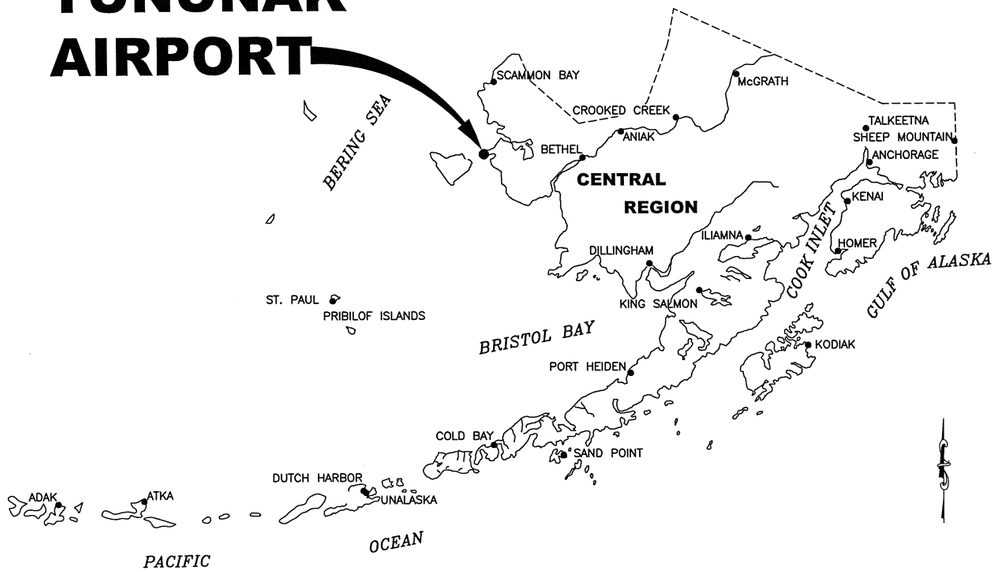
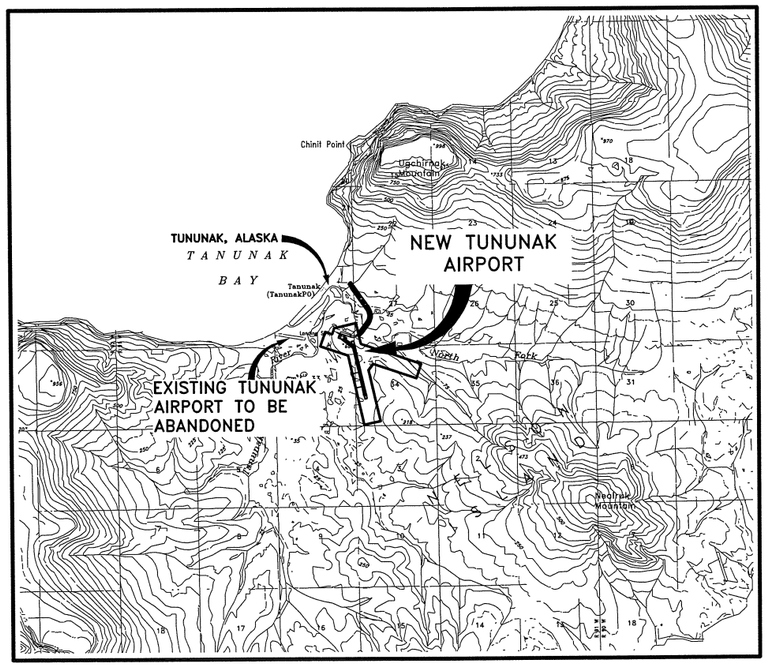
TUNUNAK AIRPORT



ALASKA CENTRAL REGION LOCATION MAP

NOT TO SCALE



VICINITY MAP

MILES
1 0 1 2

T 6 N, R 91 W, SECTIONS 27, 28, 33, 34
SEWARD MERIDIAN
U.S.G.S. NUNIVAK ISLAND (C-1), ALASKA

CONSTRUCTION PLANS FOR

TUNUNAK AIRPORT

TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIRPORT IMPROVEMENT PROGRAM
A.I.P. No. 3-02-0486-001-2012
2012

CONCUR	**DATE**
ROBERT A. CAMPBELL, P.E.	DIRECTOR OF DESIGN AND CONSTRUCTION
APPROVED	**DATE**
K. KIM RICE, P.E.	REGIONAL PRECONSTRUCTION ENGINEER
APPROVED	**DATE**
HARVEY M. DOUTHIT, P.E.	DESIGN SECTION CHIEF
APPROVED	**DATE**
TOM J. SCHMID, P.E.	PROJECT MANAGER

STATE OF ALASKA 49TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
COVER SHEET

DATE: OCTOBER, 2011
SHEET: 1 OF 37

Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR
Date Revised:	10/25/2011, 4:44 PM
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LEGEND

EXISTING:

- EXISTING ROADS/ EMBANKMENT
- WATER EDGE
- EXISTING EDGE OF RUNWAY
- 40 MAJOR CONTOUR
- MINOR CONTOUR
- S MINOR CONTOUR
- TRAIL
- POWER POLE
- BOARDWALK
- MISC POLE
- RUNWAY LIGHTS
- EXISTING BUILDING

PROPOSED:

- AIRCRAFT TIE–DOWN
- RUNWAY LIGHTS
- TAXIWAY LIGHTS
- THRESHOLD LIGHTS
- CULVERT
- SIGN
- ROTATING BEACON
- LIGHTED WIND CONE & SEGMENTED CIRCLE
- 15+00 CENTERLINE
- CUT LIMITS
- FILL LIMITS
- HAUL ROUTE
- AIRPORT PROPERTY BOUNDARY
- DITCH BOTTOM
- EDGE OF RUNWAY/ PROPOSED DEVELOPMENT
- SURFACE GRADE BREAK LINE
- TERRAIN OBSTRUCTION REMOVAL LIMIT LINE

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REMOTE THAW WIRE INSTALLATION	D–14.10
CHAIN LINK FENCE	F–01.01
CHAIN LINK FENCE GATE	F–03.01
SUPERELEVATION TRANSITION	I–81.00
SIGN FRAMING AND POST SPACING	S–00.10
BRACING FOR SIGNS MOUNTED ON SINGLE POST	S–01.00
POST MOUNTED SIGN OFFSET AND HEIGHT	S–05.01
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TUNUNAK AIRPORT 4–89 AS–BUILT, SHEET 5 OF 12

ABBREVIATIONS

Δ	DELTA ANGLE
AR	ACCESS ROAD
ASA	AVIATION SUPPORT AREA
AWOS	AUTOMATED WEATHER OBSERVATION SYSTEM
CASC	CRUSHED AGGREGATE SURFACE COURSE
CL, ℄	CENTERLINE
CSP	CORRUGATED STEEL PIPE
EEB	ELECTRICAL EQUIPMENT BUILDING
EL	ELEVATION
FF	FINISH FLOOR
IE	INVERT ELEVATION
L	ARC LENGTH
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
MAX	MAXIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OG	ORIGINAL GROUND
PAPI	PRECISION APPROACH PATH INDICATOR
PC	POINT OF CURVATURE
PST	PERFORATED STEEL SQUARE TUBE
PT	POINT OF TANGENCY
R	RADIUS
RHF	RIGHT HAND FORWARD
R/W, RW	RUNWAY
RD	ROAD
REIL	RUNWAY END IDENTIFICATION LIGHTS
ROW	RIGHT OF WAY
RSA	RUNWAY SAFETY AREA
RSC	RIGID STEEL CONDUIT
RT	RIGHT
SP	STEEL PIPE
SREB	SNOW REMOVAL EQUIPMENT BUILDING
STA	STATION
T	TANGENT
T/W, TW	TAXIWAY
TBM	TEMPORARY BENCH MARK
TYP	TYPICAL
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
WC/SC	WIND CONE AND SEGMENTED CIRCLE

STATE OF ALASKA 49TH Kenneth A. Risse CE 9803 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY: PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3–02–0486–001–2012
INDEX, LEGEND

DATE: OCTOBER, 2011

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Checked By: KAR
Date Revised: 10/25/2011, 2:42 PM
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ESTIMATED QUANTITIES

No.	ITEM	QUANTITY	UNIT
D-701a(1)	CORRUGATED STEEL PIPE, 36 INCH	1,808	L.F.
D-701a(2)	CORRUGATED STEEL PIPE, 42 INCH	706	L.F.
D-760d	THAW WIRE INSTALLATION	12	EACH
F-162a	8-FOOT CHAIN-LINK FENCE	75	L.F.
F-162b	4-FOOT SINGLE SWING GATE	2	EACH
F-170a	STEEL BOLLARD	19	EACH
G-100a	MOBILIZATION AND DEMOBILIZATION	ALL REQ'D	L.S.
G-115a	WORKER MEALS AND LODGING, OR PER DIEM	ALL REQ'D	L.S.
G-130a	FIELD OFFICE	ALL REQ'D	L.S.
G-130b	FIELD LABORATORY	ALL REQ'D	L.S.
G-130g	NUCLEAR TESTING EQUIPMENT STORAGE SHED	1	EACH
G-130h	STORAGE CONTAINER	1	EACH
G-130j	ENGINEERING COMMUNICATIONS	ALL REQ'D	C.S.
G-131a	ENGINEERING TRANSPORTATION (TRUCK)	2	EACH
G-131b	ENGINEERING TRANSPORTATION (ATV)	1	EACH
G-131d	ENGINEERING TRANSPORTATION (BOAT)	1	EACH
G-135a	CONSTRUCTION SURVEYING BY THE CONTRACTOR	ALL REQ'D	L.S.
G-135b	EXTRA THREE PERSON SURVEY PARTY	40	HOUR
G-150a	EQUIPMENT RENTAL, DOZER (MINIMUM 70 HP)	50	HOUR
G-300a	CPM SCHEDULING	ALL REQ'D	L.S.
G-710a	HIGHWAY TRAFFIC MAINTENANCE	ALL REQ'D	L.S.
G-710b	HIGHWAY FLAGGER	ALL REQ'D	C.S.
G-710c	HIGHWAY TRAFFIC PRICE ADJUSTMENT	ALL REQ'D	C.S.
G-710d	HIGHWAY TRAFFIC CONTROL	ALL REQ'D	C.S.
L-100b	REGULATOR, L-828	1	EACH
L-100d	MEDIUM INTENSITY RUNWAY EDGE AND THRESHOLD LIGHT, L-861 AND L-861E	48	EACH
L-100e	TAXIWAY EDGE LIGHT, L-861T	20	EACH
L-100p	HANDHOLE, L-867, SIZE B	4	EACH
L-100ap	SPARE PARTS	ALL REQ'D	L.S.
L-100aq	JUNCTION BOX, TYPE 1A	5	EACH
L-100ar	JUNCTION BOX, TYPE 1B	1	EACH
L-101b	ROTATING BEACON, MEDIUM INTENSITY, L-801A	1	EACH
L-107a(1)	PRIMARY 8-FOOT LIGHTED WIND CONE, IN PLACE	1	EACH
L-107a(2)	SUPPLEMENTAL 8-FOOT LIGHTED WIND CONE, IN PLACE	1	EACH
L-108a	UNDERGROUND CABLE #8 AWG, COPPER, 5 KV FAA TYPE "B" OR TYPE "C", L-824	9,775	L.F.
L-108c	#6 BARE COPPER GROUND CONDUCTOR	8,440	L.F.
L-108e	UNDERGROUND CABLE #10 AWG, COPPER, 600 V TYPE "C", L-824	1,785	L.F.
L-109c	ELECTRICAL ENCLOSURE AND FOUNDATION IN PLACE	1	EACH
L-109d	INSTALLATION OF ELECTRICAL EQUIPMENT IN NEW OR EXISTING STRUCTURE	1	EACH
L-110a	2-INCH RIGID STEEL CONDUIT	840	L.F.
L-110g	2-INCH HDPE CONDUIT	7,490	L.F.
L-110x	1-1/4 INCH HDPE CONDUIT	660	L.F.
L-110y	3-INCH RIGID STEEL CONDUIT	260	L.F.

ESTIMATED QUANTITIES

No.	ITEM	QUANTITY	UNIT
P-152a	UNCLASSIFIED EXCAVATION	87,300	C.Y.
P-152i	BORROW	896,000	TON
P-152ae	ROCK LINING	3,400	TON
P-154b	SUBBASE COURSE	78,000	TON
P-157a	EROSION, SEDIMENT, AND POLLUTION CONTROL ADMINISTRATION	ALL REQ'D	L.S.
P-157b	TEMPORARY EROSION, SEDIMENT, AND POLLUTION CONTROL	ALL REQ'D	C.S.
P-157f	SWPPP PRICE ADJUSTMENT	ALL REQ'D	C.S.
P-157g	SWPPP MANAGER	ALL REQ'D	L.S.
P-165a	REMOVAL OF STRUCTURES	ALL REQ'D	L.S.
P-170e	SOIL TESTING PROGRAM	ALL REQ'D	C.S.
P-170f	"HOT" MATERIAL OFFSITE TRANSPORTATION AND DISPOSAL	ALL REQ'D	C.S.
P-170g	SUPPLEMENTAL LABORATORY TEST	ALL REQ'D	C.S.
P-208c	CRUSHED AGGREGATE SURFACE COURSE	44,500	TON
P-640b	SEGMENTED CIRCLE (PANEL-TYPE)	ALL REQ'D	L.S.
P-650a	SOIL ANCHOR TIE-DOWN, BURIED PLATE	3	SET
P-660b	REFLECTIVE MARKERS, TYPE II	20	EACH
P-660c	CONE, 18 INCH	68	EACH
P-661a	STANDARD SIGN	39.00	S.F.
P-671a	RUNWAY CLOSURE MARKER, SNOW FENCE	2	EACH
P-681a	GEOTEXTILE, SEPARATION	170,200	S.Y.
S-142p(1)	EQUIPMENT STORAGE BUILDING, HEATED	ALL REQ'D	L.S.
S-142p(2)	EQUIPMENT STORAGE BUILDING, UNHEATED	ALL REQ'D	L.S.
S-143a	HEATING FUEL TANK, 1,000 GALLONS	1	EACH
S-143b	FUEL	ALL REQ'D	L.S.
S-143d	ELECTRIC DISPENSING SYSTEM	1	EACH
S-143e	MOTOR VEHICLE FUEL-DISPENSING TANK, 1,000 GALLONS	1	EACH
S-143f	SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN	ALL REQ'D	L.S.
S-145a	BRIDGE	ALL REQ'D	L.S.
T-901b	SEEDING	4,040	POUND
T-901c	WATER FOR MAINTENANCE	1,400	M-GAL
T-908n	HYDRAULIC EROSION CONTROL PRODUCT (HECP)	489,000	S.Y.
U-500b	ELECTRIC LINE EXTENSION	ALL REQ'D	L.S.

ESTIMATING FACTORS

No.	ITEM	FACTOR
P-152i	BORROW	2 TON/CY
P-152ae	ROCK LINING	2 TON/CY
P-154b	SUBBASE COURSE	2 TON/CY
P-208c	CRUSHED AGGREGATE SURFACE COURSE	2 TON/CY

Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR
Date Revised:	10/25/2011, 10:15 AM
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STATE OF ALASKA 49TH Kenneth A. Risse CE 9803 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY: PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
ESTIMATED QUANTITIES

DATE: OCTOBER, 2011

POTENTIAL CONTRACTOR STAGING AREA, SEE SHEET 6

AIRPORT ACCESS ROAD (4)

TUNUNAK SUBDIVISION

NORTH FORK

TUNUNAK RIVER

PRIVATE PROPERTY

AIRPORT PROPERTY BOUNDARY

(12) POWER LINE EXTENSION

(8) SEGMENTED CIRCLE W/WIND CONE

RUNWAY THRESHOLD STA 202+00

(7)

(5) EQUIPMENT STORAGE BUILDINGS

APRON (3)

TAXIWAY (2)

TAXIWAY SAFETY AREA

(6) AIRPORT LIGHTING SYSTEM

(7) RUNWAY 16/34

RUNWAY SAFETY AREA

RUNWAY THRESHOLD STA 235+00

16

34

(10) EXISTING AIR STRIP

MAG DEC = 12°1' E, JUN 2010

300 150 0 300 600

SCOPE OF WORK INCLUDES, BUT IS NOT LIMITED TO:

1. CONSTRUCT A 3300'x75' RUNWAY ON A 3900'x150' SAFETY AREA.
2. CONSTRUCT A 804'x50' TAXIWAY ON A 118' SAFETY AREA.
3. CONSTRUCT A 250'x300' APRON WITH ADDITIONAL 100'x300' AVIATION SUPPORT AREA.
4. CONSTRUCT A 5552'x18' AIRPORT ACCESS ROAD.
5. CONSTRUCT EQUIPMENT STORAGE BUILDINGS.
6. CONSTRUCT AIRPORT LIGHTING SYSTEMS.
7. CONSTRUCT PADS FOR FUTURE NAVAIDS.
8. CONSTRUCT SEGMENTED CIRCLE AND LIGHTED WIND CONE.
9. CONSTRUCT SUPPLEMENTAL LIGHTED WINE CONE.
10. DEMOLISH EXISTING AIRPORT FACILITIES.
11. EXCAVATE AND REMOVE TERRAIN OBSTRUCTIONS.
12. CONSTRUCT POWER LINE EXTENSION FROM TUNUNAK TO APRON.

Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR
Date Revised:	10/25/2011, 10:10 AM
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STATE OF ALASKA 49 TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

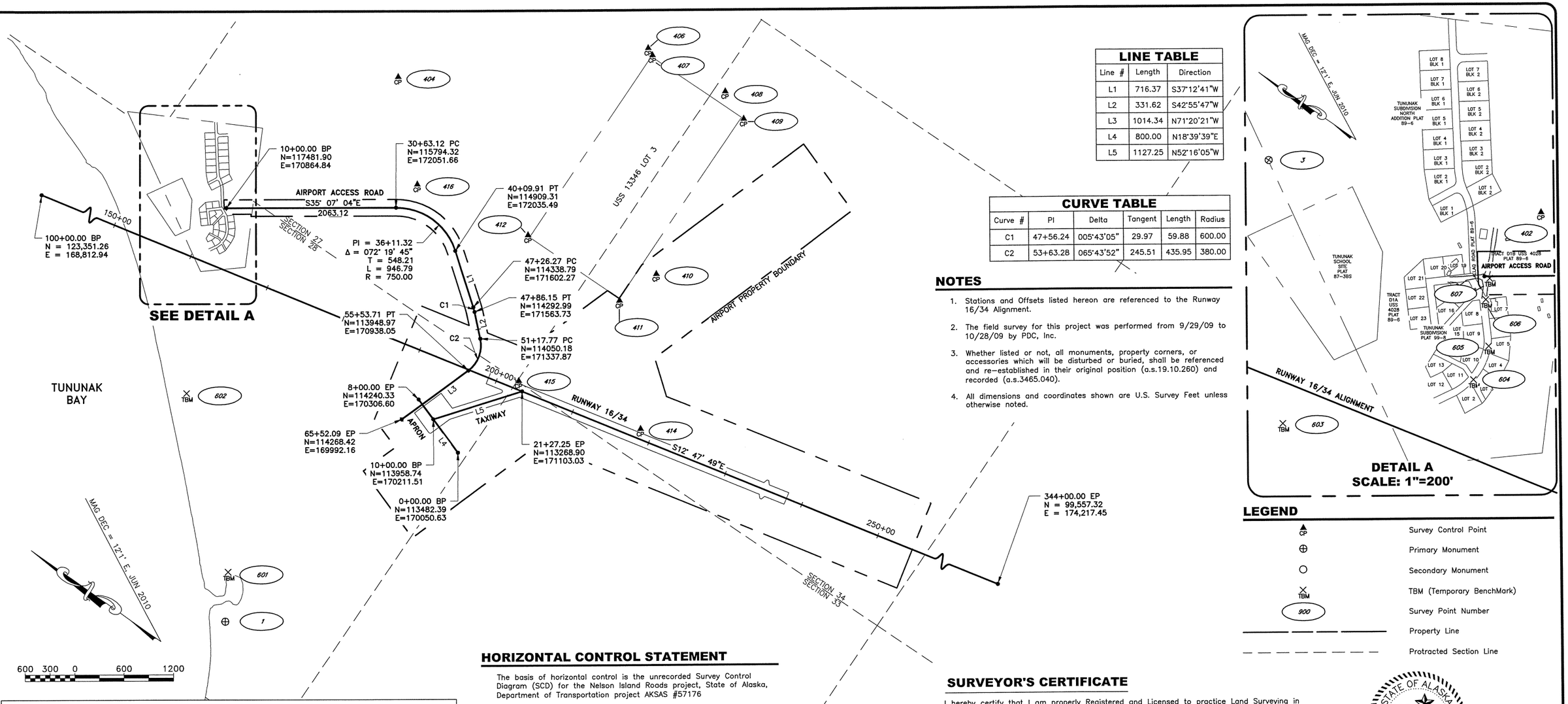
PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
PROJECT LAYOUT PLAN

DATE: OCTOBER, 2011
SHEET: 4 OF 37



LINE TABLE

Line #	Length	Direction
L1	716.37	S37°12'41"W
L2	331.62	S42°55'47"W
L3	1014.34	N71°20'21"W
L4	800.00	N18°39'39"E
L5	1127.25	N52°16'05"W

CURVE TABLE

Curve #	PI	Delta	Tangent	Length	Radius
C1	47+56.24	005°43'05"	29.97	59.88	600.00
C2	53+63.28	065°43'52"	245.51	435.95	380.00

NOTES

1. Stations and Offsets listed hereon are referenced to the Runway 16/34 Alignment.
2. The field survey for this project was performed from 9/29/09 to 10/28/09 by PDC, Inc.
3. Whether listed or not, all monuments, property corners, or accessories which will be disturbed or buried, shall be referenced and re-established in their original position (a.s.19.10.260) and recorded (a.s.3465.040).
4. All dimensions and coordinates shown are U.S. Survey Feet unless otherwise noted.

DETAIL A
SCALE: 1"=200'

LEGEND

- Survey Control Point
- Primary Monument
- Secondary Monument
- TBM (Temporary BenchMark)
- Survey Point Number
- Property Line
- Protracted Section Line

HORIZONTAL CONTROL STATEMENT

The basis of horizontal control is the unrecorded Survey Control Diagram (SCD) for the Nelson Island Roads project, State of Alaska, Department of Transportation project AKSAS #57176

The basis of coordinates is CP-1, a recovered 3 1/4" aluminum cap monument as shown on the Nelson Island Roads project. Said point has local coordinates of 114624.0962 North, 166767.9727 East, US Survey Feet.

Horizontal control coordinates were determined by a high precision static GPS control survey constrained to Alaska State Plane Zone 8 grid coordinates for CP-1 and CP-2, then scaled and translated into the Nelson Island Roads local grid system.

To convert the local project coordinates to NAD83 Alaska State Plane Zone 8 US Survey Feet coordinates, scale using 0.9999297934 and translate using +2,289,206.8083 North and +1,604,692.8432 East.

VERTICAL CONTROL STATEMENT

The basis of vertical control is the unrecorded Survey Control Diagram (SCD) for the Nelson Island Roads project, State of Alaska Department of Transportation project AKSAS# 57176. The vertical datum is a local orthometric datum established by NAD83(CORS) ellipsoid heights and National Geodetic Survey (NGS) Geoid99 undulation corrections.

The basis of elevation is the elevation for CP-1 as shown on the Nelson Island Roads Survey Control Diagram, said point having an elevation of 5.65 feet.

Vertical control elevations for this project were determined using differential leveling techniques run from CP-1. All loops meet or exceed the standards for third order leveling.

SURVEYOR'S CERTIFICATE

I hereby certify that I am properly Registered and Licensed to practice Land Surveying 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 hereon actually exist as described, and that all dimensions and other details are correct to the extent shown hereon.

Dennis A. Bogren LS-6484 Date

STATE OF ALASKA 49TH Dennis A. Bogren LS-6484 REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY CONTROL POINTS

POINT #	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
1	180+57.44	3927.21RT	114624.10	166767.97	Fd AM: AKDOT GPS-1 1998
** 2	184+73.31	7072.14RT	113521.96	163793.27	Fd Rbr/AC: AKDOT GPS-2 1998
3	151+89.23	806.82LT	118469.63	170749.12	Fd BC [BLM]: USS 4024 C3 TrC/USS 5084 C6 L1
402	162+98.02	1026.79LT	117437.10	171209.22	Set Rbr/AC [PDC]: TS 402
404	175+12.35	2959.56LT	116681.04	173362.95	Set Rbr/AC [PDC]: TS 404
**405	191+32.96	4944.65LT	115540.37	175657.69	Set Rbr/AC [PDC]: TS 405
406	201+99.81	4425.56LT	114385.05	175387.80	Set Rbr [PDC]: TS 406
407	202+80.07	4364.11LT	114293.17	175345.65	Set Rbr [PDC]: TS 407
408	212+62.88	4286.92LT	113317.67	175488.07	Set Rbr [PDC]: TS 408
409	215+96.49	4062.32LT	112942.60	175342.94	Set Rbr/AC [PDC]: TS 409
410	213+18.89	1930.34LT	112741.08	173202.42	Set Rbr/AC [PDC]: TS 410
411	210+23.24	1463.86LT	112926.06	172682.05	Set Rbr [PDC]: TS 411
412	196+95.70	1779.31LT	114290.50	172695.61	Set Rbr [PDC]: TS 412
414	218+45.44	119.20LT	111826.44	171552.90	Set Rbr/AC [PDC]: TS 414
415	202+53.14	103.15LT	113375.64	171184.57	Set Rbr/AC [PDC]: TS 415
416	182+18.78	1841.29LT	115744.47	172428.93	Set Rbr/AC [PDC]: TS 416

** NOT SHOWN

VERTICAL CONTROL

POINT #	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
601	178+64.04	3362.55RT	114937.76	167275.77	7.45	TBM Set Mag Nail: TBM 092909'A' North End West Bridge Wall
602	165+83.76	1557.54RT	116586.04	168752.37	4.09	TBM Set Mag Nail: TBM 092909'B' North Edge Wood Boardwalk
603	156+37.52	157.30RT	117818.93	169908.24	6.25	TBM Set Mag Nail: TBM 092909'C' Top Of NW Corner Wood Fuel Tank Containment Dike
604	162+91.14	296.24LT	117282.00	170495.29	6.30	TBM Set Chiseled 'X': TBM 093009'A' North Rim Sanitary Sewer Manhole
605	162+98.33	446.07LT	117308.18	170642.99	7.84	TBM Set Chiseled 'X': TBM 093009'B' North Rim Sanitary Sewer Manhole
606	162+18.37	615.65LT	117423.71	170790.64	12.02	TBM Set Chiseled 'X': TBM 093009'C' North Rim Sanitary Sewer Manhole
607	162+00.87	701.54LT	117459.80	170870.53	13.31	TBM Set Chiseled 'X': TBM 093009'D' North Rim Sanitary Sewer Manhole

PRE PS&E

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PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
SURVEY CONTROL SHEET

DATE: OCTOBER, 2011
SHEET: 5 OF 37

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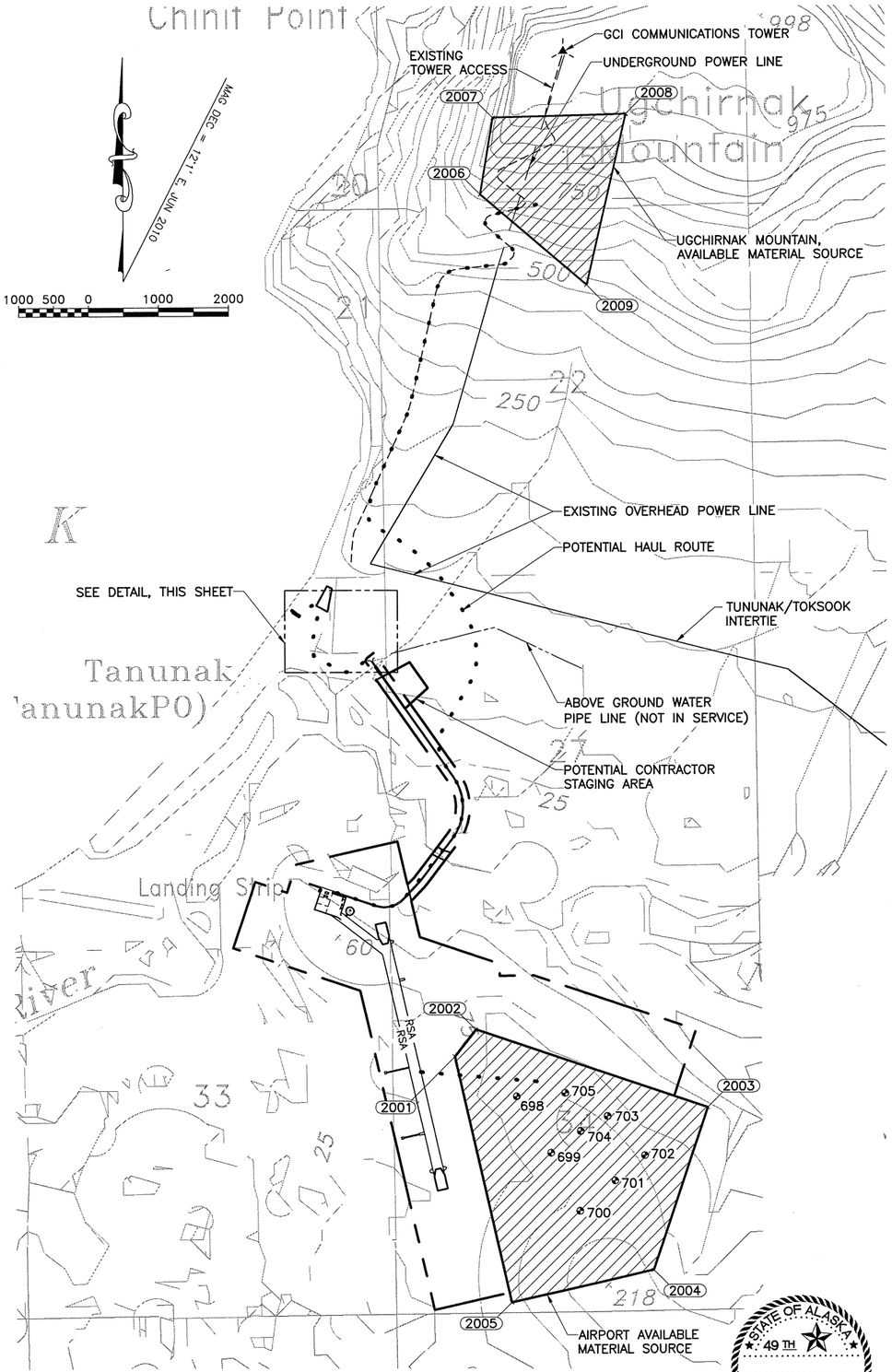
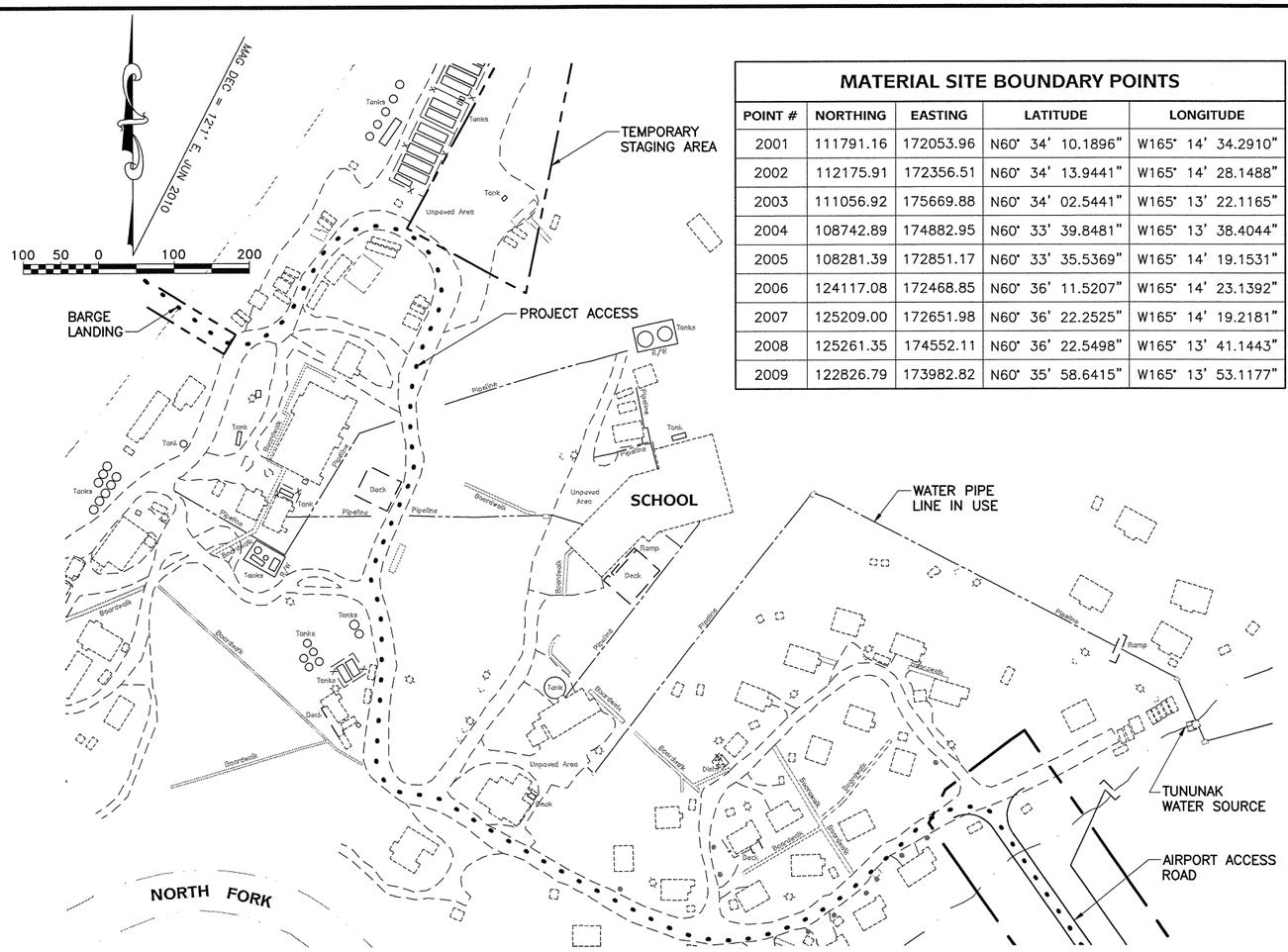
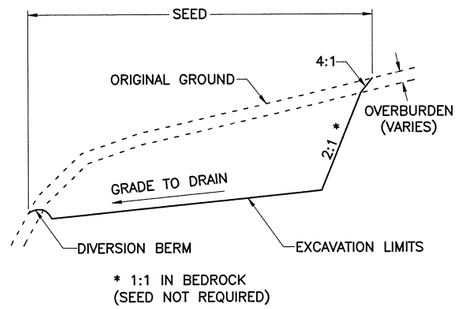




MATERIAL SITE BOUNDARY POINTS				
POINT #	NORTHING	EASTING	LATITUDE	LONGITUDE
2001	111791.16	172053.96	N60° 34' 10.1896"	W165° 14' 34.2910"
2002	112175.91	172356.51	N60° 34' 13.9441"	W165° 14' 28.1488"
2003	111056.92	175669.88	N60° 34' 02.5441"	W165° 13' 22.1165"
2004	108742.89	174882.95	N60° 33' 39.8481"	W165° 13' 38.4044"
2005	108281.39	172851.17	N60° 33' 35.5369"	W165° 14' 19.1531"
2006	124117.08	172468.85	N60° 36' 11.5207"	W165° 14' 23.1392"
2007	125209.00	172651.98	N60° 36' 22.2525"	W165° 14' 19.2181"
2008	125261.35	174552.11	N60° 36' 22.5498"	W165° 13' 41.1443"
2009	122826.79	173982.82	N60° 35' 58.6415"	W165° 13' 53.1177"



MATERIAL SITE TYPICAL SECTION

NOT TO SCALE

NOTES:

1. THE STAGING AREA AND POTENTIAL HAUL ROUTES ARE UNIMPROVED.
2. THE EXISTING TOWER ACCESS IS A SINGLE LANE PIONEER TRAIL. IF THE CONTRACTOR CHOOSES TO USE ANY PORTION OF THIS ROUTE, HE SHALL CONSTRUCT THE ROAD IMPROVEMENTS TO SUPPORT HIS OPERATIONS, AND MAINTAIN ACCESS AND PROTECT POWER SUPPLY TO THE EXISTING COMMUNICATIONS TOWER.
3. SHOULD IMPROVEMENTS TO THE BARGE LANDING OR PROJECT ACCESS BE REQUIRED TO SUPPORT THE CONTRACTOR'S OPERATIONS, THE CONTRACTOR SHALL CONSTRUCT IMPROVEMENTS THAT COMPLY WITH PERMITS AND AUTHORIZATIONS OBTAINED BY THE DEPARTMENT OR OBTAIN MODIFICATIONS TO THE PERMITS.
4. PERMIT MODIFICATIONS, CONSTRUCTION OF HAUL ROUTES, STAGING AREAS AND MATERIAL SITE DEVELOPMENT AND OTHER IMPROVEMENTS FOR MATERIAL STORAGE AND TRANSPORT ARE SUBSIDIARY TO OTHER WORK ITEMS, AND NO PAYMENT WILL BE MADE.
5. NOT ALL UTILITIES ARE SHOWN. UNDERGROUND FUEL, WATER AND SEWER LINES CROSS UNDER THE PROJECT ACCESS ROUTE. LOCATE AND PROTECT ALL UTILITIES. PROTECT THE OUT OF SERVICE ABOVE GROUND WATER PIPELINE. IF A SECTION IS REMOVED IT SHALL BE RETURNED TO ITS ORIGINAL CONDITION WHEN THE PROJECT IS COMPLETE. MEASURE AND VERIFY THAT ADEQUATE OVERHEAD CLEARANCE EXISTS FOR EQUIPMENT ALONG THE PROJECT ACCESS ROUTE PRIOR TO MOBILIZATION.
6. MATERIAL SITES MAY BE USED FOR OVERBURDEN MATERIAL DISPOSAL AND EQUIPMENT STAGING AND STORAGE, IN AREAS PRE-APPROVED BY THE ENGINEER (AND PREVIOUSLY INDICATED IN THE CONTRACTOR'S MINING PLAN.) THE CONTRACTOR SHALL COMPLY WITH THE TERMS AND CONDITIONS IN THE MATERIAL SALES AGREEMENT, APPENDIX N OF THE CONSTRUCTION SPECIFICATIONS.
7. GEOTECHNICAL BORING, SEE TUNUNAK AIRPORT RELOCATION GEOTECHNICAL REPORT.

STATE OF ALASKA 49 TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
MATERIAL SITE PLAN

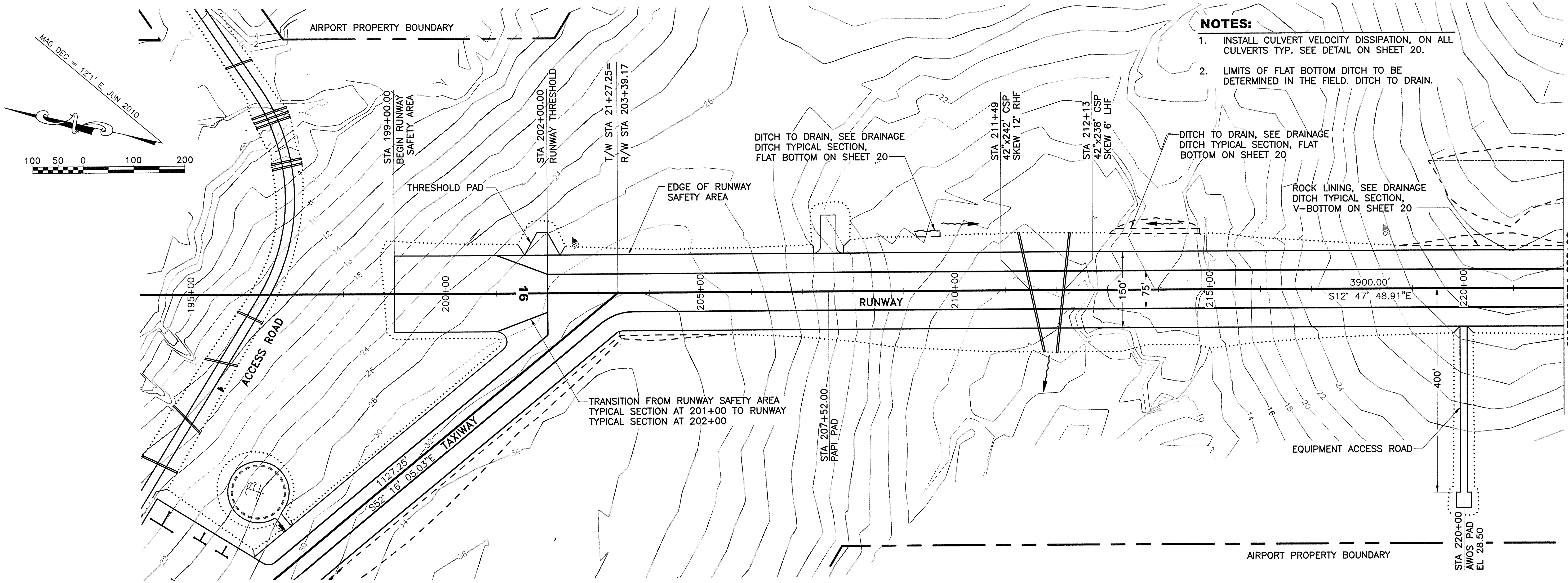
DATE: OCTOBER, 2011
SHEET: 6 OF 37

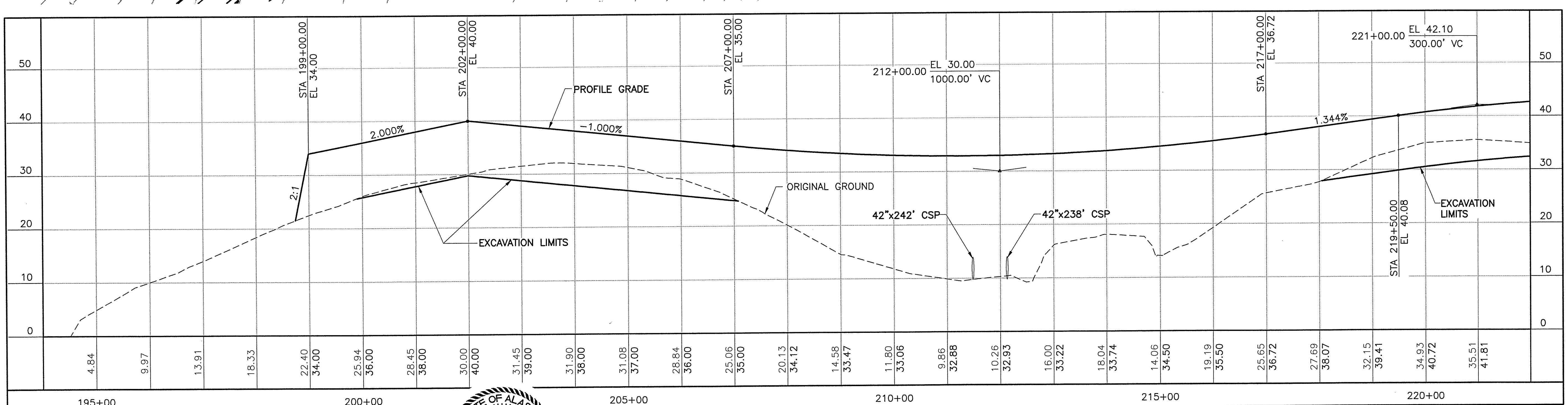
Designed By: KAR
Drawn By: HPF, RJP
Checked By: KAR
Date Revised:
Layout Name: Material Site Plan
File Path and Name: P:\2009\109002\CV\C0700cnstF08062.dwg
10/25/2011, 3:44 PM

Date Revised: 10/26/2011, 9:56 AM
Layout Name: RW A P&P (1)
File Path and Name: P:\2008\F08062\C\C0300cnstF08062.dwg
Designed By: KAR
Drawn By: HPF, RJP
Checked By: KAR

NOTES:

1. INSTALL CULVERT VELOCITY DISSIPATION, ON ALL CULVERTS TYP. SEE DETAIL ON SHEET 20.
2. LIMITS OF FLAT BOTTOM DITCH TO BE DETERMINED IN THE FIELD. DITCH TO DRAIN.





STATE OF ALASKA 49TH — Kenneth A. Risse — CE 9803 — REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

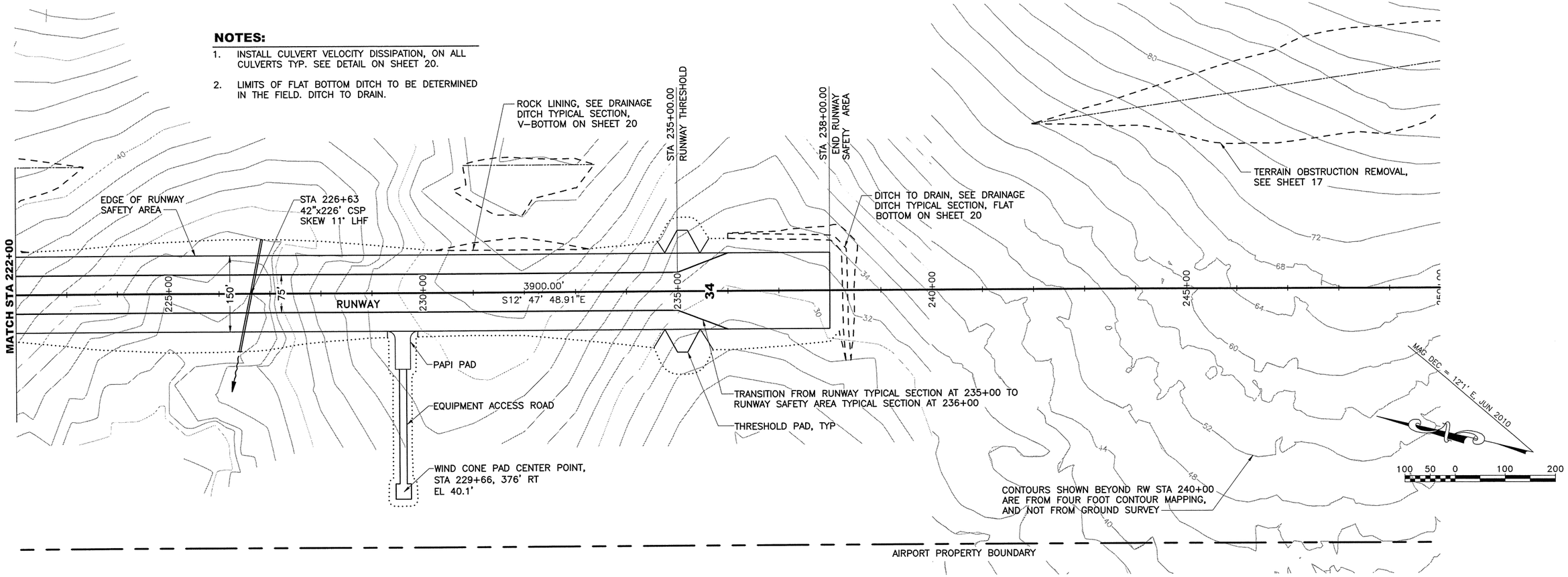
TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
RUNWAY PLAN AND PROFILE (1 OF 2)

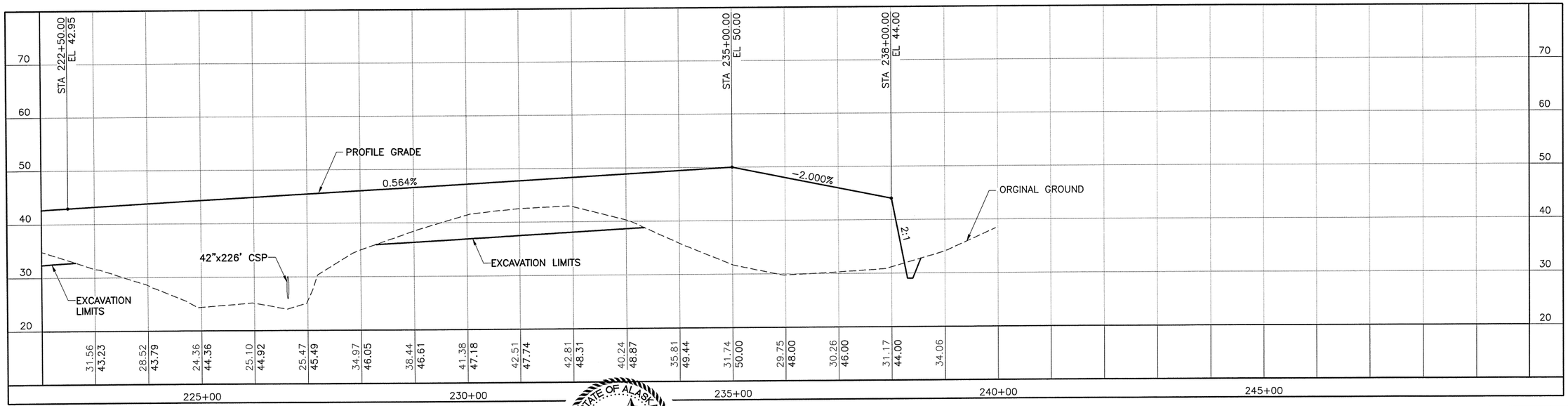
DATE: OCTOBER, 2011

SHEET: 7 OF 37

NOTES:

1. INSTALL CULVERT VELOCITY DISSIPATION, ON ALL CULVERTS TYP. SEE DETAIL ON SHEET 20.
2. LIMITS OF FLAT BOTTOM DITCH TO BE DETERMINED IN THE FIELD. DITCH TO DRAIN.





STATE OF ALASKA 49TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

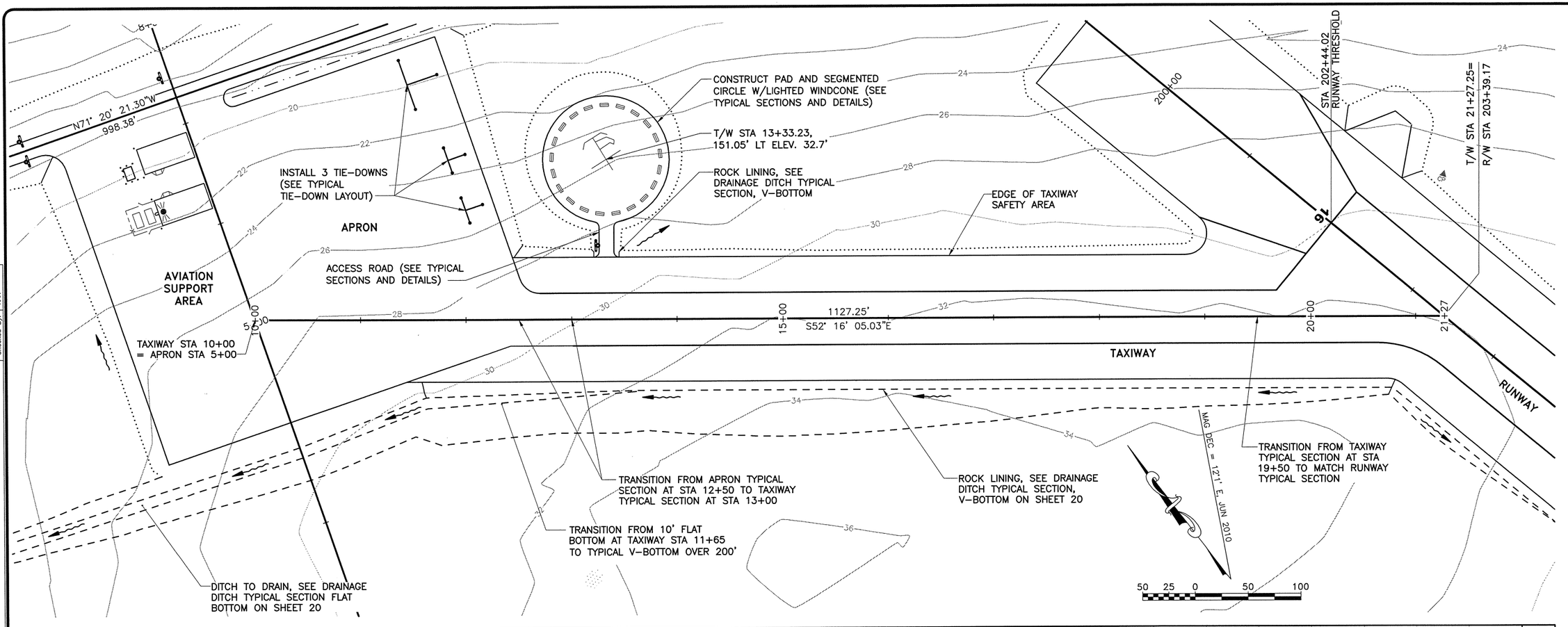
BY	DATE	REVISION

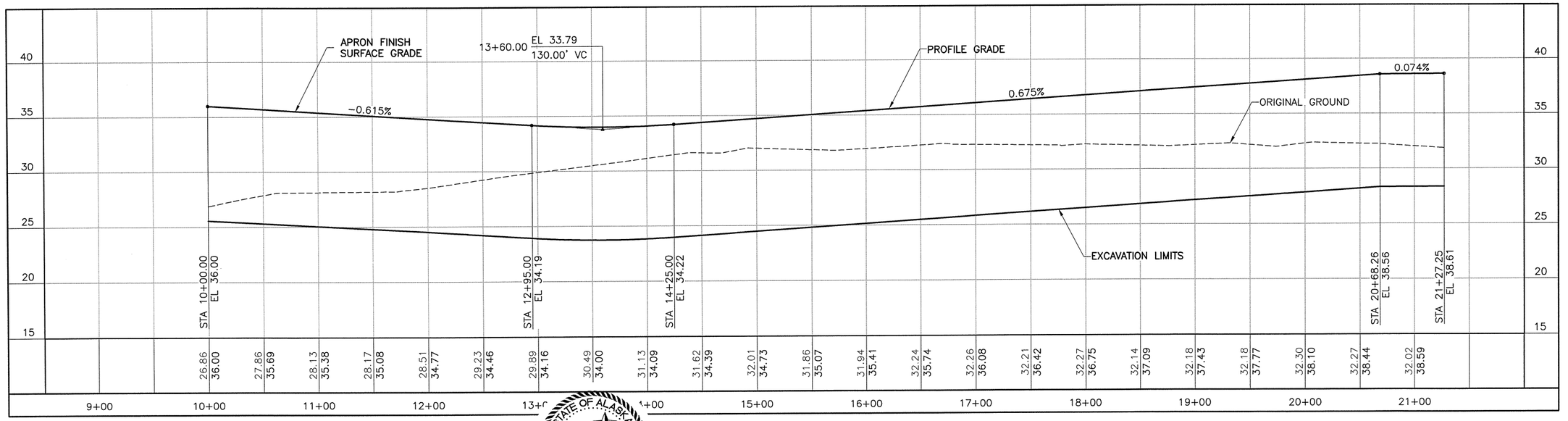
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
RUNWAY PLAN AND PROFILE (2 OF 2)

DATE: OCTOBER, 2011
SHEET: 8 OF 37

Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR
Date Revised:	
Layout Name:	10/25/2011, 1:41 PM RW A P&P (2)
File Path and Name:	P:\2008\Y08062\C\C0300ent\F08062.dwg





Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR
Date Revised:	10/25/2011, 1:41 PM
Layout Name:	TW A P&P (1)
File Path and Name:	P:\2008\108062\CA\G0300cnst108062.dwg

STATE OF ALASKA 49TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

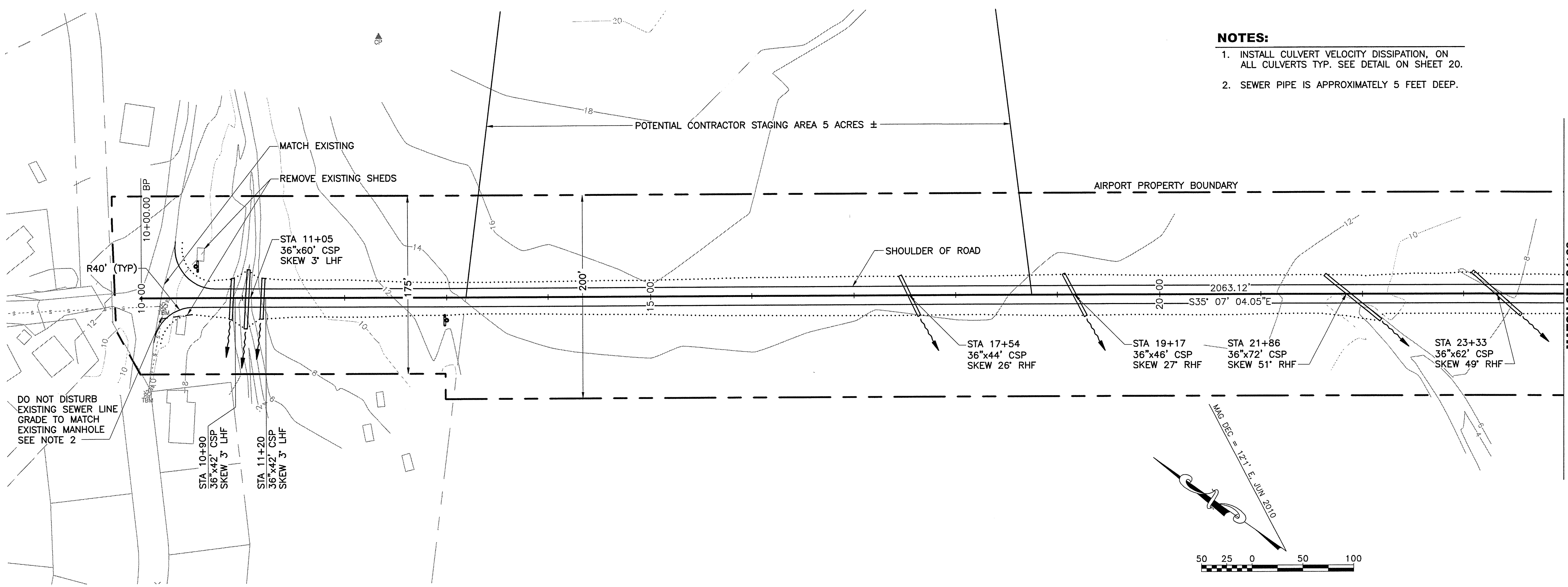
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

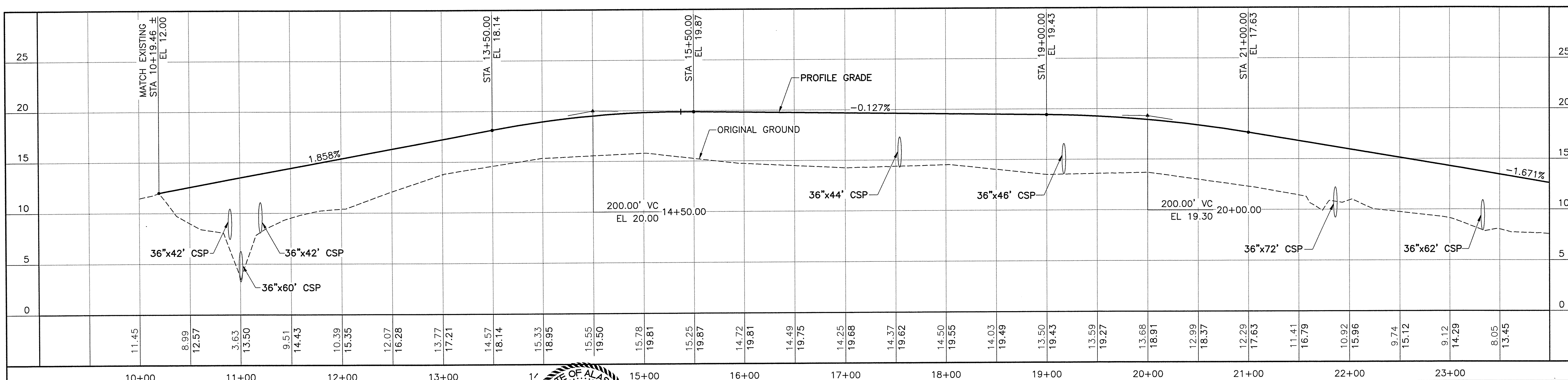
TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
TAXIWAY PLAN AND PROFILE

DATE: OCTOBER, 2011
SHEET: 9 OF 37

NOTES:

1. INSTALL CULVERT VELOCITY DISSIPATION, ON ALL CULVERTS TYP. SEE DETAIL ON SHEET 20.
2. SEWER PIPE IS APPROXIMATELY 5 FEET DEEP.





Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR

Date Revised:	10/25/2011 1:42 PM
Layout Name:	Acc Rd P&P (1)
File Path and Name:	P:\2008\F08062\C\C0300cnstF08062.dwg

STATE OF ALASKA 49 TH Kenneth A. Risse CE 9803 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

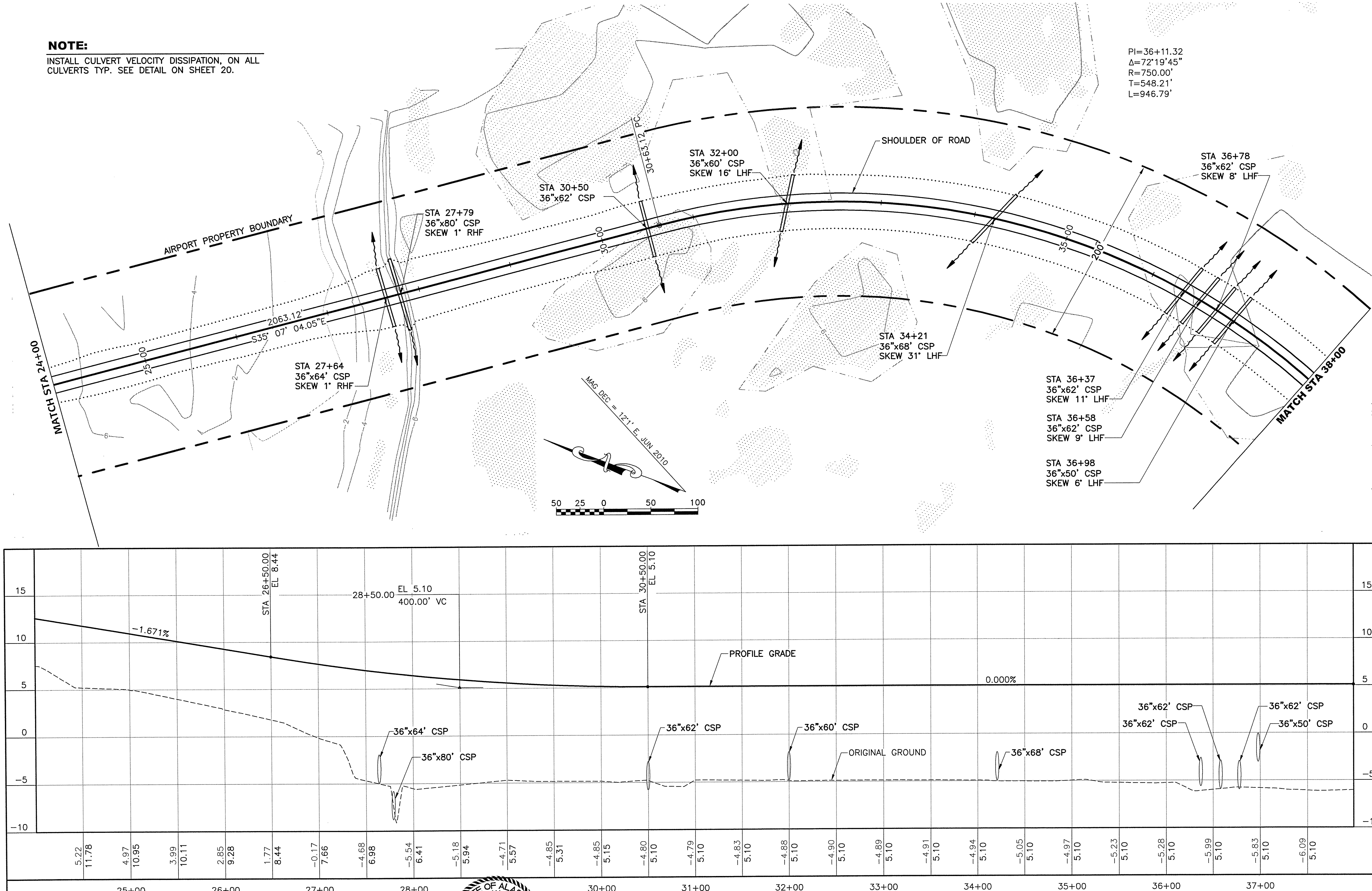
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
ACCESS ROAD PLAN AND PROFILE (1 OF 4)

DATE: OCTOBER, 2011
SHEET: 10 OF 37

NOTE:
INSTALL CULVERT VELOCITY DISSIPATION, ON ALL CULVERTS TYP. SEE DETAIL ON SHEET 20.



Designed By: KAR
Drawn By: HPF, RJP
Checked By: KAR

Date Revised: 10/25/2011, 1:42 PM
Layout Name: Acc Rd P&P (2)
File Path and Name: P:\2008\F08062\C\C0300cnstF08062.dwg

STATE OF ALASKA 49TH Kenneth A. Risse CE 9803 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

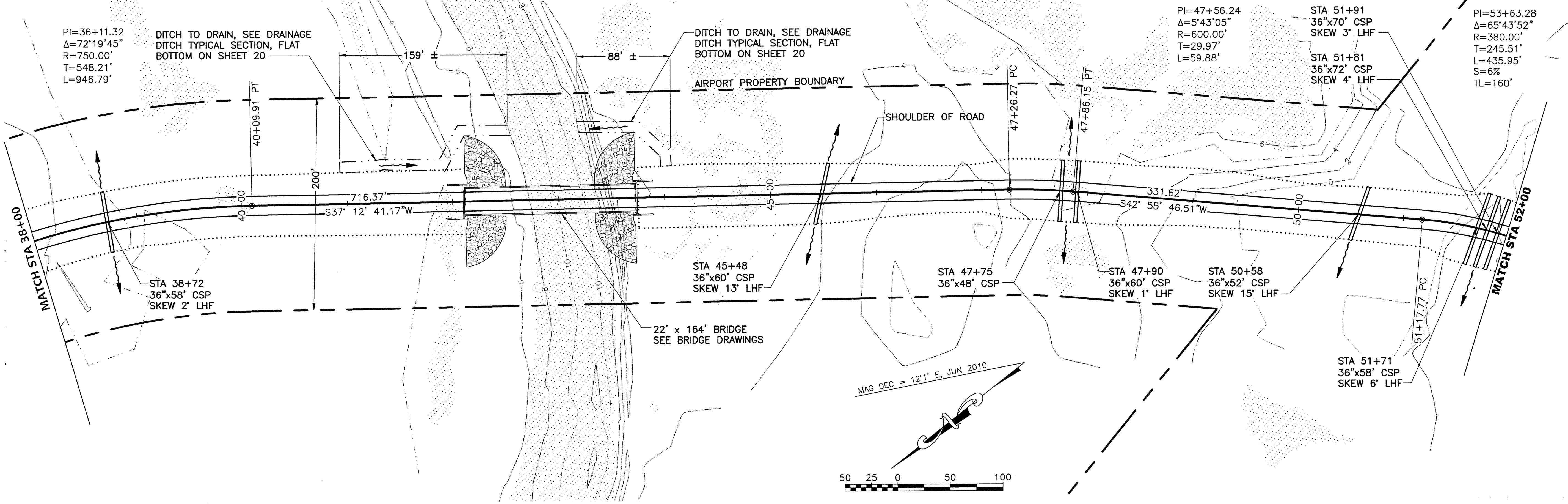
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

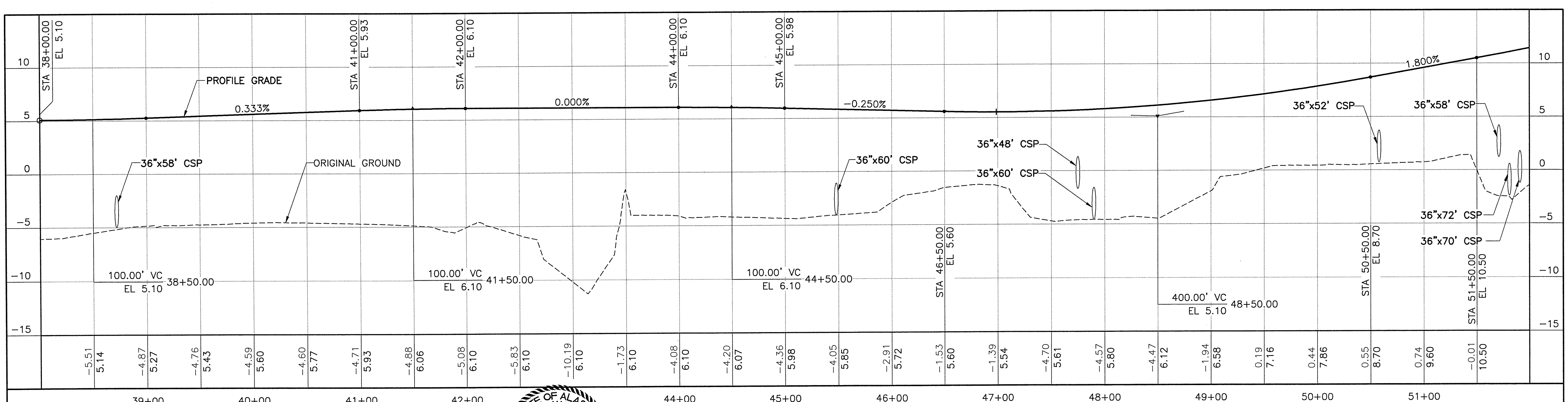
TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
ACCESS ROAD PLAN AND PROFILE (2 OF 4)

DATE: OCTOBER, 2011
SHEET: 11 OF 37

NOTES:

1. INSTALL CULVERT VELOCITY DISSIPATION, ON ALL CULVERTS TYP. SEE DETAIL ON SHEET 20.
2. PLACE 80% OF SUPERELEVATION TRANSITION LENGTH ON TANGENT, SEE STANDARD DRAWING I-81.00, CASE 1.
3. TRANSITION FROM 18' TYPICAL ROAD TO BRIDGE OVER 100' ON EACH END.





Date Revised:	10/25/2011, 1:42 PM
Layout Name:	Acc Rd P&P (3)
File Path and Name:	P:\2008\F08062\C\C0300cnstF08062.dwg

Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR

STATE OF ALASKA 49TH Kenneth A. Risse CE 9803 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY: PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
ACCESS ROAD PLAN AND PROFILE (3 OF 4)

DATE: OCTOBER, 2011

NOTES:

1. INSTALL CULVERT VELOCITY DISSIPATION, ON ALL CULVERTS TYP. SEE DETAIL ON SHEET 20.
2. PLACE 80% OF SUPERELEVATION TRANSITION LENGTH ON TANGENT, SEE STANDARD DRAWING I–81.00, CASE 1.

Date Revised:	10/25/2011, 11:28 AM	Designed By:	KAR
Layout Name:	Acc Rd P&P (4)	Drawn By:	HPF, RJP
File Path and Name:	P:\2008\F08062\C\C0300cnstF08062.dwg	Checked By:	KAR

Kenneth A. Risse
CE 9803

PRE PS&E

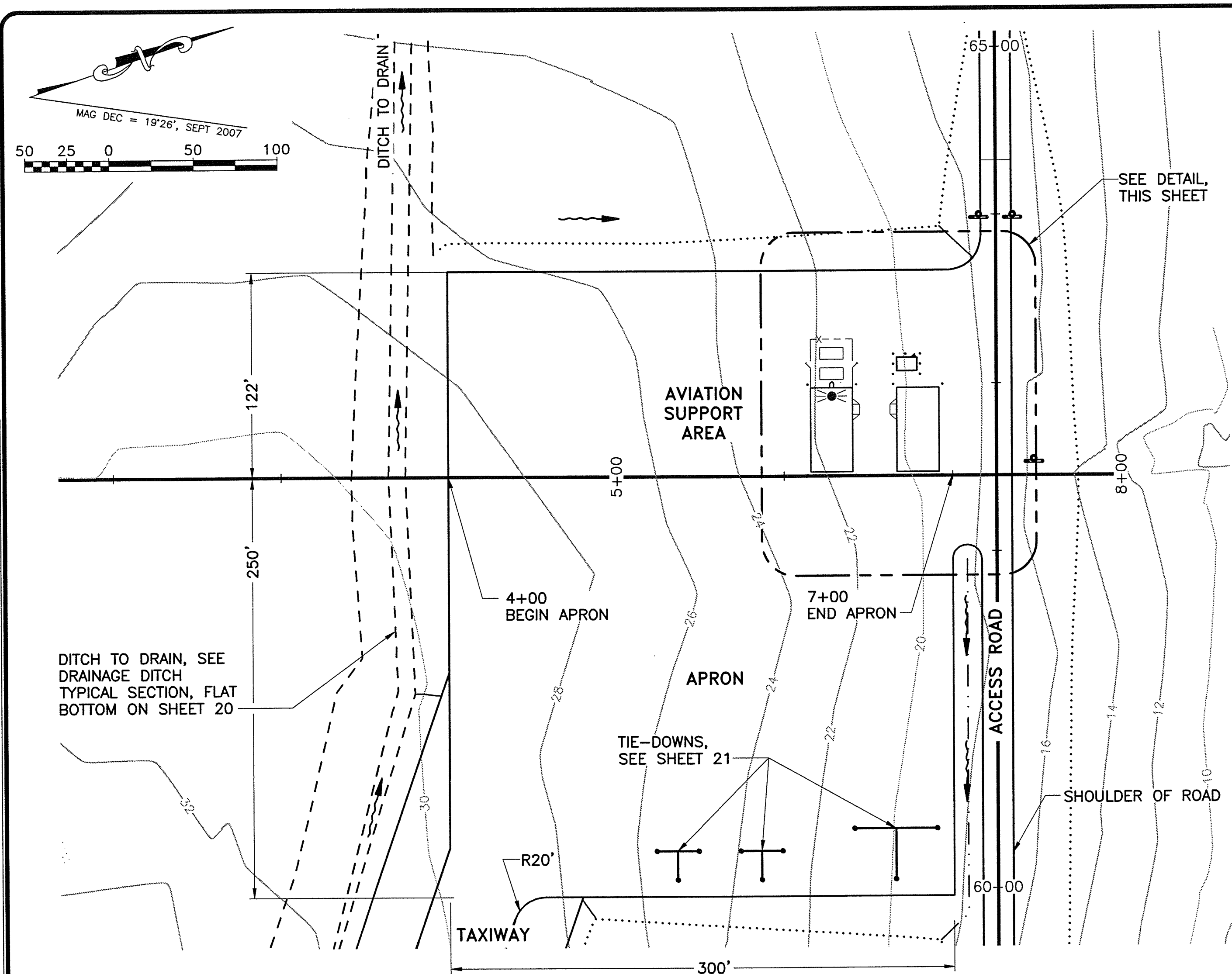
PLANS DEVELOPED BY:
PDC, INC.

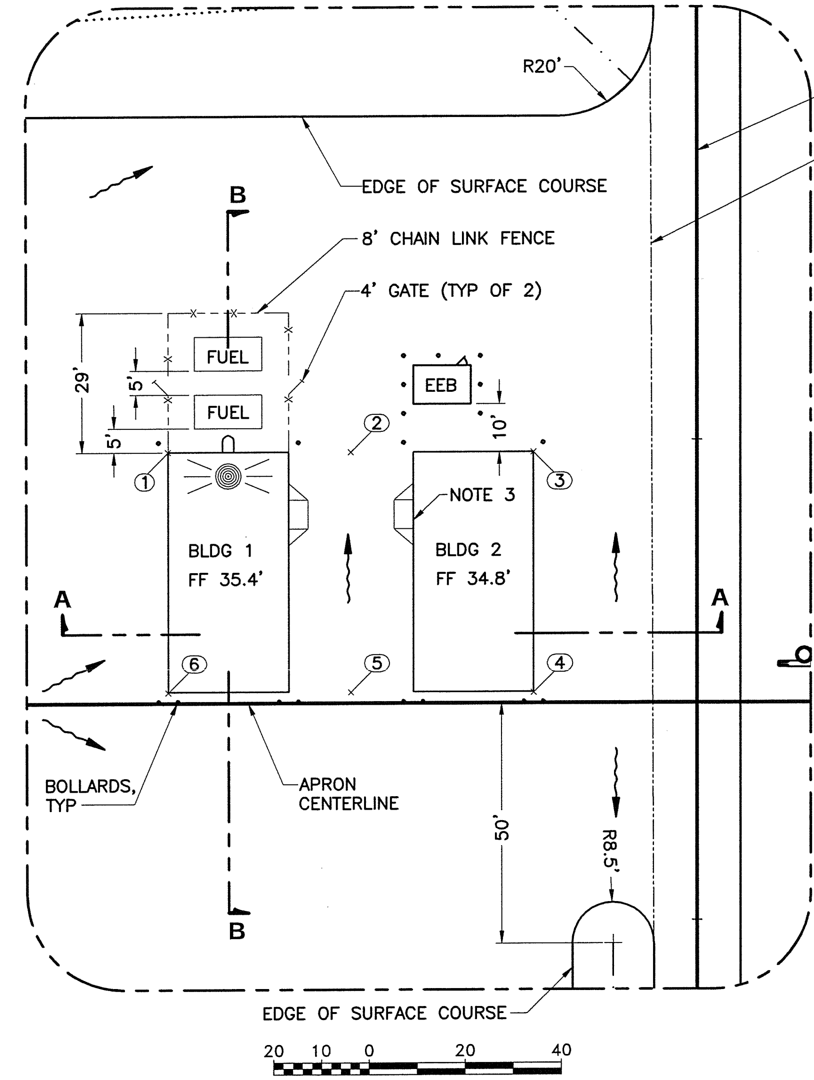
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3–02–0486–001–2012
ACCESS ROAD PLAN AND PROFILE (4 OF 4)

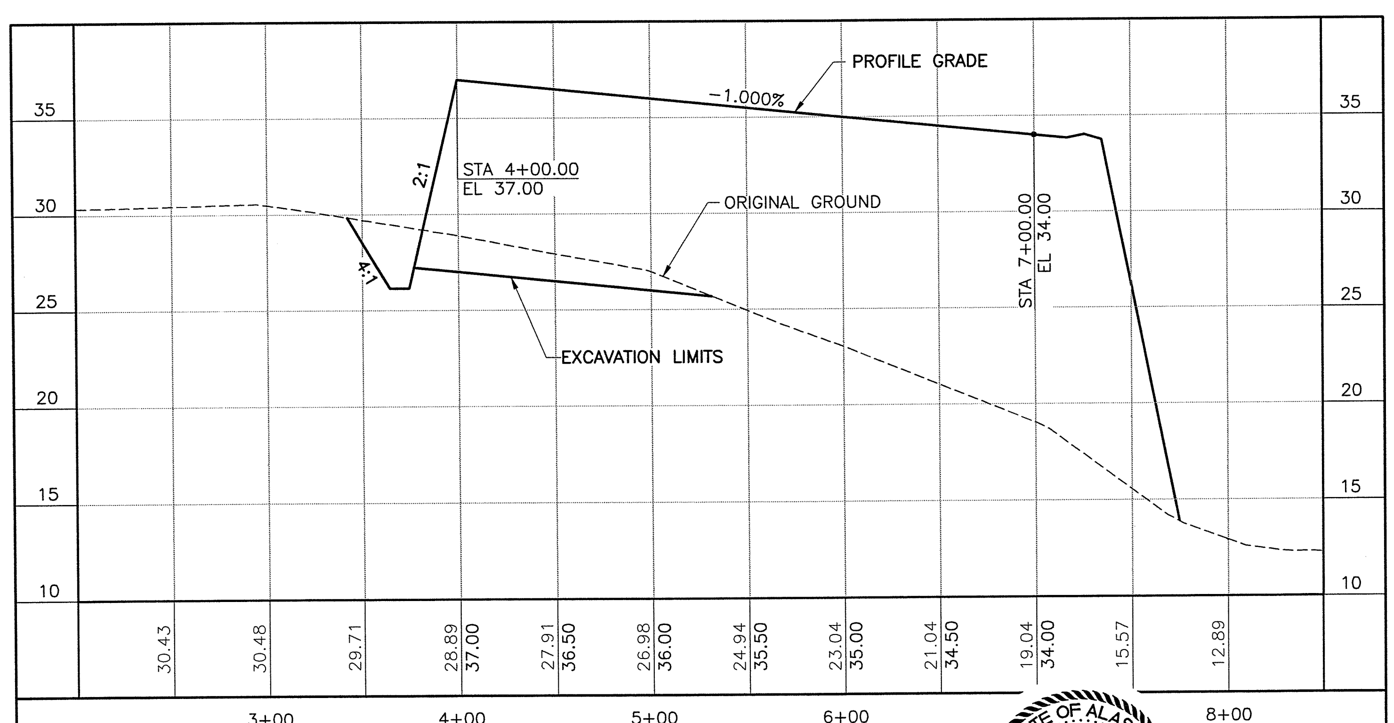
DATE: OCTOBER, 2011
SHEET: 13 OF 37

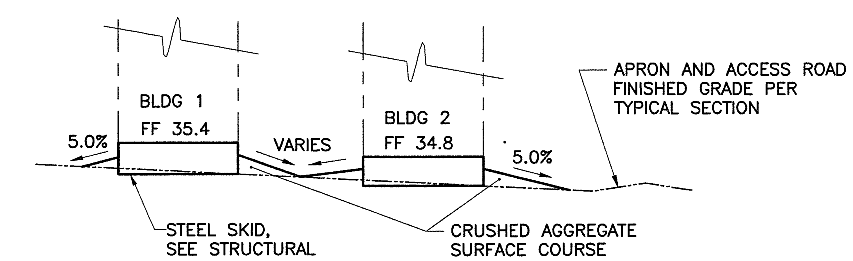




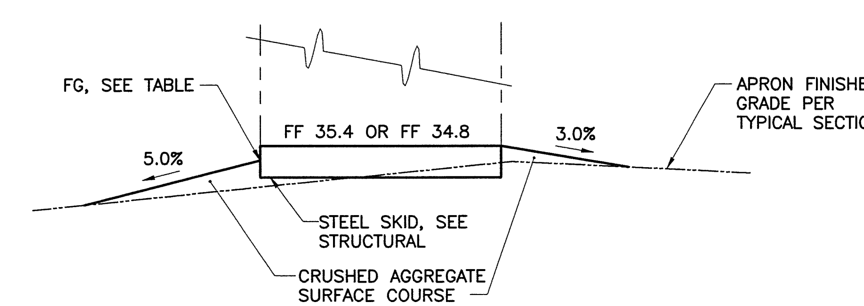
POINT TABLE				
POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
1	34.80	114082.75	170198.15	BUILDING CORNER FG
2	33.67	114118.75	170210.31	FINISHED GRADE
3	34.30	114154.75	170222.47	BUILDING CORNER FG
4	34.30	114138.72	170269.93	BUILDING CORNER FG
5	34.17	114102.75	170257.68	FINISHED GRADE
6	34.80	114066.72	170245.61	BUILDING CORNER FG

BUILDING PAD GRADING DETAIL





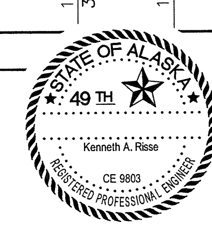
SITE SECTION A-A



SITE SECTION B-B

NOTES:

1. PLACE BOLLARDS 2 FEET OUTSIDE BUILDING LINES UNLESS OTHERWISE NOTED. SEE STRUCTURAL DRAWINGS FOR BOLLARD DETAIL.
2. FINISH FLOOR ELEVATION (FF) IS TO BE MEASURED AT THE OVERHEAD DOOR THRESHOLD. SEE STRUCTURAL DRAWINGS FOR FLOOR GRADES WITHIN THE BUILDINGS.
3. GRADE SURFACE COURSE TO MATCH DOORWAYS, TYP.



PRE PS&E

PLANS DEVELOPED BY: PDC, INC.

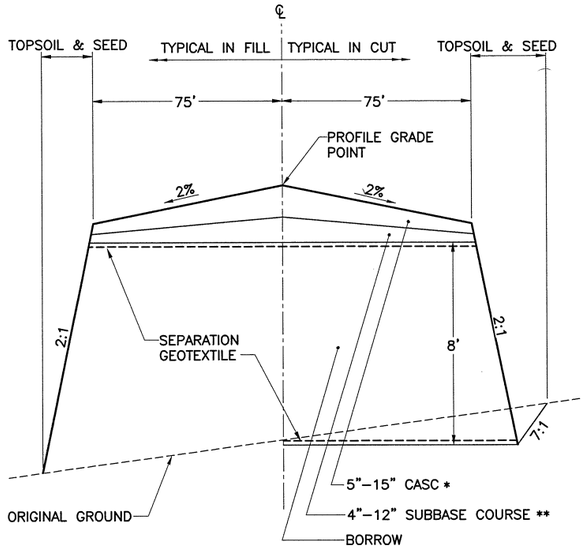
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
APRON & AVIATION SUPPORT AREA PLAN AND PROFILE

DATE: OCTOBER, 2011
SHEET: 14 OF 37

Designed By: KAR
Drawn By: HPF, RJP
Checked By: KAR
Date Revised: 10/26/2011, 9:55 AM
Layout Name: Apron P&P (1)
File Path and Name: P:\2008\F08062\C\C0300cnst\F08062.dwg

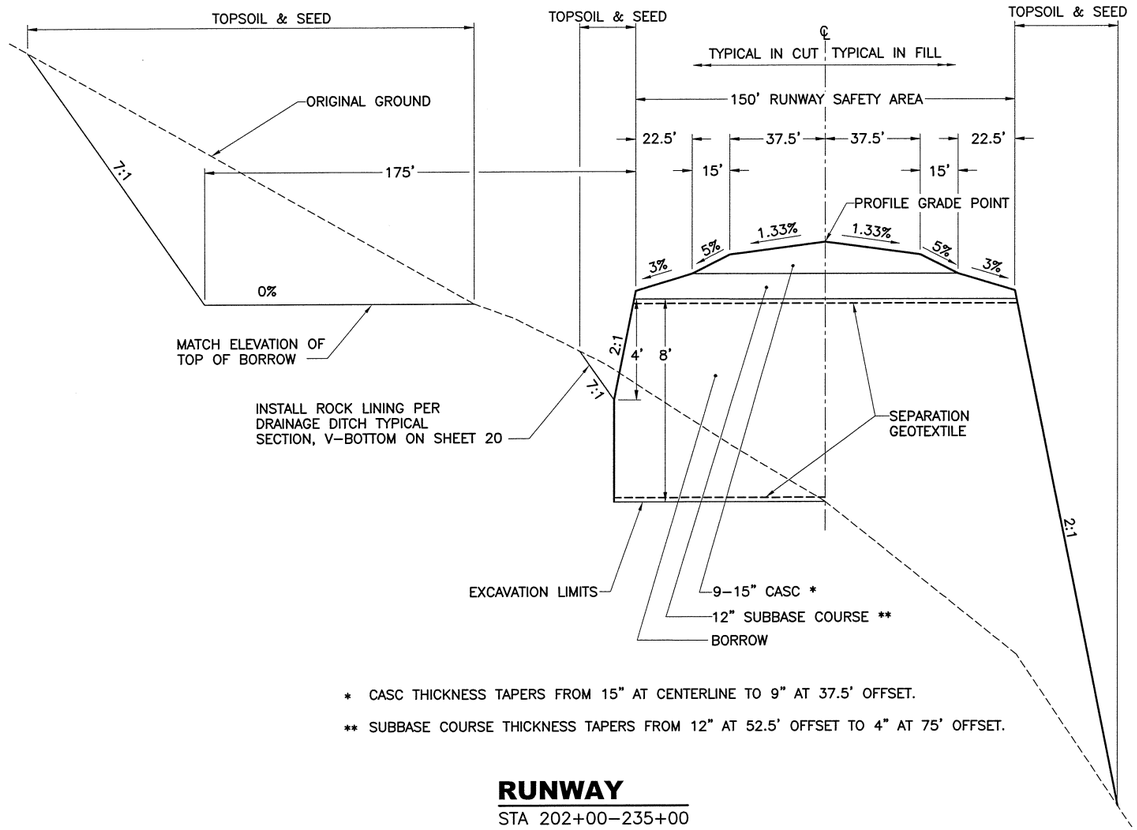


* CASC THICKNESS TAPERS FROM 15" AT CENTERLINE TO 5" AT 75' OFFSET.

** SUBBASE COURSE THICKNESS TAPERS FROM 12" AT CENTERLINE OFFSET TO 4" AT 75' OFFSET.

RUNWAY SAFETY AREA

STA 199+00–202+00, 235+00–238+00

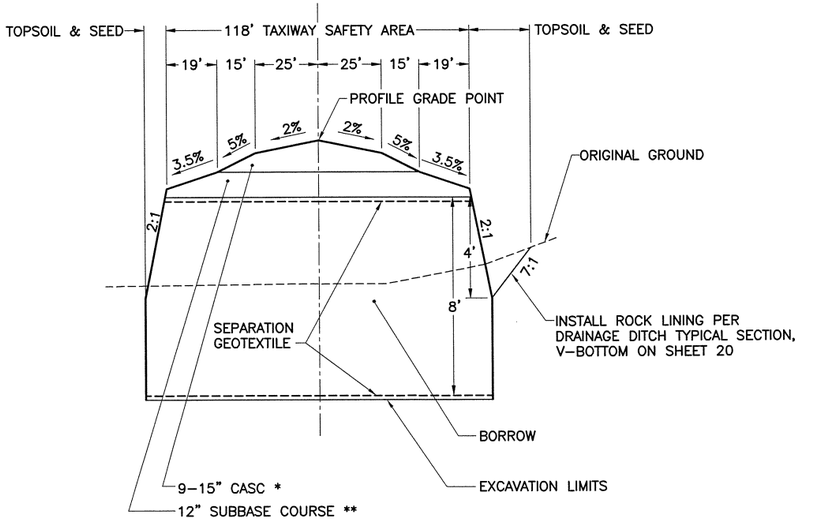


* CASC THICKNESS TAPERS FROM 15" AT CENTERLINE TO 9" AT 37.5' OFFSET.

** SUBBASE COURSE THICKNESS TAPERS FROM 12" AT 52.5' OFFSET TO 4" AT 75' OFFSET.

RUNWAY

STA 202+00–235+00

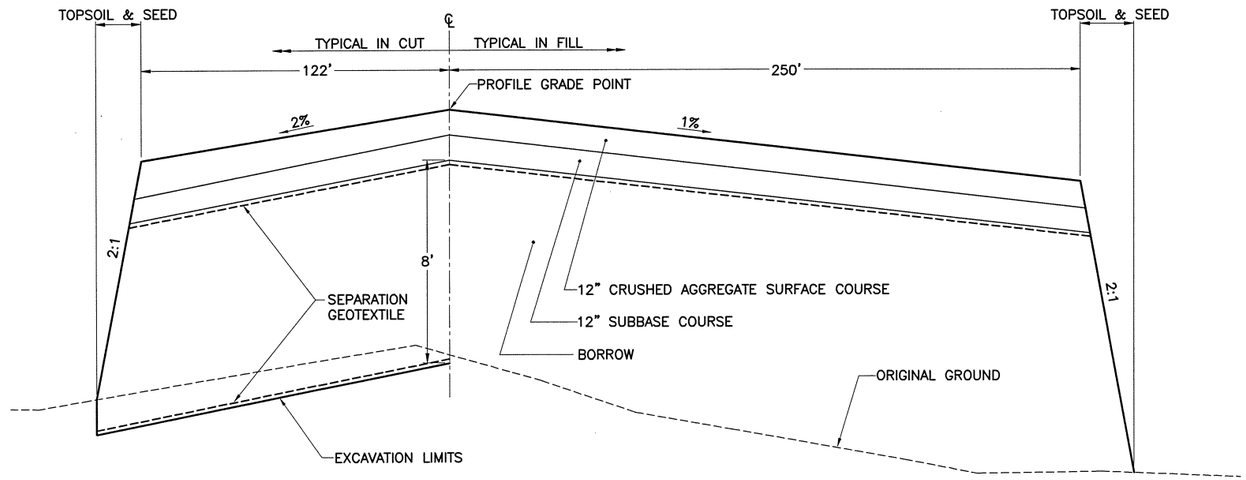


* CASC THICKNESS TAPERS FROM 15" AT CENTERLINE TO 9" AT 25' OFFSET.

** SUBBASE COURSE THICKNESS TAPERS FROM 12" AT 40' OFFSET TO 4" AT 59' OFFSET.

TAXIWAY

STA 12+50–20+00



APRON TYPICAL SECTION

STA 4+00–7+00

STATE OF ALASKA 49 TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

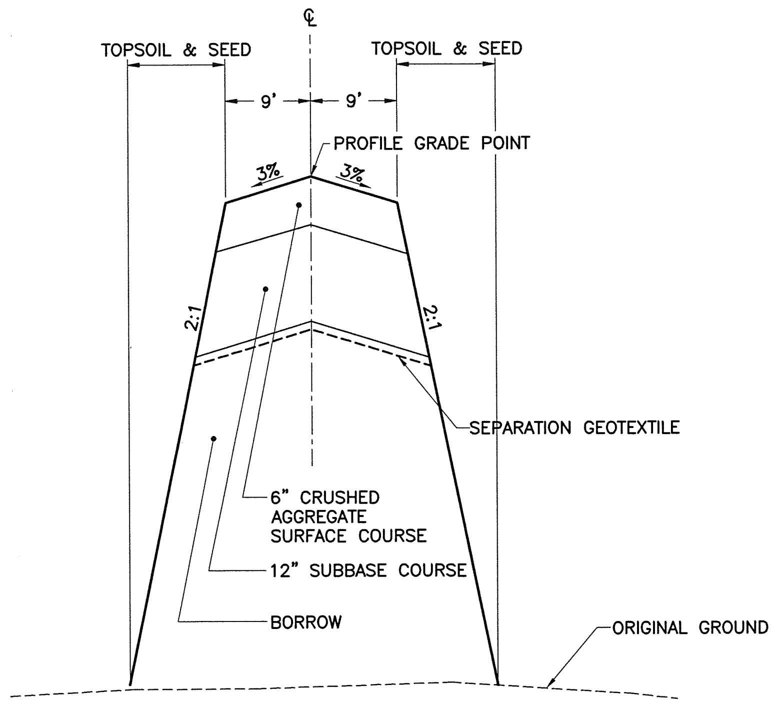
TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3–02–0486–001–2012
TYPICAL SECTIONS (1 OF 3)

DATE: OCTOBER, 2011
SHEET: 15 OF 37

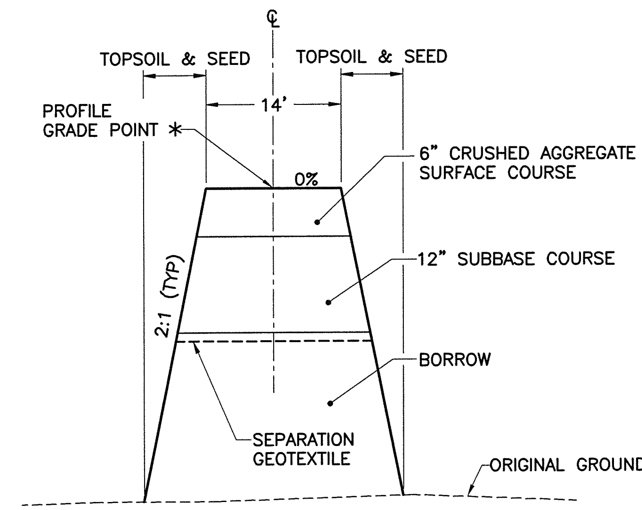
Designed By: KAR
Drawn By: HPF, RJP
Checked By: KAR
Date Revised:
Layout Name: Typ. Sec (1)
File Path and Name: P:\2008\Y08062\C\C0400xrefF08062.dwg
10/25/2011, 1:55 PM

Designed By: KAR
Drawn By: HPF, RJP
Checked By: KAR

Date Revised: 10/25/2011, 2:00 PM
Layout Name: Typ Sec (2)
File Path and Name: P:\2008\F08062\C\C0400cnstF08062.dwg

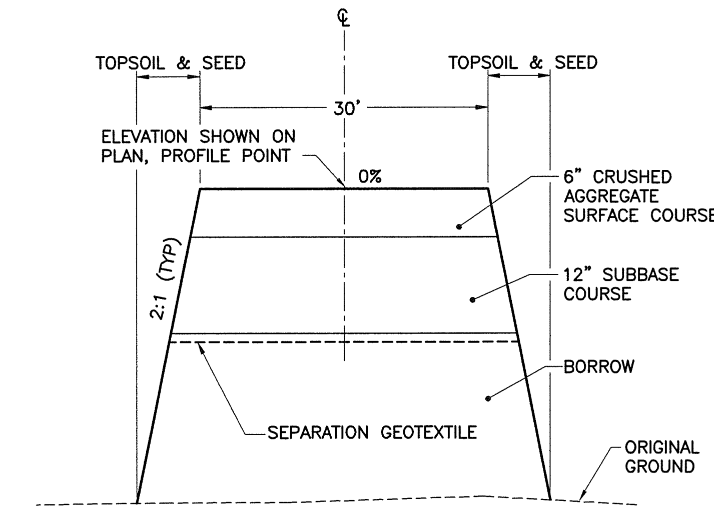


ACCESS ROAD
STA 10+19.46 – 65+52.00 ±



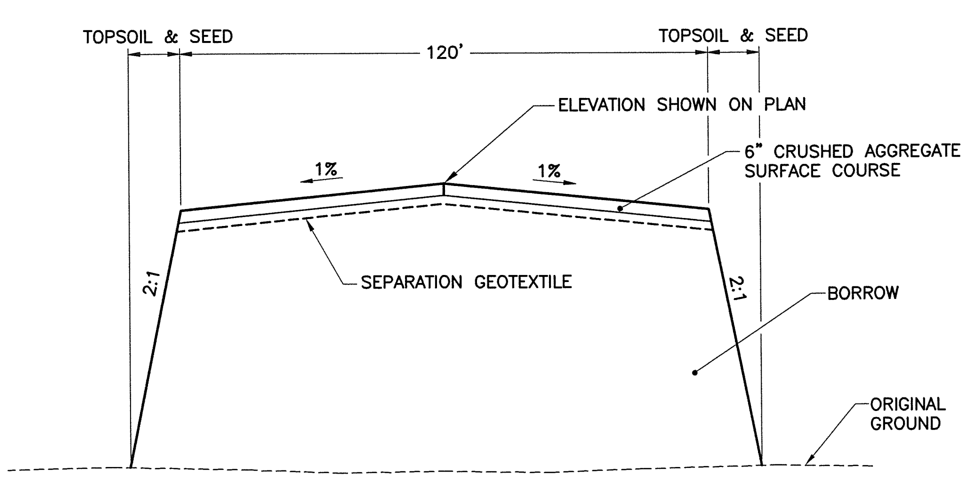
* MATCH ELEVATION ON EACH END AND GRADE CONTINUOUS

EQUIPMENT ACCESS ROAD
NOT TO SCALE

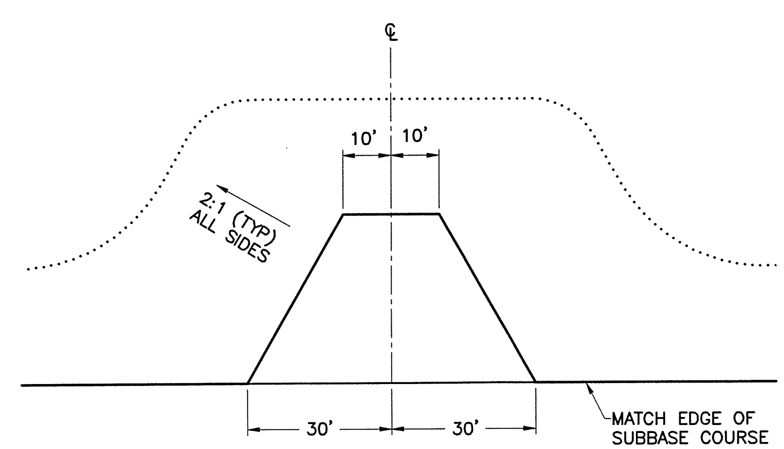


NOTE:
TOP WIDTH IS 30' EACH WAY.

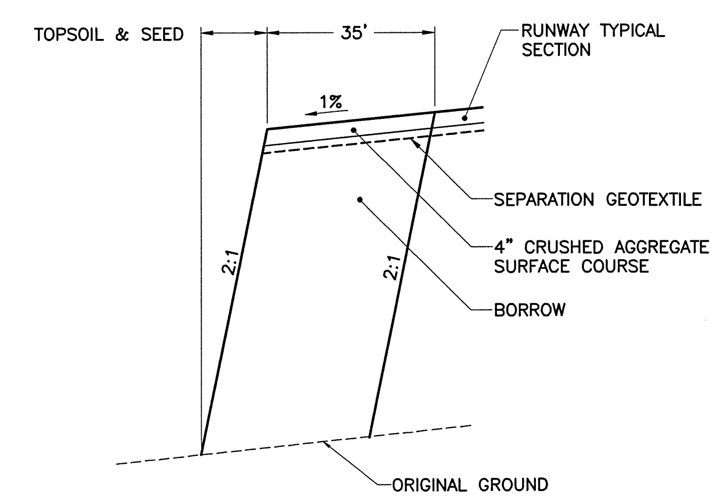
AWOS / LIGHTED WIND CONE SECTION
NOT TO SCALE



WIND CONE AND SEGMENTED CIRCLE PAD
NOT TO SCALE



THRESHOLD PAD PLAN
R/W STA 201+90 LT AND STA 235+10 LT & RT



THRESHOLD PAD SECTION
NOT TO SCALE

PRE PS&E

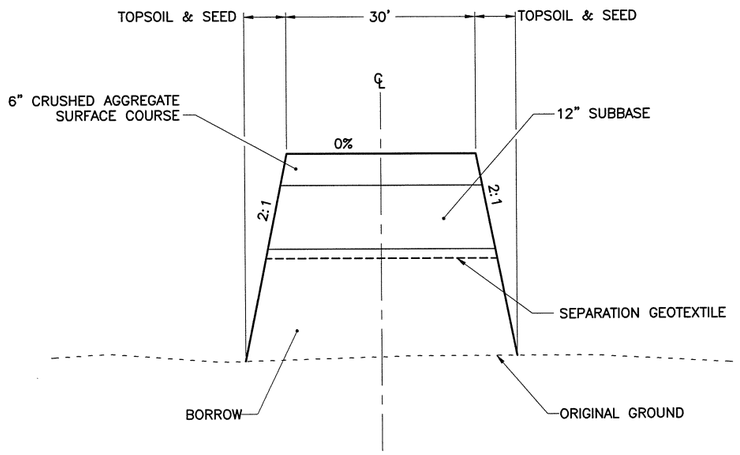
PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

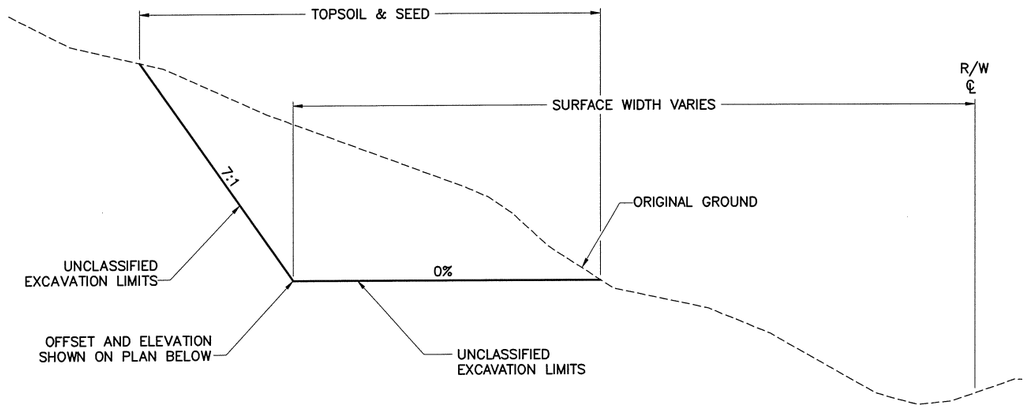
TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
TYPICAL SECTIONS (2 OF 3)

DATE: OCTOBER, 2011
SHEET: 16 OF 37



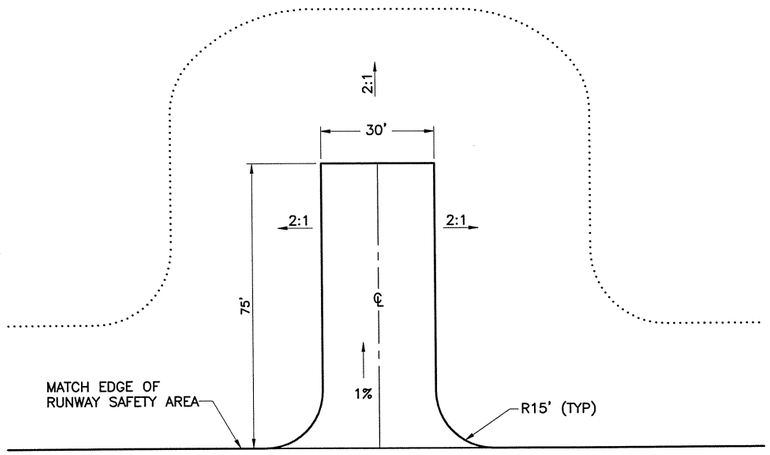
PAPI PAD TYPICAL SECTION

NOT TO SCALE



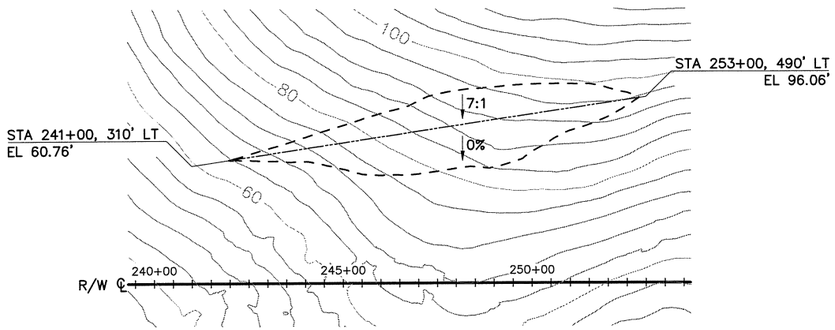
TERRAIN OBSTRUCTION REMOVAL TYPICAL SECTION

RW STA 241+00 – 253+00



PAPI PAD PLAN

R/W STA 207+52 LT AND STA 229+66 RT
NOT TO SCALE



TERRAIN OBSTRUCTION REMOVAL PLAN

STATE OF ALASKA 49 TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

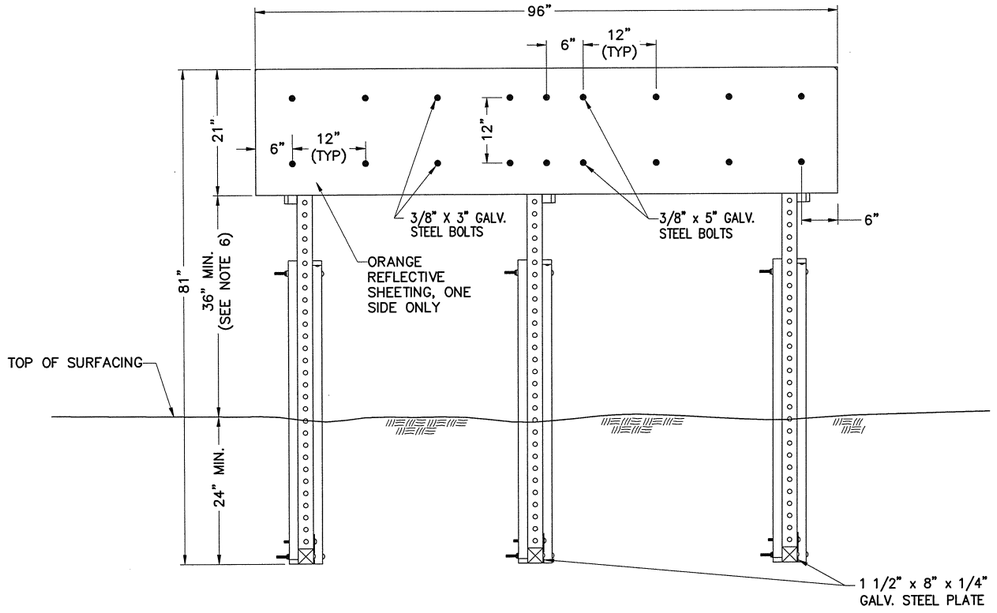
TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3–02–0486–001–2012
TYPICAL SECTIONS (3 OF 3)

DATE: OCTOBER, 2011
SHEET: 17 OF 37

Designed By: KAR
Drawn By: HPF RJP
Checked By: KAR
Date Revised:
Layout Name: Typ Sec (3)
File Path and Name: P:\2008\708082\CA\0900ensit708082.dwg
10/26/2011, 9:50 AM

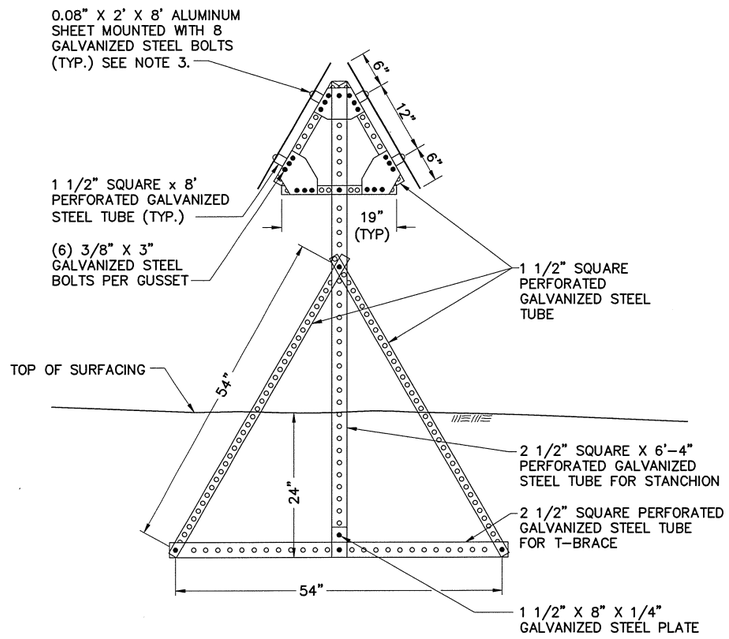
SEGMENTED CIRCLE NOTES:

1. ALL STRUCTURAL MEMBERS ARE SQUARE PERFORATED GALVANIZED STEEL TUBING. (SIZE AS INDICATED IN DRAWING).
2. 3/8" X 5" GALVANIZED STEEL BOLTS SHALL BE USED TO FASTEN THE STRUCTURAL MEMBERS TOGETHER. GUSSET PLATES SHALL BE FASTENED WITH SIX 3/8" X 3" GALVANIZED STEEL BOLTS.
3. PRE-PUNCH ALUMINUM SHEETS 6" FROM TOP AND BOTTOM AS INDICATED IN DRAWING. FASTEN TO STRUCTURAL MEMBERS THROUGH LONGITUDINAL MEMBERS WITH 3/8" x 5" HOT DIPPED GALVANIZED BOLTS AND (2) 1" DIA. WASHERS EACH.
4. GUSSET PLATES SHALL BE FABRICATED FROM 1/4" GALVANIZED STEEL PLATE.
5. SEE ELECTRICAL FOR WIND CONE DETAILS.
6. ASSURE EACH PANEL IS CONSTRUCTED TO THE SAME TOP ELEVATION.



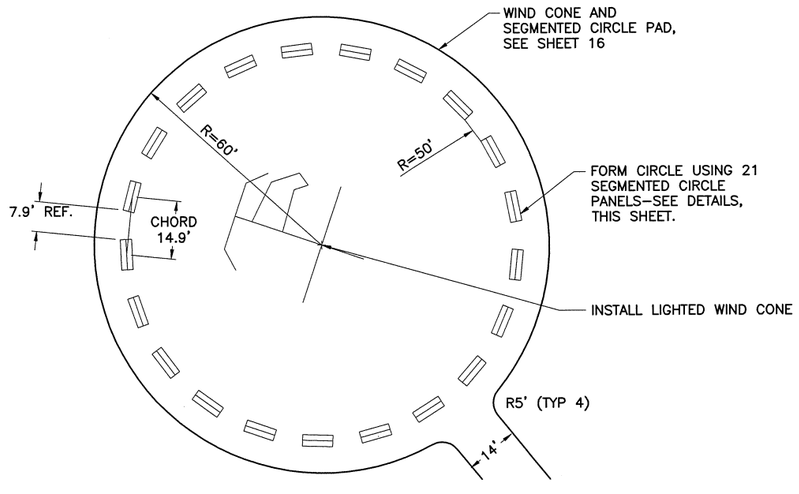
FRONT VIEW DETAIL

NOT TO SCALE



SIDE VIEW DETAIL

NOT TO SCALE

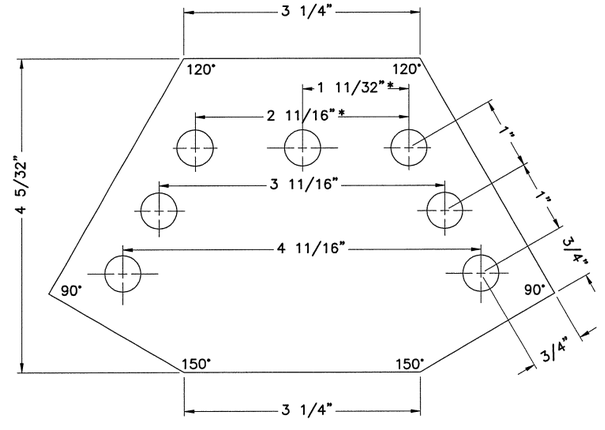


SEGMENTED CIRCLE LAYOUT

NOT TO SCALE

SEGMENTED CIRCLE PANELS

NOT TO SCALE



*TOP GUSSET PLATES ONLY

GUSSET PLATE DETAIL

NOT TO SCALE

Date Revised:	10/25/2011, 2:05 PM
Layout Name:	Seg Circ Detl (1)
File Path and Name:	P:\2008\Y080662\C\03300cnst\F080662.dwg

Designed By:	KAR
Drawn By:	HPT RJP
Checked By:	KAR

STATE OF ALASKA 49 TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
WIND CONE AND SEGMENTED CIRCLE DETAILS

DATE: OCTOBER, 2011
SHEET: 18 OF 37

CULVERT SUMMARY

CENTERLINE STATION	SKEW ANGLE	INVERT ELEV LEFT	INVERT ELEV RIGHT		DIAMETER (INCHES)	LENGTH (FEET)	TYPE	THICKNESS (INCHES)	MARKER POSTS	THAW WIRE	FOUND-ATION DEPTH (d)	REMARKS
AR STA. 10+90	3° LHF	7.97	6.90		36	42	CSP	0.079	2		2	
AR STA. 11+05	3° LHF	3.93	2.59		36	60	CSP	0.079		X	5	
AR STA. 11+20	3° LHF	8.40	7.72		36	42	CSP	0.079	2		5	
AR STA. 17+54	26° RHF	14.55	14.00		36	44	CSP	0.079		X	2	
AR STA. 19+17	27° RHF	13.75	13.39		36	46	CSP	0.079		X	2	
AR STA. 21+86	51° RHF	11.32	7.09		36	72	CSP	0.079		X	2	
AR STA. 23+33	49° RHF	8.08	7.75		36	62	CSP	0.079		X	2	
AR STA. 27+64	1° RHF	-4.94	-4.94		36	64	CSP	0.079	2		5	
AR STA. 27+79	1° RHF	-8.51	-9.08		36	80	CSP	0.079	2		5	
AR STA. 30+50	0°	-5.48	-6.12		36	62	CSP	0.079		X	2	
AR STA. 32+00	16° LHF	-4.84	-4.84		36	60	CSP	0.079		X	2	
AR STA. 34+21	31° LHF	-4.94	-4.94		36	68	CSP	0.079		X	2	
AR STA. 36+37	11° LHF	-5.56	-5.65		36	62	CSP	0.079	2		5	
AR STA. 36+58	9° LHF	-5.69	-6.09		36	62	CSP	0.079	2		5	
AR STA. 36+78	8° LHF	-5.92	-5.98		36	62	CSP	0.079	2		5	
AR STA. 36+98	6° LHF	-2.92	-3.17		36	50	CSP	0.079	2		5	
AR STA. 38+72	2° LHF	-4.97	-4.99		36	58	CSP	0.079		X	2	
AR STA. 45+48	13° LHF	-4.06	-4.06		36	60	CSP	0.079		X	2	
AR STA. 47+75	0°	-1.55	-1.78		36	48	CSP	0.079	2		2	
AR STA. 47+90	1° LHF	-4.55	-4.55		36	60	CSP	0.079	2		2	
AR STA. 50+58	15° LHF	0.74	0.74		36	52	CSP	0.079		X	2	
AR STA. 51+71	6° LHF	1.35	1.07		36	58	CSP	0.079	2		2	
AR STA. 51+81	4° LHF	-1.65	-3.12		36	72	CSP	0.079	2		2	
AR STA. 51+91	3° LHF	0.93	-2.50		36	70	CSP	0.079	2		2	
AR STA. 52+72	1° RHF	2.65	2.11		36	60	CSP	0.079	2		2	
AR STA. 52+82	3° RHF	3.14	2.34		36	60	CSP	0.079	2		2	
AR STA. 55+95	6° RHF	13.47	11.08		36	54	CSP	0.079	2		2	
AR STA. 56+99	19° RHF	14.76	11.03		36	66	CSP	0.079	2		2	
AR STA. 58+33	15° LHF	16.20	10.77		36	76	CSP	0.079	2		2	
AR STA. 59+34	6° RHF	17.85	14.09		36	76	CSP	0.079	2		2	
RW STA. 211+49	12° RHF	11.76	7.66		42	242	CSP	0.079	2		5	
RW STA. 212+13	6° LHF	12.42	7.18		42	238	CSP	0.079	2		5	
RW STA. 226+63	11° LHF	27.98	23.86		42	226	CSP	0.079		X	5	

P:\2008\F08062\C\Des\Culverts\Summary.xlsx

CULVERT INSTALLATION NOTES:

1. INSTALL TEMPORARY CULVERTS AS REQUIRED TO ADVANCE INITIAL CONSTRUCTION. TEMPORARY CULVERTS ARE SUBSIDIARY AND WILL NOT BE MEASURED OR PAID. PERMANENT CULVERTS SHALL NOT BE INSTALLED DURING FREEZING CONDITIONS.
2. CULVERT LENGTH INCLUDES THE LENGTH OF END SECTIONS.
3. EXACT CULVERT LENGTHS, LOCATIONS, SKEWS, AND INVERTS TO BE DETERMINED IN THE FIELD AND APPROVED BY THE FIELD ENGINEER.
4. NO CULVERTS SHALL BE PLACED UNTIL THE BED HAS BEEN APPROVED BY THE ENGINEER.
5. INSTALL END SECTIONS ON PERMANENT INSTALLATIONS. CULVERT END SECTIONS SHALL CONFORM TO STANDARD DRAWING D-06.10.
6. SLOPES SHALL BE DRESSED AND WARPED TO CONFORM TO THE END SECTIONS. REFER TO CULVERT END SECTION DETAIL.

Designed By:	KAR
Drawn By:	HFF, RJP
Checked By:	KAR
Date Revised:	10/26/2011, 10:37 AM
Layout Name:	Culv Summ
File Path and Name:	P:\2008\F08062\C\C0500anetF08062.dwg

STATE OF ALASKA 49TH Kenneth A. Risse CE 9803 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
CULVERT SUMMARY

DATE: OCTOBER, 2011
SHEET: 19 OF 37

Date Revised: 10/25/2011, 3:14 PM
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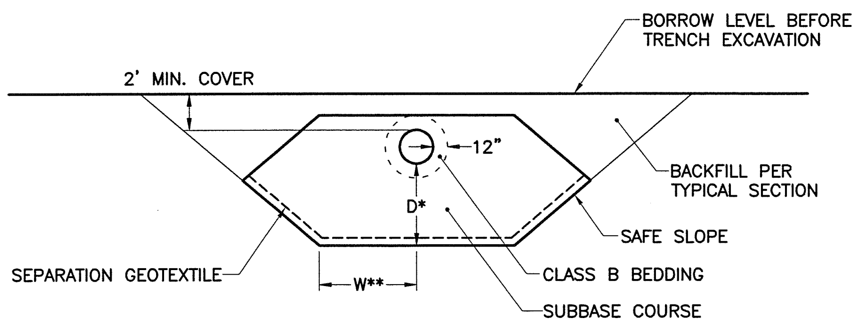
Designed By: KAR
Drawn By: HPF, RJP
Checked By: KAR



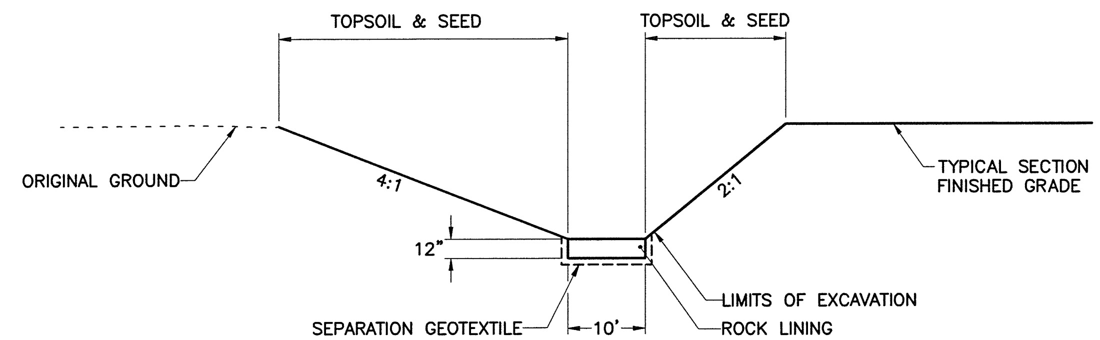
* FOUNDATION DEPTH, D SHOWN ON CULVERT SUMMARY TABLE

** W=5' FOR RUNWAY CULVERTS, 3' FOR ACCESS ROAD CULVERTS

CULVERT INSTALLATION DETAIL

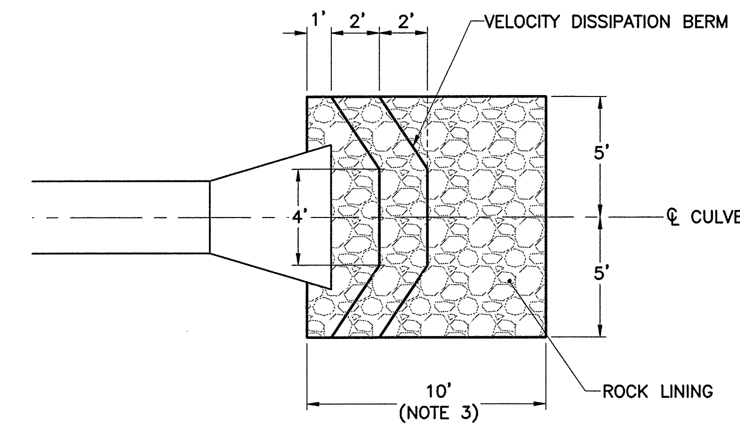
NOT TO SCALE

NOTE: BEFORE OPENING TO TRAFFIC PLACE AND COMPACT MINIMUM COVER

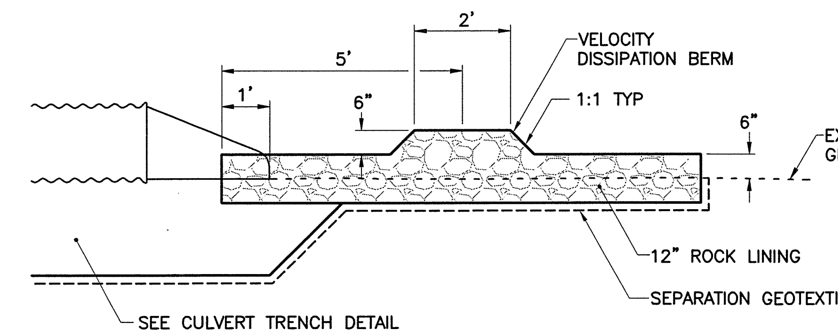


DRAINAGE DITCH TYPICAL SECTION, FLAT BOTTOM

NOT TO SCALE



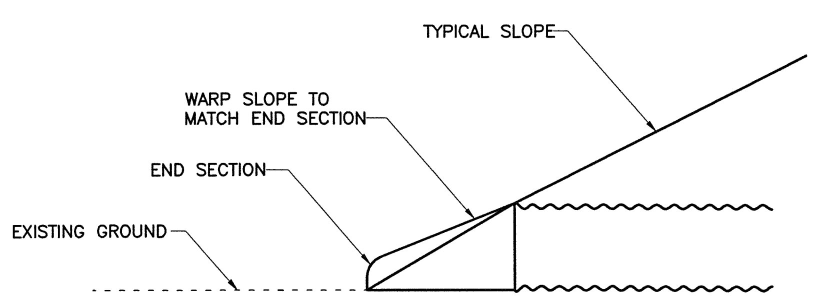
PLAN



PROFILE

CULVERT VELOCITY DISSIPATION

NOT TO SCALE



CULVERT END SECTION

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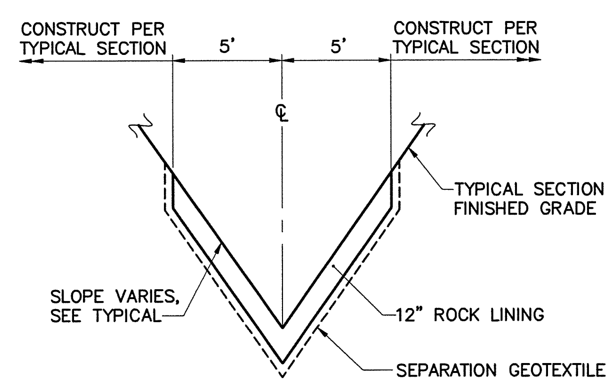

DRAINAGE DITCH TYPICAL SECTION, V-BOTTOM

NOT TO SCALE

CULVERT VELOCITY DISSIPATION NOTES:

1. CONSTRUCT VELOCITY DISSIPATION AT EACH CULVERT INLET AND OUTLET.
2. AFTER STABILIZATION HAS BEEN ESTABLISHED, IN ACCORDANCE WITH APDES CGP, SPREAD VELOCITY DISSIPATION BERM TO MATCH CHANNEL.
3. FOR OVERFLOW CULVERTS, CONSTRUCT CULVERT VELOCITY DISSIPATION AT TOE OF SLOPE AND EXTEND ROCK UP TO CULVERT INLETS AND OUTLETS.

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
CULVERT AND DRAINAGE DETAILS

DATE: OCTOBER, 2011

SHEET: 20 OF 37

Date Revised:	10/25/2011, 4:32 PM
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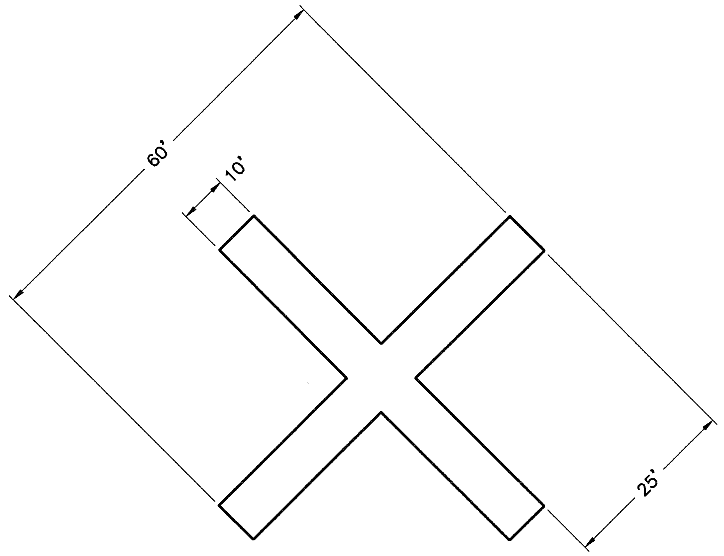
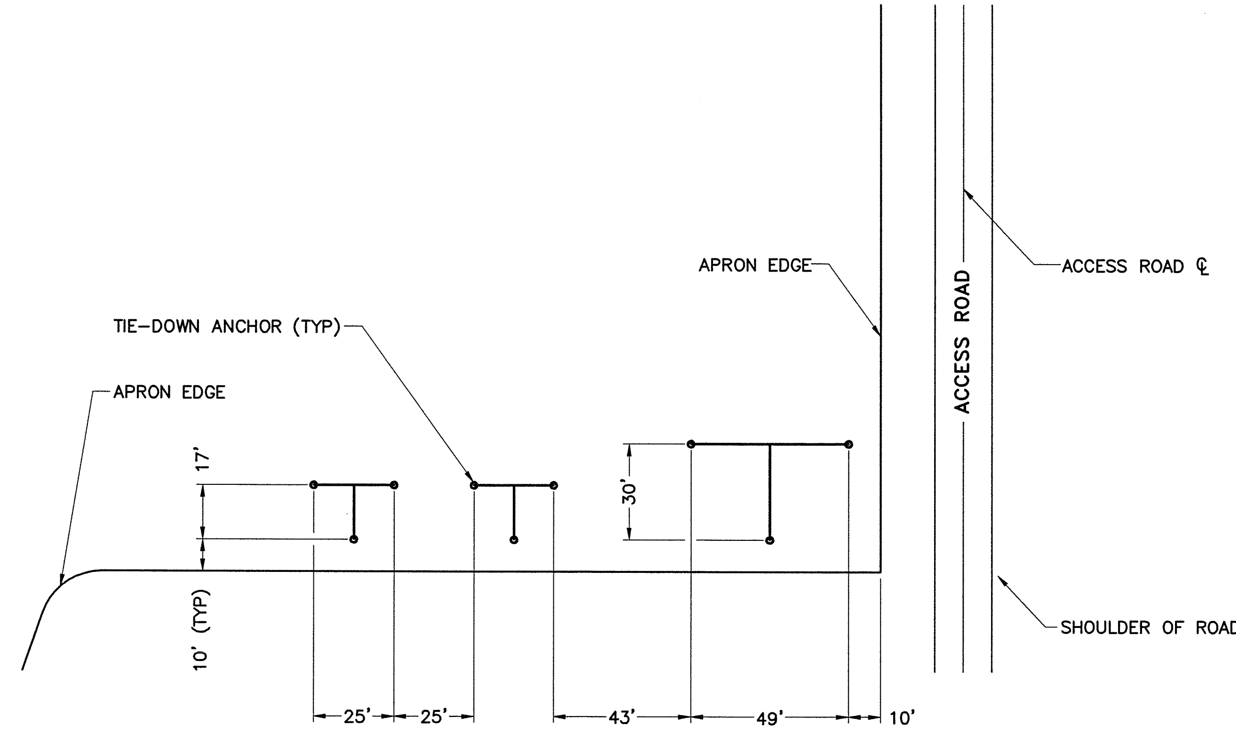
Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR



RUNWAY CLOSURE MARKER

NOT TO SCALE



TYPICAL TIE-DOWN LAYOUT

NOT TO SCALE

STATE OF ALASKA 49 TH Kenneth A. Risse CE 9803 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
MISCELLANEOUS DETAILS

DATE: OCTOBER, 2011

SHEET: 21 OF 37

SIGNING SUMMARY

SIGN NO	LOCATION	SIGN FACES	OFFSET		CODE NO	LEGEND	SIZE (INCHES)	COLOR		AREA SQ. FT.	POST TYPE (*)
			LEFT	RIGHT				LEGEND	BACKGROUND		
1	AR STA. 10+54	S	31.15'	–	R1–1	STOP	30x30	WHITE	RED	6.25	3x3 TS
2	AR STA. 13+00	N	–	22.25'	R2–1	SPEED LIMIT 35	24x30	BLACK	WHITE	5.00	3x3 TS
3	AR STA. 57+45	W	22.25'	–	R2–1	SPEED LIMIT 35	24x30	BLACK	WHITE	5.00	3x3 TS
4	AR STA. 62+55	E	–	22.25'	W1–1L	TURN ARROW 90 DEGREE	30x30	BLACK	YELLOW	6.25	3x3 TS
5	AR STA. 64+00	E	10.00'	–	OM4–1	END OF ROAD MARKER	18x18	N/A	RED	2.25	2.5" PST
6	AR STA. 64+00	E	–	10.00'	OM4–1	END OF ROAD MARKER	18x18	N/A	RED	2.25	2.5" PST
7	TW STA. 13+25	W	70.00'	–	SPECIAL	SELECTIVE EXCLUSIONS	36x48	BLACK/RED	WHITE	12.00	3x3 TS
									TOTAL	39.00	

SIGNING NOTES:

1. POST LENGTHS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR TO MEET HEIGHT REQUIREMENTS SPECIFIED BY STANDARD DRAWING S–05.01, UNLESS DETERMINED OTHERWISE BY THE ENGINEER. ALL POSTS AND HARDWARE SHALL BE SUBSIDIARY TO THE SIGNING BID ITEM. SEE STANDARD DRAWING S–00.10.
2. PRIOR TO INSTALLING POSTS OR FOUNDATIONS, OR DOING ANY EXCAVATION, THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES. THE LOCATION OF UTILITIES AND POLES THAT ARE SHOWN ON THE PLAN SHEETS ARE APPROXIMATE, AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACTUAL LOCATION WHEN WORKING IN THE AREA.
3. SIGN POST EMBEDMENT FOR PERFORATED STEEL TUBING (PST) AND SQUARE TUBE STEEL (TS) SHALL BE SLEEVE TYPE WITH SOIL EMBEDMENT, SEE STANDARD DRAWING S–30.03.
4. SEE STANDARD DRAWING S–00.10 FOR MINIMUM SIGN PANEL THICKNESS, FRAMING REQUIREMENTS AND DETAILS.
5. OFFSET DISTANCES ON THE SIGN SUMMARY ARE FROM CENTERLINE TO THE CENTER OF THE SIGN POST.
6. SEE STANDARD DRAWING S–01.00 FOR BRACING DETAILS.

SELECTIVE EXCLUSIONS SIGN DETAIL

NOT TO SCALE

PRE PS&E

PLANS DEVELOPED BY: PDC, INC.

BY	DATE	REVISION

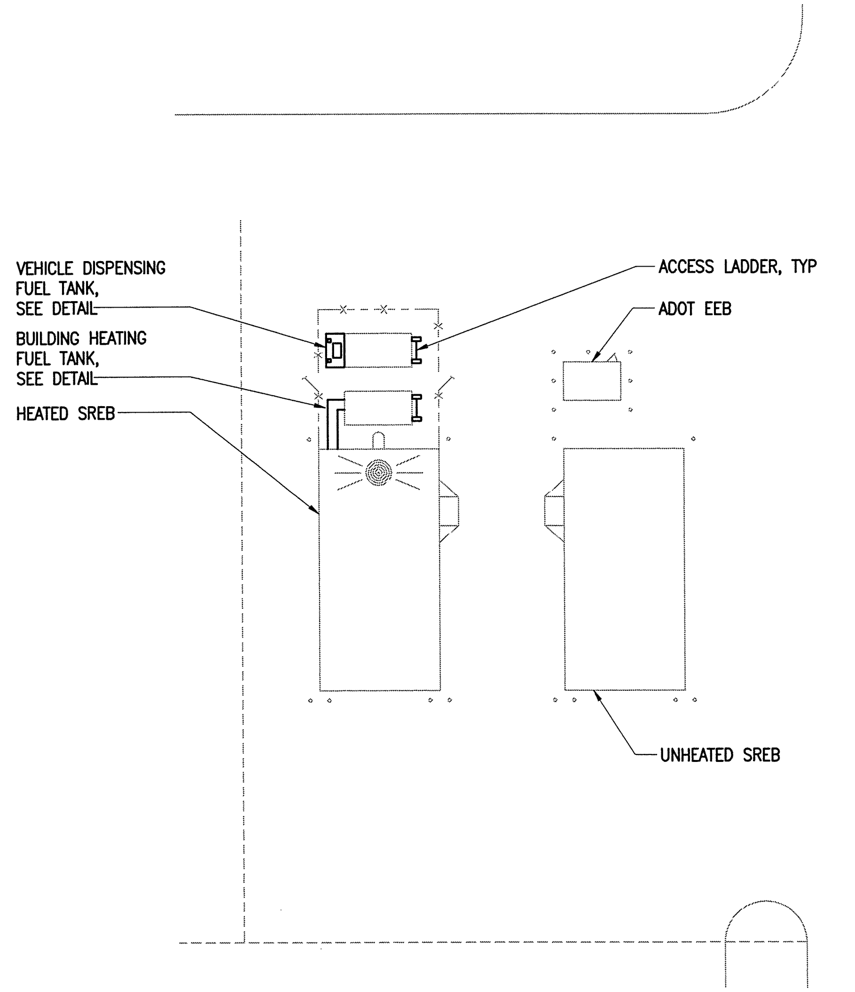
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3–02–0486–001–2012
SIGNING DETAILS

DATE: OCTOBER, 2011
SHEET: 22 OF 37

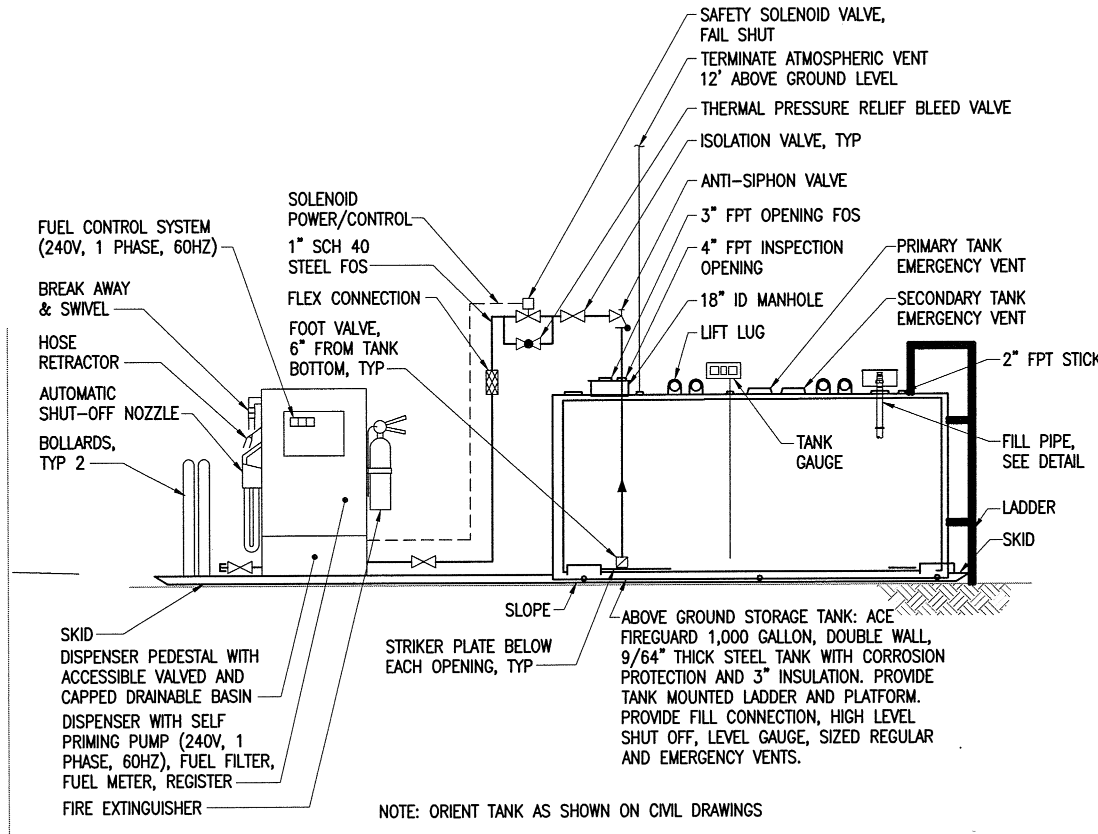
Designed By: KAR
Drawn By: HPF, RJP
Checked By: KAR

Date Revised: 10/25/2011, 4:32 PM
Layout Name: Sign Detl (1)
File Path and Name: P:\2008\F08062\C\C050ConstF08062.dwg



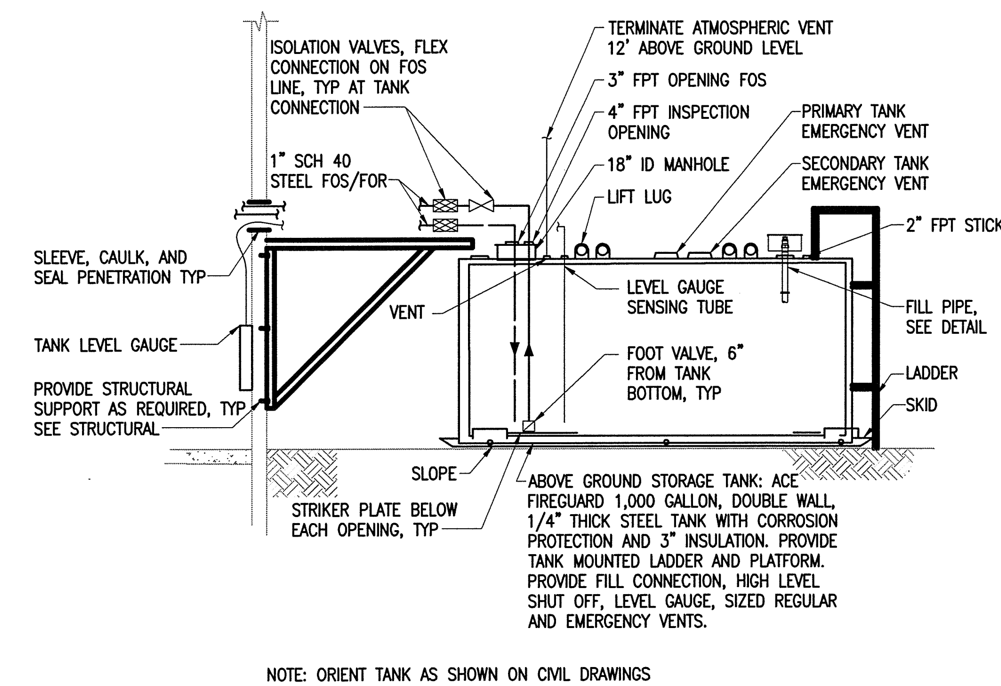
MECHANICAL SITE PLAN

1" = 15'



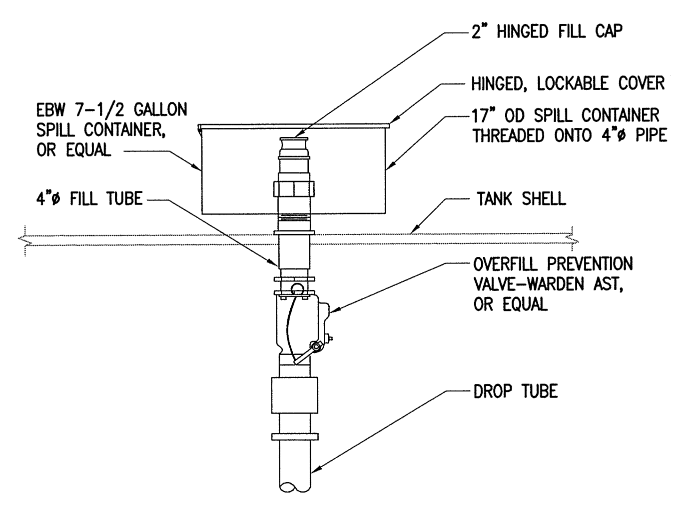
VEHICLE DISPENSING FUEL TANK DETAIL

NOT TO SCALE



BUILDING HEATING FUEL TANK DETAIL

NOT TO SCALE



FILL PIPE CONNECTION

NOT TO SCALE

NOTE TO REVIEWERS:

SEE CUT SHEET APPENDED TO SPECIFICATION S-143 FOR POSSIBLE MODIFICATION TO VEHICLE FUEL DISPENSING TANK TO BE DISCUSSED AT REVIEW MEETING

Designed By:	JMK
Drawn By:	JLC
Checked By:	JMK

Date Revised:	10/25/2011, 3:28 PM
Layout Name:	M1
File Path and Name:	P:\2008\F08062\M\M0019d01F08062.dwg

STATE OF ALASKA 49 TH ROGER W. FULL ME 11324 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY: PDC, INC.

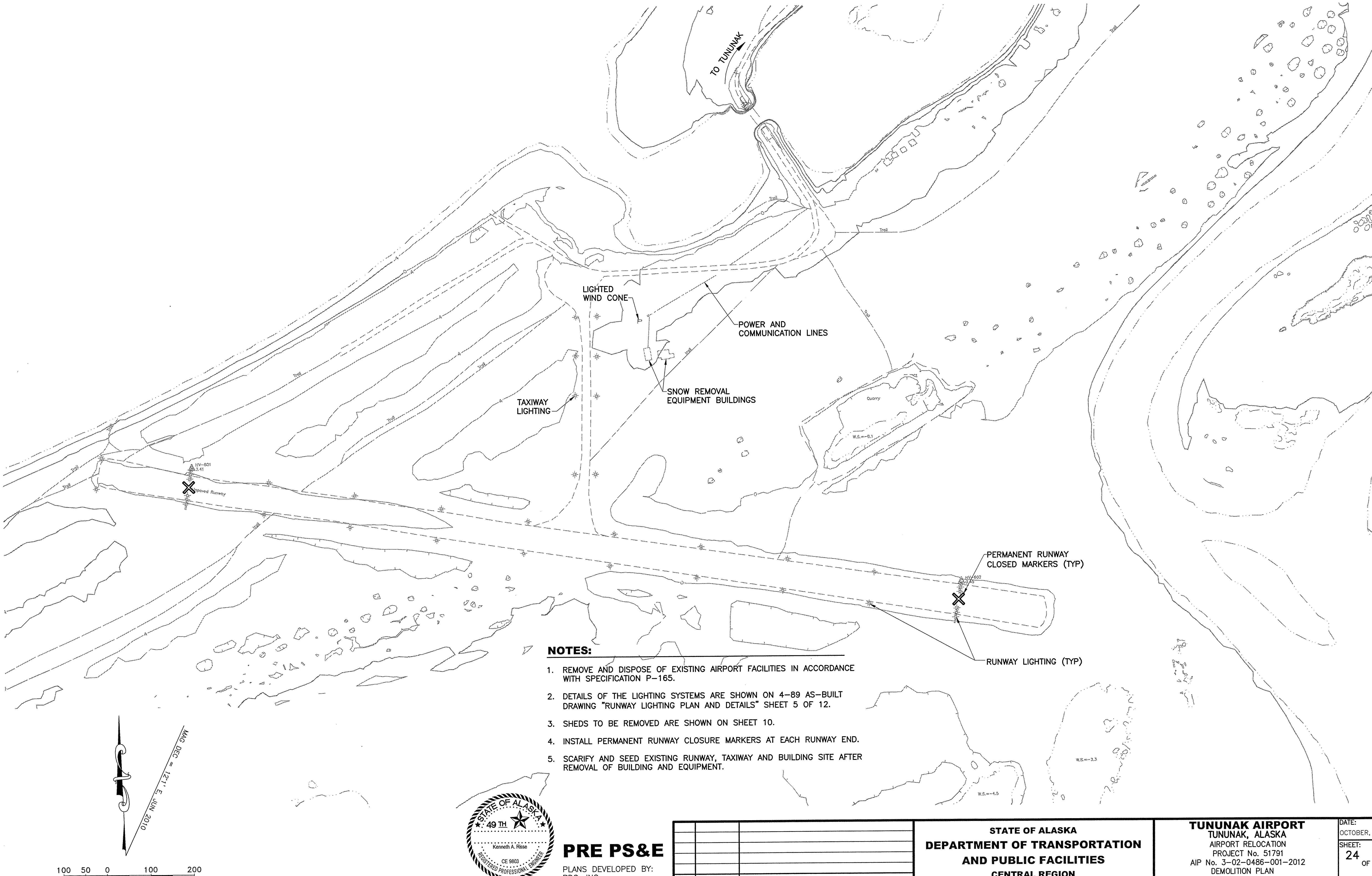
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
MECHANICAL SITE PLAN & DETAILS

DATE: OCTOBER, 2011

SHEET: 23 OF 37



NOTES:

1. REMOVE AND DISPOSE OF EXISTING AIRPORT FACILITIES IN ACCORDANCE WITH SPECIFICATION P-165.
2. DETAILS OF THE LIGHTING SYSTEMS ARE SHOWN ON 4-89 AS-BUILT DRAWING "RUNWAY LIGHTING PLAN AND DETAILS" SHEET 5 OF 12.
3. SHEDS TO BE REMOVED ARE SHOWN ON SHEET 10.
4. INSTALL PERMANENT RUNWAY CLOSURE MARKERS AT EACH RUNWAY END.
5. SCARIFY AND SEED EXISTING RUNWAY, TAXIWAY AND BUILDING SITE AFTER REMOVAL OF BUILDING AND EQUIPMENT.

Date Revised:	10/25/2011, 4:33 PM	Designed By:	KAR
Layout Name:	Demo Plan	Drawn By:	HPF, RJP
File Path and Name:	P:\2008\F08062\C\C0300cnstF08062.dwg	Checked By:	KAR

STATE OF ALASKA 49 TH Kenneth A. Risse CE 9803 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

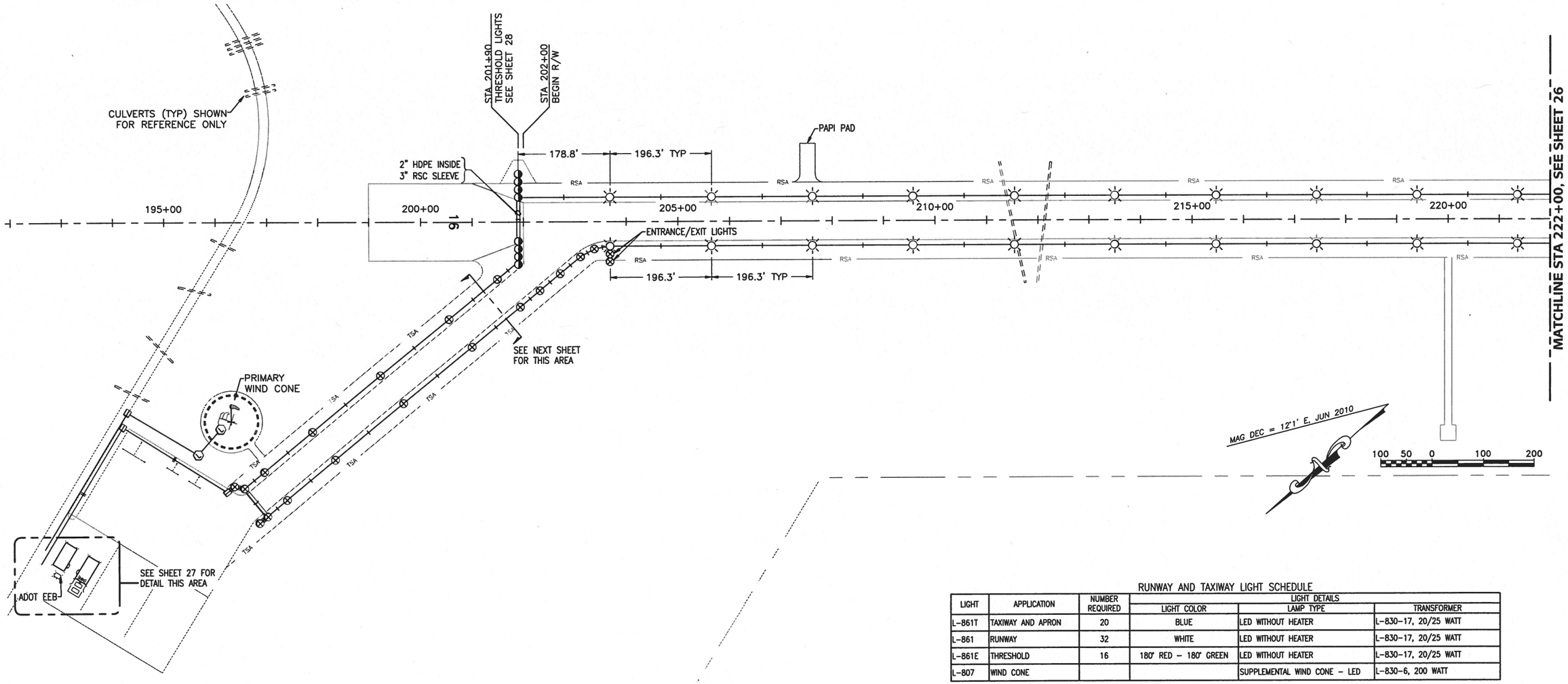
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
DEMOLITION PLAN

DATE: OCTOBER, 2011

SHEET: 24 OF 37



RUNWAY AND TAXIWAY LIGHT SCHEDULE

LIGHT	APPLICATION	NUMBER REQUIRED	LIGHT DETAILS		
			LIGHT COLOR	LAMP TYPE	TRANSFORMER
L-861T	TAXIWAY AND APRON	20	BLUE	LED WITHOUT HEATER	L-830-17, 20/25 WATT
L-861	RUNWAY	32	WHITE	LED WITHOUT HEATER	L-830-17, 20/25 WATT
L-861E	THRESHOLD	16	180° RED – 180° GREEN	LED WITHOUT HEATER	L-830-17, 20/25 WATT
L-807	WIND CONE			SUPPLEMENTAL WIND CONE – LED	L-830-6, 200 WATT

LEGEND

- RUNWAY EDGE LIGHT (WHITE)
- TAXIWAY EDGE LIGHT (BLUE)
- THRESHOLD MARKER LIGHT (GREEN & RED)
- 2" NON-METALLIC, HDPE CONDUIT, HASH MARKS INDICATE NUMBER OF #8 AWG, 5KV CABLE. PROVIDE ONE ADDITIONAL #6 AWG BARE COPPER GROUND CONDUCTOR, UON
- 2" NON-METALIC, HDPE CONDUIT INSIDE OF 3" GRC, HASH MARKS INDCIATES NUMBER OF #8 AWG, 5KV CABLE. PROVIDE ONE ADDITIONAL #6 AWG BARE COPPER GROUND CONDUCTOR, UON
- CONDUIT – SIZE, TYPE AND CONDUCTORS AS NOTED.
- GROUND ROD FOR EQUIPMENT GROUNDING SYSTEM
- ROTATING BEACON
- L-867 HAND HOLE, CLASS II (HDPE), SIZE B (12") UNLESS OTHERWISE NOTED.
- TYPE 1B J-BOX
- TYPE 1A J-BOX
- WIND CONE – LIGHTED

ABBREVIATIONS

AVEC	ALASKA VILLAGE ELECTRIC COOPERATIVE
BCU	BARE COPPER WIRE (SOLID)
EEB	ELECTRICAL EQUIPMENT BUILDING (ENCLOSURE)
EMT	ELECTRICAL METALLIC TUBING
EGC, GND	EQUIPMENT GROUNDING CONDUCTOR
RSC	RIGID STEEL CONDUIT, GALVANIZED
HDPE	HIGH DENSITY POLYETHYLENE (CONDUIT)
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF

NOTES

1. THIS PROJECT INCLUDES:
   - A) INSTALLATION OF A COMPLETE AND OPERATIONAL RUNWAY LIGHTING SYSTEM, TWO LIGHTED WIND CONES WITH POLES, ROTATING BEACON, ELECTRICAL EQUIPMENT BUILDING (EEB), AND INSTALLATION AND PROVISION OF ELECTRICAL EQUIPMENT IN THE EEB.
   - B) INSTALLATION OF ELECTRICAL POWER FROM A SERVICE ON A NEW SREB, AS DESCRIBED IN THE PLANS AND SPECIFICATIONS.
   - C) PROVISION OF CULVERT THAW PIPE AND WIRES PER D-760 SPECIFICATION. REFER TO CIVIL DRAWINGS FOR LOCATION OF CULVERTS TO RECEIVE THAW WIRES.
   - D) COORDINATE WITH AVEC FOR SERVICE CONNECTIONS AND PAY AVEC FOR ALL RELATED WORK.
2. GROUNDING:
   A GROUND ROD SHALL BE INSTALLED AT EACH LIGHT BASE AND HAND HOLE, AS SHOWN IN THE APPROPRIATE DETAIL. THESE GROUND RODS ARE SUBSIDIARY TO THE EDGE LIGHT OR HAND HOLE UNIT AND WILL BE PAID FOR UNDER THE APPROPRIATE EDGE LIGHT OR HAND HOLE UNIT.
3. ALL TYPE II J-BOXES SHALL BE THE STACKED TYPE AS SHOWN ON TRENCH & J-BOX DETAIL SHEET.

STATE OF ALASKA 49TH Michael S. Goulding NO. EE-9705 REGISTERED PROFESSIONAL ENGINEER

PPS&E
-PLANS DEVELOPED BY:
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BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
RUNWAY LIGHTING PLAN (1 OF 2)

DATE: 10/25/2011
SHEET: 25 OF 37

Designed By: JMK
Drawn By: JJC
Checked By: JMK
Date Revised: 10/25/2011, 3:36 PM
Layout Name: 25
File Path and Name: P:\2008\F08062\E\E0025jb01F080562.dwg

MATCHLINE STA 222+00, SEE SHEET 25

STA 235+00
END R/W

STA 235+10
THRESHOLD LIGHTS
SEE SHEET 28

196.3' TYP
196.3'

2" HDPE INSIDE
3" RSC SLEEVE

RSA

225+00
230+00
235+00
240+00

34

PAPI PAD

2" HDPE KEEP CIRCUIT
ON NORTH SIDE OF
EMBANKMENT

SUPPLEMENTAL
WIND CONE

SUPPLEMENTAL
WIND CONE
SEE WIND CONE
DETAIL SHEET

MAG DEC = 12°1' E, JUN 2010

100 50 0 100 200

TYPE 1A J-BOX (TYP)

1-1/4" HDPE CONDUIT
2#10 XHHW
1#10 XHHW GND

2" HDPE CONDUIT
2#8 5KV
1#6 BCU GND

SEE SHEET 27 FOR
DETAIL THIS AREA

SREB BUILDINGS
SEE NEXT SHEET

ADOT EEB

LOCATE 5' INBOUND
OF APRON EDGE

PRIMARY WIND CONE
DISCONNECT SEE WIND
CONE DETAIL SHEET

PRIMARY
WIND CONE

200+00

9

TSA

RADIUS 10'
CHORDS 11.6'

2" HDPE INSIDE
3" RSC SLEEVE

50'
172.4'
172.4'
172.4'
172.4'
50'
51.5'
51.5'

RADIUS 90'
CHORDS 30.8'

MAG DEC = 12°1' E, JUN 2010

50 25 0 50 100

ENLARGED TAXIWAY LIGHTING PLAN

STATE OF ALASKA
49 TH
Michael S. Goulding
NO. EE-9705
REGISTERED PROFESSIONAL ENGINEER

PPS&E
PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
RUNWAY LIGHTING PLAN (2 OF 2)

DATE: 10/25/2011
SHEET: 26 OF 37

Designed By: JMK
Drawn By: JJC
Checked By: JMK

Date Revised: 10/25/2011, 4:11 PM
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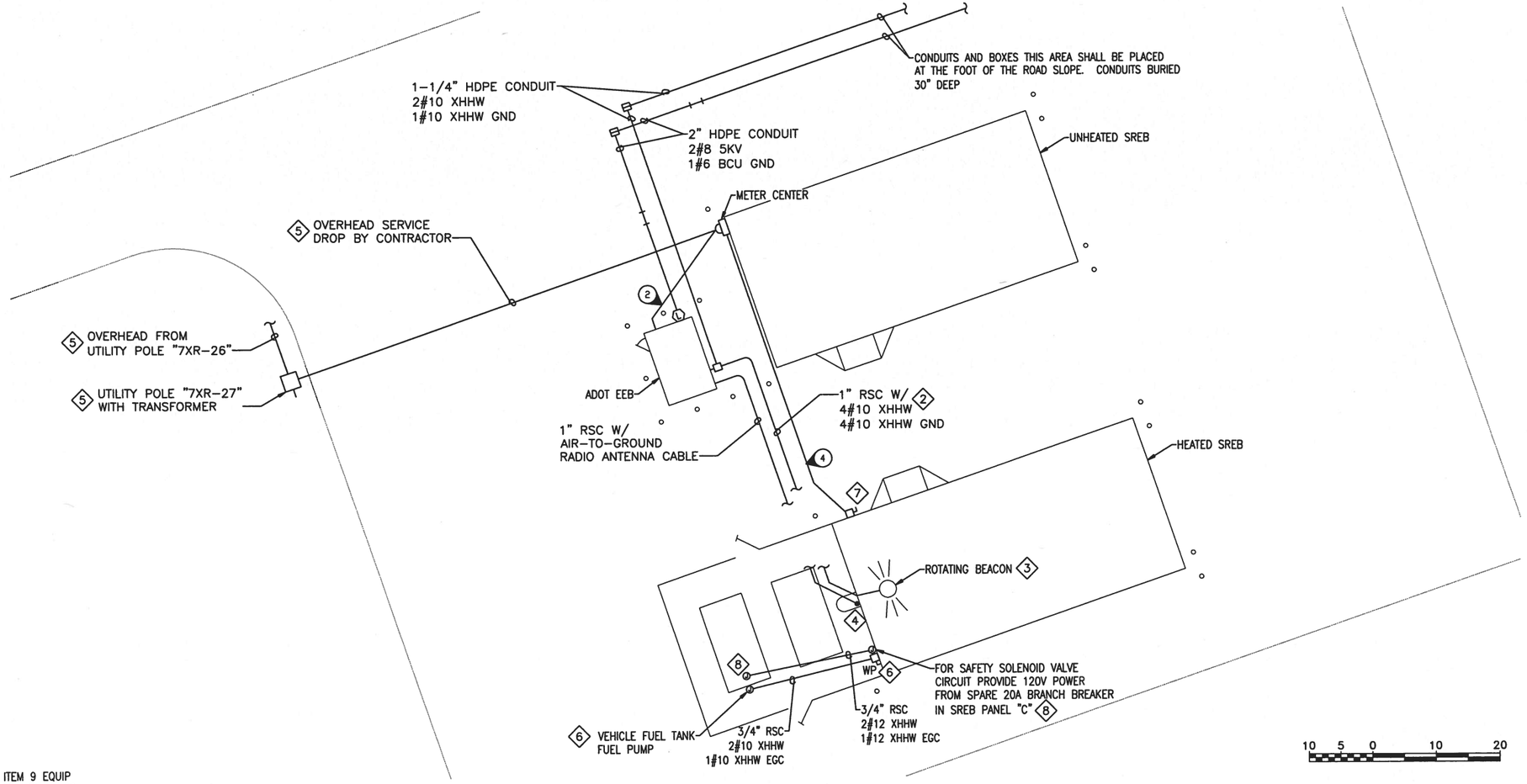
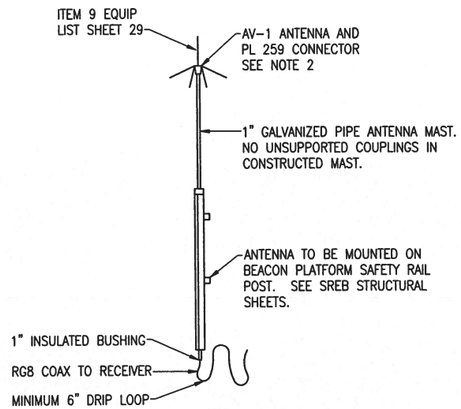


SREB PLAN

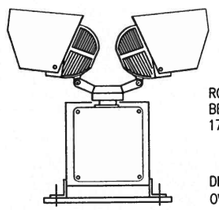


ANTENNA MOUNTING DETAIL

NO SCALE

ANTENNA MOUNTING NOTES:

1. BOLT, SPACERS AND HARDWARE SHALL BE GALVANIZED OR STAINLESS STEEL.
2. PL 259 CONNECTION TO ANTENNA MUST BE WEATHERPROOFED.



ROTATION SPEED – 12 RPM
BEAM POWER 175 WATT METAL HALIDE CLEAR
175 WATT METAL HALIDE GREEN

DIMENSIONS HOUSING 16"X12"X8"
OVERALL 30"X32"X11"

BEACON DETAIL

NO SCALE

LEGEND

(1) FEEDER NUMBER, SEE FEEDER SCHEDULE SHEET 32.

NOTES

1. ALL RACEWAYS UNDERGROUND UNLESS OTHERWISE NOTED.
2. BEACON CONDUCTOR UTILIZATION IS TWO FOR LAMP AND MOTOR, TWO FOR HEATER, AND ONE EGC. SEE BEACON WIRING DETAIL, AIRPORT LIGHTING CONTROL DETAILS SHEET.
3. INSTALL BEACON ON BEACON PLATFORM PROVIDED ON HEATED SREB ROOF BY SREB CONTRACTOR.
4. RADIO CONTROL ANTENNA TO BE MOUNTED ON BEACON PLATFORM SAFETY RAIL POST – SEE SREB STRUCTURAL DRAWINGS.
5. SEE ELECTRICAL UTILITY DISTRIBUTION PLANS AND DETAILS FOR SERVICE DROP AND POLE-MOUNTED TRANSFORMER SPECIFICATIONS.
6. 30A 2-POLE NON-FUSED HEAVY DUTY DISCONNECT SWITCH IN NEMA 3R ENCLOSURE. LOCATE SWITCH IN LINE-OF-SIGHT WITH FUEL PUMP OPERATOR LOCATION. AFFIX TO DISCONNECT A RED PHENOLIC NAMEPLATE WITH WHITE INSCRIPTION READING "FUEL PUMP DISCONNECT". CONNECT CIRCUIT FED FROM HEATED SREB AT DISCONNECT. PROVIDE CLASS I, DIV 1, HAZARDOUS LOCATION SEAL-OFFS ABOVE GRADE AT BOTH ENDS OF FUEL PUMP CIRCUIT. WIRING AT FUEL PUMP END SHALL BE CLASS I, DIV 1, FOR HAZARDOUS LOCATION.
7. PROVIDE NEMA 3R, 200A, SERVICE RATED NON-FUSED HEAVY DUTY DISCONNECT WITH GROUND BUS, (2) 3/4" X 10' GROUND RODS 6 FT. APART CONNECTED TO DISCONNECT GROUND BUS WITH NO. 6 BCU AND 2" CONDUIT FROM DISCONNECT THROUGH WALL TO PANEL LOCATION. COORDINATE LOCATION AND POSITION OF DISCONNECT WITH SREB CONTRACTOR.
8. PROVIDE CLASS I, DIV 1, HAZARDOUS LOCATION SEAL-OFFS ABOVE GRADE AT BOTH ENDS OF SOLENOID CIRCUIT. WIRING AT SOLENOID VALVE SHALL BE CLASS I, DIV 1, FOR HAZARDOUS LOCATIONS.

STATE OF ALASKA 49TH Michael S. Goulding NO. EE-8705 REGISTERED PROFESSIONAL ENGINEER

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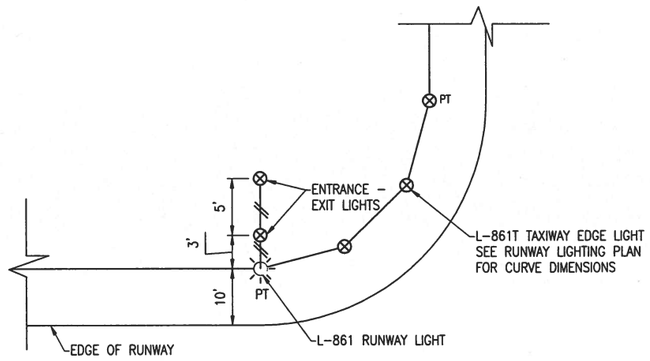
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

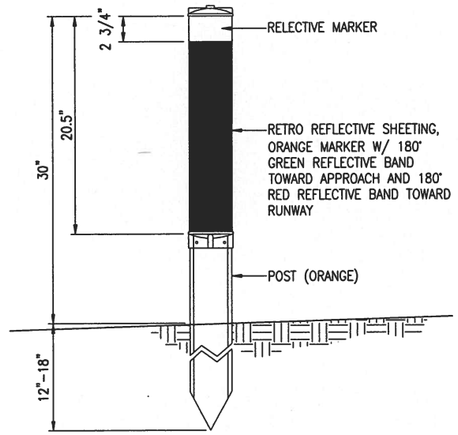
TUNUNAK AIRPORT
TUNUNAK, ALASKA
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
SREB AND EEB PAD DETAIL

DATE: 10/25/2011
SHEET: 27 OF 37

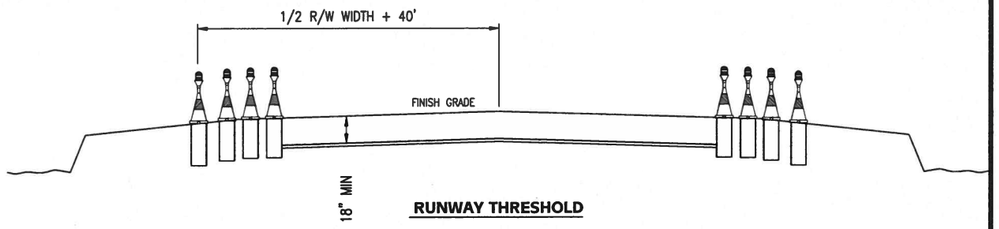
Designed By: JMK
Drawn By: JJC
Checked By: JMK
Date Revised: 10/25/2011, 4:12 PM
Layout Name: 27
File Path and Name: P:\2008\V08062\E\E0027\gpF08062.dwg



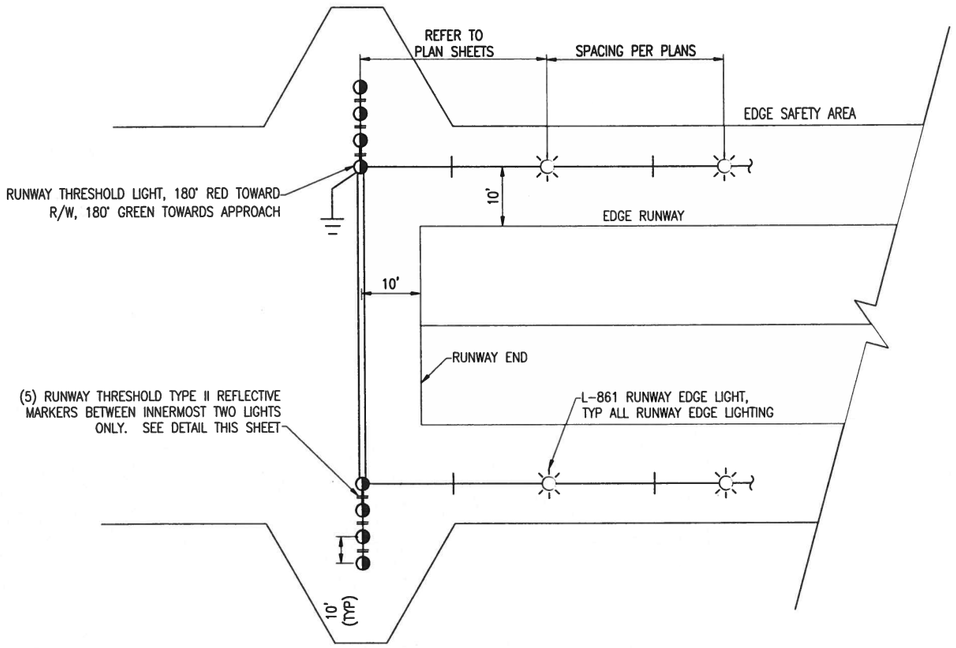
T/W LIGHTING DETAIL
NO SCALE



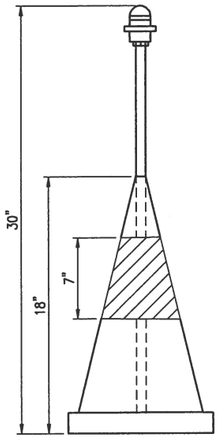
REFLECTIVE MARKER TYPE II - THRESHOLD
NO SCALE



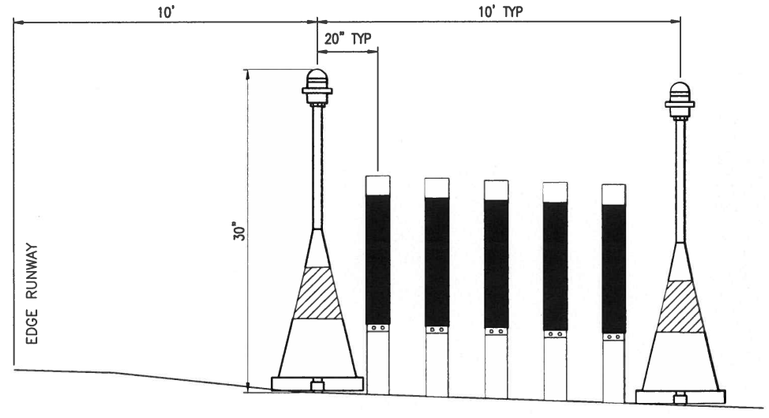
TYPICAL LIGHTING SECTION
NO SCALE



TYPICAL THRESHOLD LIGHTING DETAIL AT EACH RUNWAY END
NO SCALE



18" REFLECTIVE MARKER CONE
NO SCALE



TYPICAL THRESHOLD DETAIL
NO SCALE

TYPE II REFLECTIVE MARKER SCHEDULE

LOCATION	REFLECTIVE SHEETING COLOR	QTY
THRESHOLD – BETWEEN INNERMOST TWO LIGHTS	GREEN/RED	20
TOTAL		20

REFLECTIVE CONE SCHEDULE

LOCATION	TYPE	REFLECTIVE SHEETING COLOR	QTY
THRESHOLD LIGHTS	CONE, 18"	GREEN/RED	16
TAXIWAY LIGHTS	CONE, 18"	BLUE	18
RUNWAY LIGHTS	CONE, 18"	WHITE	32
ENTRANCE–EXIT LIGHTS	CONE, 18"	BLUE	2
TOTAL			68

SHEET NOTES:

1. INSTALL 18" RUBBER REFLECTIVE MARKER CONE ON EACH RUNWAY, TAXIWAY, THRESHOLD AND ENTRANCE–EXIT LIGHT.

STATE OF ALASKA 49TH Michael S. Goulding NO. EE-9705 REGISTERED PROFESSIONAL ENGINEER

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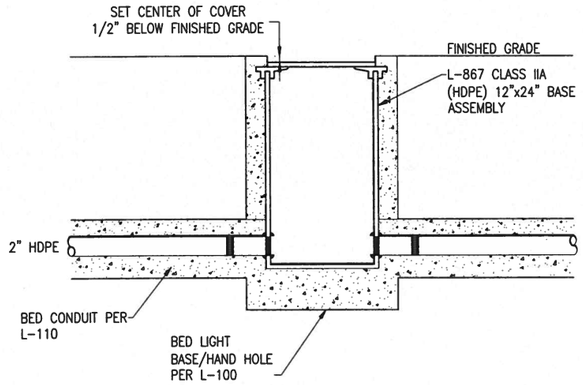
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

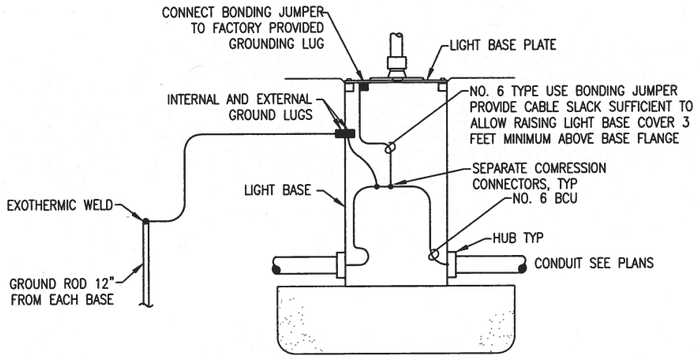
TUNUNAK AIRPORT
TUNUNAK, ALASKA
PROJECT No. 51791
AIP No. 3–02–0486–001–2012
AIRPORT LIGHTING DETAILS (1 OF 2)

DATE: 10/25/2011
SHEET: 28 OF 37

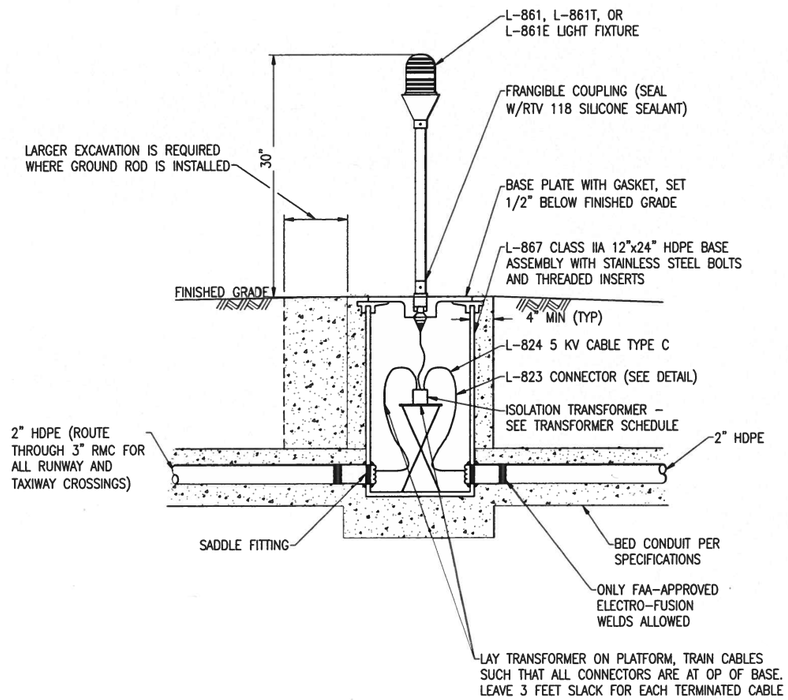
Designed By: JMK
Drawn By: JLC
Checked By: JMK
Date Revised: 10/25/2011, 3:36 PM
Layout Name: 28
File Path and Name: C:\Users\mhobson\appdata\local\temp\AcPublish_4984\E0028d101F080062.dwg



LIGHT BASE AND HAND HOLE BURIAL
NO SCALE

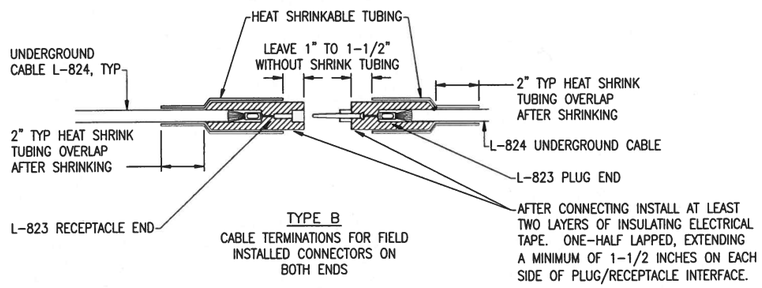


LIGHT BASE AND HAND HOLE GROUNDING
NO SCALE

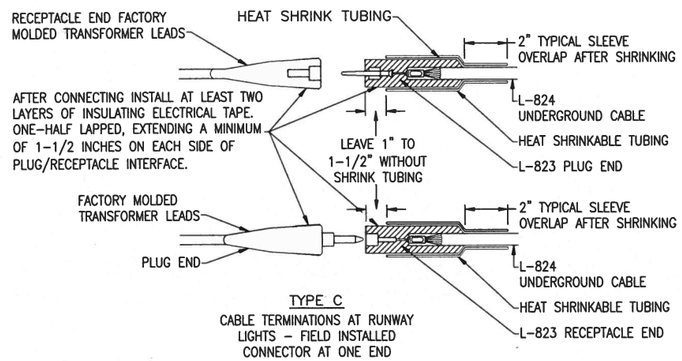


SEE LIGHT BASE GROUNDING DETAIL THIS SHEET

MEDIUM INTENSITY LIGHT DETAIL
NO SCALE



TYPE B
CABLE TERMINATIONS FOR FIELD
INSTALLED CONNECTORS ON
BOTH ENDS



TYPE C
CABLE TERMINATIONS AT RUNWAY
LIGHTS - FIELD INSTALLED
CONNECTOR AT ONE END

PRIMARY CABLE TERMINATION DETAILS
NO SCALE

CABLE TERMINATION NOTES:

1. PROVIDE L-823 PLUG AND RECEPTACLE TERMINALS AT ALL LIGHT BASES AND HAND HOLES AS REQUIRED.
2. INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE.
3. APPLY HEAT SHRINKABLE TUBING TO FIELD INSTALLED CONNECTORS ONLY. DO NOT APPLY TO FACTORY INSTALLED CONNECTORS. APPLY TAPE AFTER HEAT SHRINKABLE TUBING IS INSTALLED.
4. PROPERLY SEAT BOTH PLUG AND RECEPTACLE ENDS ONTO CABLE AND CHECK FOR PROPER CONNECTOR PIN POSITIONING PRIOR TO WRAPPING JOINT WITH TAPE.

SHEET NOTES:

1. THE LIGHT BASE ASSEMBLIES SHALL BE TYPE L-867, SIZE B, CLASS IIA, MADE FROM HIGH DENSITY POLYETHYLENE.
2. LIGHT BASE CONDUIT ENTRY STUBS SHALL BE SIDEWALL FUSED TO THE LIGHT BASE ASSEMBLIES AT THE FACTORY OR IN THE FIELD USING AN FAA-APPROVED SADDLE FITTING MADE FROM HDPE.
3. STEEL COVERS FOR HAND HOLES AND LIGHT BASES SHALL BE RATED FOR AIRPLANE WHEEL LOADING AND PAVING MACHINERY, RESPECTIVELY. COVER GASKET TO BE RUBBER.
4. STEEL COVERS FOR HAND HOLES AND LIGHT BASES SHALL BE GROUNDED USING A FACTORY-INSTALLED OR FIELD-PROVIDED GROUNDING LUG. SEE GROUNDING DETAILS ON THIS SHEET.
5. TAXIWAY AND APRON LIGHTS SHALL BE LED TYPE, AS SPECIFIED.

STATE OF ALASKA 49TH
Michael S. Goulding
NO. EE-9705
REGISTERED PROFESSIONAL ENGINEER

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BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
AIRPORT LIGHTING DETAILS (2 OF 2)

DATE: 10/25/2011
SHEET: 29 OF 37

Designed By: JMK
Drawn By: JLC
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Date Revised:
Layout Name: 29
File Path and Name: C:\Users\mhobson\appdata\local\temp\AcPublish_4984\E0028d01f08062.dwg
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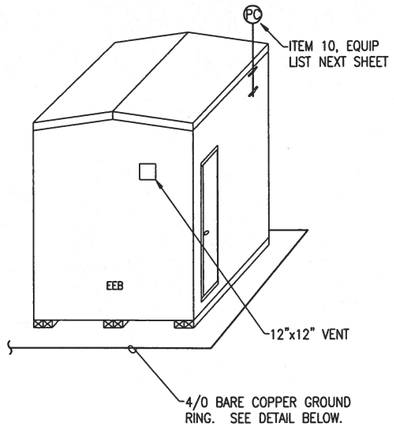
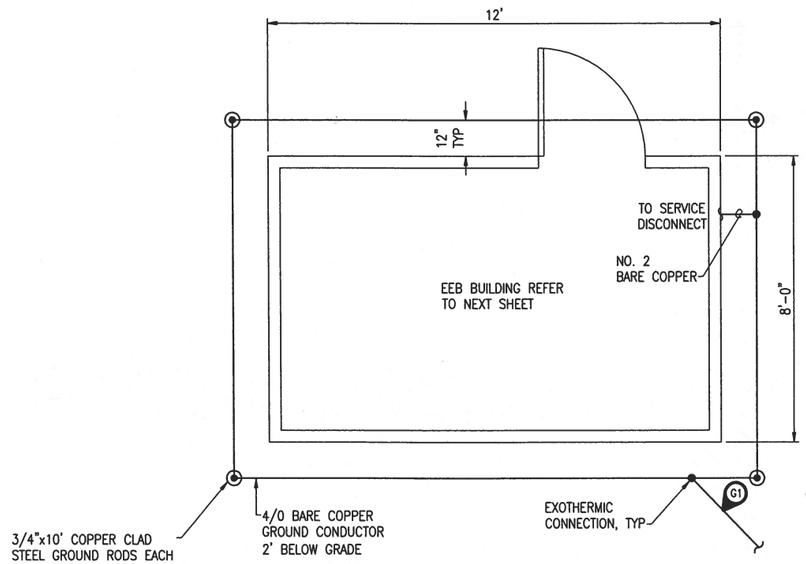


EEB NOTES:

1. ELECTRICAL EQUIPMENT BUILDING (EEB) AND INCLUDED EQUIPMENT SHALL CONFORM TO SPECIFICATION L-109. CONSTRUCTION OF THE BUILDING SHALL BE AS DESCRIBED IN THE "ELECTRICAL ENCLOSURE" SECTION OF L-109.
2. ANTENNA MOUNTED ON SEPARATE SREB STRUCTURE – SEE SHEET 27.

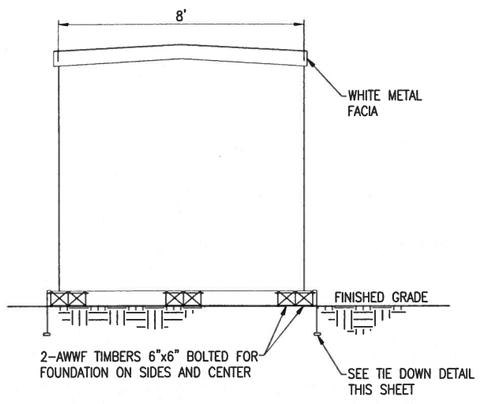
EEB DETAIL

NO SCALE



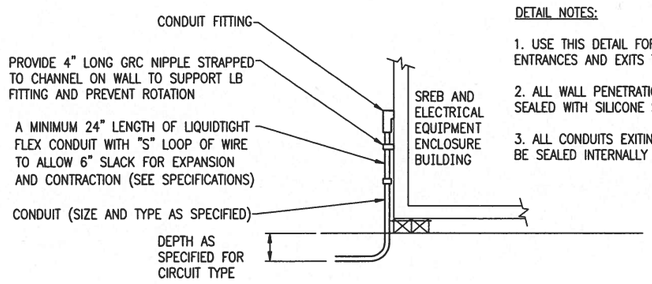
PLAN VIEW OF EEB BLDG

NO SCALE



EQUIPMENT ENCLOSURE BUILDING - SECTION

NO SCALE



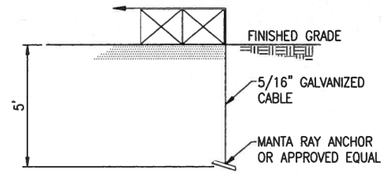
DETAIL NOTES:

1. USE THIS DETAIL FOR ALL UG CONDUIT ENTRANCES AND EXITS TO ANY BUILDING.
2. ALL WALL PENETRATIONS SHALL BE SEALED WITH SILICONE SEALANT.
3. ALL CONDUITS EXITING BUILDING SHALL BE SEALED INTERNALLY WITH DUCT SEAL.

CONDUIT ENTRANCE (TYP)

NO SCALE

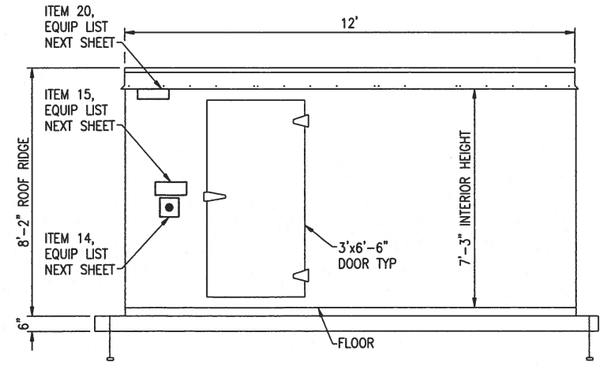
SECURE TIMBERS TO EQUIPMENT ENCLOSURE BUILDING FLOOR WITH 3/4" GALVANIZED MACHINE BOLTS AND COUNTERSINK BOLT HEADS INTO BOTTOM OF TIMBERS



EQUIPMENT ENCLOSURE BUILDING TIE DOWN DETAIL

NO SCALE

NOTE: INSTALL A TOTAL OF FOUR ANCHORS, ONE AT EACH CORNER



NOTE:

1. PROVIDE PADLOCK AND PADLOCK PROVISIONS FOR DOOR.

ENCLOSURE SIDE ELEVATION

NO SCALE

STATE OF ALASKA 49TH Michael S. Goulding NO. EE-9705 REGISTERED PROFESSIONAL ENGINEER

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PLANS DEVELOPED BY: PDC, INC.

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA

PROJECT No. 51791
AIP No. 3-02-0486-001-2012
EEB ELECTRICAL DETAILS (1 OF 2)

DATE: 10/25/2011
SHEET: 30 OF 37

Designed By: JMK
Drawn By: J.C.
Checked By: JMK
Date Revised:
Layout Name: 30
File Path and Name: C:\Users\mhobson\appdata\local\temp\AcPublish_4984\E0026d01f08062.dwg
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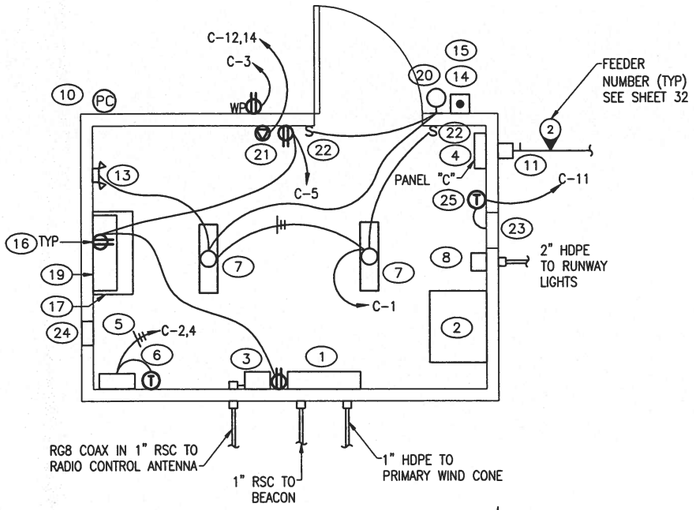

EQUIPMENT ENCLOSURE BUILDING PLAN

NO SCALE

NOTES:

1. ALL FIXTURES AND DEVICES TO BE SURFACE MOUNTED. ALL INTERIOR 120/240V WIRING SHALL BE IN 3/4" EMT (UNLESS INDICATED OTHERWISE), SURFACE MOUNTED, AND ITS LOCATION SHALL BE COMPLETELY SHOWN ON CONTRACTOR'S REDLINE DRAWINGS.
2. PROVIDE AND INSTALL A GREEN-COLOR-CODED EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT TO GROUND ALL ELECTRICAL FIXTURES AND DEVICES, INCLUDING J-BOXES.
3. ALL CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, THERMAL MAGNETIC TYPE, BOLT,-ON, WITH TRIP INDICATION. SQ-D QOB OR EQUAL.
4. ALL ELECTRICAL METHODS, TECHNIQUES, AND MATERIAL SHALL CONFORM TO THE CURRENT EDITION OF THE N.E.C.
5. ALL WALL PENETRATIONS SHALL BE SEALED WITH SILICONE SEALANT.
6. COOLING THERMOSTAT TO BE CONNECTED TO ENERGIZE BOTH FAN MOTOR AND SHUTTER MOTOR WHEN CALLING FOR COOLING.

EQUIPMENT LIST (OVAL NUMBERS)

ITEM	DESCRIPTION
1	LIGHTING CONTROL PANEL, L-821, MOUNT TOP AT 5'-6" ABOVE FINISHED FLOOR. SEE SPECIFICATIONS L-109.
2	CONSTANT CURRENT REGULATOR, L-828, 4 KW, 3-STEP. SECURE TO FLOOR WITH THROUGH BOLTS. SEE SPECIFICATIONS L-100.
3	RADIO CONTROLLER, L-854, CONTROL INDUSTRIES MODEL RC-1T5A OR APPROVED EQUAL. SEE SPECIFICATIONS L-109. MOUNT TOP AT 5'-6" ABOVE FINISHED FLOOR.
4	CIRCUIT BREAKER PANELBOARD, 100A, 120/240V, 20 SPACE, M.L.O., SURFACE MOUNT WITH COVER, DOOR, GROUND BAR KIT AND BREAKERS, 14" WIDE, SQUARE-D CAT. No. NQOD20L100CU or APPROVED EQUAL. SEE SPECIFICATIONS L-109. MOUNT TOP AT 5'-6" ABOVE FINISHED FLOOR.
5	ELECTRIC HEATER, 240V, 2000W, WALL MOUNTED, MARKEL NO. H3422 OR EQUAL.
6	HEATER THERMOSTAT, LINE VOLTAGE, 40 DEGREES F TO 90 DEGREES F WITH OFF POSITION, WALL SURFACE MOUNTED ON J-BOX.
7	2-LAMP FLUORESCENT LAMP FIXTURE, LENS GASKETED FOR DAMP LOCATION RATING, LITHONIA DMS 232, OR EQUAL.
8	5-kV PLUG CUT-OUT, SEPCO No. 30196 WITH NEMA 1 HINGED DOOR ENCLOSURE, SIZED 14" x 12" x 8" (H,W,D), OR APPROVED EQUAL.
9	RADIO CONTROL ANTENNA, ANTENNA SPECIALIST MODEL AV-1, OR APPROVED EQUAL. MOUNT ON BEACON PLATFORM SAFETY RAIL. REFER TO SREB STRUCTURAL SHEETS.
10	PHOTOELECTRIC CONTROL, TORK NO. 2101 OR APPROVED EQUAL, MOUNTED ON 1" RSC @2'-6" ABOVE EEB ROOF.
11	100A, 3W, S/N, NEMA 3R NON-FUSED DISCONNECT, WITH GROUND BAR.
12	NOT USED
13	EMERGENCY LIGHT, 90 MIN. RATING, DUAL-LITE LM30N OR APPROVED EQUAL
14	PUSH BUTTON STATION-GENERAL ELECTRIC NO. CR2943AJ202B OR APPROVED EQUAL.
15	SIGN TO READ: PUSH TO TURN RUNWAY LIGHTS ON. AUTO OFF IN 15 MIN.
16	DUPLEX RECEPTACLE, 20A, 125V, NEMA 5-20R, BRYANT 5262-I OR EQUAL.
17	METAL WALL DESK, 34.25"X28"X13", SLOPE TOP WITH PIGEON HOLE SHELVES AND LOCKING DRAWER, MCMASTER-CARR CATALOG NO. 4808T18. MOUNT DESK TOP AT 43" AFF.
18	METAL CHAIR (ADJUSTABLE LEGS) WITH BACK SUPPORT FOR DESK: MCMASTER-CARR MODEL 4813T1. (NOT SHOWN)
19	METAL WALL CABINET (LOCKABLE) MCMASTER-CARR 30"X12"X30" WITH TWO SHELVES. MOUNT ON WALL ABOVE DESK.
20	LED EXTERIOR WALLBRACKET LIGHTING FIXTURE, LITHONIA, CAT. NO. WST-24LED-MD-120-BK, OR EQUAL. MOUNT ADJACENT TO STRIKE SIDE OF DOOR PER EEB ELEVATION.
21	SINGLE RECEPTACLE, 20A, 240V, NEMA 6-20R, BRYANT 5462-I OR EQUAL.
22	SWITCH, SINGLE POLE, 20A, 120V, BRYANT 4901-I OR EQUAL.
23	EXHAUST FAN, GRAINGER NO. 1HLA2
24	SHUTTER, GRAINGER NO. 1C742 WITH MOTOR OPERATOR GRAINGER NO. 2C831
25	THERMOSTAT, COOLING, LINE VOLTAGE

PANEL "C"

VOLTAGE: 120/240V, 1PH, 3W
BUS: 100
MAIN: MAIN LUGS ONLY

SPECIFICATION TYPE: LAB
MIN. A.I.C. RATING: 10,000
CIRCUITS: 20

ENCLOSURE: NEMA 1
MOUNTING: SURFACE
LOCATION: DOT EEB

LOAD	LOAD DESCRIPTION	NOTE	VA	AMP	P	CKT	PHASE		CKT	P	AMP	VA	NOTE	LOAD DESCRIPTION	LOAD
1	ENCLOSURE LIGHTING		200	20	1	1	A		2	2	20	1000		ELECTRIC HEATER	5
2	RECEPTACLE - EXTERIOR	1	180	20	1	3		B	4	–	–	1000		" "	5
2	RECEPTACLE - INTERIOR		540	20	1	5	A		6	1	20	100		LIGHTING CONTROL	6
5	LIGHTING REGULATOR		906	30	2	7		B	8	1	20	510		ROTATING BEACON & MOTOR	6
5	"		906	–	–	9	A		10	1	20	400		STRIP HEATER - BEACON	6
6	EXHAUST FAN AND SHUTTER MOTOR		240	20	1	11		B	12	2	20	360		RECEPTACLE, NEMA 6-20R	5
6	PRIMARY WIND CONE - LED		55	20	1	13	A		14	–	–	360		" "	5
						15		B	16						
						17	A		18						
						19		B	20						

LOAD SUMMARY AND CODE DEFINITIONS	CONNECTED KVA PH A	PH B	TOTAL	% DIV	NEC TOTAL
1 LIGHTING =	0.2		0.2	125%	0.3
2 RECEPTACLES =	0.5	0.2	0.7	10K+50%	0.7
3 MOTORS =				100%	
4 LARGEST MOTOR =				125%	
5 MISC. NON-CONTINUOUS =	2.3	2.3	4.5	100%	4.5
6 MISC. CONTINUOUS =	0.6	0.8	1.3	125%	1.6
7 NON-COINCIDENTAL =				0%	
8 SPARE =				100%	
9 OTHER =				100%	
TOTAL KVA (PHASE)	3.6	3.2	6.8		7.1
TOTAL AMPERES	29.7	26.6	28.2		29.7

NOTES:
1. GFCI BREAKER (5mA).

SYMBOLS

	FLUORESCENT FIXTURE WITH JUNCTION BOX
	WALL MOUNTED, BATTERY OPERATED EMERGENCY FIXTURE, TYPE EM
S	SINGLE POLE SWITCH
	DUPLEX RECEPTACLE
	GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) DUPLEX RECEPTACLE
	SPECIAL PURPOSE RECEPTACLE; Nema Type As Shown
J	JUNCTION BOX
	DISCONNECT SWITCH NON-FUSED
	MISC PANEL
	BRANCH CIRCUIT HOME RUN TO PANELBOARD - No. of Arrows Indicates Number of Circuits, Panel and Circuit Numbers As Shown
	NUMBER OF CONDUCTORS IN RACEWAY - Absence of marks indicates two conductors and equipment grounding conductor, EGC in all raceways. Equipment grounding conductor indicated.
T	THERMOSTAT

NOT ALL SYMBOLS ARE USED

STATE OF ALASKA 49 TH Michael S. Goulding NO. EE-9705 REGISTERED PROFESSIONAL ENGINEER

PPS&E
PLANS DEVELOPED BY:
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BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
EEB ELECTRICAL DETAILS (2 OF 2)

DATE: 10/25/2011
SHEET: 31 OF 37

Designed By: JMK
Drawn By: JLC
Checked By: JMK
Date Revised: 10/25/2011, 3:36 PM
Layout Name: 31
File Path and Name: C:\Users\mbobson\appdata\local\temp\VpcPublish_4984\E0028d101F08062.dwg
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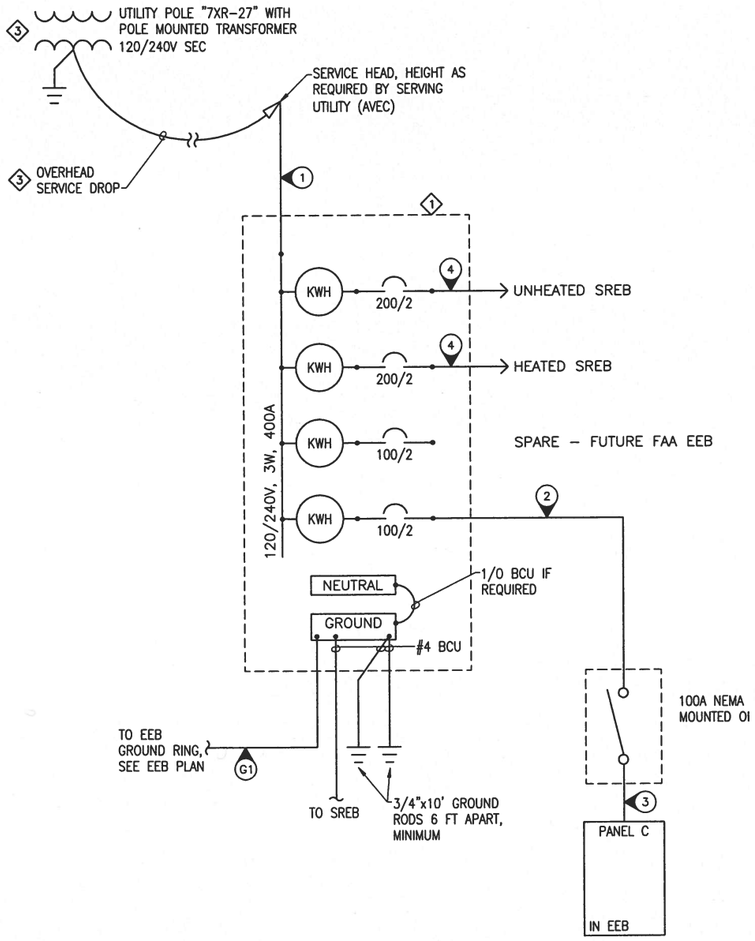

POWER ONE-LINE DIAGRAMS
NO SCALE

SHEET NOTES

1. COMBINATION METER/MAIN BREAKER SERVICE, 120/240 VOLTS, 400 AMP BUSSING, WITH (4) 200 AMP METER SOCKETS AND MAIN BREAKERS AS INDICATED ON ONE-LINE DIAGRAM, IN NEMA 3R ENCLOSURE. SERVICE EQUIPMENT SHALL MEET REQUIREMENTS OF SERVING UTILITY (AVEC) FOR MULTIMETER SERVICE ENTRANCE.
2. SERVICE EQUIPMENT TO BE MOUNTED ON NEW SREB BUILDING.
3. POWER DISTRIBUTION INCLUDING POLE MOUNTED TRANSFORMER AND SERVICE DROP TO SERVICE EQUIPMENT PROVIDED BY CONTRACTOR. AVEC TO PROVIDE METERS FOR METER CENTER SOCKETS. SEE SHEET U4 FOR POWER DISTRIBUTION AND SPECIFICATIONS.

LEGEND

(X) FEEDER NUMBER, SEE FEEDER SCHEDULE THIS SHEET.

FEEDER SCHEDULE

NO.	CONDUCTORS	RACEWAY TYPE & SIZE	REMARKS
1	3 NO. 500 KCMIL XHHW	2-1/2" RSC	
2	3 NO. 2 XHHW 1 NO. 8 XHHW GND	2"	USE RSC ABOVE GRADE, LFMC FOR 90 DEGREE VERTICAL BEND AND TRANSITION, HDPE FOR UNDERGROUND
3	3 NO. 2 XHHW 1 NO. 8 XHHW GND	2" RSC	FROM DISCONNECT THROUGH BUILDING WALL TO PANEL C
4	3 NO. 3/0 XHHW 1 NO. 6 XHHW GND	2" RSC	ONE EACH FOR UNHEATED SREB AND HEATED SREB SAME RACEWAY TYPE AS IN ITEM NO. 2, ABOVE
G1	1 NO. 1/0 BCU	NONE	GROUNDING ELECTRODE CONDUCTOR TO GROUND ROD AND GROUND RING AT EEB

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CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
POWER ONE-LINE AND FEEDER SCHEDULE

DATE: 10/25/2011
SHEET: 32 OF 37

Designed By: JMK
Drawn By: JJC
Checked By: JMK
Date Revised: 10/25/2011, 4:32 PM
Layout Name: 32
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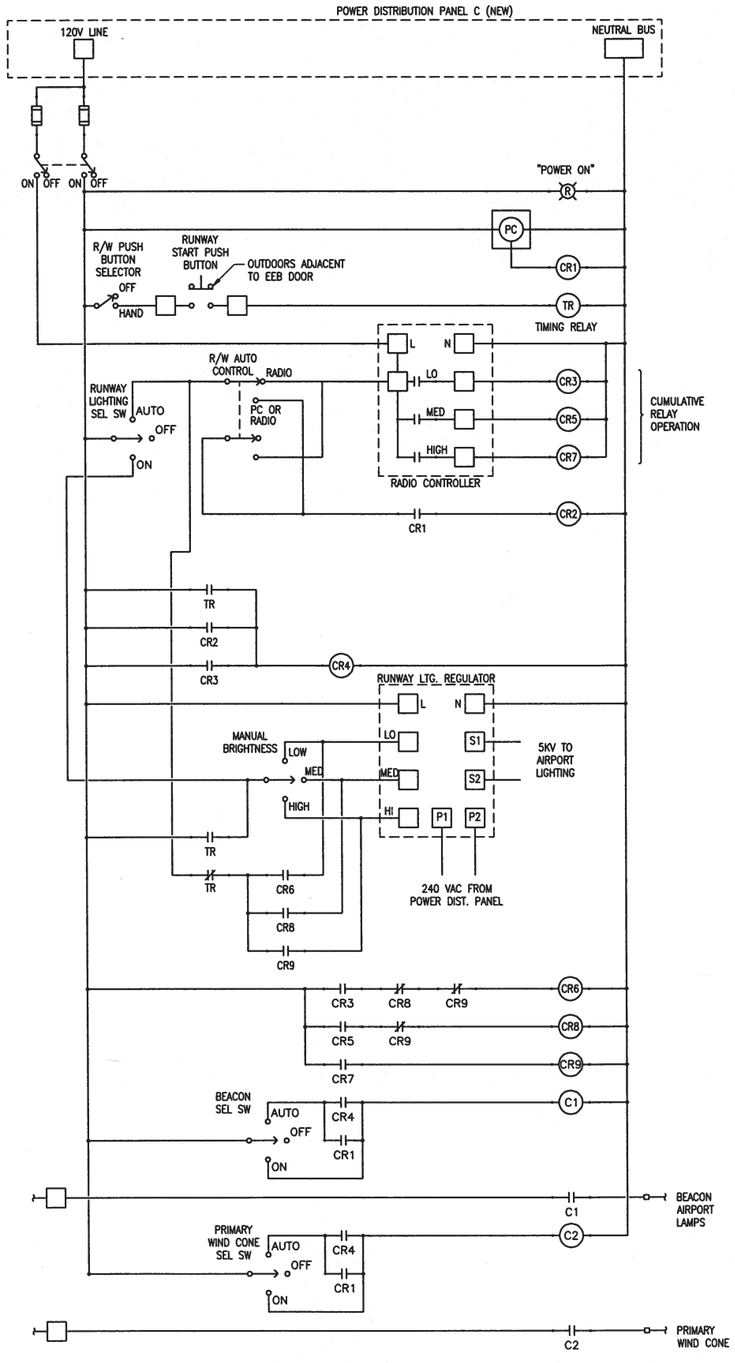

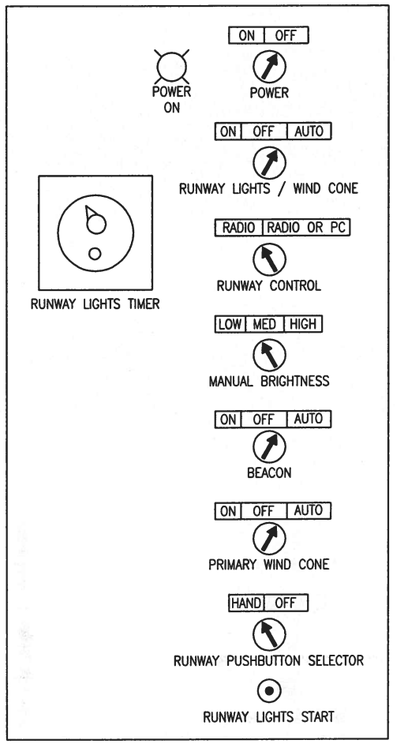

CONTROL PANEL DETAIL
NO SCALE

DETAIL NOTE:

ALL CONTROL RELAYS CR1, CR2, CR3, ETC. AND CONTACTORS C1 AND C2 SHALL BE SIZED BY THE SUPPLIER AND/OR CONTRACTOR TO MEET ALL NECESSARY LOAD REQUIREMENTS AND REQUIREMENTS OF SPECIFICATIONS. TIMING RELAY TR SHALL BE ADJUSTABLE 0–30 MIN.

RUNWAY LIGHTING CONTROL PANEL DIAGRAM
NO SCALE

AIRPORT LIGHTING CONTROL PANEL OPERATION:

SEE L–109 FOR CONTROL PANEL SPECIFICATIONS.

CONTROL PANEL FEATURES:

PANEL ON/OFF SWITCH AND PILOT LIGHT:
THIS IS THE MAIN POWER SWITCH TO THE CONTROL PANEL. THE PILOT LIGHT INDICATES THAT THE CONTROL PANEL IS ENERGIZED.

RUNWAY PUSHBUTTON SELECTOR SWITCH
"HAND" – ALLOWS EITHER OF TWO PUSHBUTTON SWITCHES, ONE IN PANEL AND ONE OUTSIDE EEB DOOR, TO TURN ON RUNWAY LIGHTS TO PRESET INTENSITY AND BEACON AND PRIMARY WIND CONE IF SELECTOR SWITCHES ARE SET TO "AUTO". ALL WILL TIME OUT ACCORDING TO TIME DELAY SET AT "RUNWAY LIGHTS TIMER".

PANEL PUSH–BUTTON SWITCH:
MOMENTARY CONTACT SWITCH TURNS RUNWAY LIGHTS ON AT PRESET BRIGHTNESS AND TURNS ON SUPPLEMENTAL WIND CONE AND BEACON IF SET IN "AUTO". TIME OFF IS CONTROLLED BY ADJUSTABLE TIMER.

RUNWAY LIGHTING SELECTOR THREE–POSITION SWITCH:
THIS SWITCH SELECTS THE R/W LIGHTS OPERATING MODE.
"ON": – R/W LIGHTS ARE ON, AT THE MANUALLY SELECTED BRIGHTNESS.
"OFF": – R/W LIGHTS ARE MANUALLY TURNED OFF.
"AUTO": – R/W LIGHTS CONTROLLED BY RADIO OR PHOTOCELL.

MANUAL BRIGHTNESS SELECTOR THREE–POSITION SWITCH:
THIS SELECTOR SWITCH ALLOWS MANUAL SELECTION (FROM THE CONTROL PANEL) OF THE THREE RUNWAY LIGHTING INTENSITY LEVELS (LOW, MEDIUM AND HIGH) WHEN THE RUNWAY LIGHTING SELECTOR SWITCH IS IN THE MANUAL "ON" (NON–RADIO– OR PHOTOCELL–CONTROLLED) POSITION.

BEACON SELECTOR THREE–POSITION SWITCH:
SELECTS THE OPERATING MODE FOR THE BEACON.
"ON" – BEACON IS MANUALLY TURNED ON.
"OFF" – BEACON IS MANUALLY TURNED OFF
"AUTO" – BEACON IS CONTROLLED BY EITHER THE PHOTOCELL OR THE RADIO CONTROLLER.

PRIMARY WIND CONE SELECTOR THREE–POSITION SWITCH:
SELECTS THE OPERATING MODE FOR THE PRIMARY WIND CONE.
"ON" – PRIMARY WIND CONE IS MANUALLY TURNED ON.
"OFF" – PRIMARY WIND CONE IS MANUALLY TURNED OFF
"AUTO" – PRIMARY WIND CONE IS CONTROLLED BY EITHER THE PHOTOCELL OR THE RADIO CONTROLLER.

EXTERNAL DEVICES:

PHOTOCELL:
THE PHOTOCELL CONTROLS THE BEACON AND PRIMARY WIND CONE AUTOMATICALLY WHEN THE BEACON OR PRIMARY WIND CONE SELECTOR SWITCH IS IN THE "AUTO" POSITION.

EXTERIOR PUSH–BUTTON SWITCH:
MOMENTARY CONTACT SWITCH TURNS RUNWAY LIGHTS ON AT PRESET BRIGHTNESS AND TURNS ON SUPPLEMENTAL WIND CONE AND BEACON IF SET IN "AUTO". TIME OFF IS CONTROLLED BY ADJUSTABLE TIMER.

RADIO CONTROLLER:
THE RADIO CONTROL UNIT HAS THREE OUTPUTS (LOW, MEDIUM, AND HIGH) BASED UPON 3, 5, OR 7 PULSES BEING RECEIVED FROM THE PILOT ON THE LOCAL COMMON TRAFFIC ADVISORY FREQUENCY (CTAF). THE RUNWAY LIGHTING SELECTOR SWITCH MUST BE IN THE "AUTO" POSITION FOR THE RADIO CONTROL UNIT TO BE FUNCTIONAL. IN THE AUTO MODE, THE RECEPTION OF 3, 5, OR 7 RADIO PULSES WILL SET THE REGULATOR TO THE CORRESPONDING INTENSITY LEVEL. AFTER OPERATION BY RADIO CONTROL, THE RADIO CONTROL UNIT AUTOMATICALLY TURNS OFF ALL RUNWAY LIGHTS AFTER 15 MINUTES ELAPSED TIME, UNLESS, THE PILOT AGAIN INITIATES RADIO COMMAND.

RUNWAY LIGHTING REGULATOR:

THE RUNWAY LIGHTING REGULATOR PROVIDES POWER TO RUNWAY LIGHTS. IT HAS THREE INTENSITY LEVELS (LOW, MEDIUM, AND HIGH) SET EITHER BY MANUAL SELECTOR SWITCH OR 3, 5, OR 7 PULSES RECEIVED BY RADIO ON THE LOCAL CTAF. THE SUPPLEMENTAL WIND CONE WILL OPERATE SIMULTANEOUSLY WITH THE RUNWAY LIGHTS.

STATE OF ALASKA 49TH
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DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

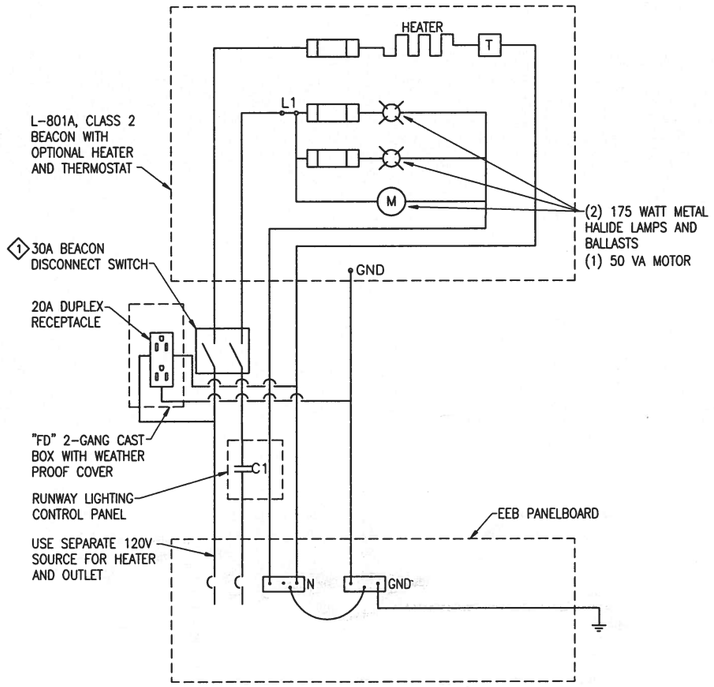
TUNUNAK AIRPORT
TUNUNAK, ALASKA
PROJECT No. 51791
AIP No. 3–02–0486–001–2012
AIRPORT LIGHTING CONTROL DETAILS (1 OF 2)

DATE: 10/25/2011
SHEET: 33 OF 37

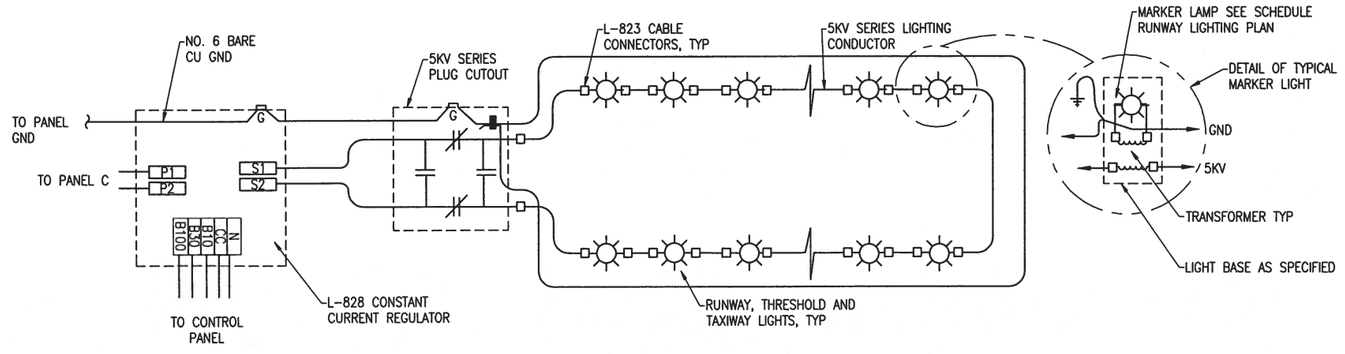
Designed By: JMK
Drawn By: JC
Checked By: JMK
Date Revised: 10/25/2011, 3:36 PM
Layout Name: 33
File Path and Name: C:\Users\mhobson\cppdata\local\temp\AcPublish_4984\E0026d01f06062.dwg

ROTATING BEACON NOTES:

1. BEACON DISCONNECT SHALL BE NEMA TYPE 3R, 240 VOLT, NON-FUSED, HEAVY DUTY, 30 AMP, 3-POLE WITH ISOLATED NEUTRAL AND GROUND BARS, SQUARE D CAT. NO. HU361RB, OR EQUAL. INSTALL ON BEACON PLATFORM IN LEIU OF CIRCUIT-BREAKER PANEL SPECIFIED IN L-101-3.8. COORDINATE WITH SREB CONTRACTOR FOR INSTALLATION OF STRUCTURAL STEEL IN BEACON PLATFORM FOR STANCHION TO MOUNT DISCONNECT AND RECEPTACLE.



ROTATING BEACON WIRING DETAIL



RUNWAY LIGHTING ONE LINE DIAGRAM

NO SCALE

STATE OF ALASKA 49TH
Michael S. Goulding NO. EE-9705 REGISTERED PROFESSIONAL ENGINEER

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TUNUNAK AIRPORT
TUNUNAK, ALASKA

PROJECT No. 51791
AIP No. 3-02-0486-001-2012
AIRPORT LIGHTING CONTROL DETAILS (2 OF 2)

DATE: 10/25/2011
SHEET: 34 OF 37

Designed By: JMK
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Checked By: JMK
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Layout Name: 34
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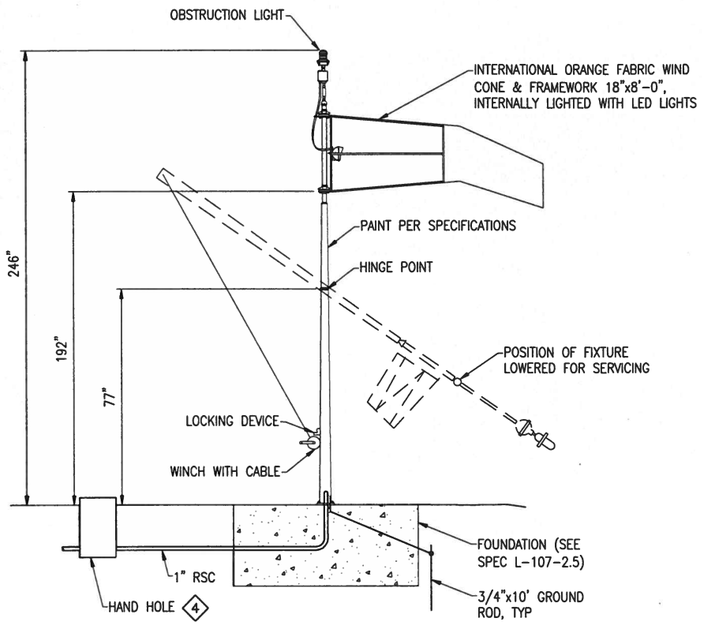
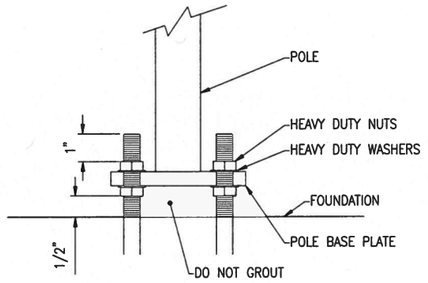


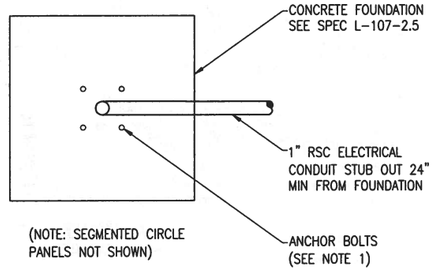
WIND CONE ASSEMBLY - TYPICAL

NO SCALE 3



POLE MOUNTING ELEVATION

NO SCALE

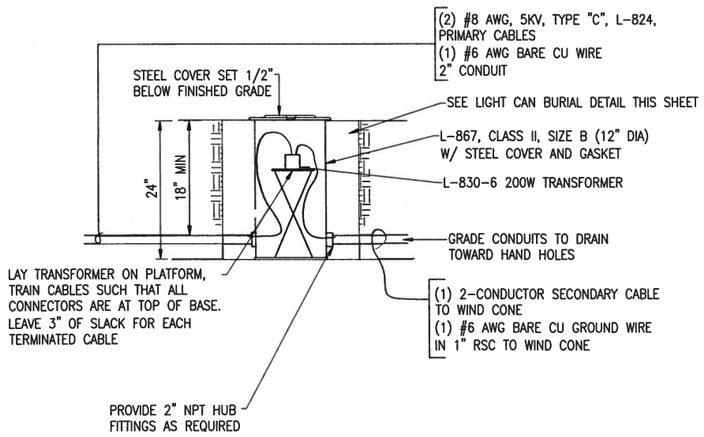


POLE MOUNTING PLAN VIEW

NO SCALE

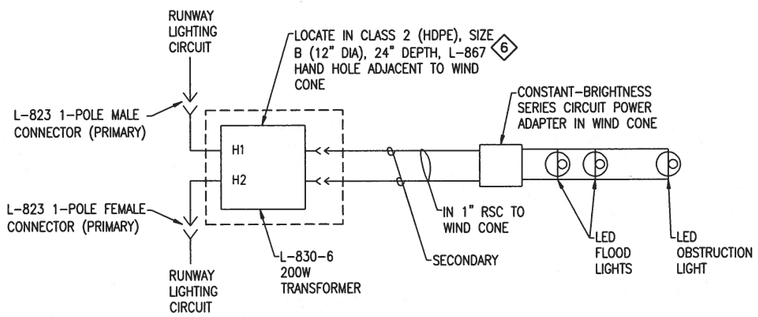
SHEET NOTES

1. ANCHOR BOLT PATTERN SHALL BE SET TO MATCH WIND CONE POLE BASE PATTERN.
2. PRIMARY WIND CONE SHALL BE FAA TYPE L-807 STYLE 1-B, SIZE 1, 18" X 8', INTERNALLY LIGHTED WITH LED LIGHTS AND OBSTRUCTION LIGHT FOR OPERATION ON 120 VOLTS.
3. SUPPLEMENTAL WIND CONE SHALL BE FAA TYPE L-807 STYLE 1-B, SIZE 1, 18" X 8', INTERNALLY LIGHTED WITH LED LIGHTS AND OBSTRUCTION LIGHT FOR OPERATION ON 6.6 AMP SERIES LIGHTING CIRCUIT WITH BUILT IN CONSTANT BRITHTNESS SERIES CIRCUIT POWER ADAPTER.
4. INSTALL L-867 HAND HOLE, CLASS II (HDPE), SIZE B (12" DIAMETER BY 24" DEEP). INSTALL WITHIN 6' OF WIND CONE, SO PIGTAIL THAT COMES WITH THE WIND CONE WILL REACH THE HAND HOLE.
5. PRIMARY WIND CONE DISCONNECT SHALL BE HEAVY DUTY NEMA 3R, 30 AMP BLADE TYPE, LOCKABLE, UNFUSED, WITH GROUND BAR AND INSULATED NEUTRAL BAR. CONNECT SO AS TO ISOLATE ALL POWER TO WIND CONE LIGHTS.
6. WEATHER PROOF OUTLET SHALL BE 20 AMP DUPLEX RECEPTACLE IN WEATHER PROOF BOX WITH "IN USE" TYPE METAL COVER. CONNECT OUTLET TO SOURCE SIDE OF WIND CONE DISCONNECT SWITCH.



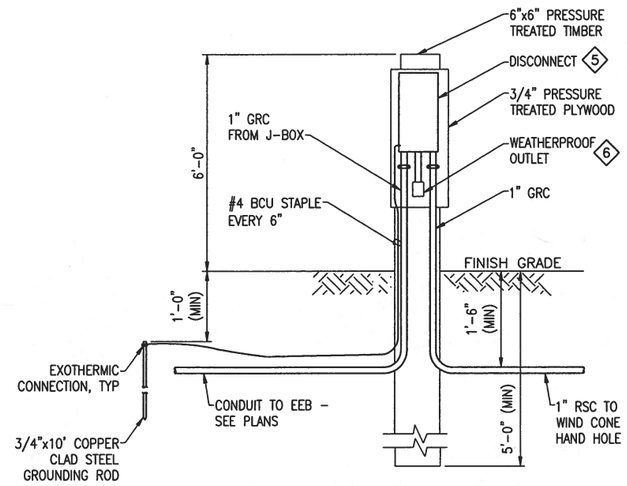
SUPPLEMENTAL WIND CONE HAND HOLE DETAIL

NO SCALE



SUPPLEMENTAL WIND CONE WIRING DIAGRAM

NO SCALE



PRIMARY WIND CONE DISCONNECT - FRONT VIEW

NO SCALE

Designed By: JMK
Drawn By: JLC
Checked By: JMK
Date Revised: 10/25/2011, 3:36 PM
Layout Name: 35
File Path and Name: C:\Users\mhobson\appdata\local\temp\AcPublish_4984\E0028d01F080952.dwg

STATE OF ALASKA 49 TH
Michael S. Goulding NO. EE-9705 REGISTERED PROFESSIONAL ENGINEER

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BY	DATE	REVISION

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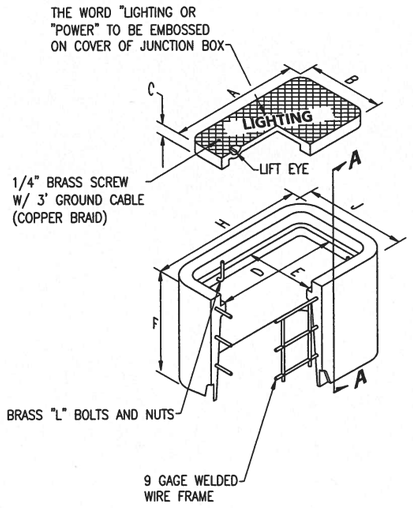
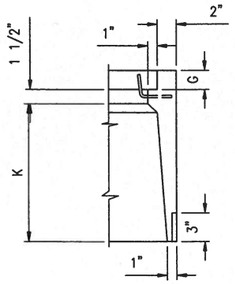
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA

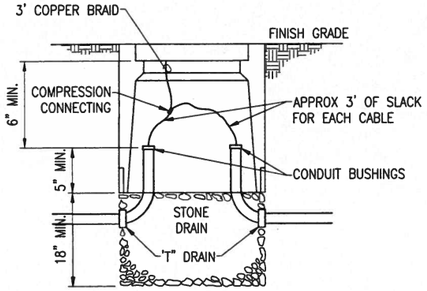
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
WIND CONE DETAILS

DATE: 10/25/2011
SHEET: 35 OF 37





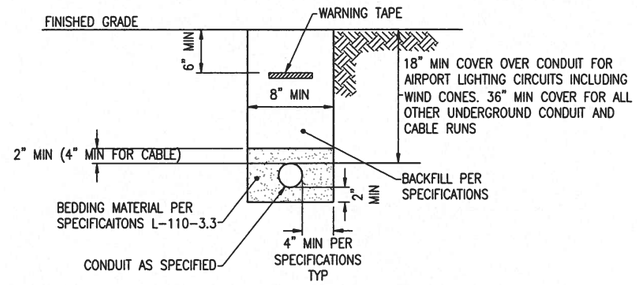
SECTION A-A



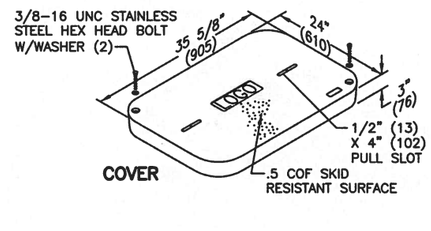
DIMENSIONS (IN.)

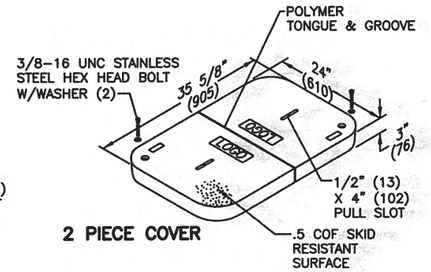
	TYPE 1	TYPE 1-A
A	15	22 3/4
B	10	13 1/4
C	1 3/4	2
D	13 1/2	21 1/4
E	8 1/2	11 3/4
F	12	18
G	1 3/4	2
H	19 1/2	27 1/4
J	14 1/2	17 3/4
K	8 3/4	14 1/2

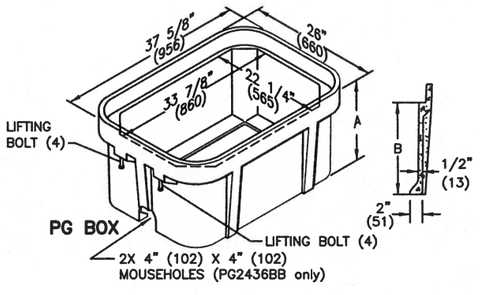
TYPE 1A JUNCTION BOX DETAIL
NO SCALE

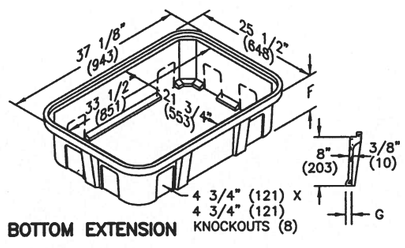


TYPICAL TRENCH DETAIL - SINGLE CONDUIT OR CABLE
NO SCALE



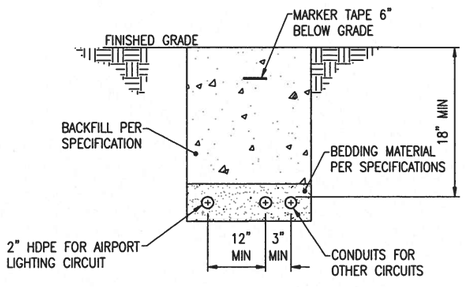






TYPE 1B JUNCTION BOX DETAIL
NO SCALE

NOTE: DIMENSION A = 30"
PRODUCT SHALL BE HUBBELL QUAZITE NO. PG2436BA30 BOX AND PG2436HG0017 COVER WITH THE WORD "ELECTRIC" EMBOSSED, OR APPROVED EQUAL. (BOTTOM EXTENSION NOT NEEDED: OPEN BOTTOM)



TYPICAL JOINT TRENCH DETAIL
NO SCALE

STATE OF ALASKA 49TH Michael S. Goulding NO. EE-9705 REGISTERED PROFESSIONAL ENGINEER

PPS&E
PLANS DEVELOPED BY: PDC, INC.

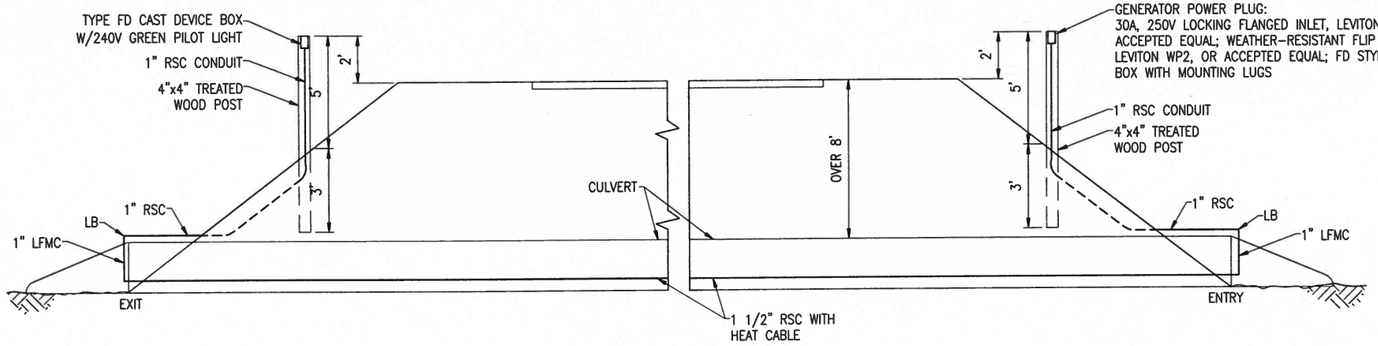
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

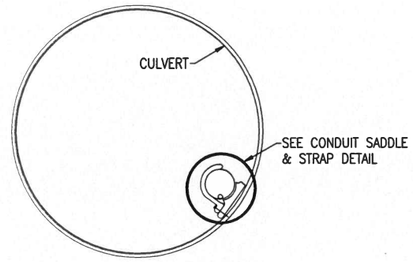
TUNUNAK AIRPORT
TUNUNAK, ALASKA
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
TRENCH & J-BOX DETAILS

DATE: 10/25/2011
SHEET: 36 OF 37

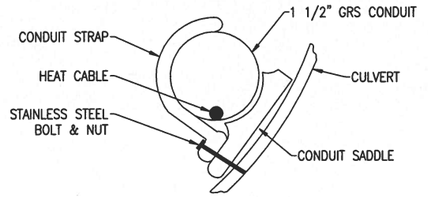
Defined By: JMK
Drawn By: JLC
Checked By: JMK
Date Revised: 10/25/2011, 3:36 PM
Layout Name: 36
File Path and Name: C:\Users\rnhobson\appdata\local\temp\AcPublish_4984\E0026d01F80062.dwg



SECTION THRU CULVERT
NO SCALE



CULVERT CROSS SECTION
NO SCALE



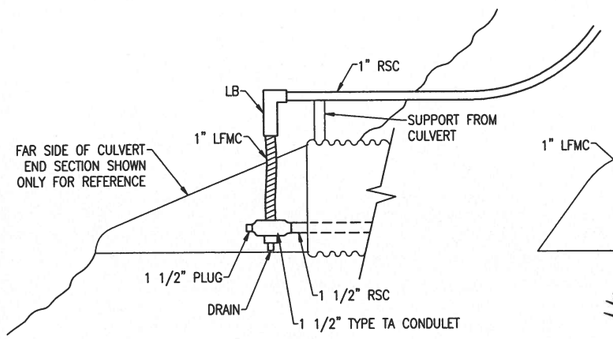
CONDUIT & STRAP DETAIL
NO SCALE

NOTE: PROVIDE CONDUIT STRAPS @ 4'-0" O.C. MAX SPACING.

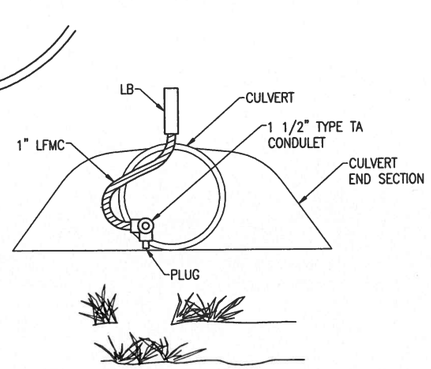
NOTES

1. REFER TO ADOT&PF DRAWING D-14.10, "REMOTE THAW WIRE INSTALLATION", AND SPECIFICATION ITEM D-760 FOR ADDITIONAL REQUIREMENTS AND DETAILS.
2. REFER TO CIVIL DRAWINGS FOR EXACT QUANTITY, LOCATIONS, SIZES AND CONFIGURATIONS OF ALL CULVERTS REQUIRING THAW WIRES.
3. THAW WIRE SHALL BE 240 VOLT, NOMINAL 8 WATT/FT, WITH NO. 10 AWG COPPER BUS WIRES SUCH AS NELSON LLT OR APPROVED EQUAL.
4. FOR ALL CULVERTS UNDER RUNWAY, INCLUDING BEYOND THRESHOLD, KEEP ALL OBSTRUCTIONS, INCLUDING POSTS AND ELECTRICAL EQUIPMENT, FITTINGS, ETC., BELOW RUNWAY SAFETY AREA SHOULDER ELEVATION.
5. FOR ALL OTHER CULVERTS ALONG ACCES ROAD, INSTALL POSTS AND ASSOCIATED ELECTRICAL EQUIPMENT AS INDICATED ON DRAWINGS THIS SHEET.

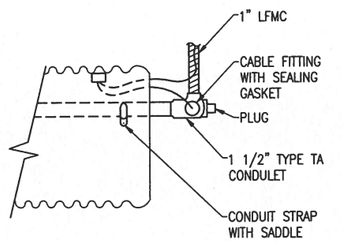
(6) ROUTE NO. 6 XHHW GROUND WIRE FROM GROUNDING LUG TO LFMC, OVER EDGE OF CULVERT END SECTION, AND DOWN ALONG CULVERT END SECTION EXTERIOR TO GROUND ROD.



SIDE VIEW

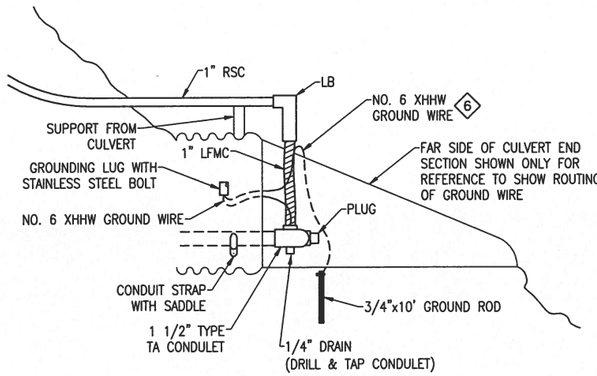


END VIEW



NOTE: CULVERT END SECTION NOT SHOWN FOR CLARITY

PLAN VIEW



ELEVATION

CULVERT EXIT DETAIL
NO SCALE

CULVERT ENTRY DETAIL
NO SCALE

STATE OF ALASKA
49 TH
Michael S. Goulding
NO. EE-9705
REGISTERED PROFESSIONAL ENGINEER

PPS&E
PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
CULVERT THAW WIRE DETAILS

DATE: 10/25/2011
SHEET: 37 OF 37

Designed By: JMK
Drawn By: JLC
Checked By: JMK
Date Revised:
Layout Name: 37
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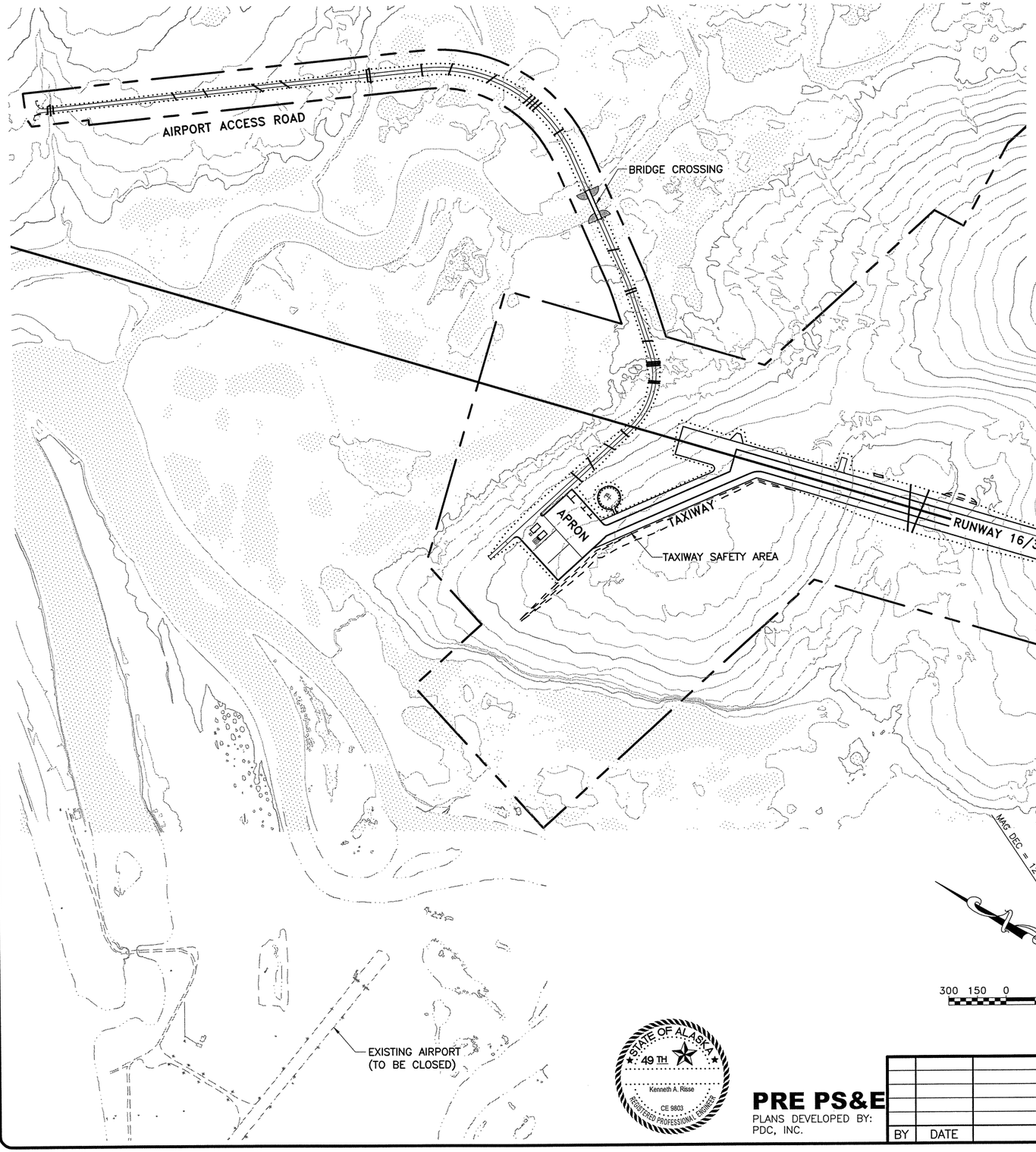
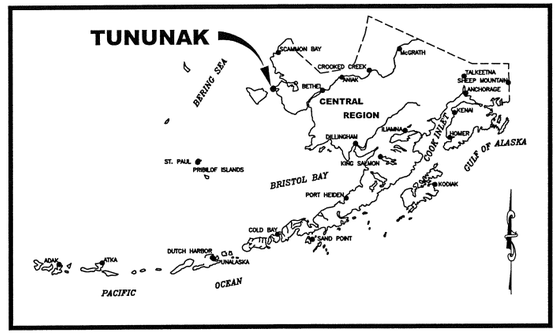
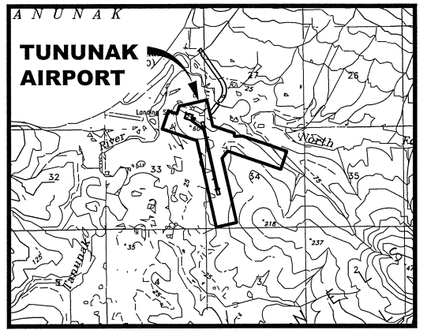
10/25/2011, 5:01 PM





LOCATION MAP



VICINITY MAP

Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR
Date Revised:	10/25/2011, 4:35 PM
Layout Name:	ES1
File Path and Name:	P:\2008\Y08062\Cn\N1001escp\Y08062.dwg

STATE OF ALASKA
49 TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
EROSION AND SEDIMENT CONTROL PLAN (1 OF 7)

DATE: 10/25/2011
SHEET: ES1 OF ES7

LEGEND :

AIRPORT PROPERTY BOUNDARY .....

CLEARING LIMITS .....

DITCH .....

EXCAVATION LIMITS .....

FILL LIMITS .....

TEMPORARY PERIMETER CONTROLS (SEE PAGE B–50; AK SWPPP GUIDE OR FUNCTIONAL EQUIVALENT, SUCH AS FIBER FILLED TUBES, OR FLOATING SILT CURTAIN).....

WETLANDS BOUNDARY .....

POTENTIAL HAUL ROUTE.....

20' VEGETATIVE BUFFER STRIP..... — VB— VB— VB— VB— VB—

CULVERT: .....(NEW)

CULVERT VELOCITY DISSIPATERS (SEE PAGE B–14; PLAN SHEET 20, AK SWPPP GUIDE OR FUNCTIONAL EQUIVALENT)...

SURFACE FLOW DIRECTION .....

TEMPORARY SEDIMENT TRAP (SEE PAGE B–43; AK SWPPP GUIDE OR FUNCTIONAL EQUIVALENT) .....

VEHICLE TRACKING EXIT (SEE PAGE B–61; AK SWPPP GUIDE OR FUNCTIONAL EQUIVALENT) .....

TEMPORARY ROCK CHECK DAM.....

WETLANDS .....

UPLANDS .....

COCONUT MATTING OR FUNCTIONAL EQUIVALENT.....

ROCK DITCH LINING OR FUNCTIONAL EQUIVALENT.....

PERMANENT EROSION PROTECTION :

(DESIGNED INTO THE PROJECT, TO REMAIN AFTER PROJECT COMPLETION)

PERMANENT CONTROLS ARE PAID UNDER THE REFERENCED PAY ITEMS AS OPPOSED TO OTHER EROSION CONTROL ELEMENTS WHICH ARE PAID UNDER P–157b. SEE SHEETS 7–17 AND 20 FOR SPECIFIC LOCATIONS.

1. ROUGHEN SURFACE AND SEED ALL SLOPES WITH HECP (T–901a) (NOT SHOWN ON PLAN FOR CLARITY). SEEDED SLOPES ARE CONSIDERED A PERMANENT CONTROL ONCE VEGETATIVE COVER MEETS THE APDES CGP NOTICE OF TERMINATION REQUIREMENTS (I.E. COVERAGE WITH 70% VEGETATIVE DENSITY).
2. APPLY HECP (T–908–2.1) AND SEED (T–901–2.1) ON DITCH SLOPES AND ALL AREAS OUTSIDE OF EMBANKMENTS DISTURBED BY CONSTRUCTION.
3. PLACE ROCK LINING, P–152ae, IN ALL CONSTRUCTED DITCHES AND OTHER AREAS WHERE CALLED OUT ON THE PLANS.
4. CULVERT VELOCITY DISSIPATERS SHALL BE CONSTRUCTED AT THE LOCATIONS SHOWN. CULVERT VELOCITY DISSIPATION MAY BE MODIFIED TO FIT FIELD CONDITIONS AND TO PROVIDE SEDIMENT TRAPS AT CULVERT INLETS. AFTER STABILIZATION HAS BEEN ESTABLISHED IN ACCORDANCE WITH APDES CGP, SPREAD BERMED PORTION OF DISSIPATERS.
5. IN ACCORDANCE WITH SPECIFICATION T–908–2.4, USE HYDRAULIC EROSION CONTROL PRODUCTS (HECP) E.G. FLEXTERRA OR FUNCTIONAL EQUIVALENT TO STABILIZE SLOPES.

NOTES:

1. SEE USGS QUAD MAP NUNIVAK ISLAND (C–1) FOR OVERALL AREA MAP.
2. THE CONTRACTOR SHALL CONSIDER CONTROLS SHOWN ON SHEETS ES1 – ES7 AS GENERAL GUIDANCE IN DEVELOPING THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL THOROUGHLY REVIEW THE SLOPES AND GRADES SHOWN ON THE CONSTRUCTION PLANS, PROFILES, AND TYPICAL SECTIONS AND UNDERSTAND THEIR RELATIONSHIP WITH DRAINAGE PLANS AND THE NEED FOR SPECIFIC EROSION AND SEDIMENT CONTROL MEASURES.
3. CUT AND FILL SLOPES ALONG THE RUNWAY, TAXIWAY AND APRON ARE AS SHOWN ON THE PROJECT CONSTRUCTION DRAWING TYPICAL SECTIONS.
4. ALL AREAS WITHIN THE PROJECT LIMITS ARE WETLANDS, EXCEPT UGCHIRNAK MOUNTAIN MATERIAL SOURCE. A BUFFER OF ADJACENT WETLAND VEGETATION (WITH NO STANDING WATER) HAS BEEN PERMITTED AS A SEDIMENT CONTROL. IF SUBSTANTIAL SILTATION OCCURS (GREATER THAN 2"), SUCH THAT IT MAY CHANGE THE CHARACTER OR TYPE OF THE NATURAL VEGETATION, THE ERODED MATERIALS SHALL BE REMOVED, THE AREA RESTORED, AND TEMPORARY CONTROL MEASURES INSTALLED TO ENSURE NO ADDITIONAL SEDIMENT IS DEPOSITED UNTIL ADJACENT CONSTRUCTION SLOPES ARE PERMANENTLY STABILIZED.
5. THE CONTRACTOR SHALL STAKE PERMITTED WETLANDS BOUNDARIES.
6. NO WORK IS ALLOWED OUTSIDE PERMITTED WETLANDS AREAS. SEE PERMIT DRAWINGS, APPENDIX E OF THE SPECIFICATIONS.

Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR
Date Revised:	10/25/2011, 3:55 PM
Layout Name:	ES2
File Path and Name:	P:\2008\Y08062\CA\W100\esc\F08062.dwg

STATE OF ALASKA 49 TH Kenneth A. Risse CE 9803 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E
PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3–02–0486–001–2012
EROSION AND SEDIMENT CONTROL PLAN (2 OF 7)

DATE: 10/25/2011
SHEET: ES2 OF ES7

MAG DEC = 12°1' E, JUN 2010

100 50 0 100 200

ACCESS ROAD

195+00 200+00 205+00 210+00 215+00 220+00

19

REIL/THRESHOLD PAD, TYP

PAPI PAD

TEMPORARY SEDIMENT TRAP, TYP OF 2

DITCH TO DRAIN

ROCK LINED DITCH (PERM. CONTROL)

RUNWAY

MATCH STA 222+00

SEGMENTED CIRCLE WITH LIGHTED WINDCONE

TAXIWAY

COCONUT MATTING NOT SHOWN TO SCALE FOR CLARITY (ALL LOCATION)

CULVERT VELOCITY DISSIPATERS, TYP OF 2

RUNWAY SAFETY AREA

60+00

TERRAIN OBSTRUCTION EXCAVATION TO BE SEEDED AND MULCHED WITH HECP

7:1

34:1

0%

EXCAVATED AREA TO BE SEEDED AND MULCHED WITH HECP

EXCAVATED AREA TO BE SEEDED AND MULCHED WITH HECP

RUNWAY SAFETY AREA

ROCK LINED DITCH (PERM. CONTROL)

MATCH STA 222+00

225+00 230+00 235+00 240+00 245+00 250+00

RUNWAY

34

PAPI PAD

MAG DEC = 12°1' E, JUN 2010

100 50 0 100 200

Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR
Date Revised:	10/25/2011, 4:39 PM
Layout Name:	ES3
File Path and Name:	P:\2008\T08062\CVN1001\esp\T08062.dwg

STATE OF ALASKA 49 TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

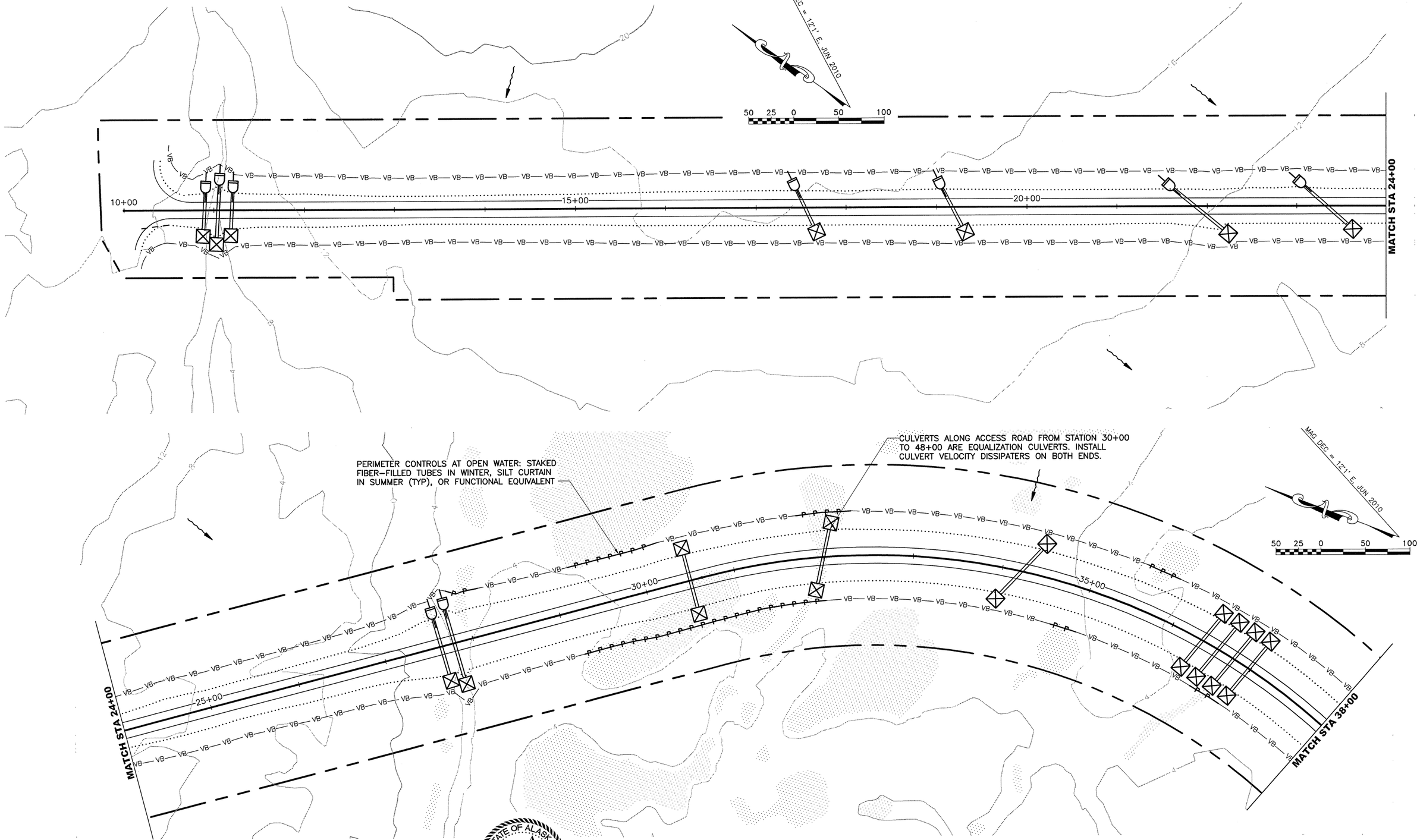
PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
EROSION AND SEDIMENT CONTROL PLAN (3 OF 7)

DATE: 10/25/2011
SHEET: ES3 OF ES7



Designed By:	KAR
Drawn By:	HPF, RJP
Checked By:	KAR
Date Revised:	10/25/2011, 4:39 PM
Layout Name:	SE4
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STATE OF ALASKA 49 TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
EROSION AND SEDIMENT CONTROL PLAN (4 OF 7)

DATE: 10/25/2011
SHEET: ES4 OF ES7

MAG DEC = 12°1' E, JUN 2010

50 25 0 50 100

TEMPORARY STOCKPILE

TEMPORARY SEDIMENT TRAP, TYP OF 3

MATCH STA 38+00

40+00

45+00

50+00

MATCH STA 52+00

CONCRETE WASHOUT

CULVERT VELOCITY DISSIPATERS, TYP OF 3

TANUNAK RIVER, NORTH FORK

ABUTMENT WORK AREA: DAM, DIVERT OR OTHERWISE ISOLATE WORK AREA FOR ANY WORK BELOW OHW. (TYP BOTH SIDES DURING CONSTRUCTION OF ABUTMENTS). PROVIDE PERIMETER CONTROL ALONG RIVER CHANNEL (SILT CURTAIN OR FUNCTIONAL EQUIVALENT).

APRON

AVIATION SUPPORT AREA

EQUIPMENT STORAGE BUILDINGS

SEGMENTED CIRCLE WITH LIGHTED WINDCONE

TEMPORARY SEDIMENT TRAP, TYP OF 2

ACCESS ROAD

55+00

60+00

65+00

65+52

MATCH STA 52+00

CULVERT VELOCITY DISSIPATERS, TYP OF 2

MAG DEC = 12°1' E, JUN 2010

50 25 0 50 100

Designed By: KAR
Drawn By: HPF, RJP
Checked By: KAR

Date Revised: 10/25/2011; 4:11 PM
Layout Name: ES5
File Path and Name: P:\2008\f08062\CN1001escpf08062.dwg

STATE OF ALASKA 49 TH
Kenneth A. Risse
CE 9803
REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

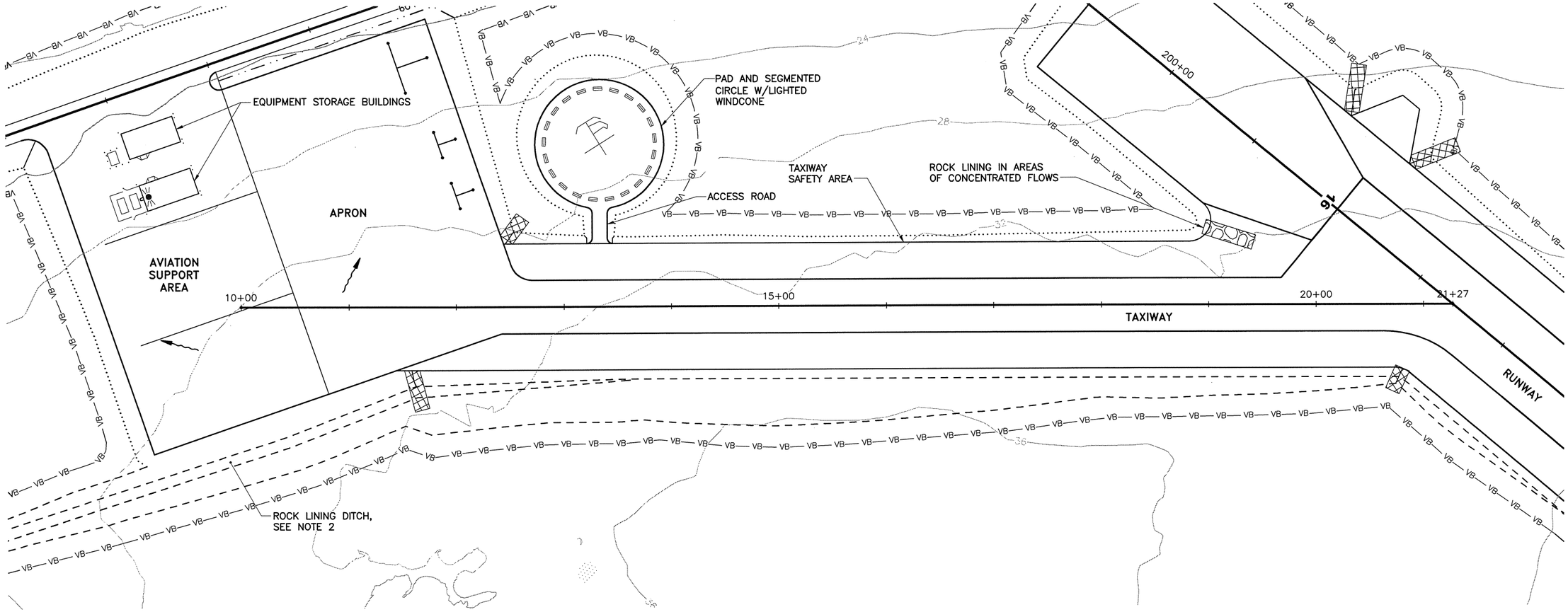
PLANS DEVELOPED BY:
PDC, INC.

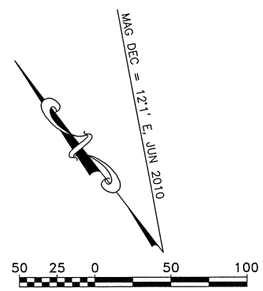
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
EROSION AND SEDIMENT CONTROL PLAN (5 OF 7)

DATE: 10/25/2011
SHEET: ES5 OF ES7





NOTES:

1. SEE DRAINAGE DITCH TYPICAL SECTIONS ON SHEET 20 FOR ROCK LINING INSTALLATION.
2. SEE PLAN AND PROFILE SHEETS 7–9, AND 13–14 FOR ROCK LINING LIMITS.

Designed By: KAR
Drawn By: MPE, BJP
Checked By: KAR
Date Revised: 10/25/2011, 4:41 PM
Layout Name: ES6
File Path and Name: P:\2009\108062\CN\W1001esc#108062.dwg

STATE OF ALASKA 49TH Kenneth A. Risse CE 9803 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

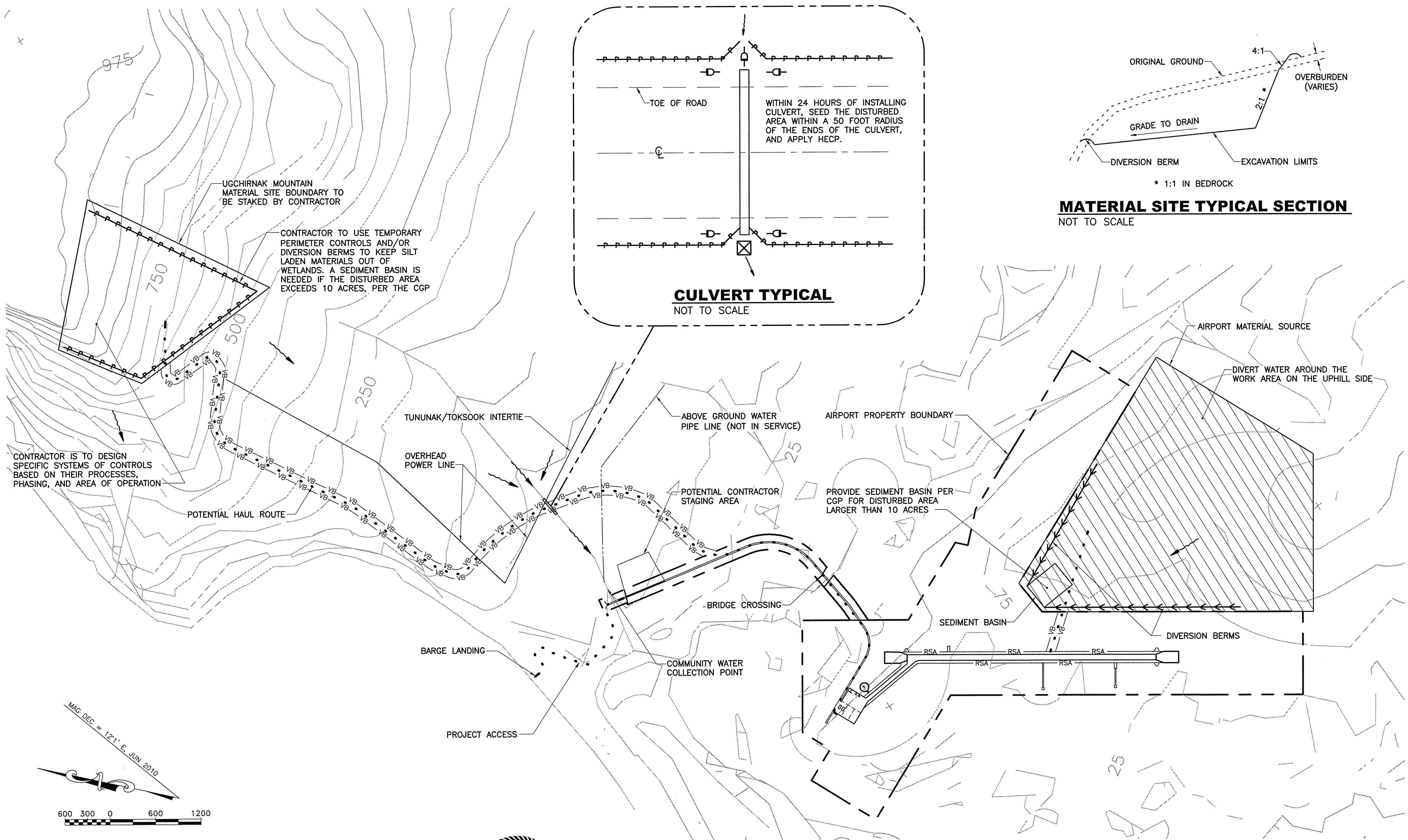
PLANS DEVELOPED BY:
PDC, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3–02–0486–001–2012
EROSION AND SEDIMENT CONTROL PLAN (6 OF 7)

DATE: 10/25/2011
SHEET: ES6 OF ES7



Designed By: KAR
Drawn By: HPF, RJP
Checked By: KAR

Date Revised: 10/25/2011, 3:49 PM
Layout Name: ES6
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STATE OF ALASKA 49TH Kenneth A. Risse CE 9803 REGISTERED PROFESSIONAL ENGINEER

PRE PS&E

PLANS DEVELOPED BY: PDC, INC.

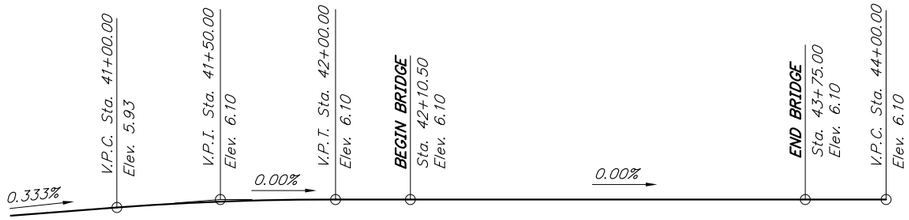
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT RELOCATION
PROJECT No. 51791
AIP No. 3-02-0486-001-2012
EROSION AND SEDIMENT CONTROL PLAN (7 OF 7)

DATE: 10/25/2011
SHEET: ES7 OF ES7

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	3-02-0486-001-2012/51791	2011		



PROFILE GRADE DATA

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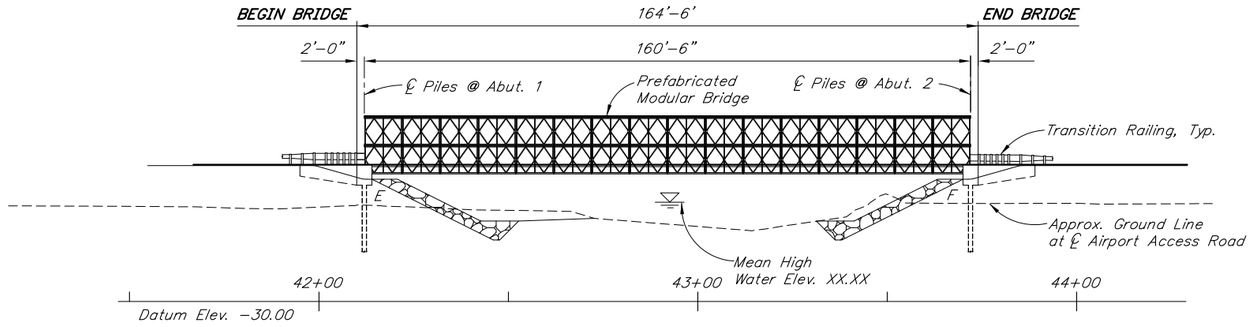
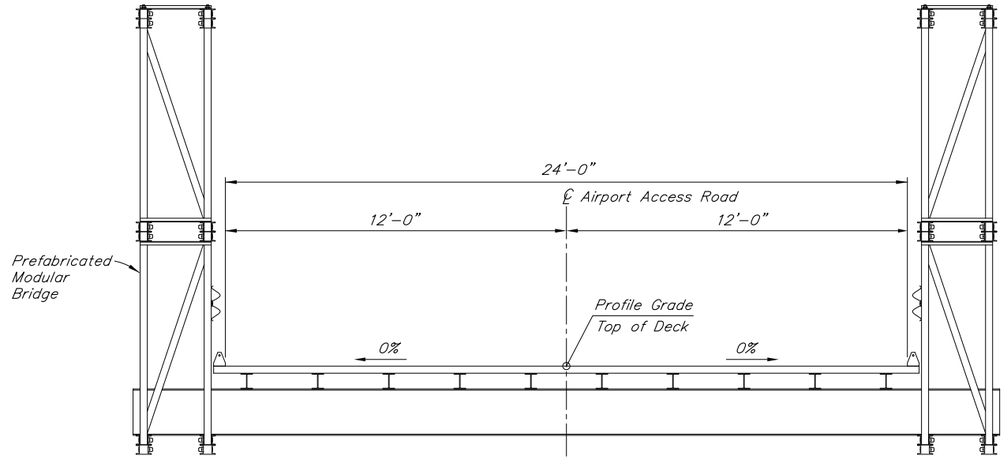


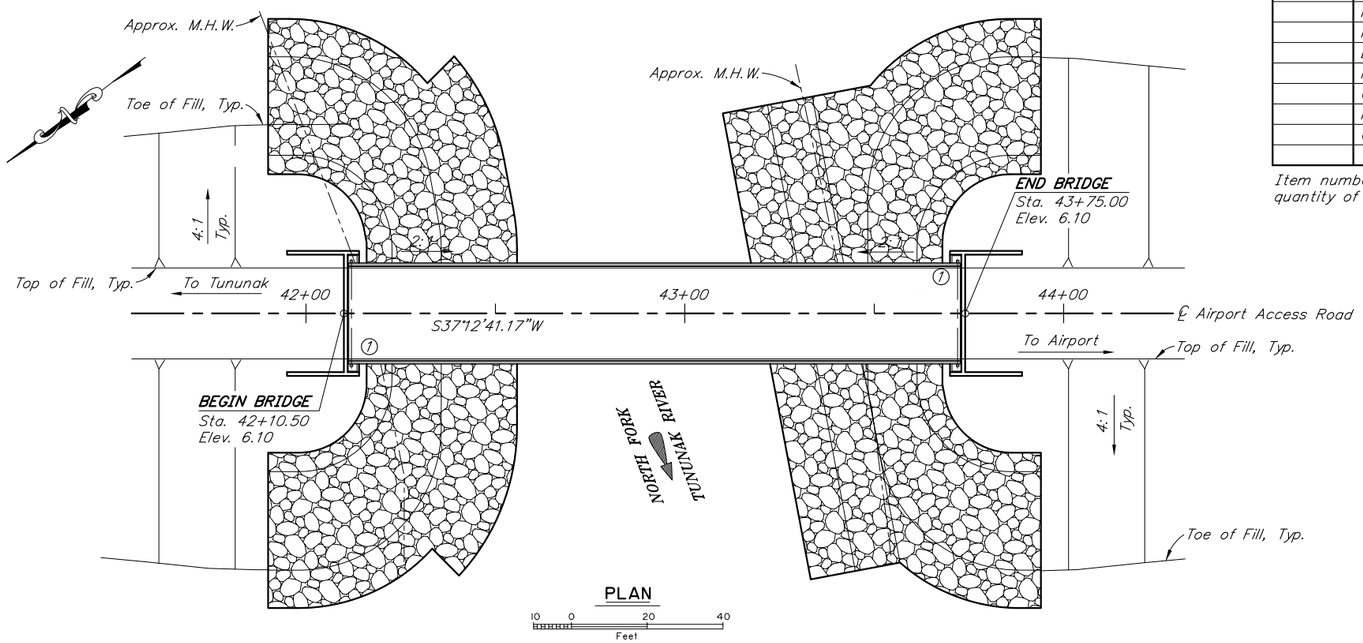
ELEVATION

10 0 20 40
Feet



TYPICAL SECTION

12 0 1 2 3 4
In. Feet



PLAN

10 0 20 40
Feet

BRIDGE BASIS OF ESTIMATE

ITEM NO.	ITEM	PAY UNIT	ESTIMATING UNIT	SUBST.	SUPERST.	TOTAL
S-145a	Bridge	LS	LS	All Req'd	All Req'd	All Req'd
	Structural Fill		CY	415	———	415
	Class A Concrete		CY	74.2	———	74.2
	Reinforcing Steel		LBS	13,065	———	13,065
	Furnish Structural Steel Piles – HP14x117		LF	488.0	———	488.0
	Drive Structural Steel Piles – HP14x117		LF	8	———	8
	Prefabricated Modular Bridge		LS	———	All Req'd	All Req'd
	Guardrail / Bridge Rail Connection		EA	———	4	4
	Riprap, Class II		CY	1800	———	1800
	Geotextile, Erosion Control, Class 1		SY	1750	———	1750

Item numbers are for reference only. Quantities shown are not necessarily the pay quantities nor the total quantity of the particular item. Quantities shown are those associated with the largest prefabricated bridge.

BRIDGE DRAWING INDEX

① *Approximate location of Bridge Number Plate.*

DESIGNED BY: Elmer Marx	CHECKED: Nick Murray	LAYOUT BY: Elmer Marx	CHECKED BY: Nick Murray
DRAWN BY: Sam Sollie	CHECKED: Elmer Marx	SPECIFICATIONS BY: Elmer Marx	P S & E COMPARED: Nick Murray
QUANTITIES BY: Elmer Marx	CHECKED: Nick Murray	APPROVAL RECOMMENDED BY: Rich Pratt	

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION

TUNUNAK RIVER BRIDGE

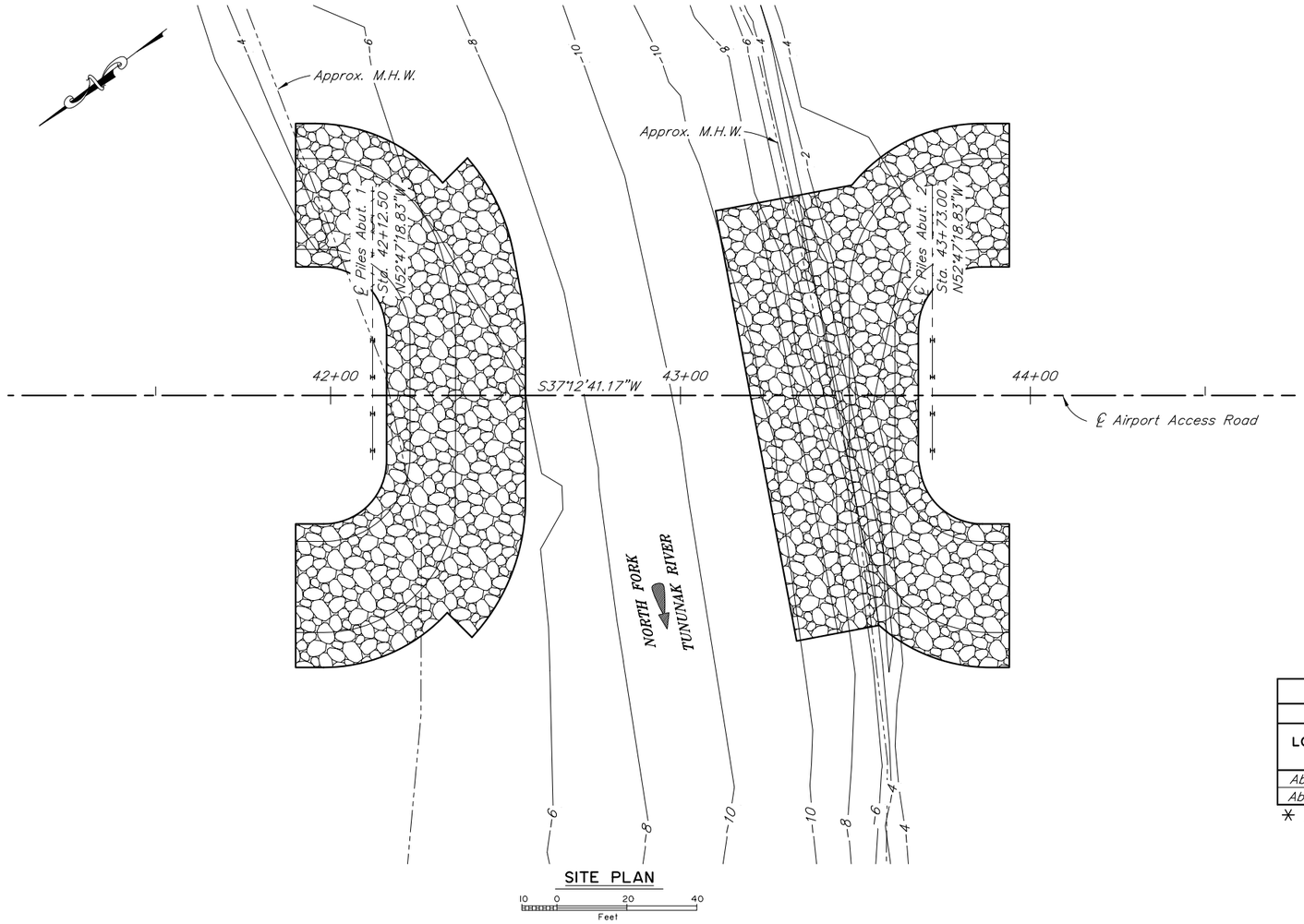
AIRPORT ACCESS ROAD

GENERAL LAYOUT

BRIDGE NO. 2276

DWG. NO. 1

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	3-02-0486-001-2012/51791	2011		



SITE PLAN

10 0 20 40

Feet

GENERAL NOTES

SUBSTRUCTURE DESIGN:..... AASHTO LRFD Bridge Design Specifications, Fifth edition, with latest interim specifications.

LIVE LOAD:..... HL-93

SEISMIC PARAMETERS:..... PGA = 0.03
Ss = 0.08
S1 = 0.04
Site Class = D
Liquefaction Potential = Low
AASHTO 7% probability of exceedance in 75 years.

REINFORCEMENT:..... ASTM A706 Grade 60, Fy = 60,000 psi

CONCRETE:..... Class A Concrete for all concrete unless otherwise noted, f'c = 4000 psi

PREFABRICATED MODULAR BRIDGE:...See Specifications.

STEEL PILING:..... ASTM A709, Grade 50T3, Fy = 50,000 psi.
Pile tip reinforcement is required.

UNFACTORED CORNER DEAD LOAD REACTIONS	
MANUFACTURER	**TRUSS DEAD LOAD (k)**
ACROW	80
BAILEY	100
MABEY	105

PILE DATA TABLE

		DRIVING CRITERIA			DESIGN DATA		
LOCATION	PILE TYPE	MINIMUM PENETRATION (ft) ✳	ESTIMATED PILE TIP ELEVATION ✳	DRIVING RESISTANCE (K)	STRENGTH I FACTORED LOAD (K)	NOMINAL RESISTANCE (K)	RESISTANCE FACTOR, Φ
Abutment 1	HP14x117	55.0	-60.0	1240	620	1240	0.50
Abutment 2	HP14x117	55.0	-60.0	1240	620	1240	0.50

✳ Drive piles to bedrock. Bedrock elevation varies across the width of the bridge.

HYDRAULIC & HYDROLOGIC SUMMARY, BRIDGE NO. 2276			
Flood Frequency (Yr.)	50	100	500
Exceedance Probability (%)	2	1	0.2
Discharge (cfs)	XXX	XXX	XXX
Water Surface Elevation (ft, MSL 1972)	XXX	XXX	XXX
Anticipated Add'l Backwater (ft)	0	0	0
Contraction Scour (ft)	0	0	0
Abutment Scour (ft)	n.c.	n.c.	n.c.
Pier Scour (ft)	n.a.	n.a.	n.a.

Drainage Area: XX square miles
Hydraulic capacity is XXX cfs at the low chord.

ABBREVIATIONS:

℄	= Centerline	e.f.	= each face
ℙ	= Plate	E	= expansion bearing
&	= and	F	= fixed bearing
@	= at	f.f.	= far face
ø	= diameter	Hwy.	= highway
(E)	= existing	Jt.	= joint
A/C	= asphalt concrete	Lt.	= left
Approx.	= approximate	max.	= maximum
Abut.	= Abutment	min.	= minimum
API	= American Petroleum Institute	n.a.	= not applicable
ASTM	= American Society for Testing and Materials	n.f.	= near face
bot.	= bottom	No.	= number
Br.	= bridge	N/C	= not calculated
btwn.	= between	O.H.W.	= ordinary high water
Brg.	= Bearings	R.O.W.	= right of way
C.I.P.	= cast in place	Rt.	= right
CJP	= complete joint penetration	S.I.P.	= stay in place
Clr.	= clear, clearance	spc.	= space, spaces
cfs	= cubic feet per second	Sta.	= station
dia.	= diameter	Symm.	= symmetric
D.H.W.	= Design High Water	Typ.	= typical
Dwg.	= drawing	UT	= ultrasonic testing
Elev.	= elevation	Yr.	= year

DESIGNED BY: Elmer Marx	CHECKED: Nick Murray	HYDRAULICS BY: Michael Knapp	CHECKED BY:
DRAWN BY: Sam Sollie	CHECKED: Elmer Marx	FOUNDATIONS REVIEWED BY: Dave Hemstreet	
QUANTITIES BY: Elmer Marx	CHECKED: Nick Murray		

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION

TUNUNAK RIVER BRIDGE

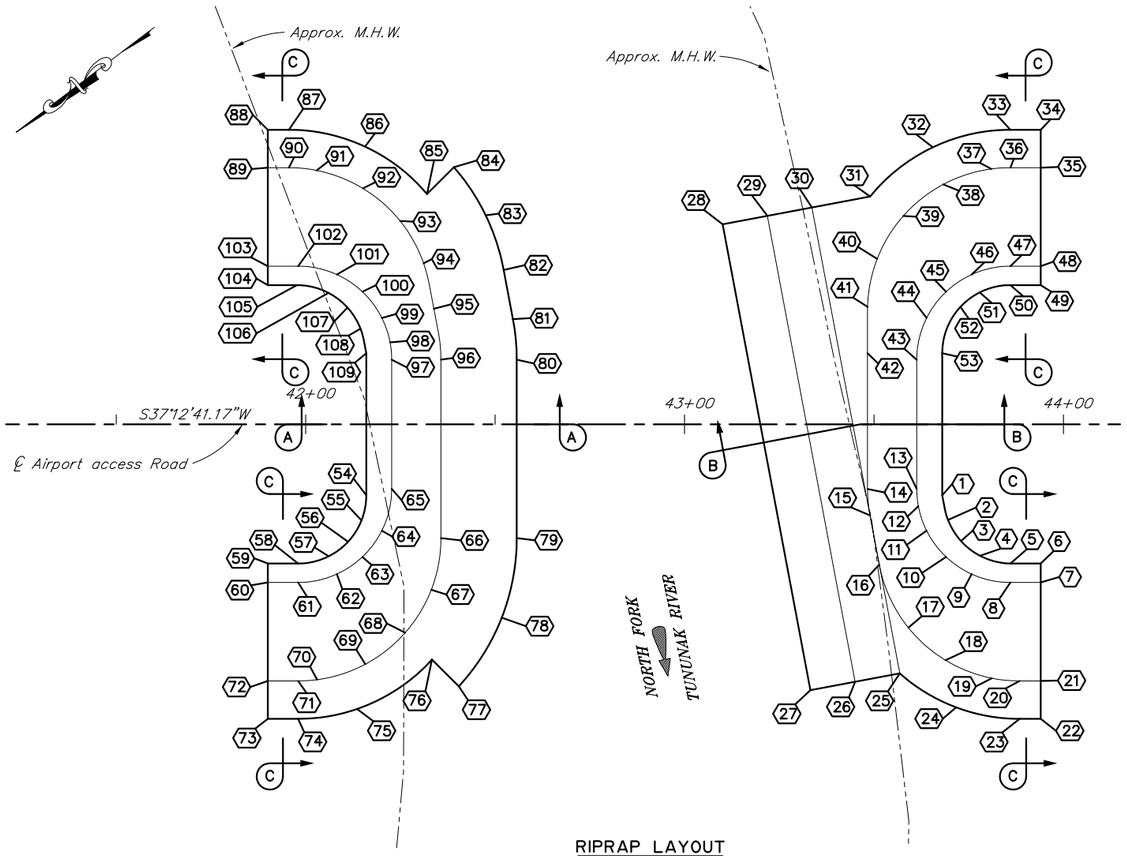
AIRPORT ACCESS ROAD

SITE PLAN

BRIDGE NO. 2276

DWG. NO. 2

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	3-02-0486-001-2012/51791	2011		

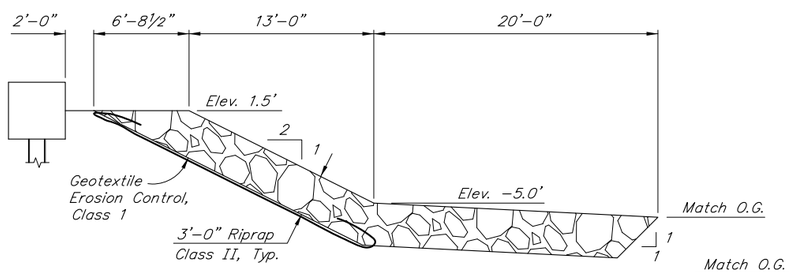


RIPRAP LAYOUT

10 0 20 40
Feet

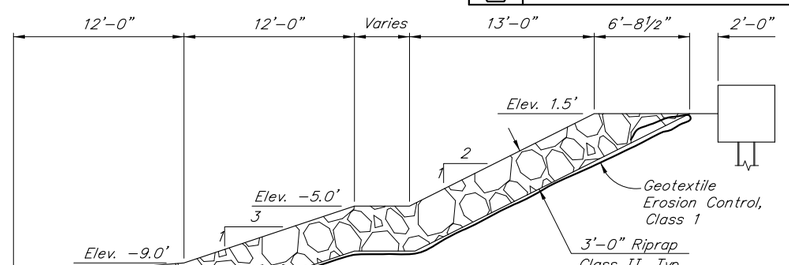
RIPRAP TABLE

POINT	STATION	OFFSET	ELEVATION	POINT	STATION	OFFSET	ELEVATION	POINT	STATION	OFFSET	ELEVATION
1	43+68.0	18.8' RT	1.5'	38	43+68.3	63.3' LT	-5.0'	75	42+13.6	75.1' RT	-5.0'
2	43+69.5	25.2' RT	1.5'	39	43+57.7	55.0' LT	-5.0'	76	42+33.3	62.1' RT	-5.0'
3	43+73.0	30.8' RT	1.5'	40	43+50.8	43.7' LT	-5.0'	77	42+40.4	69.2' RT	O.G.
4	43+78.0	34.7' RT	1.5'	41	43+48.3	31.0' LT	-5.0'	78	42+51.7	51.0' RT	O.G.
5	43+86.0	36.8' RT	1.5'	42	43+48.3	18.8' LT	-5.0'	79	42+55.7	30.0' RT	O.G.
6	43+94.0	36.8' RT	1.5'	43	43+61.3	17.0' LT	1.5'	80	42+55.7	17.1' LT	O.G.
7	43+94.0	41.8' RT	1.5'	44	43+63.9	28.1' LT	1.5'	81	42+54.7	27.8' LT	O.G.
8	43+86.0	41.8' RT	1.5'	45	43+69.0	35.0' LT	1.5'	82	42+52.3	40.7' LT	O.G.
9	43+75.8	39.5' RT	1.5'	46	43+75.8	39.5' LT	1.5'	83	42+47.5	55.2' LT	O.G.
10	43+69.0	35.0' RT	1.5'	47	43+86.0	41.8' LT	1.5'	84	42+39.1	67.9' LT	O.G.
11	43+63.9	28.1' RT	1.5'	48	43+94.0	41.8' LT	1.5'	85	42+32.0	60.8' LT	-5.0'
12	43+61.7	21.6' RT	1.5'	49	43+94.0	36.8' LT	1.5'	86	42+15.7	73.3' LT	-5.0'
13	43+61.3	17.1' RT	1.5'	50	43+86.0	36.8' LT	1.5'	87	41+95.6	77.8' LT	-5.0'
14	43+48.3	17.1' RT	-5.0'	51	43+77.9	34.8' LT	1.5'	88	41+90.0	77.8' LT	-5.0'
15	43+48.9	24.1' RT	-5.0'	52	43+72.8	31.0' LT	1.5'	89	41+90.0	67.8' LT	-5.0'
16	43+51.4	37.0' RT	-5.0'	53	43+68.0	18.8' LT	1.5'	90	41+95.6	67.8' LT	-5.0'
17	43+59.1	53.7' RT	-5.0'	54	42+16.0	18.8' RT	1.5'	91	42+02.9	67.0' LT	-5.0'
18	43+68.9	62.3' RT	-5.0'	55	42+14.7	25.4' LT	1.5'	92	42+15.1	62.3' LT	-5.0'
19	43+81.1	67.0' RT	-5.0'	56	42+11.2	31.0' RT	1.5'	93	42+24.9	53.7' LT	-5.0'
20	43+88.4	67.8' RT	-5.0'	57	42+06.1	34.8' RT	1.5'	94	42+31.1	42.5' LT	-5.0'
21	43+94.0	67.8' RT	-5.0'	58	41+98.0	36.8' RT	1.5'	95	42+33.8	30.5' LT	-5.0'
22	43+94.0	77.8' RT	-5.0'	59	41+90.0	36.8' RT	1.5'	96	42+35.7	17.1' LT	-5.0'
23	43+88.4	77.8' RT	-5.0'	60	41+90.0	41.8' RT	1.5'	97	42+22.7	17.1' LT	1.5'
24	43+71.7	74.7' RT	-5.0'	61	41+98.0	41.8' RT	1.5'	98	42+22.3	21.6' LT	1.5'
25	43+56.8	65.7' RT	-5.0'	62	42+08.2	39.5' RT	1.5'	99	42+20.1	28.1' LT	1.5'
26	43+45.0	68.0' RT	-9.0'	63	42+15.0	35.0' RT	1.5'	100	42+15.0	35.0' LT	1.5'
27	43+33.2	70.2' RT	O.G.	64	42+20.1	28.1' RT	1.5'	101	42+08.2	39.5' LT	1.5'
28	43+10.0	52.8' LT	O.G.	65	42+22.7	17.0' RT	1.5'	102	41+98.0	41.8' LT	1.5'
29	43+21.8	55.0' LT	-9.0'	66	42+35.7	30.0' RT	-5.0'	103	41+90.0	41.8' LT	1.5'
30	43+33.6	57.2' LT	-5.0'	67	42.+33.2	43.7' RT	-5.0'	104	41+90.0	36.8' LT	1.5'
31	43+49.0	60.1' LT	-5.0'	68	42+26.3	55.0' RT	-5.0'	105	41+97.7	36.8' LT	1.5'
32	43+65.5	73.1' LT	-5.0'	69	42+15.7	63.3' RT	-5.0'	106	42+06.0	34.7' LT	1.5'
33	43+86.0	77.8' LT	-5.0'	70	42+03.0	67.4' RT	-5.0'	107	42+11.0	30.8' LT	1.5'
34	43+94.0	77.8' LT	-5.0'	71	41+98.0	67.8' RT	-5.0'	108	42+14.5	25.2' LT	1.5'
35	43+94.0	67.8' LT	-5.0'	72	41+90.0	67.8' RT	-5.0'	109	42+16.0	18.8' LT	1.5'
36	43+86.0	67.8' LT	-5.0'	73	41+90.0	77.8' RT	-5.0'				
37	43+81.0	67.4' LT	-5.0'	74	41+98.0	77.8' RT	-5.0'				



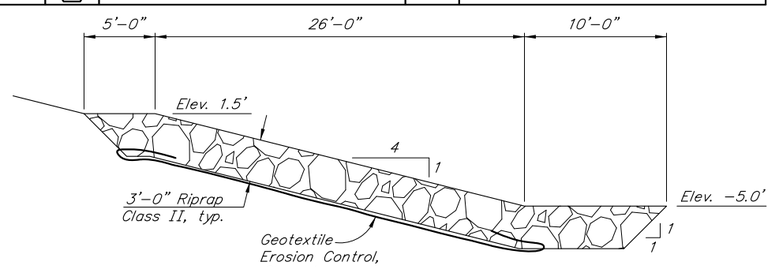
SECTION A-A

12 0 5 10
In. Feet



SECTION B-B

12 0 5 10
In. Feet



SECTION C-C

12 0 5 10
In. Feet

DESIGNED BY: Michael Knapp	CHECKED: Hiram Henry		
DRAWN BY: Sam Sollie	CHECKED: Michael Knapp		
QUANTITIES BY: Michael Knapp	CHECKED: Hiram Henry		

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION

TUNUNAK RIVER BRIDGE

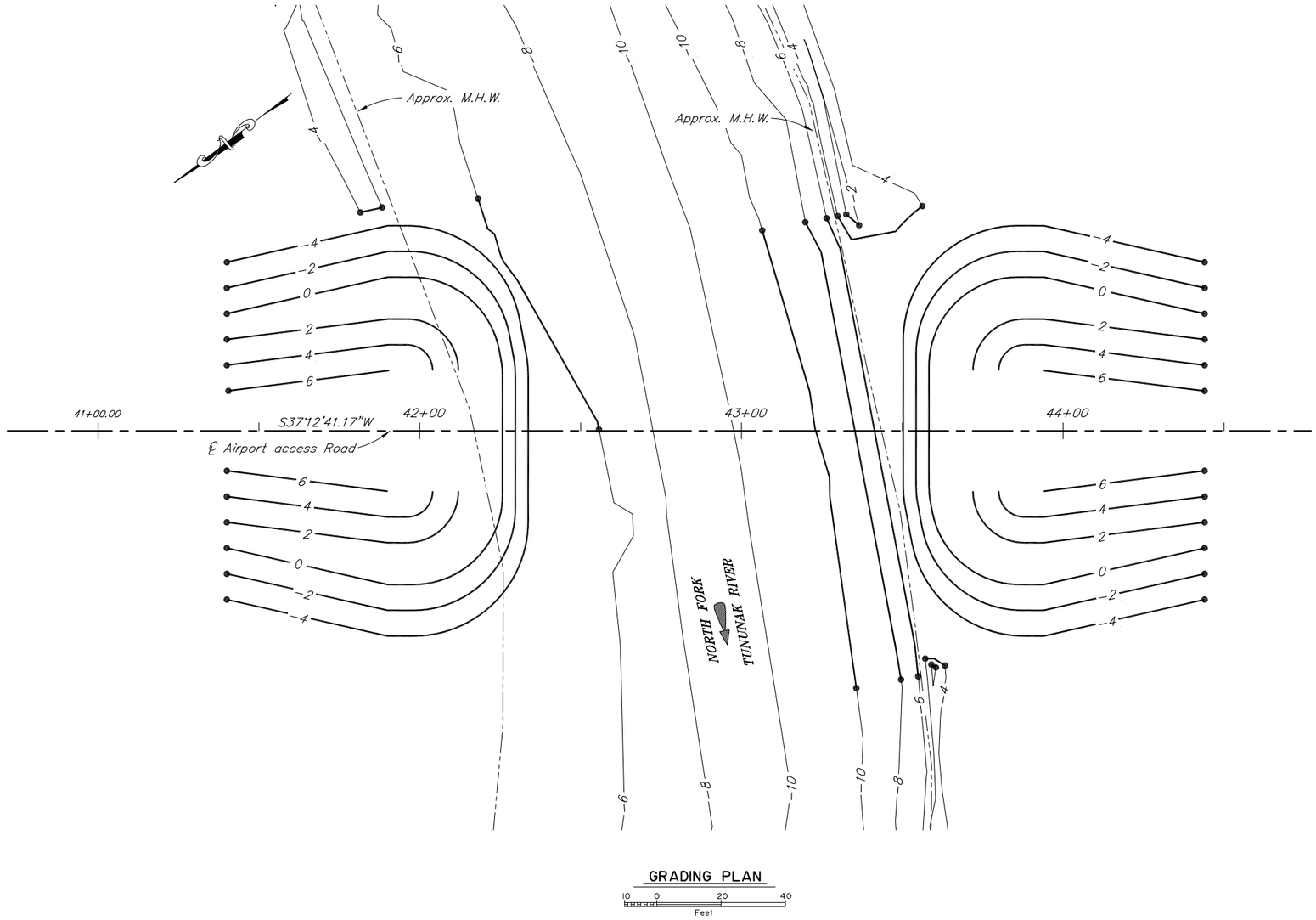
AIRPORT ACCESS ROAD

RIPRAP LAYOUT

BRIDGE NO. 2276

DWG. NO. 3

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	3-02-0486-001-2012/51791	2011		



GRADING PLAN

10 0 20 40
Feet

DESIGNED BY: Michael Knapp	CHECKED: Hiram Henry			
DRAWN BY: Sam Sollie	CHECKED: Michael Knapp			
QUANTITIES BY: Michael Knapp	CHECKED: Hiram Henry			

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION

TUNUNAK RIVER BRIDGE

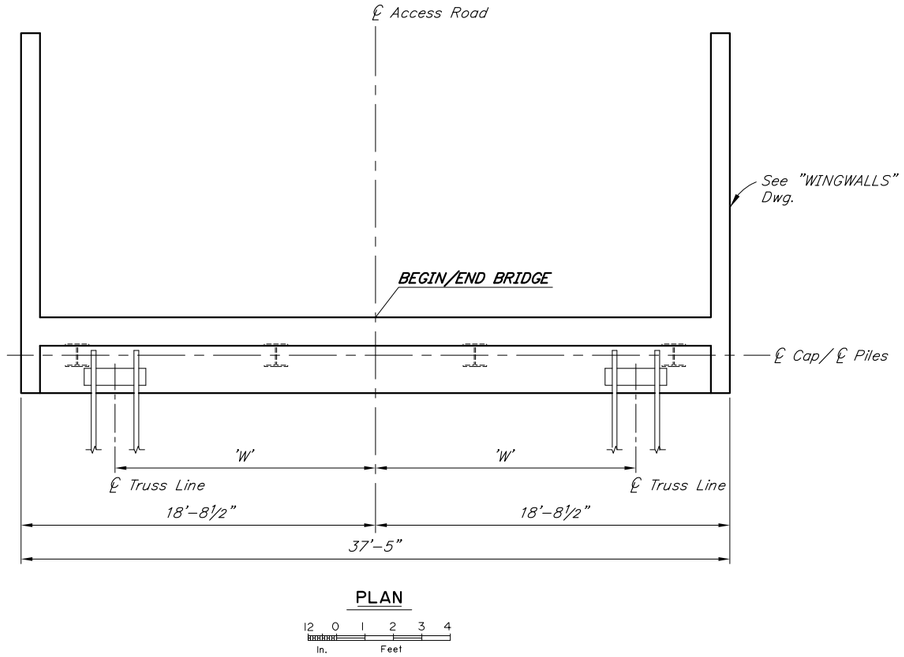
AIRPORT ACCESS ROAD

GRADING PLAN

BRIDGE NO. 2276

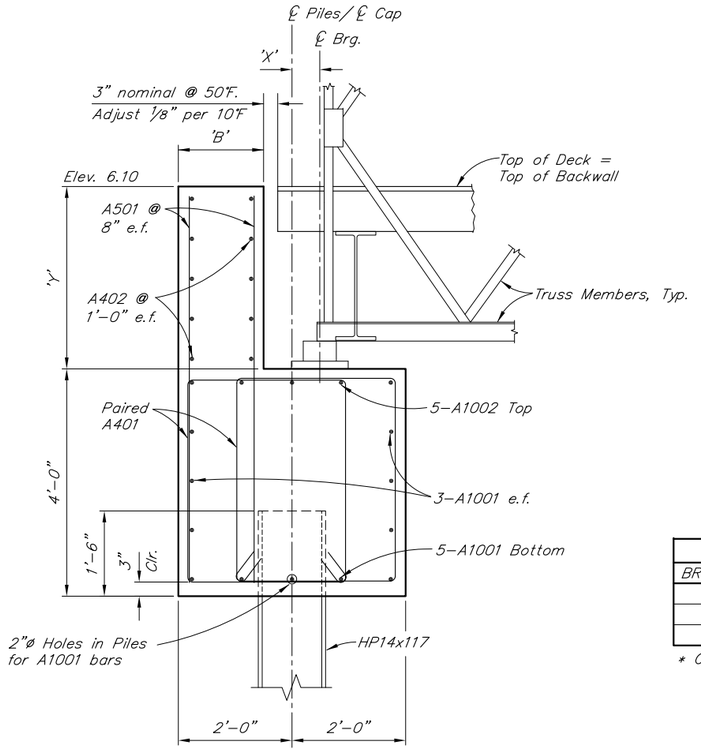
DWG. NO. 4

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	3-02-0486-001-2012/51791	2011		



PLAN

12 0 1 2 3 4
In. Feet

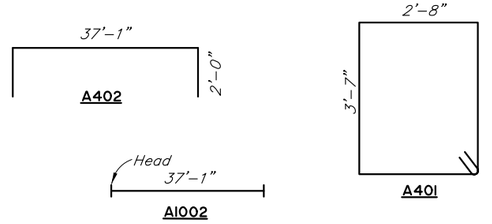


SECTION A-A

12 6 0 1 2 3
In. Feet

REINFORCING STEEL - ONE ABUTMENT

MARK	NOTE	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM
A401		4	94	13'-3"	STIRRUP	
A402	S	4	10	41'-1"	TIE	
A501	M	5	96	7'-6"	———	
A1001		10	11	37'-1"	———	
A1002	H	10	5	37'-1"	———	

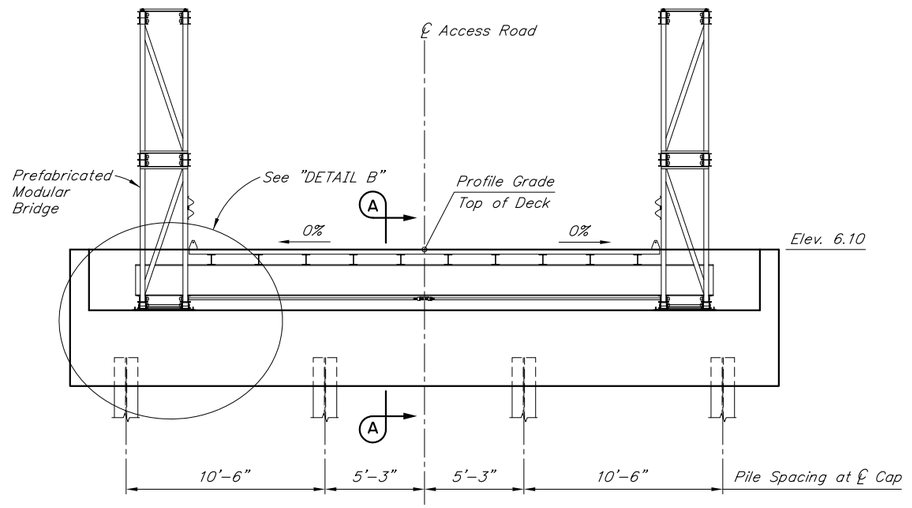


H – Headed reinforcing steel
M – Mechanical splice or drilling and bonding is permitted
S – Splices permitted. Length does not include splices

DIMENSION TABLE

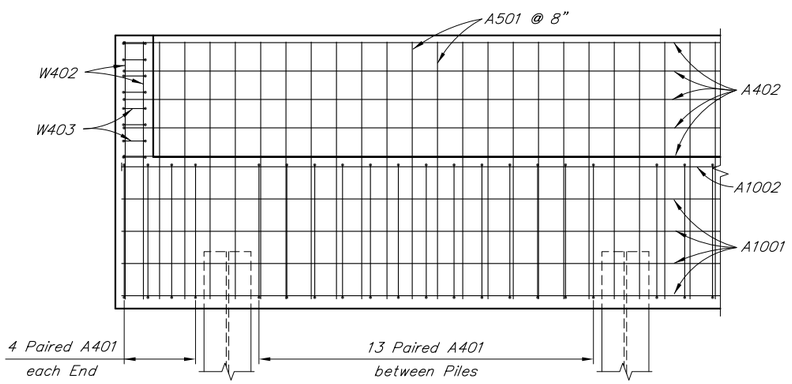
BRIDGE TYPE	'B'	'W'	'X'	'Y'
ACROW	1'-6'	13'-9"	5⅞"	3'-3 3/16"
BAILEY	1'-6"	13'-7½"	10¾"	3'-11 13/16"
MAYBE	1'-0"	14'-8⅜"	3"	3'-4"

* Cast backwall after placing superstructure.



ELEVATION

12 0 1 2 3 4
In. Feet

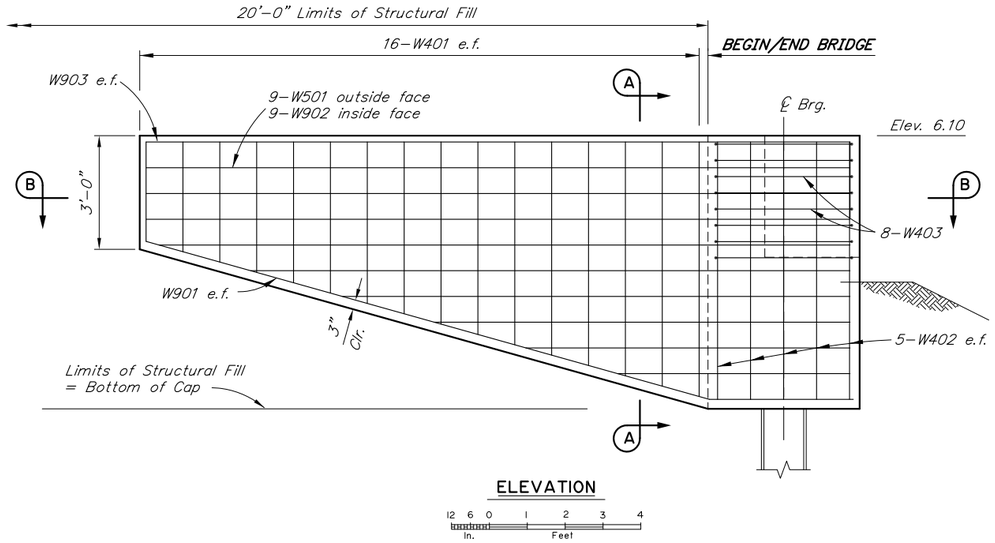


DETAIL B

12 6 0 1 2 3 4
In. Feet

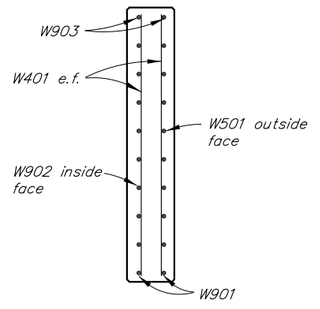
DESIGNED BY: Elmer Marx	CHECKED: Nick Murray		STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** BRIDGE SECTION		**TUNUNAK RIVER BRIDGE** AIRPORT ACCESS ROAD **ABUTMENTS**
DRAWN BY: Sam Sollie	CHECKED: Elmer Marx				BRIDGE NO. 2276 DWG. NO. 5
QUANTITIES BY: Elmer Marx	CHECKED: Nick Murray				

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	3-02-0486-001-2012/51791	2011		



ELEVATION

12 6 0 1 2 3 4
In. Feet



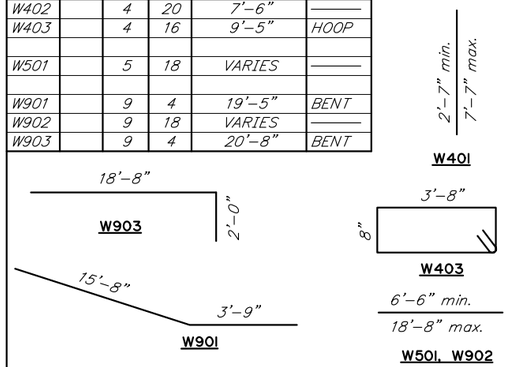
SECTION A-A

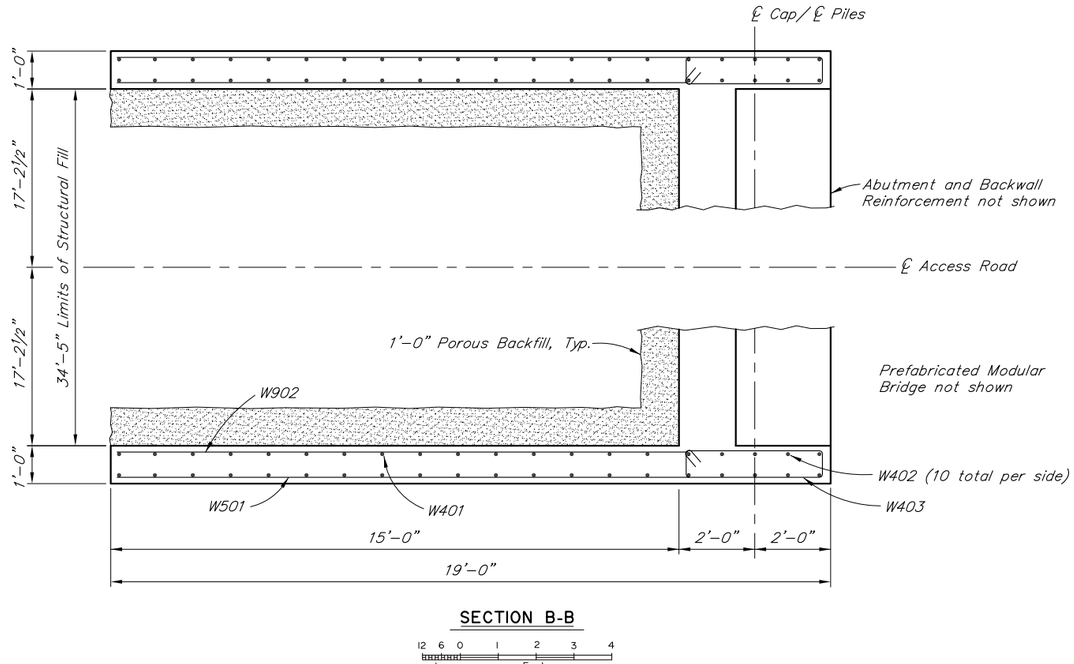
12 6 0 1 2 3 4
In. Feet

REINFORCING STEEL - ONE ABUTMENT

MARK	NOTE	SIZE	NO.	LENGTH	TYPE
W401		4	64	VARIES	
W402		4	20	7'-6"	
W403		4	16	9'-5"	HOOP
W501		5	18	VARIES	
W901		9	4	19'-5"	BENT
W902		9	18	VARIES	
W903		9	4	20'-8"	BENT

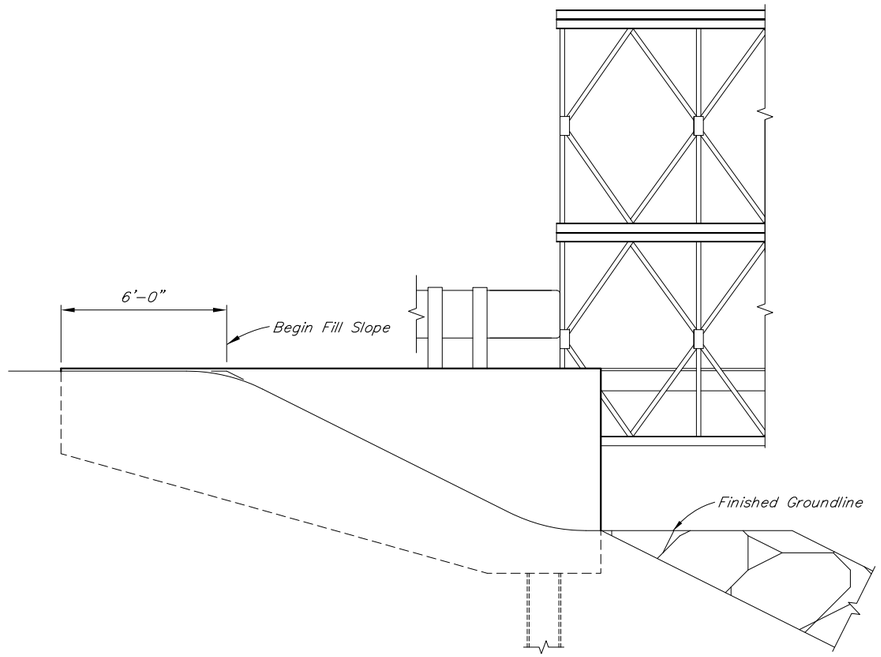
BENDING DIAGRAM





SECTION B-B

12 6 0 1 2 3 4
In. Feet



FINISHED ELEVATION

12 0 1 2 3 4
In. Feet

DESIGNED BY: Elmer Marx	CHECKED: Nick Murray		
DRAWN BY: Sam Sollie	CHECKED: Elmer Marx		
QUANTITIES BY: Elmer Marx	CHECKED: Nick Murray		

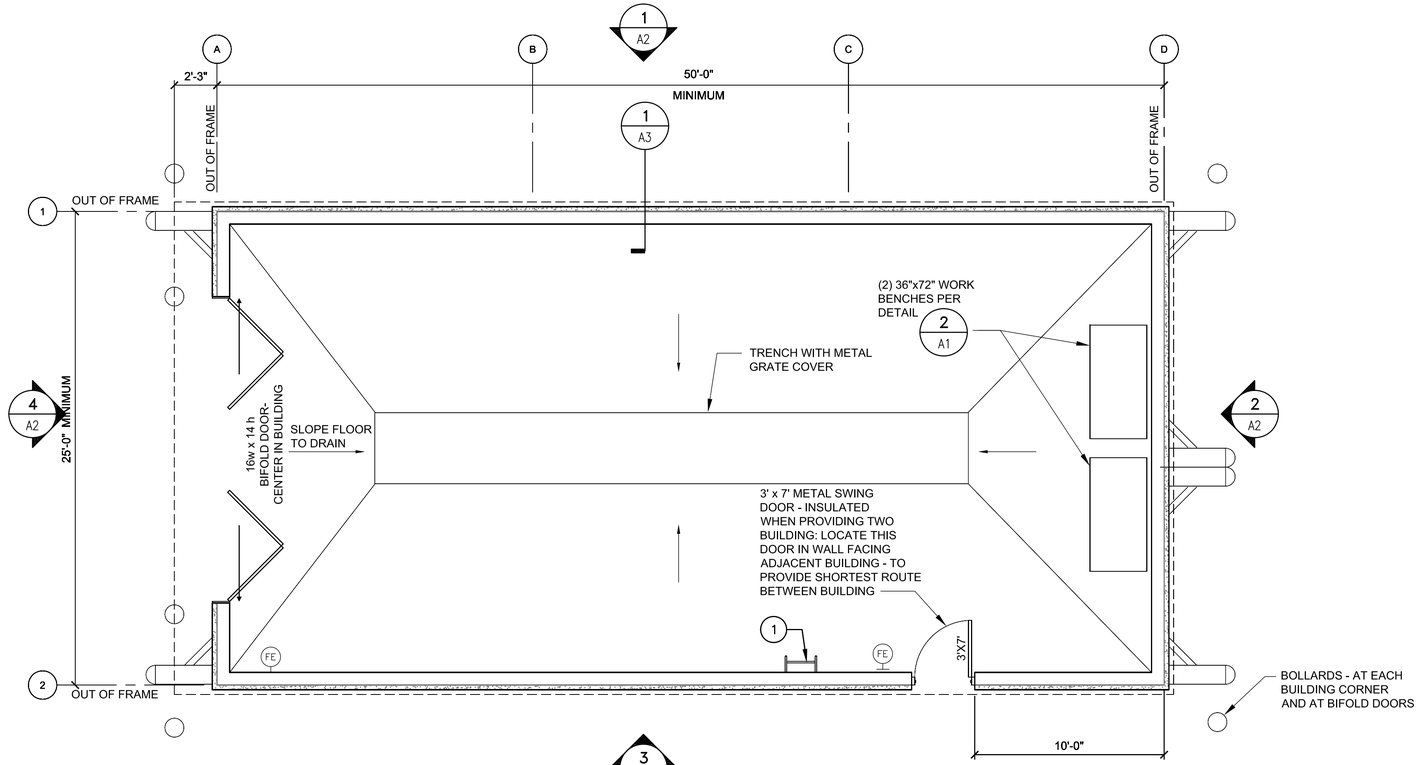
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION

TUNUNAK RIVER BRIDGE

AIRPORT ACCESS ROAD

WINGWALLS

BRIDGE NO. 2276
DWG. NO. 6

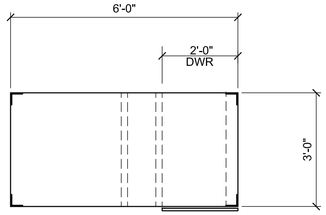


1 A1 FLOOR PLAN

SCALE 1/4"=1'-0"

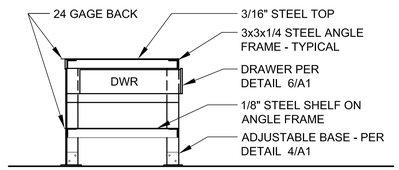
0 2' 4' 8'

SCALE: 1/4"=1'-0" (22x34 sheet)
SCALE: 1/8"=1'-0" (11x17 sheet)



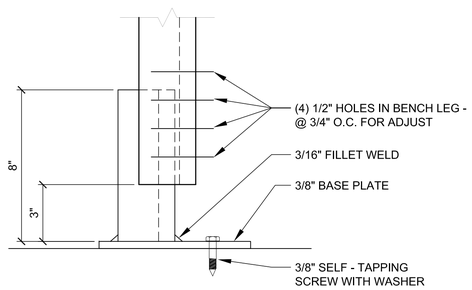
2 A1 WORK BENCH PLAN

SCALE 1/2"=1'-0"



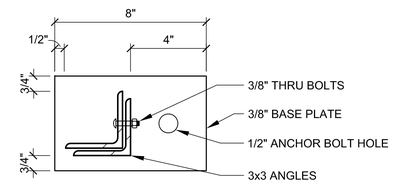
3 A1 WORK BENCH SECTION

SCALE 1/2"=1'-0"



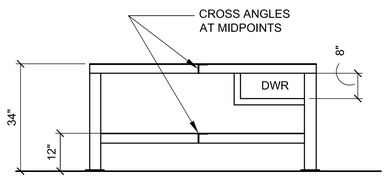
4 A1 WORK BENCH LEG

SCALE: 3" = 1'-0"



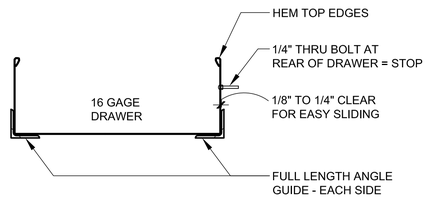
7 A1 WORK BENCH LEGS BASE PLATE

SCALE: 3" = 1'-0"



5 A1 WORK BENCH FRONT

SCALE 1/2"=1'-0"



6 A1 WORK BENCH DRAWER

SCALE 1 1/2"=1'-0"

CODE SYNOPSIS

2006 IBC AS AMENDED BY ALASKA DEPT. OF PUBLIC SAFETY

OCCUPANCY S-2 PARKING GARAGE (IBC 311.3)

CONSTRUCTION TYPE V-B COMBUSTIBLE WITH NO FIRE RESISTANCE (IBC 602)
SITE FIRE SEPARATION DISTANCE FOR NON FIRE-RATED EXTERIOR WALLS= 20' CLEAR OR GREATER

ACTUAL AREA: 50x25 = 1250 S.F.
S-2 OF V-B ALLOWABLE AREA = 13,500SF (IBC 503) = OK

FIRE SEPARATION NOT REQUIRED FOR FUEL - HEATING EQUIPMENT UNDER 400,000 BTUH INPUT (IBC 508.2)

OCCUPANT EXIT LOAD (IBC 1004.1): 1250SF/200 = 6 = SINGLE HINGED EXIT DOOR ok (1015)

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

(FE) PROVIDE TWO EXTINGUISHERS: DRY CHEMICAL 2-A: 10-B;C MINIMUM WITH ALASKA FIRE MARSHAL - APPROVED SIGNS

SHEET NOTES

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

2. PAINTING: PLYWOOD AND EXPOSED GYP BOARD
   CLEAN, DRY AND PREPARE PAINT MANUFACTURER
   1 COAT PRIMER - SEALER TOP COAT COMPATIBLE
   2 COATS ACRYLIC LATEX ENAMEL, WHITE COLOR, EGGSHELL SHEEN

WORK BENCH

INSTALL WHERE INDICATED ON FLOOR PLAN

FRAME: 3x3 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

> 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

STATE OF ALASKA 49th
John E. McCool Jr.
No. 3534-A
REGISTERED PROFESSIONAL ARCHITECT
02/25/2011

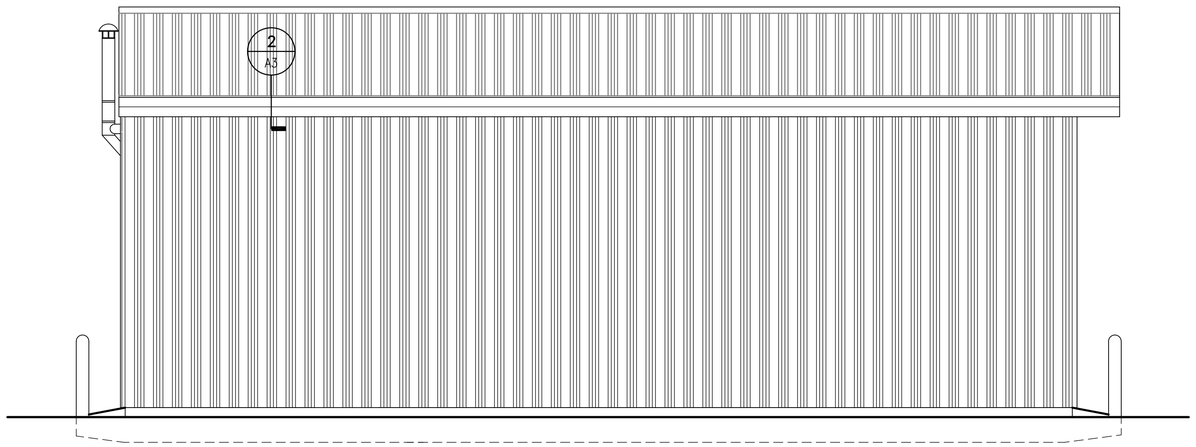
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. 51791
AIP No. 3-02-0304-001-201X
ARCHITECTURAL
PLAN AND BENCH DETAILS

DATE: 02/25/2011
SHEET: A1 OF A3

Date Revised:
Layout Name: A1 FLOOR PLAN
File Path and Name: Y:\2010\20100039 - R&M DOT&PF Airport SREB Term\20100039.01 - Tununak\CAD\SREB-No Eaves\Sheets\A1 FLOOR PLAN.dwg
2/25/2011, 12:27 PM
Designed By: JEM
Drawn By: WVZ
Checked By: DDG

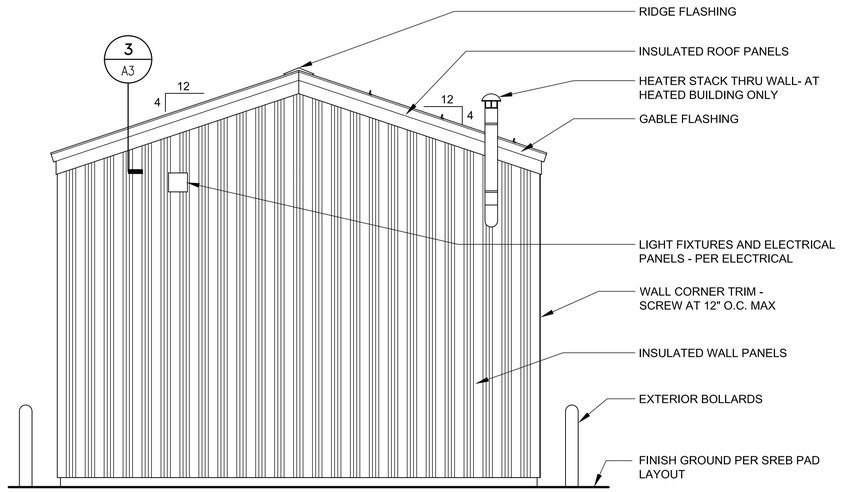


1 A2 SIDE – ELEVATION

SCALE 1/4"=1'–0"

0 2' 4' 8'

SCALE: 1/4"=1'-0" (22x34 sheet)
SCALE: 1/8"=1'-0" (11x17 sheet)



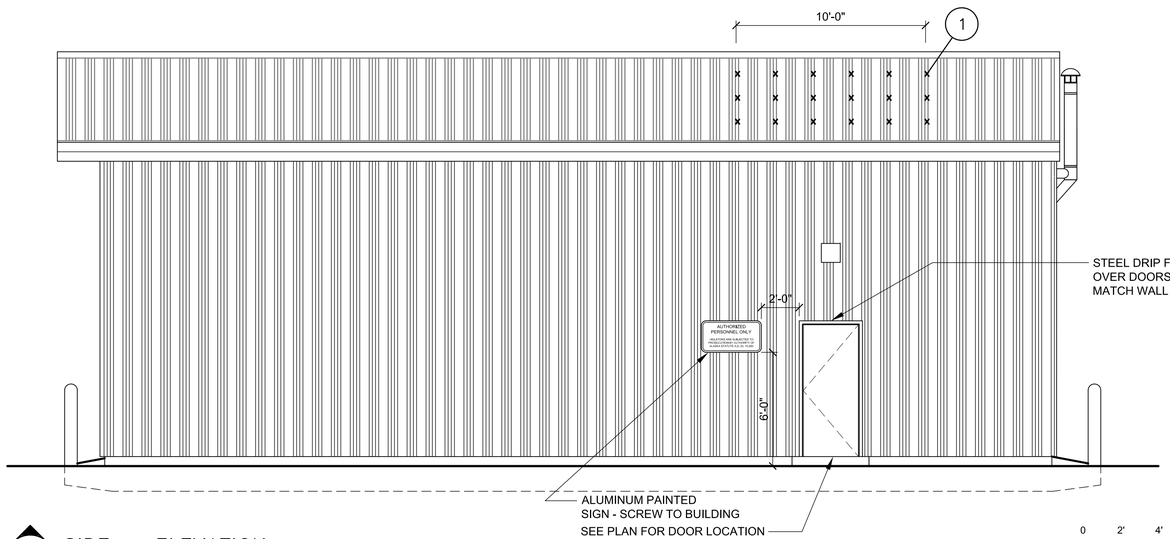
2 A2 REAR – ELEVATION

TYPICAL NOTES

SCALE 1/4"=1'–0"

0 2' 4' 8'

SCALE: 1/4"=1'-0" (22x34 sheet)
SCALE: 1/8"=1'-0" (11x17 sheet)

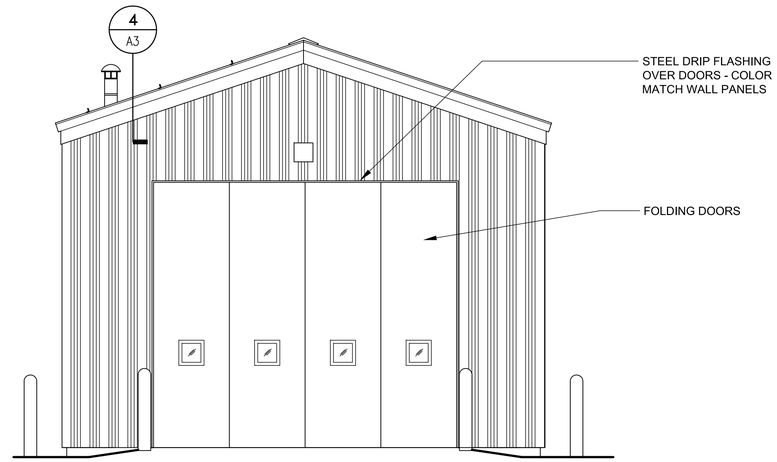


3 A2 SIDE – ELEVATION

SCALE 1/4"=1'–0"

0 2' 4' 8'

SCALE: 1/4"=1'-0" (22x34 sheet)
SCALE: 1/8"=1'-0" (11x17 sheet)

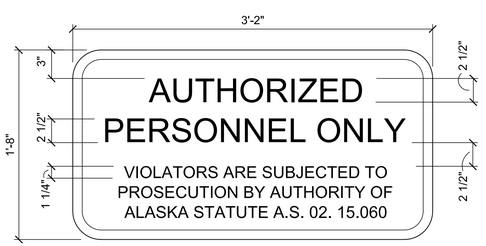


4 A2 FRONT – ELEVATION

SCALE 1/4"=1'–0"

0 2' 4' 8'

SCALE: 1/4"=1'-0" (22x34 sheet)
SCALE: 1/8"=1'-0" (11x17 sheet)



NOTE:
1. SIGN IS SUBSIDIARY TO S–143p

5 A2 SIGN MESSAGE

SCALE 1 1/2"=1'–0"

SHEET NOTES

1 ROOF SNOW GUARD: PROVIDE 3 ROWS OF 6 @ 12" O.C. = 18 TOTAL

INSTALL ON ROOF CENTERED ABOVE MAN DOOR
4' UP FROM EAVE - SPACE 4' UP ROOF SLOPE

2" TO 3" PROJECTION POLYCARBONATE PLASTIC RECOMMENDED BY MANUFACTURER TO MOLD SNOW ONTO SLOPING METAL ROOFS ATTACH WITH MANUFACTURER APPROVED ADHESIVE

POLAR BLOX, SNOW JAX, SNO GEM OR EQUAL

STATE OF ALASKA
49th
John E. McCool
No. 3534-A
REGISTERED PROFESSIONAL ARCHITECT
02/25/2011

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. 51791
AIP No. 3–02–0304–004–201X
ARCHITECTURAL
BUILDING ELEVATIONS

DATE: 02/25/2011
SHEET: A2 OF A3

Date Revised:
Layout Name: A2 BUILDING ELEVATIONS
File Path and Name: Y:\2010\20100039 – R&M DOT&PF Airport SREB Term\20100039.01 – Tununak\CAD\SREB–No Eaves\Sheets\A2 BUILDING ELEVATIONS.dwg
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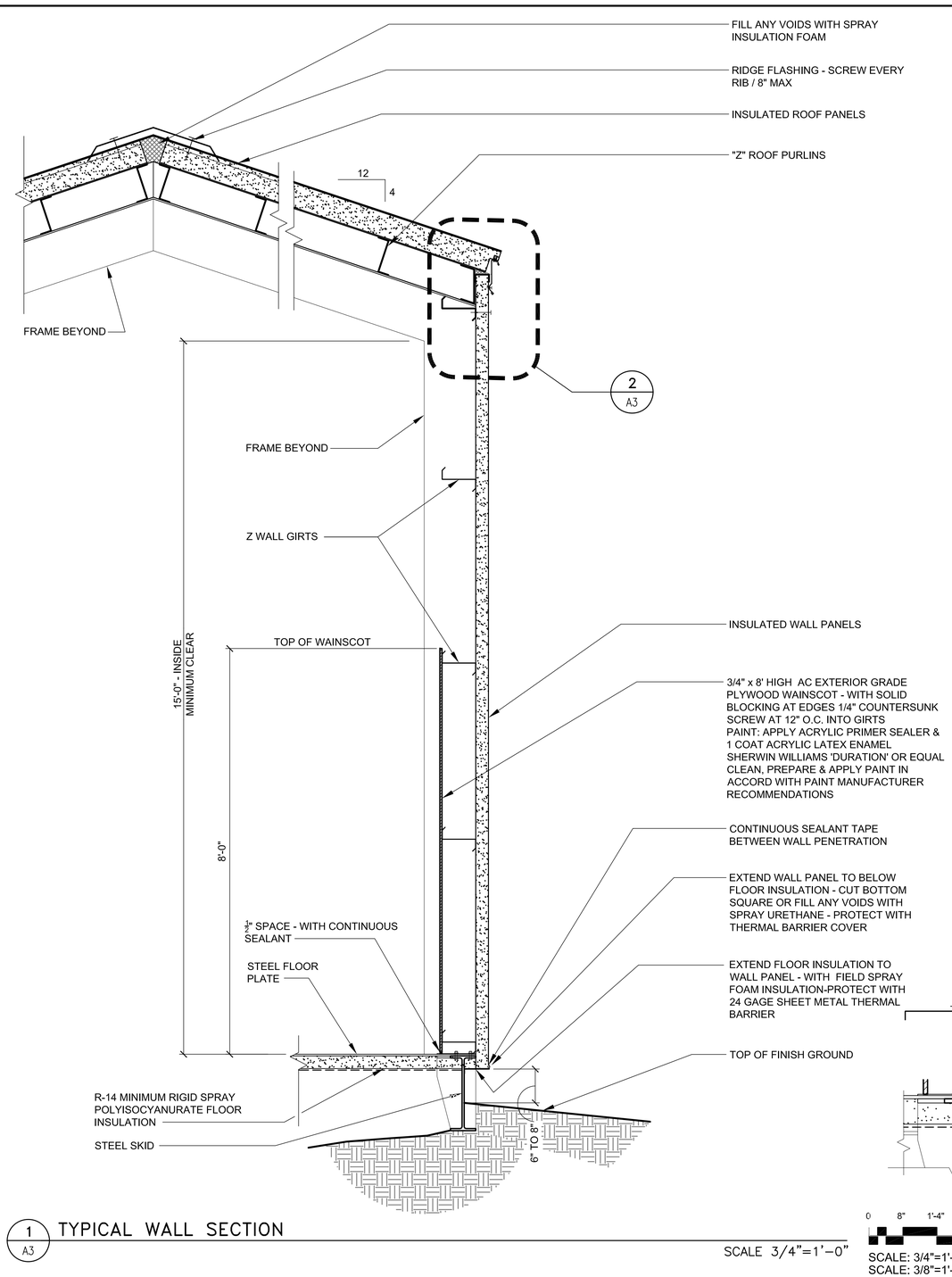
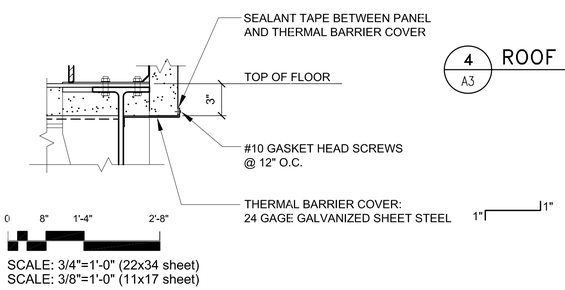
Designed By: JEM
Drawn By: WVZ
Checked By: DDG

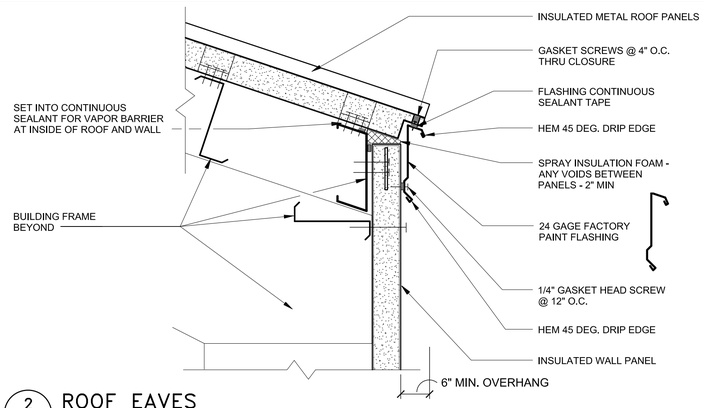


1 A3 TYPICAL WALL SECTION

SCALE 3/4"=1'-0"

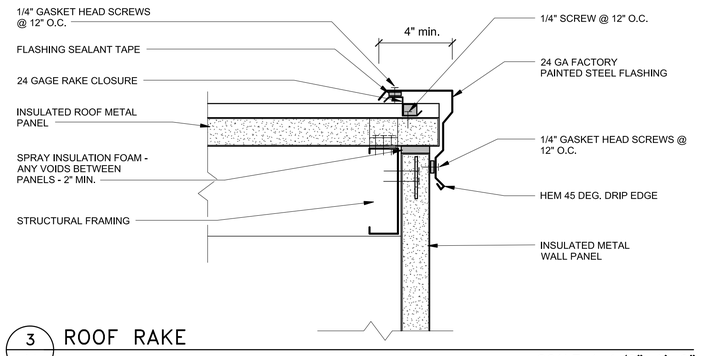


SCALE: 3/4"=1'-0" (22x34 sheet)
SCALE: 3/8"=1'-0" (11x17 sheet)



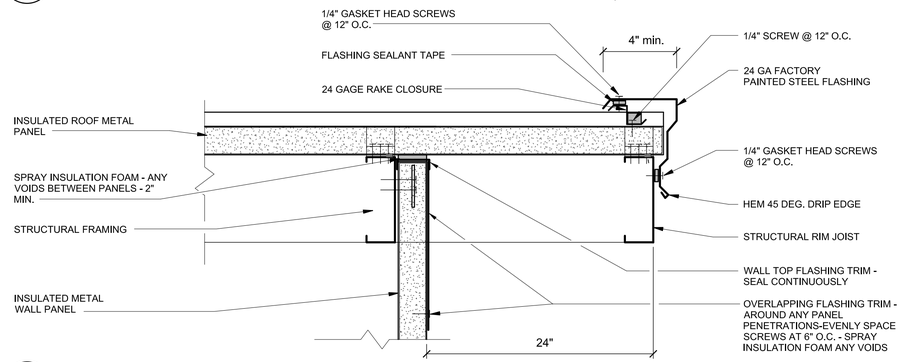
2 A3 ROOF EAVES

SCALE 1 1/2"=1'-0"



3 A3 ROOF RAKE

SCALE 1 1/2"=1'-0"



4 A3 ROOF RAKE AT BIFOLD DOORS

SCALE 1 1/2"=1'-0"

STATE OF ALASKA 49th
John E. McCool
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STATE OF ALASKA
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CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. 51791
AIP No. 3-02-0304-001-201X
ARCHITECTURAL
WALL SECTIONS

DATE: 02/25/2011
SHEET: A3 OF A3

Date Revised:
Layout Name: A3 WALL SECTION
File Path and Name: Y:\2010\2010039 - R&M DOT&PF Airport SREB Term\2010039.01 - Tununak\CAD\SREB-No Eaves\Sheets\A3 WALL SECTIONS.dwg
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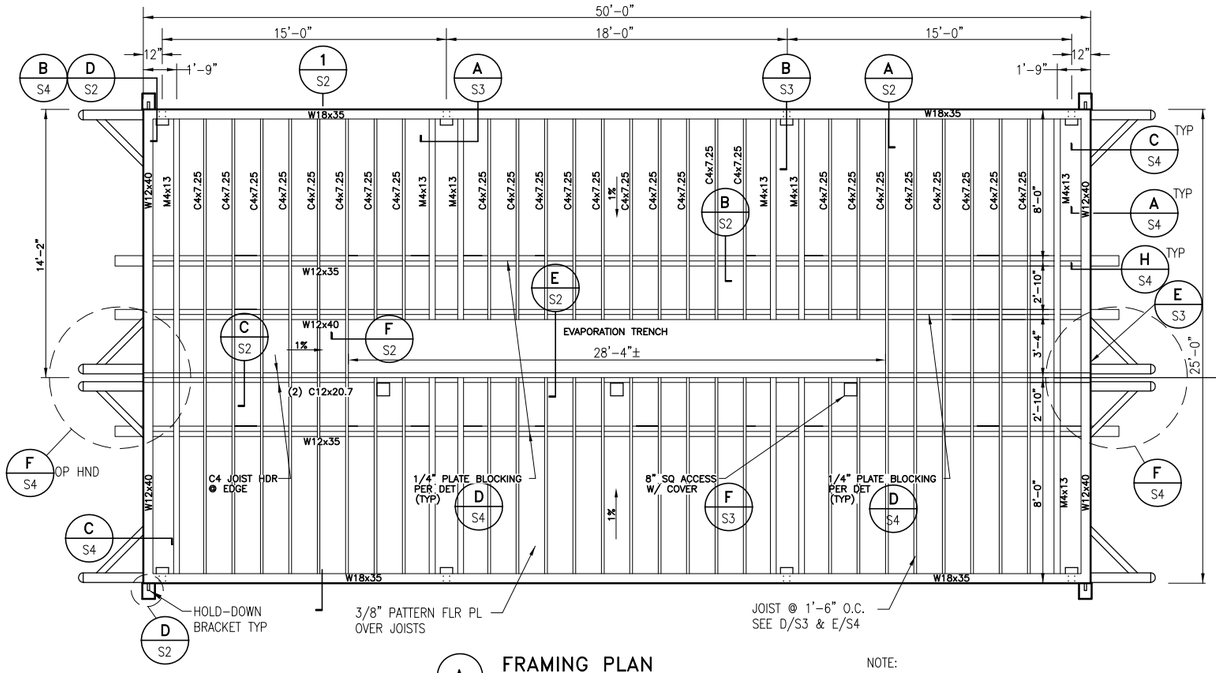
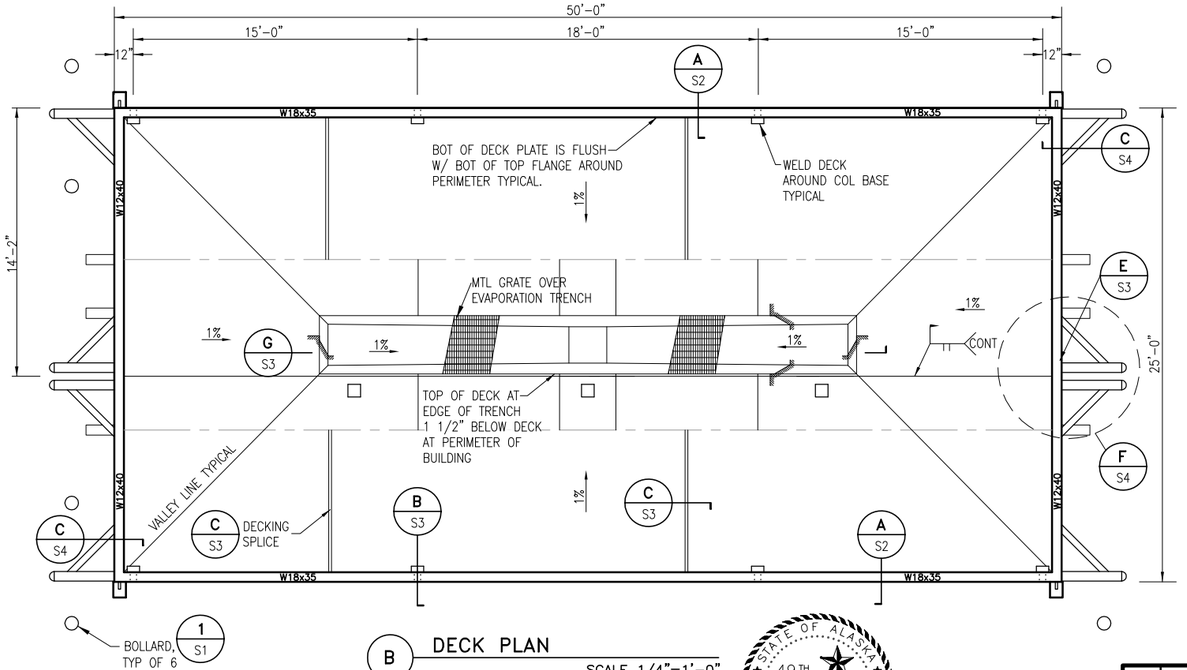
Drawn By: WVZ
Checked By: DDG
2/25/2011, 12:30 PM



A FRAMING PLAN

SCALE 1/4"=1'-0"

NOTE:
PROVIDE TWO SREB BUILDINGS AS SHOWN ON SHEETS S1 TO S4.
SREB BUILDING NO. 1 SHALL HAVE A BEACON PLATFORM PER S5.



B DECK PLAN

SCALE 1/4"=1'-0"

NOTE:
PROVIDE TWO SREB BUILDINGS AS SHOWN ON SHEETS S1 TO S4.
SREB BUILDING NO. 1 SHALL HAVE A BEACON PLATFORM PER S5.

DESIGN LOADS:

FLOOR: 200 PSF
ROOF LIVE LOAD: 20 PSF
ROOF SNOW LOAD: P_g = 50 PSF
P_f = 35 PSF
C_e = .8
I = 1.0
C_t = 1.0
SNOW DRIFT PER ASCE 7
WIND LOADS: WIND SPEED: 130 MPH (3-SECOND GUST)
I = 1.0
EXPOSURE D
C_{pi} = +0.18 / −0.18
a = 3'

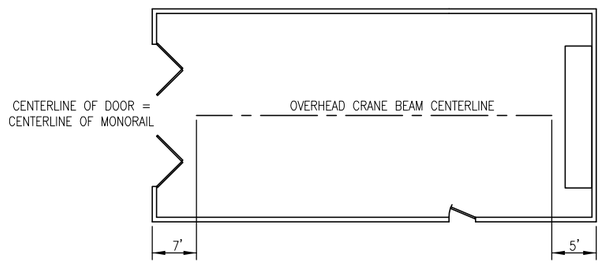
C&C: ZONE PER IBC (WIND PRESSURE IN PSF BASED ON 10 SF AREA)

ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
27/−43	27/−75	27/−110	47/−51	47/−63

EARTHQUAKE DESIGN:
I = 1.0
OCCUPANCY CATEGORY: II
SITE CLASS: D
S_S = .13g S_1 = .06g
S_{DS} = .14g S_{D1} = .09g
SEISMIC DESIGN CATEGORY = B
OMEGA = 3.0
SEISMIC FORCE RESISTING SYSTEM: STEEL SYSTEM NOT SPECIFICALLY DESIGNED FOR SEISMIC RESISTANCE
V = 2 KIPS
C_S = .05*W (STRENGTH DESIGN)
R= 3.0
ANALYSIS PROCEDURE: EQUIV LATERAL FORCE
FLOOD DESIGN: N/A (ON AIRPORT APRON – HIGHEST GROUND AVAILABLE)
SPECIAL LOADS: MINIMUM COLATERAL LOAD =5 PSF
AT MONORAIL HOIST: 2 TONS

STRUCTURAL STEEL AND CONNECTORS:

1. 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.
2. STEEL TUBING (TS) SHALL CONFORM TO ASTM A500, GRADE B, Fy = 46 ksi.
3. DESIGN FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE IBC CHAPTER 22, DIVISION IX, ALLOWABLE STRESS DESIGN.
4. ALL BOLTS (UON) SHALL BE A325 HIGH STRENGTH BOLTS IN CONFORMANCE WITH AISC STANDARD "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
5. MACHINE BOLTS SHALL CONFORM TO ASTM 307, UNLESS NOTED OTHERWISE AND SHALL BE PROVIDED STANDARD HEX HEAD NUTS CONFORMING TO ASTM A563, GRADE A AND CIRCULAR STEEL WASHERS CONFORMING TO ASTM F436.
6. WELDING PER AWS 01.1 WITH E70 ELECTRODES.
7. 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 2' MAX LENGTHS.
8. PROVIDE ADEQUATE LATERAL BRACING FOR STRUCTURE DURING FABRICATION. PLAN WELDING SEQUENCE TO ELIMINATE WARPAGE OF SKID.



C OVERHEAD CRANE (MONORAIL)

NOT TO SCALE

INSULATION:

1. AT UNDERSIDE OF FLOOR PLATE & ON JOIST FRAMING: SPRAY APPLY "URETHANE" FOAM INSULATION TO "R-14" CAPACITY AFTER FABRICATION PER SPEC 07201.

PAINTING:

1. PAINT ALL COMPONENTS PER SPEC SECTION 05121. 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 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.
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:

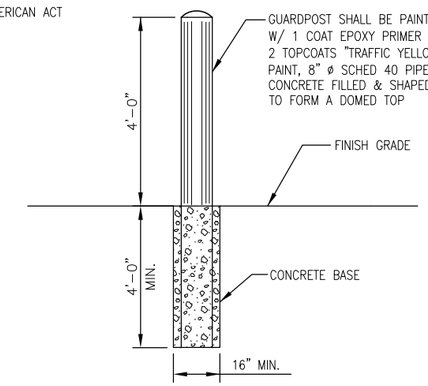
1. THE FOLLOWING SPECIAL INSPECTIONS SHALL BE PERFORMED BY QUALIFIED PERSONNEL EMPLOYED BY THE STATE OR ITS AGENT. THE CONTRACTOR SHALL COORDINATE WORK WITH THE SPECIAL INSPECTORS.
2. SPECIAL INSPECTORS SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. 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
5. COMPLY WITH BUY AMERICAN ACT



1 BOLLARD DET

SCALE: NTS

STATE OF ALASKA 49TH Duane H. Anderson CE 4774 Registered Professional Engineer

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.

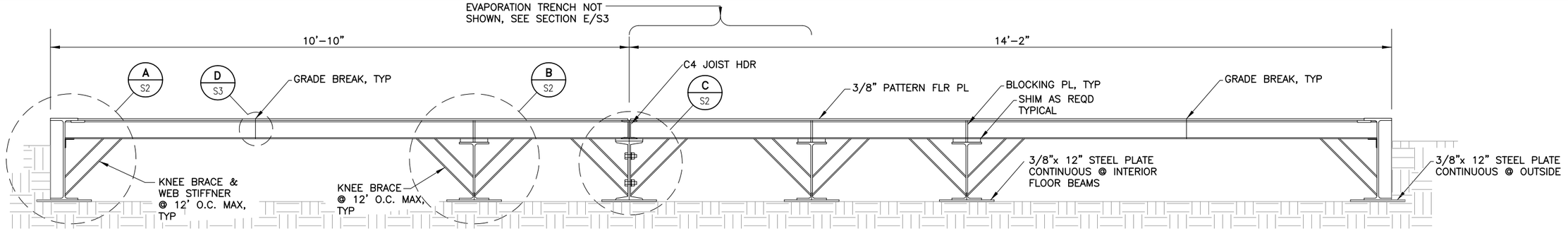
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. 51791
AIP No. 3-02-0304-001-201X
SNOW REMOVAL EQUIPMENT BUILDING
FRAMING AND DECK PLANS

DATE: 02/25/2011
SHEET: S1 OF S5

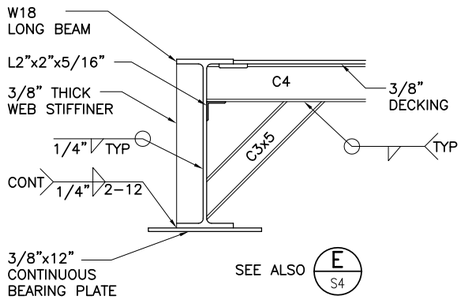
Designed By: MCY
Drawn By: BWD
Checked By: RLC
Date Revised: 2/25/2011, 11:58 AM
Layout Name: FRAMING S-1
File Path and Name: Z:\project\1701.01 DOT_SW SDB SREB Tununak Airport\Civil\ACAD_Struct\Acad\1701.01-SB-SKID-S1.dwg

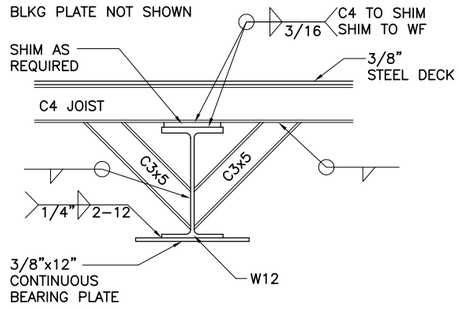


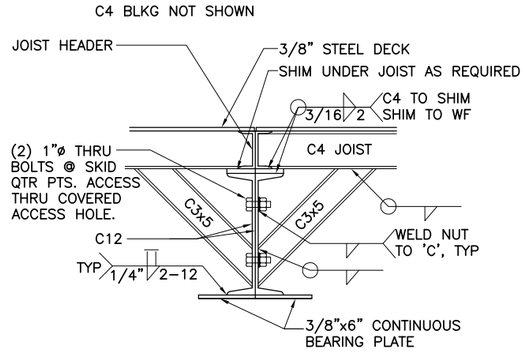
1 TYPICAL SKID SECTION

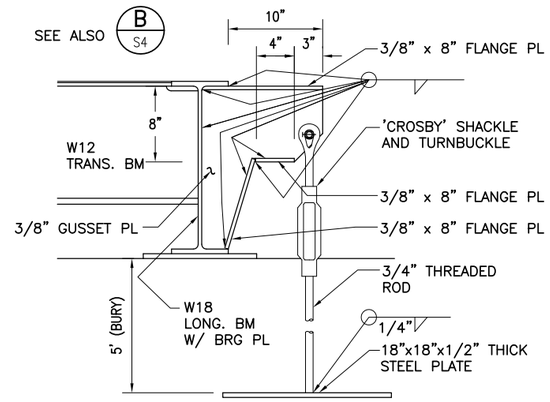
SCALE 1"=1'-0"

NOTE: BOTTOM OF FLOOR BEAMS AT SAME ELEVATION.









A TYP BRACING DET @ EXTERIOR

SCALE 1-1/2"=1'-0"

B TYP BRACING DET @ INTERIOR

SCALE 1-1/2"=1'-0"

C TYP SKID SPLICE DETAIL

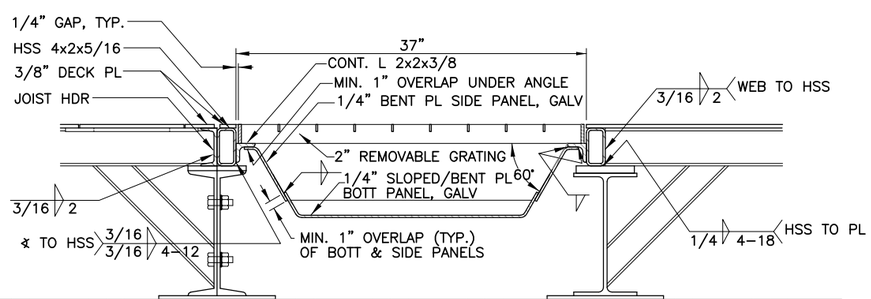
SCALE 1-1/2"=1'-0"

D TYP JACKING POINT & HOLD-DOWN DET

SCALE 1-1/2"=1'-0"

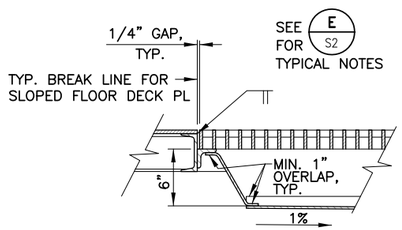
NOTES:

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



E EVAP. TRENCH CROSS-SECTION

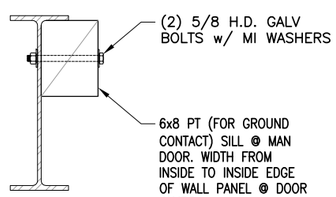
SCALE 1 1/2"=1'-0"



F EVAP. TRENCH SECTION

SCALE 1 1/2"=1'-0"

FLOOR PLATE AND FRAMING NOT SHOWN



G SKID SECTION @ MAN DOOR

SCALE 1 1/2"=1'-0"

STATE OF ALASKA 49TH Duane H. Anderson CE 4774 Registered Professional Engineer

R&M CONSULTANTS, INC.

PLANS DEVELOPED BY:

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. 51791
AIP No. 3-02-0304-001-201X
SNOW REMOVAL EQUIPMENT BUILDING
STRUCTURAL DETAILS

DATE: 02/25/2011
SHEET: S2 OF S5

Designed By: MCY
Drawn By: BWD
Checked By: RLC
Date Revised:
Layout Name: DETAIL S-2
File Path and Name: Z:\project\1701.01 DOT_SW SDB SREB Tununak Airport\Civil\Acad_Struct\Acad\1701.01-SB-SKID-S2.dwg
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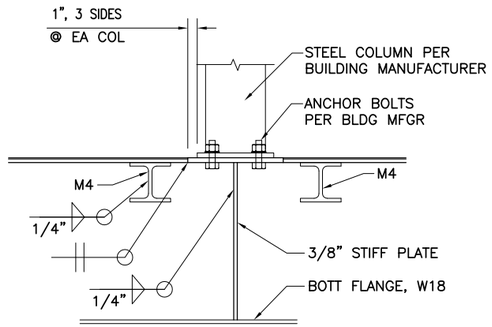
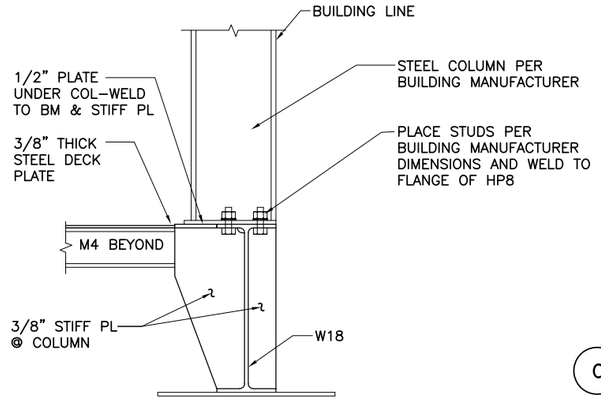


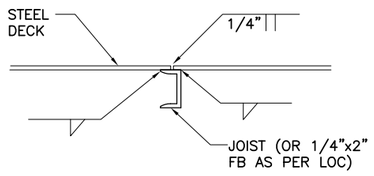
A COLUMN BEARING DETAIL

SCALE 1-1/2"=1'-0"



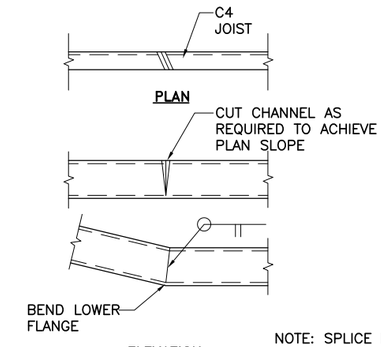
B COLUMN BEARING DETAIL

SCALE 1-1/2"=1'-0"



C SECTION @ DECK PLATE JOIINT

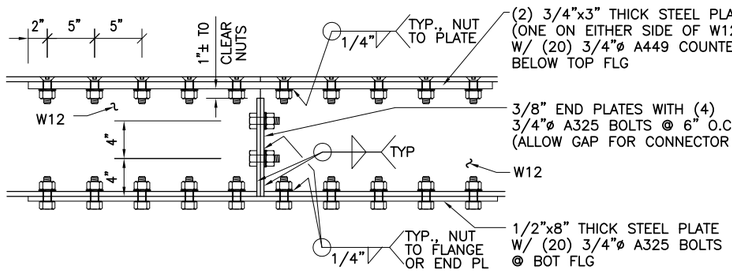
SCALE 1-1/2"=1'-0"



NOTE: SPLICE DECK PL
PER DET C/S4

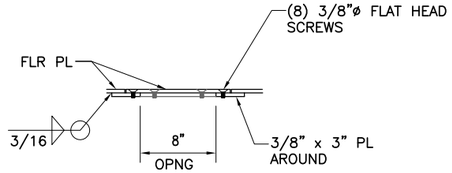
D JOIST CUT & WELD @ SLOPE CHANGES DET

SCALE 1-1/2"=1'-0"



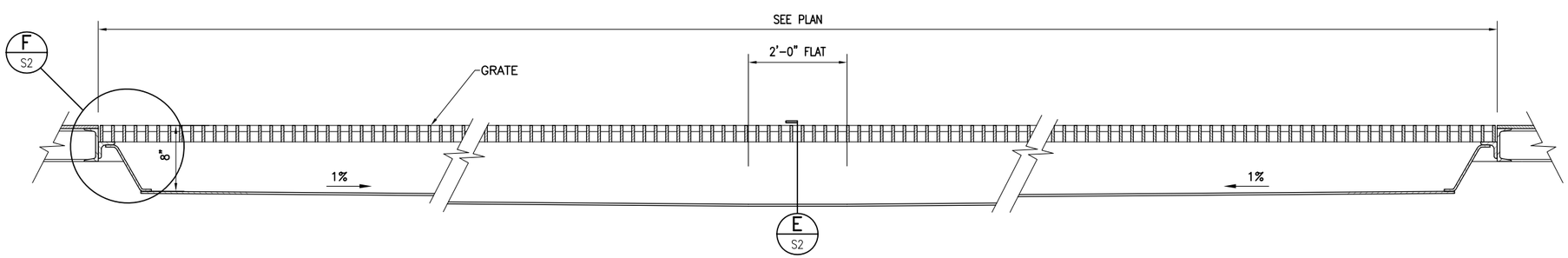
E TYPICAL SPLICE DETAIL

SCALE 1-1/2"=1'-0"



F FLOOR ACCESS HOLE DETAIL

SCALE 1-1/2"=1'-0"



G LONGITUDINAL SECTION @ EVAPORATION TRENCH

SCALE 1-1/2"=1'-0"

STATE OF ALASKA
49TH
Duane H. Anderson
CE 4774
Registered Professional Engineer

R&M

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. 51791
AIP No. 3-02-0304-001-201X
SNOW REMOVAL EQUIPMENT BUILDING
STRUCTURAL DETAILS

DATE: 02/25/2011
SHEET: S3 OF S5

Designed By: MCY
Drawn By: BWD
Checked By: RLC
Date Revised:
Layout Name: DETAIL S-3
File Path and Name: Z:\project\1701.01 DOT_SW SDB SREB Tununak Airport\Civil\Acad\1701.01-SB-SKID-S3.dwg
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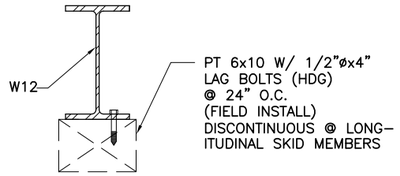
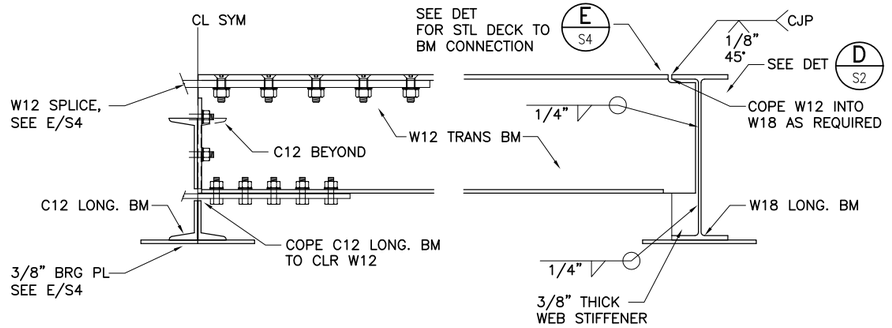


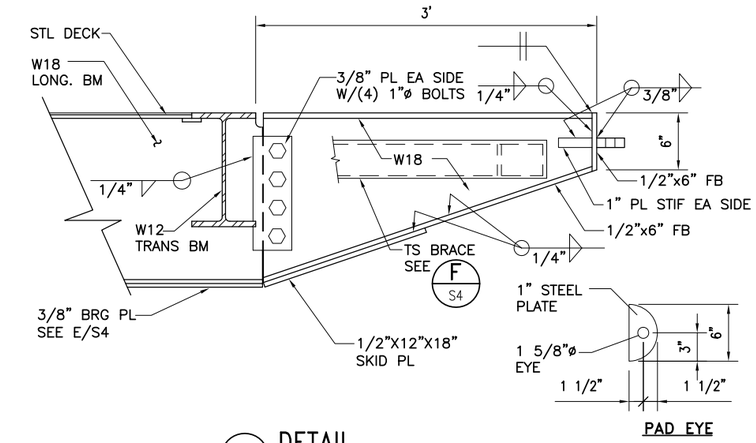


@ INT EDGE

@ EXT EDGE

A TRANS BEAM DETAIL

SCALE 1-1/2"=1'-0"



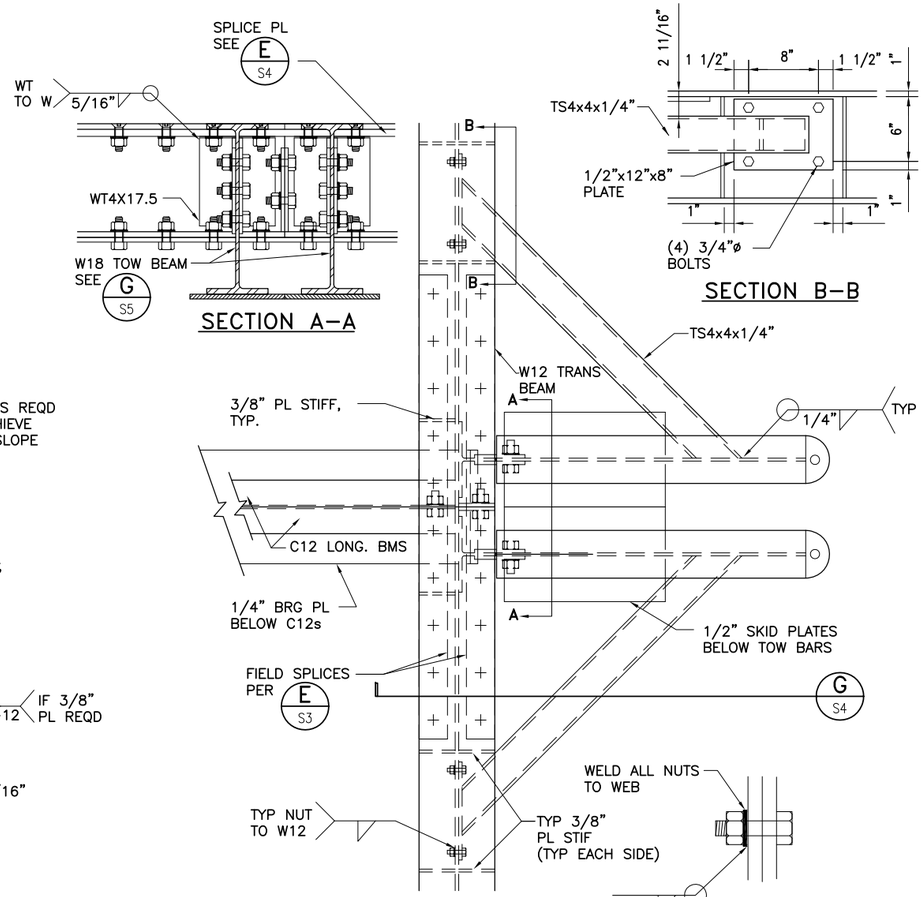
PAD EYE

B LONGITUDINAL/TRANS BEAM CONN.

SCALE 1-1/2"=1'-0"

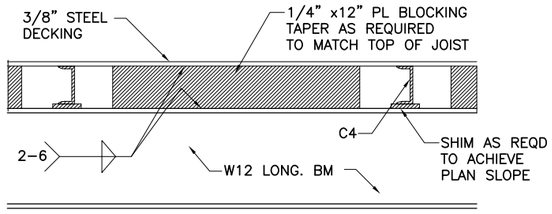
C DETAIL

SCALE 1-1/2"=1'-0"



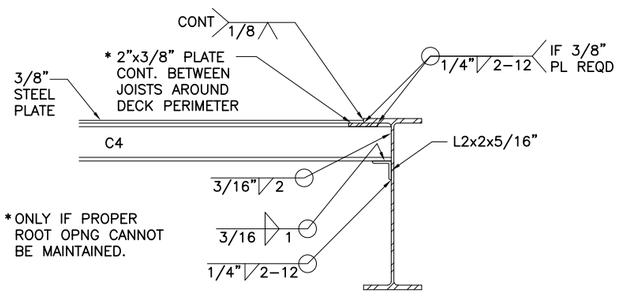
SECTION B-B

SECTION A-A



D TYPICAL BLOCKING DETAIL

SCALE 1-1/2"=1'-0"

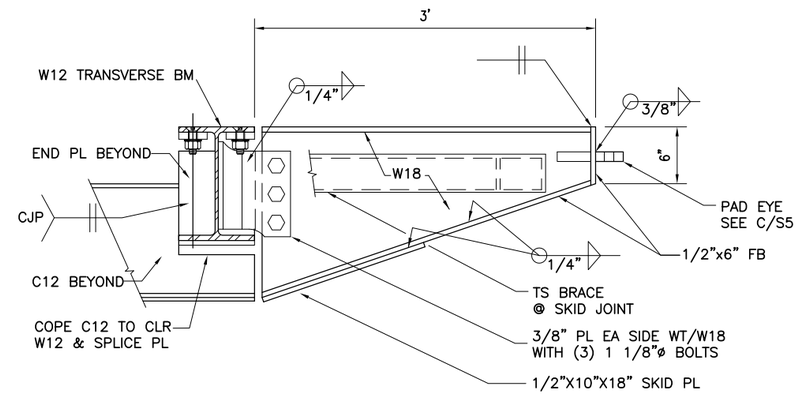


E TYPICAL JOIST CONNECTION

SCALE 1-1/2"=1'-0"

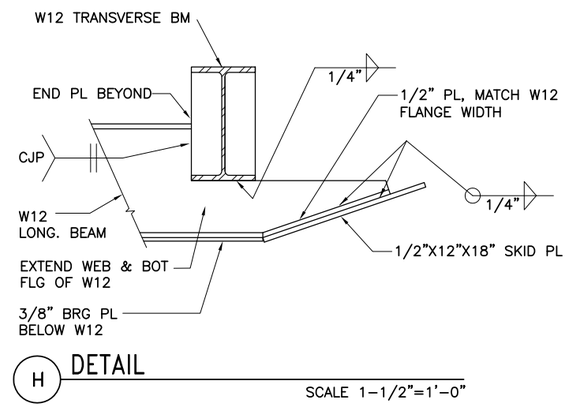
F TOW BAR DETAIL

SCALE 1-1/2"=1'-0"



G DETAIL

SCALE 1-1/2"=1'-0"



H DETAIL

SCALE 1-1/2"=1'-0"

STATE OF ALASKA 49TH Duane H. Anderson CE 4774 Registered Professional Engineer

R&M

PLANS DEVELOPED BY:
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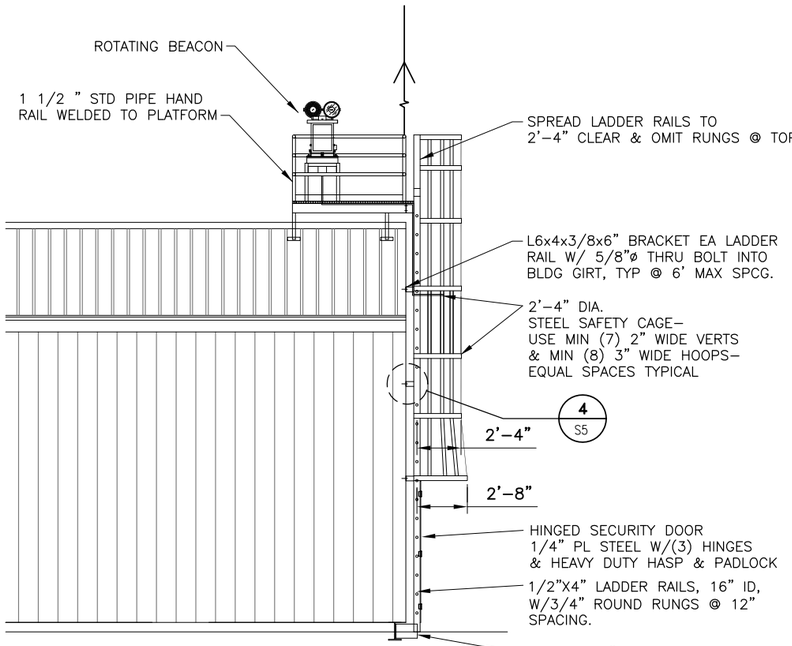
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

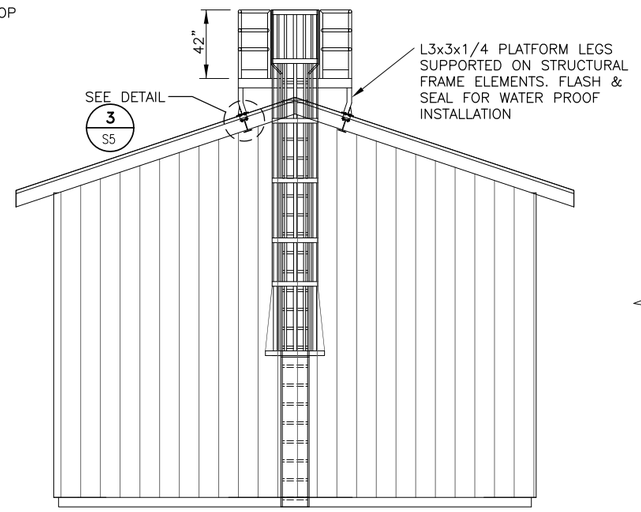
TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. 51791
AIP No. 3-02-0304-001-201X
SNOW REMOVAL EQUIPMENT BUILDING
STRUCTURAL DETAILS

DATE: 02/25/2011
SHEET: S4 OF S5

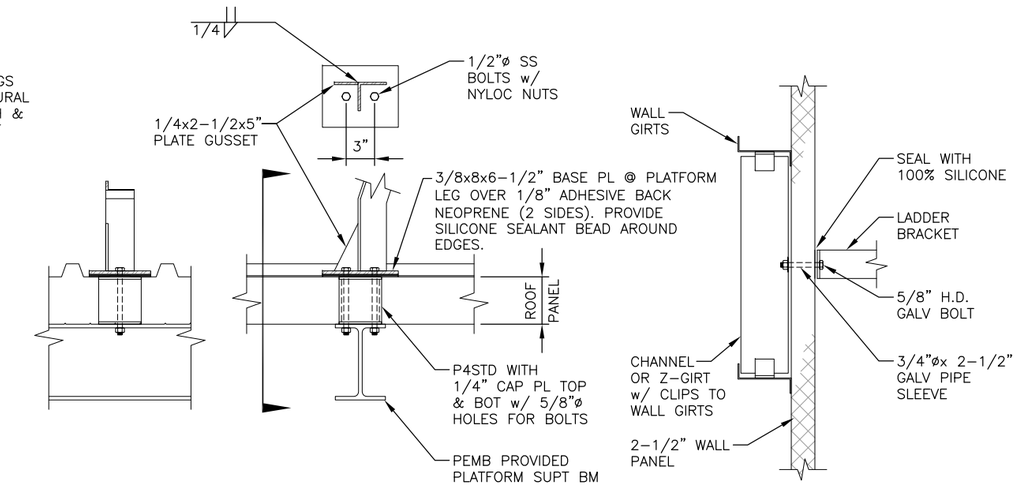
Designed By: MCY
Drawn By: BWD
Checked By: RLC
Date Revised:
Layout Name: DETAIL S-4
File Path and Name: Z:\project\1701.01 DOT_SW SDB SREB Tununak Airport\Civil\ACAD_Struct\Acad\1701.01-SB-SKID-S4.dwg



1 S5 **PARTIAL SIDE WALL ELEVATION**
SCALE 1/4"=1'–0"

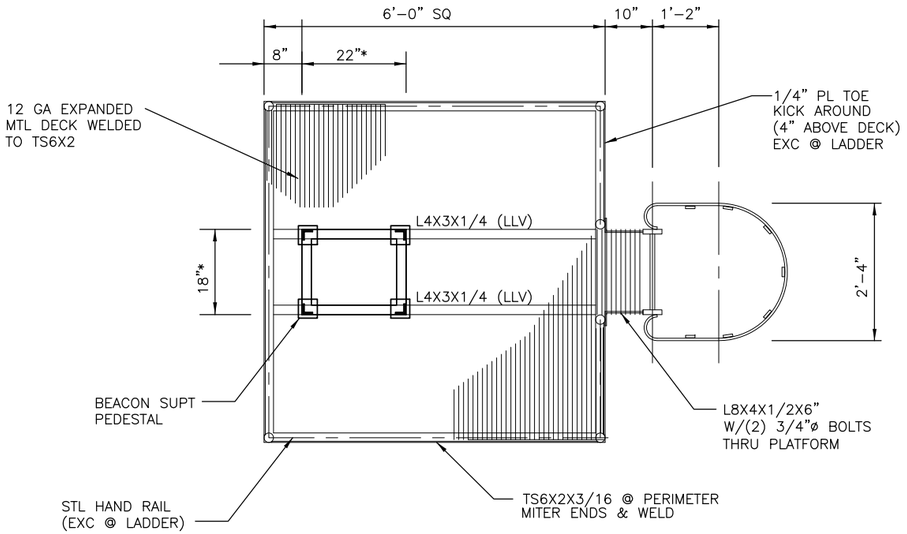


2 S5 **END WALL ELEVATION**
SCALE 1/4"=1'–0"



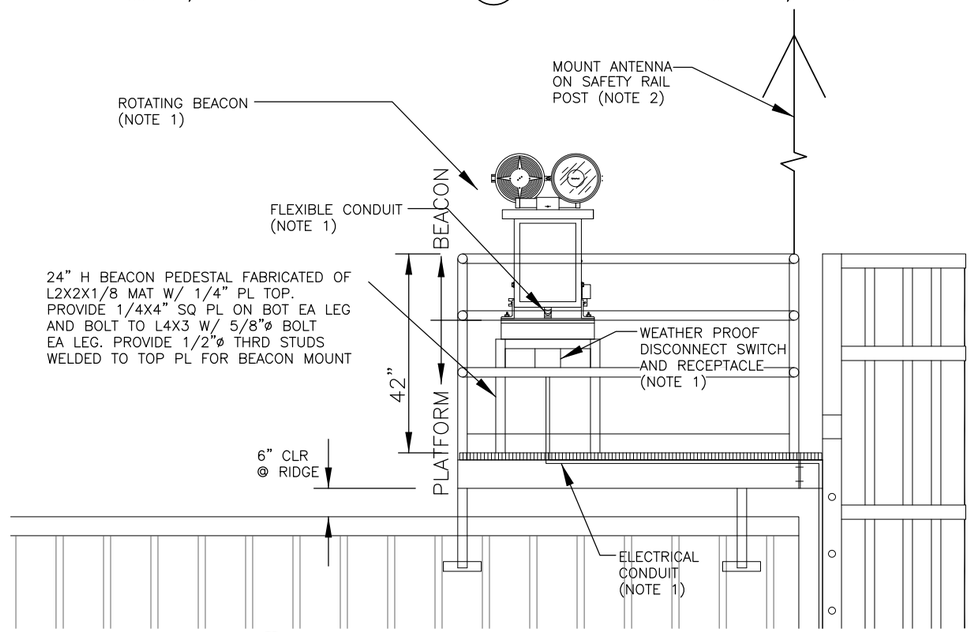
3 S5 **PLATFORM CONNECTION DETAIL**
SCALE 1–1/2"=1'–0"

4 S5 **LADDER MOUNTING DETAIL**
SCALE 1–1/2"=1'–0"



* ADJ DIM TO FIT BEACON PEDESTAL

5 S5 **BEACON PLATFORM PLAN**
SCALE 3/4"=1'–0"



6 S5 **BEACON PLATFORM VIEW**
SCALE 3/4"=1'–0"

GENERAL NOTES:

1. CONDUIT FOR BEACON WILL BE FASTENED TO THE PLATFORM AND LADDER, AND WILL TERMINATE AT A HANDHOLE FIVE FEET FROM A REAR CORNER OF THE BUILDING. REFER TO AIRFIELD ELECTRICAL DOCUMENTS FOR THE HANDHOLE LOCATION AND FOR SPECIFICATIONS FOR THE BEACON, CONDUIT AND WIRING, AND WEATHERPROOF DISCONNECT SWITCH AND RECEPTACLE.
2. CONDUIT FOR THE ANTENNA WILL BE FASTENED TO THE PLATFORM AND LADDER, AND WILL TERMINATE AT A HANDHOLE FIVE FEET FROM A REAR CORNER OF THE BUILDING. REFER TO AIRFIELD ELECTRICAL DOCUMENTS FOR SPECIFICATIONS FOR THE ANTENNA, CONDUIT AND COAXIAL CABLE.
3. CODES: ALL WORK SHALL BE IN COMPLIANCE WITH THE 2006 INTERNATIONAL BUILDING CODE.
   STEEL SHAPES AND PLATES: SHAPES AND PLATES PER ASTM A36, 36KSI MIN YIELD STRENGTH. PIPE PER ASTM A–53 OR A500, 35 KSI MIN YIELD.

   WELDING: PER AWS D1.1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS.

   BOLTS: ASTM A307, HOT DIP GALVANIZED.

   COATINGS: ALL STEEL COMPONENTS OF THE BEACON PLATFORM & LADDER SHALL BE HOT DIP GALVANIZED AFTER FABRICATION PER ASTM A123 OR A153 AS APPLICABLE.

   SUBMITTALS: SUBMIT FABRICATION DRAWINGS, WELDER CERTIFICATES, AND MATERIAL CERTS FOR APPROVAL.

   SPECIAL INSPECTION: PERFORMED BY ENGINEER'S SPECIAL INSPECTOR – 1) ALL WELDS TO RECEIVE VISUAL INSPECTION, AND 2) OBSERVE INSTALLATION OF ADHESIVE ANCHORS.

STATE OF ALASKA 49TH Duane H. Anderson CE 4774 Registered Professional Engineer

R&M

PLANS DEVELOPED BY:
R&M CONSULTANTS, INC.

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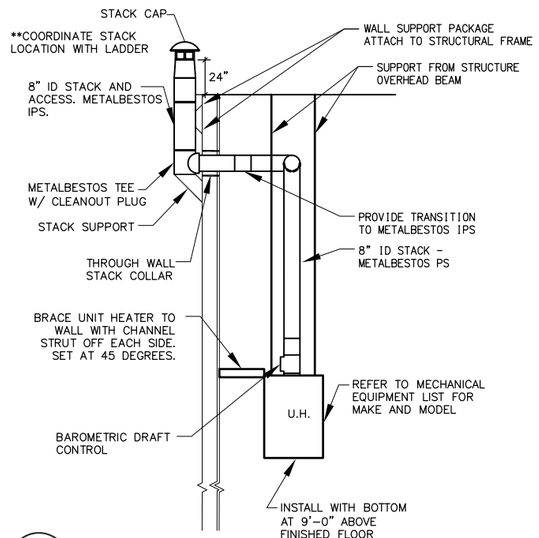
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

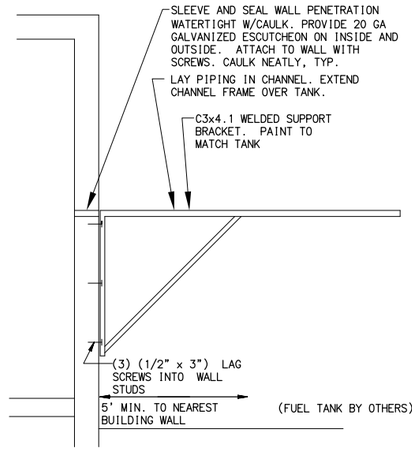
TUNUNAK AIRPORT
TUNUNAK, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. 51791
AIP No. 3–02–0304–001–201X
SNOW REMOVAL EQUIPMENT BUILDING
STRUCTURAL DETAILS

DATE: 02/25/2011
SHEET: S5 OF S5

Designed By: MCY
Drawn By: BWD
Checked By: RLC
Date Revised:
Layout Name: S5
File Path and Name: Z:\project\1701.01 DOT_SW SGB SREB Tununak Airport\Civil\ACAD_Struct\Acad\1701.01-SB-SKID-S5.dwg
2/25/2011, 10:15 AM



2 / M1 UNIT HEATER STACK INSTALLATION
NTS



3 / M1 FUEL PIPING SUPPORT BRACKET
NTS

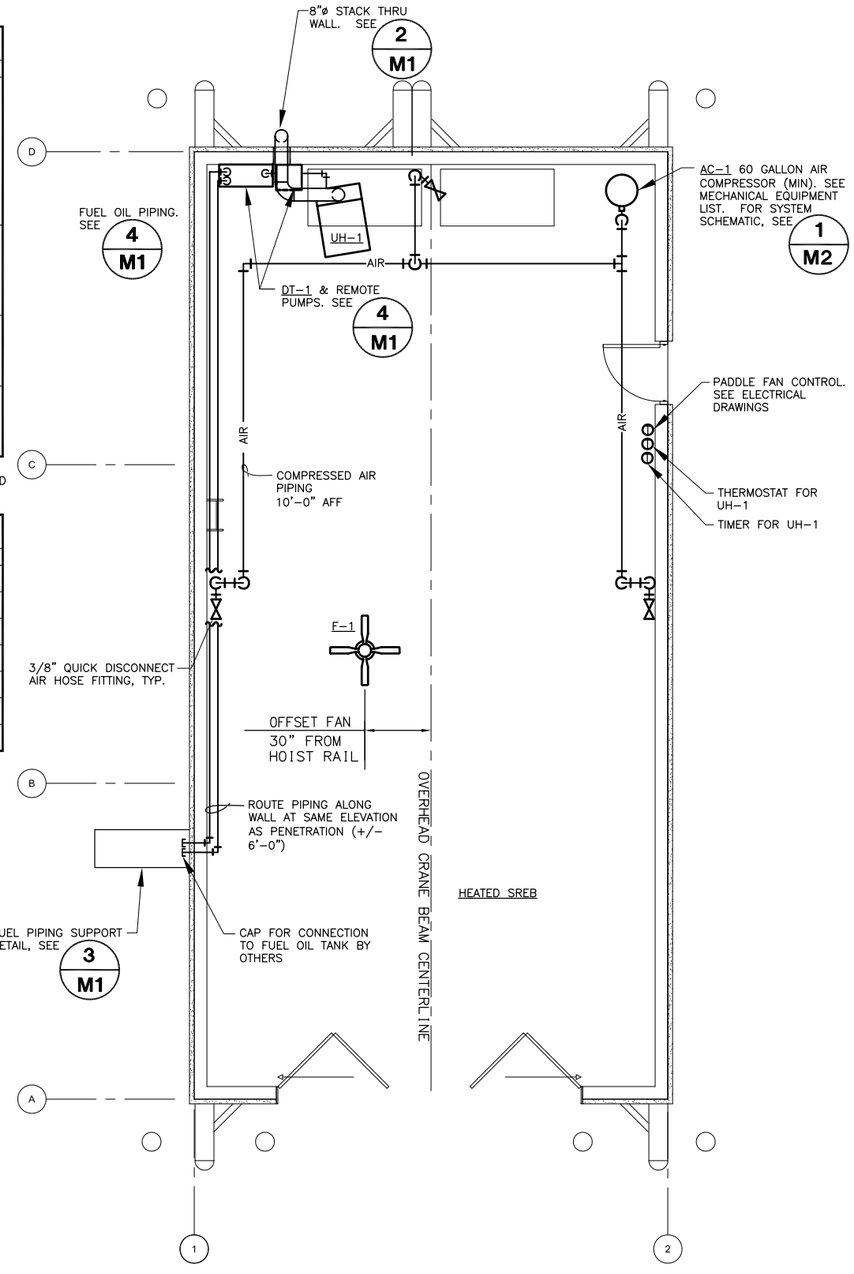
MECHANICAL EQUIPMENT LIST

TAG	DESIGN BASIS PRODUCT
AC–1	AIR COMPRESSOR: INGERSOLL RAND T30–2340–L5–3, 60 GALLON MINIMUM, 9.0 ACFM @ 175 PSI, 3 HP, 1.15 SF, 230/1PH/60 HZ, CRANKCASE HEATER, LOW OIL LEVEL CUTOUT, AIR FILTER AND PRESSURE REGULATOR, AUTOMATIC CONDENSATE DRAIN W/ HIGH MOUNT ELECTRIC CONDENSATE DRAIN EDV–2000. HOSE REEL: AUTO RETRACTABLE REELCRAFT MODEL NO. 2Z862 LOW PRESSURE, 50 FOOT, 3/8"
UH–1	UNIT HEATER: MODINE POR185, #1 DIESEL/FUEL OIL, 1.65 GPH, 231 MBTUH INPUT/184 MBTUH OUTPUT, 3200 CFM @ 56 FOOT THROW, 1/4 HP, 1100 RPM, 115V/1PH/60 HZ, TIMER: INTERMATIC FF34H. T–STAT: HONEYWELL T631C1103.
F–1	PADDLE FAN: GRAINGER/DAYTON MODEL #4C852, 36 INCH, 12,500 CFM @ 395 RPM, 78VA, 120V/1PH/60 HZ, GRAINGER DAYTON MODEL #1AGU6 SPEED SWITCH
DT–1	DAY TANK: SIMPLEX SST SERIES W/ PCB 1 CONTROLS, WALL MOUNT, 10 GALLON CAPACITY, GRAVITY FEED TO UNIT HEATER, DUPLEX REMOTE FUEL PUMPS – 1/3 HP MOTOR, 115V/60HZ/1PH, 063 VENT CAP

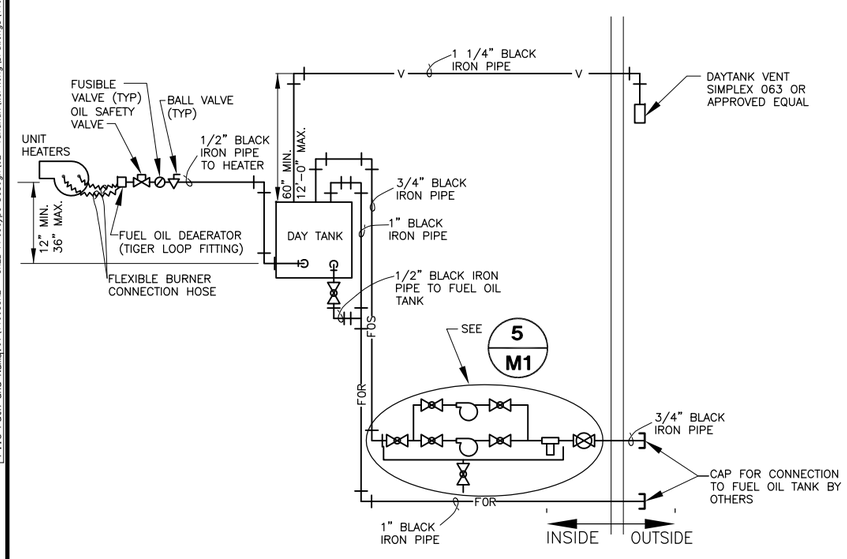
NOTE: FURNISH AND INSTALL MAKES AND MODELS CITED HERE OR IN THE SPECIFICATIONS OR APPROVED EQUALS

MECHANICAL LEGEND

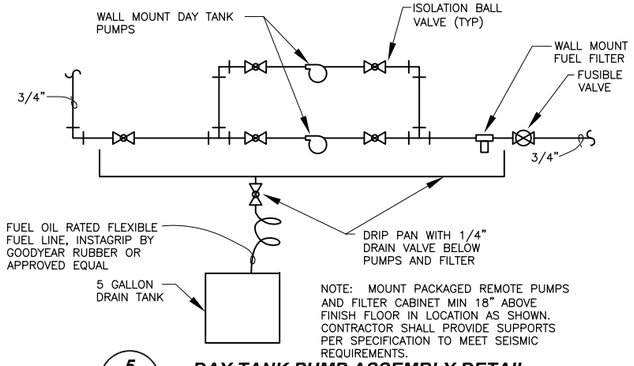
FIXTURE	DESCRIPTION
⋈	QUICK DISCONNECT AIR VALVE
⋈	ISOLATION VALVE
⋈	FUSIBLE VALVE
—F—	FUEL PIPING – SUPPLY & RETURN
—AIR—	AIR COMPRESSOR LINE – BLACK IRON
UH	UNIT HEATER
⋈	OIL SAFETY VALVE



1 / M1 FUEL PIPING AND HEATING FLOOR PLAN
1/4" = 1'–0"



4 / M1 UNIT HEATER FUEL OIL PIPE ONE-LINE
NTS



5 / M1 DAY TANK PUMP ASSEMBLY DETAIL
NTS

STATE OF ALASKA 49TH
BRADLEY S. SORDAHL
ME-7568
REGISTERED PROFESSIONAL ENGINEER

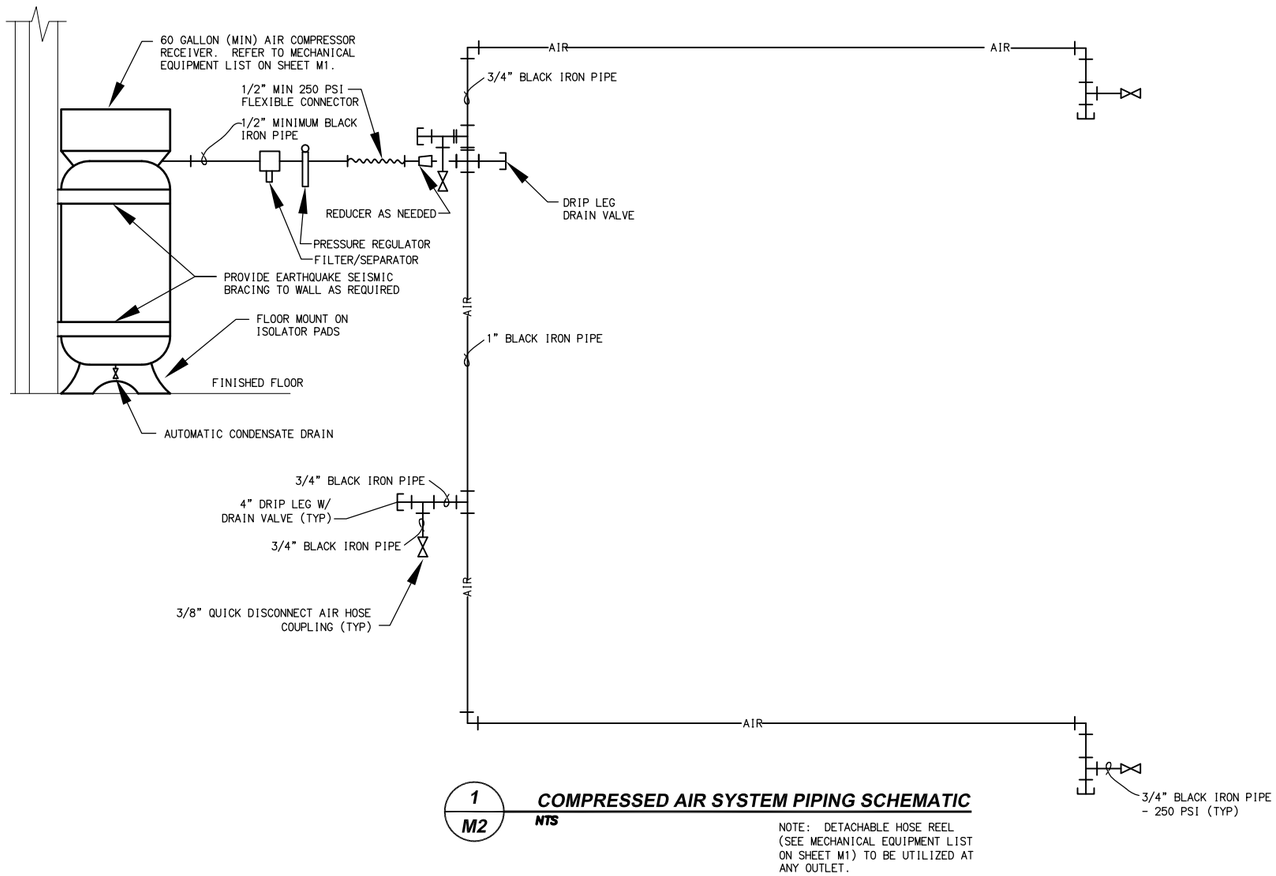
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDING
PROJECT No. 51791
AIP No. 3-02-0304-001-201X
FUEL PIPING AND HEATING FLOOR PLAN

DATE: 02/25/11
SHEET: M1 OF M2
AS-BUILT SHEET:

Designed By: TLC
Drawn By: TLC
Checked By: BSS
Date Revised: 2/25/2011, 9:33 AM
Layout Name: Layout1
File Path and Name: G:\11008SRE - SREB Prototype Design\02 -Tununak Working\Drawings\11008_02_M1.dwg



1/M2 **COMPRESSED AIR SYSTEM PIPING SCHEMATIC**

NTS

NOTE: DETACHABLE HOSE REEL (SEE MECHANICAL EQUIPMENT LIST ON SHEET M1) TO BE UTILIZED AT ANY OUTLET.

STATE OF ALASKA 49TH
BRADLEY S. SORDAHL
ME-7568
REGISTERED PROFESSIONAL ENGINEER

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDING
PROJECT No. 51791
AIP No. 3-02-0304-001-201X
AIR COMPRESSOR SCHEMATIC

DATE: 02/25/11
SHEET: M2 OF M2
AS-BUILT SHEET:

Designed By: TLC
Drawn By: TLC
Checked By: BSS
Date Revised:
Layout Name: Layout1
File Path and Name: G:\11008SRE - SREB Prtotype Design\02 -Tununak\Working\Drawings\11008_02_M2.dwg
2/25/2011, 9:34 AM

PANEL: C

PROJECT: SINGLE BAY SREB — THRUFEED LGS ☐ — SUBFEED BKR ☐
LOCATION: LUGS ☐ CB ■ — SURF ■ FLSH ☐ — SHNT TRP ☐ SBFD LGS ☐ — ISO GRND BAR ☐ SOLID NEUTRAL ■

120/240 VOLTS — 1 PH 3 WIRE — 200 AMP — 10,000 (1) AIC

CIRCUIT DESCRIPTION	KVA	AMP	CKT	CKT	AMP	KVA	CIRCUIT DESCRIPTION
PANEL G	4.15	50/	1	2	30/1	2.88	NEMA 5-30 RECEPTACLE
		/2	3	4	30/		SPARE
50 AMP 240 VOLT RECEPTACLE	9.6	50/	5	6	/2		
NEMA 6-50R		/2	7	8	30/		SPARE
NEMA 5-20 RECEPTACLES	0.72	20/1	9	10	/2		
NEMA 5-20 RECEPTACLES	0.54	20/1	11	12	20/1	0.18	NEMA 5-20 RECEPT.- COMPRESSOR
AIR COMPRESSSOR - 3 HP	4.78	50/	13	14	20/1		SPARE
		/2	15	16	20/1		SPARE
SPARE		20/1	17	18	20/1		SPARE
SPARE		20/1	19	20	20/1		SPARE
SPACE			21	22	20/1		SPARE
SPACE			23	24	20/		SPARE
SPACE			25	26	/2		
SPACE			27	28	20/1		SPARE
SPACE			29	30	20/1		SPARE

CONNECTED LOAD:	22.85	KVA	95.2	A
DEMAND LOAD:	22.85	KVA	95.2	A
DEMAND + CONT.	23.88	KVA	99.5	A
DATE:				
REV:				

REMARKS:
(1) FAULT CURRENT BASED ON 50 KVA 1.0% Z TRANSFORMER
2. PROVIDE SEPARATE NEUTRAL AND EQUIPMENT GROUND BARS
3. PROVIDE 200/2 MAIN CB

PANEL: G

PROJECT: SINGLE BAY SREB — THRUFEED LGS ☐ — SUBFEED BKR ☐
LOCATION: LUGS ■ CB ☐ — SURF ■ FLSH ☐ — SHNT TRP ☐ SBFD LGS ☐ — ISO GRND BAR ☐ SOLID NEUTRAL ■

120/240 VOLTS — 1 PH 3 WIRE — 100 AMP — 10,000 AIC

CIRCUIT DESCRIPTION	KVA	AMP	CKT	CKT	AMP	KVA	CIRCUIT DESCRIPTION
LIGHTING	1.4	20/1	1	2	50/		SPARE
LIGHTING	0.4	20/1	3	4	/2		
SPARE		20/1	5	6	60/		SPARE
PADDLE FAN & UNIT HEATER	0.75	15/1	7	8	/2		
SPARE		15/	9	10	15/1	0.8	DAY TANK PUMP
		/2	11	12	15/1	0.8	DAY TANK PUMP
SPACE			13	14			SPACE
SPACE			15	16			SPACE

CONNECTED LOAD:	4.15	KVA	17.3	A
DEMAND LOAD:	4.15	KVA	17.3	A
DEMAND + CONT.	5.18	KVA	21.6	A
DATE:				
REV:				

REMARKS:
1. PROVIDE SEPARATE NEUTRAL AND EQUIPMENT GROUND BARS

NOTES:

(1) PROVIDE MULTIPOLE CIRCUIT BREAKERS OR CIRCUIT BREAKERS WITH HANDLE TIES, AS REQUIRED FOR COMPLIANCE WITH NEC 210.4(B), WHEREVER FIELD WIRING RESULTS IN MULTIWIRE BRANCH CIRCUITS.

LEGEND

FIXTURE	DESCRIPTION	MOUNTING HEIGHT	LAMP SIZE/ TYPE	REMARKS
A/130	WALL MOUNT BRACKET, LIGHT DISTRIBUTION NEMA 7X7, BALLAST 120-VOLT HPF - KIM LIGHTING AFL11-100-HPS-120, OR LITHONIA ASF1-100S-WDF-120, OR APPROVED EQUAL.	12'-0" OR AS SHOWN	100-HPS	AT STORAGE AREA, AIM FIXTURE AT FLOOR 19 FT FROM WALL AT WORK BENCH, AIM FIXTURE AT TOP OF BENCH
B/130	WALL MOUNT AREA LIGHT, POLYCARBONATE REFRACTOR, LIGHT DISTRIBUTION: SHORT NON-CUTOFF TYPE-III, , BALLAST 120-VOLT MAGNETIC REGULATOR W/ PHOTOELECTRIC CELL - GENERAL ELECTRIC NO. W1LR-10-S-1-M-3-L-SN3-DB, OR HUBBELL CATALOG NO. PGM-100S-128-1, OR LUMINAIRE LIGHTING CATALOG NO. LPL 1212-100HPS-HPF-120-CP-PC-A/B, OR APPROVED EQUAL.	18'-0"	100-HPS	
C/60	WALL MOUNT, POLYCARBONATE LENS, BALLAST 120-VOLT HPF, W/PHOTO-ELECTRIC CELL - KENALL NO. H69D-PP-DB-50S-1-120-HPF, OR BROWNLEE LIGHTING CATALOG NO. 7182-50S-CPP-C-HPF-P01, OR HUBBELL CATALOG NO. NRG-121-PC, OR APPROVED EQUAL.	8'-0"	50-HPS	
E/60 B	EMERGENCY EGRESS LIGHT, SEALED LEAD-CALCIUM BATTERY. 12V, -40°C RATING. INDUSTRIAL LIGHTING UNIT LITHONIA #INDX1236 W 120 H1212 ULT, OR SURVIVE-ALL SV SERIES CATALOG NO. W-12SV36M-2-MK-D-CW4, OR APPROVED EQUAL.	8'-0"	INCLUDED	
1	NOTE SYMBOL - NUMBER INDICATED			
$	SINGLE POLE SWITCH, LIGHTED TOGGLE (LIGHT ON WITH LOAD OFF)	48"		
$3	3-WAY SWITCH, LIGHTED TOGGLE (LIGHT ON WITH LOAD OFF)	48"		
$T	SINGLE POLE MANUAL MOTOR STARTER SWITCH W/THERMAL OVERLOAD ELEMENT	48"		
$WP	WEATHERPROOF SWITCH	48"		
$HOA & SP	DOUBLE POLE HAND-OFF-AUTO SWITCH WITH SPEED CONTROL	48"		
▬	CIRCUIT BREAKER PANEL, SEE PANEL SCHEDULE	6'-6" TO TOP		
	ELECTRICAL CIRCUIT			
C-#	HOME RUN TO CIRCUIT PANEL WITH PANEL AND BREAKER NUMBER			
	GROUND ELECTRODE SYSTEM CONNECTION			
	DUPLEX OUTLET, GFCI, NEMA 5-20R	48"		
A	RECEPTACLE, 30 AMP, 120V, NEMA 5-30R.	48"		PROVIDE MATCHING ANGLE PLUG
B	RECEPTACLE, 50 AMP, 240V, NEMA 6-50R	48"		PROVIDE MATCHING ANGLE PLUG
	DISCONNECT SWITCH, 60A, 2P, S/N, 240V	5'-6"		
F	FAN JUNCTION BOX			
3	MOTOR WITH HORSEPOWER INDICATED			
G	GENERATOR INLET, NEMA L14-30 IN NEMA-3R ENCLOSURE	48"		
UGE	UNDERGROUND ELECTRICAL			
	LOW VOLTAGE CKT.			
RSC	RIGID STEEL CONDUIT			
LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT			
BCG	BARE COPPER GROUNDING CONDUCTOR			
AFF	ABOVE FINISHED FLOOR			

SREB GENERAL NOTES:

1. THE WORK SHOWN ON THIS DRAWING IS APPLICABLE TO THE HEATED BUILDING, SREB #1.

2. THE WORK SHOWN ON THIS DRAWING IS APPLICABLE TO THE UNHEATED BUILDING, SREB #2, EXCEPT FOR THE FOLLOWING:

   A. THE FOLLOWING CIRCUIT BREAKERS ARE NOT REQUIRED IN PANEL C (CONVERT THEM TO "SPARE"):

      1. AIR COMPRESSOR-3 HP (C-13,15).
      2. NEMA 5-20 RECEPT. - COMPRESSOR (C-12)
      3. PANEL DEMAND = 15.5 KVA, 65 AMPS @ 120/240V.

   B. THE FOLLOWING CIRCUIT BREAKERS ARE NOT REQUIRED IN PANEL G (CONVERT THEM TO "SPARE"):

      1. PADDLE FAN & UNIT HEATER (G-7).
      2. DAY TANK PUMP (G-10,12).
      3. PANEL DEMAND = 1.8 KVA, 7.5 AMPS @ 120/240V.

STATE OF ALASKA 49TH — MICHAEL J. LOVE — EE-5818 — REGISTERED PROFESSIONAL ENGINEER

BY	DATE	REVISION

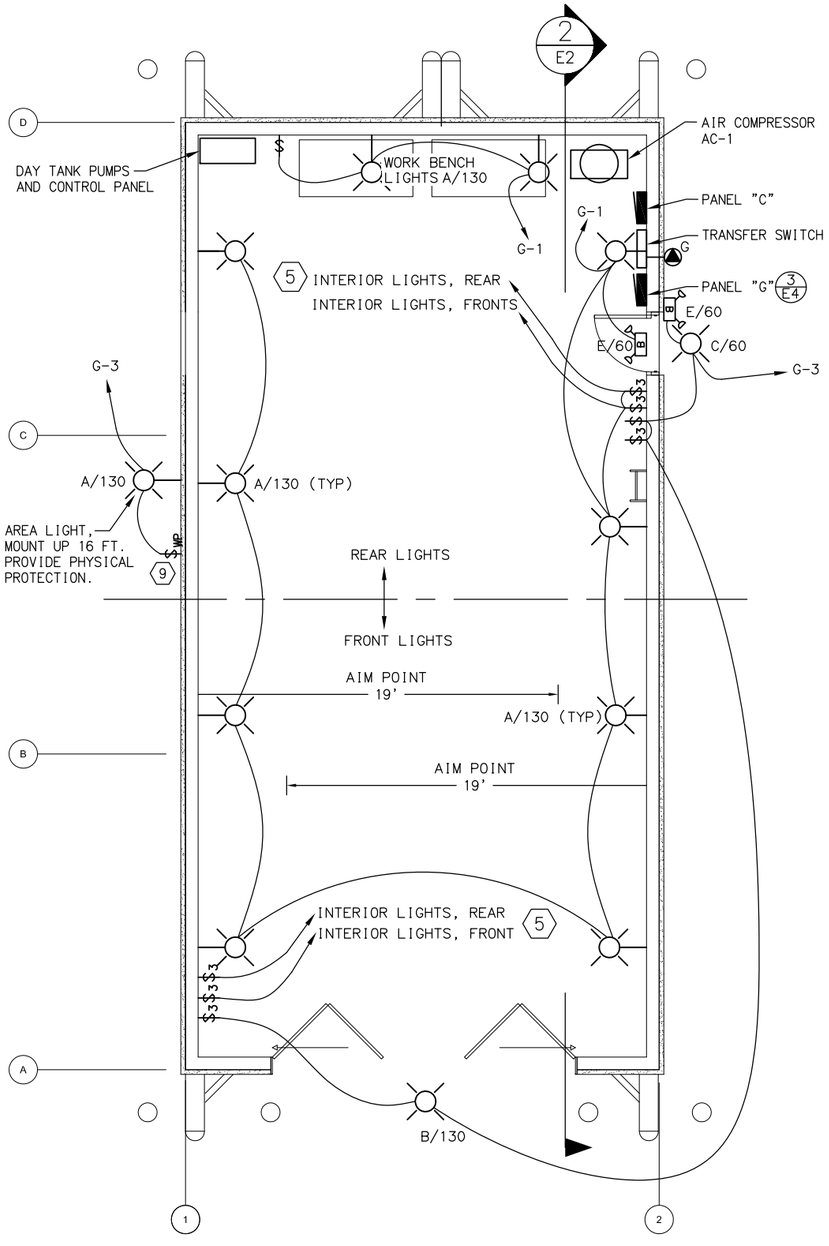
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDING
PROJECT No. 51791
AIP No. 3-02-0304-001-201X
ELECTRICAL SCHEDULES

DATE: 02/25/11
SHEET: E1 OF E4
AS-BUILT SHEET:

Designed By: MJL
Drawn By: DMH
Checked By: MJL

Date Revised: 2/25/2011, 9:32 AM
Layout Name: Layout1
File Path and Name: G:\11008SRE - SREB Prototype Design\02 -Tununak\Working\Drawings\11008_02_E1.dwg

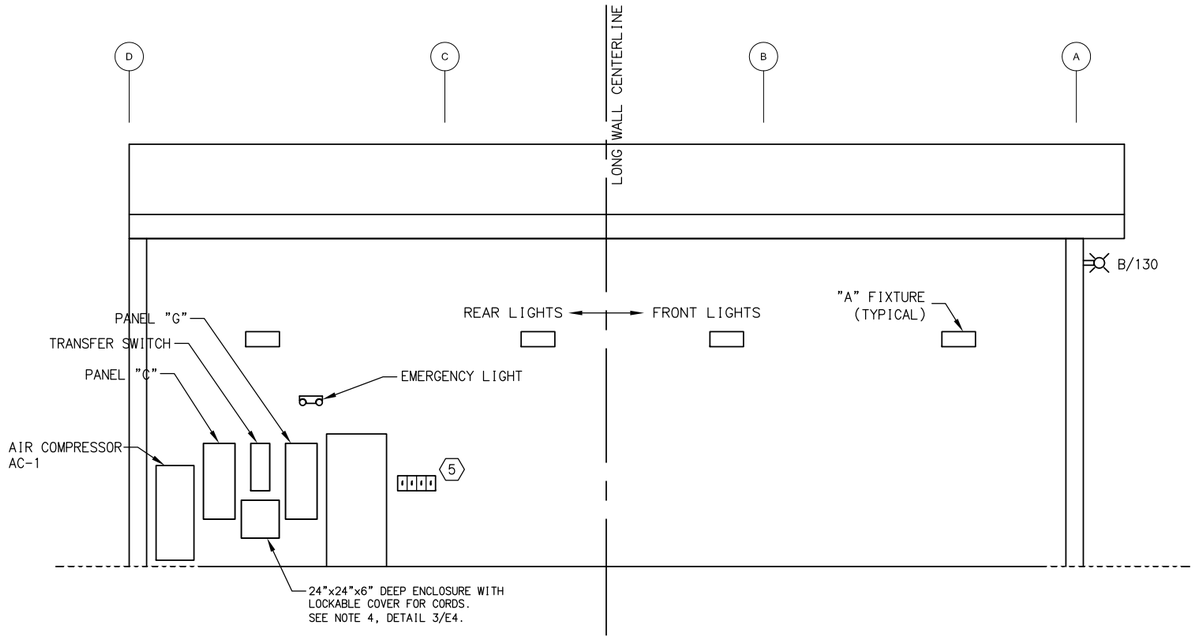


SEE SHEET E1 FOR LIGHTING FIXTURE SCHEDULE

1 / E2 LIGHTING PLAN
1/4" = 1'-0"

ELECTRICAL NOTES - SHEETS E2 & E3

1. 120-VOLT POWER FOR COMPRESSOR CRANKCASE HEATER AND AUTOMATIC CONDENSATE DRAIN CONTROL TO BE CONNECTED TO NEMA-5-20 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 RMC 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".
3. NOT USED.
4. STEEL FLOOR IS TO BE BONDED TO THE GROUNDING ELECTRODE SYSTEM WITH A #2 AWG CONDUCTOR AT THE BUILDING DISCONNECT.
5. SWITCHES FOR LIGHT FIXTURES-A/130 & B/130 TO HAVE LOCATOR LIGHTS IN TOGGLE.
6. FOR ALL EXTERIOR WIRING AND INTERIOR WIRING BELOW 10 FT ABOVE FINISH FLOOR, USE RIGID STEEL CONDUIT. IMC AND EMT CONDUIT MAY BE USED 10 FT A.F.F. WITHIN THE BUILDING ENVELOPE.
7. ROOF MOUNTED BEACON, BY OTHERS. SEE ALSO STRUCTURAL DRAWINGS.
8. RADIO RECEIVER/CONTROLLER ANTENNA, BY OTHERS. SEE ALSO STRUCTURAL DRAWINGS.
9. CONTROL SWITCH FOR AREA LIGHT FIXTURES: PROVIDE A 0-60 MINUTE SPRING-MOTOR INTERVAL TIMER WITHOUT HOLD IN A NEMA 3R ENCLOSURE (INTERMATIC MODEL FD60M IN A MIDWEST ELECTRIC POWER OUTLET U010010 ENCLOSURE OR APPROVED EQUAL).
10. PROVIDE SLACK LOOP ADEQUATE TO ACCOMMODATE MOVEMENT OF 12 INCHES IN ANY DIRECTION WHEN TRANSITIONING TO UNDERGROUND CONDUIT.
11. PENETRATIONS THROUGH EXTERIOR WALL SHALL BE BELOW SERVED EQUIPMENT.



2 / E2 INTERIOR ELEVATION
1/4" = 1'-0"

SREB GENERAL NOTES:

1. THE WORK SHOWN ON THIS DRAWING IS APPLICABLE TO THE HEATED BUILDING, SREB #1 AND TO THE UNHEATED BUILDING, SREB #2.

STATE OF ALASKA 49 TH
MICHAEL J. LOVE
EE-5818
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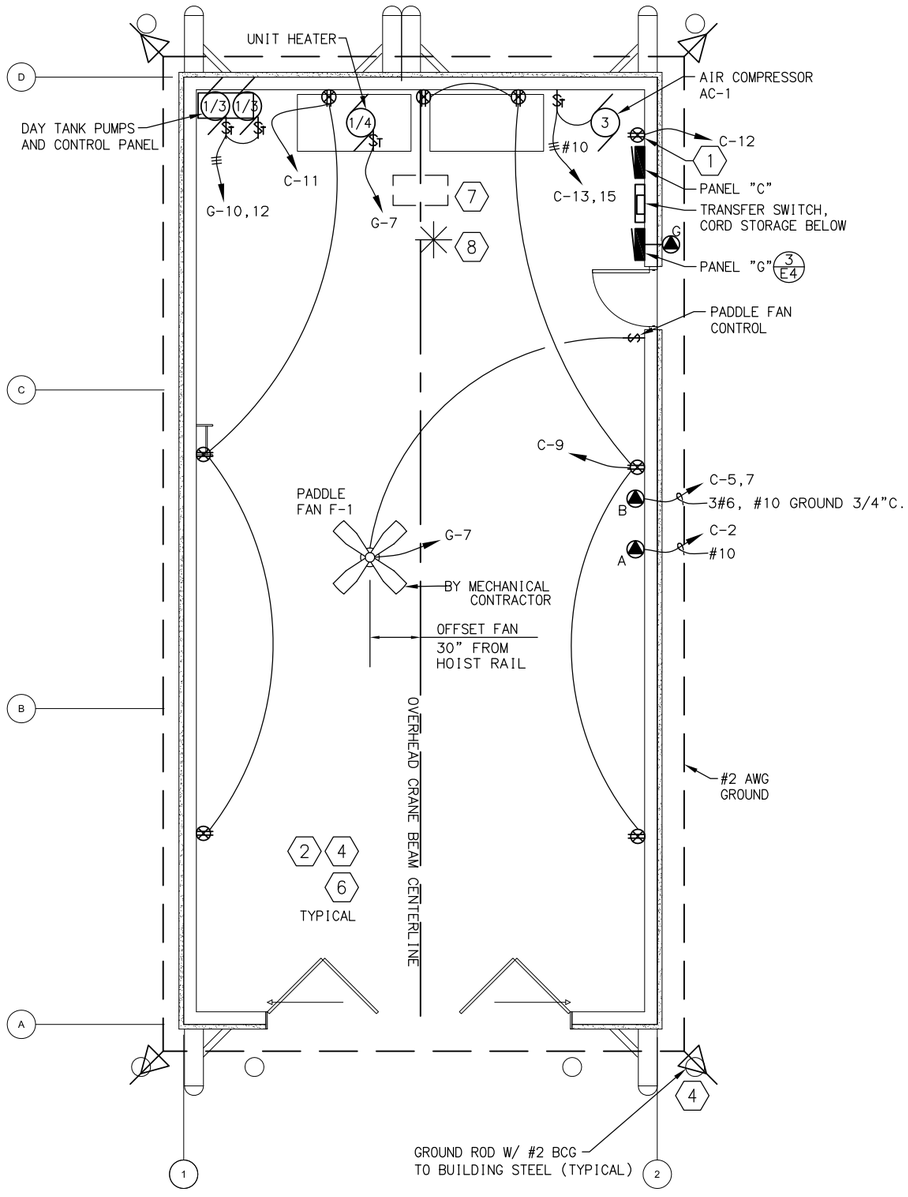
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDING
PROJECT No. 51791
AIP No. 3-02-0304-001-201X
ELECTRICAL LIGHTING PLAN

DATE: 02/25/11
SHEET: E2 OF E4
AS-BUILT SHEET:

Designed By: MJL
Drawn By: DMH
Checked By: MJL
Date Revised:
Layout Name: 2/25/2011, 9:31 AM Layout1
File Path and Name: G:\11008SRE - SREB Prototype Design\02 -Tununak\Working\Drawings\11008_02_E2.dwg

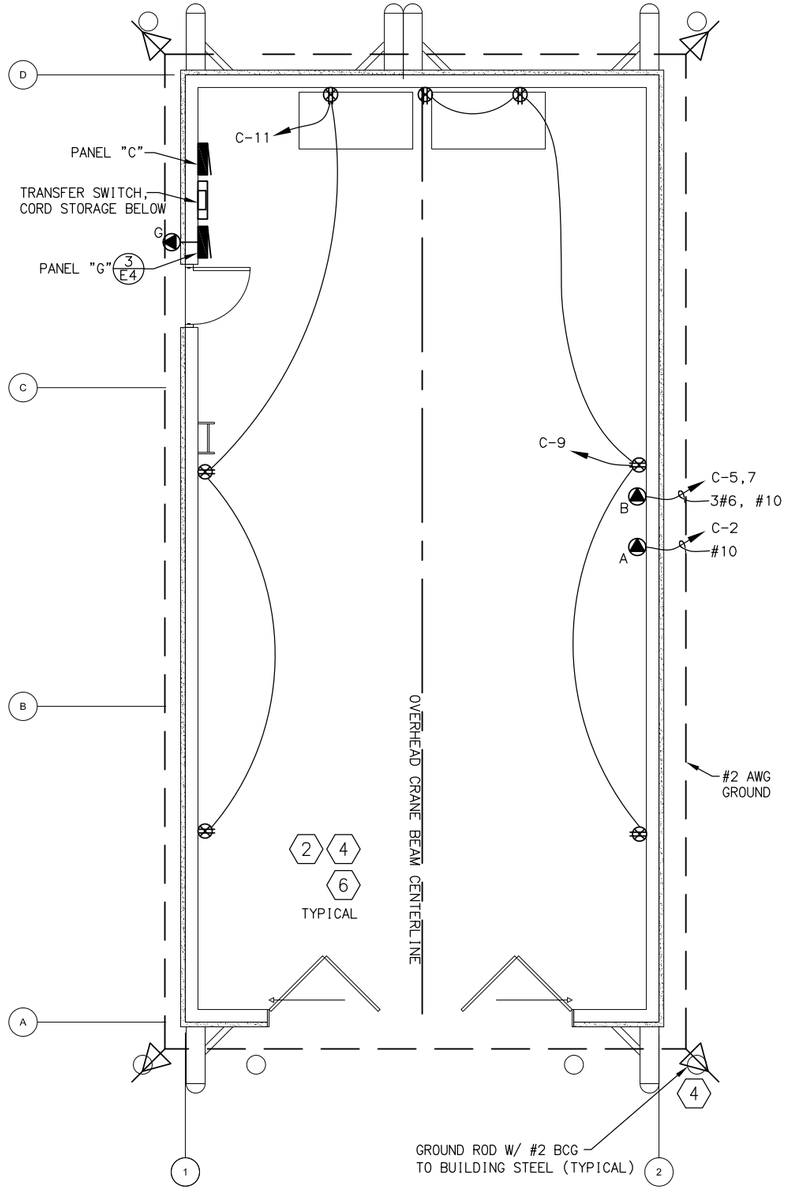


1/E3 POWER PLAN - HEATED SREB (SREB #1)

1/4" = 1'-0"

NOTES:

1. SEE ELECTRICAL NOTES FOR THIS DETAIL ON SHEET E2.
2. REFER TO AIRPORT LIGHTING SHEETS FOR METER PANEL LOCATION AND DETAIL.



2/E3 POWER PLAN - UNHEATED SREB (SREB #2)

1/4" = 1'-0"

NOTES:

1. SEE ELECTRICAL NOTES FOR THIS DETAIL ON SHEET E2.
2. REFER TO AIRPORT LIGHTING SHEETS FOR METER PANEL LOCATION AND DETAIL.

STATE OF ALASKA 49TH
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EE-5818
REGISTERED PROFESSIONAL ENGINEER

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDING
PROJECT No. 51791
AIP No. 3-02-0304-001-201X
ELECTRICAL POWER PLANS & DETAILS

DATE: 02/25/11
SHEET: E3 OF E4
AS-BUILT SHEET:

Designed By: MJL
Drawn By: DMH
Checked By: MJL
Date Revised:
Layout Name: 2/25/2011, 9:31 AM Layout1
File Path and Name: G:\11008SRE - SREB Prototype Design\02 -Tununak\Working\Drawings\11008_02_E3.dwg

DETAIL NOTES:

(1) NOT USED.

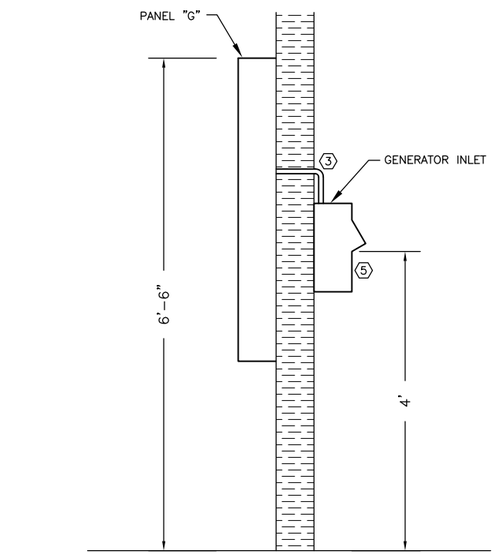
(2) 60–AMP 250–VOLT NON–FUSED THREE–POLE DOUBLE–THROW TRANSFER SWITCH, SQUARE–D CATALOG NO. DTU322 OR APPROVED EQUAL.

(3) SEAL CONDUIT PENETRATION ON INSIDE AND OUTSIDE BETWEEN THE INTERIOR AND EXTERIOR OF THE BUILDING WITH DUX SEAL.

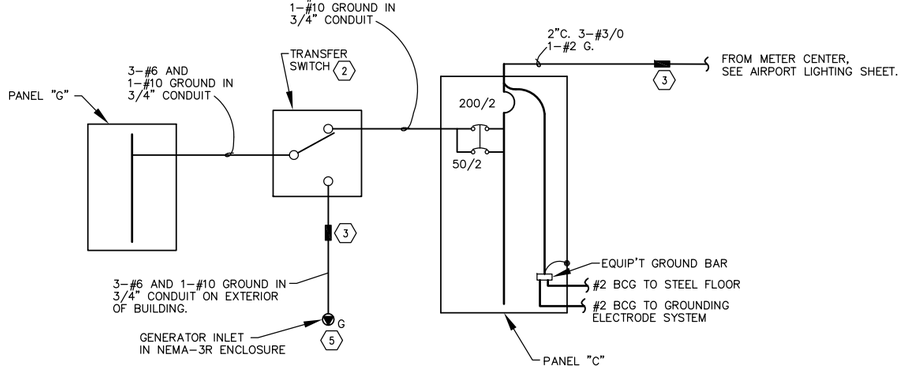
(4) PROVIDE A 20–FOOT "ARCTIC" POWER CORD CONTAINING THREE #8 AWG POWER CONDUCTORS AND ONE #10 AWG GROUND CONDUCTOR WITH A CS63–64C* CONNECTOR ON ONE END AND A CS63–65C* PLUG ON THE OTHER. PROVIDE THE FOLLOWING 36–INCH LONG ADAPTER CORDS.
- (A) 1–4C #10 POWER CORD WITH A CS63–64C* CONNECTOR ON ONE END 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.

(5) 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 / E4 **PANEL "G" - GENERATOR INLET ELEVATION**
NTS

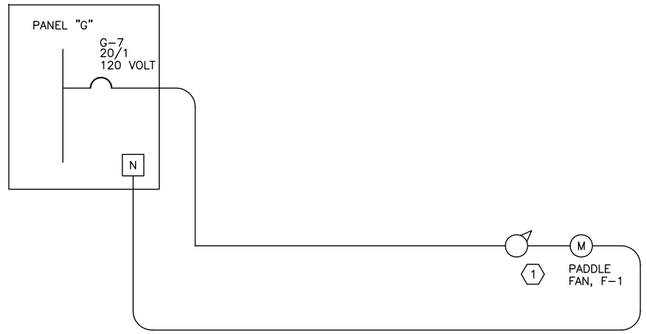


4 / E4 **POWER ONE LINE DIAGRAM**
NTS

NOTE: REFER TO AIRPORT LIGHTING SHEETS FOR METER PANEL LOCATION AND DETAIL.

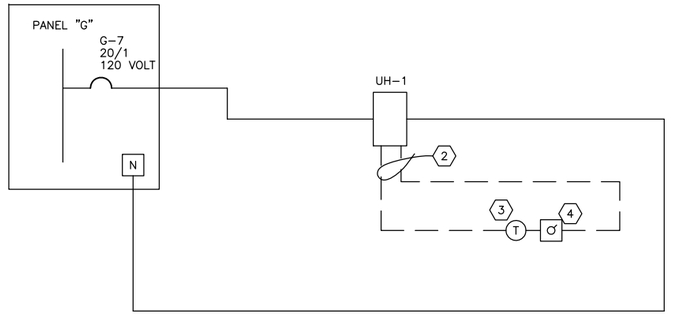
SREB GENERAL NOTES:

1. THE WORK SHOWN ON DETAILS 3/E4 AND 4/E4 IS APPLICABLE TO THE HEATED BUILDING, SREB #1 AND TO THE UNHEATED BUILDING, SREB #2.



1 / E4 **PADDLE FAN CONTROL DIAGRAM**
NTS

NOTES:
(1) ELECTRONIC SPEED CONTROL – SUPPLIED OR RECOMMENDED BY THE PADDLE FAN MANUFACTURER.



2 / E4 **HEATING CONTROL WIRING DIAGRAM**
NTS

NOTES:
(1) NOT USED.

(2) THERMOSTAT WIRE – CAN RUN EXPOSED BUT MUST BE STAPLED TO WAINSCOT 24 INCHES O.C.

(3) THERMOSTAT FOR UNIT HEATER – NON MERCURY TYPE.

(4) SPRING–MOTOR TIME INTERVAL SWITCH, BY DIV. 15, WITHOUT HOLD WITH NORMALLY OPEN ISOLATED CONTACT RATED 10 AMPS @ 120 VOLTS – TIME INTERVAL 0–4 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. SEQUENCE OF OPERATION:

THE CONTACTS IN THE TIME SWITCH (4) CLOSE WHEN THE SWITCH IS SET TO ANY TIME GREATER THAN ZERO. CONNECT IN SERIES WITH THERMOSTAT.

WHEN THE TIMER SWITCH (4) TIMES OUT, ITS INTERNAL CONTACT OPENS AND BURNER CEASES OPERATION.

SREB GENERAL NOTES:

1. THE WORK SHOWN ON DETAILS 1/E4 AND 2/E4 IS APPLICABLE TO THE HEATED BUILDING, SREB #1.

STATE OF ALASKA 49TH
MICHAEL J. LOVE
EE–5818
REGISTERED PROFESSIONAL ENGINEER

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
SNOW REMOVAL EQUIPMENT BUILDING
PROJECT No. 51791
AIP No. 3–02–0304–001–201X
HEAT CONTROLS & POWER DETAILS

DATE: 02/25/11
SHEET: E4 OF E4
AS–BUILT SHEET:

Designed By: MJL
Drawn By: DMH
Checked By: MJL
Date Revised:
Layout Name: Power (3)
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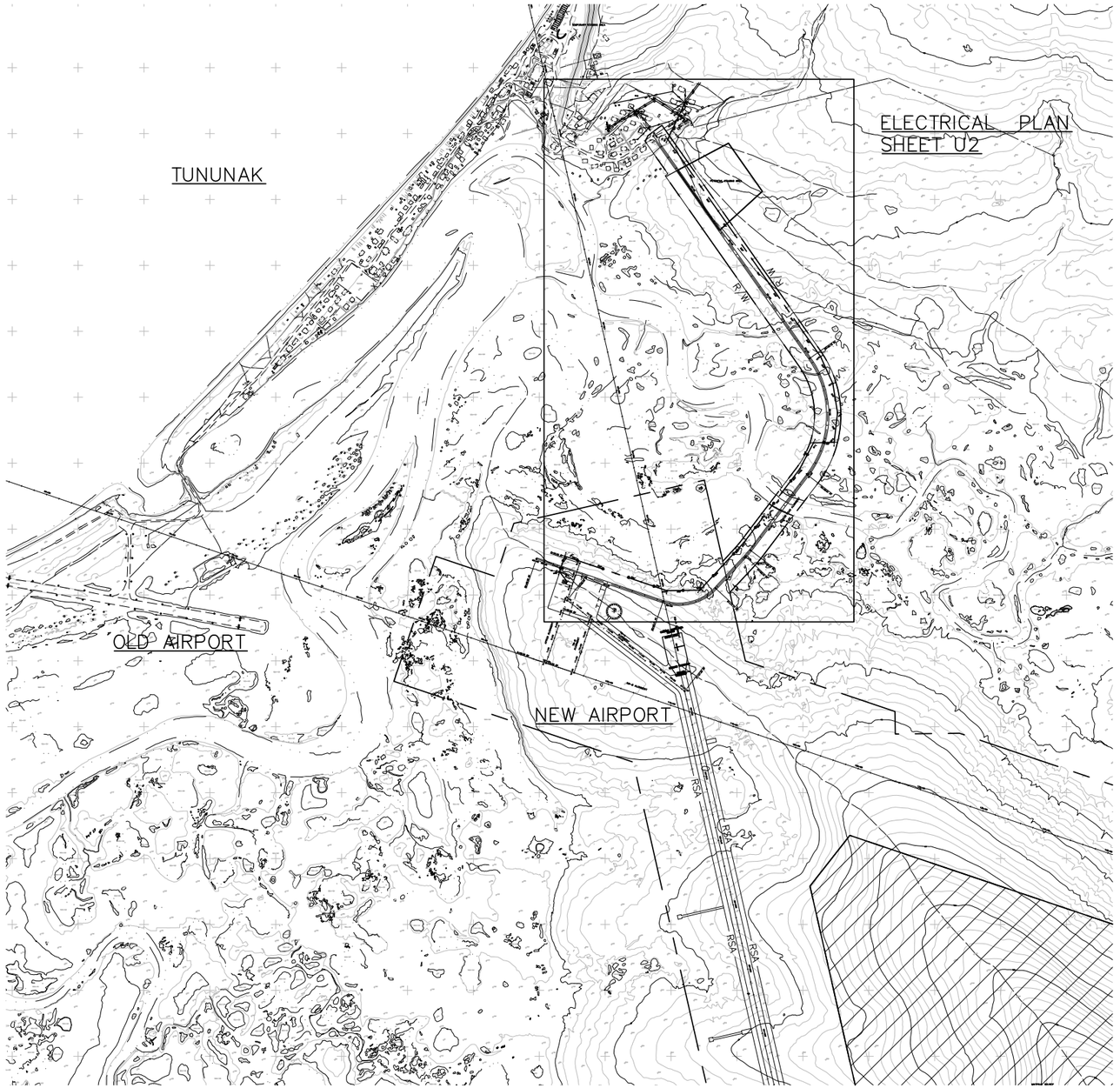


TUNUNAK AIRPORT RELOCATION
POWER LINE EXTENSION
REFERENCE PLAN

500 250 0 500 1000

ELECTRICAL SHEET INDEX

SHEET U1	REFERENCE PLAN
SHEET U2	ELECTRICAL PLAN
SHEET U3	NORTH PARTIAL ELECTRICAL PLAN
SHEET U4	SOUTH PARTIAL ELECTRICAL PLAN
SHEET U5	DETAILS
SHEET U6	DETAILS
SHEET U7	DETAILS
SHEET U8	DETAILS

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE MOST RECENT EDITION OF THE NESC.
2. POLE LOCATIONS, ALONG THE ALIGNMENT SHOWN, MAY BE FIELD ADJUSTED BY ENGINEER.
3. NEUTRAL SHALL NOT CROSS PRIMARY IN ANY SPAN.
4. OVERHEAD PRIMARY CONDUCTOR IS #2 ACSR SPARATE.
5. PROVIDE ARMOR ROD AT ALL PRIMARY NEUTRAL ATTACHMENTS, EXCEPT AT DEADENDS.
6. NUMBER ALL POLES PER DETAIL PROVIDED.
7. PROVIDE (2) GRID REFLECTORS AT ALL POLES PER DETAIL PROVIDED.
8. CONDUCTOR INSTALLATION TENSIONS ARE CRITICAL TO ATTAIN REQUIRED CLEARANCES AND TO NOT EXCEED LOADINGS. UTILIZE SAGGING CHARTS PROVIDED FOR INSTALLATION OF CONDUCTORS.

STATE OF ALASKA 49 TH
Gregory M. Errico
No. EE-10279
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
ERRICO ELECTRICAL ENGINEERING, LLC

BY	DATE	REVISION

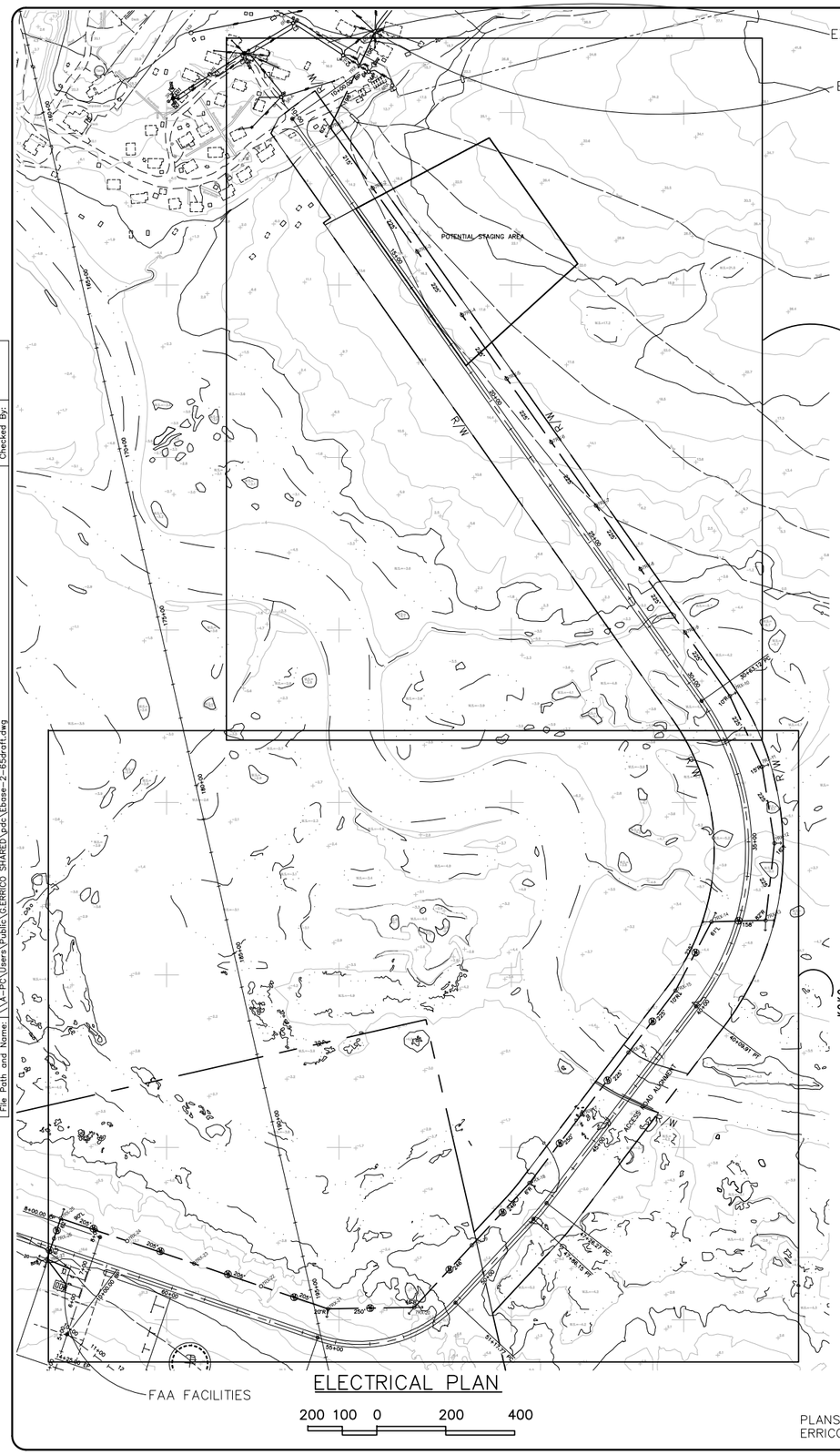
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA

PROJECT No. 51791
AIP No. 3-02-0304-001-2012
POWER LINE EXTENSION
REFERENCE PLAN

DATE: 10/20/2011
SHEET: U1 OF U8

Designed By:	
Drawn By:	
Checked By:	
Date Revised:	10/20/2011, 10:43 AM
Layout Name:	1
File Path and Name:	\\A-PC\Users\Public\G.ERRICO SHARED\pdc\Ebase-2-65draft.dwg



DISTRIBUTION PLAN SHEET NOTES:
1. SEE SHEET U1 FOR GENERAL NOTES.
2. INSTALL NEUTRAL ON ROAD SIDE OF POLES.
3. ALL NEW POLES ON THIS SHEET ARE 35/2 OR 40/3 POLES INSTALLED ON HP10–42 PILES.

PLANS DEVELOPED BY:
ERRICO ELECTRICAL ENGINEERS, LLC

STATE OF ALASKA 49 TH
Gregory M. Errico
No. EE–10279
REGISTERED PROFESSIONAL ENGINEER

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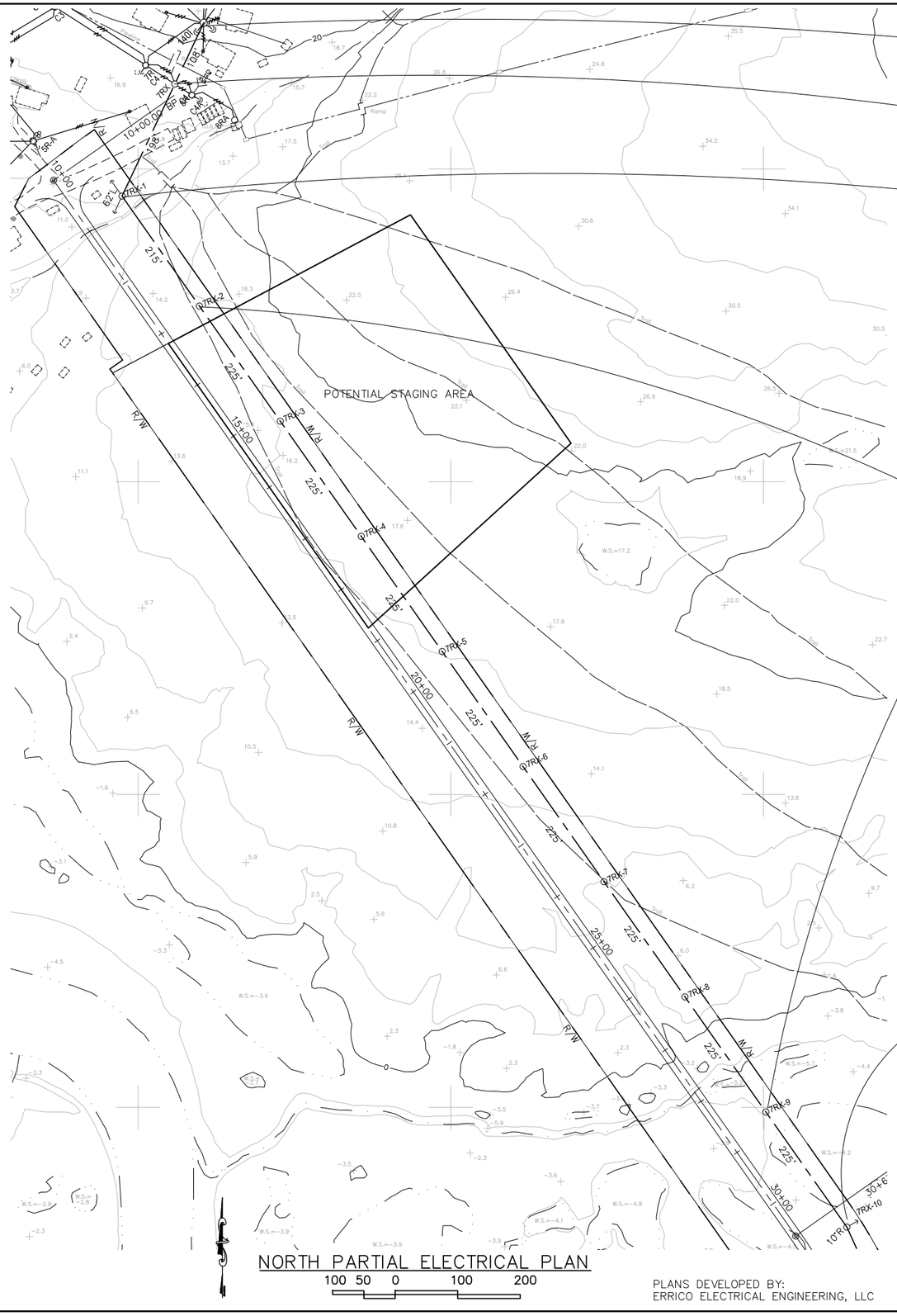
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA

PROJECT No. 51791
AIP No. 3–02–0304–001–2012
POWER LINE EXTENSION
ELECTRICAL PLAN

DATE: 10/20/2011
SHEET: U2 OF U8

Designed By:	GME
Drawn By:	MME
Checked By:	
Date Revised:	10/20/2011, 10:43 AM
Layout Name:	2 (2)
File Path and Name:	\\A-PC\Users\Public\G.ERRICO SHARED\pdc\Ebase-2-65draft.dwg



NORTH PARTIAL ELECTRICAL PLAN

100 50 0 100 200

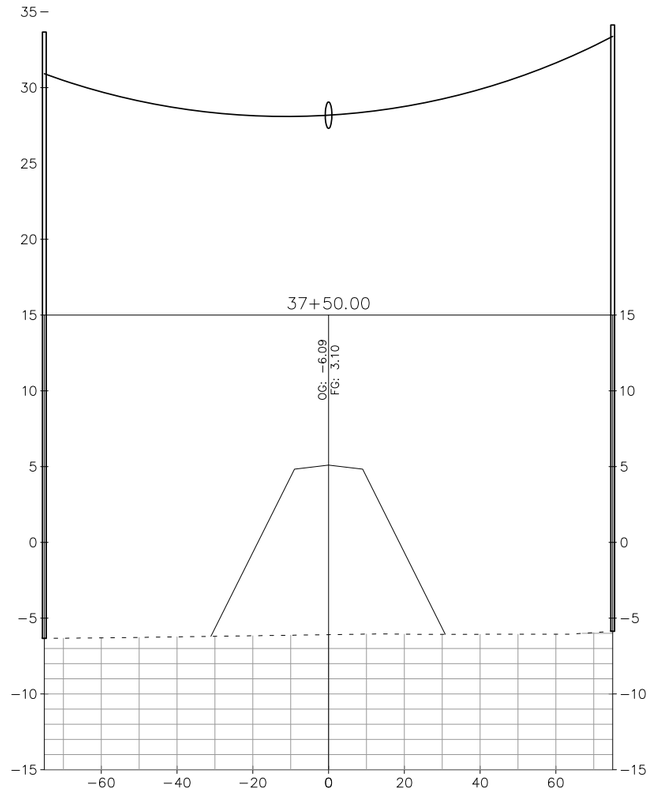
POLE 1401
EXISTING POLE
ADD VA7 ON BACK OF VC7-1; JUMPER NEUTRAL W/ #4 BARE STRANDED COPPER ROUTED ON UNDERSIDE OF CROSSARM AND ON POLE.

POLE 7RX
PROVIDE 40/3 INSET POLE;
VA9-1 (EXISTING CIRCUIT); VA9-1 (NEW CIRCUIT ABOVE): M32-42; M2-11P; (2) TWO WAY FEED SIGNS; ONLY JUMPER NEUTRAL.

POLE 7RX-1
PROVIDE 40/3; VA7-1; VA7-1; (2) VM5-5; (2) E1-3; M5-23; (2) F-H42-2; M32-42; M2-11P; PROVIDE GUY STRAIN INSULATOR IN UPPER GUY.

POLE 7RX-2 TO POLE 7RX-9:
PROVIDE 40/3; VA1A; M32-42; M2-11P.

POLE 7RX-10
PROVIDE 40/3; VA2A; E1-3; F-H42-2; M32-42; M2-11P.



ROAD CROSSING NEAR STATION 37+50
SCALE: NTS

SHEET NOTES:
1. SEE SHEET U1 FOR GENERAL NOTES.
2. SEE SHEET U2 FOR DISTRIBUTION PLAN SHEET NOTES.

STATE OF ALASKA
49 TH
Gregory M. Errico
No. EE-10279
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PLANS DEVELOPED BY:
ERRICO ELECTRICAL ENGINEERING, LLC

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA

PROJECT No. 51791
AIP No. 3-02-0304-001-2012
POWER LINE EXTENSION
ELECTRICAL PLAN

DATE: 10/20/2011
SHEET: U3 OF U8

Designed By: GME
Drawn By: MME
Checked By:

Date Revised:
Layout Name: 10/20/2011, 10:44 AM
File Path and Name: 3 (2)
\\VA-PC\Users\Public\G.ERRICO SHARED\pdc\Ebase-2-65draft.dwg

POLE 7RX–27
PROVIDE 35/2: TOP POLE 7'; VA7–1; (2) E1–3; (2) F–H42–2; G106–15; (2) K11; M32–42; M2–11P; MARKERBALL.

POLE 7RX–26
PROVIDE 35/2: TOP POLE 4.5'; VA8; (4) VM5–5; F–H42–2; M32–42; M2–11P; MARKERBALL.

POLE 7RX–25
PROVIDE 40/3; VA7–1; VA7–1 (FRAME LOWER VA7–1 4' BELOW UPPER); (2) VM5–5; (2) E1–3; M5–23; (2) F–H42–2; M32–42; M2–11P; MARKERBALL. PROVIDE GUY STRAIN INSULATOR IN UPPER GUY.

POLE 7RX–24
PROVIDE 35/2; VA9; M32–42; M2–11P; MARKERBALL.

POLES 7RX–22 AND 7RX–23
PROVIDE 35/2; VA9–1; M32–42; M2–11P; MARKERBALL.

POLE 7RX–18
PROVIDE 35/2; VA9; E1–3; F–H42–2; M32–42; M2–11P; MARKERBALL.

POLE 7RX–19
PROVIDE 35/2; VA9–1; M32–42; M2–11P; MARKERBALL.

POLE 7RX–20
PROVIDE 35/2; VA7–1; VA7–1; (2) VM5–5; (2) E1–3; M5–23; (2) F–H42–2; M32–42; M2–11P; MARKERBALL. PROVIDE GUY STRAIN INSULATOR IN UPPER GUY.

POLE 7RX–21
PROVIDE 35/2; VA9; E1–3; F–H42–2; M32–42; M2–11P; MARKERBALL.

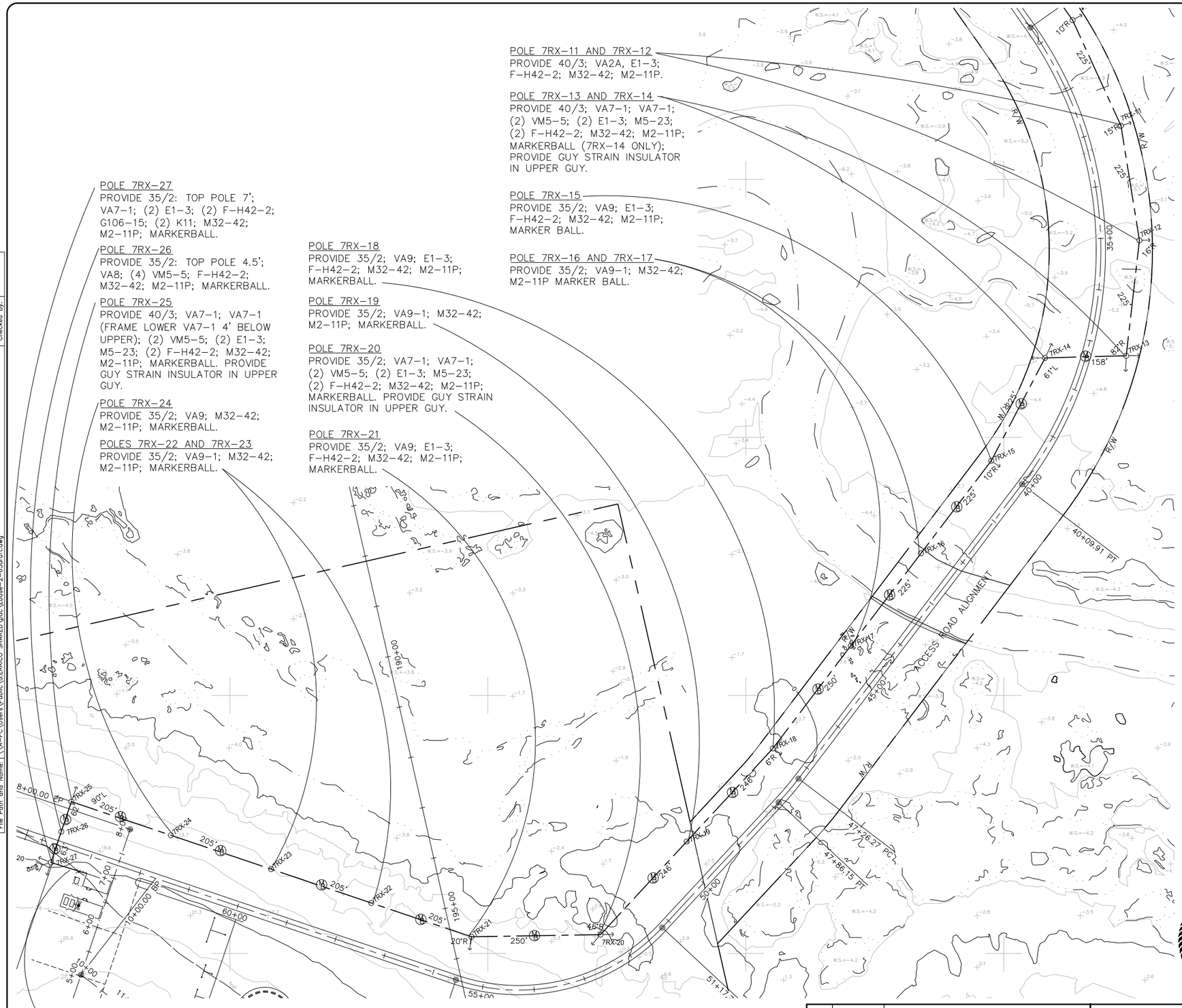
POLE 7RX–11 AND 7RX–12
PROVIDE 40/3; VA2A, E1–3; F–H42–2; M32–42; M2–11P.

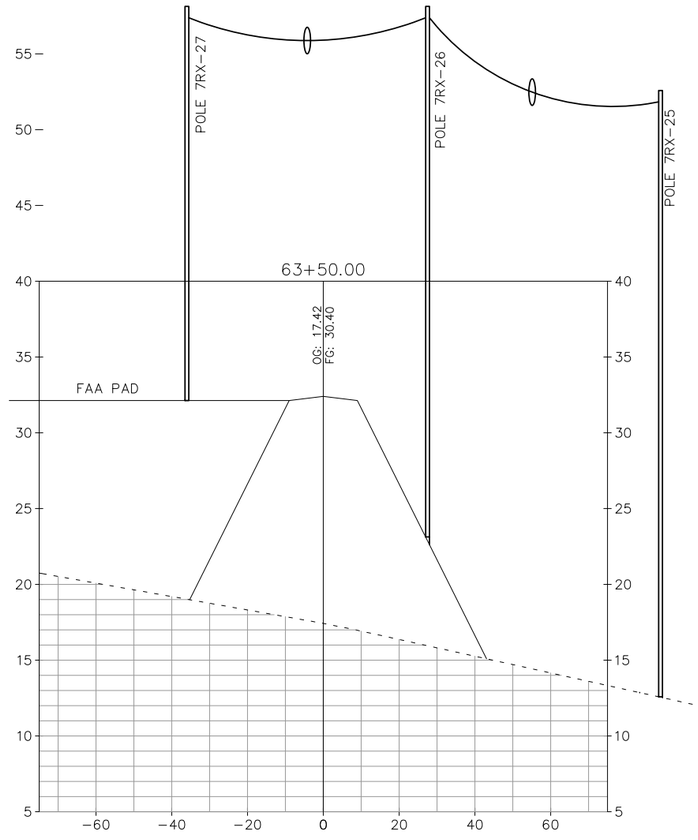
POLE 7RX–13 AND 7RX–14
PROVIDE 40/3; VA7–1; VA7–1; (2) VM5–5; (2) E1–3; M5–23; (2) F–H42–2; M32–42; M2–11P; MARKERBALL (7RX–14 ONLY); PROVIDE GUY STRAIN INSULATOR IN UPPER GUY.

POLE 7RX–15
PROVIDE 35/2; VA9; E1–3; F–H42–2; M32–42; M2–11P; MARKER BALL.

POLE 7RX–16 AND 7RX–17
PROVIDE 35/2; VA9–1; M32–42; M2–11P MARKER BALL.

SERVICES
PROVIDE K16; 1/0 TRIPLEX (LENGTH AS REQUIRED).





PROFILE NEAR STATION 63+50
SCALE: NTS

SHEET NOTES:
1. SEE SHEET U1 FOR GENERAL NOTES.
2. SEE SHEET U2 FOR DISTRIBUTION PLAN SHEET NOTES.

STATE OF ALASKA 49 TH
Gregory M. Errico
No. EE–10279
REGISTERED PROFESSIONAL ENGINEER

SOUTH PARTIAL ELECTRICAL PLAN
100 50 0 100 200

PLANS DEVELOPED BY:
ERRICO ELECTRICAL ENGINEERING, LLC

BY	DATE	REVISION

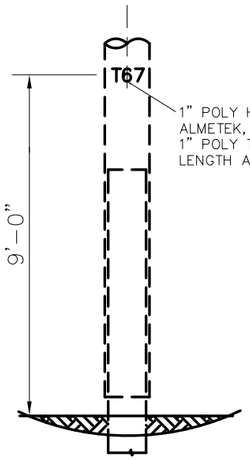
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA

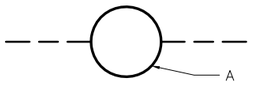
PROJECT No. 51791
AIP No. 3–02–0304–001–2012
POWER LINE EXTENSION
SOUTH PARTIAL ELECTRICAL PLAN

DATE: 10/20/2011
SHEET: U4 OF U8

Designed By: GME
Drawn By: MME
Checked By:
Date Revised: 10/20/2011, 1:17 PM
Layout Name: 4 (2)
File Path and Name: \\VA-PC\Users\Public\G.ERRICO SHARED\pdc\Ebase-2-65draft.dwg

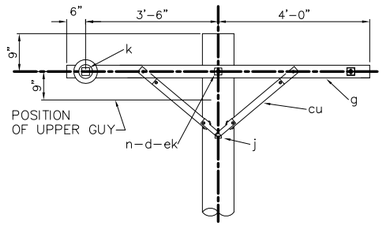


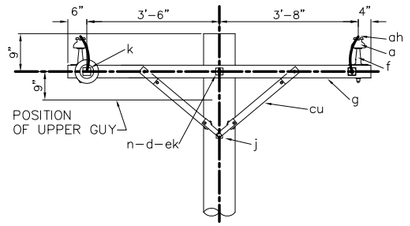
M52-3: POLE NUMBER
SCALE: NTS

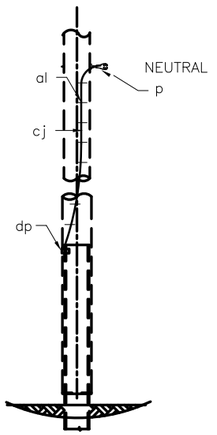


MATERIAL LIST		
Item	NO.	DESCRIPTION
A	1	MARKER BALL, AVIATION ORANGE, 20" DIA., SECURED TO NEUTRAL W/ PRE-FORMED HELICAL TIE

MARKER BALL
SCALE: NTS







NOTES:
1. GROUND WIRE TO BE LOCATED ON SAME SIDE AS NEUTRAL CONDUCTOR AND IN QUADRANT.
2. STAPLES ON GROUND WIRE SHALL BE 2' APART, EXCEPT FOR A DISTANCE OF 10' ABOVE GROUND AND 8' FROM TOP OF POLE WHERE THEY SHALL BE 6" APART.

MATERIAL LIST		
Item	NO.	DESCRIPTION
p	as req'd	CONNECTOR, COMPRESSION
al	AS REQ'D	STAPLES, COPPER, AS REQUIRED
cj	AS REQ'D	GROUND WIRE, MIN. #6 COPPER OR EQUIV.
dp	1	SERVIT POST, BURNDY #KC22B1 W/ BRONZE NUT AND BRONZE LOCKNUT OR APPROVED EQUAL

M2-11P: POLE GROUND
SCALE: NTS

PLAN

MATERIAL LIST		
Item	NO.	DESCRIPTION
aa	2	NUT, EYE, 5/8"
bo	2	SHACKLE, ANCHOR, AS REQUIRED
ca	1	PRIMARY BOLTED CURVED DEADEND SHOE
cc	1	NEUTRAL PREFORMED DEADEND GRIP
cu	4	BRACE, WOOD, 28" SPAN
d	12	WASHER, 2-1/4" SQUARE (13/16" HOLE)
d	2	WASHER, 3" SQUARE, CURVED (11/16" HOLE)
ek		LOCKNUTS, AS REQUIRED
g	3	CROSSARM, 3-5/8"X4-5/8"X8'-0"
i	4	BOLT, CARRIAGE, 3/8"X4-1/2"
j	2	SCREW, LAG, 1/2"X4-1/2"
k	1	INSULATOR, SUSPENSION, EPOXILATOR, 25 kV
n	3	BOLT, DOUBLE ARMING, 5/8" X REQ'D LENGTH
as	1	LARGE SPOOL INSULATOR AND SWINGING CLEVIS

VA7-1
SCALE: NTS

PLAN

MATERIAL LIST		
Item	NO.	DESCRIPTION
a	4	INSULATOR, PIN TYPE, 15 or 25 kV
ah	–	#4 SOLID ALUMINUM TIE WIRE, AS REQUIRED
aa	4	NUT, EYE, 5/8"
av		JUMPERS, #2 ACSR, AS REQUIRED
bo	4	SHACKLE, ANCHOR, AS REQUIRED
ca	2	PRIMARY BOLTED CURVED DEADEND SHOE
cc	2	NEUTRAL PREFORMED DEADEND GRIP
cu	4	BRACE, WOOD, 28" SPAN
d	12	WASHER, 2-1/4" SQUARE (13/16" HOLE)
d	2	WASHER, 3" SQUARE, CURVED (11/16" HOLE)
ek		LOCKNUTS, AS REQUIRED
f	4	PIN, CROSSARM TYPE
g	2	CROSSARM, 3-5/8"X4-5/8"X8'-0"
i	4	BOLT, CARRIAGE, 3/8"X4-1/2"
j	2	SCREW, LAG, 1/2"X4-1/2"
k	2	INSULATOR, SUSPENSION, EPOXILATOR, 25 kV
n	3	BOLT, DOUBLE ARMING, 5/8" X REQ'D LENGTH
p		CONNECTOR (COMPRESSION TYPE) AS REQUIRED
as	2	LARGE SPOOL INSULATOR AND SWINGING CLEVIS

VA8
SCALE: NTS

PLANS DEVELOPED BY:
ERRICO ELECTRICAL ENGINEERING, LLC

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA

PROJECT No. 51791
AIP No. 3-02-0304-001-2012
POWER LINE EXTENSION
DETAILS

DATE: 10/20/2011
SHEET: U5 OF U8

Designed By: GME
Drawn By: MME
Checked By:
Date Revised: 10/20/2011, 10:51 AM
Layout Name: 5
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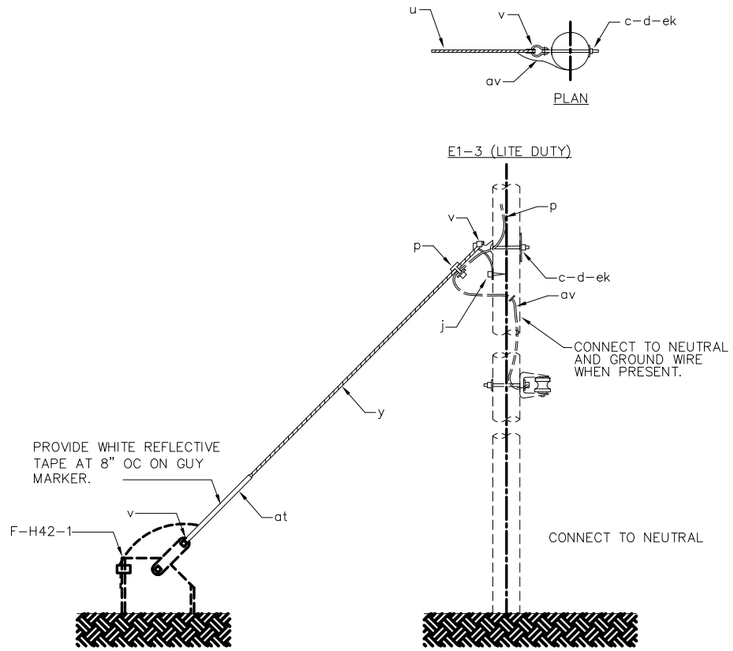
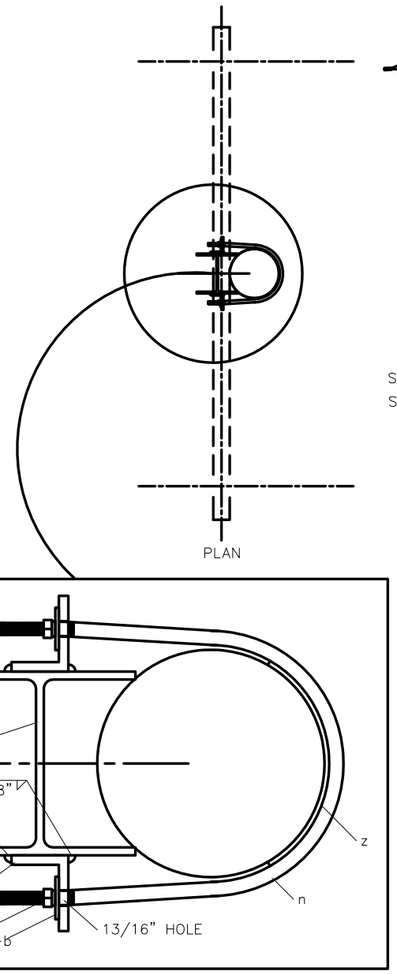
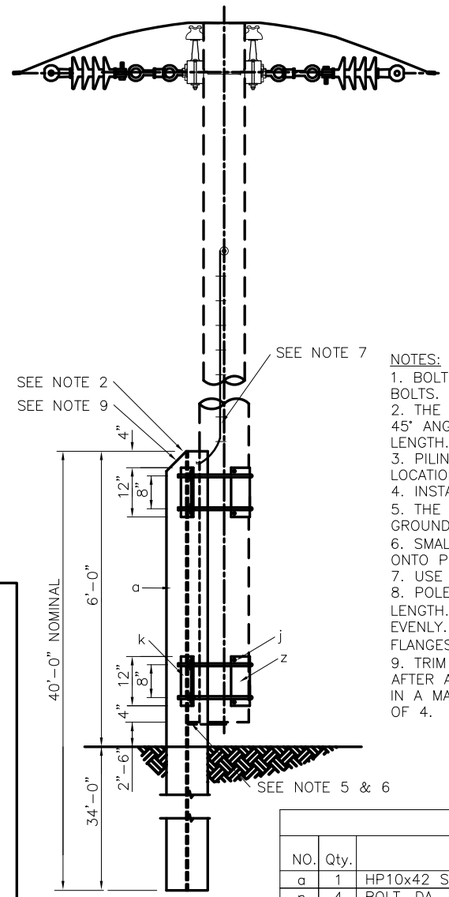


NOTES:
1. FORMED TYPE GRIPS MAY BE USED ONLY WITH SUITABLE ATTACHMENTS, (ITEM V) RECOMMENDED BY GRIP MANUFACTURER.
2. WHERE SEPARATE ANCHORS ARE INSTALLED THE MINIMUM SEPARATION SHALL BE FIVE FEET.
3. SPACING BETWEEN ANCHORS SHALL BE SUFFICIENT TO PROVIDE MAXIMUM HOLDING POWER OF EACH ANCHOR.

MATERIAL LIST		
Item	QTY E1–3	DESCRIPTION
c	1	BOLT, MACHINE, 3/4" X REQ'D LENGTH
d	1	WASHER, 4" SQUARE, 3/8 THICK, CURVED WITH 13/16" HOLE
ek	1	LOCKNUTS, 3/4:
j	1	SCREW, LAG 1/2' x 4"
p	–	CONNECTORS, COMPRESSION, AS REQUIRED
u	2	DEADEND, PREFORMED, GUY
v	1	GUY ATTACHMENT (16,000 lbs.)
y	–	GUY STRAND, 7/16, GALVANIZED STEEL STRAND, EHS, AS REQUIRED
al	–	STAPLES, GROUND WIRE, AS REQUIRED
av	–	JUMPERS, GOUNDING, AS REQUIRED, #6 BARE SOLID COPPER
at	1	GUY MARKER, 96" (ORANGE AND YELLOW OR SOLID YELLOW)
	–	2" REFLECTIVE WHITE TAPE

E1–3
SCALE: NTS





NOTES:
1. BOLT HOLES ARE TO BE DRILLED AT 1/8" LARGER THAN BOLTS.
2. THE TOP EDGES OF THE PILING WILL BE FLAME CUT AT 45° ANGLES AS SHOWN, AFTER PILE HAS BEEN DRIVEN FULL LENGTH.
3. PILING WILL BE LOCATED INLINE WITH ADJACENT POLE LOCATIONS.
4. INSTALL SPRING WASHERS HORIZONTALLY.
5. THE BUTT OF THE POLE SHALL BE ~2"–6" OFF OF THE GROUND.
6. SMALL PIECE OF 1/2" PLATE STEEL IS TO BE WELDED ONTO PILING TO SUPPORT POLE DURING INSTALLATION.
7. USE M2–11P GROUNDING ASSEMBLY.
8. POLE SHALL BE SNUG AGAINST PILING FOR ITS ENTIRE LENGTH. TIGHTEN BOLTS SEQUENTIALLY (BOTH SIDES) AND EVENLY. BOLTS SHALL BE TIGHTENED WITH THE PILING FLANGES INDENTED INTO THE WOOD POLE 1/16".
9. TRIM BOLTS TO LESS THAN 2". CRUSH THREADS OF BOLTS AFTER ASSEMBLY TO DISCOURAGE REMOVAL OF NUT; PERFORM IN A MANNER THAT ALLOWS FUTURE TIGHTENING OF NUT; TYP. OF 4.

MATERIAL LIST		
NO.	Qty.	DESCRIPTION
a	1	HP10x42 STEEL PILING x 40'
n	4	BOLT, DA, 3/4" X REQ'D LENGTH
e	8	LOCKNUT, 3/4" MF TYPE
d	8	WASHER, SQ., 2–1/2"x2–1/2"x1/4" W/ 13/16" HOLE
k	4	ANGLE, STEEL, 3"x4"x1/2" TH x8" LONG W/ (2) 13/16" HOLES
b	8	SPRING WASHER, 3/4"
z	2	POLE GUARD; HUGHES BROS PART NO: 3018, OR EQUAL
j	8	SCREW, LAG, 1/2"x4"

M32–42: PILE ATTACHMENT
SCALE: NTS

STATE OF ALASKA 49TH
Gregory M. Errico
No. EE–10279
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
ERRICO ELECTRICAL ENGINEERING, LLC

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA
PROJECT No. 51791
AIP No. 3–02–0304–001–2012
POWER LINE EXTENSION DETAILS

DATE: 10/20/2011
SHEET: U6 OF U8

Designed By: GME
Drawn By: MME
Checked By:
Date Revised:
Layout Name: 10/20/2011, 10:52 AM
File Path and Name: \\A-PC\Users\Public\G.ERRICO SHARED\pdc\Ebase-2-65draft.dwg

Designed By: GME
Drawn By: MME
Checked By:
Date Revised: 10/20/2011, 10:54 AM
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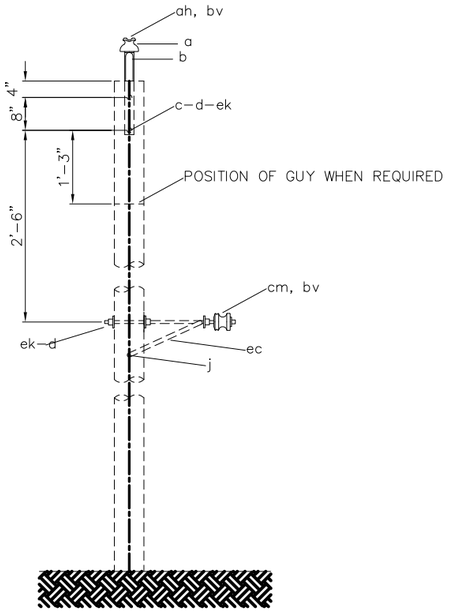
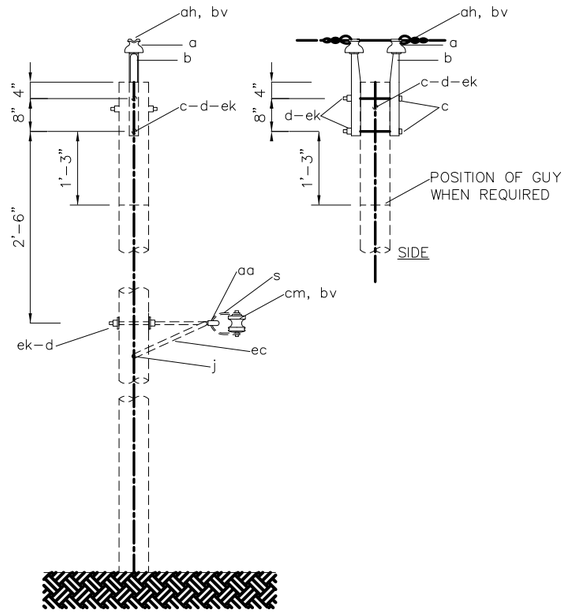


MATERIAL LIST		
NO.	Qty.	DESCRIPTION
a	1	INSULATOR, PIN TYPE, PORCELAIN, J–NECK
b	1	PIN, pole top, 20", straight
ah	1	TIE, WRAPLOCK, SINGLE SUPPORT
ah	1	TIE, SPOOL, SINGLE SUPPORT
bv	2	ARMOR ROD
c	2	BOLT, MACHINE, 5/8"XREQ'D LENGTH
cm	1	INSULATOR, SPOOL, 3"
d	3	WASHER, 2–1/4" SQUARE WITH 11/16" HOLE
ec	1	BRACKET, OFFSET NEUTRAL
ek	–	LOCKNUT, 5/8", AS REQUIRED
j	2	SCREW, LAG, 1/2" X 4–1/2"

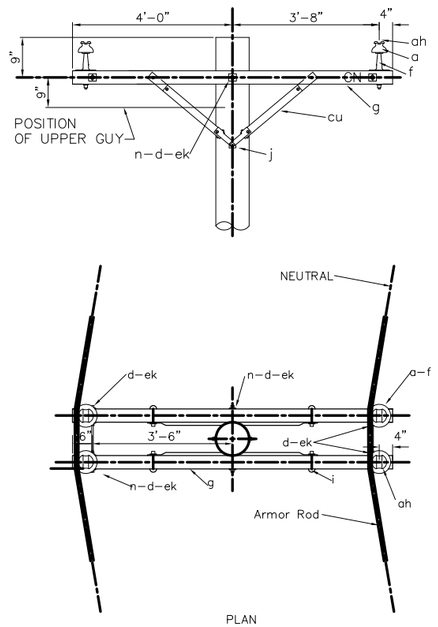
VA1A
SCALE: NTS



NOTE:
1. THIS ASSEMBLY: USES A 3" SQUARE CURVED WASHERS (1 REQUIRED ON BACKSIDE OF NEUTRAL OFFSET BRACKET).

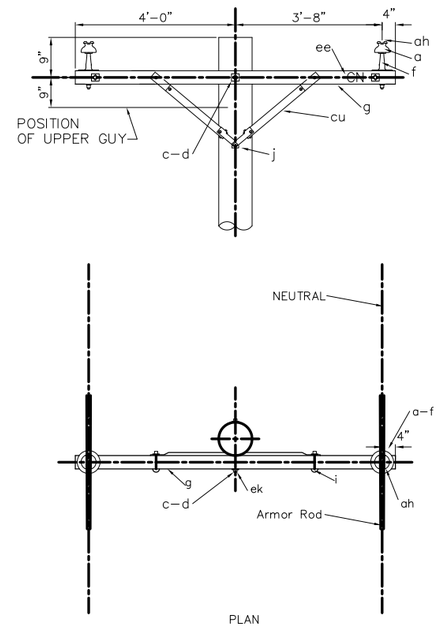
MATERIAL LIST		
NO.	Qty.	DESCRIPTION
a	2	INSULATOR, PIN TYPE, PORCELAIN, J–NECK
aa	1	NUT, EYE, 5/8"
b	2	PIN, pole top, 20", straight
bv	1	ARMOR ROD, DOUBLE SUPPORT
bv	1	ARMOR ROD
ah	1	TIE, WRAPLOCK, DOUBLE SUPPORT, SIDE TIE
ah	1	TIE, SPOOL, SINGLE SUPPORT
c	3	BOLT, MACHINE, 5/8"XREQ'D LENGTH
cm	1	INSULATOR, SPOOL, 3"
d	2	WASHER, 2–1/4" SQUARE WITH 11/16" HOLE
ec	1	BRACKET, OFFSET NEUTRAL
ek	–	LOCKNUT, 5/8", AS REQUIRED
j	2	SCREW, LAG, 1/2" X 4–1/2"
s	1	CLEVIS, LARGE, SWINGING
d	1	WASHER, SQUARE, CURVED, 3", 11/16" HOLE

VA2A
SCALE: NTS



MATERIAL LIST		
Item	NO.	DESCRIPTION
a	4	INSULATOR, PIN TYPE, 25 kV
ah	2	PREFORMED WRAPLOCK TIE, DOUBLE SIDE SUPPORT
	2	ARMOR ROD DOUBLE SUPPORT
cu	4	BRACE, WOOD, 28" SPAN
d	10	WASHER, 2–1/4" SQUARE (11/16" HOLE)
d	2	WASHER, 3" SQUARE, CURVED (11/16" HOLE)
ee	4	LETTERS, 2 "C", 2 "N" WITH 1" NAILS
ek		LOCKNUTS, AS REQUIRED
f	4	PIN, CROSSARM TYPE
g	2	CROSSARM, 3–5/8"X4–5/8"X8'–0"
i	4	BOLT, CARRIAGE, 3/8"X4–1/2"
j	2	SCREW, LAG, 1/2"X4–1/2"
n	3	BOLT, DOUBLE ARMING, 5/8" X REQ'D LENGTH

VA9
SCALE: NTS



MATERIAL LIST		
Item	NO.	DESCRIPTION
a	2	INSULATOR, PIN TYPE, 25 kV
ah	2	PREFORMED WRAPLOCK TIE
	2	ARMOR ROD SINGLE SUPPORT
cu	2	BRACE, WOOD, 28" SPAN
d	2	WASHER, 2–1/4" SQUARE (11/16" HOLE)
ee	4	LETTERS, 2 "C", 2 "N" WITH 1" NAILS
ek		LOCKNUTS, AS REQUIRED
f	2	PIN, CROSSARM TYPE
g	2	CROSSARM, 3–5/8"X4–5/8"X8'–0"
i	2	BOLT, CARRIAGE, 3/8"X4–1/2"
j	1	SCREW, LAG, 1/2"X4–1/2"
c	1	BOLT, MACHINE, 5/8" X REQ'D LENGTH

VA9–1
SCALE: NTS

STATE OF ALASKA
49 TH
Gregory M. Errico
No. EE–10279
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
ERRICO ELECTRICAL ENGINEERING, LLC

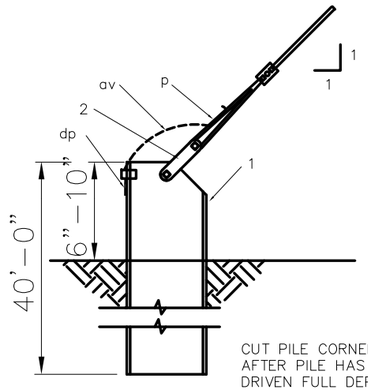
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA

PROJECT No. 51791
AIP No. 3–02–0304–001–2012
POWER LINE EXTENSION DETAILS

DATE: 10/20/2011
SHEET: U7 OF U8



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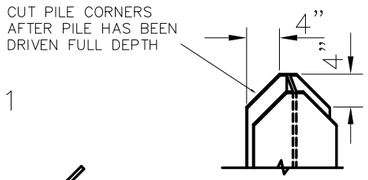
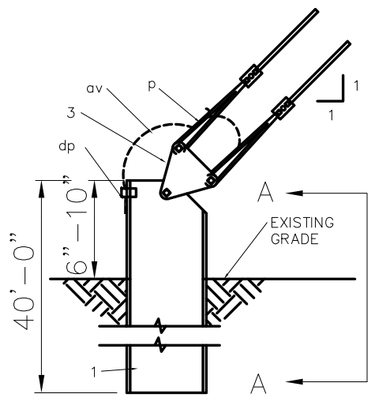
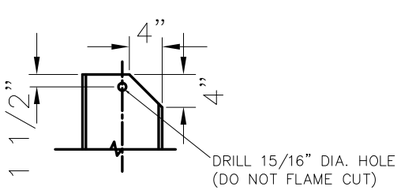


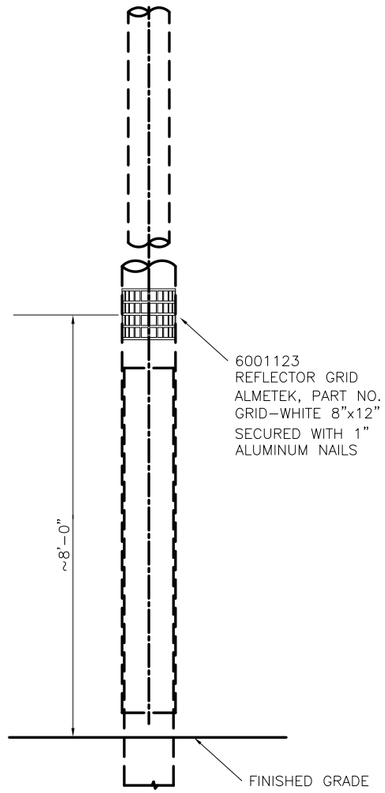
SECTION A–A



F–H42–2



DETAIL 1



NOTES:
1. INSTALL GRID SO THAT IT FACES POTENTIAL TRAFFIC.
2. INSTALL GRID WITH A MINIMUM OF 8 NAILS

MATERIAL LIST			
NO.	Qty. –1	Qty. –2	DESCRIPTION
1	1	1	HP10x42 STEEL PILE, 40'–0" LONG
2	1		GUY LINK ASSEMBLY, RUS #TG–92 TYPE 1
3		1	GUY LINK ASSEMBLY, RUS# TG–92 TYPE 2
av			JUMPER, NO. 4 BARE STRANDED COPPER
p	1	2	CONNECTORS, COMPRESSION H–TAP
dp	1	1	SERVIT POST, BURNDY #KC22B1 W/ BRONZE NUT AND BRONZE LOCKNUT OR APPROVED EQUAL

F–H42–1 AND F–H42–2
SCALE: NTS

GRID REFLECTOR
SCALE: NTS

STATE OF ALASKA
49 TH
Gregory M. Errico
No. EE–10279
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
ERRICO ELECTRICAL ENGINEERING, LLC

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

TUNUNAK AIRPORT
TUNUNAK, ALASKA

PROJECT No. 51791
AIP No. 3–02–0304–001–2012
POWER LINE EXTENSION DETAILS

DATE: 10/20/2011
SHEET: U8 OF U8

Designed By: GME
Drawn By: MME
Checked By:

Date Revised:
Layout Name: 8
File Path and Name: \\A-PC\Users\Public\G.ERRICO SHARED\pdc\Ebase-2-65draft.dwg
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