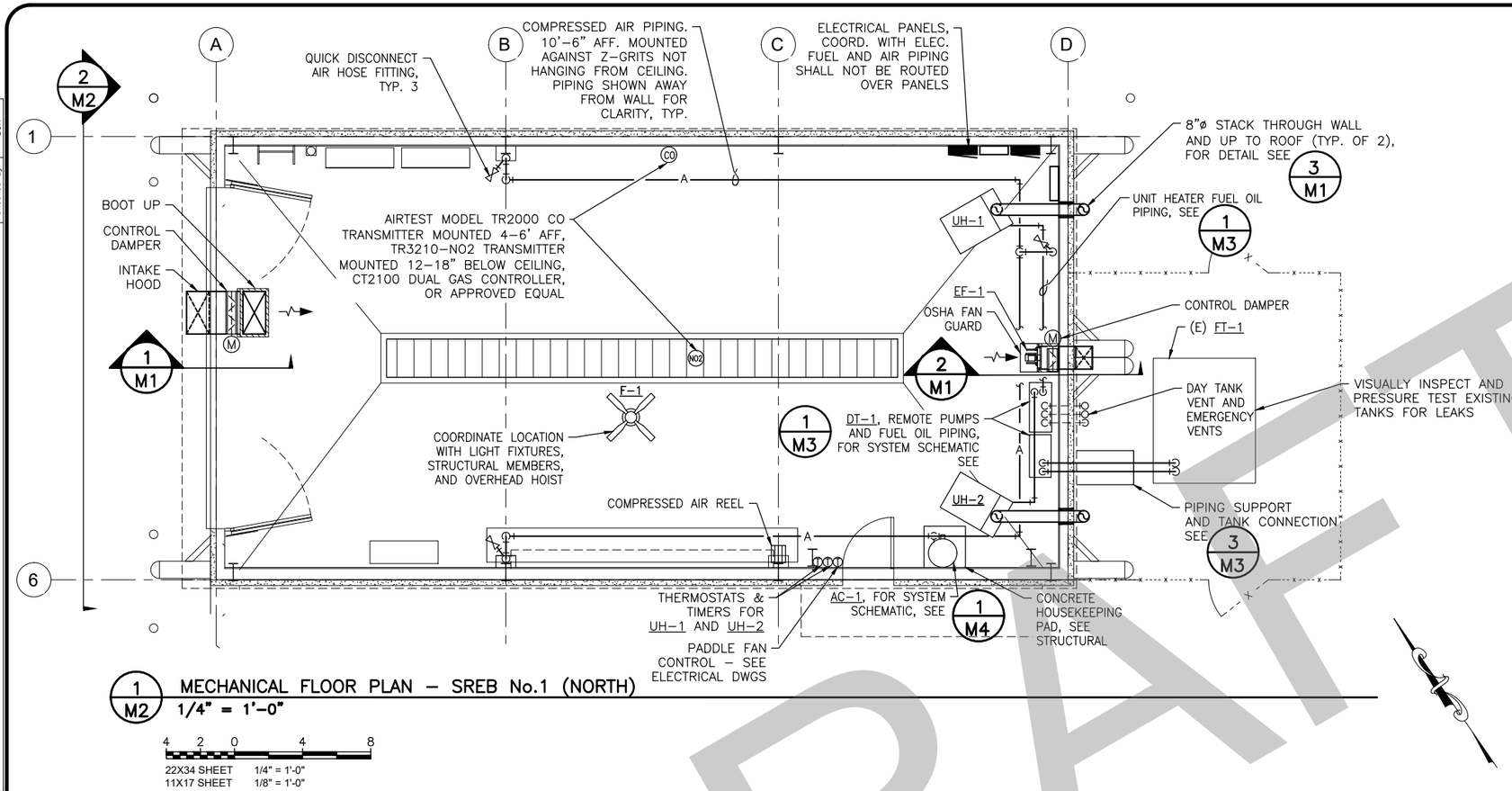
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
LEGEND, SCHEDULES, AND DETAILS

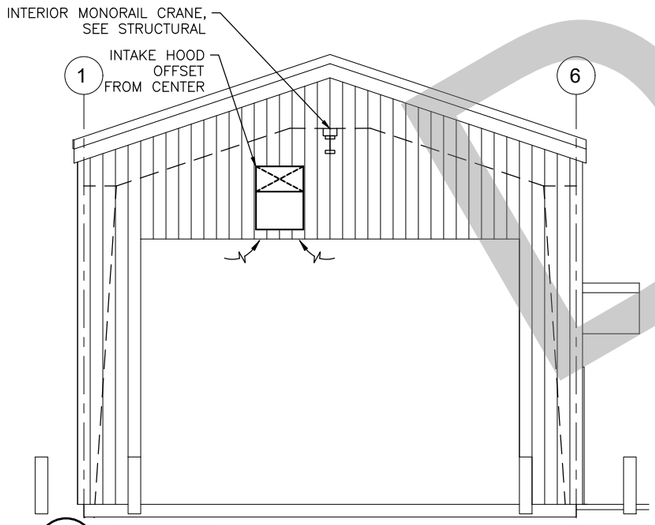
DATE: 09/09/2022
SHEET: M1 OF M5

SCH NAC SCH
Designed By:
Drawn By:
Checked By:
Date Revised:
Layout Name:
File Path and Name: Z:\21014KSR - Kwethluk SREB\M-Working\Drawings\21014KSR_M1- LEGEND AND SCHEDULES.dwg



1 M2 MECHANICAL FLOOR PLAN - SREB No.1 (NORTH)
1/4" = 1'-0"

4 2 0 4 8
22X34 SHEET 1/4" = 1'-0"
11X17 SHEET 1/8" = 1'-0"



2 M2 ELEVATION
1/4" = 1'-0"

4 2 0 4 8
22X34 SHEET 1/4" = 1'-0"
11X17 SHEET 1/8" = 1'-0"

SEQUENCE OF OPERATIONS

1. EXHAUST FAN
   - A. AUTO CONTROL: FAN SHALL CYCLE ON UPON DETECTION OF 1 PPM OF NO2 OR 20 PPM OF CO.
   - B. MANUAL OVERRIDE CONTROL: FAN SHALL CYCLE ON WITH MANUAL TIMER, 30 MINUTES MAX
   - C. EXHAUST AND INTAKE DAMPERS: OPEN WHEN FAN IS ON, CLOSED WHEN FAN IS OFF. DAMPERS SHALL FAIL CLOSED.

PS&E REVIEW

STATE OF ALASKA 49TH
SCOTT C. HALA 09/09/2022 ME-11405 REGISTERED PROFESSIONAL ENGINEER

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BY	DATE	REVISION

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CENTRAL REGION
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PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
MECHANICAL FLOOR PLAN SREB No. 1

DATE: 09/09/2022
SHEET: M2 OF M5

Designed By: SCH
Drawn By: NAC
Checked By: SCH
Date Revised:
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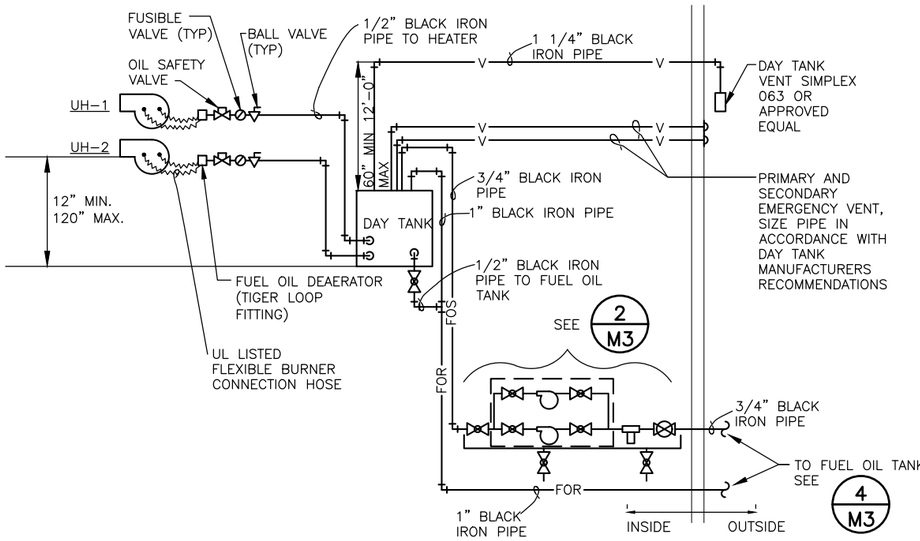
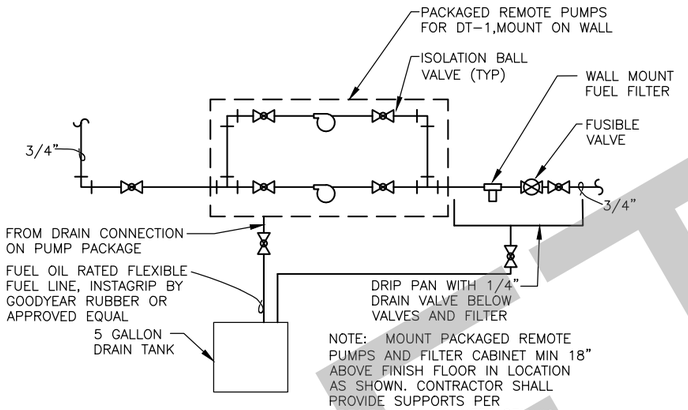
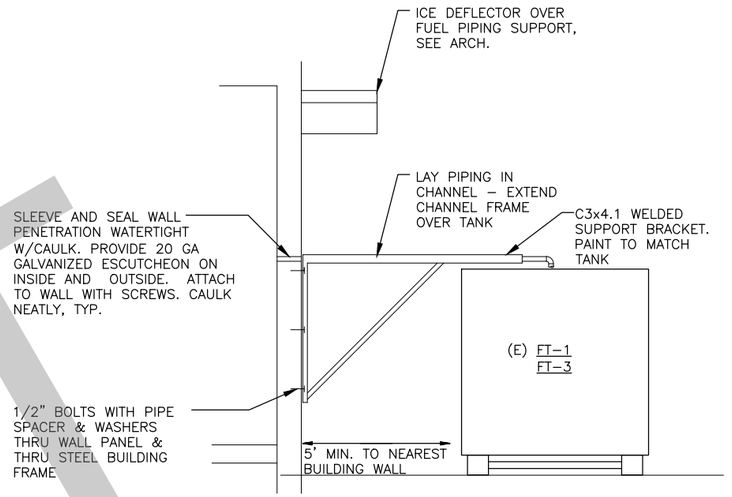


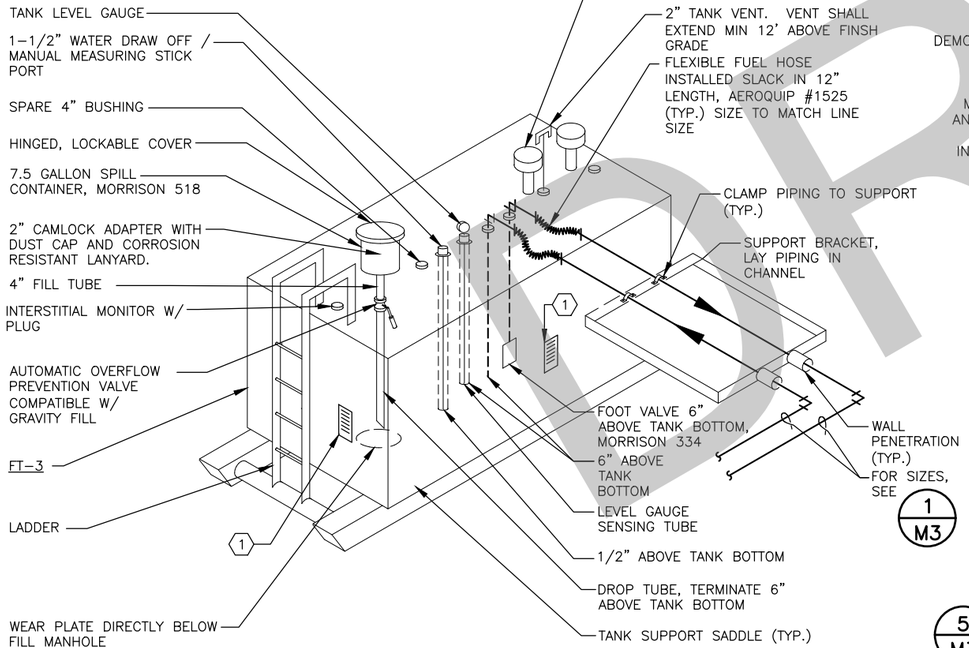
1/M3 UNIT HEATER FUEL OIL PIPE ONE-LINE
NOT TO SCALE



2/M3 FUEL PUMP PIPING DETAIL
NOT TO SCALE



3/M3 FUEL PIPING SUPPORT BRACKET
NOT TO SCALE

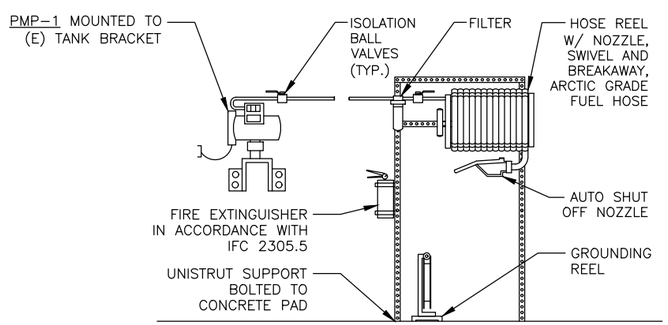


4/M3 FUEL OIL TANK DETAIL
NOT TO SCALE

5/M3 FUEL DISPENSING TANK DETAIL
NOT TO SCALE

SHEET NOTES

1. PROVIDE SIGNAGE ON ALL ACCESSIBLE SIDES OF TANK WITH:
   - WARNING SIGNS IN ACCORDANCE WITH IFC 2305.6
   - TANK CAPACITY-GALLONS
   - TANK NUMBER
   - STORED PRODUCT
   - NFPA 4-COLOR HAZARD IDENTITY SYMBOL
   - COMBUSTIBLE
   - NO SMOKING
   - TANK OWNER AND PHONE NUMBER



6/M3 FUEL DISPENSING PUMP DETAIL
NOT TO SCALE

PS&E REVIEW

STATE OF ALASKA 49TH SCOTT C. HALA 09/09/2022 ME-11405 REGISTERED PROFESSIONAL ENGINEER

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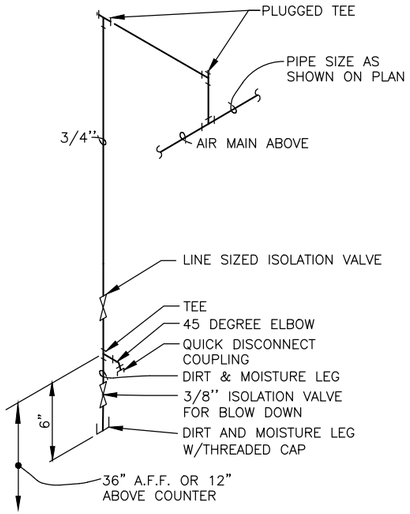
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

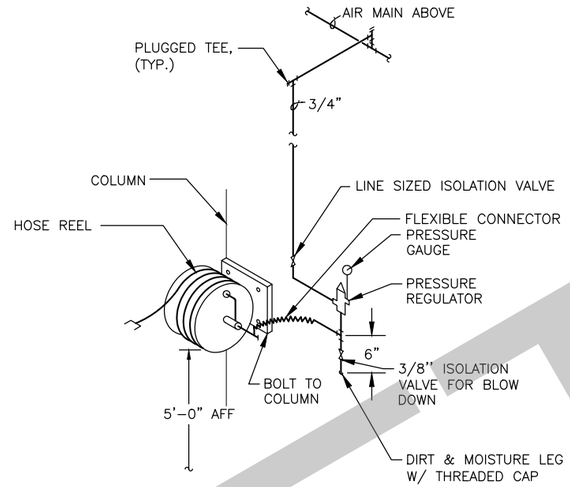
KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
MECHANICAL DETAILS

DATE: 09/09/2022
SHEET: M3 OF M5

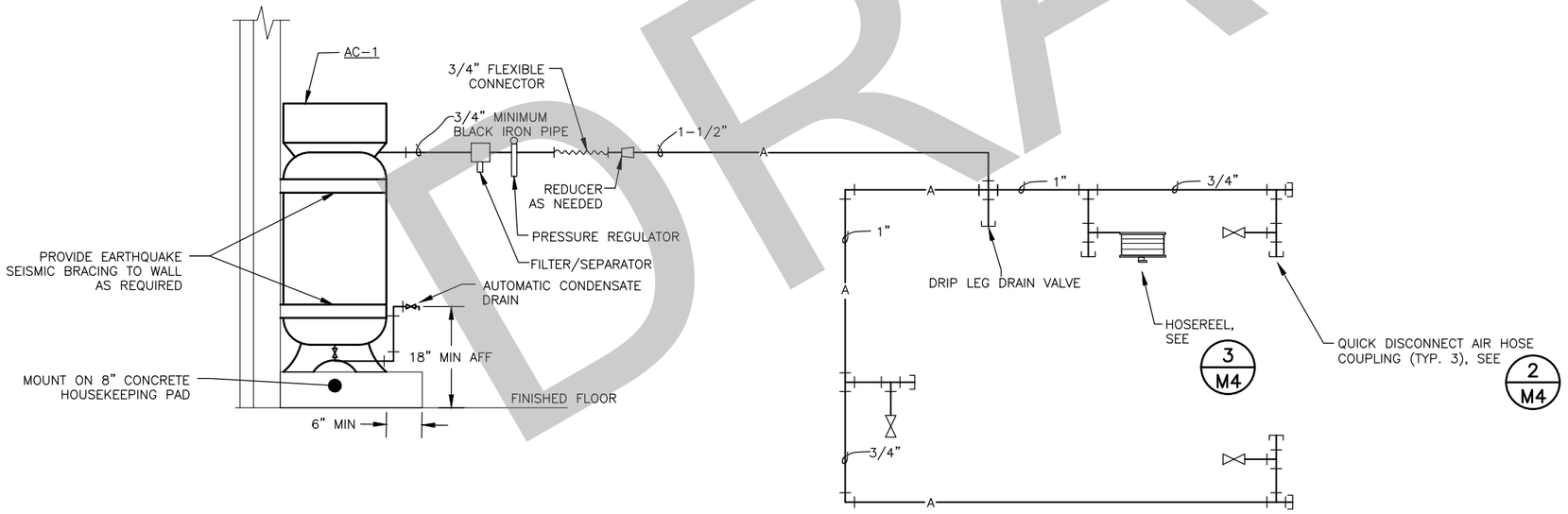
Designed By: SCH
Drawn By: NAC
Checked By: SCH
Date Revised:
Layout Name:
File Path and Name: Z:\21014KSR - Kwethluk SREB\M-Working\Drawings\21014KSR_M3- HEATEDMECH DETAIL.dwg



2 / M4 **COMPRESSED AIR OUTLET DETAIL**
NOT TO SCALE



3 / M4 **HOSE REEL DETAIL**
NOT TO SCALE



1 / M4 **COMPRESSED AIR SCHEMATIC**
NOT TO SCALE

PS&E REVIEW

STATE OF ALASKA 49TH — SCOTT C. HALA 09/09/2022 ME-11405 REGISTERED PROFESSIONAL ENGINEER

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CENTRAL REGION
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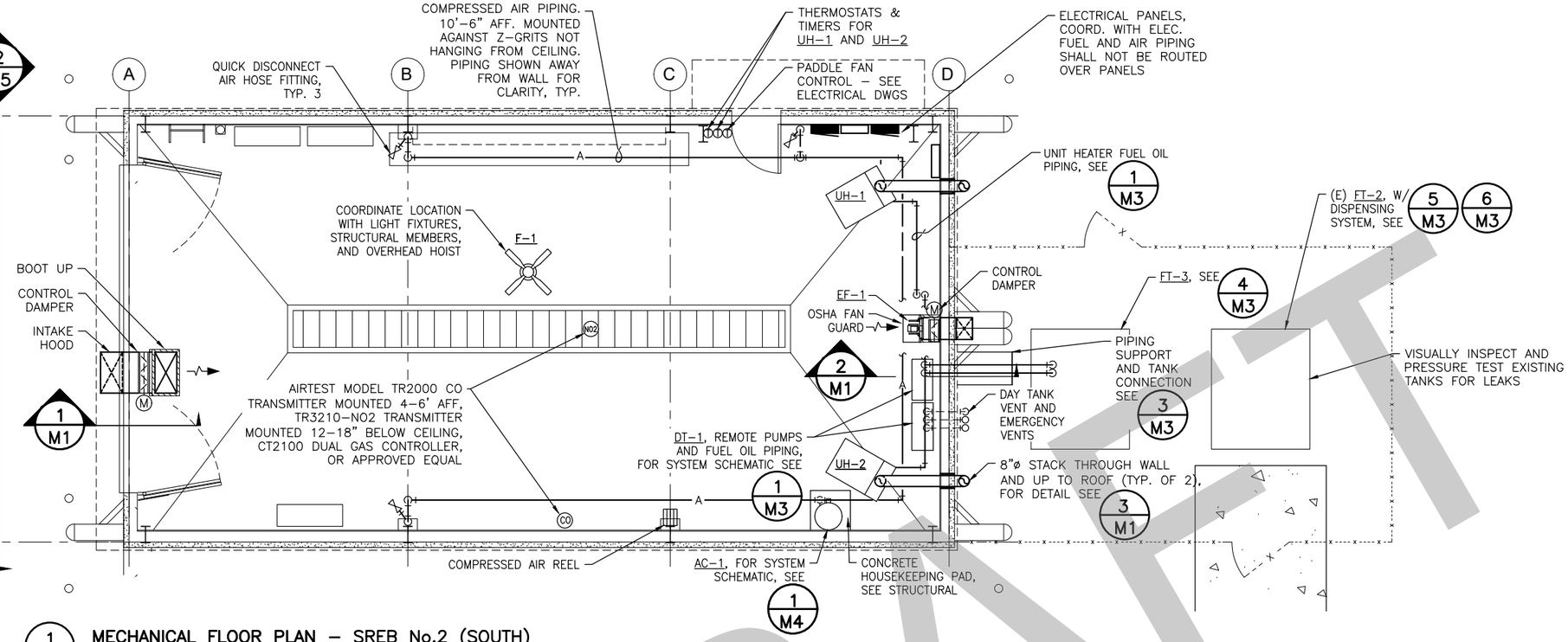
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
COMPRESSED AIR SCHEMATIC AND DETAILS

DATE: 09/09/2022
SHEET: M4 OF M5

Designed By: SCH
Drawn By: NAC
Checked By: SCH
Date Revised:
Layout Name:
File Path and Name: Z:\21014KSR - Kwethluk SREB\W-Working\Drawings\21014KSR_M4- HEATED MECH DETAIL.dwg



1/M5 MECHANICAL FLOOR PLAN – SREB No.2 (SOUTH)

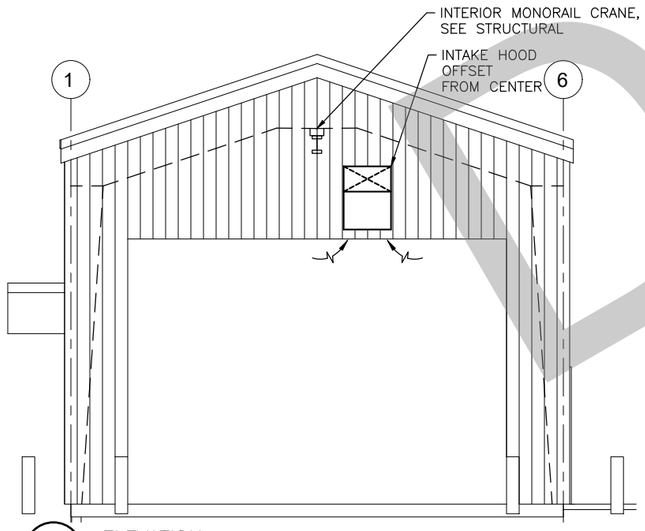
1/4" = 1'-0"

4 2 0 4 8

22X34 SHEET 1/4" = 1'-0"
11X17 SHEET 1/8" = 1'-0"

SEQUENCE OF OPERATIONS

1. EXHAUST FAN
   - A. AUTO CONTROL: FAN SHALL CYCLE ON UPON DETECTION OF 1 PPM OF NO2 OR 20 PPM OF CO.
   - B. MANUAL OVERRIDE CONTROL: FAN SHALL CYCLE ON WITH MANUAL TIMER, 30 MINUTES MAX
   - C. EXHAUST AND INTAKE DAMPERS: OPEN WHEN FAN IS ON, CLOSED WHEN FAN IS OFF. DAMPERS SHALL FAIL CLOSED.



2/M5 ELEVATION

1/4" = 1'-0"

4 2 0 4 8

22X34 SHEET 1/4" = 1'-0"
11X17 SHEET 1/8" = 1'-0"

PS&E REVIEW

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(907) 274 - 2622
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BY	DATE	REVISION

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DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
MECHANICAL FLOOR PLAN SREB No. 2

DATE: 09/09/2022

SHEET: M5 OF M5

Designed By: SCH
Drawn By: NAC
Checked By: SCH

Date Revised:
Layout Name:
File Path and Name: Z:\21014KSR - Kwethluk SREB\M-Working\Drawings\21014KSR_M2- HEATED MECH FLOOR PLANS.dwg

ABBREVIATIONS LEGEND

ABBR.	EXPLANATION
AB	ABOVE BASEBOARD
AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFCI	ARC FAULT CIRCUIT INTERRUPTER
ATS	AUTOMATIC TRANSFER SWITCH
BCG	BARE COPPER GROUND
BFC	BELOW FINISHED CEILING
CFC	CLEARANCE FROM CEILING
CFF	CLEARANCE FROM FLOOR
CT	CURRENT TRANSFORMER
DDC	DIRECT DIGITAL CONTROL
E	EMERGENCY LIGHT, CIRCUIT, PANEL
ETR	EXISTING TO REMAIN
GDP	GENERATOR DISTRIBUTION PANEL
GFCI	GROUND FAULT CURRENT INTERRUPTER
HACR	HEATING AIR-CONDITIONING REFRIGERATION
HBH	HEAD BOLT HEATER
HDPE	HIGH DENSITY POLYETHYLENE
HOA	HANDS OFF AUTO
HSREB	HEATED SREB
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
MCC	MOTOR CONTROL CENTER
MC	METAL CLAD CABLE
MDP	MAIN DISTRIBUTION PANEL
NIC	NOT IN CONTRACT
PA	PUBLIC ADDRESS
PVC	POLYVINYL CHLORIDE
RSC	RIGID STEEL CONDUIT
SPD	SURGE PROTECTION DEVICE
SREB	SNOW REMOVAL EQUIPMENT BUILDING
ST	SHUNT TRIP CIRCUIT BREAKER
STBY	STANDBY CIRCUIT
TC	TIMECLOCK
TMCB	THERMAL MAGNETIC CIRCUIT BREAKER
TP	TAMPER RESISTANT
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
UON	UNLESS OTHERWISE NOTED
USREB	UNHEATED SREB
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHERPROOF
XFMR	TRANSFORMER

SITE LEGEND

- OH — OVERHEAD ELECTRICAL
- UGE — UNDERGROUND ELECTRICAL
- X — X — X — FENCE
- UTILITY POLE

LINE TYPE LEGEND

- EXISTING
- NEW
- DEMOLITION

LIGHTING LEGEND

- WALL MOUNT
- SURFACE MOUNT
- RECESSED
- 2X2 LIGHTING FIXTURE RECESSED
- 2X4 LIGHTING FIXTURE RECESSED
- 2X2 SURFACE MOUNT
- 2X4 SURFACE MOUNT
- WALL MOUNT
- EXTERIOR LIGHT SINGLE WITH POLE MOUNT
- PHOTOCELL
- OCCUPANCY SENSOR CEILING MOUNT
- $K — KEY OPERATED SWITCH
- $LM — SWITCH, LOW VOLTAGE MASTER
- $P — SWITCH WITH PILOT LIGHT
- $0 — OCCUPANCY SENSOR SWITCH
- $ — SWITCH, SINGLE POLE
- $2 — SWITCH, DOUBLE POLE
- $3 — SWITCH, THREE-WAY
- $4 — SWITCH, FOUR-WAY
- MD — MOTION DETECTOR
- EMERGENCY LIGHT BATTERY POWERED
- EMERGENCY LIGHT REMOTE HEAD
- EXIT SIGN WALL MOUNTED SHADOWING INDICATES FACE
- EXIT SIGN CEILING MOUNTED SHADOWING INDICATES FACE
- EXIT SIGN DOUBLE FACE ARROWS INDICATE CHEVRONS
- EMERGENCY LIGHTS
- INVERTER

POWER LEGEND

- ELECTRICAL POWER PANEL
- ELECTRICAL DISTRIBUTION PANEL
- ELECTRICAL LIGHTING PANEL
- PANELBOARD CABINET FLUSH MOUNT
- PANELBOARD CABINET SURFACE MOUNT
- X WIDE / X DEEP — SWITCHBOARD NEW
- X WIDE / X DEEP — SWITCHBOARD EXISTING
- M — METER
- CONTROLLER/DISCONNECT
- UNFUSED DISCONNECT
- FUSED DISCONNECT
- VARIABLE FREQUENCY DRIVE
- CONTROLLER
- CONTACTOR
- MOTOR SINGLE PHASE
- X — MOTOR SINGLE PHASE : X = HORSE POWER
- MOTOR 3PH
- X — MOTOR 3PH : X = HORSE POWER
- G — GENERATOR POWER
- T — TRANSFORMER
- $T — THERMAL SWITCH

GROUNDING LEGEND

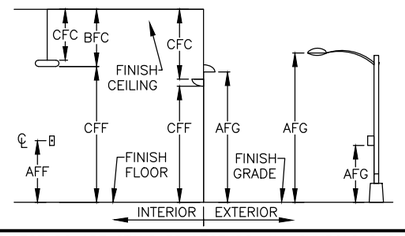
- TEE CONNECTION
- CROSS CONNECTION
- GROUND ROD
- GROUND ROD CONNECTION-2
- GROUND ROD CONNECTION-1
- BURIED CABLE
- BONDING POINT
- EARTH GROUND
- GROUND ROD
- LIGHTNING ARRESTOR

WIRING DEVICES LEGEND

- PUSH BUTTON
- JUNCTION BOX
- RECEPTACLE – GFCI
- RECEPTACLE – DUPLEX CEILING MOUNT
- RECEPTACLE – SPLIT WIRE
- RECEPTACLE – DUPLEX
- RECEPTACLE – DUPLEX FLOOR MOUNT
- RECEPTACLE – DUPLEX ON EMERGENCY POWER
- RECEPTACLE – DUPLEX ISOLATION GROUND
- RECEPTACLE – QUAD
- RECEPTACLE – SINGLE
- X — RECEPTACLE – X-NEMA CALLOUT
- OR — EQUIPMENT CONNECTION
- G — RECEPTACLE – GENERATOR PLUG IN

DRAWING SCHEDULE

MOUNTING LEGEND



THESE LEGENDS ARE STANDARD LEGENDS, ALL SYMBOLS SHOWN ON LEGENDS ARE NOT NECESSARILY ON THE DRAWING(S).

PS&E REVIEW

STATE OF ALASKA 49TH — EDWARD W. CARLSON 09/09/2022 EE-9354 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
MBA CONSULTING ENGINEERS
3812 SPENARD ROAD, SUITE 200
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(907) 274 - 2622
CERTIFICATE OF AUTHORIZATION
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BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
ELECTRICAL LEGENDS

DATE: 09/09/2022

SHEET: E1 OF E10

JAB JAB EWC
Designed By:
Drawn By:
Checked By:
Date Revised: 8/25/2022, 11:36 AM
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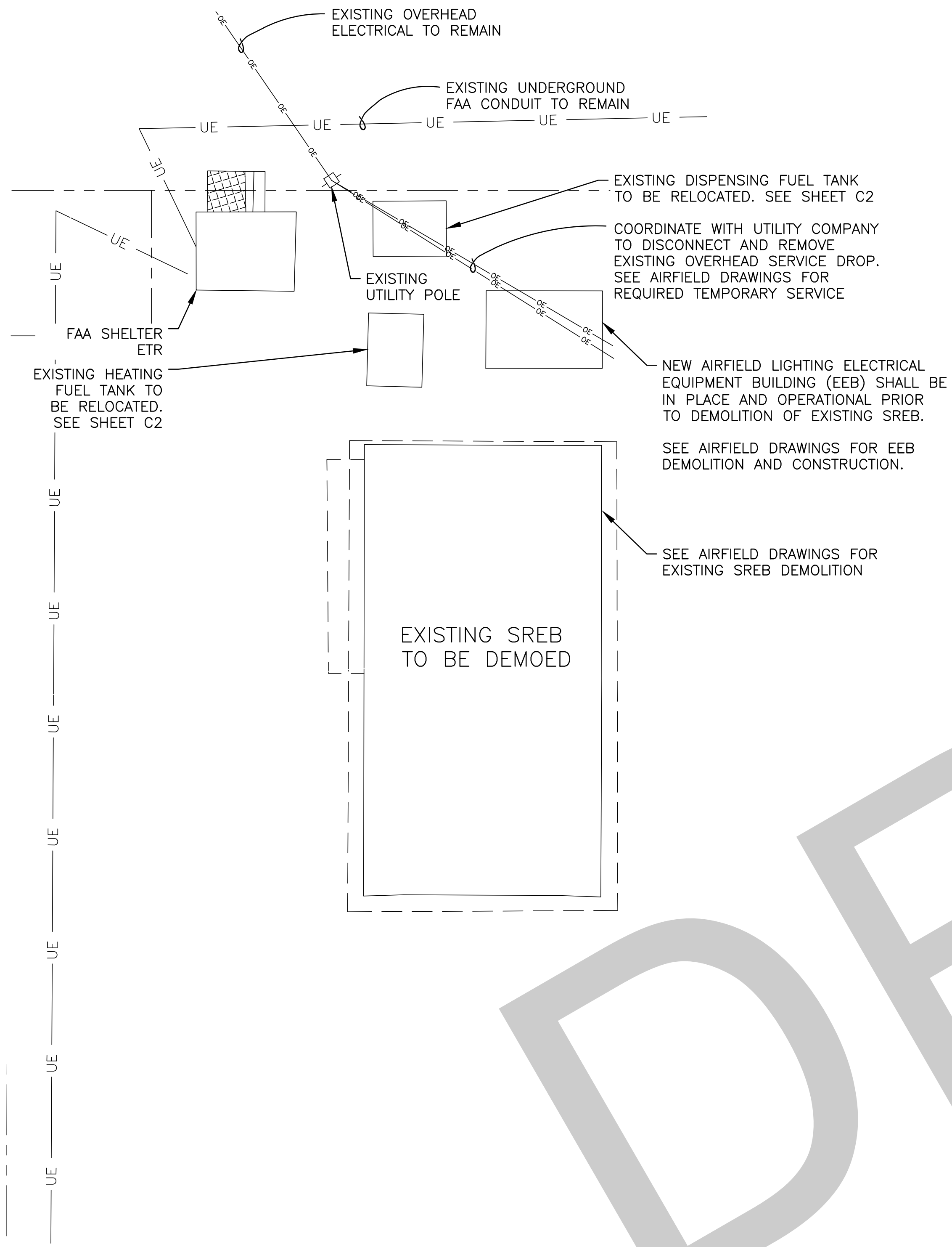
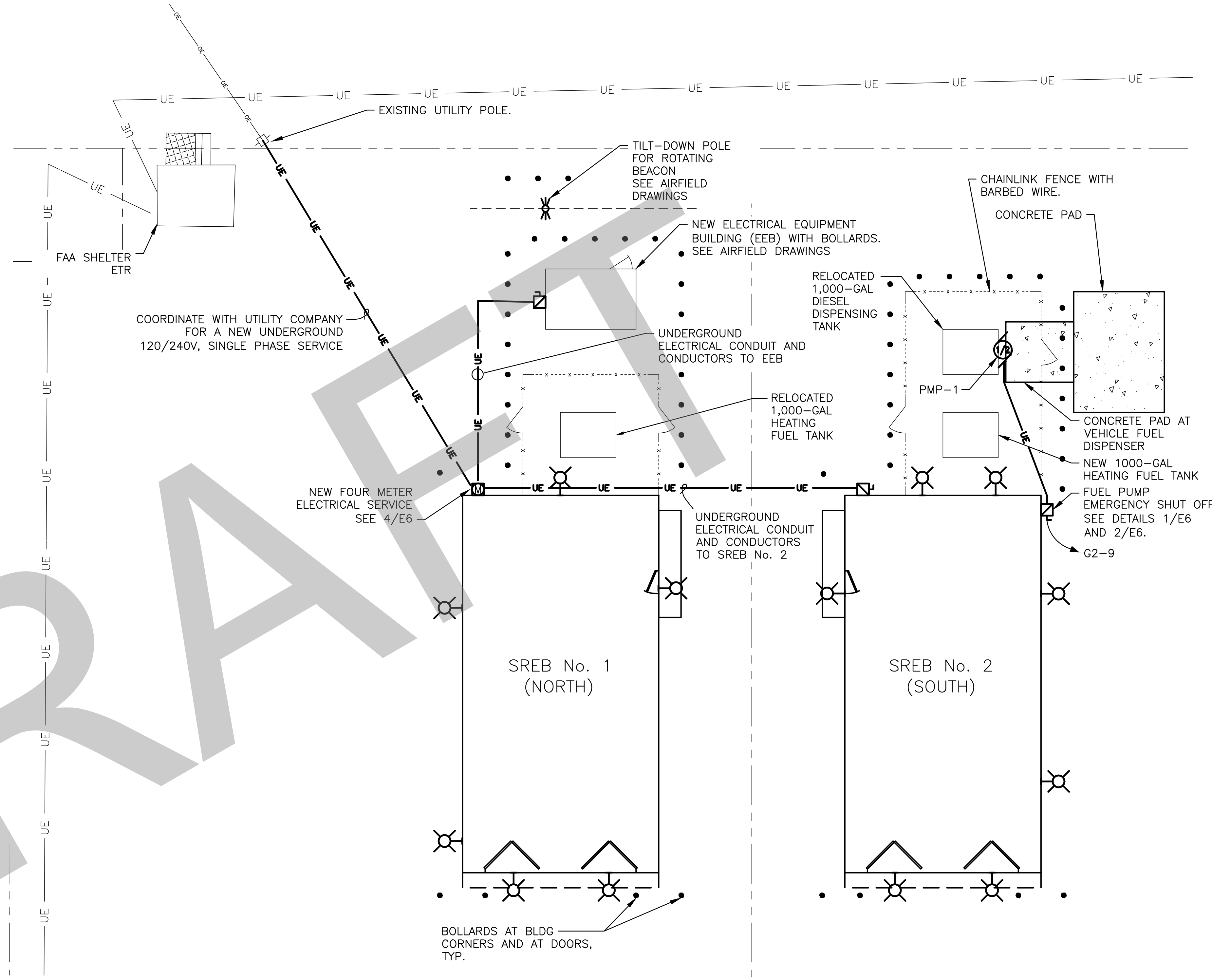


1 / E2 SITE PLAN – EXISTING
1'–0" = 100'–0"



2 / E2 SITE PLAN – NEW
1'–0" = 100'–0"

8'–4" 4'–2" 0 8'–4" 16'–8"
GRAPHIC SCALE: 1'–0" = 100'–0"

Designed By: JAB
Drawn By: JAB
Checked By: EWC

Date Revised: 8/25/2022, 11:36 AM
Layout Name: E2
File Path and Name: Z:\21014KSR – Kwethluk SREB\E–Working\Drawings\21014KSR_E2– SITE Plan.dwg

STATE OF ALASKA 49TH EDWARD W. CARLSON 09/09/2022 EE-9354 REGISTERED PROFESSIONAL ENGINEER

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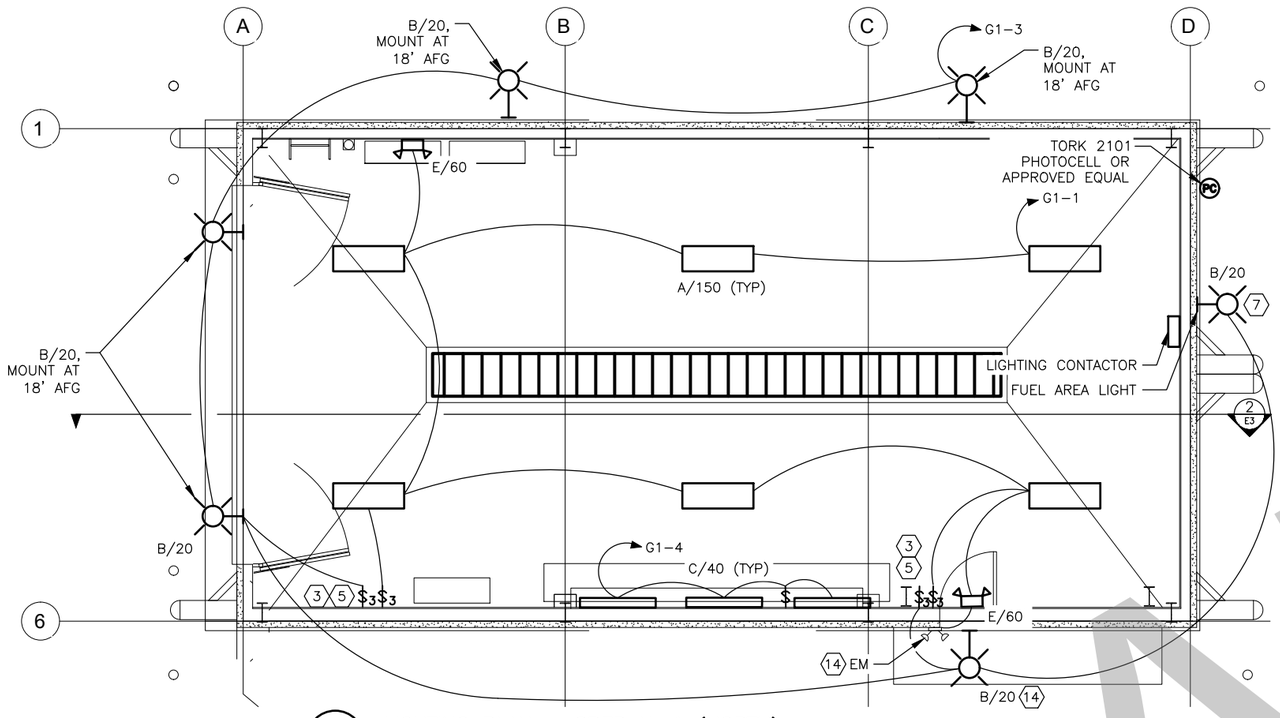
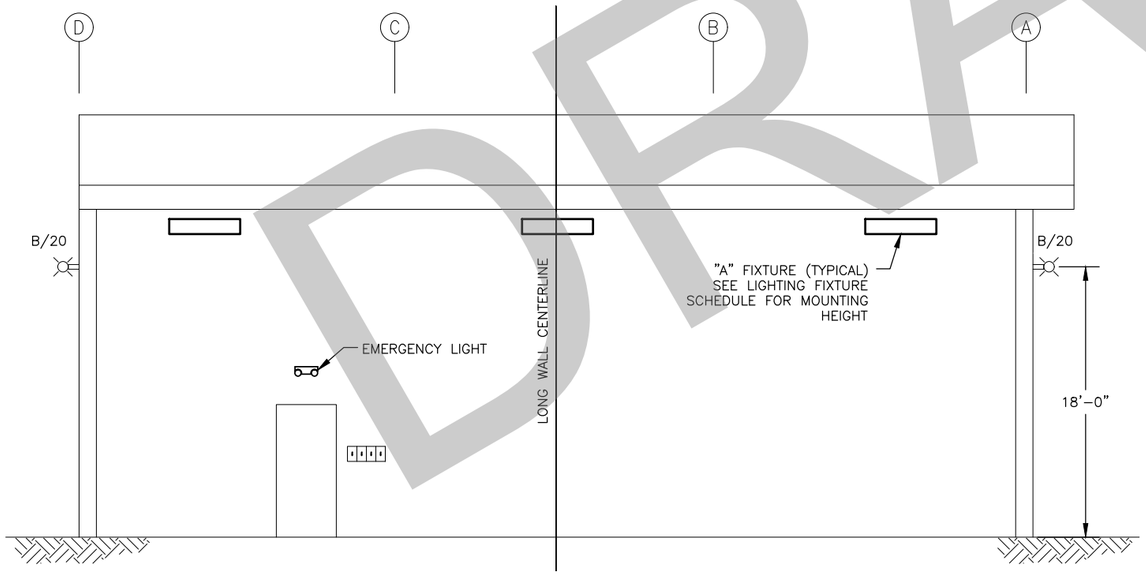
KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
SITE PLAN

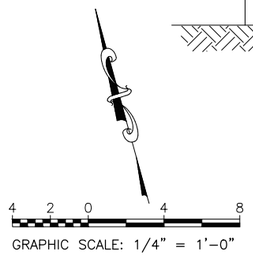
DATE: 09/09/2022
SHEET: E2 OF E10



1 E3 LIGHTING PLAN – SREB No.1 (NORTH)
1/4" = 1'-0"



2 E3 INTERIOR ELEVATION
1/4" = 1'-0"



SHEET NOTES – SHEETS E3 & E4

1. 120–VOLT POWER FOR COMPRESSOR CRANKCASE HEATER AND AUTOMATIC CONDENSATE DRAIN CONTROL TO BE CONNECTED TO NEMA–5–20 DUPLEX RECEPTACLE NEXT TO COMPRESSOR.
2. ALL CONDUITS IN THE BUILDING, PASSING THROUGH THE ZONE FROM THE FLOOR TO 1.5' ABOVE THE FLOOR, SHALL BE RSC AND SHALL HAVE A SEAL FITTING LOCATED 18" MINIMUM ABOVE THE FLOOR. THE BUILDING ELECTRICAL INSTALLATION SHALL COMPLY WITH NEC ARTICLE 511 "COMMERCIAL GARAGES, REPAIR AND STORAGE, MINOR REPAIR GARAGE".
3. MOUNT SWITCHES AND RECEPTACLES +48" AFF.
4. INSTALL CONTINUOUS #3/0 AWG BCG IN FOUNDATION FOOTING. GROUNDING ELECTRODE SYSTEM: BOND TOGETHER GROUND RODS, THE BUILDING STEEL FRAME AND THE GROUND RING WITH #1/0 AWG CONDUCTORS AT THE SERVICE ENTRANCE, AND TO GROUNDING ELECTRODE SYSTEM FOR CONNECTION TO BUILDING DISCONNECT. SEE DETAIL 3/E4 FOR MORE INFORMATION.
5. SWITCHES FOR LIGHT FIXTURES SHALL HAVE ILLUMINATED TOGGLES IN THE OFF POSITION.
6. ALL EXTERIOR WIRING, AND INTERIOR WIRING BELOW 10 FT AFF, SHALL USE RSC. IMC AND EMT CONDUIT MAY BE USED ABOVE 10 FT AFF WITHIN THE BUILDING ENVELOPE.
7. MOUNT 18'–0" AFG. LOCATE FIXTURE TO ILLUMINATE THE FUEL AREA. LOCATE TO AVOID CONFLICT WITH UNIT HEATER EXHAUST, ANTENNA CABLE AND OTHER ITEMS.
8. PROVIDE MINIMUM 18 INCH LIQUIDTIGHT FLEXIBLE METAL CONDUIT SLACK LOOP AT ALL CONDUIT TRANSITIONS FROM UNDERGROUND TO ABOVE GROUND TO ACCOMMODATE DIFFERENTIAL MOVEMENT.
9. PENETRATIONS THROUGH EXTERIOR WALL SHALL BE THE BELOW EQUIPMENT BEING SERVED AND SHALL BE SEALED TO PREVENT MOISTURE AND AIR INFILTRATION FROM ENTERING THE BUILDING.
10. RACEWAYS SHALL BE CONCEALED BEHIND WAINSCOT EXCEPT AT PANELS AND ELECTRIC CONNECTIONS TO MECHANICAL EQUIPMENT.
11. NOT USED
12. NOT USED
13. NOT USED
14. MOUNT UNDER CANOPY.
15. NOT USED
16. DISCONNECT INCLUDED IN PUMP PACKAGE.
17. BOND TO HEATING OIL TANK.

PS&E REVIEW

STATE OF ALASKA 49TH EDWARD W. CARLSON 09/09/2022 EE-9354 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
MBA CONSULTING ENGINEERS
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, ALASKA 99517
(907) 274 - 2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

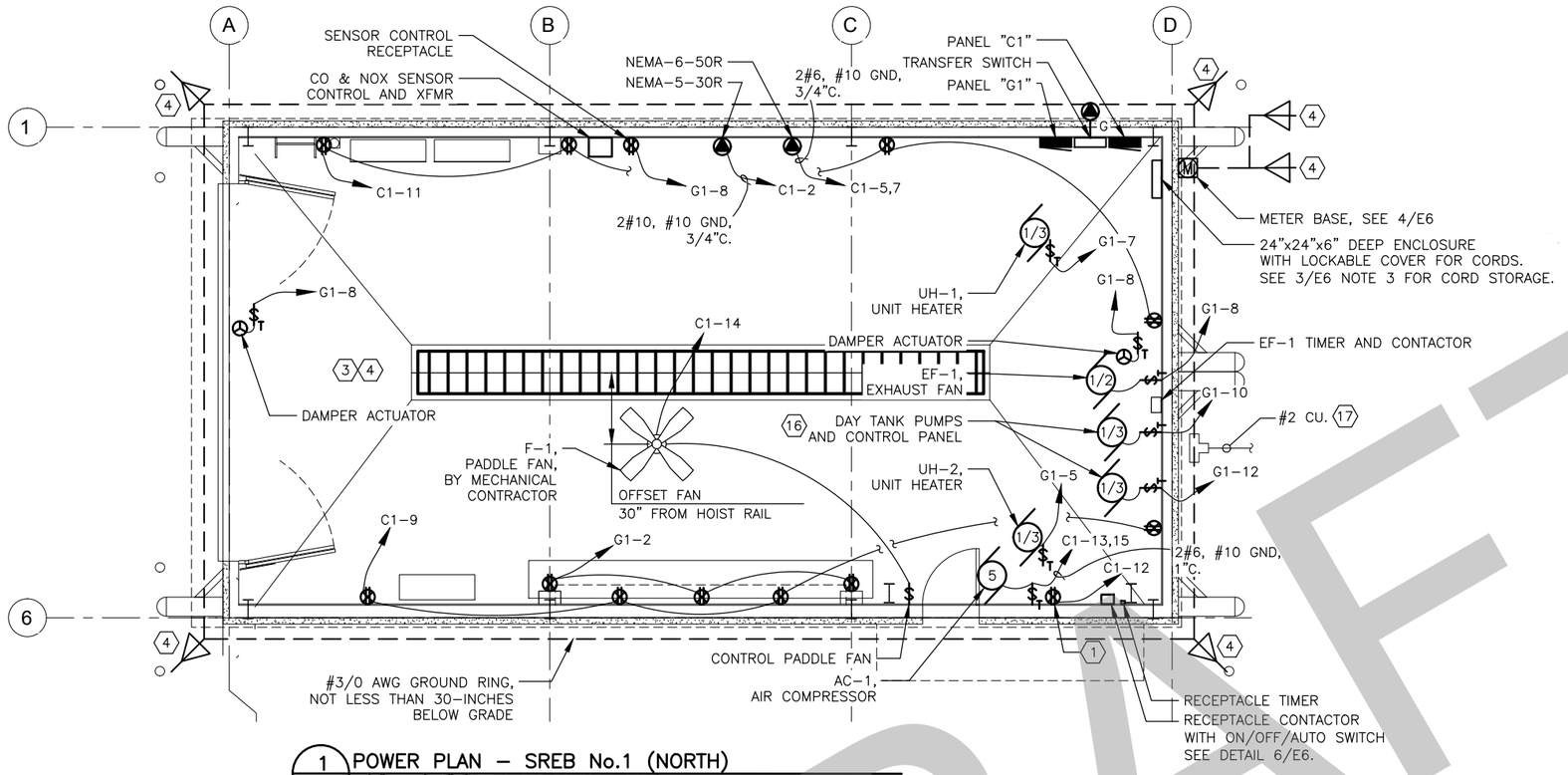
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

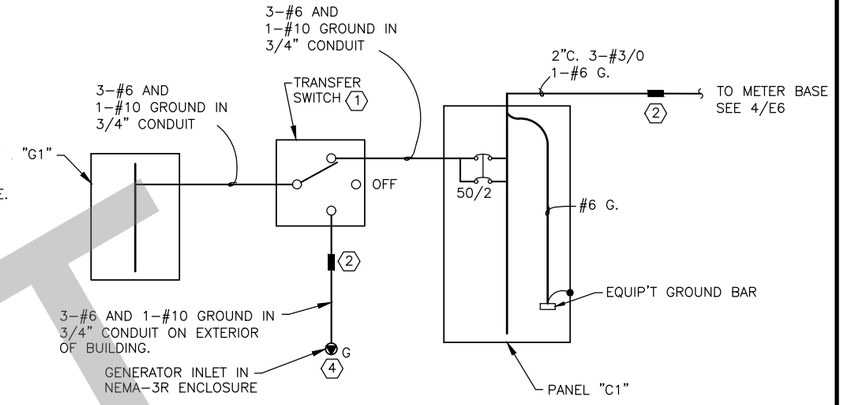
KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
SREB No.1 LIGHTING PLAN

DATE: 09/09/2022
SHEET: E3 OF E10

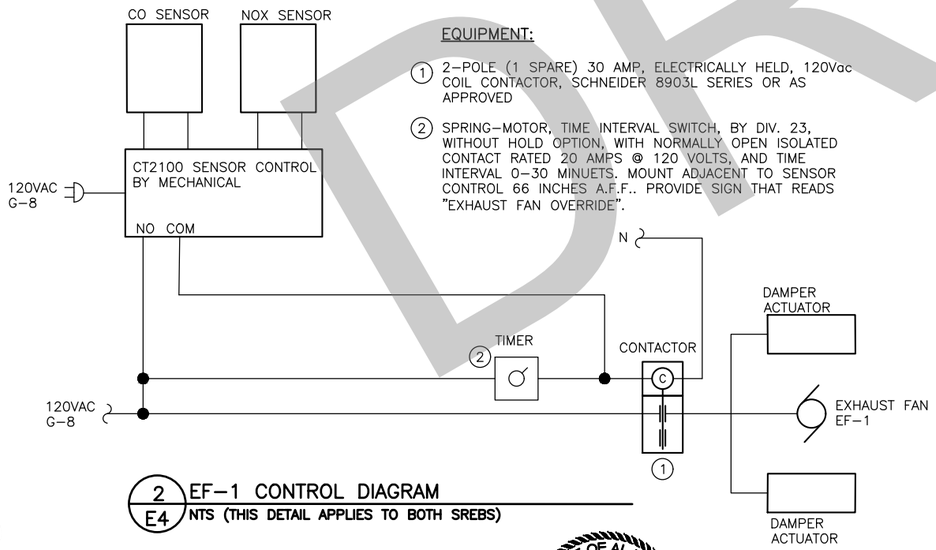
Designed By: JAB
Drawn By: JAB
Checked By: EWC
Date Revised:
Layout Name: E3
File Path and Name: Z:\21014KSR – Kwethluk SREB\E-Working\Drawings\21014KSR_E3_LIGHTING PLAN.dwg 8/25/2022, 11:36 AM



1/E4 POWER PLAN – SREB No.1 (NORTH)
1/4" = 1'-0" (SEE SHEET E3 FOR NOTES)



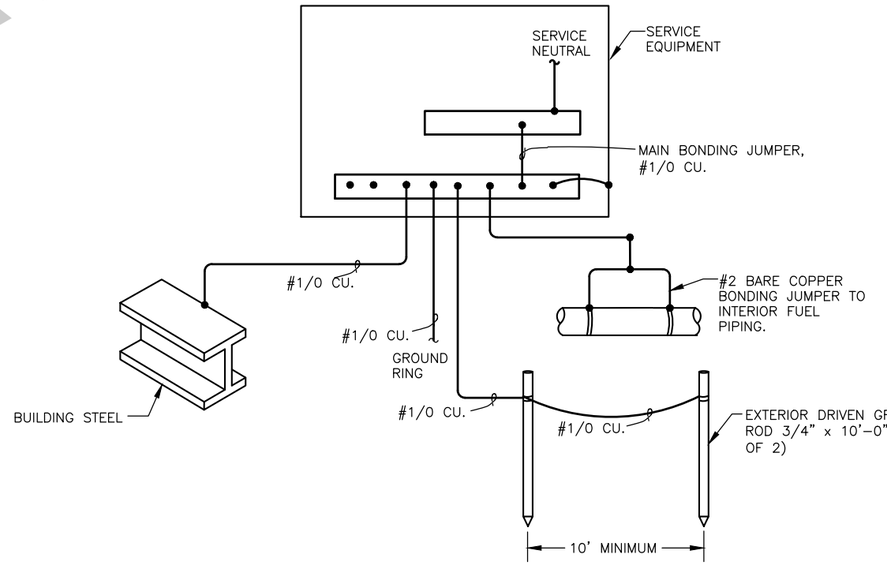
4/E4 SREB No.1 (NORTH) ONE-LINE DIAGRAM
NTS



EQUIPMENT:

1. 2-POLE (1 SPARE) 30 AMP, ELECTRICALLY HELD, 120Vac COIL CONTACTOR, SCHNEIDER 8903L SERIES OR AS APPROVED
2. SPRING-MOTOR, TIME INTERVAL SWITCH, BY DIV. 23, WITHOUT HOLD OPTION, WITH NORMALLY OPEN ISOLATED CONTACT RATED 20 AMPS @ 120 VOLTS, AND TIME INTERVAL 0-30 MINUETS. MOUNT ADJACENT TO SENSOR CONTROL 66 INCHES A.F.F.. PROVIDE SIGN THAT READS "EXHAUST FAN OVERRIDE".

2/E4 EF-1 CONTROL DIAGRAM
NTS (THIS DETAIL APPLIES TO BOTH SREBS)



3/E4 SREB No.1 (NORTH) GROUNDING DETAIL
NTS

4 2 0 4 8
GRAPHIC SCALE: 1/4" = 1'-0"

PS&E REVIEW

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AIP No. 3-02-0435-XXX-2023
SREB No.1 POWER PLAN

DATE: 09/09/2022
SHEET: E4 OF E10

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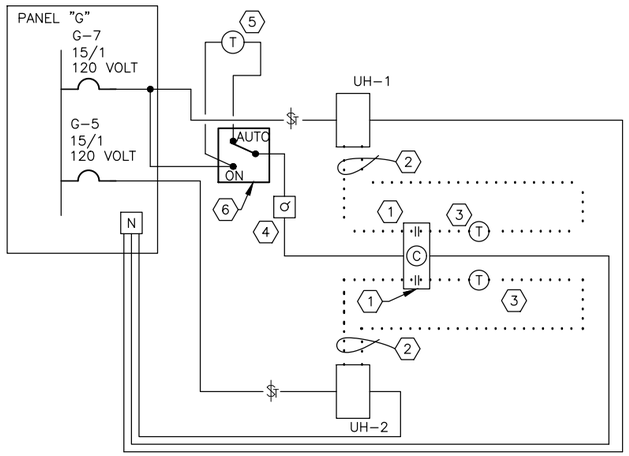
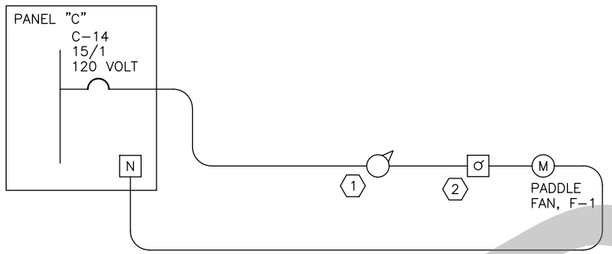
Layout Name: E4
File Path and Name: Z:\21014KSR - Kwethluk SREB\E-Working\Drawings\21014KSR_E4_PWR PLAN.dwg 8/25/2022, 11:36 AM



1 E5 HEATING CONTROL WIRING DIAGRAM
NTS (THIS DETAIL APPLIES TO BOTH SREBS)



2 E5 PADDLE FAN CONTROL DIAGRAM
NTS (THIS DETAIL APPLIES TO BOTH SREBS)

NOTES – DETAIL 1

1. PLUG–IN RELAY WITH 120V COIL, DPDT CONTACTS, SCREW TERMINAL BASE. SQUARE D CLASS 8501 KUR12V120 RELAY, 8501NR8B BASE, 8501NH82 HOLD DOWN CLIP. WALL MOUNT IN WEATHERPROOF ENCLOSURE OR APPROVED EQUAL.
2. THERMOSTAT WIRE – CAN RUN EXPOSED BUT MUST BE STAPLED TO WAINSCOT 24 INCHES O.C.
3. THERMOSTAT FOR HEATER – NON MERCURY TYPE. HIGH TEMPERATURE SET AT 65° F.
4. SPRING–MOTOR, TIME INTERVAL SWITCH, BY DIV. 23, WITHOUT HOLD OPTION, WITH NORMALLY OPEN ISOLATED CONTACT RATED 15 AMPS @ 120 VOLTS, AND TIME INTERVAL 0–12 HOURS. MOUNT NEXT TO LATCH SIDE OF MAN DOOR 66 INCHES A.F.F., SEE NOTE 5 BELOW. PROVIDE SIGN THAT READS "HEAT CONTROL TIMER – HEATERS WILL RUN WHEN TIME REMAINING IS GREATER THAN ZERO".
5. EXTERIOR THERMOSTAT SET TO CLOSE CONTACTS WHEN EXTERIOR TEMPERATURE IS BELOW 50°F. HONEYWELL T675A1136 CONTROLLER TEMPERATURE SENSOR OR AS APPROVED.
6. KEYED (AUTO–ON) SWITCH (SHOWN IN AUTO POSITION). KEY THE SAME AS THE RECEPTACLE HOA SWITCH.
7. SEQUENCE OF OPERATION:

   CONTACTS IN 4 ARE ENERGIZED WHEN OUTSIDE TEMPERATURE IS BELOW 50°F.

   THE CONTACTS IN THE TIME SWITCH 4 CLOSE WHEN THE SWITCH IS SET TO ANY TIME GREATER THAN ZERO.

   RELAY CONTACTS CLOSE WHEN TIME SWITCH CONTACTS 1 CLOSE.

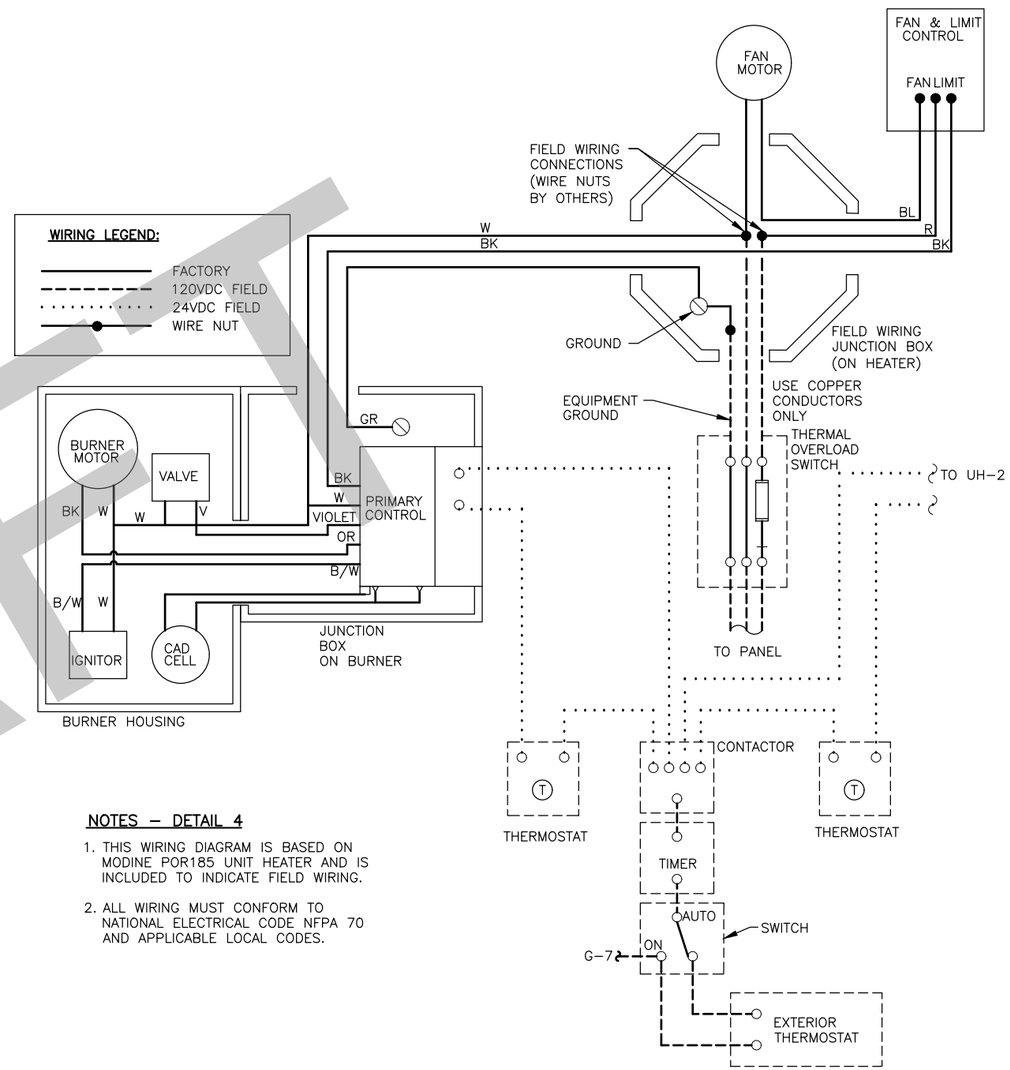
   CONNECT RELAY CONTACTS IN SERIES WITH THERMOSTAT.

   WHEN THE TIMER SWITCH 4 TIMES OUT, ITS INTERNAL CONTACT OPENS AND BURNER CEASES OPERATION.

NOTES – DETAIL 2

1. ELECTRONIC SPEED CONTROL – SUPPLIED OR RECOMMENDED BY THE PADDLE FAN MANUFACTURER.
2. SPRING–MOTOR, TIME INTERVAL SWITCH, BY DIV. 23, WITHOUT HOLD OPTION, WITH NORMALLY OPEN ISOLATED CONTACT RATED 15 AMPS @ 120 VOLTS, AND TIME INTERVAL 0–12 HOURS. MOUNT 66 INCHES A.F.F. PROVIDE SIGN THAT READS "FAN TIMER".

GRAPHIC SCALE: 1'–0" = 100'–0"



NOTES – DETAIL 4

1. THIS WIRING DIAGRAM IS BASED ON MODINE POR185 UNIT HEATER AND IS INCLUDED TO INDICATE FIELD WIRING.
2. ALL WIRING MUST CONFORM TO NATIONAL ELECTRICAL CODE NFPA 70 AND APPLICABLE LOCAL CODES.

3 E5 UNIT HEATER WIRING DIAGRAM
NTS (THIS DETAIL APPLIES TO BOTH SREBS)

Designed By: JAB
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Date Revised:
Layout Name: E5
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8/25/2022, 11:36 AM

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09/09/2022
EE-9354
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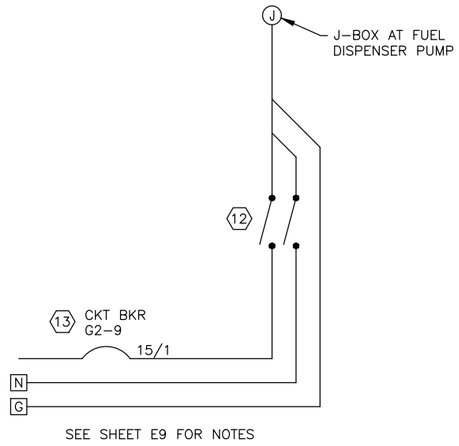
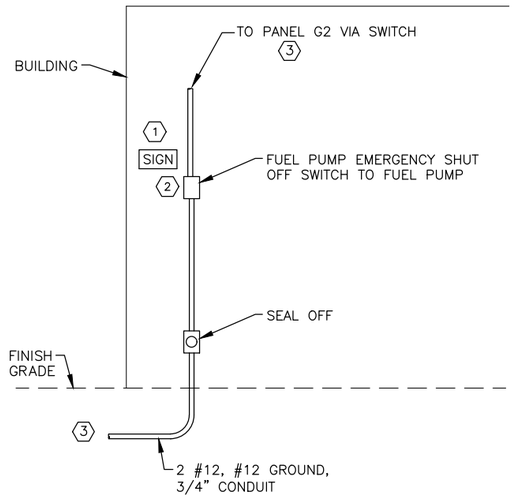
KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
CONTROL DETAILS

DATE: 09/09/2022
SHEET: E5 OF E10



SEE SHEET E9 FOR NOTES

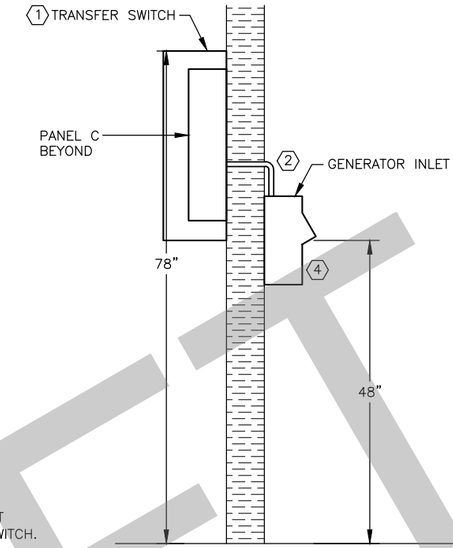
1 E6 FUEL DISPENSER DIAGRAM
NTS (THIS DETAIL ONLY APPLIES TO SREB 2)



DETAIL 2 NOTES:

1. SIGN: COLORS – WHITE 3/4" LETTERS ON RED BACKGROUND, TEXT – "FUEL PUMP EMERGENCY SHUT OFF SWITCH". MOUNT SIGN 6" ABOVE EMERGENCY FUEL TANK PUMP SHUT DOWN SWITCH.
2. FUEL PUMP EMERGENCY SHUT OFF DISCONNECT SWITCH. 30–AMP 2–POLE 250–VOLT SWITCH, CAPABLE OF BEING LOCKED IN THE OPEN POSITION IN A WET LOCATION BOX WITH A RAIN TIGHT ACTUATOR. LABEL SWITCH POSITIONS (UP = ON, DOWN = OFF). MOUNT DISCONNECT ON THE EXTERIOR OF THE BUILDING, MINIMUM 20 FEET FROM FUEL DISPENSER.
3. POWER FOR THE PUMP, FROM A SWITCH–RATED 15–AMP 1–POLE 120–VOLT CIRCUIT BREAKER IN PANEL G2. SEAL CONDUIT THROUGH WALL TO PREVENT MOISTURE FROM ENTERING BUILDING. RUN CIRCUIT UNDERGROUND TO FUEL DISPENSER PUMP MOUNTED ON FUEL DISPENSING TANK. SEE 2/E2 FOR LOCATION OF FUEL TANK. PROVIDE SEALING FITTING 18" ABOVE GRADE AT EACH END OF UNDERGROUND CONDUIT RUN.
4. MOUNT ALL ITEMS ON THE BUILDING.

2 E6 MOTOR VEHICLE FUEL PUMP ELECTRICAL DETAIL
NTS (THIS DETAIL ONLY APPLIES TO SREB 2)

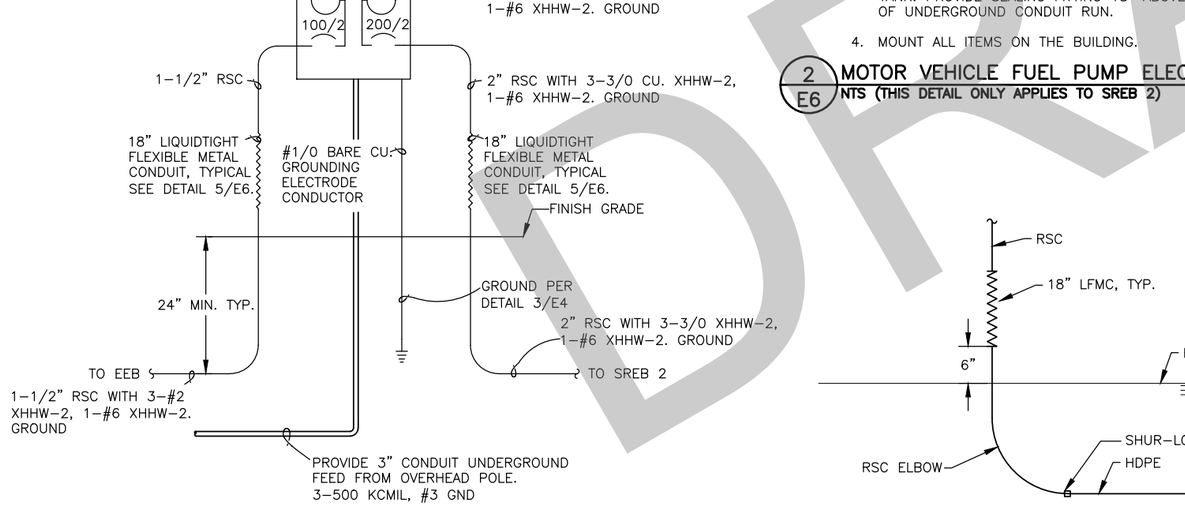


DETAIL 3 & 6 NOTES:

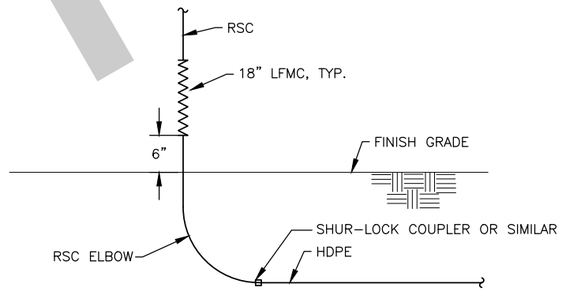
1. 60–AMP, 240–VOLT, NON–FUSED, TWO–POLE, DOUBLE–THROW, TRANSFER SWITCH, SQUARE–D CATALOG NO. DTU222 OR APPROVED EQUAL.
2. SEAL CONDUIT PENETRATION ON INSIDE AND OUTSIDE BETWEEN THE INTERIOR AND EXTERIOR OF THE BUILDING IN ACCORDANCE WITH NEC 225.27.
3. PROVIDE TWO 20–FOOT "ARCTIC" POWER CORDS CONTAINING THREE #8 AWG POWER CONDUCTORS AND ONE #10 AWG GROUND CONDUCTOR WITH A CS63–64C* CONNECTOR ON ONE END AND A CS63–65C* PLUG ON THE OTHER. PROVIDE THE FOLLOWING 36–INCH LONG ADAPTER CORDS.
   - (A) 1–4C #10 POWER CORD WITH A CS63–64C* CONNECTOR ON ONE END AND A NEMA–L14–30 PLUG ON THE OTHER.
   - (B) 1–4C #12 POWER CORD WITH A CS63–64C* CONNECTOR ON ONE END AND A NEMA–L14–20 PLUG ON THE OTHER. PROVIDE WALL CABINET NEXT TO PANEL–G TO STORE THE CORDS.
4. MOUNT A CS63–75C* (MALE) GENERATOR FLANGED INLET IN A NEMA–3R GALVANIZED/PAINTED ENCLOSURE WITH THE INLET 48 INCHES ABOVE THE FLOOR LEVEL – MIDWEST ELECTRIC PRODUCTS CAT. NO. U050N OR APPROVED EQUAL. (OTHER ACCEPTED MANUFACTURERS – GE, CROUSE–HINDS).

* CALIFORNIA STANDARD 125/250–VOLT, 3–POLE, 4–WIRE, NON–NEMA, 50–AMP WIRING DEVICE, LEVITON CATALOG # AS SHOWN, OR APPROVED EQUAL. (OTHER ACCEPTED MANUFACTURERS – CROUSE–HINDS, APPLETON).

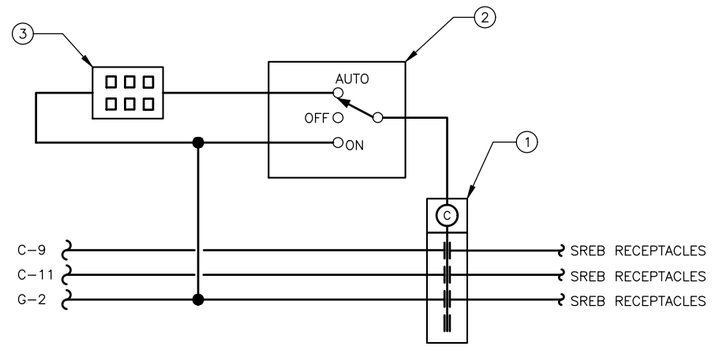
3 E6 PANEL "G" – GENERATOR INLET ELEVATION
NTS (THIS DETAIL APPLIES TO BOTH SREBS)



4 E6 METER BASE DETAIL
NTS (THIS DETAIL APPLIES TO SREB 1)



5 E6 CONDUIT ABOVE/BELOW GRADE TRANSITION DETAIL
NTS (THIS DETAIL APPLIES TO BOTH SREBS)



6 E6 RECEPTACLE CONTROL DIAGRAM
NTS (THIS DETAIL APPLIES TO BOTH SREBS)

EQUIPMENT:

1. 4–POLE (1 SPARE) 30 AMP, ELECTRICALLY HELD, 120Vac COIL, CONTACTOR, SCHNEIDER 8903L SERIES OR AS APPROVED
2. HOA KEYED SWITCH (SHOWN IN THE AUTO POSITION). LOCATED IN CONTACTOR.
3. 24 HOUR PROGRAMMABLE TIMER, LOCKABLE, BATTERY BACKUP, INTERMATIC GMX QT–1–120 OR AS APPROVED.

PS&E REVIEW

STATE OF ALASKA 49TH — EDWARD W. CARLSON 09/09/2022 EE-9354 REGISTERED PROFESSIONAL ENGINEER

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KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3–02–0435–XXX–2023
POWER DETAILS

DATE: 09/09/2022
SHEET: E6 OF E10

Designed By: JAB
Drawn By: JAB
Checked By: EWC
Date Revised:
Layout Name: E6
File Path and Name: Z:\21014KSR – Kwethluk SREB\E–Working\Drawings\21014KSR_E6_DETAILS PLAN.dwg
8/25/2022, 11:36 AM

Designed By:	JAB
Drawn By:	JAB
Checked By:	EWC

Date Revised:	8/25/2022, 11:36 AM
Layout Name:	E7
File Path and Name:	Z:\21014KSR - Kwethluk SREB\E-Working\Drawings\21014KSR_E7_SCHEDULES.dwg

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	TOTAL LUMEN	LUMEN/WATT	MOUNTING	DESCRIPTION	MODEL
A/150		15,000	120	16'–0"	PENDANT MOUNT LED WITH POWER HOOK AND SAFETY CHAIN, WIDE DISTRIBUTION, NO SHIELDING, 120 VOLT, 80 CRI, 4000K CCT. FIXTURE STANDARD FINISH TO MATCH BUILDING FINISH AS CLOSELY AS POSSIBLE. SUITABLE FOR –40F, DAMP LOCATION LISTED.	LITHONIA IBL–15L–WD–LP840–SD125–USPOM
B/20		2660	100	AS SHOWN ON PLANS	WALL MOUNT FULL CUTOFF LED. RATED FOR –40 DEGREES F.	DECO LIGHTING: D464–L–24–40–U–Z
C/40		4417	129	WALL MOUNT 7'–0"AFF ABOVE BENCH	LOW PROFILE LENS Z STRIP, PROVIDE ANGLE BRACKET FOR MOUNTING ABOVE WORK BENCH.	LITHONIA ZL1N LED L48 ASR 5000LM FST MVOLT 40K 80CRI ZLANGBKT–USPOM
E/60				8'–0"	EMERGENCY EGRESS LED LIGHT, Ni–MH BATTERY. 120V, –40°F RATING. AUTOTEST,	BEGHELLI USA LIGHTING: BOL–WP–12V27W 2 MR16LED
EM				8'–0"	SURFACE MOUNT REMOTE EMERGENCY LIGHT REMOTE HEAD. PROVIDE MR16LED LAMP, AND WIRE GUARD.	BEGHELLI USA LIGHTING: BOL–WP–R 2 MR16LED BPG9

VERIFY CATALOG NUMBER WITH FIXTURE DESCRIPTION FOR ADDITIONAL REQUIREMENT.
MANUFACTURER NUMBER IS BASIS OF DESIGN SUBMIT SUBSTITUTIONS IN ACCORDANCE WITH GCP 60–08 FOR APPROVAL.

A.I.R. REQUIREMENTS

SHORT CIRCUIT AND SERVICE NOTES:

BASED ON THE FOLLOWING: **Transformer Assumptions**

UTILITY	=	GENERIC	
TRANSFORMER SIZE	=	75	KVA
TRANSFORMER IMPEDANCE	=	1.08	% Z
LENGTH OF SERVICE CONDUCTORS	=	195	FEET
SERVICE CONDUCTOR SIZE	=	#3/0 AWG	
NUMBER OF PARALLEL RUNS	=	1	
CONDUIT TYPE	=	Copper in Non-Metallic*	
MOTOR CONTRIBUTION	=	10	HP

AVAILABLE SHORT CIRCUIT AMPS SUMMARY

LOCATION	METER BASE	SREB1 DISCONNECT	PANEL C1	TRANSFER SW	PANEL G1	SREB2 DISCONNECT
SCA RMS	16,174	15,807	14,862	12,538	10,669	12,295
@ X/R	1.52	1.49	1.39	1.00	0.79	1.20

LOCATION	PANEL C2	TRANSFER SW	PANEL G2	EEB DISCONNECT
SCA RMS	9,926	8,665	7,652	7,940
@ X/R	0.84	0.71	0.61	0.54

THE ABOVE DATA (OTHER THAN MOTOR LOAD) SHALL BE CONFIRMED WITH THE SERVING UTILITY BEFORE EQUIPMENT IS ORDERED. ANY VARIATIONS THAT MIGHT INCREASE AVAILABLE SHORT-CIRCUIT CURRENT SHALL BE REPORTED TO THE CONTRACTING AGENCY.

SERVICE EQUIPMENT SHALL HAVE AN INTEGRATED SHORT CIRCUIT RATING SUITABLE FOR THE AVAILABLE SCA. DOWNSTREAM EQUIPMENT AND CIRCUIT BREAKER AIC RATINGS MAY BE SATISFIED BY UTILIZING ONE OF THE FOLLOWING METHODS:

1. EQUIPMENT RATED FOR THE AVAILABLE SCA AT EACH POINT IN THE SYSTEM.

ARC FLASH CALCULATIONS

	METERBASE	SREB#1 DISCONNECT	PANEL C1	TRANSFER SW#1
ARC FLASH BOUNDARY	13'-4"	13'-3"	10'-0"	11'-6"
INCIDENT ENERGY	39.44 CAL/CM^2	38.84 CAL/CM^2	24.79 CAL/CM^2	30.92 CAL/CM^2
WORKING DISTANCE	18 INCHES	18 INCHES	18 INCHES	18 INCHES
SHOCK HAZARD EXPOSURE	240 VAC	240 VAC	240 VAC	240 VAC
INSULATING GLOVES CLASS	00 BEIGE	00 BEIGE	00 BEIGE	00 BEIGE
LIMITED APPROACH BOUNDRY	3'-6"	3'-6"	3'-6"	3'-6"
RESTRICTED APPROACH BOUNDRY	AVOID CONTACT	AVOID CONTACT	AVOID CONTACT	AVOID CONTACT
PPE LEVEL	4	4	3	4
CALCULATION DATE	8/9/2022			

ARC FLASH CALCULATIONS

	PANEL G1	SREB#2 DISCONNECT	PANEL C2	TRANSFER SW#2
ARC FLASH BOUNDARY	8'-5"	11'-6"	8'-1"	9'-5"
INCIDENT ENERGY	18.76 CAL/CM^2	31.27 CAL/CM^2	17.76 CAL/CM^2	22.49 CAL/CM^2
WORKING DISTANCE	18 INCHES	18 INCHES	18 INCHES	18 INCHES
SHOCK HAZARD EXPOSURE	240 VAC	240 VAC	240 VAC	240 VAC
INSULATING GLOVES CLASS	00 BEIGE	00 BEIGE	00 BEIGE	00 BEIGE
LIMITED APPROACH BOUNDRY	3'-6"	3'-6"	3'-6"	3'-6"
RESTRICTED APPROACH BOUNDRY	AVOID CONTACT	AVOID CONTACT	AVOID CONTACT	AVOID CONTACT
PPE LEVEL	3	4	4	3
CALCULATION DATE	8/9/2022			

ARC FLASH CALCULATIONS

	PANEL G2	EEB DISCONNECT		
ARC FLASH BOUNDARY	6'-7"	8'-7"		
INCIDENT ENERGY	12.84 CAL/CM^2	19.33 CAL/CM^2		
WORKING DISTANCE	18 INCHES	18 INCHES		
SHOCK HAZARD EXPOSURE	240 VAC	240 VAC		
INSULATING GLOVES CLASS	00 BEIGE	00 BEIGE		
LIMITED APPROACH BOUNDRY	3'-6"	3'-6"		
RESTRICTED APPROACH BOUNDRY	AVOID CONTACT	AVOID CONTACT		
PPE LEVEL	3	3		
CALCULATION DATE	8/9/2022			

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PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
LIGHTING SCHEDULE AND AIC

DATE: 09/09/2022

SHEET: E7 OF E10

PANEL: C1

MOUNTING	MAINS	OPTIONS
SURFACE	LUGS	SOLID NEUTRAL GROUND BUS BAR

PROJECT: KWETHLUK
LOCATION: SREB #1

VOLTAGE: 240/120 VOLT | 1 PHASE | 3 WIRE | 200 A | MLO | 24k AIC

CIRCUIT DESCRIPTION	KVA	AMP	P	CKT	CKT	AMP	P	KVA	CIRCUIT DESCRIPTION
PANEL G1	6.1	50	2	1	2	30	1	2.9	NEMA 5-30 RECEPTACLE
				3	4	30	2		SPARE
50 AMP 240 VOLT RECEPTACLE NEMA 6-50	9.6	50	2	5	6				
				7	8	30	2		SPARE
NEMA 5-20 RECEPTACLES	0.7	20	1	9	10				
NEMA 5-20 RECEPTACLES	0.5	20	1	11	12	20	1	0.2	NEMA 5-20 - COMPRESSOR
AIR COMPRESSOR 5 HP	6.4	60	2	13	14	15	1	0.1	PADDLE FAN
				15	16	20	1		SPARE
SPARE		20	1	17	18	20	1		SPARE
SPARE		20	1	19	20	20	1		SPARE
SPARE		20	1	21	22	20	1		SPARE
SPARE		20	1	23	24	20	1		SPARE
SPARE		20	1	25	26	20	1		SPARE
SPACE				27	28				SPACE
SPACE				29	30				SPACE

CONNECTED LOAD:		26.5	KVA	110.5	A	REMARKS:
DEMAND LOAD:		28.3	KVA	118.1	A	(1) PROVIDE SEPARATE NEUTRAL AND EQUIPMENT GROUND BARS. (2) PROVIDE MULTIPOLE CIRCUIT BREAKERS OR CIRCUIT BREAKERS WITH HANDLE TIES, AS REQUIRED FOR COMPLIANCE WITH NEC 210.4(B), WHEREVER FIELD WIRING RESULTS IN MULITWIRE BRANCH CIRCUITS. (3) DEMAND LOAD IS BASED ON NEC ARTICLE 220.
DATE:						
REV:						

PANEL: C2

MOUNTING	MAINS	OPTIONS
SURFACE	LUGS	SOLID NEUTRAL GROUND BUS BAR

PROJECT: KWETHLUK
LOCATION: SREB #2

VOLTAGE: 240/120 VOLT | 1 PHASE | 3 WIRE | 200 A | MLO | 24k AIC

CIRCUIT DESCRIPTION	KVA	AMP	P	CKT	CKT	AMP	P	KVA	CIRCUIT DESCRIPTION
PANEL G2	6.9	50	2	1	2	30	1	2.9	NEMA 5-30 RECEPTACLE
				3	4	30	2		SPARE
50 AMP 240 VOLT RECEPTACLE NEMA 6-50	9.6	50	2	5	6				
				7	8	30	2		SPARE
NEMA 5-20 RECEPTACLES	0.7	20	1	9	10				
NEMA 5-20 RECEPTACLES	0.5	20	1	11	12	20	1	0.2	NEMA 5-20 - COMPRESSOR
AIR COMPRESSOR 5 HP	6.4	60	2	13	14	15	1	0.1	PADDLE FAN
				15	16	20	1		SPARE
SPARE		20	1	17	18	20	1		SPARE
SPARE		20	1	19	20	20	1		SPARE
SPARE		20	1	21	22	20	1		SPARE
SPARE		20	1	23	24	20	1		SPARE
SPARE		20	1	25	26	20	1		SPARE
SPACE				27	28				SPACE
SPACE				29	30				SPACE

CONNECTED LOAD:		27.3	KVA	113.8	A	REMARKS:
DEMAND LOAD:		29.2	KVA	121.6	A	(1) PROVIDE SEPARATE NEUTRAL AND EQUIPMENT GROUND BARS. (2) PROVIDE MULTIPOLE CIRCUIT BREAKERS OR CIRCUIT BREAKERS WITH HANDLE TIES, AS REQUIRED FOR COMPLIANCE WITH NEC 210.4(B), WHEREVER FIELD WIRING RESULTS IN MULITWIRE BRANCH CIRCUITS. (3) DEMAND LOAD IS BASED ON NEC ARTICLE 220.
DATE:						
REV:						

PANEL: G1

MOUNTING	MAINS	OPTIONS
SURFACE	LUGS	SOLID NEUTRAL GROUND BUS BAR

PROJECT: KWETHLUK
LOCATION: SREB #1

VOLTAGE: 240/120 VOLT | 1 PHASE | 3 WIRE | 100 A | MLO | 22k AIC

CIRCUIT DESCRIPTION	KVA	AMP	P	CKT	CKT	AMP	P	KVA	CIRCUIT DESCRIPTION
INTERIOR LIGHTING	0.9	20	1	1	2	20	1	0.5	BENCH RECEPTACLES
EXTERIOR LIGHTING	0.1	20	1	3	4	20	1	0.1	BENCH LIGHTING
UH-2 UNIT HEATER (1/3HP)	0.8	15	1	5	6	20	1		SPARE
UH-1 UNIT HEATER (1/3HP)	0.8	15	1	7	8	20	1	1.2	EXHAUST FAN EF-1 (1/2HP)
SPARE		15	1	9	10	15	1	0.8	DAY TANK PUMP (1/3HP)
SPARE		20	1	11	12	15	1	0.8	DAY TANK PUMP (1/3HP)
SPARE		20	1	13	14	20	1		SPARE
SPARE		20	1	15	16	20	1		SPARE

CONNECTED LOAD:		6.1	KVA	25.3	A	REMARKS:
DEMAND LOAD:		6.6	KVA	27.7	A	(1) PROVIDE SEPARATE NEUTRAL AND EQUIPMENT GROUND BARS. (2) VERIFY CIRCUIT BREAKERS REQUIREMENTS FOR FUEL DISPENSER. (3) PROVIDE MULTIPOLE CIRCUIT BREAKERS OR CIRCUIT BREAKERS WITH HANDLE TIES, AS REQUIRED FOR COMPLIANCE WITH NEC 210.4(B), WHEREVER FIELD WIRING RESULTS IN MULITWIRE BRANCH CIRCUITS. (4) DEMAND LOAD IS BASED ON NEC ARTICAL 220.
DATE:						
REV:						

PANEL: G2

MOUNTING	MAINS	OPTIONS
SURFACE	LUGS	SOLID NEUTRAL GROUND BUS BAR

PROJECT: KWETHLUK
LOCATION: SREB #2

VOLTAGE: 240/120 VOLT | 1 PHASE | 3 WIRE | 100 A | MLO | 22k AIC

CIRCUIT DESCRIPTION	KVA	AMP	P	CKT	CKT	AMP	P	KVA	CIRCUIT DESCRIPTION
INTERIOR LIGHTING	0.9	20	1	1	2	20	1	0.5	BENCH RECEPTACLES
EXTERIOR LIGHTING	0.1	20	1	3	4	20	1	0.1	BENCH LIGHTING
UH-2 UNIT HEATER (1/3HP)	0.8	15	1	5	6	20	1		SPARE
UH-1 UNIT HEATER (1/3HP)	0.8	15	1	7	8	20	1	1.2	EXHAUST FAN EF-1 (1/2HP)
PMP-1 (1/3HP) FUEL PUMP AND DISPENSER	0.8	15	1	9	10	15	1	0.8	DAY TANK PUMP (1/3HP)
SPARE		20	1	11	12	15	1	0.8	DAY TANK PUMP (1/3HP)
SPARE		20	1	13	14	20	1		SPARE
SPARE		20	1	15	16	20	1		SPARE

CONNECTED LOAD:		6.9	KVA	28.6	A	REMARKS:
DEMAND LOAD:		7.4	KVA	31.0	A	(1) PROVIDE SEPARATE NEUTRAL AND EQUIPMENT GROUND BARS. (2) VERIFY CIRCUIT BREAKERS REQUIREMENTS FOR FUEL DISPENSER. (3) PROVIDE MULTIPOLE CIRCUIT BREAKERS OR CIRCUIT BREAKERS WITH HANDLE TIES, AS REQUIRED FOR COMPLIANCE WITH NEC 210.4(B), WHEREVER FIELD WIRING RESULTS IN MULITWIRE BRANCH CIRCUITS. (4) DEMAND LOAD IS BASED ON NEC ARTICAL 220.
DATE:						
REV:						

PS&E REVIEW

STATE OF ALASKA 49TH EDWARD W. CARLSON 09/09/2022 EE-9354 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
MBA CONSULTING ENGINEERS
3812 SPENARD ROAD, SUITE 200
ANCHORAGE, ALASKA 99517
(907) 274 - 2622
CERTIFICATE OF AUTHORIZATION
NO. AECC578

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
PANEL SCHEDULES

DATE: 09/09/2022
SHEET: E8 OF E10

JAB | JAB | EWC
Designed By: | Drawn By: | Checked By:

Date Revised: 8/25/2022, 11:36 AM
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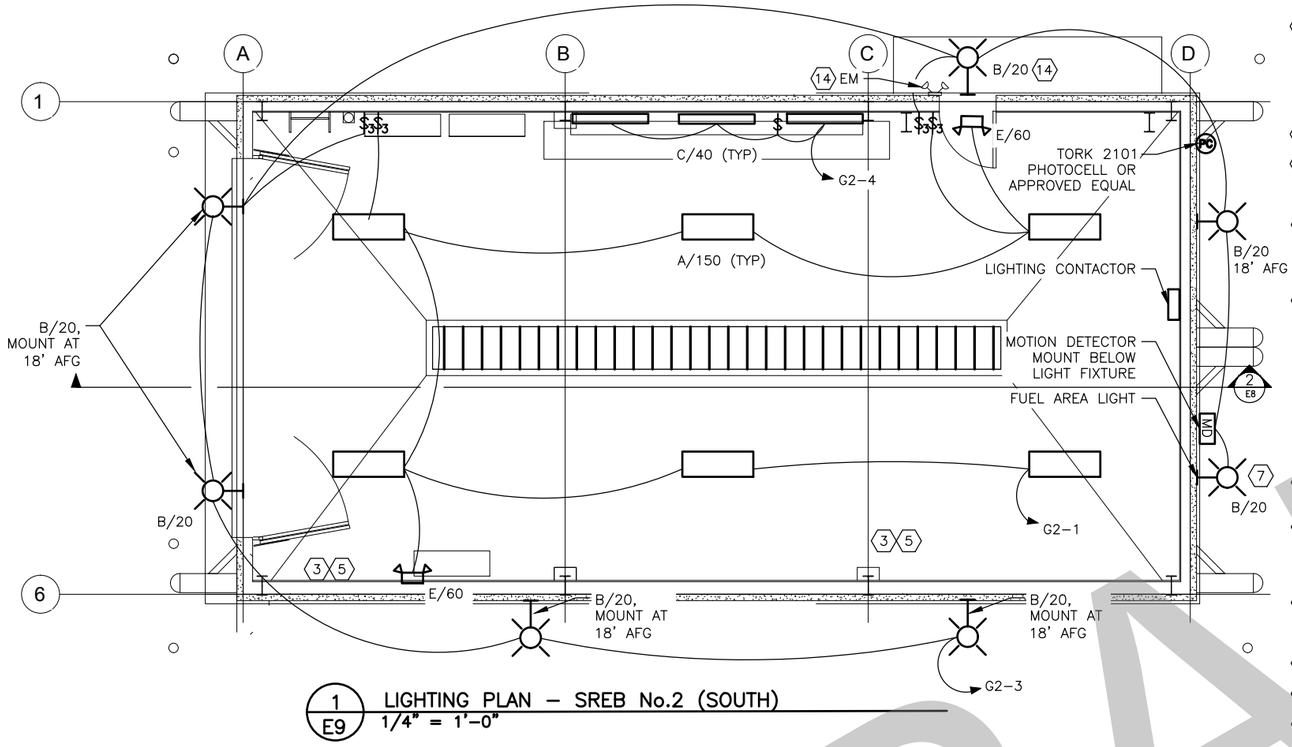
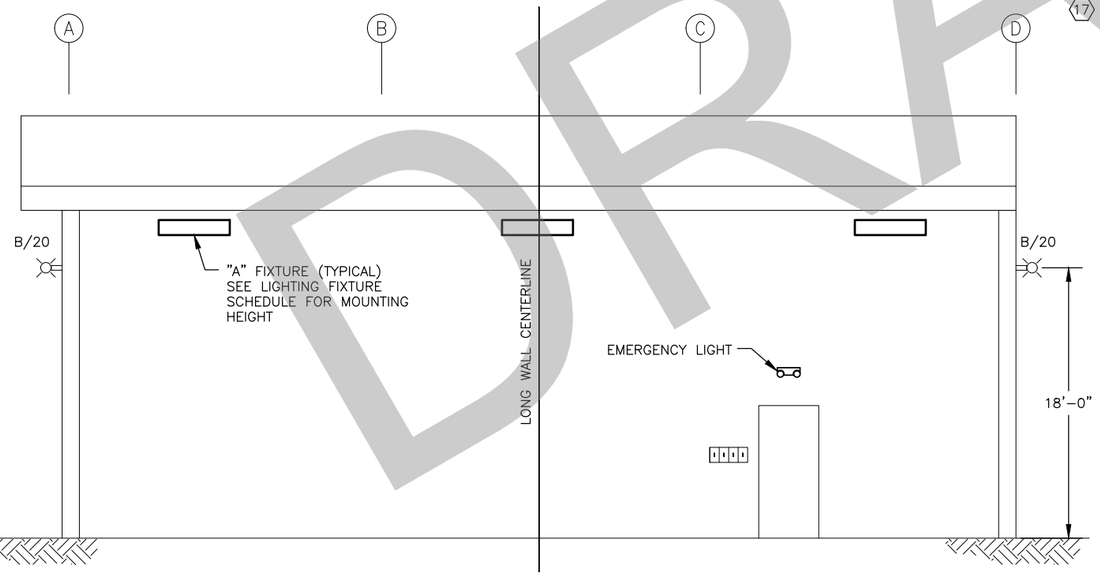
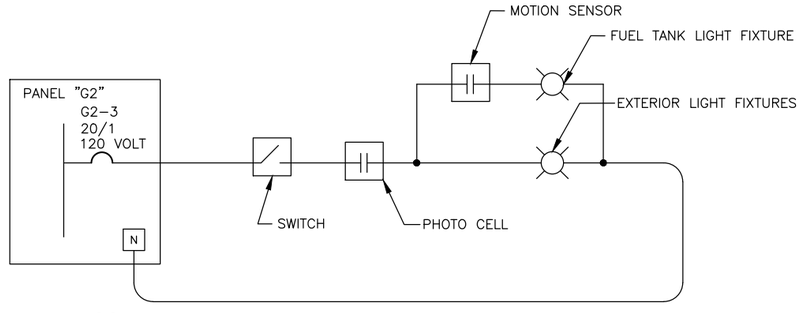


1 / E9 LIGHTING PLAN – SREB No.2 (SOUTH)
1/4" = 1'-0"



2 / E9 INTERIOR ELEVATION
1/4" = 1'-0"



3 / E9 EXTERIOR FUELING AREA LIGHTING CONTROL DIAGRAM
NTS (THIS DETAIL ONLY APPLIES TO SREB 2)

SHEET NOTES – SHEETS E9 & E10

1. 120–VOLT POWER FOR COMPRESSOR CRANKCASE HEATER AND AUTOMATIC CONDENSATE DRAIN CONTROL TO BE CONNECTED TO NEMA–5–20 DUPLEX RECEPTACLE NEXT TO COMPRESSOR.
2. ALL CONDUITS IN THE BUILDING, PASSING THROUGH THE ZONE FROM THE FLOOR TO 1.5' ABOVE THE FLOOR, SHALL BE RSC AND SHALL HAVE A SEAL FITTING LOCATED 18" MINIMUM ABOVE THE FLOOR. THE BUILDING ELECTRICAL INSTALLATION SHALL COMPLY WITH NEC ARTICLE 511 "COMMERCIAL GARAGES, REPAIR AND STORAGE, MINOR REPAIR GARAGE".
3. MOUNT SWITCHES AND RECEPTACLES +48" AFF.
4. INSTALL CONTINUOUS #3/0 AWG BCG IN FOUNDATION FOOTING. GROUNDING ELECTRODE SYSTEM: BOND TOGETHER GROUND RODS, THE BUILDING STEEL FRAME AND THE GROUND RING WITH #2 AWG CONDUCTORS AT THE SERVICE ENTRANCE, AND TO GROUNDING ELECTRODE SYSTEM FOR CONNECTION TO BUILDING DISCONNECT. SEE DETAIL 3/E10 FOR MORE INFORMATION.
5. SWITCHES FOR LIGHT FIXTURES SHALL HAVE ILLUMINATED TOGGLES IN THE OFF POSITION.
6. ALL EXTERIOR WIRING, AND INTERIOR WIRING BELOW 10 FT AFF, SHALL USE RSC. IMC AND EMT CONDUIT MAY BE USED ABOVE 10 FT AFF WITHIN THE BUILDING ENVELOPE.
7. MOUNT 2 FEET BELOW ROOF STRUCTURE. LOCATE FIXTURE TO ILLUMINATE THE FUEL DISPENSING AREA. LOCATE TO AVOID CONFLICT WITH UNIT HEATER EXHAUST, ANTENNA CABLE AND OTHER ITEMS. PROVIDE WITH MOTION SENSOR (WATTSTOPPER EW–200–120–G OR APPROVED EQUAL). SEE DETAIL 3/E9 FOR CONTROL DIAGRAM.
8. PROVIDE MINIMUM 18 INCH LIQUIDTIGHT FLEXIBLE METAL CONDUIT SLACK LOOP AT ALL CONDUIT TRANSITIONS FROM UNDERGROUND TO ABOVE GROUND TO ACCOMMODATE DIFFERENTIAL MOVEMENT.
9. PENETRATIONS THROUGH EXTERIOR WALL SHALL BE THE BELOW EQUIPMENT BEING SERVED AND SHALL BE SEALED TO PREVENT MOISTURE AND AIR INFILTRATION FROM ENTERING THE BUILDING.
10. RACEWAYS SHALL BE CONCEALED BEHIND WAINSCOT EXCEPT AT PANELS AND ELECTRIC CONNECTIONS TO MECHANICAL EQUIPMENT.
11. SIGN: COLORS – WHITE 3/4" LETTERS ON RED BACKGROUND. TEXT – "FUEL PUMP EMERGENCY SHUT OFF". MOUNT SIGN 6" ABOVE FUEL PUMP SHUT OFF SWITCH.
12. FUEL PUMP EMERGENCY SHUT OFF SWITCH. 30–AMP 2–POLE 250–VOLT SWITCH, CAPABLE OF BEING LOCKED IN THE OPEN POSITION, IN A WET LOCATION BOX WITH A RAIN TIGHT ACTUATOR. LABEL SWITCH POSITIONS (UP = ON. DOWN = OFF). MOUNT DISCONNECT ON THE EXTERIOR OF THE BUILDING, WITHIN SIGHT OF PUMP, MINIMUM 20 FEET FROM FUEL DISPENSER. SEE 2/E2 FOR LOCATION OF TANK. SEE 1/E6 FOR WIRING DIAGRAM.
13. POWER FOR THE PUMP, FROM A SWITCH–RATED 15–AMP 1–POLE 120–VOLT CIRCUIT BREAKER IN PANEL G2. RUN CIRCUIT UNDERGROUND TO FUEL DISPENSER PUMP MOUNTED ON FUEL DISPENSING TANK. SEE 2/E2 FOR LOCATION OF FUEL TANK. PROVIDE SEALING FITTING 18" ABOVE GRADE AT EACH END OF UNDERGROUND CONDUIT RUN.
14. MOUNT UNDER CANOPY.
15. BOND TO FUEL TANK.
16. DISCONNECT INCLUDED IN PUMP PACKAGE.
17. BOND TO HEATING OIL TANK.

4 2 0 4 8
GRAPHIC SCALE: 1/4" = 1'-0"

PS&E REVIEW

Designed By:	JAB
Drawn By:	JAB
Checked By:	EWC
Date Revised:	
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STATE OF ALASKA – 49 TH – EDWARD W. CARLSON – 09/09/2022 – EE-9354 – REGISTERED PROFESSIONAL ENGINEER

BY	DATE	REVISION

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CENTRAL REGION
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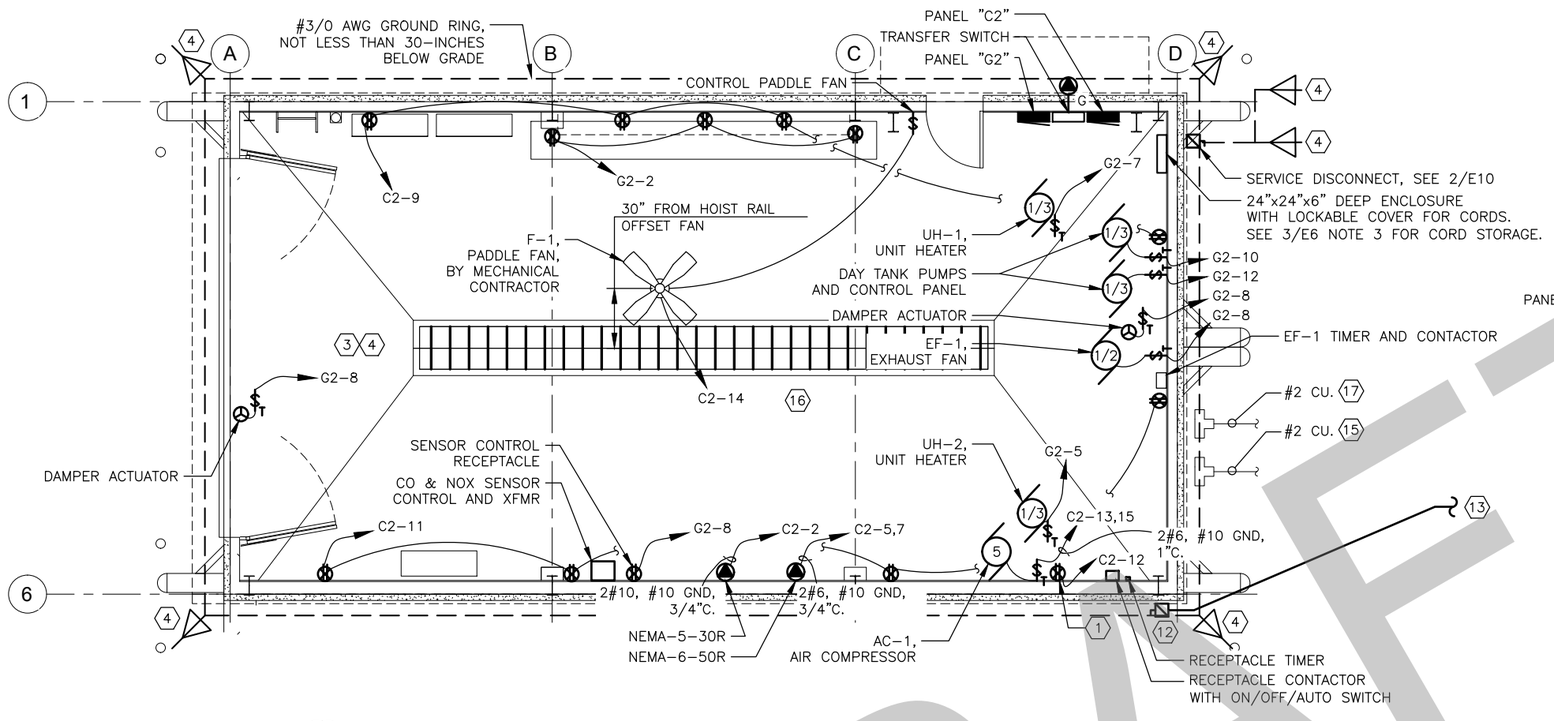
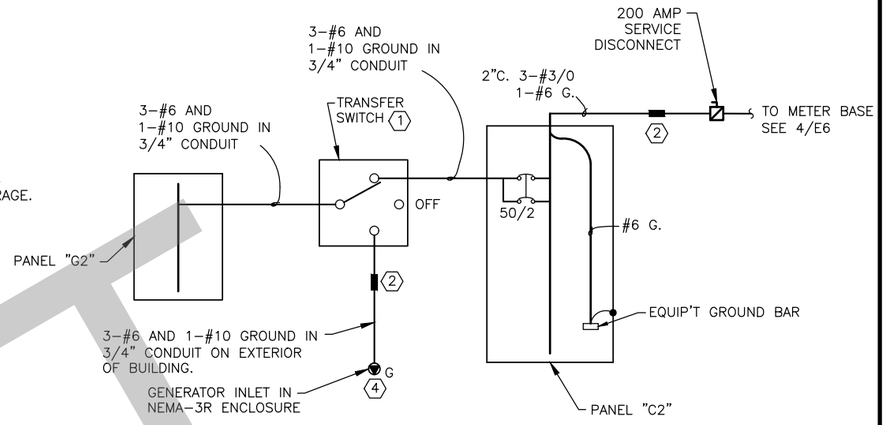
KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
SREB No.2 LIGHTING PLAN

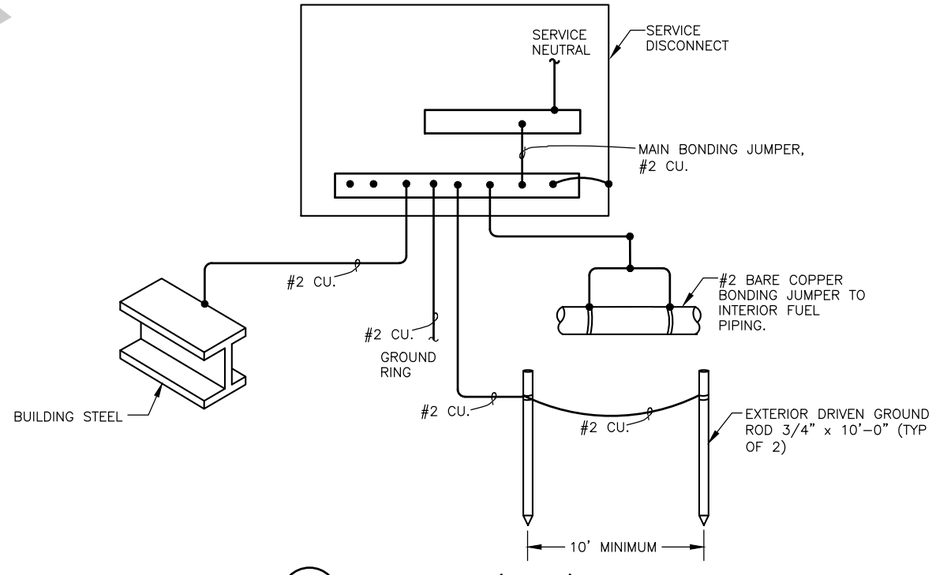
DATE: 09/09/2022
SHEET: E9 OF E10



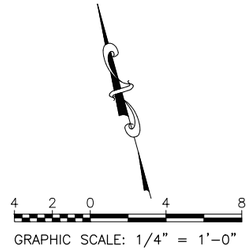
1 E10 POWER PLAN – SREB No.2 (SOUTH)
1/4" = 1'-0" (SEE SHEET E9 FOR NOTES)



2 E10 SREB No. 2 (SOUTH) ONE-LINE DIAGRAM
NTS



3 E10 SREB No. 2 (SOUTH) GROUNDING DETAIL
NTS



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KWETHLUK AIRPORT
KWETHLUK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDINGS
PROJECT No. CFAPT00801
AIP No. 3-02-0435-XXX-2023
SREB No.2 POWER PLAN

DATE: 09/09/2022
SHEET: E10 OF E10

Designed By: JAB
Drawn By: JAB
Checked By: EWC
Date Revised:
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